

Kentucky Division of Water

2024 KYG20 GENERAL PERMIT ANNUAL COMPLIANCE REPORT TEMPLATE

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, 2025.

PART A: GENERAL INFORMATION – MS4 OPERATOR

1. Report Completed By: Sanitation District No. 1 of Northern Kentucky
(MS4 Operator — i.e., name of permit holder)

2. Permit Number: K Y G 2 0 0 0 0 7 AI # 7556 4. Population 278,475

5. Mailing Address
Street Address: 1045 Eaton Dr.

City County Other Of: Ft. Wright Zip: 41017 County: Kenton

PART B: GENERAL INFORMATION – CONTACT PERSON

6. Contact Person Name (please print): Brooke Shireman

7. Contact Person Title: Environmental Compliance Manager

8. Phone Number: 859-547-1666

9. Facsimile Number (if applicable): NA

10. E-mail Address (if applicable): bshireman@sd1.org

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 2024. For each material/activity, give a brief description, the pollutant of concern, the target audience, and the number of materials distributed/attendees.

Description of the Material/Activity	Pollutant of Concern	Target Audience	Number Distributed/Attendees
Storm Water Bill Inserts – SD1 sent the following bill inserts: Plant Power! Protecting Our Waterways, One Plant at a Time, Top Gardening Tips for a Healthy Yard and Happy Waterways, Household Hazardous Waste Collection Event and Be Winter Ready: Smart Deicer Tips	Multiple	SD1 Customers	Over 95,000 customers received hard copies or electronic copies of each of these inserts
SD1 Website – Posted storm water related messages under the <i>News Flash</i> section on the main page.	Multiple	SD1 Customers	At least 8 posts
SD1 Social Media Accounts – Shared storm water related events and messages on its Facebook, LinkedIn, X and Instagram accounts.	Multiple	SD1 Customers	Approximately 2,000 followers across all platforms, over 500 social media posts, average 4 engagements per social media post (over 2,000 total engagements)
“What’s Happening” Publication – 2 storm water related articles were published in Kenton, Campbell and Boone Counties.	Multiple	Homes and Businesses in Boone, Kenton and Campbell Counties	Approximately 47,000 in Campbell County, 58,000 in Boone County and 75,000 in Kenton County received each publication
EnviroScape Lessons – SD1 uses the EnviroScape to teach students at elementary schools participating in the Environmental Unit storm water curriculum.	Bacteria Sediment Nutrients	4th and 5th grade students and teachers	27 lessons 869 students
Public Service Park Elementary School Field Trips – Field trips are offered to schools participating in SD1’s Environmental Unit.	Bacteria Sediment Nutrients	4th and 5th grade students and adult chaperones	7 field trips 519 students 81 chaperones
Public Service Park Tours – Tours offer a hands-on experience to learn about storm water and best management practices.	Bacteria Sediment Nutrients	General public, community groups, technical groups, colleges /universities	23 tours 267 participants
Public Service Park free little library – SD1 installed the library in 2022 and adds water-related books on a regular basis for visitors to borrow.	Multiple	General public	9 water-related books were added to the library
Regional Storm Water Collaborative – Rain Barrel Art Project	Sediment Nutrients	Residents in Northern Kentucky and Southwest Ohio	Total entries 130, total barrels painted 40, total zoo visitors 193,181, \$12,750 raised for environmental education

PART C: CONTROL MEASURE ACTIVITIES

MCM 1 Table (cont.)

Description of the Material/Activity	Pollutant of Concern	Target Audience	Number Distributed/ Attendees
Regional Storm Water Collaborative – Stormwater Float (formerly known as Stormwater Field Day)	Sediment Nutrients	Developers, contractors and inspectors in Northern Kentucky and Southwest Ohio	112 participants
Co-permittee Communication – emails with information on trainings, compliance reminders and social media content.	Multiple	Co-permittee storm water program contacts	Over 10 notifications sent
Storm Water Education Events	Multiple	Multiple	See Appendix 1, MCM1, Tab 2

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

The primary pollutants of concern are sediment, nutrients and bacteria. These were chosen based on the following factors:

- Local impacts - These three pollutants have an impact on public health, property and the environment
- 305(b) listed impaired streams – The SD1 storm water service area currently includes impaired segments for Primary Contact Recreation and Warm Water Aquatic Habitat use support.

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

For many years, the main goal of the education program was to make the public aware of storm water impacts and how their actions could affect these impacts. Currently, more specific and measurable behaviors are being evaluated to determine the key behaviors to target. Examples include proper use/application of lawn fertilizers (general public – nutrients) and taking awareness to action with storm drain marking (school/community groups – multiple pollutants).

SD1 is currently participating in the Stormwater Outreach Strategy Stakeholder group as part of the KDOW/KSA/KWRI training program and efforts with the Regional Storm Water Collaborative to better refine this approach for the next permit cycle.

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?

For general storm water awareness, SD1 has used surveys in different forms. One survey regarding customer relationship, has been conducted every 3 years. There are two water quality/ storm water questions in the survey and the results for 2017-2023 are included below.

Question	% Customers Responded “Yes”		
	2017	2020	2023
How concerned are you about the water quality in your local area streams?	47	49	51
Do you know where storm water flow ends up after it leaves your property?	43	46	46

The Regional Storm Water Collaborative (SWC) also partnered with the University of Cincinnati to perform a baseline survey regarding awareness and behaviors associated with storm water management. The 2021 baseline results are included in **Appendix 1, MCM1, Tab 4**.

SD1 uses pre/posttests as one mechanism to track effectiveness of the Elementary Environmental Unit. Below are the results from Fall 2023 – Spring 2024 school year. Surveys are also distributed to teachers of the participating schools to gather input on what they like about the program and suggestions for improvement.

Pretest - Average % Correct	Posttest - Average % Correct	% Increase of Correct Answers
52	81	29

PART C: CONTROL MEASURE ACTIVITIES

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?

The public surveys still indicate a general lack of knowledge regarding storm water. Based on this, continued outreach is needed. With the more detailed SWC survey, SD1 is working with the SWC partners to develop targeted regional campaigns based on the survey results. A follow up survey will be conducted in 2026 to determine effectiveness and direct future program development.

The Elementary Environmental Unit pre/posttests and the teacher survey feedback is evaluated annually. This information was used in the Environmental Unit updates that were rolled out in 2022. The information will continue to be used to gage effectiveness and identify additional modifications or teacher resources needed.

As noted above, options for more targeted and measurable education efforts with direct ties to behaviors are being evaluated. The ongoing work with the Stormwater Outreach Strategy Stakeholder group and the SWC will assist with these efforts. The goal is to have these education strategies clearly identified with specific tracking measures in the updated Storm Water Quality Management Plan.

What is your budget for MCM #1?

For fiscal year 2025, approximately \$173,000 was budgeted for compliance with MCM 1, which included salary and benefits, professional services, and program expenses.

Attach documentation of all public education/outreach activities held in 2024. 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.)

See **Appendix 1, MCM 1** for examples.

B. Public Involvement and Participation:

Provide a summary of your public involvement and participation efforts during 2024. Describe any events or activities advertised to the public by the MS4 in 2024 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.).

Description of the Activity (Include date, location, and purpose)	Method of Advertisement	Who Hosted	Results of Activity
Ohio River Sweep - The Ohio River Sweep program continued with a seasonal format that supported river and stream clean up events between March 1 – October 31.	Website, Social Media, Email	ORSANCO	Approximately 4,267 volunteers from all six states bordering the Ohio River participated in 125 clean up events. Over 180,700 pounds of trash and 996 tires were removed. 718 volunteers and 23 clean up events in the Northern Kentucky region, removing 23,700 pounds of trash and 75 tires alone (134 volunteers and 7 clean up in Boone County, 271 volunteers and 6 clean up events in Campbell County and 313 volunteers and 10 clean up events in Kenton County). SD1 was a local sponsor for the 2024 events.
Household Hazardous Waste Event - Residents from Boone, Kenton and Campbell Counties participated in the annual event by dropping off a variety of household wastes on November 2.	Website, Social Media, Email, Bill Insert	County Solid Waste Depts	Over 100,300 lbs. of household waste and over 81,900 lbs. of electronics were collected. SD1 sponsored the event, with five employees volunteering.
Storm Water Advisory Committee (SWAC) – Annual Meeting held on December 3	Direct emails to members	SD1	19 attendees (13 in-person, 6 virtual). Agenda items included Permit Compliance, SD1’s Stream Mitigation Bank and community initiatives, including those led by the Campbell County Cooperative Extension and Kenton and Boone County Conservation Districts.
Storm Drain Marking Program – multiple dates and locations	Website, Social Media, School Outreach	SD1	Over 240 storm drains were marked in 2024 by school, cub scout and volunteer groups.
Splash McClean – SD1’s mascot	Website and School Outreach	SD1	Splash made an appearance at 7 PSP field trips.

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

In 2018, SD1 solicited feedback from the co-permittees and SWAC on the Storm Water Quality Management Plan (SWQMP) developed for this permit cycle. Additional details regarding this effort can be found in Appendix 5 of SD1’s SWQMP. In addition to the events identified above, the public also initiated a number of events, in which SD1 was invited to provide storm water education and outreach. These events are listed in **Appendix 1, MCM 1, Tab 2.**

How can the public find information about the SWQMP?

The public can obtain information about the Phase II MS4 requirements, download the Storm Water Quality Management Plan and find detailed information specific to Northern Kentucky’s Regional Storm Water Management Program at <https://sd1.org/392/Stormwater-Quality>.

What is your budget for MCM #2?

For fiscal year 2025, approximately \$79,000 was budgeted for compliance with MCM 2, which included salary and benefits, professional services, and program expenses.

Attach documentation of all public involvement/participation activities held in 2024. 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.)

See **Appendix 2, MCM 2** for examples.

C. Illicit Discharge Detection and Elimination:

Did you have any reported/discovered illicit discharges for 2024? If so, describe the incidents including the investigation procedures and the elimination.

During 2024, SD1 detected 6 illicit discharges. The following discharge types were detected:

- 2 – process wastewater;
- 1 – paint;
- 1 – oil;
- 2 – other.

For details of the investigations see **Appendix 3, MCM 3, Tab 1.**

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

SD1 operates a trouble call line and email account that allows customers to report storm water or wastewater issues. The call line is monitored by assigned staff 24 hours a day, seven days a week, and the email account is monitored during normal business hours. All reports are logged in SD1’s database and an inspector is sent to the site to investigate the report. When the report involves a suspected illicit discharge, the Permit Compliance Team is notified to investigate the site. See **Appendix 3, MCM 3, Tab 2.**

How is this reporting mechanism advertised to the public?

The trouble call line is advertised through multiple formats including the SD1 website, social media and educational materials. SD1 also includes reminders and instruction in using the trouble call line at the annual co-permittee pollution prevention trainings and storm water advisory committee meetings.

Do you have a written IDDE Plan in place?

During the first permit cycle, SD1 created an IDDE Implementation Plan (IDDE Plan) for identifying and eliminating illicit discharges that was approved by KDOW in March 2007. As this program has evolved and gained feedback, SD1 has developed a more detailed IDDE Plan to supplement the original approved version. The IDDE Plan contains detailed procedures on inspections, investigations, elimination and documentation, as well as a detailed field guide and improved technologies being utilized in the program. SD1 reviews the effectiveness of the IDDE Plan on an annual basis. Based on results of the annual evaluation, the IDDE Plan is updated to make SD1’s illicit discharge processes more efficient and effective. An updated IDDE Plan is available 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?

SD1 developed a comprehensive storm sewer system map as part of the previous permit cycle. The system was mapped in a Geographic Information System (GIS). SD1 will continue to update the GIS layers as new storm infrastructure is installed or changes in ownership occur. Currently, SD1 is evaluating the mapped outfall data to ensure accuracy. Any updates to the outfall data will be submitted to KDOW.

How many major outfalls discharge from your MS4? Of these, how many were dry-weather screened during 2024? How many illicit discharges were detected via dry-weather screenings in 2024?

During the second permit cycle, SD1 completed the investigation of all active major outfalls (246) in the Storm Water Service Area at that time. For this permit cycle, SD1 is now prioritizing investigations by using an established list of Illicit Discharge Screening Factors (IDSF). This approach was submitted to KDOW for review on December 20, 2018. In 2024, SD1 completed IDSF investigations at 60 inspection points.

Total Number of IDSF Inspection Points	Number of IDSF Inspection Points Dry-Weather Screened in 2024	Illicit Discharges Detected by Dry-Weather Screening in 2024
1701	60	1*

**One illicit discharge was detected during the 2024 dry-weather screening but two additional discharges were found; One directly to a blueline stream (turned over to the Kentucky Division of Water) and one as a result of failing public sanitary system (addressed through SD1 SORP protocol).*

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

Yes. SD1 documents all dry weather inspections electronically in a computerized maintenance management system (Lucity). This includes a visual inspection checklist that corresponds to the information in the IDDE Field Reference Guide, data fields for water quality sampling results if applicable and a document folder for pictures. The IDDE Field Reference Guide, screen shot of the electronic checklist, a completed checklist and photo are included in **Appendix 3, MCM 3, Tab 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?

Yes. See **Appendix 3, MCM 3, Tab 4**.

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?

SD1's Permit Compliance Team conducts the following training for SD1 staff and co-permittees on the identification and reporting of illicit discharges:

- Annual IDDE training – the team selects a different department within SD1 each year for a focused IDDE training. This year the training was conducted for the project managers in the Engineering Department on October 31. **Appendix 3, MCM 3, Tab 5**.
- New hire training – as part of the orientation process, new hires (i.e., fulltime, part-time and seasonal) complete storm water pollution prevention training, which includes information on detecting and reporting illicit discharges. Thirty-five new hires completed the training. A short quiz is provided to gauge understanding. The average test score was 95%. See section F and **Appendix 6, MCM 6, Tab 1** for additional details.
- Co-permittee pollution prevention training – SD1 includes information about illicit discharge detection and reporting in the training. See section F and **Appendix 6, MCM 6, Tab 1** for additional details.
- Webinars – SD1 staff attended multiple webinars on IDDE topics. **Appendix 3, MCM 3, Tab 5**.

What is your budget for MCM #3?

For fiscal year 2025, approximately \$180,000 was budgeted for compliance with MCM 3, which included salary and benefits, professional services, and program expenses.

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 2022 303(d) list. **Appendix 3, MCM 3, Tab 4**.
- Documentation of the discovery, investigation, and elimination of all illicit discharges in 2024. **Appendix 3, MCM 3, Tab 1**.
- Checklist or form used for outfall dry-weather screening. **Appendix 3, MCM 3, Tab 3**.
- Example documentation of a completed dry-weather screening including, at minimum, a completed inspection checklist and photograph(s). **Appendix 3, MCM 3, Tab 3**.
- Documentation of any public reports of spills or other illicit discharges (e.g. public reporting log). **Appendix 3, MCM 3, Tab 2**.
- Documentation of all training for municipal field staff on the identification and reporting of illicit discharges conducted in 2024. **Appendix 3, MCM 3, Tab 5** and **Appendix 6, MCM 6, Tab 1**.

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?

In accordance with SD1's Storm Water Rules and Regulations, SD1 issues land disturbing permits for sites that disturb one acre or greater or sites that are less than one acre but are part of a larger common plan of development. SD1 issues Clearing Permits for sites that are only performing clearing activities, including stripping and cutting of trees and ground cover. SD1 issues Grading Permits for grading activities on a property, including excavation, filling, stockpiling, or other earth moving activities. The Grading Permit also includes activities covered by a Clearing Permit. SD1 issues Land Disturbance Permits for any alteration of the earth's surface where natural or man-made ground cover is altered and/or the installation of any storm sewer systems (including storm sewer structures and pipes, detention ponds, etc.). The Land Disturbance Permit also includes activities covered by a Clearing and Grading Permit. See **Appendix 4, MCM 4, Tab 1.**

How many permits were issued by the MS4 in 2024 for land disturbances one acre or larger, or smaller than one acre if part of a larger common plan of development or sale?

During 2024, SD1 issued 6 Clearing Permits, 25 Grading Permits, and 68 Land Disturbance Permits within the Storm Water Service Area.

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?

SD1 conducts 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. This review is part of the permitting process discussed above. The plan review engineer reviews each application and the supporting documentation to ensure that the project meets all requirements. The plan review engineer uses a standardized process and checklist when reviewing each project and provides comments to the applicant for any identified deficiencies. See **Appendix 4, MCM 4, Tab 2.**

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 2024?

Plan review was conducted for each of the permit applications received in 2024 (6 Clearing Permits, 25 Grading Permits, and 68 Land Disturbance Permits).

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 2024 at such sites? (Do not include inspections of sites with land disturbances to which this criteria does not apply.)

SD1 has developed standard operating procedures for the inventory of active projects and the prioritization of site inspections. To prioritize site inspections, SD1 has developed ranking criteria that each project is ranked based on factors such as receiving water body classification, site topography and other site conditions. Frequency of inspection is based upon this prioritization. SD1 inspected 370 permitted construction sites within the Storm Water Service Area in 2024.

How many inspections in 2024 resulted in enforcement actions? Fines collected?

SD1 inspected 370 permitted construction sites within the Storm Water Service Area in 2024. Based on the inspections conducted at these sites, SD1 issued 26 Correction Notices, 27 Notices of Violation, and 2 Administrative Orders (e.g., Fines, Stop Work Orders) for issues of non-compliance related to erosion prevention and sediment control.

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

SD1 has an Enforcement Response Plan (ERP), which outlines the procedures and strategies for enforcement. The Enforcement Response Guide: Construction Site Management section of the ERP provides details regarding the nature of violations, enforcement response and escalating enforcement for previous non-compliance. See **Appendix 4, MCM 4, Tab 3.**

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?

SD1 currently contracts with Strand Associates to perform project plan review. The staff performing the reviews are registered Professional Engineers in Kentucky.

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?

Site inspectors receive on-the-job training for construction site inspections. This includes SWPPP review, construction BMPs, construction site inspection checklist and data entry. In addition, inspectors participate in various professional development opportunities. In 2024, 3 SD1 employees were Kentucky Erosion Prevention & Sediment Control (KEPSC) Qualified and one has NICET Level 1 & 2 certifications. See **Appendix 4, MCM 4, Tab 4**.

Describe any training given to operators/contractors in 2024? How often is training for operators/contractors conducted?

During 2024, SD1 conducted 84 pre-construction meetings with permittees to explain permit requirements and proper construction site management.

SD1 assisted the Storm Water Collaborative with hosting the 6th Regional Stormwater Field Day on September 19. 116 people from the construction and engineering communities in Northern Kentucky and Ohio attended the Field Day.

SD1 also recognized the following contractors in 2024 with the Erosion Prevention and Sediment Control Excellence Awards: Coppage Construction Company, Fischer Homes Inc., Joshua One.

See **Appendix 4, MCM 4, Tab 5**.

What is your budget for MCM #4?

For fiscal year 2025, approximately \$330,000 was budgeted for compliance with MCM 4, which included salary and benefits, professional services, and program expenses.

Please attach:

- Documentation of all site operator training that occurred in 2024. 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. See **Appendix 4, MCM 4, Tab 5**.
- Documentation of training received by MS4 staff in 2024 on the review of erosion and sediment control plans of Stormwater Pollution Prevention Plans. See **Appendix 4, MCM 4, Tab 4**.
- Documentation of training received by MS4 staff in 2024 on the inspection of construction site erosion and sediment controls. See **Appendix 4, MCM 4, Tab 4**.
- A sample copy of the permit used by the MS4 for land disturbances of one acre or larger. See **Appendix 4, MCM 4, Tab 1 for the link to the form**.
- A sample copy of the form used to review plans for land disturbances of one acre or larger, if applicable. **Appendix 4, MCM 4, Tab 2**.
- A sample copy of the construction site inspection form used by the MS4. See **Appendix 4, MCM 4, Tab 6**.

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.

The Storm Water Rules and Regulations include the post-construction water quality treatment standard, as required by the Phase II Permit. SD1 continues to enforce the post-construction storm water management regulations that require the proper design, construction and post-construction maintenance of storm water management facilities. This is done through the following:

- Plan Review Process: The plan review engineer reviews all post-construction BMPs included in Land Disturbance Permit applications to ensure the design meets the storm water treatment standard prior to approving the permit.
- Record Drawings: Record Drawings are required for all installed post-construction BMPs as part of the NOT submittal. SD1 reviews the Record Drawings to ensure the installed BMP meets the storm water treatment standard prior to approving the NOT.
- Maintenance Agreements: All owners of post-construction water quality control(s) are required to enter into a standard long-term maintenance agreement, which outlines the maintenance responsibilities of the owner.
- Post-construction Inspections and Enforcement: SD1 inspects all post-construction BMPs and issues enforcement based on the process outlined in the Enforcement Response Plan.

The post-construction regulations became effective October 1, 2011. The Storm Water Rules and Regulations underwent a full review and update process in 2019-2020. The revisions were approved by KDOW on August 3, 2020.

How many and what types of projects were reviewed for new and redevelopment considerations in 2024?

Plan review was conducted for each of the permit applications received in 2024 (6 Clearing Permits, 25 Grading Permits, and 68 Land Disturbance Permits).

What types of BMPs were installed or planned to be installed by the end of construction activities at applicable sites?

The following number and type of BMPs were installed in the SD1 Storm Water Service Area in 2024:

- Extended Detention Basin – 31
- Manufactured Device – 7
- Retention Basin – 5

Describe the training of staff in 2024 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?

SD1 currently contracts with Strand Associates to perform project plan review. The staff performing the reviews are registered Professional Engineers in Kentucky. **See Appendix 5, MCM 5, Tab 1.**

Describe the training of staff in 2024 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?

Staff members continued to seek and attend training opportunities, including multiple webinars, throughout the year. One staff member has active certifications for the National Green Infrastructure Certification Program (NGICP). **See Appendix 5, MCM 5, Tab 1.**

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

SD1 requires long-term maintenance agreements for post-construction BMPs that are part of new development and redevelopment projects. These maintenance agreements are filed on the property deed. In the event that a typical maintenance agreement is not appropriate for the property, SD1 will require an easement around the post-construction BMP that references the SD1 standard terms and conditions for storm water management facilities. **See Appendix 5, MCM 5, Tab 2.**

Describe the process for ongoing post-construction BMP inspections with the goal of inspecting all such BMPs within the permit term.

All permitted post-construction BMPs are inspected at least once a year by a trained SD1 inspector. SD1 manages and tracks all permitted post-construction BMPs through a computerized maintenance management system (Lucity). This system generates work orders for inspections based on the established frequency. When the inspector receives the work order, they complete the inspection using a checklist for the specific BMP type. If the BMP passes the inspection, the BMP will remain on the current inspection frequency. If the BMP fails the inspection, SD1 will proceed with the enforcement as identified in the Enforcement Response Plan. Typically, this begins with issuing a Corrective Notice (CN) to the responsible party identified in the Maintenance Agreement. The SD1 inspector will then perform a follow-up inspection on the date identified in the CN or earlier if the responsible party notifies SD1 of the completed maintenance. Escalated enforcement will continue until the BMP passes the inspection. All inspection and enforcement documentation is saved in Lucity.

How many total post-construction water quality BMPs are in the MS4? How many were inspected in 2024? Did any inspections discover a need for maintenance or repair by the owner? Did any enforcement actions result from these inspections?

Total Number of Post-Construction BMPs	Post-Construction BMPs Inspected in 2024	Number of Post-Construction BMPs Requiring Maintenance or Repair	Number of Resulting Enforcement Actions
483	483	30	30

If your MS4 conducts a BMP owner self-inspection program, describe that program and how you maintain oversight.

Not applicable

Describe any changes to local ordinances in 2024 to accommodate green infrastructure alternatives.

No changes in 2024

What is your budget for MCM #5?

For fiscal year 2025, approximately \$328,000 was budgeted for compliance with MCM 5, which included salary and benefits, professional services, and program expenses.

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. **See Appendix 5, MCM 5, Tab 1.**
- A sample copy of the long-term maintenance agreement being implemented. **See Appendix 5, MCM 5, Tab 2.**
- A sample copy of a post-construction BMP maintenance inspection checklist used by your MS4 or for owner self-inspection, as applicable. **See Appendix 5, MCM 5, Tab 3.**
- A log of post-construction BMP owner self-inspection documentation oversight by your MS4, if applicable.

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 2024.

SD1 has successfully completed the requirements of this MCM for 2024. This information is outlined below.

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.

Site audits were conducted at SD1's Main Office, Employee Development Center, Dry Creek Wastewater Treatment Plant, Eastern Regional Water Reclamation Facility, Western Regional Water Reclamation Facility and all pump stations during December 2024.

SD1 sent reminders to all co-permittees in November and December 2024 to complete pollution prevention site audits of all municipal facilities. SD1 provided both electronic and hard copy form options for co-permittees to complete their site audits.

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

Yes. Storm Water Pollution Prevention Plans for SD1 and co-permittee facilities include a section listing the BMPs for each facility. These BMPs are inspected as part of the annual site audits.

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

Written Storm Water Pollution Prevention Plans have been completed for all SD1 and co-permittee facilities. The results of the annual site audits are used to determine if SWPPP updates are needed. SD1 works with the co-permittee communities to revise their plans based on the feedback. SWPPPs can be made available upon request.

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.

SD1 developed a SWPPP template that was used by SD1 and the co-permittees to develop plans for applicable facilities. The SWPPPs address the requested information as follows:

- Frequency of Inspections – SWPPP Section 4.1 requires an annual storm water assessment of each facility. The inspection includes the following:
 - Visual inspection of all potential sources of pollutants that may enter the storm water drainage system via storm water or non-storm water discharges.
 - Review and assessment of all BMPs to determine whether the BMPs are adequate, properly implemented and maintained, or whether additional BMPs are needed.
 - Visual inspection of equipment needed to implement the SWPPP, such as spill response equipment, drip pans, brooms or vacuum sweepers, or containers for used absorbents.
- Responsible Party – SWPPP Section 2.1 identifies the pollution prevention team for the facilities. These teams are responsible for annual inspections, maintaining and updating SWPPP documents, and ensuring appropriate staff members are aware of storm water pollution prevention and familiar with the SWPPP.
- Written Documents – SD1 created a site assessment form to guide the inspector through the assessment process. It includes the date and location, person(s) performing the inspection and a checklist for all pollution prevention areas and BMPs. This checklist is to be used in conjunction with the facility description, BMP summary sheets, site maps and other applicable plans contained in Section 7 of the SWPPP.

Describe any training presented to city staff on pollution prevention/good housekeeping in 2024. What municipal staff activities are covered by this training?

SD1 hosted two in-person storm water pollution prevention training sessions on November 5 and 7. Twenty-one communities attended the training sessions. SD1 recorded one of the training sessions and provided it to all co-permittees following the trainings. Training topics included an overview of co-permittee audits, SWPPP overview and updates and updated site assessment forms.

Thirty-five SD1 employee new hires (i.e., fulltime, part-time and seasonal) completed storm water pollution prevention training and the administered quiz during 2024. The average test score was 95%.

What is your budget for MCM #6?

For fiscal year 2025, approximately \$68,000 was budgeted for compliance with MCM 6, which included salary and benefits, professional services, and program expenses.

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. **See Appendix 6, MCM 6, Tab 1.**
- A sample copy of an inspection checklist/document for structural and non-structural BMPs at a municipal facility. **See Appendix 6, MCM 6, Tab 2.**

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 2024 and attach documentation for the training they received.

Brooke Shireman – 37 training hours **See Appendix 7, Miscellaneous Information, Tab 1.**

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?

In 2024 there were no changes due to the urbanized area, however the service area was updated due to three new development expansions and annexations by the City of Florence and Cold Spring. An updated shapefile of the service area is submitted as an attachment with this annual report.

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

None in 2024

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.

An ongoing review of the database that houses all of the post-construction BMP information has identified some deficiencies in how certain data is entered from the submitted design plans and reviewed throughout the process. This is being addressed with added steps and quality assurance measures to ensure accuracy.

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

No new funding sources were identified in 2024 for implementing the permit.

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

As noted above, SD1 operates a trouble call line and email account that allows customers to report storm water or wastewater issues. The call line is monitored by assigned staff 24 hours a day, seven days a week, and the email account is monitored during normal business hours. All reports are logged in SD1's database and an inspector is sent to the site to investigate the report. SD1 proceeds with the appropriate action according to the nature of the issue. See [Appendix 3, Tab 2](#) for a summary of 2024 trouble calls.

17. Implementation status:

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

Yes No*

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

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

Yes No*

* If yes, explain:

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.

There are multiple impaired stream segments throughout the Storm Water Service Area.

See **Appendix 3, MCM 3, Tab 4.**

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

Northern Kentucky does not have any approved TMDLs associated with the MS4 or to which the MS4 contributes at this time. However, SD1 partnered with KDOW and local watershed groups to develop TMDL Alternatives. To date, there are two approved TMDL Alternatives (Gunpowder Creek and Threemile Creek) and two TMDL Alternatives under review by KDOW (Banklick Creek and Woolper Creek).

20. Have there been any improvements in receiving water quality due to watershed activities in 2024?

There were no new 303(d) delistings in the past year.

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

Continued support with the MS4 Training Program, especially related to the development of statewide messages and resources for MCM 1.

Continued updates on the status of the KYG20 renewal.

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: Adam Chaney, Executive Director, SD1

Signature: 

Date: 03/31/2025
(mm/dd/year)

Appendices

Appendix 1 - MCM 1

[Tab 1](#) – Co-permittee Correspondence Examples

[Tab 2](#) – Storm Water Education Events

[Tab 3](#) – Regional Stormwater Collaborative Annual Report

[Tab 4](#) – Regional Stormwater Collaborative 2021 Baseline Awareness Survey

[Tab 5](#) – General Public Education Materials (Bill Inserts, Social Media Posts, Website Stories, What’s Happening Publication)

Appendix 2 - MCM 2

[Tab 1](#) – RiverSweep

[Tab 2](#) – Household Hazardous Waste Event Report

[Tab 3](#) – SWAC Meeting

Appendix 3 - MCM 3

[Tab 1](#) – 2023 Summary of Illicit Discharge Investigations Table

[Tab 2](#) – 2023 Summary of Trouble Call Investigations

[Tab 3](#) – IDDE Field Reference Guide, Electronic Checklist Example, Lucity Database Example

[Tab 4](#) – Watersheds with 2024 305(b) Impaired Segments in SD1’s Storm Water Service Area

[Tab 5](#) – Annual IDDE Training, Webinar Sign-in Sheets

Appendix 4 - MCM 4

[Tab 1](#) – Link to Permit Application

[Tab 2](#) – Land Disturbance Permit Plan Review Checklist

[Tab 3](#) – SD1 Enforcement Response Plan

[Tab 4](#) – MCM 4 Training Documentation – Internal Staff

[Tab 5](#) – MCM 4 Training Documentation – External

[Tab 6](#) – Construction Site Inspection Form

Appendix 5 - MCM 5

[Tab 1](#) – MCM 5 Qualifications and Trainings

[Tab 2](#) – Maintenance Agreement Template

[Tab 3](#) – Post-Construction BMP Maintenance Inspection Checklist

Appendix 6 - MCM 6

[Tab 1](#) – MCM 6 Training Documentation

[Tab 2](#) – SWPPP Inspection Checklist

Appendix 7 - Miscellaneous Information

[Tab 1](#) – Training Documentation

Appendix 1 - MCM 1

Tab 1 – Co-permittee Correspondence Examples

2024 Co-permittee Pollution Prevention Training

From Lora Bonno <lbonno@sd1.org>

Date Tue 10/8/2024 2:08 PM

Cc Brooke Shireman <bshireman@sd1.org>; Darren Martin <dmartin@sd1.org>

Bcc Doug DeJaco <ddejaco@alexandriaky.org>; pierce.turner@bellevueky.org <pierce.turner@bellevueky.org>; mdenham@cityofbromley.com <mdenham@cityofbromley.com>; tmiller@crescent-springs.ky.us <tmiller@crescent-springs.ky.us>; shane24fn <shane24fn@aol.com>; John Scheben <jscheben@crestviewhills.com>; rlucas <rlucas@daytonky.com>; Rick Lunnemann <rlunnemann@edgewoodky.gov>; Chris Zerhusen <ZERHUSEN@cityofelsmere.com>; chris.turner@erlangerpw.com <chris.turner@erlangerpw.com>; Nick Tewes <ntewes@fortmitchell.com>; Kevin Barbian <KBarbian@ftthomas.org>; jcbailey@fortwright.com <jcbailey@fortwright.com>; slehman <slehman@hhky.com>; Ken Hicks <KHicks@CITYOFINDEPENDENCE.ORG>; COMMUNITYSHOPPER <COMMUNITYSHOPPER@twc.com>; Steven Greer <sgreer@cityoflakesidepark.com>; Shane Hamant <shamant@ludlow.org>; melbourne <melbourne@mw.twcbc.com>; rebert@NEWPORTKY.GOV <rebert@NEWPORTKY.GOV>; dvonhandorf <dvonhandorf@parkhillsky.net>; rsandfoss <rsandfoss@silvergroveky.com>; abowman <abowman@southgateky.org>; Jerry Jump <jjump@taylormillky.gov>; pkremer@cityofunionky.org <pkremer@cityofunionky.org>; Buck <dyelton@villahillsky.org>; Terry Vance <tvance@wilderky.gov>; Corinne Rasche <corinne@woodlawny.gov>; William Buerger <wbuerger@boonecountyky.org>; mbraun@campbellcountyky.gov <mbraun@campbellcountyky.gov>; melissa.grandstaff@KENTONCOUNTY.ORG <melissa.grandstaff@KENTONCOUNTY.ORG>; bellevuekynews@gmail.com <bellevuekynews@gmail.com>; Julie Alig <jalig@parkhillsky.net>; mcarterts@aol.com <mcarterts@aol.com>

Good afternoon!

SD1 will be hosting the annual Co-permittee Storm Water Pollution Prevention Training the following two dates/times in November. **Co-permittees only need to attend one of the two listed dates.**

- Tuesday, November 5, 2024, 8 to 9 a.m.
- Thursday, November 7, 2024, 8 to 9 a.m.

Both trainings will be held in the SD1 Boardroom located at 1045 Eaton Drive, Ft. Wright, KY 41017. A light breakfast will be provided.

Pollution prevention training is a requirement of the Phase II Storm Water Permit and Northern Kentucky's Storm Water Management Plan. Co-permittees who do not attend this training will be responsible for conducting a pollution prevention training for their pollution prevention team and providing documentation of the training by the end of the year.

Please RSVP **no later than Tuesday, October 29, 2024** to Lora Bonno at lbbonno@sd1.org or 859.547.4441. Be sure to indicate the **total number** of people from your pollution prevention team who will attend the training.

For your convenience, we plan to record one of the sessions in the event you or your team are unable to attend. The recording will be made available shortly after the trainings.

Best,

Lora Bonno

Admin Tech

SD1

1045 Eaton Dr

Ft. Wright, KY 41017

859-547-4441

lbbonno@sd1.org

www.sd1.org

2024 Annual Co-permittee Storm Water Pollution Prevention Self Inspections/Site Assessments

From Lora Bonno <lbonno@sd1.org>

Date Wed 11/13/2024 12:18 PM

Cc Brooke Shireman <bshireman@sd1.org>; Darren Martin <dmartin@sd1.org>

Bcc Doug DeJaco <ddejaco@alexandriaky.org>; pierce.turner@bellevueky.org <pierce.turner@bellevueky.org>; mdenham@cityofbromley.com <mdenham@cityofbromley.com>; tmiller@crescent-springs.ky.us <tmiller@crescent-springs.ky.us>; shane24fn <shane24fn@aol.com>; John Scheben <jscheben@crestviewhills.com>; rlucas <rlucas@daytonky.com>; Rick Lunnemann <rlunnemann@edgewoodky.gov>; Chris Zerhusen <ZERHUSEN@cityofelsmere.com>; chris turner <chris.turner@erlangerpw.com>; Nick Tewes <ntewes@fortmitchell.com>; Kevin Barbian <KBarbian@ftthomas.org>; jcbailey@fortwright.com <jcbailey@fortwright.com>; slehman <slehman@hhky.com>; Ken Hicks <KHicks@CITYOFINDEPENDENCE.ORG>; COMMUNITYSHOPPER <COMMUNITYSHOPPER@twc.com>; Steven Greer <sgreer@cityoflakesidepark.com>; Shane Hamant <shamant@ludlow.org>; melbourne <melbourne@mw.twcbc.com>; Ray Ebert <Rebert@newportky.gov>; dvonhandorf <dvonhandorf@parkhillsky.net>; rsandfoss <rsandfoss@silvergroveky.com>; abowman <abowman@southgateky.org>; Jerry Jump <jjump@taylormillky.gov>; Paul Kremer <pkremer@cityofunionky.org>; Buck <dyelton@villahillsky.org>; Terry Vance <tvance@wilderky.gov>; Corinne Rasche <corinne@woodlawnky.gov>; William Buerger <wbuerger@boonecountyky.org>; mbraun@campbellcountyky.gov <mbraun@campbellcountyky.gov>; melissa.grandstaff@KENTONCOUNTY.ORG <melissa.grandstaff@KENTONCOUNTY.ORG>; bellevuekynews@gmail.com <bellevuekynews@gmail.com>; Julie Alig <jalig@parkhillsky.net>; mccarterts@aol.com <mccarterts@aol.com>

 1 attachment (140 KB)

SWPPP Site Assessment Form 2024.pdf;

Good afternoon!

As you are aware, all co-permittees are required to complete an inspection of all municipal facilities included in your storm water pollution prevention plans (SWPPPs) before the end of the year. These routine inspections are a requirement of the Phase II Storm Water Permit issued by the Kentucky Division of Water (KDOW).

To aid you in complying with this requirement, we have a site assessment form available for your use. Attached is a form that you can print and fill out or you can access the electronic version of the form here: [SWPPP Site Assessment Form](#). If you submit an electronic form, you will have the option to download or print the completed form for your records. **One form must be completed for each municipal facility.** We recommend gathering your pollution prevention teams and inspecting each facility to ensure that best management practices listed in your SWPPP are being implemented and maintained appropriately. **Please send a copy of each site assessment form to Darren Martin or me no later than December 15 to keep with our records.** Please also keep a copy of these forms with your storm water files for future reference. **Please note, you only need to send a copy to us if you are using the attached hard copy form; all electronic submissions are sent to SD1 directly.**

As always, if you have any questions, please feel free to contact Brooke Shireman (bshireman@sd1.org), Darren Martin (dmartin@sd1.org) or me.

Best,

Lora Bonno

Admin Tech

SD1

1045 Eaton Dr

Ft. Wright, KY 41017

859-547-4441

lbonno@sd1.org

www.sd1.org

Be Winter Ready: Smart De-icer Tips - Social Media Content

From Lora Bonno <lbonno@sd1.org>

Date Thu 12/5/2024 10:29 AM

Cc Brooke Shireman <bshireman@sd1.org>

Bcc Doug DeJaco <ddejaco@alexandriaky.org>; pierce.turner@bellevueky.org <pierce.turner@bellevueky.org>; mdenham@cityofbromley.com <mdenham@cityofbromley.com>; tmiller@crescent-springs.ky.us <tmiller@crescent-springs.ky.us>; shane24fn <shane24fn@aol.com>; John Scheben <jscheben@crestviewhills.com>; rlucas <rlucas@daytonky.com>; Rick Lunnemann <rlunnemann@edgewoodky.gov>; Chris Zerhusen <ZERHUSEN@cityofelsmere.com>; chris turner <chris.turner@erlangerpw.com>; Nick Tewes <ntewes@fortmitchell.com>; Kevin Barbian <KBarbian@ftthomas.org>; jcbailey@fortwright.com <jcbailey@fortwright.com>; slehman <slehman@hhky.com>; jeubank@cityofindependence.org <jeubank@cityofindependence.org>; COMMUNITYSHOPPER <COMMUNITYSHOPPER@twc.com>; Steven Greer <sgreer@cityoflakesidepark.com>; Shane Hamant <shamant@ludlow.org>; melbourne <melbourne@mw.twcbc.com>; Ray Ebert <Rebert@newportky.gov>; dvonhandorf <dvonhandorf@parkhillsky.net>; rsandfoss <rsandfoss@silvergroveky.com>; abowman <abowman@southgateky.org>; Jerry Jump <jjump@taylormillky.gov>; Paul Kremer <pkremer@cityofunionky.org>; Buck <dyelton@villahillsky.org>; Terry Vance <tvance@wilderky.gov>; Corinne Rasche <corinne@woodlawny.gov>; William Buerger <wbuerger@boonecountyky.org>; mbraun@campbellcountyky.gov <mbraun@campbellcountyky.gov>; Seiter, Brandon <Brandon.Seiter@KENTONCOUNTY.ORG>; bellevuekynews@gmail.com <bellevuekynews@gmail.com>; Julie Alig <jalig@parkhillsky.net>; mccarterts@aol.com <mccarterts@aol.com>; melissa.grandstaff@KENTONCOUNTY.ORG <melissa.grandstaff@KENTONCOUNTY.ORG>; starter@alexandriaky.org <starter@alexandriaky.org>; melissa.morandi@bellevueky.org <melissa.morandi@bellevueky.org>; tmiller@crescent-springs.ky.us <tmiller@crescent-springs.ky.us>; scorwin@crestviewhills.com <scorwin@crestviewhills.com>; mfrisch@edgewoodky.gov <mfrisch@edgewoodky.gov>; Sam Shelton <SShelton@ftthomas.org>; jpettit@hhky.com <jpettit@hhky.com>; Julie Alig <jalig@parkhillsky.net>; jon.pelle@yahoo.com <jon.pelle@yahoo.com>; bbarton@southgateky.org <bbarton@southgateky.org>; bhaney@taylormillky.gov <bhaney@taylormillky.gov>; jlipson@villahillsky.org <jlipson@villahillsky.org>; kserra@campbellcountyky.gov <kserra@campbellcountyky.gov>

 2 attachments (2 MB)

SD1 De-Icer Social Media Content Winter 2024 1.png; SD1 De-Icer Social Media Content Winter 2024 2.png;

Good morning, co-permittees!

Attached is content about the proper use and application of de-icer. You are welcome to share this with your community via social media.

This information is a useful resource for residents and supports your community in meeting Phase II Storm Water Permit Compliance requirements.

Best,

Lora Bonno

Admin Tech
SD1
1045 Eaton Dr

Ft. Wright, KY 41017
859-547-4441
lbanno@sd1.org
www.sd1.org

Status Update for MS4 Permit

From Brooke Shireman <bshireman@sd1.org>

Date Mon 12/23/2024 9:28 AM

Cc Jim Gibson <jgibson@sd1.org>; Lora Bonno <lbonno@sd1.org>

Hello co-permittee communities,

As we wrap up the 2024 year, I wanted to provide an update on the status of our Phase II Municipal Separate Storm Sewer System (MS4) Permit issued by the Kentucky Division of Water (KDOW).

The current 5-year permit cycle expired in April of 2023 but has been administratively extended until KDOW issues a new permit.

KDOW is expected to release a draft of the new permit during the first half of 2025, which will initiate the following activities:

- SD1 will participate in the Kentucky Stormwater Association's permit review committee and provide comments on the new draft.
- Once KDOW finalizes the permit, SD1 will draft an updated Storm Water Quality Management Plan outlining the activities for compliance with the new permit.
- SD1 will host a co-permittee meeting to identify any major changes to the permit and Storm Water Quality Management Plan and provide a draft to the co-permittees to review.
- SD1 will finalize and submit the Storm Water Quality Management Plan to KDOW by the deadline (180 days after the release of the new permit).

If you have any questions about this process, please feel free to contact me. You can also find additional details about the current permit, Storm Water Quality Management Program and other related information on the [co-permittee webpage on SD1's website](#).

Thank you for your continued partnership in managing storm water in our Northern Kentucky communities.

Happy Holidays,

Brooke

Brooke Shireman

Environmental Compliance Manager

SD1

1045 Eaton Dr

Ft. Wright, KY 41017

859-547-1666 - Office

www.sd1.org

Appendix 1 - MCM 1
Tab 2 – Storm Water Education Events

School Partner EnviroScape Lessons	School Name	Date	Total Attendees
	Johnson Elementary School	1/18/2024	25
	Johnson Elementary School	1/18/2024	25
	Johnson Elementary School	1/18/2024	25
	New Haven Elementary School	1/25/2024	24
	New Haven Elementary School	1/25/2024	24
	New Haven Elementary School	1/25/2024	24
	New Haven Elementary School	1/25/2024	24
	New Haven Elementary School	1/25/2024	24
	New Haven Elementary School	1/25/2024	24
	St. Catherine of Siena School	3/5/2024	15
	St. Cecilia School	3/7/2024	17
	St. Cecilia School	3/7/2024	17
	St. Mary School	3/11/2024	20
	St. Mary School	3/11/2024	20
	St. Mary School	3/11/2024	20
	Ruth Moyer Elementary School	3/22/2024	27
	Ruth Moyer Elementary School	3/22/2024	27
	Ruth Moyer Elementary School	3/22/2024	26
	Arnett Elementary School	4/2/2024	25
	Immaculate Heart of Mary School	4/11/2024	20
	Immaculate Heart of Mary School	4/11/2024	20
	Beechwood Elementary School	4/15/2024	110
	Stephens Elementary School	5/14/2024	84
Stephens Elementary School	9/12/2024	75	
Mary Queen of Heaven School	9/26/2024	20	
St. Mary School	10/3/2024	55	
Johnson Elementary School	10/28/2024	68	
Holt Trinity School	11/6/2024	8	
12 School Partners/ 27 Presentations			869 Students

Public Service Park (PSP) Field Trips/ Tours	School/Group Name	Date	Total Attendees
	Ohio River Foundation PSP Tour	2/21/2024	7
	Cincinnati State PSP Tour	3/11/2024	12
	School Field Trip Chaperone Training PSP Tour	3/18/2024	16
	School Field Trip Chaperone Training PSP Tour	3/18/2024	13
	Cincinnati State PSP Tour	3/25/2024	13
	School Field Trip Chaperone Training PSP Tour	4/1/2024	4
	Beechwood Elementary School Teacher Tour	4/1/2024	1
	New Haven Elementary School PSP Field Trip	4/4/2024	120
	School Field Trip Chaperone Training PSP Tour	4/15/2024	3
	School Field Trip Chaperone Training PSP Tour	4/15/2024	10
	St. Mary School PSP Field Trip	4/18/2024	60
	Ruth Moyer Elementary School PSP Field Trip	4/23/2024	80
	Core Consulting Emerging Leaders PSP Tour	4/23/2024	80
	Immaculate Heart of Mary School PSP Field Trip	5/10/2024	39
	Local Artist PSP Tour	5/24/2024	1
	School Field Trip Chaperone Training PSP Tour	9/16/2024	4
	School Field Trip Chaperone Training PSP Tour	9/23/2024	3
	School Field Trip Chaperone Training PSP Tour	9/23/2024	10
	Stephens Elementary School PSP Field Trip	10/1/2024	75
	School Field Trip Chaperone Training PSP Tour	10/9/2024	7
	School Field Trip Chaperone Training PSP Tour	10/16/2024	4
	School Field Trip Chaperone Training PSP Tour	10/21/2024	7
	St. Pius School PSP Field Trip	10/23/2024	90
	Classical Conversions Homeschool PSP Tour	10/25/2024	24
	St. Mary School PSP Field Trip	10/29/2024	55
	Campbell County Homemakers PSP Tour	10/30/2024	8
	SD1 New Hire PSP Tour	11/4/2024	6
	Cub Scouts PSP Tour	11/15/2024	15
	Cincinnati State PSP Tour	11/18/2024	5
Cincinnati State PSP Tour	11/25/2024	14	
30 PSP Field Trips/Tours			786 Attendees

Storm Water Education Events/Presentations

Event Type	Group/Location/Event Name	Date	Total Attendees
Table Event and Storm Water Presentation	ORSANCO FORE/Esperanza	2/10/2024	30
Banklick Creek Wetland Tour	Ohio River Foundation	2/21/2024	7
On-Site Ohio River Stormwater Education Session	Local Student Group	2/22/2024	2
Career Fair Presentation	North Pointe Elementary School	3/14/2024	120
Storm Water Challenge Kick Off Presentation	Beechwood Elementary School	3/15/2024	110
Storm Water Overview/Training Presentation	PSP Chaperone Training Group	3/18/2024	16
Storm Water Overview/Training Presentation	PSP Chaperone Training Group	3/18/2024	13
Virtual Career Panel	Cincinnati High Schools' World Water Day	3/22/2024	75
Storm Water Presentation	Cincinnati State Students	3/25/2024	13
Storm Water Pollution/Storm Drain Marking Presentation	Johnson Elementary School	3/28/2024	25
Storm Water Pollution/Storm Drain Marking Presentation	Johnson Elementary School	3/28/2024	25
Storm Water Pollution/Storm Drain Marking Presentation	Johnson Elementary School	3/28/2024	25
Storm Water Overview/Training Presentation	PSP Chaperone Training Group	4/1/2024	4
Storm Water Overview/Training Presentation	PSP Chaperone Training Group	4/15/2024	3
Storm Water Overview/Training Presentation	PSP Chaperone Training Group	4/15/2024	10
Electrofishing Demonstration	Thomas More University and Boone County Conservation District	4/17/2024	25
SD1 Activity Table	Fort Thomas Forest Conservancy Earth Day	4/21/2024	2000
Design Challenge Kickoff Presentation	Beechwood Elementary School	4/22/2024	110
Storm Drain Marking Presentation	Campbell Ridge Elementary School Boy Scout Troop	5/2/2024	20
Design Challenge Kickoff Presentation- Final Presentations	Beechwood Elementary School	5/15/2024	110
Storm Water Pollution/Storm Drain Marking Presentation	Woodfill Elementary School	5/16/2024	24
Storm Water Pollution/Storm Drain Marking Presentation	Woodfill Elementary School	5/16/2024	24
Storm Water Pollution/Storm Drain Marking Presentation	Woodfill Elementary School	5/16/2024	24
Storm Water Pollution/Storm Drain Marking Presentation	Woodfill Elementary School	5/16/2024	24
Virtual Learning Session	Pond Management Workshop	6/13/2024	5
SD1 Activity Table	Boone County Family Day	6/15/2024	200
Banklick Wetland Tour	Thomas More University Ohio River Conservation Course Environmental Class	6/26/2024	20
SD1 Youth Day Camp Focused on Stormwater Awareness and Quality	Summer Splash with SD1	7/30/2024	3
SD1 Youth Day Camp Focused on Stormwater Awareness and Quality	Summer Splash with SD1	8/1/2024	14
Youth Day Program Focused on Clean Water	Kids InfluenSEWER for a Day	8/26/2024	5
Storm Water Overview/Training Presentation	PSP Chaperone Training Group	9/16/2024	4
SD1 Activity Table	Boone County Arboretum Ammons Nursery Flower Sale	9/20/2024	1000
SD1 Activity Table	Boone County Arboretum Ammons Nursery Flower Sale	9/21/2024	1000
Storm Water Overview/Training Presentation	PSP Chaperone Training Group	9/23/2024	3
Storm Water Overview/Training Presentation	PSP Chaperone Training Group	9/23/2024	10
Storm Water Overview/Training Presentation	PSP Chaperone Training Group	10/9/2024	7
Storm Water Presentation	St. Mary School First Lego League Practice	10/10/2024	6
Storm Water Overview/Training Presentation	PSP Chaperone Training Group	10/16/2024	4
Career Presentation	NKU Careers Class	10/17/2024	15
SD1 Activity Table	Salt Festival at Big Bone State Park	10/18/2024	2772
Storm Water Quality Presentation	Northern Kentucky Fly Fishers	10/20/2024	20
Storm Water Overview/Training Presentation	PSP Chaperone Training Group	10/21/2024	7
EnviroScape Presentation	Newport Intermediate School	10/22/2024	90
Storm Water Presentation	Campbell County Homemakers	10/30/2024	8
Storm Water Presentation	SD1 New Hires	11/4/2024	6
Storm Water Presentation	Boone County Homeschool Group	11/14/2024	35
Storm Water Presentation	Cub Scouts	11/15/2024	15
47 Events			8,088 Attendees

Appendix 1 - MCM 1

Tab 3 – Regional Stormwater Collaborative Annual Report

2024



SaveLocalWaters.org

ANNUAL

REPORT



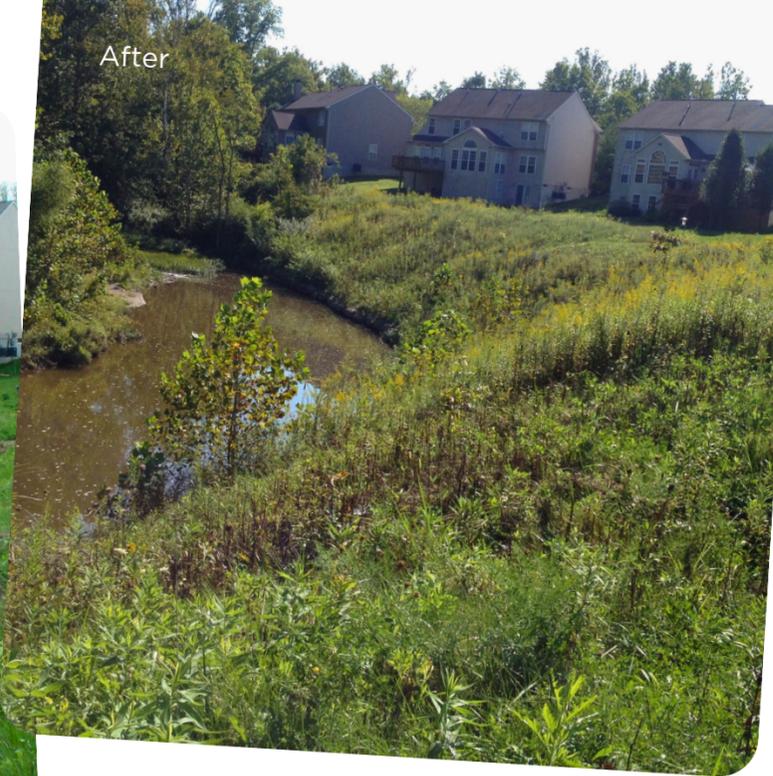
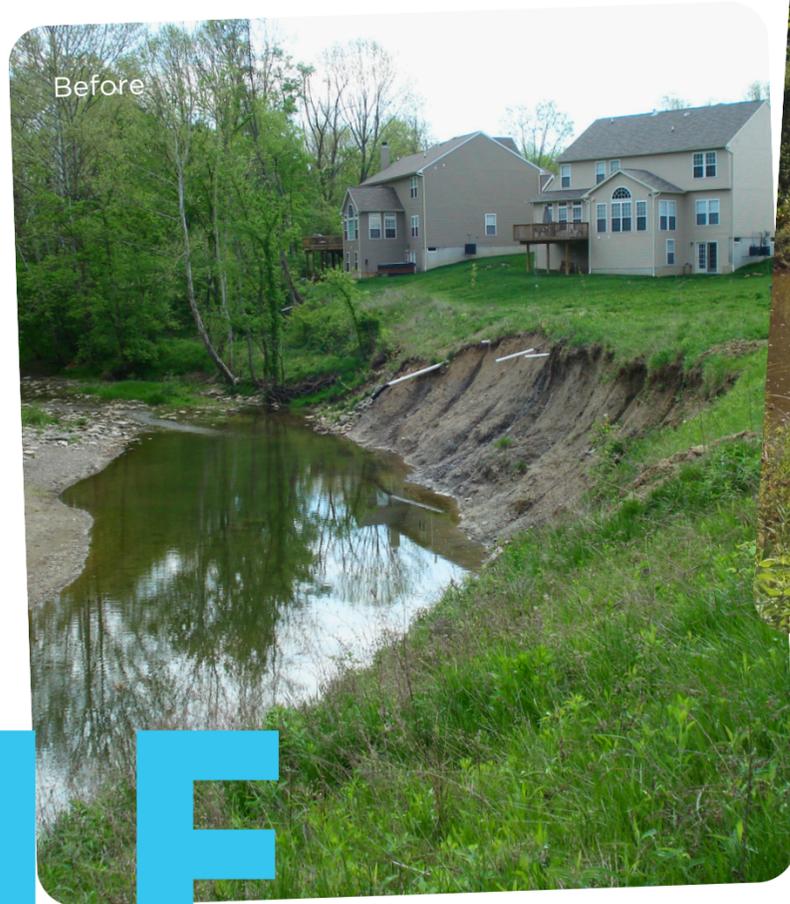
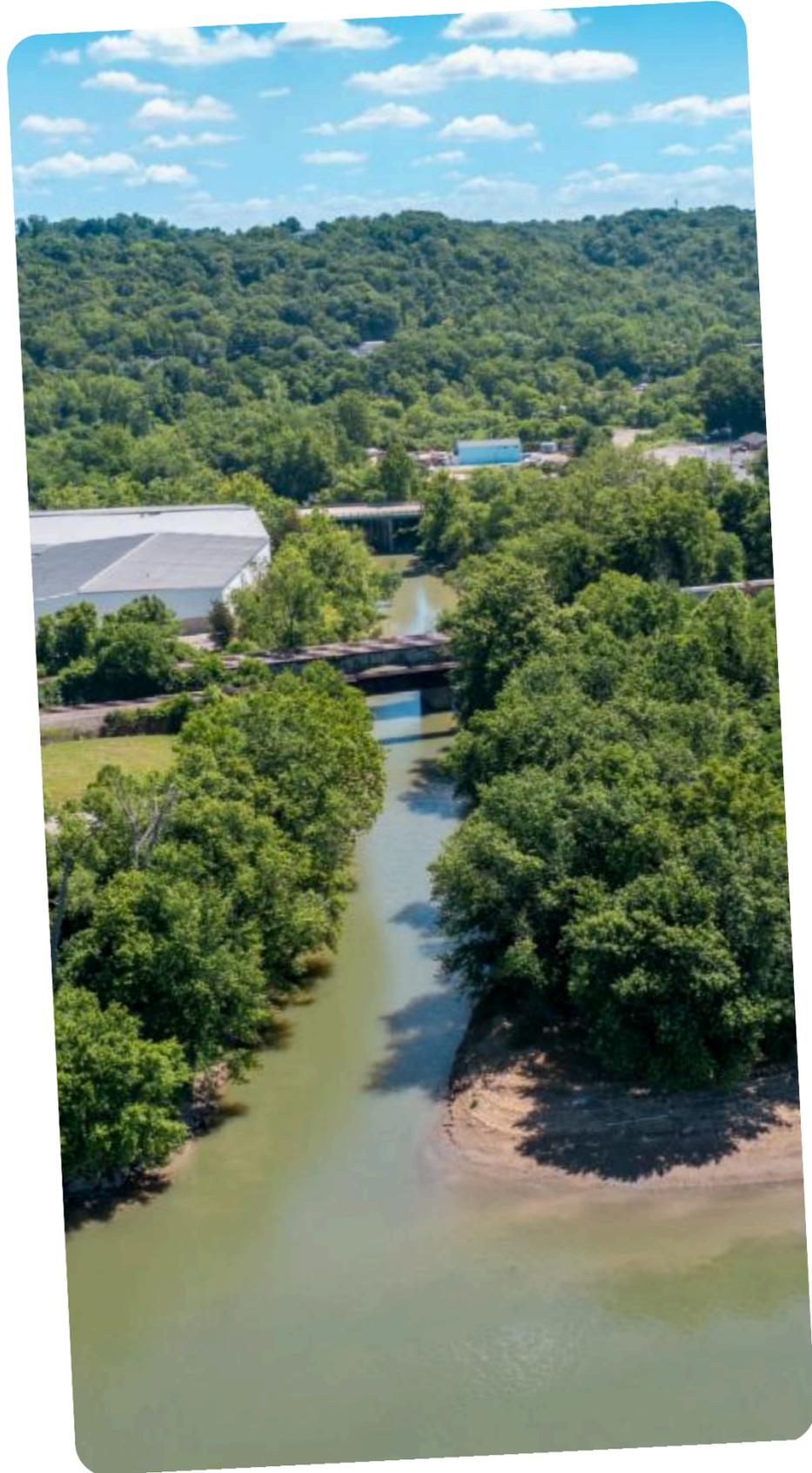


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- ABOUT
- WAVE ON WHEELS
- WORKSHOPS
- RAIN BARREL ART PROJECT
- MEDIA CAMPAIGN
- 2024 STATS



ABOUT



The Regional Storm Water Collaborative (Collaborative) is comprised of storm water districts, municipalities, and soil and water conservation districts in Southwest Ohio and Northern Kentucky. Our purpose is to raise awareness about water quality issues in the Ohio River Valley. Together, we can keep our waterways clean and healthy. The Regional Storm Water Collaborative created SaveLocalWaters.org to utilize mass media and shared resources to better raise awareness concerning environmental quality issues in the Ohio River Valley. By leveraging joint resources, our alliance can reach regional audiences with a consistent message in the most economical and efficient manner possible.

2024 MEMBERS



WAVE ON WHEELS



The Collaborative partnered with the Wave Foundation's Wave on Wheels program, which brought free water conservation education to schools, public events, and communities across the region. Our sponsorship helped deliver hands-on learning experiences featuring live animals, including African penguins and sharks, to inspire environmental awareness and stewardship.

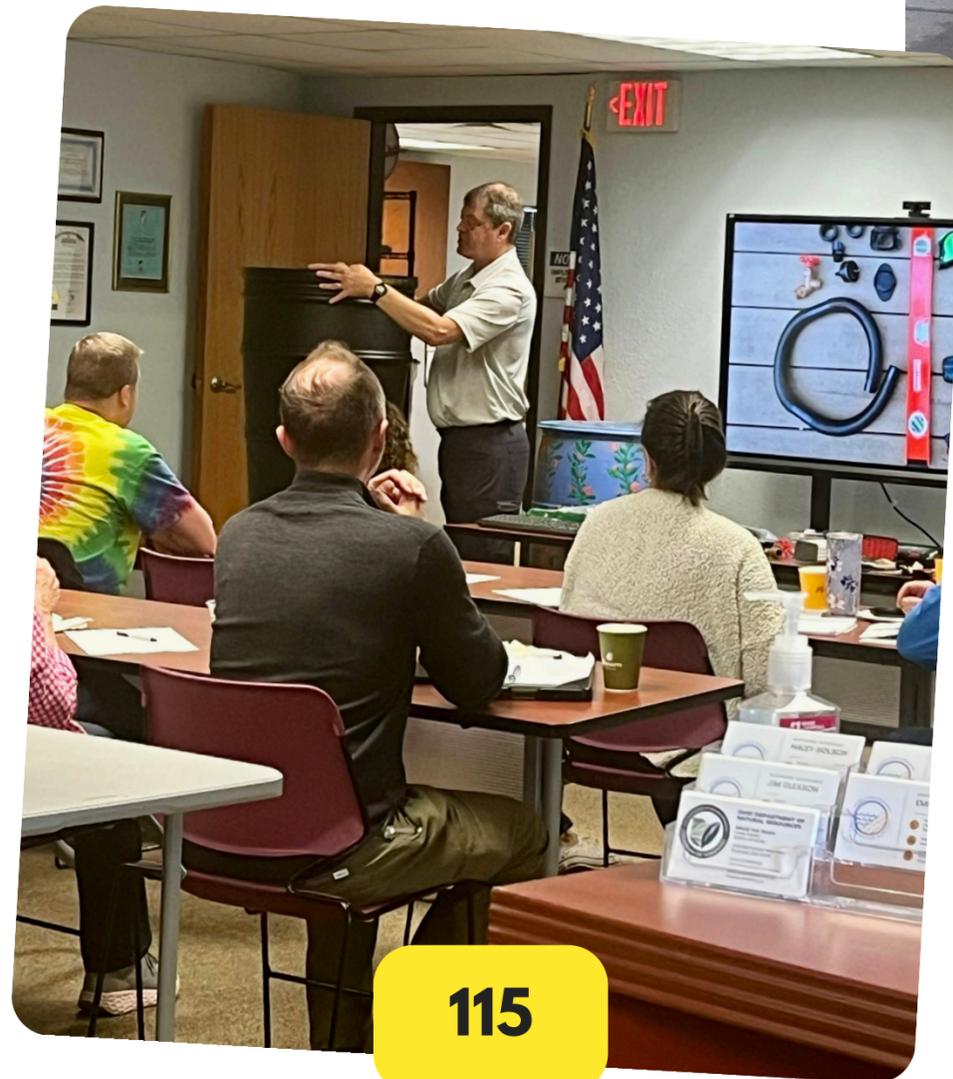
2,284

PARTICIPANTS

WORKSHOPS

RAIN BARREL WORKSHOPS

The Collaborative hosted four rain barrel workshops across the region. Workshops were held at the Hamilton County Conservation District, Clermont Soil & Water Conservation District, Butler Soil & Water Conservation District, and Sanitation District No. 1. Participants discovered the benefits of rain barrels, learned how to install them, and many even took home their own barrels to put their knowledge into action.



115

ATTENDEES



WORKSHOPS

FOSTERING SUSTAINABLE BEHAVIOR SEMINAR

The Collaborative hosted the Fostering Sustainable Behaviors Seminar, led by world-renowned environmental psychologist Dr. Doug McKenzie-Mohr. Environmental professionals from across Ohio and Kentucky attended this three-day workshop to learn about Community-Based Social Marketing, a proven strategy for driving behavior change in environmental and public health outreach campaigns worldwide. Participants left equipped with the tools and knowledge to implement effective behavior change initiatives, no matter the environmental challenge.

65

PARTICIPANTS



WORKSHOPS

STORMWATER FLOAT

The Collaborative hosted another year of the Stormwater Field Day, this year called the Stormwater Float. Construction and development professionals boarded a riverboat, cruised down the Ohio River, and learned about post-construction best management practices that protect the health of local waterways.

112

ATTENDEES



RAIN BARRREL ART PROJECT



130

NUMBER OF SUBMISSIONS

40

BARRELS PAINTED

193,181

TOTAL ZOO VISITORS DURING
BARREL EXHIBITION

\$12,750

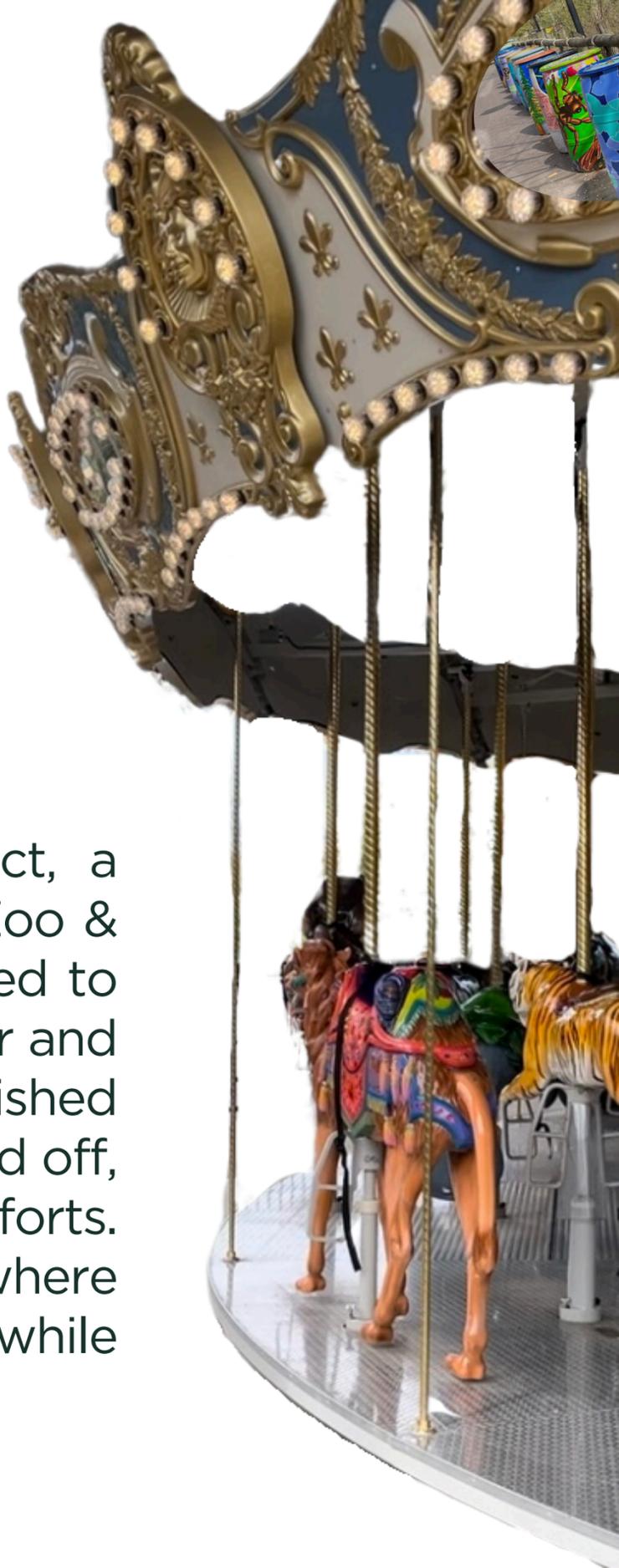
MONEY RAISED FOR
ENVIRONMENTAL EDUCATION



Rain Barrel Art Project



2024 marked the 12th year of the Rain Barrel Art Project, a collaboration between SaveLocalWaters and the Cincinnati Zoo & Botanical Garden. Each year, 40 artists of all ages are selected to transform rain barrels into unique works of art. Over the winter and spring, they bring their designs to life, and in April, the finished barrels are displayed at the Zoo. The barrels are then auctioned off, with proceeds supporting local environmental education efforts. Ultimately, these beautifully painted barrels find new homes, where they help capture stormwater for use in lawns and gardens while also beautifying neighborhoods across the region.



MEDIA CAMPAIGN

BUFFER THE BANKS

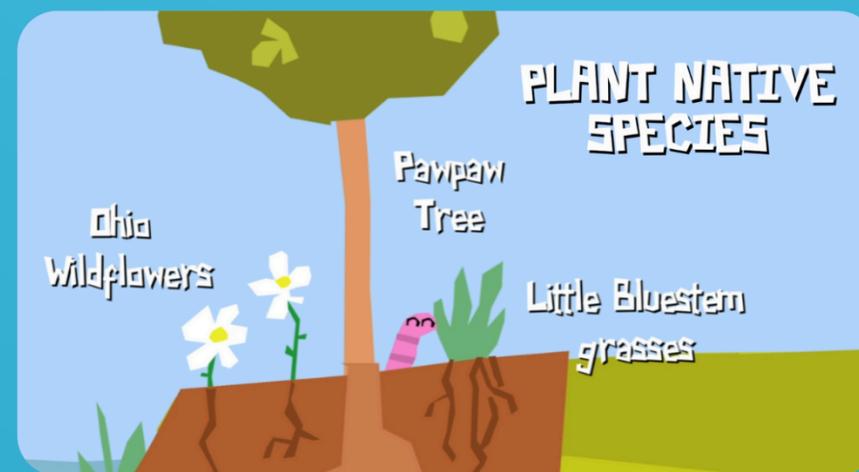
This year's outreach theme focused on riparian zone restoration or encouraging residents with streams on their properties to take steps toward supporting healthier streambanks and restoring these natural buffers. The Collaborative created a series of animated videos highlighting practical actions homeowners can take to improve water quality, prevent erosion, and enhance wildlife habitat.

NO MOW



Reach: 8,617

REMOVE INVASIVES & PLANT NATIVES



Reach: 15,218

LAWN DEBRIS



Reach: 7,038

2024 STATS



Facebook:
21,567 Reach



Wave on Wheels:
2,284 participants



Instagram:
4,357 Reach



Billboard:
210,900



YouTube:
4 Videos
36 Subscribers
31,345 Reach



Workshops:
292 participants

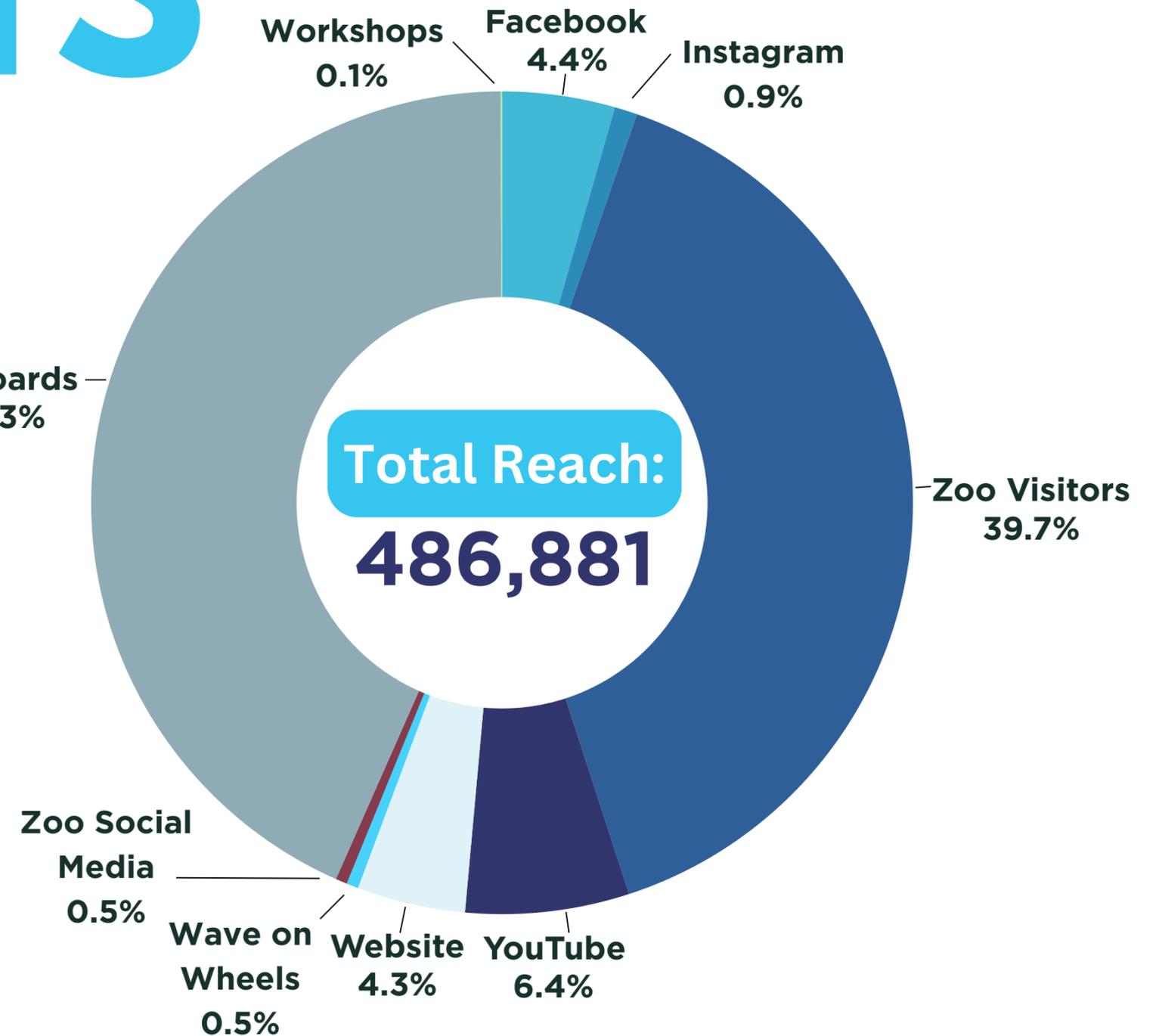


Website:
20,755 Views
Biggest Draw:
Rain Barrel Workshops



Zoo Visitors:
193,181

Zoo Social Media:
2,200



2024

THANK YOU



 **SaveLocalWaters.org**

2702 E. Kemper Rd.
Sharonville, OH 45241

Appendix 1 - MCM 1

Tab 4 – Regional Stormwater Collaborative 2021 Baseline Awareness Survey

The Greater Cincinnati Survey Fall 2021

*PROJECT REPORT
FOR
Greater Cincinnati Regional
Storm Water Collaborative*

*Prepared by:
Kimberly Downing, Ph.D.
Institute for Policy Research
University of Cincinnati*

April 2022



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APPENDIX A: Detailed Tabular Results

APPENDIX B: Technical Report

APPENDIX C: Questionnaire for the Fall 2021 Greater Cincinnati Survey

Summary of Results
Fall 2021 Greater Cincinnati Survey
Greater Cincinnati Regional Storm Water Collaborative

Introduction

This report summarizes the major findings from a survey conducted by the University of Cincinnati Institute for Policy Research (UCIPR) for the Greater Cincinnati Regional Storm Water Collaborative. The survey was part of the UCIPR's Fall 2021 Greater Cincinnati Survey (GCS) conducted from September 9 to October 27, 2021 --see the attached technical report.

This report includes questions asked of adults living in the eight county Greater Cincinnati Region. The Greater Cincinnati Region includes: Hamilton, Clermont, Butler, Warren, Boone, Kenton, Campbell, and Dearborn Counties. A total of **one thousand two hundred eighty-six (1,286)** randomly selected Greater Cincinnati Region adults were interviewed by landline and cellular telephone in the Fall 2021 GCS. The potential sampling error for the survey is +/- 2.7%.

In addition to presenting the major findings of the survey, selected demographic and geographic differences are reported in the text. Appendix A to this report provides detailed tabular results for questions asked in the Fall 2021 GCS. A description of the methodology used in the survey is presented in Appendix B and the questionnaire is located in Appendix C.

I. Ways People Can Reduce Storm Water Runoff

Greater Cincinnati Region residents were read a description of storm water runoff and then they were asked the following open-end question, “From what you may have seen or heard, what is one way that people can help reduce storm water runoff in the Greater Cincinnati region?” In the 2021 survey, nearly two-thirds of region residents suggested a way that people can reduce storm water runoff, while 37 percent of region residents say they “Don’t Know” what people can do to reduce storm water runoff.

The most frequent ways to reduce storm water runoff mentioned by region residents include: “Stop litter/yard waste in sewers” (13%), “Improve/upgrade sewer systems (12%) and “Erosion control/Landscaping green spaces” (8%) (Chart 1).

II. Specific Ways Residents Heard About to Reduce Storm Water Runoff

Greater Cincinnati region residents were asked if they had HEARD about any of the five specific ways that Greater Cincinnati residents could help in reducing storm water runoff. These five specific ways included:

- Reducing the amount of single-use plastic products used in your household
- Using rain barrels to collect rainwater at home
- Using yard care practices to reduce the use of fertilizer and pesticides to decrease pollutants
- Using native plants in plantings and landscaping in yards to prevent soil erosion
- Reducing soil erosion of the land near streams and rivers

For each question, residents were asked if they had HEARD a “Great Deal,” “Some,” “Not Much” or “Not at All” about the specific way to reduce storm water runoff.

A. Reducing the amount of single-use plastic products used in your household (Chart 2): Seventy-five percent of region residents say they have heard “A Great Deal” (46%) or “Some” (29%) about “Reducing the amount of single-use plastic products in your household” to help reduce storm water runoff.

Twenty-five percent of residents say they have heard “Not Much” (10%) or “Not at All” (15%) about reducing single-use plastic products in the home.

Region residents in the following demographic groups are among those who are most likely to say they have heard “A Great Deal” about this:

- Northern Kentucky residents (58%);
- Those 18-29 years of age (57%);
- Women (51%);
- Those who reside in households with incomes of \$100,000 or more (53%); and
- College graduates (49%)
- Those with children in the household (50%).

B. Using rain barrels to collect rainwater at home (Chart 3): Fifty-four percent of region residents say they have heard “A Great Deal” (21%) or “Some” (33%) about “Using rain barrels to collect rainwater at home” to reduce storm water runoff.

Forty-six percent of residents say they have heard “Not Much” (19%) or “Not at All” (26%) about using rain barrels at home.

There is little difference between demographic groups in the awareness of using rain barrels to collect rainwater at home. However, region residents in the following demographic groups are among those who are most likely to say they have “Not at All” heard about using rain barrels:

- City of Cincinnati residents (34%);
- People 65 years of age or older (32%);
- African-American residents (40%); and
- Those who live in single adult households (34%).

C. Using yard care practices to reduce the use of fertilizer and pesticides to decrease pollutants (Chart 4): Fifty-five percent of region residents say they have heard “A Great Deal” (22%) or “Some” (33%) about “Using yard care practices to reduce the use of fertilizer and pesticides to decrease pollutants” to reduce storm water runoff.

Forty-five percent of residents say they have heard “Not Much” (17%) or “Not at All” (28%) about using yard care practices to reduce the use of fertilizer and pesticides.

Region residents in the following demographic groups are among those who are most likely to say they heard “A Great Deal” about this:

- Northern Kentucky residents (28%);
- College graduates (24%); and
- Homeowners (23%).

However, region residents in the following demographic groups are among those who are most likely to say “Not at All” about using yard care practices to decrease pollutants:

- African-American residents (45%); and
- Those who live in lower-income households (37% to 45%);
- Those who live in single adult households (31%).

D. Using native plants in plantings and landscaping in yards to prevent soil erosion

(Chart 5): A majority of region residents say they have heard “A Great Deal” (26%) or “Some” (32%) about “Using native plants in plantings and landscaping in yards to prevent soil erosion.”

Forty-two percent of region residents say they have heard “Not Much” (13%) or “Not at All” (29%) about using native plants in yards to prevent soil erosion.

Region residents in the following demographic groups are among those who are most likely to say they have heard “A Great Deal” about this:

- Northern Kentucky residents (30%);
- College graduates (29%); and
- Those who own their home (27%).

However, region residents in the following demographic groups are among those who are most likely to say “Not at All” about using native plants in plantings and landscaping to prevent soil erosion:

- City of Cincinnati residents (38%);
- Younger residents, those 18-29 (37%);
- African-American residents (47%);
- Respondents who did not complete high school (43%); and
- Those who rent their home (42%).

E. Reducing soil erosion of the land near streams and rivers (Chart 6): Thirty-nine percent of region residents say they have heard “A Great Deal” (13%) or “Some” (26%) about “Reducing soil erosion of the land near streams and rivers.”

Sixty-one percent of region residents say they have heard “Not Much” (23%) or “Not at All” (38%) about “reducing soil erosion of the land.”

Region residents in the following demographic groups are among those who are most likely to say they have heard “A Great Deal” about this:

- Male survey respondents (18%) and
- College graduates (18%).

However, region residents in the following demographic groups are among those who are most likely to say “Not at All” about having heard of reducing soil erosion of the land near streams and rivers:

- African-American residents (51%);
- Households with incomes less than \$50,000 (47%);
- Respondents who did not complete high school (56%); and
- Those who rent their home (52%).

III. Specific Ways Residents Have Done/Attempted to Reduce Storm Water Runoff

Greater Cincinnati region residents were again asked five specific ways that Greater Cincinnati residents could do to help reduce storm water runoff. However, this time the question asked whether they had DONE any of the actions to help reduce storm water runoff at their home. For each question residents were asked if they, or anyone in their household, had done this action: A “Great Deal,” “Some,” “Not Much” or “Not at All” as a way to reduce storm water runoff at their home.

A. Reduced the amount of single-use plastic products used in your household (Chart 7): Seventy-seven percent of region residents say they have “Reduced the amount of single-use plastic products in their household” either “A Great Deal” (36%) or “Some” (41%).

Twenty-three percent of residents said they have done “Not Much” (8%) or “Not at All” (15%) to reduce single-use plastic products in the home.

Region residents in the following demographic groups are among those who are most likely to say they have done “A Great Deal” about this:

- Those who resident in households with incomes of \$50,000 to \$99,999 (43%);
- Women (39%); and
- College graduates (41%).

B. Used rain barrels to collect rainwater at home (Chart 8): Only 18 percent of region residents say they have “used rain barrels to collect rainwater at home to reduce storm water runoff” either “A Great Deal” (10%) or “Some” (8%).

Eighty-one percent of residents have not used rain barrels at their home, either “Not Much” (5%) or “Not at All” (76%).

There is little difference between demographic groups in the use of rain barrels to collect rainwater at home. However, region residents in the following demographic groups are among those who are most likely to say they have “Not at All” used rain barrels:

- Hamilton County suburban residents (81%);
- African-American residents (81%); and
- Those who rent their home (79%).

C. Used yard care practices to reduce the use of fertilizer and pesticides to decrease pollutants (Chart 9): Fifty-five percent of region residents say they used yard care practices to reduce the use of fertilizer and pesticides to decrease pollutants “A Great Deal” (26%) or “Some” (29%) to reduce storm water runoff.

Forty-three percent of residents say they have done “Not Much” (8%) or “Not at All” (35%) yard care practices to reduce the use of fertilizer and pesticides.

Region residents in the following demographic groups are among those who are most likely to say they have done this “A Great Deal”:

- Those with household incomes of \$50,000-\$99,999 (32%)
- College graduates (28%); and
- Those who own their home (27%).

However, region residents in the following demographic groups are among those who are most likely to say they have “Not at All” used yard care practices to decrease pollutants:

- Those residents 18-29 years of age (42%);
- African-American residents (51%); and
- Those who live in single adult households (44%).

D. Used native plants in plantings and landscaping in yards to prevent soil erosion (Chart 10): Fifty-six percent of region residents say they used native plants in plantings and landscaping, “A Great Deal” (26%) or “Some” (29%) to prevent soil erosion.”

Forty-three percent of region residents say they have done “Not Much” (9%) or “Not at All” (34%) used native plants in yards to prevent soil erosion.

Region residents in the following demographic groups are among those who are most likely to say they have done this a “A Great Deal”:

- Respondents 30 years of age or older; and
- Those who own their home (29%).

However, region residents in the following demographic groups are among those who are most likely to say they have “Not at All” used native plants in plantings and landscaping to prevent soil erosion:

- City of Cincinnati residents (39%);
- Younger residents, those 18-29 (46%);
- African-American residents (55%);
- High school graduates (41%);
- Those who rent their home (49%); and
- Those who live in single adult households (47%).

E. Reduced soil erosion of the land near streams and rivers (Chart 11): About one-fifth of region residents say they have taken action to reduce soil erosion of the land near streams and rivers “A Great Deal” (10%) or “Some” (13%).

Seventy percent of region residents say they have done “Not Much” (8%) or “Not at All” (62%) to reduce soil erosion of the land.

Region residents in the following demographic groups are among those who are most likely to say they have done this “A Great Deal”:

- Male survey respondents (12%); and
- Those 30-45 years of age (13%).

However, region residents in the following demographic groups are among those who are most likely to say they have “Not at All” taken action to reduce soil erosion of the land near streams and rivers:

- City of Cincinnati residents (69%);
- Those 18-29 years of age (71%);
- African-American residents (76%); and
- Those who rent their home (69%).

IV. Summary of Ways Residents Heard About to Reduce Storm Water Runoff

Greater Cincinnati region residents responded to five ways that residents can help to reduce storm water runoff. Chart 12 presents a summary of the five ways that region residents had heard about.

- 75 percent of region residents have heard (Great Deal/Some) about **reducing the amount of single-use plastic products.**
- 54 percent of region residents have heard (A Great Deal/Some) about **using rain barrels to reduce storm water runoff.**
- 55 percent of region residents have heard (A Great Deal/Some) about **using yard care practices to reduce fertilizer and pesticides.**
- 57 percent of region residents have heard (A Great Deal/Some) about **using native plants in yard plantings/landscaping to reduce soil erosion.**
- 39 percent of region residents have heard (A Great Deal/some) about **reducing soil erosion of land near streams and rivers.**

Summary of Ways Residents Have Done to Reduce Storm Water Runoff

Greater Cincinnati region residents responded to five ways that residents have done to reduce storm water runoff. Chart 13 presents a summary of the five ways that region residents had heard about.

- 77 percent of region residents have done a (Great Deal/Some) to **reduce the amount of single-use plastic products.**
- 18 percent of region residents have done/used (A Great Deal/Some) **rain barrels to reduce storm water runoff.**
- 55 percent of region residents have done/used (A Great Deal/Some) **yard care practices to reduce fertilizer and pesticides.**
- 56 percent of region residents have done/used (A Great Deal/Some) **native plants in yard plantings/landscaping to reduce soil erosion.**
- 22 percent of region residents have done a (A Great Deal/some) to **reduce soil erosion of land near streams and rivers.**

V. Primary Reason Household HAS/HAS NOT Taken Storm Water Runoff Reduction Efforts

Greater Cincinnati Region residents who had mentioned they had done a “Great Deal” or “Some” action to reduce storm water runoff to *at least one* of the previous five questions, were asked the following open-end question: “What is the primary reason your household has taken storm water reduction efforts?” (Chart 14).

Survey respondents provided a varied list of reasons why they had *taken action to reduce storm water runoff*. Four themes stood out from these comments. These themes include: 1) Protecting property from flooding and erosion (34%); 2) Concern about the environment, the earth and climate, and “It’s the right thing to do!” (28%); 3) Keeping trash and litter out of sewers and reduce water pollution (13%); and 4) Conserving water (7%).

The specific categories used for these four themes include the following:

- Protect property from flooding / Reduce flooding (14%);
- Reduce erosion / Protect yard from erosion (13%);
- Landscape to reduce erosion (7%);
- Protect environment/Save the Earth/Climate Change (18%);
- “It’s the Right Thing to Do” (10%);
- Reduce litter and trash / Keep out of sewers (7%);
- Reduce water pollution (6%); and
- Conserve water (7%);

Region residents who responded that they had done “Not Much” or “Not at All” to all five of the survey questions about ways to reduce storm water runoff, were asked: “What is the primary reason your household has not taken these storm water runoff reduction efforts.” (Chart 15).

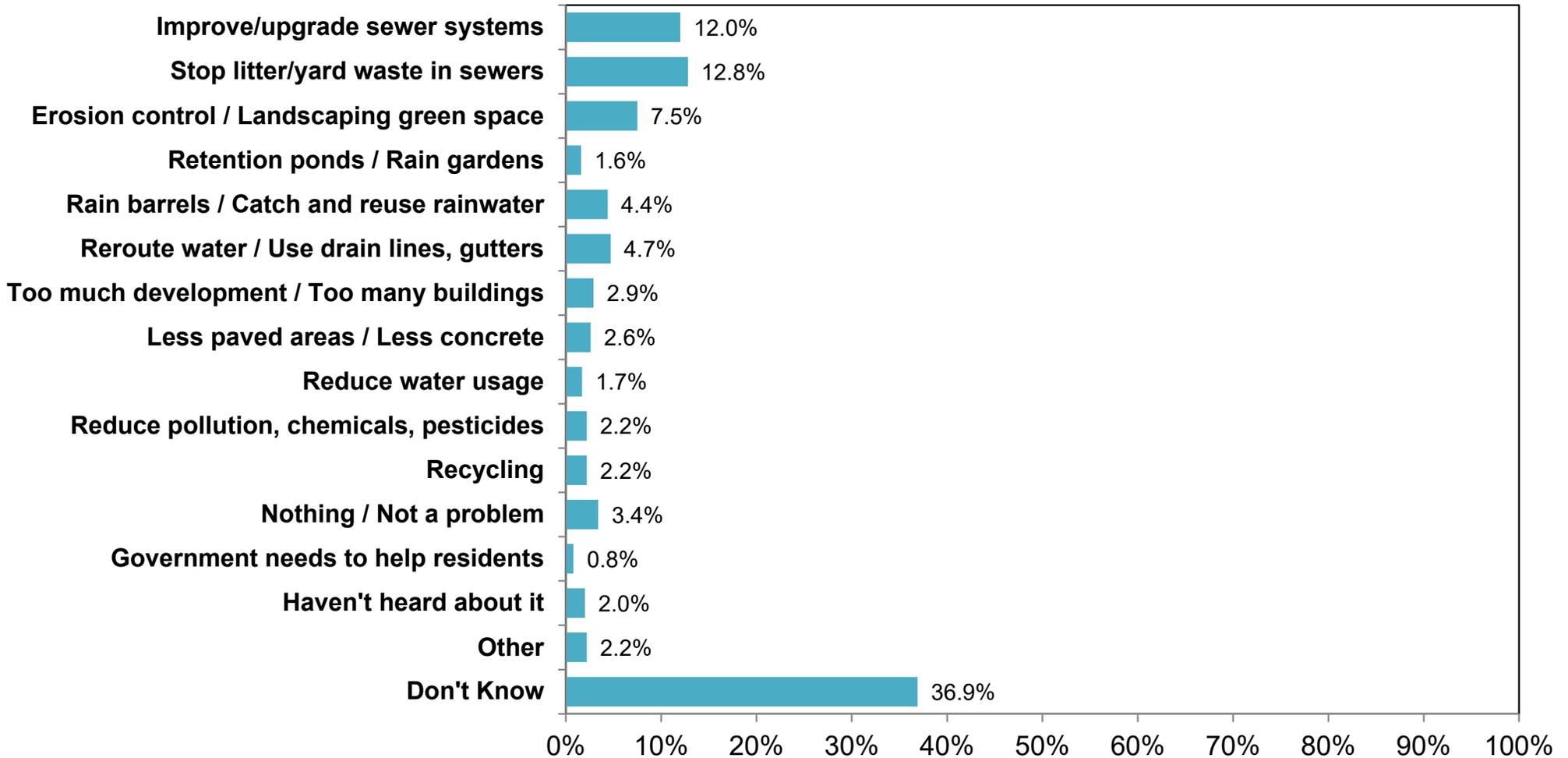
These residents identified several reasons that focused on: 1) lack of information or awareness about the issue of storm water runoff; 2) it wasn’t an issue for them personally because of where they lived geographically or due to their housing type, such as apartment or condo or without a yard; and 3) they didn’t think storm water runoff reduction efforts were needed or were too expensive.

The specific categories include the following:

- “Not aware of the issue” / “Haven’t heard about it” (36%);
- “It’s not a problem where I live” (22%);
- Live in an apartment/ Condo / Have no yard (18%);
- Not needed / Too expensive (9%).

Chart 1

Question 5 (Open-End): “From what you may have seen or heard, what is one way that people can help reduce storm water runoff in the Greater Cincinnati region?”





The Greater Cincinnati Regional Storm Water Collaborative has identified several ways that residents can help to REDUCE the amount of storm water runoff . . .

Have you heard a great deal, some, not much or not at all about . . . ?

Chart 2

Question 6A: “Reducing the amount of single-use plastic products used in your household . . . Heard a great deal, some, not much or not at all about this?”

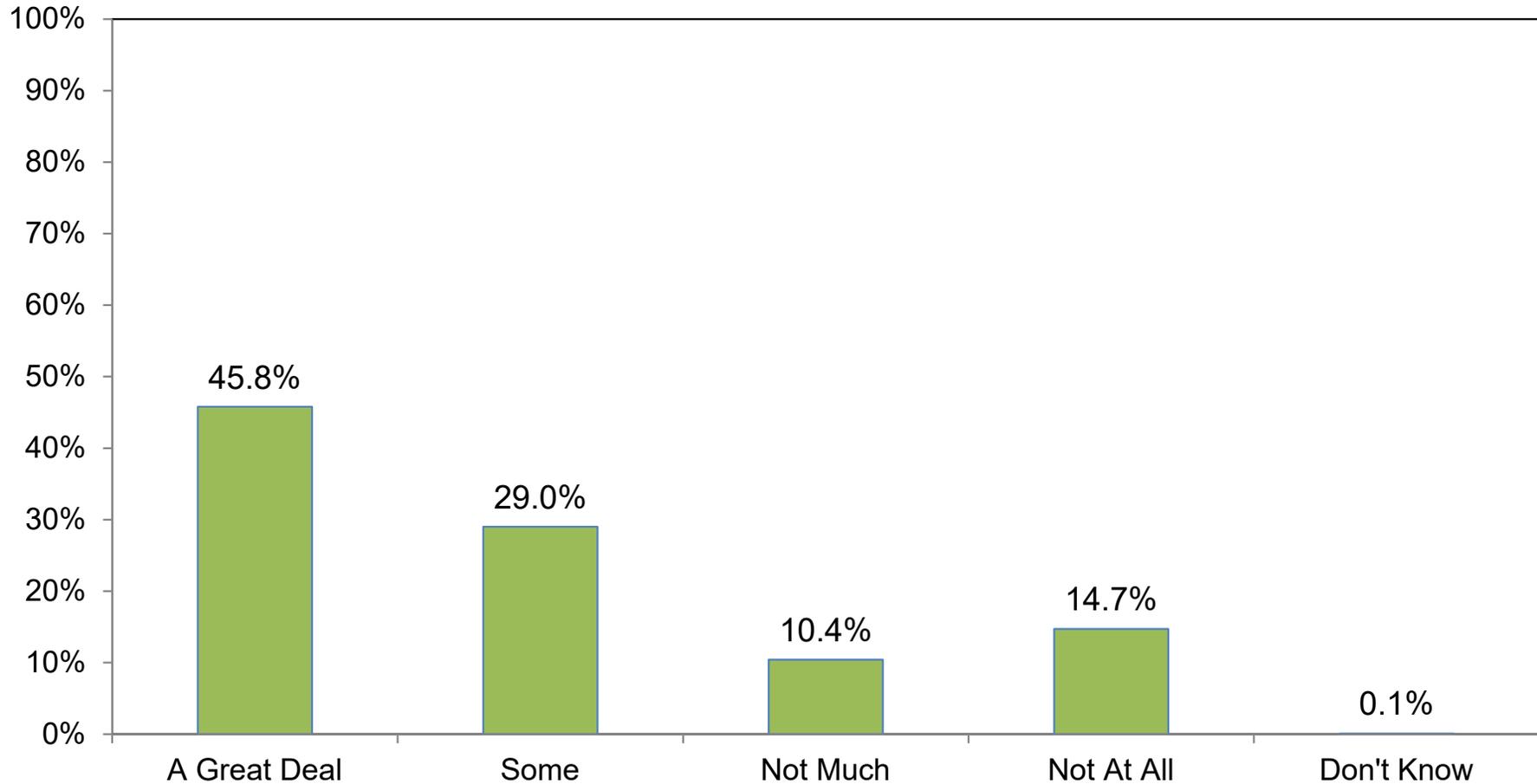


Chart 3

Question 6B: “Using rain barrels to collect rainwater at home . . . Heard a great deal, some, not much or not at all about this?”

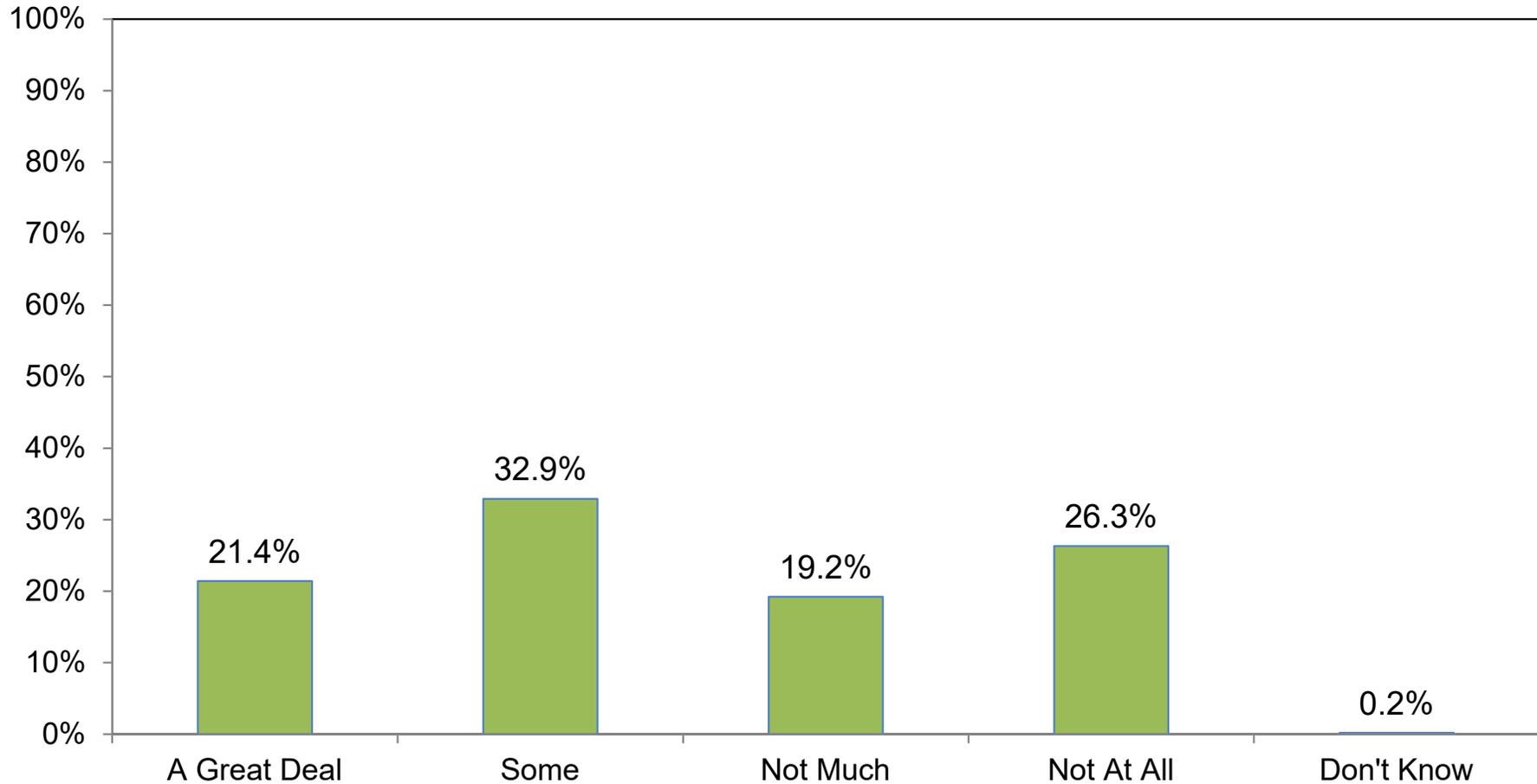


Chart 4

Question 6C: “Using yard care practices to reduce the use of fertilizer and pesticides to decrease pollutants . . . Heard a great deal, some, not much or not at all about this?”

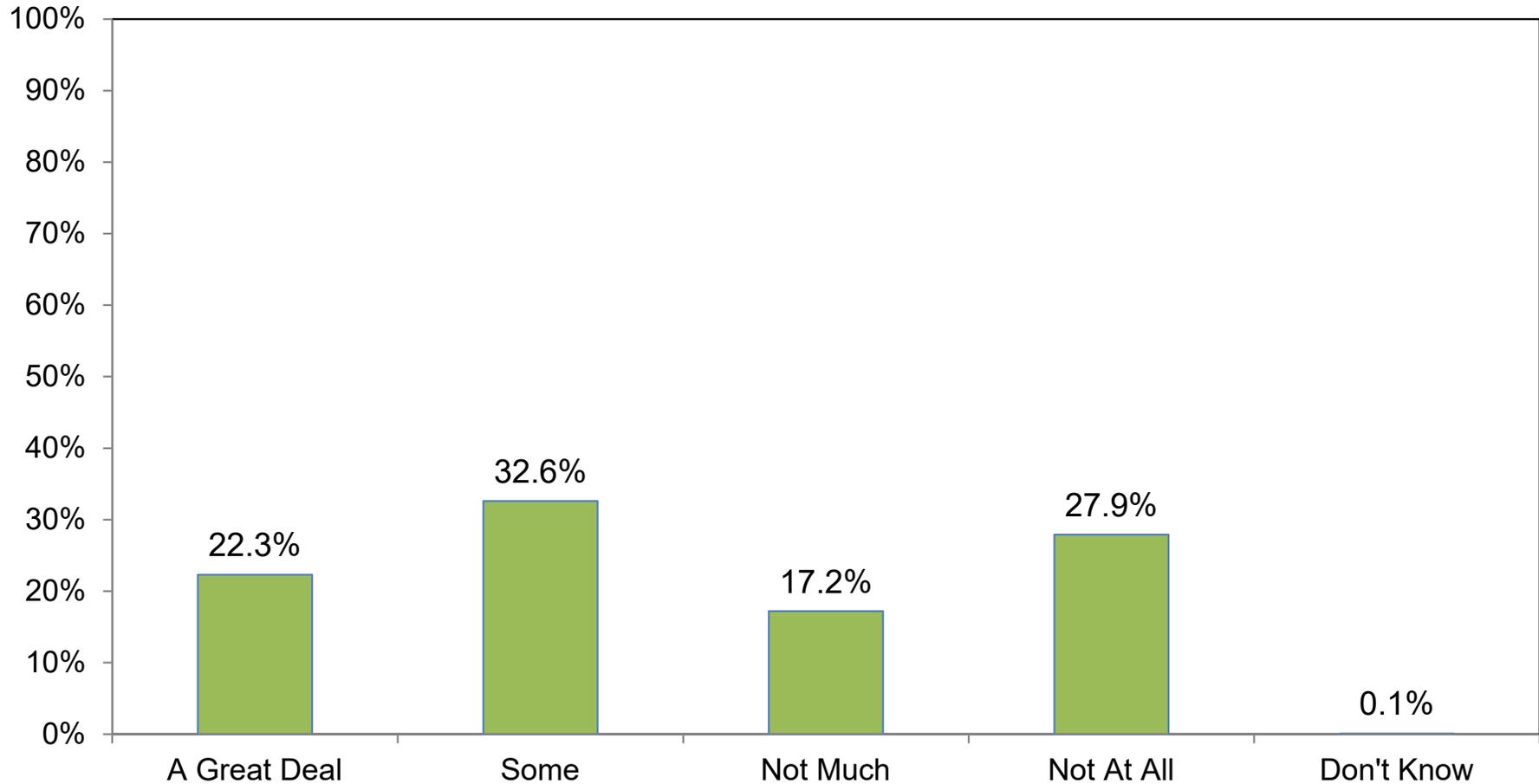


Chart 5

Question 6D: “Using native plants in plantings and landscaping in yards to prevent soil erosion . . . Heard a great deal, some, not much or not at all about this?”

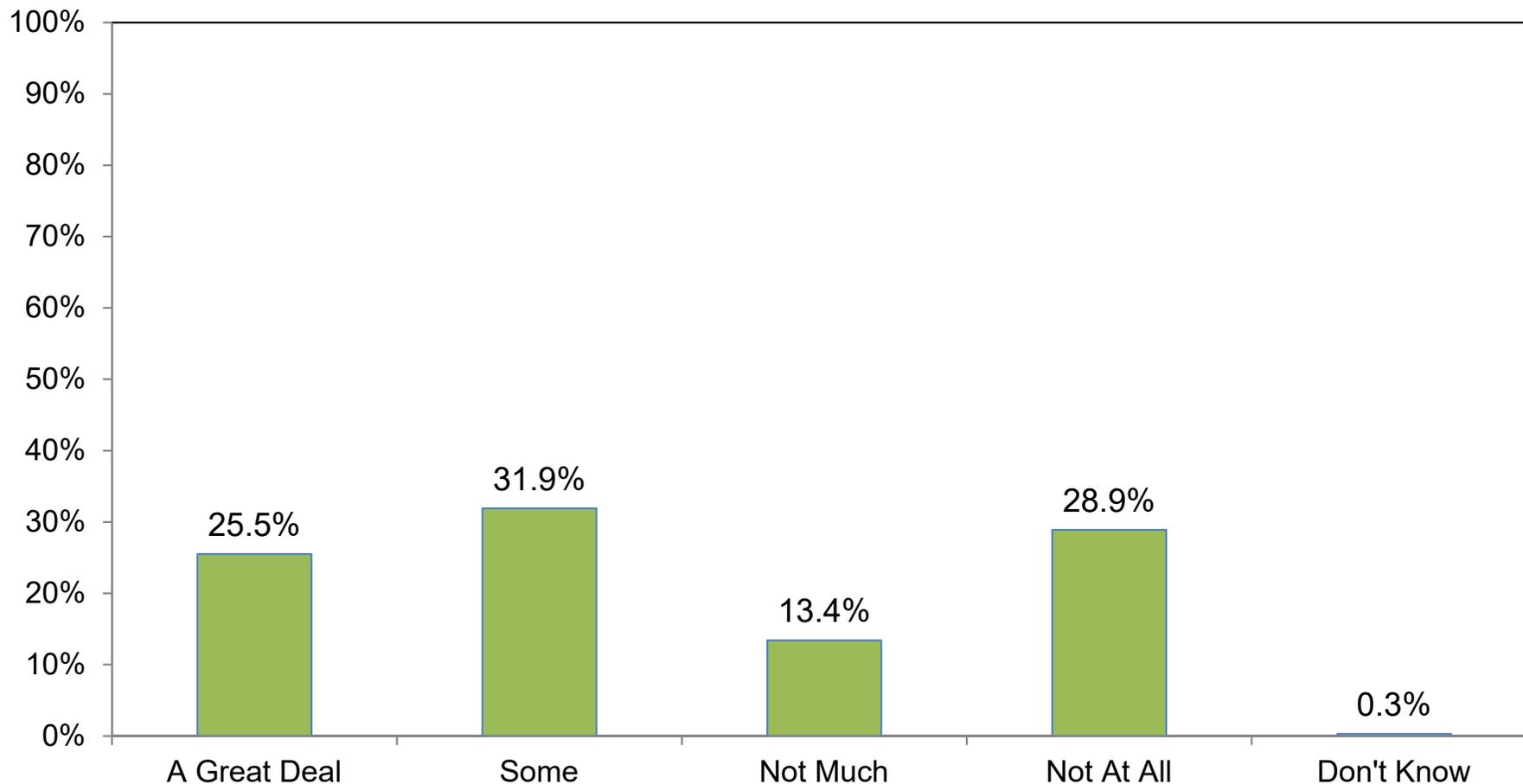
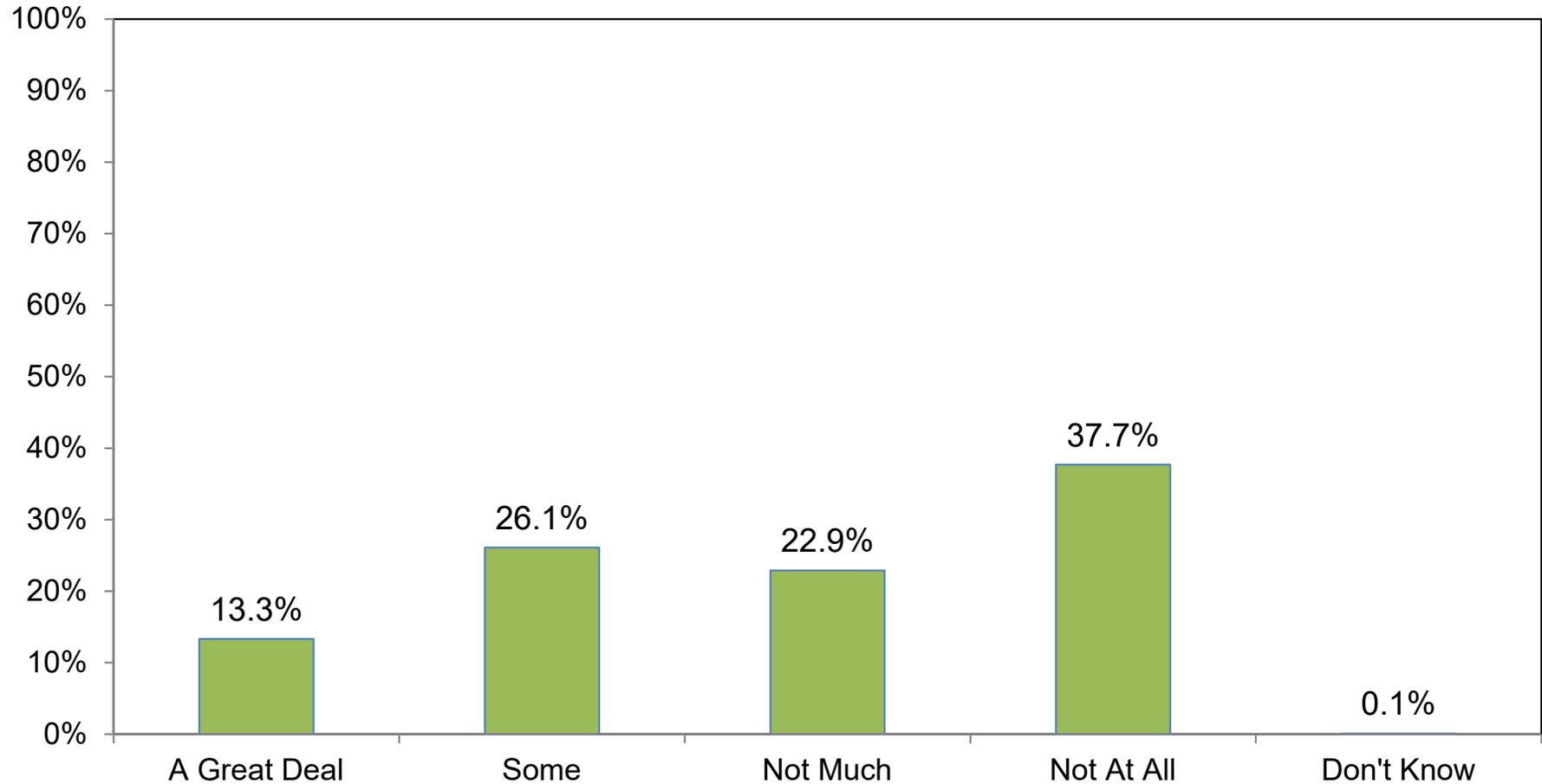


Chart 6

Question 6E: “Reducing soil erosion of the land near streams and rivers . . . Heard a great deal, some, not much or not at all about this?”





The Greater Cincinnati Regional Storm Water Collaborative has identified several ways that residents can help to REDUCE the amount of storm water runoff at their home . . .

Have you OR anyone in your household done this . . . a great deal, some, not much or not at all?

Chart 7

Question 7A: “Reduce the amount of single-use plastic products used in your household . . . Have done this a great deal, some, not much or not at all?”

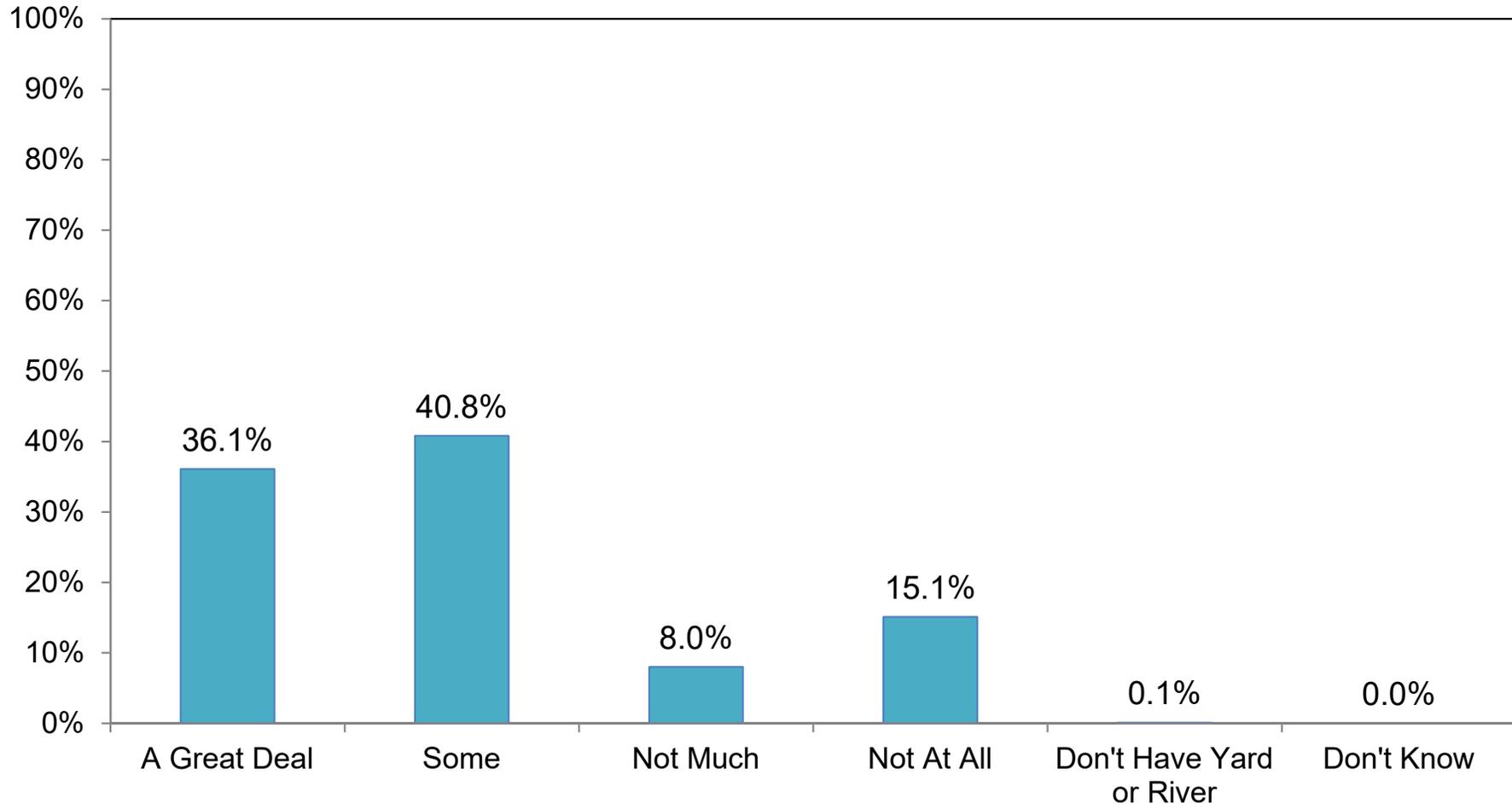


Chart 8

Question 7B: “Use rain barrels to reduce storm water runoff at home . . . Have done this a great deal, some, not much or not at all about this?”

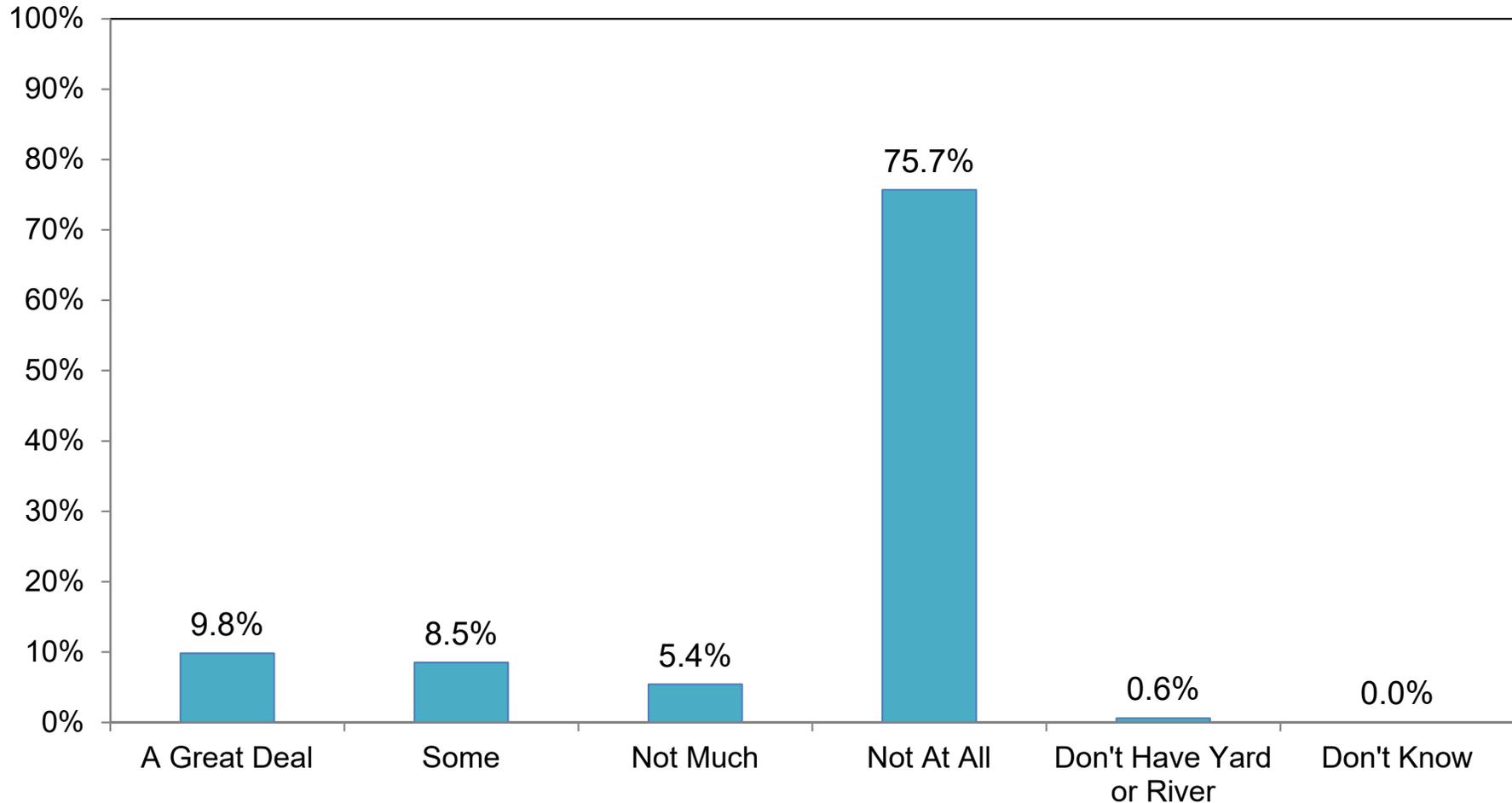


Chart 9

Question 7C: “Use yard care practices to reduce the use of fertilizer and pesticides to decrease pollutants . . . Have done this a great deal, some, not much or not at all?”

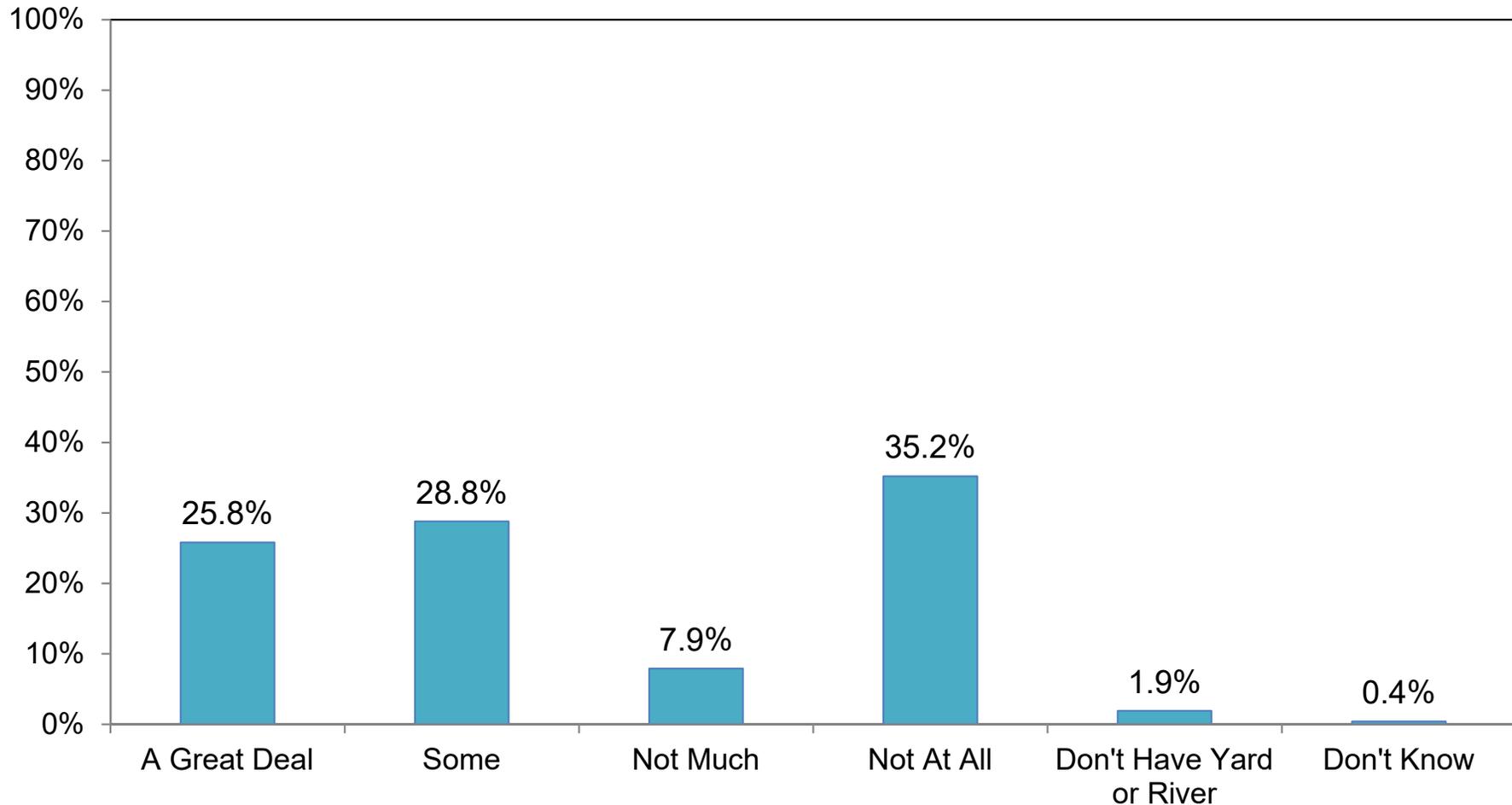
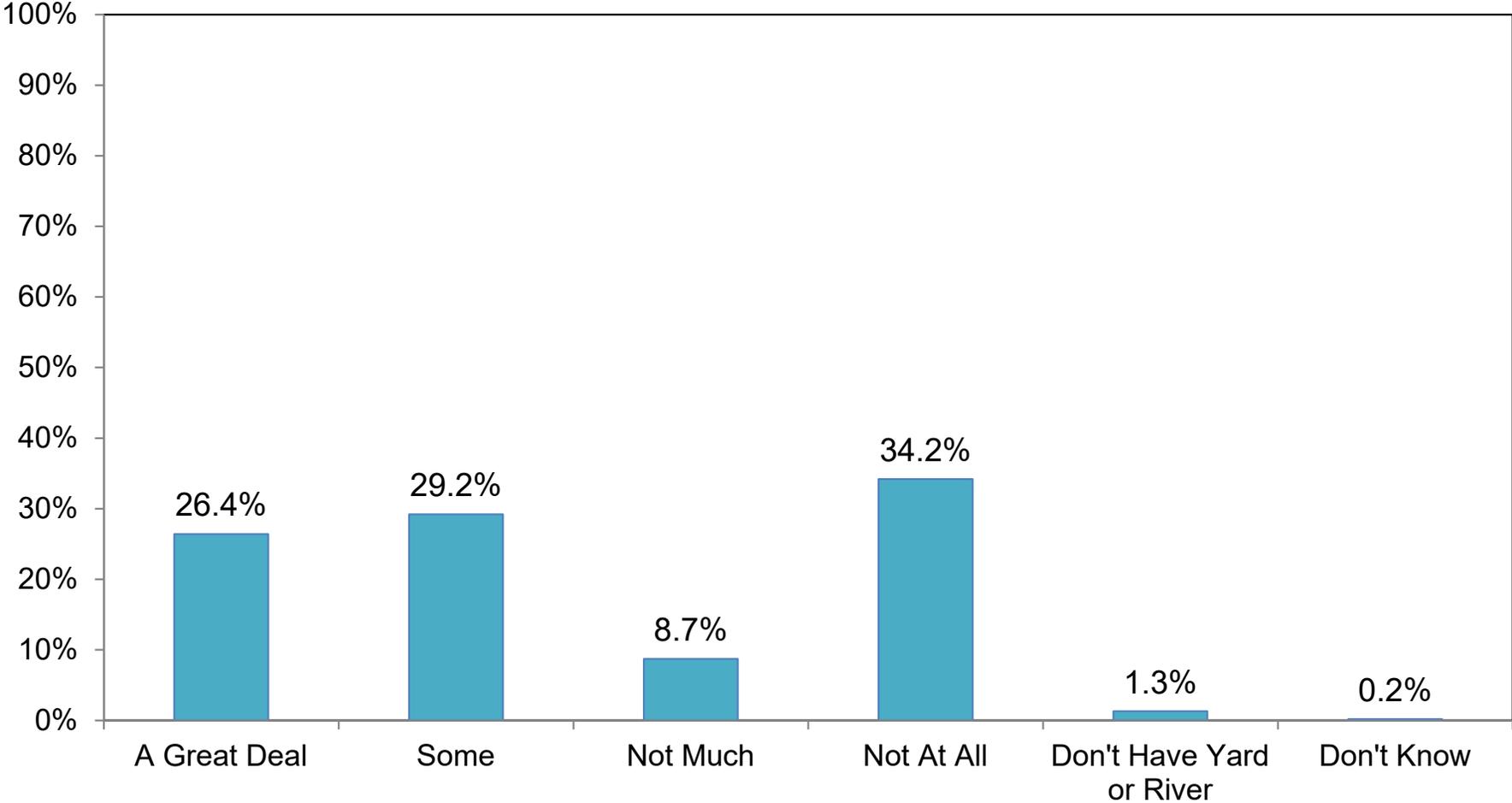


Chart 10

Question 7D: “Use native plants in yard plantings and landscaping to prevent soil erosion . . . Have done this a great deal, some, not much or not at all?”



Source: Greater Cincinnati Survey, Fall 2021
Institute for Policy Research
University of Cincinnati

Chart 11

Question 7E: “Reduce soil erosion of the land near streams and rivers . . . Have done a great deal, some, not much or not at all?”

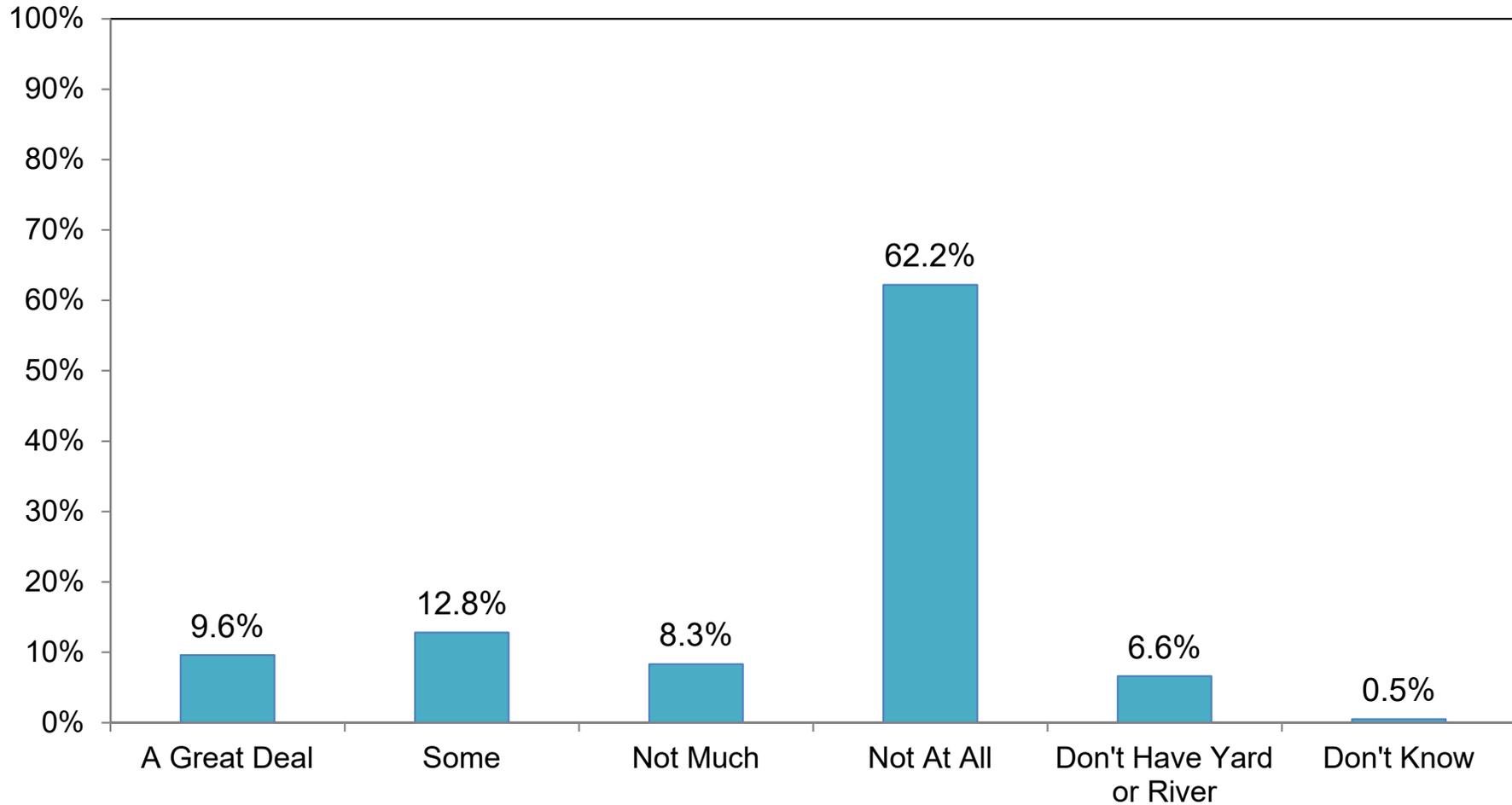


Chart 12

Question 6A-E: “Have you heard about this . . . a Great Deal or Some”

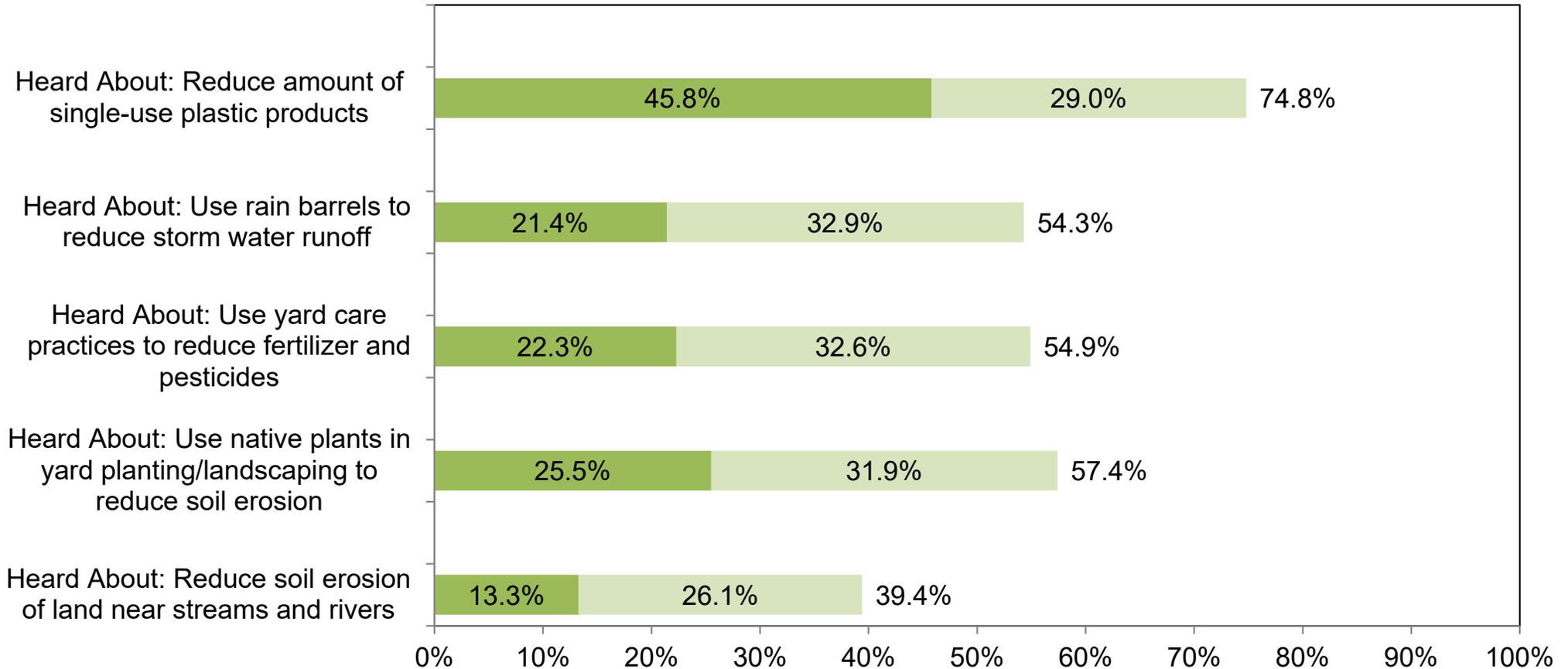


Chart 13

Question 7A-E: Have you or anyone in household done this . . .
a Great Deal or Some?

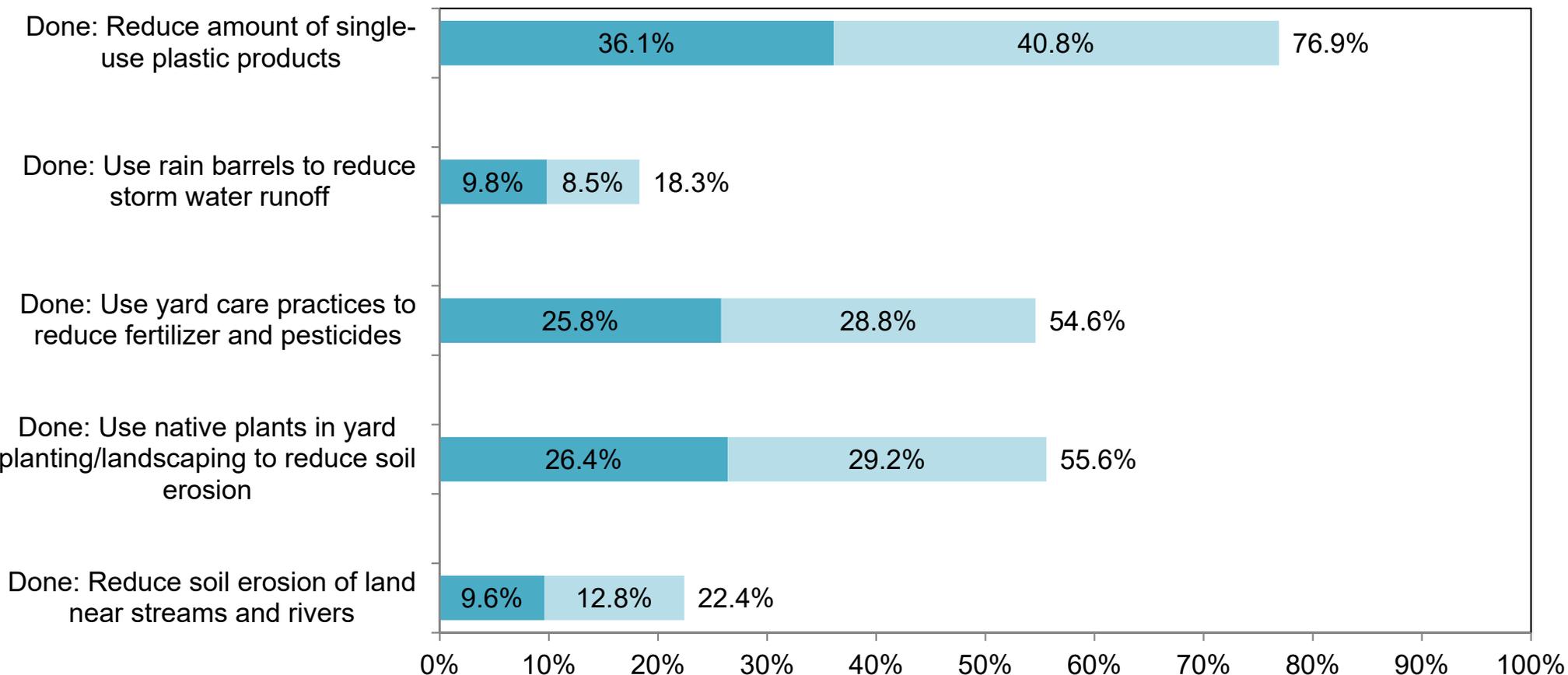
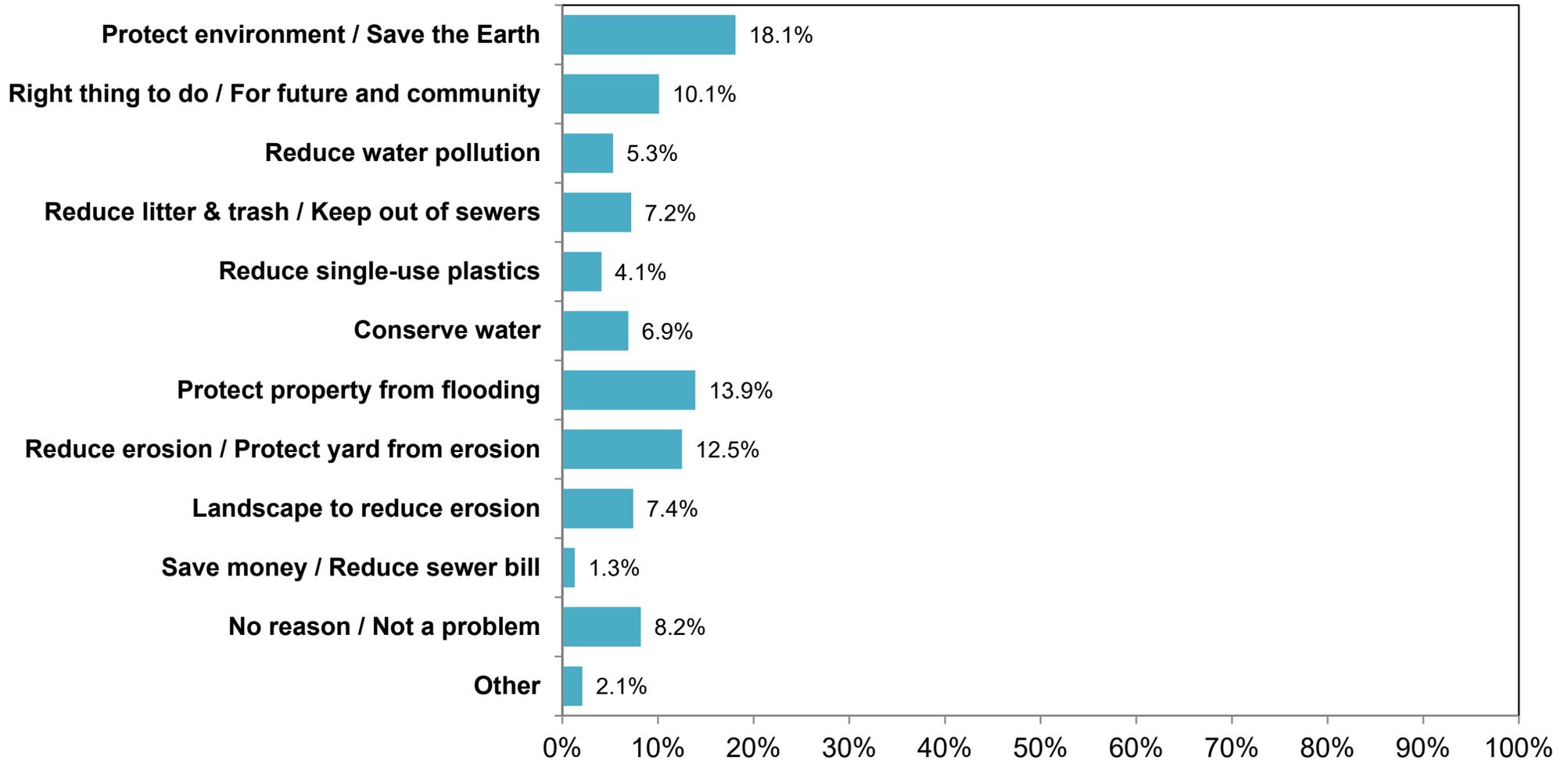


Chart 14

Question 8 (Open-End): “What is the primary reason your household HAS taken storm water runoff reduction efforts?”
(Asked of Respondents who have taken one or more reduction efforts)

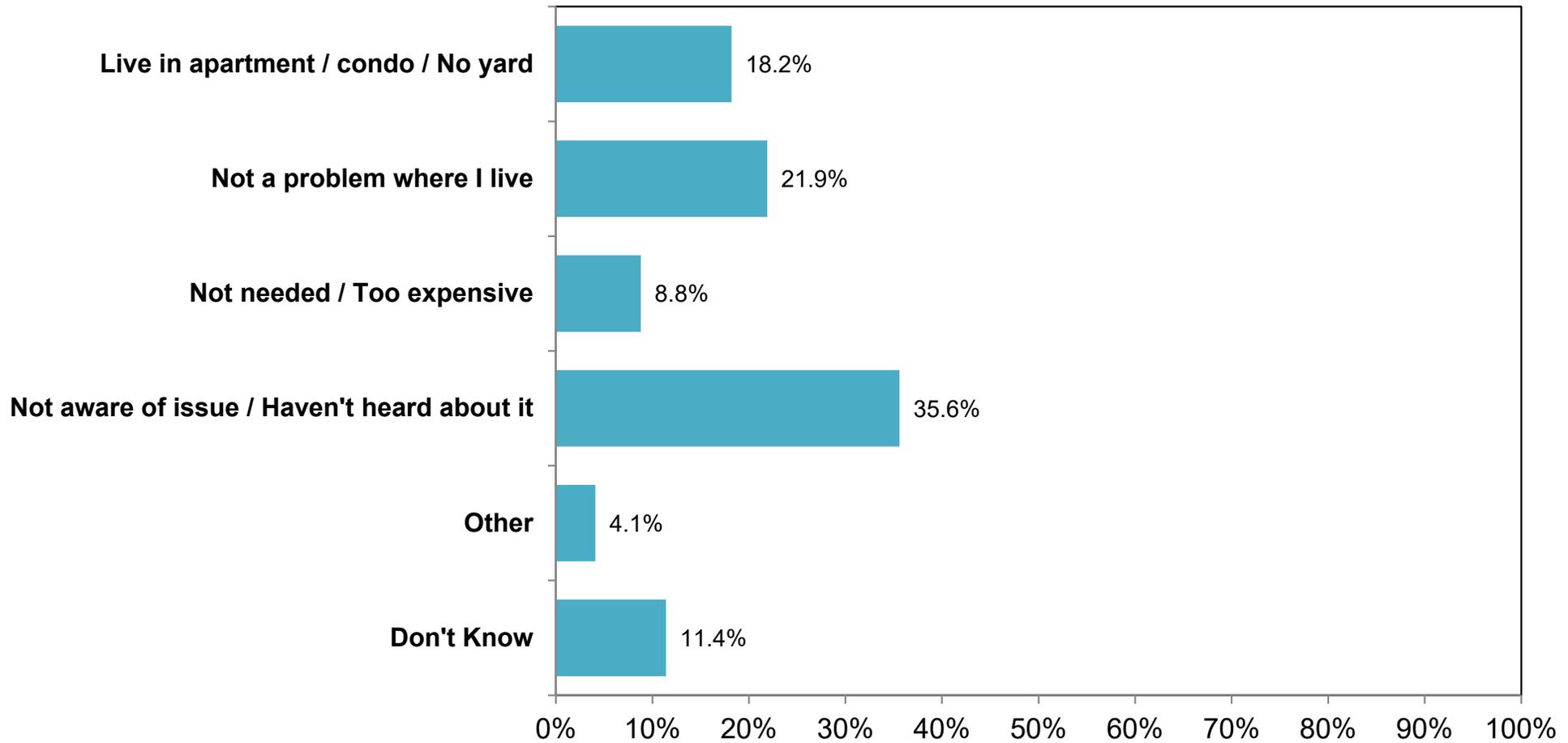


n=1063

Chart 15

Question 9 (Open-End): “What is the primary reason your household HAS NOT taken storm water runoff reduction efforts?”

(Asked of Respondents who have NOT taken ANY of the reduction efforts)



n=123

APPENDIX A
Detailed Tabular Results

Question Q5: What is one way people can help reduce storm water runoff in the Greater Cincinnati region?

		Improve/upgrade sewer systems	Stop litter/yard waste in sewers	Erosion control/Landscaping green space/Trees	Retention ponds / Rain gardens	Rain barrels / Catch and reuse rainwater
Greater Cincinnati Region Residents		12.0%	12.8%	7.5%	1.6%	4.4%
Region	City of Cincinnati	16.2%	12.3%	6.4%	1.3%	4.4%
	Hamilton County Suburbs	14.1%	12.4%	7.1%	1.2%	5.1%
	Other OH and IN Counties	10.5%	14.9%	8.8%	1.4%	3.5%
	Northern KY Counties	9.2%	9.0%	6.0%	2.8%	5.6%
Age	18 - 29	13.6%	13.3%	2.6%	0.2%	2.9%
	30 - 45	8.5%	12.9%	6.0%	1.8%	6.1%
	46 - 64	12.6%	11.4%	11.5%	2.8%	5.3%
	65 and over	14.2%	12.5%	6.8%	0.9%	2.5%
Race	African - American	19.4%	14.5%	2.3%	0.2%	4.6%
	White	10.7%	12.7%	8.9%	1.9%	4.5%
Sex Of Respondent	Male	12.5%	10.7%	10.2%	1.4%	4.8%
	Female	11.5%	14.7%	5.0%	1.8%	4.0%
Household Income	Less than \$20,000	15.6%	28.3%	2.2%	2.0%	2.9%
	\$20,000 - \$49,999	11.2%	12.2%	5.1%	0.6%	2.4%
	\$50,000 - \$69,999	10.5%	12.5%	6.1%	0.5%	7.5%
	\$70,000 - \$99,999	9.4%	20.8%	11.8%	3.1%	6.1%
	\$100,000 or more	12.5%	10.2%	10.0%	2.0%	3.0%
Education	Less than High School	7.2%	11.7%	8.2%		3.4%
	High School Graduate	8.4%	15.3%	4.3%	1.0%	5.9%
	Some College	17.0%	13.5%	6.1%	1.3%	3.6%
	College Graduate	11.6%	10.1%	11.8%	3.0%	4.2%
Own Or Rent Home	Own	11.6%	11.3%	9.2%	2.0%	4.0%
	Rent	11.8%	17.6%	3.3%	0.7%	5.9%
Employment	Employed FT or PT	10.5%	12.1%	7.1%	2.0%	4.9%
	Unemployed / Disabled / Retired	17.3%	14.3%	6.5%	0.3%	1.8%
	Student / Keeping house	9.0%	14.3%	10.4%	2.0%	6.9%
Adults In Household	One	12.6%	13.0%	6.2%	1.7%	1.3%
	Two	11.8%	12.9%	10.1%	1.3%	3.6%
	Three or more	12.2%	12.6%	4.8%	2.0%	6.3%
Children in Household	None	13.6%	13.3%	7.1%	1.3%	4.1%
	One or more	9.6%	12.0%	7.9%	2.1%	5.0%

Question Q5: What is one way people can help reduce storm water runoff in the Greater Cincinnati region?

		Reroute water/ Use drain lines, gutters	Too much development / Too many buildings	Less paved areas / Less concrete area	Reduce water usage	Reduce pollution, chemicals, pesticides	Recycling
Greater Cincinnati Region Residents		4.7%	2.9%	2.6%	1.7%	2.2%	2.2%
Region	City of Cincinnati	3.0%	1.1%	1.8%	3.8%	0.8%	1.3%
	Hamilton County Suburbs	5.2%	4.0%	4.4%	1.6%	1.6%	2.5%
	Other OH and IN Counties	2.9%	1.9%	2.7%	1.2%	2.7%	2.7%
	Northern KY Counties	9.5%	5.2%	0.7%	1.5%	2.9%	1.6%
Age	18 - 29	2.7%	1.8%	2.8%	2.1%	1.6%	6.7%
	30 - 45	7.4%	0.9%	1.5%	0.9%	2.8%	2.8%
	46 - 64	4.6%	3.6%	2.9%	2.6%	2.7%	0.3%
	65 and over	3.3%	6.5%	3.9%	1.3%	1.0%	0.7%
Race	African - American	4.4%	0.2%	0.3%	4.4%	1.1%	0.5%
	White	4.9%	3.3%	2.8%	1.2%	2.4%	2.1%
Sex Of Respondent	Male	4.9%	4.8%	2.6%	1.2%	2.2%	3.1%
	Female	4.6%	1.2%	2.5%	2.2%	2.1%	1.4%
Household Income	Less than \$20,000	5.9%	5.2%		6.3%	0.2%	0.4%
	\$20,000 - \$49,999	9.9%	2.1%	0.5%	3.8%	1.2%	0.8%
	\$50,000 - \$69,999	2.7%	1.6%	2.6%	0.2%	0.3%	5.2%
	\$70,000 - \$99,999	1.8%	2.0%	1.9%	3.8%	2.2%	4.2%
	\$100,000 or more	3.9%	4.2%	2.9%	0.4%	6.0%	0.4%
Education	Less than High School	11.2%			3.8%		8.4%
	High School Graduate	3.9%	3.5%	1.6%	2.1%	2.4%	1.3%
	Some College	3.7%	2.0%	4.0%	0.7%	1.8%	3.1%
	College Graduate	4.7%	4.3%	3.0%	1.8%	2.6%	0.5%
Own Or Rent Home	Own	5.1%	3.8%	3.3%	1.5%	2.5%	1.4%
	Rent	4.4%	0.9%	1.1%	2.9%	1.1%	4.7%
Employment	Employed FT or PT	5.9%	2.4%	2.2%	1.7%	2.4%	3.2%
	Unemployed / Disabled / Retired	3.1%	5.9%	4.9%	1.1%	1.5%	0.6%
	Student / Keeping house	1.5%	1.1%	0.4%	3.2%	2.5%	0.5%
Adults In Household	One	2.6%	3.2%	1.5%	1.8%	0.6%	1.5%
	Two	3.2%	2.5%	2.3%	2.5%	3.0%	1.4%
	Three or more	7.2%	3.5%	3.3%	0.9%	1.6%	3.5%
Children in Household	None	3.5%	3.1%	2.8%	2.3%	1.4%	1.5%
	One or more	6.8%	2.7%	2.3%	0.9%	3.1%	3.4%

Question Q5: What is one way people can help reduce storm water runoff in the Greater Cincinnati region?

		Nothing / Not a problem	Government needs to help residents	Haven't heard about it	Other	Don't Know	Count
Greater Cincinnati Region Residents		3.4%	0.8%	2.0%	2.2%	36.9%	1275
Region	City of Cincinnati	3.4%	2.3%	0.6%	3.0%	38.4%	193
	Hamilton County Suburbs	3.1%	1.1%	0.7%	0.9%	34.9%	317
	Other OH and IN Counties	1.8%	0.3%	3.4%	2.6%	38.7%	525
	Northern KY Counties	7.2%	0.3%	1.7%	2.5%	34.3%	240
Age	18 - 29	1.4%	0.2%	0.9%	1.4%	45.6%	222
	30 - 45	4.5%	0.6%	1.6%	1.7%	40.1%	356
	46 - 64	2.5%	1.1%	3.2%	3.8%	29.1%	424
	65 and over	6.1%	0.7%	1.8%	1.3%	36.6%	227
Race	African - American	3.8%	1.9%	0.3%	3.8%	38.3%	150
	White	3.7%	0.7%	2.0%	1.5%	36.6%	1006
Sex Of Respondent	Male	3.6%	0.6%	0.6%	2.1%	34.3%	612
	Female	3.2%	1.0%	3.2%	2.3%	39.3%	663
Household Income	Less than \$20,000	1.7%	1.8%	2.4%	2.1%	22.9%	58 *
	\$20,000 - \$49,999	3.4%	1.3%	3.1%	1.9%	40.5%	211
	\$50,000 - \$69,999	2.4%		4.3%	1.7%	42.0%	184
	\$70,000 - \$99,999	1.9%	0.6%	0.5%	1.5%	28.5%	216
	\$100,000 or more	5.6%	0.4%	2.4%	4.0%	31.8%	317
Education	Less than High School	9.9%	2.2%			34.0%	115
	High School Graduate	2.4%	0.4%	3.0%	3.4%	41.1%	379
	Some College	2.8%	0.4%	1.5%	1.5%	37.0%	378
	College Graduate	3.1%	1.2%	2.1%	2.5%	33.4%	393
Own Or Rent Home	Own	3.5%	0.6%	2.1%	2.6%	35.5%	911
	Rent	3.8%	1.7%	1.9%	1.5%	36.7%	305
Employment	Employed FT or PT	3.3%	0.7%	1.2%	2.3%	38.1%	821
	Unemployed / Disabled / Retired	4.0%	1.2%	1.5%	2.4%	33.6%	267
	Student / Keeping house	3.5%	0.7%	7.1%	1.6%	35.4%	166
Adults In Household	One	3.5%	3.0%	1.9%	3.1%	42.4%	130
	Two	3.4%	1.0%	2.4%	2.0%	36.6%	620
	Three or more	2.7%		1.5%	2.4%	35.6%	514
Children in Household	None	4.1%	1.0%	1.5%	2.2%	37.1%	761
	One or more	2.4%	0.5%	2.8%	2.3%	36.1%	501

Question 6A: Have you heard about . . . Reducing the amount of single-use plastic products used in your household . . . A great deal, some, not much or not at all about it?

		A GREAT DEAL	SOME	NOT MUCH	NOT AT ALL	DON'T KNOW	Count
Greater Cincinnati Region Residents		45.8%	29.0%	10.4%	14.7%	0.1%	1286
Region	City of Cincinnati	45.1%	27.7%	9.4%	17.8%		193
	Hamilton County Suburbs	44.3%	28.8%	10.8%	15.9%	0.2%	320
	Other OH and IN Counties	41.5%	32.2%	11.1%	15.1%	0.2%	532
	Northern KY Counties	58.0%	23.1%	9.1%	9.7%		240
Age	18 - 29	56.5%	27.1%	7.4%	9.0%		231
	30 - 45	46.4%	28.4%	10.6%	14.6%		356
	46 - 64	44.3%	28.7%	9.2%	17.8%		426
	65 and over	38.6%	30.8%	14.6%	15.3%	0.7%	227
Race	African - American	49.5%	22.9%	8.7%	18.9%		149
	White	45.9%	29.4%	10.5%	14.0%	0.1%	1016
Sex Of Respondent	Male	40.7%	29.5%	11.6%	18.3%		621
	Female	50.6%	28.5%	9.3%	11.3%	0.2%	665
Household Income	Less than \$20,000	48.2%	29.3%	12.2%	10.2%		58*
	\$20,000 - \$49,999	47.5%	28.6%	12.8%	10.6%	0.4%	218
	\$50,000 - \$69,999	45.7%	25.5%	14.8%	14.0%		184
	\$70,000 - \$99,999	42.0%	35.9%	7.6%	14.5%		217
	\$100,000 or more	52.5%	23.3%	8.7%	15.4%	0.2%	319
Education	Less than High School	35.7%	36.1%	14.7%	13.5%		122
	High School Graduate	46.6%	22.5%	9.8%	20.8%	0.3%	379
	Some College	45.3%	35.3%	8.1%	11.3%		381
	College Graduate	48.7%	27.0%	12.1%	12.1%	0.1%	393
Own Or Rent Home	Own	47.1%	28.8%	10.4%	13.5%	0.2%	914
	Rent	45.8%	27.2%	11.8%	15.3%		312
Employment	Employed FT or PT	46.0%	28.2%	9.5%	16.3%	0.1%	830
	Unemployed / Disabled / Retired	34.7%	33.9%	17.7%	13.4%	0.4%	267
	Student / Keeping house	62.9%	25.3%	2.6%	9.2%		167
Adults In Household	One	40.2%	37.1%	7.6%	14.4%	0.7%	130
	Two	41.1%	33.0%	12.0%	13.9%	0.1%	629
	Three or more	53.4%	22.4%	9.3%	14.9%		516
Children in Household	None	43.3%	29.5%	11.1%	15.9%	0.2%	770
	One or more	49.5%	29.0%	8.9%	12.6%		503

Question 6B: Have you heard about . . . Using rain barrels to collect rainwater at home . . . A great deal, some, not much or not at all about it?

		A GREAT DEAL	SOME	NOT MUCH	NOT AT ALL	DON'T KNOW	Count
Greater Cincinnati Region Residents		21.4%	32.9%	19.2%	26.3%	0.2%	1286
Region	City of Cincinnati	23.9%	26.3%	15.5%	34.3%		193
	Hamilton County Suburbs	17.9%	31.3%	21.0%	29.8%		320
	Other OH and IN Counties	22.2%	31.5%	20.4%	25.8%	0.1%	532
	Northern KY Counties	22.1%	43.4%	17.2%	16.2%	1.1%	240
Age	18 - 29	22.8%	33.4%	19.4%	24.4%		231
	30 - 45	20.0%	38.9%	17.6%	23.5%		356
	46 - 64	25.4%	31.1%	17.3%	25.5%	0.6%	426
	65 and over	14.6%	28.4%	24.7%	32.1%	0.2%	227
Race	African - American	15.5%	27.0%	15.5%	40.2%	1.8%	149
	White	22.3%	34.1%	20.3%	23.2%		1016
Sex Of Respondent	Male	22.0%	30.7%	17.5%	29.4%	0.4%	621
	Female	20.8%	35.0%	20.8%	23.4%	0.1%	665
Household Income	Less than \$20,000	23.6%	26.9%	10.2%	39.3%		58
	\$20,000 - \$49,999	24.5%	28.9%	21.4%	25.3%		218
	\$50,000 - \$69,999	21.3%	31.2%	22.2%	25.1%	0.2%	184
	\$70,000 - \$99,999	22.5%	33.8%	20.3%	23.5%		217
	\$100,000 or more	18.9%	39.3%	17.1%	24.6%		319
Education	Less than High School	18.4%	38.9%	21.8%	20.9%		122
	High School Graduate	24.3%	28.2%	18.3%	29.1%		379
	Some College	20.9%	32.2%	18.4%	27.8%	0.7%	381
	College Graduate	20.1%	36.2%	20.2%	23.4%	0.1%	393
Own Or Rent Home	Own	20.7%	34.2%	19.9%	24.9%	0.3%	914
	Rent	20.1%	33.4%	16.9%	29.6%		312
Employment	Employed FT or PT	21.8%	33.2%	18.4%	26.6%		830
	Unemployed / Disabled / Retired	19.6%	25.0%	23.5%	31.7%	0.2%	267
	Student / Keeping house	22.3%	46.1%	16.8%	14.8%		167
Adults In Household	One	15.0%	29.5%	21.1%	34.1%	0.4%	130
	Two	19.3%	33.2%	20.3%	27.2%		629
	Three or more	25.7%	33.8%	17.5%	22.5%	0.5%	516
Children in Household	None	20.2%	29.6%	19.3%	30.5%	0.4%	770
	One or more	22.9%	38.3%	18.9%	19.9%		503

Question 6C: Have you heard about . . . Using yard care practices to reduce the use of fertilizer and pesticides to decrease pollutants . . . A great deal, some, not much or not at all about it?

		A GREAT DEAL	SOME	NOT MUCH	NOT AT ALL	DON'T KNOW	Count
Greater Cincinnati Region Residents		22.3%	32.6%	17.2%	27.9%	0.1%	1285
Region	City of Cincinnati	21.1%	30.2%	17.5%	30.4%	0.8%	193
	Hamilton County Suburbs	20.7%	35.3%	15.7%	28.2%	0.1%	321
	Other OH and IN Counties	21.1%	31.3%	18.0%	29.5%		531
	Northern KY Counties	27.7%	33.5%	17.1%	21.7%		240
Age	18 - 29	20.7%	29.4%	21.2%	28.7%		231
	30 - 45	23.9%	35.4%	15.5%	25.0%	0.1%	356
	46 - 64	23.2%	32.1%	16.5%	28.2%		426
	65 and over	21.5%	31.0%	16.8%	30.0%	0.6%	227
Race	African - American	16.6%	23.2%	14.9%	44.6%	0.8%	150
	White	24.2%	33.6%	16.9%	25.3%	0.1%	1015
Sex Of Respondent	Male	22.3%	31.1%	17.8%	28.8%	0.0%	621
	Female	22.2%	33.9%	16.6%	27.0%	0.2%	664
Household Income	Less than \$20,000	30.0%	19.5%	10.3%	40.2%		58
	\$20,000 - \$49,999	19.3%	31.9%	12.3%	36.5%		217
	\$50,000 - \$69,999	23.8%	32.3%	22.8%	21.1%		184
	\$70,000 - \$99,999	22.2%	33.7%	14.4%	29.6%	0.1%	217
	\$100,000 or more	21.5%	34.0%	21.7%	22.6%	0.1%	319
Education	Less than High School	24.8%	27.3%	15.0%	32.9%		122
	High School Graduate	18.6%	34.2%	14.3%	32.6%	0.4%	378
	Some College	23.4%	33.7%	17.4%	25.5%	0.1%	381
	College Graduate	24.0%	32.1%	19.9%	24.0%		393
Own Or Rent Home	Own	22.8%	33.3%	16.7%	27.1%	0.1%	914
	Rent	17.5%	34.5%	17.8%	29.8%	0.4%	312
Employment	Employed FT or PT	21.9%	30.9%	18.6%	28.6%		830
	Unemployed / Disabled / Retired	27.2%	30.6%	15.5%	26.2%	0.5%	266
	Student / Keeping house	16.9%	43.9%	13.2%	25.7%	0.2%	167
Adults In Household	One	15.6%	34.0%	17.8%	32.5%		129
	Two	20.1%	35.1%	17.3%	27.5%	0.0%	629
	Three or more	27.0%	29.6%	16.8%	26.4%	0.3%	516
Children in Household	None	21.9%	30.8%	16.5%	30.7%	0.0%	769
	One or more	22.8%	35.5%	18.2%	23.2%	0.3%	503

Question 6D: Have you heard about . . . Using native plants in plantings and landscaping in yards to prevent soil erosion . . . A great deal, some, not much or not at all about it?

		A GREAT DEAL	SOME	NOT MUCH	NOT AT ALL	DON'T KNOW	Count
Greater Cincinnati Region Residents		25.5%	31.9%	13.4%	28.9%	0.3%	1286
Region	City of Cincinnati	23.4%	26.5%	11.8%	37.7%	0.6%	193
	Hamilton County Suburbs	22.6%	35.0%	15.7%	26.7%		320
	Other OH and IN Counties	26.0%	29.7%	13.1%	30.6%	0.5%	532
	Northern KY Counties	29.9%	36.7%	12.4%	21.1%		240
Age	18 - 29	15.1%	28.3%	20.0%	36.5%		231
	30 - 45	32.5%	33.3%	8.5%	25.8%		356
	46 - 64	26.3%	32.5%	13.6%	27.6%		426
	65 and over	24.2%	34.0%	13.5%	26.6%	1.8%	227
Race	African - American	17.4%	24.1%	11.0%	46.7%	0.8%	149
	White	27.2%	33.3%	13.7%	25.4%	0.3%	1016
Sex Of Respondent	Male	26.4%	33.9%	15.3%	24.3%		621
	Female	24.7%	29.9%	11.6%	33.2%	0.6%	665
Household Income	Less than \$20,000	23.7%	23.2%	8.7%	44.5%		58
	\$20,000 - \$49,999	30.2%	25.0%	9.5%	35.3%		218
	\$50,000 - \$69,999	22.1%	37.3%	18.0%	22.6%		184
	\$70,000 - \$99,999	30.5%	31.0%	13.5%	25.1%		217
	\$100,000 or more	25.4%	34.6%	16.7%	23.3%		319
Education	Less than High School	29.1%	17.4%	10.4%	43.1%		122
	High School Graduate	22.2%	36.0%	12.6%	28.8%	0.3%	379
	Some College	23.7%	29.3%	13.8%	32.5%	0.7%	381
	College Graduate	29.1%	34.9%	14.8%	21.2%		393
Own Or Rent Home	Own	27.0%	34.0%	13.8%	24.9%	0.3%	914
	Rent	20.6%	23.7%	13.8%	41.6%	0.4%	312
Employment	Employed FT or PT	26.9%	31.8%	13.5%	27.8%		830
	Unemployed / Disabled / Retired	25.5%	30.3%	13.9%	28.8%	1.5%	267
	Student / Keeping house	20.5%	34.3%	11.3%	33.8%		167
Adults In Household	One	14.0%	34.5%	13.5%	38.0%		130
	Two	23.7%	34.9%	12.9%	28.6%		629
	Three or more	30.4%	28.1%	14.3%	26.5%	0.8%	516
Children in Household	None	23.4%	33.7%	13.5%	29.4%		770
	One or more	28.8%	29.6%	13.2%	27.6%	0.8%	503

Question 6E: Have you heard about . . . Reducing soil erosion of the land near streams and rivers . . . A great deal, some, not much or not at all about it?

		A GREAT DEAL	SOME	NOT MUCH	NOT AT ALL	DON'T KNOW	Count
Greater Cincinnati Region Residents		13.3%	26.1%	22.9%	37.7%	0.1%	1285
Region	City of Cincinnati	13.7%	26.2%	21.3%	38.5%	0.3%	193
	Hamilton County Suburbs	11.7%	25.2%	24.3%	38.8%		320
	Other OH and IN Counties	15.3%	24.3%	22.2%	38.2%		532
	Northern KY Counties	10.5%	31.5%	23.7%	34.3%		240
Age	18 - 29	12.7%	23.7%	23.1%	40.6%		231
	30 - 45	12.7%	25.3%	20.6%	41.4%		356
	46 - 64	14.6%	26.5%	24.5%	34.5%		426
	65 and over	12.4%	29.7%	23.6%	34.3%		227
Race	African - American	5.5%	26.7%	16.5%	51.4%		149
	White	14.3%	26.4%	24.3%	35.1%		1015
Sex Of Respondent	Male	17.6%	25.4%	21.3%	35.7%	0.0%	621
	Female	9.2%	26.9%	24.3%	39.5%	0.1%	664
Household Income	Less than \$20,000	6.4%	30.5%	17.5%	45.6%		58
	\$20,000 - \$49,999	10.5%	24.5%	18.0%	47.0%		218
	\$50,000 - \$69,999	14.4%	29.1%	22.7%	33.8%		184
	\$70,000 - \$99,999	15.2%	30.0%	23.5%	31.3%		217
	\$100,000 or more	15.1%	24.8%	23.9%	36.1%		319
Education	Less than High School	15.6%	8.7%	19.8%	55.9%		122
	High School Graduate	10.3%	22.3%	26.2%	41.2%		379
	Some College	10.5%	29.7%	20.7%	39.1%		381
	College Graduate	18.4%	31.7%	22.5%	27.4%		392
Own Or Rent Home	Own	13.1%	28.5%	24.1%	34.2%		914
	Rent	11.4%	19.4%	17.7%	51.5%		312
Employment	Employed FT or PT	14.8%	25.1%	22.5%	37.5%	0.0%	830
	Unemployed / Disabled / Retired	11.9%	25.0%	25.9%	37.2%		267
	Student / Keeping house	8.8%	34.0%	19.6%	37.5%		167
Adults In Household	One	11.9%	24.9%	23.5%	39.5%	0.2%	130
	Two	11.6%	27.4%	20.8%	40.1%	0.1%	628
	Three or more	15.6%	25.1%	25.4%	33.9%		516
Children in Household	None	12.2%	27.9%	22.7%	37.2%	0.0%	769
	One or more	15.0%	23.4%	23.5%	38.1%		503

Question 7A: Have you or anyone in household done . . . Reduce the amount of single-use plastic products used in your household . . . A great deal, some, not much or not at all?

		A GREAT DEAL	SOME	NOT MUCH	NOT AT ALL	DON'T HAVE YARD OR RIVER	DON'T KNOW	Count
Greater Cincinnati Region Residents		36.1%	40.8%	8.0%	15.1%	0.1%	0.0%	1283
Region	City of Cincinnati	37.9%	36.1%	9.6%	16.4%	0.1%		193
	Hamilton County Suburbs	37.4%	42.5%	7.9%	11.7%	0.2%	0.2%	320
	Other OH and IN Counties	33.0%	41.5%	6.5%	19.0%			532
	Northern KY Counties	39.7%	40.4%	10.1%	9.7%			238
Age	18 - 29	37.9%	45.5%	6.5%	10.2%			228
	30 - 45	36.7%	42.5%	6.6%	14.2%			356
	46 - 64	35.8%	38.4%	6.9%	18.9%			426
	65 and over	35.1%	39.8%	12.2%	12.2%	0.4%	0.2%	227
Race	African - American	40.4%	32.8%	8.7%	18.1%			149
	White	35.7%	42.0%	8.1%	14.0%	0.1%	0.1%	1014
Sex Of Respondent	Male	32.7%	38.0%	10.4%	18.7%	0.1%		621
	Female	39.2%	43.4%	5.7%	11.7%		0.1%	662
Household Income	Less than \$20,000	33.6%	34.7%	7.4%	24.2%			58
	\$20,000 - \$49,999	31.3%	40.6%	11.4%	16.7%			218
	\$50,000 - \$69,999	42.6%	42.0%	5.7%	9.7%			184
	\$70,000 - \$99,999	40.1%	40.9%	5.6%	13.4%	0.1%		214
	\$100,000 or more	36.5%	43.2%	8.5%	11.6%		0.2%	319
Education	Less than High School	23.9%	33.6%	13.1%	29.4%			122
	High School Graduate	34.0%	40.9%	6.8%	18.4%			379
	Some College	37.1%	45.4%	5.4%	12.1%			378
	College Graduate	41.1%	38.9%	9.3%	10.4%	0.2%	0.1%	393
Own Or Rent Home	Own	37.4%	43.0%	7.3%	12.2%		0.1%	912
	Rent	29.3%	38.9%	8.8%	22.7%	0.3%		312
Employment	Employed FT or PT	37.7%	40.2%	6.8%	15.2%	0.0%	0.1%	827
	Unemployed / Disabled / Retired	29.4%	41.1%	12.5%	16.7%	0.3%		267
	Student / Keeping house	38.9%	46.0%	5.4%	9.8%			167
Adults In Household	One	27.1%	41.3%	12.9%	18.0%	0.7%		130
	Two	34.8%	41.3%	8.8%	14.9%		0.1%	629
	Three or more	40.0%	40.7%	5.5%	13.9%			514
Children in Household	None	36.4%	37.7%	9.3%	16.4%	0.1%	0.1%	769
	One or more	35.7%	46.1%	5.8%	12.5%			501

Question 7B: Have you or anyone in household done . . . Use rain barrels to reduce storm water runoff at home . . . A great deal, some, not much or not at all?

		A GREAT DEAL	SOME	NOT MUCH	NOT AT ALL	DON'T HAVE YARD OR RIVER	DON'T KNOW	Count
Greater Cincinnati Region Residents		9.8%	8.5%	5.4%	75.7%	0.6%	0.0%	1286
Region	City of Cincinnati	12.4%	5.6%	6.3%	73.2%	2.5%		193
	Hamilton County Suburbs	5.2%	10.1%	3.0%	81.4%	0.3%		320
	Other OH and IN Counties	9.8%	5.9%	7.4%	76.4%	0.3%	0.1%	532
	Northern KY Counties	13.9%	14.2%	3.5%	68.4%			240
Age	18 - 29	7.4%	6.4%	5.5%	79.6%	1.0%		231
	30 - 45	8.1%	7.4%	6.8%	76.8%	0.9%		356
	46 - 64	14.7%	10.6%	4.7%	69.9%	0.2%		426
	65 and over	7.2%	9.6%	5.0%	77.4%	0.6%	0.2%	227
Race	African - American	5.8%	6.1%	6.5%	80.9%	0.7%		149
	White	10.6%	8.6%	5.2%	75.0%	0.6%		1016
Sex Of Respondent	Male	10.0%	7.7%	4.4%	77.7%	0.2%		621
	Female	9.7%	9.3%	6.3%	73.8%	0.9%	0.1%	665
Household Income	Less than \$20,000	6.0%	15.0%	4.4%	74.2%	0.3%		58
	\$20,000 - \$49,999	9.2%	8.7%	4.4%	76.4%	1.4%		218
	\$50,000 - \$69,999	5.3%	11.6%	5.3%	76.6%	1.0%	0.2%	184
	\$70,000 - \$99,999	14.8%	11.3%	3.1%	70.8%	0.1%		217
	\$100,000 or more	8.8%	4.2%	8.1%	78.7%	0.3%		319
Education	Less than High School	7.9%	13.2%	1.0%	75.9%	1.9%		122
	High School Graduate	11.4%	8.3%	5.3%	74.9%	0.2%		379
	Some College	8.1%	7.3%	4.6%	79.5%	0.5%		381
	College Graduate	10.9%	8.6%	7.6%	72.3%	0.6%	0.1%	393
Own Or Rent Home	Own	11.1%	8.5%	5.7%	74.4%	0.3%	0.1%	914
	Rent	3.9%	10.0%	5.2%	79.4%	1.6%		312
Employment	Employed FT or PT	9.9%	8.7%	5.4%	75.8%	0.2%		830
	Unemployed / Disabled / Retired	9.7%	7.2%	5.5%	75.2%	2.2%	0.2%	267
	Student / Keeping house	10.5%	10.4%	5.4%	73.7%			167
Adults In Household	One	4.3%	7.0%	9.2%	77.5%	1.6%	0.4%	130
	Two	7.5%	6.7%	4.6%	80.4%	0.9%		629
	Three or more	14.1%	11.0%	5.4%	69.5%			516
Children in Household	None	9.4%	10.6%	4.6%	74.7%	0.7%	0.1%	770
	One or more	10.7%	5.4%	6.6%	76.7%	0.5%		503

Question 7C: Have you or anyone in household done . . . Use yard care practices to reduce the use of fertilizer and pesticides to decrease pollutants . . . A great deal, some, not much or not at all?

		A GREAT DEAL	SOME	NOT MUCH	NOT AT ALL	DON'T HAVE YARD OR RIVER	DON'T KNOW	Count
Greater Cincinnati Region Residents		25.8%	28.8%	7.9%	35.2%	1.9%	0.4%	1286
Region	City of Cincinnati	27.3%	26.9%	8.1%	33.0%	4.6%	0.2%	193
	Hamilton County Suburbs	24.2%	29.6%	8.1%	36.2%	1.9%		320
	Other OH and IN Counties	27.6%	26.7%	7.6%	36.8%	1.3%		532
	Northern KY Counties	23.0%	33.9%	8.2%	32.1%	1.1%	1.7%	240
Age	18 - 29	16.7%	32.9%	6.6%	42.3%	1.6%		231
	30 - 45	30.1%	26.2%	8.2%	33.7%	1.7%	0.1%	356
	46 - 64	29.2%	26.6%	7.2%	35.4%	1.6%	0.0%	426
	65 and over	23.3%	32.6%	9.1%	30.0%	3.1%	1.8%	227
Race	African - American	12.2%	22.7%	10.3%	50.7%	4.1%		149
	White	28.3%	29.2%	7.9%	32.5%	1.7%	0.4%	1016
Sex Of Respondent	Male	25.9%	24.8%	8.1%	39.8%	1.3%	0.1%	621
	Female	25.8%	32.5%	7.8%	30.8%	2.5%	0.5%	665
Household Income	Less than \$20,000	27.1%	14.4%	7.0%	46.4%	3.6%	1.4%	58
	\$20,000 - \$49,999	20.1%	32.8%	6.4%	38.8%	2.0%		218
	\$50,000 - \$69,999	30.1%	28.2%	5.6%	34.7%	1.3%		184
	\$70,000 - \$99,999	32.4%	29.7%	9.6%	27.9%	0.4%		217
	\$100,000 or more	23.9%	29.8%	10.4%	35.5%	0.3%	0.1%	319
Education	Less than High School	28.7%	13.7%	8.3%	44.2%	2.8%	2.3%	122
	High School Graduate	24.0%	28.3%	5.4%	40.2%	2.0%	0.1%	379
	Some College	24.9%	31.3%	10.0%	31.6%	2.0%	0.2%	381
	College Graduate	27.7%	32.3%	7.9%	30.6%	1.3%	0.2%	393
Own Or Rent Home	Own	27.4%	32.0%	7.7%	31.3%	1.2%	0.4%	914
	Rent	19.6%	20.7%	7.7%	47.3%	4.3%	0.3%	312
Employment	Employed FT or PT	25.9%	27.1%	7.8%	38.2%	0.9%	0.0%	830
	Unemployed / Disabled / Retired	25.6%	29.5%	9.7%	29.2%	4.4%	1.6%	267
	Student / Keeping house	27.2%	36.6%	5.0%	30.3%	0.8%		167
Adults In Household	One	15.9%	21.1%	13.1%	44.3%	4.8%	0.8%	130
	Two	24.5%	28.9%	8.0%	36.1%	2.1%	0.5%	629
	Three or more	30.2%	30.9%	6.4%	31.6%	0.9%		516
Children in Household	None	26.0%	26.9%	7.9%	36.0%	2.6%	0.6%	770
	One or more	25.5%	32.1%	7.8%	33.7%	0.8%		503

Question 7D: Have you or anyone in household done . . . Use native plants in yard plantings and landscaping to prevent soil erosion . . . A great deal, some, not much or not at all?

		A GREAT DEAL	SOME	NOT MUCH	NOT AT ALL	DON'T HAVE YARD OR RIVER	DON'T KNOW	Count
Greater Cincinnati Region Residents		26.4%	29.2%	8.7%	34.2%	1.3%	0.2%	1283
Region	City of Cincinnati	22.4%	24.3%	9.2%	39.8%	3.7%	0.5%	193
	Hamilton County Suburbs	22.8%	33.8%	6.3%	35.2%	1.8%	0.1%	320
	Other OH and IN Counties	29.8%	26.4%	9.8%	33.1%	0.7%	0.2%	532
	Northern KY Counties	26.6%	33.2%	9.1%	30.8%	0.4%		238
Age	18 - 29	13.2%	25.5%	13.7%	45.6%	1.5%	0.5%	231
	30 - 45	30.4%	28.0%	6.8%	33.6%	1.1%	0.1%	356
	46 - 64	29.4%	33.1%	8.8%	27.8%	0.9%	0.1%	426
	65 and over	27.3%	30.3%	7.4%	33.2%	1.9%		225
Race	African - American	16.0%	22.1%	5.8%	54.9%	1.2%		149
	White	27.6%	30.8%	9.6%	30.7%	1.3%	0.1%	1014
Sex Of Respondent	Male	28.3%	28.4%	8.5%	33.7%	0.8%	0.3%	621
	Female	24.6%	29.9%	8.9%	34.6%	1.9%	0.1%	662
Household Income	Less than \$20,000	30.5%	15.5%	3.6%	46.8%	3.4%	0.2%	58
	\$20,000 - \$49,999	24.1%	28.3%	7.4%	38.7%	1.6%		218
	\$50,000 - \$69,999	24.9%	26.8%	12.8%	35.4%	0.1%		184
	\$70,000 - \$99,999	26.4%	32.6%	9.6%	31.2%	0.2%		217
	\$100,000 or more	26.5%	34.7%	6.9%	31.2%	0.3%	0.5%	319
Education	Less than High School	35.1%	22.7%	6.5%	33.0%	2.8%		122
	High School Graduate	23.0%	23.2%	11.9%	40.5%	1.3%	0.2%	377
	Some College	26.1%	29.7%	8.7%	34.9%	0.6%	0.0%	381
	College Graduate	26.4%	37.2%	6.5%	28.2%	1.2%	0.4%	393
Own Or Rent Home	Own	29.0%	33.4%	8.1%	28.8%	0.5%	0.3%	912
	Rent	17.1%	20.5%	9.2%	49.4%	3.8%	0.0%	312
Employment	Employed FT or PT	26.6%	30.4%	7.7%	34.0%	1.0%	0.2%	830
	Unemployed / Disabled / Retired	31.2%	24.6%	9.5%	32.0%	2.6%	0.2%	265
	Student / Keeping house	16.9%	32.3%	13.1%	36.8%	0.6%	0.2%	167
Adults In Household	One	13.9%	25.7%	9.5%	46.7%	3.8%	0.3%	130
	Two	23.7%	30.3%	7.1%	36.9%	1.8%	0.3%	627
	Three or more	33.0%	29.1%	10.4%	27.4%	0.1%	0.1%	516
Children in Household	None	26.3%	26.8%	10.2%	34.9%	1.8%	0.1%	767
	One or more	26.4%	33.6%	6.7%	32.4%	0.6%	0.4%	503

Question 7E: Have you or anyone in household done . . . Reduce soil erosion of the land near streams and rivers . . . A great deal, some, not much or not at all?

		A GREAT DEAL	SOME	NOT MUCH	NOT AT ALL	DON'T HAVE YARD OR RIVER	DON'T KNOW	Count
Greater Cincinnati Region Residents		9.6%	12.8%	8.3%	62.2%	6.6%	0.5%	1285
Region	City of Cincinnati	7.5%	7.2%	8.0%	68.9%	8.2%	0.3%	193
	Hamilton County Suburbs	7.4%	15.4%	7.7%	62.5%	6.3%	0.8%	320
	Other OH and IN Counties	11.9%	12.7%	9.5%	59.8%	5.7%	0.4%	532
	Northern KY Counties	8.9%	14.3%	6.9%	61.7%	7.9%	0.3%	240
Age	18 - 29	8.9%	7.2%	8.9%	71.0%	4.0%		231
	30 - 45	12.6%	11.9%	5.9%	64.3%	5.2%		356
	46 - 64	8.0%	15.7%	10.5%	56.8%	8.8%	0.2%	426
	65 and over	9.4%	14.5%	7.0%	59.4%	7.6%	2.1%	227
Race	African - American	4.0%	6.4%	5.7%	75.9%	7.8%	0.1%	149
	White	9.8%	13.4%	8.9%	60.9%	6.6%	0.5%	1016
Sex Of Respondent	Male	11.7%	15.2%	7.1%	59.5%	6.3%	0.2%	621
	Female	7.5%	10.6%	9.5%	64.7%	6.9%	0.7%	664
Household Income	Less than \$20,000	10.1%	15.4%	2.6%	67.1%	4.8%		58
	\$20,000 - \$49,999	11.8%	12.6%	7.0%	62.1%	5.9%	0.6%	218
	\$50,000 - \$69,999	8.4%	12.3%	8.0%	66.8%	4.4%		184
	\$70,000 - \$99,999	10.5%	11.7%	9.7%	63.4%	4.2%	0.5%	217
	\$100,000 or more	8.5%	16.9%	9.4%	57.6%	7.5%		319
Education	Less than High School	19.3%	5.1%	0.5%	70.2%	2.9%	2.1%	122
	High School Graduate	9.6%	10.6%	10.7%	63.8%	4.7%	0.6%	379
	Some College	6.6%	13.2%	7.9%	64.4%	7.9%	0.1%	381
	College Graduate	9.5%	16.9%	9.0%	56.1%	8.2%	0.3%	393
Own Or Rent Home	Own	8.8%	14.1%	9.6%	60.5%	6.6%	0.4%	914
	Rent	7.8%	8.7%	6.2%	69.3%	7.2%	0.8%	312
Employment	Employed FT or PT	10.1%	12.9%	7.7%	62.7%	6.3%	0.2%	829
	Unemployed / Disabled / Retired	9.2%	12.6%	8.6%	58.9%	10.1%	0.6%	267
	Student / Keeping house	7.3%	13.8%	11.8%	64.8%	0.7%	1.6%	167
Adults In Household	One	6.4%	10.6%	7.9%	65.5%	7.8%	1.9%	130
	Two	9.4%	11.6%	7.7%	63.2%	7.9%	0.1%	629
	Three or more	10.6%	14.9%	9.3%	59.7%	4.8%	0.7%	516
Children in Household	None	7.4%	13.2%	8.6%	62.4%	7.7%	0.8%	769
	One or more	12.9%	12.3%	8.1%	61.5%	5.2%	0.1%	503

Question Q8: What is the primary reason your household HAS taken storm water runoff reduction efforts?

		Protect environment / Save the Earth / Climate change	Right thing to do / for Future and Community	Reduce water pollution / Keep pollutants out of water	Reduce litter and trash / Keep out of sewers/water	Reduce single-use plastics/ Keep out of sewers/water
Greater Cincinnati Region Residents		18.1%	10.1%	5.3%	7.2%	4.1%
Region	City of Cincinnati	18.9%	11.2%	4.1%	9.2%	6.5%
	Hamilton County Suburbs	25.6%	9.4%	2.8%	8.3%	5.1%
	Other OH and IN Counties	14.7%	10.5%	8.0%	5.9%	2.6%
	Northern KY Counties	15.5%	9.5%	3.4%	7.0%	4.3%
Age	18 - 29	21.6%	11.5%	4.3%	14.3%	5.3%
	30 - 45	22.1%	6.2%	4.4%	6.8%	2.6%
	46 - 64	15.9%	14.0%	7.2%	5.1%	4.4%
	65 and over	10.7%	9.1%	4.7%	2.8%	5.0%
Race	African - American	20.7%	14.7%	1.6%	15.3%	5.4%
	White	17.2%	10.4%	6.0%	5.9%	3.8%
Sex Of Respondent	Male	15.0%	10.3%	6.0%	5.5%	3.4%
	Female	21.0%	10.0%	4.6%	8.8%	4.7%
Household Income	Less than \$20,000	28.4%	10.9%	2.0%	9.2%	5.3%
	\$20,000 - \$49,999	17.9%	4.3%	3.0%	12.9%	5.0%
	\$50,000 - \$69,999	18.3%	18.2%	4.2%	6.8%	3.2%
	\$70,000 - \$99,999	14.4%	10.5%	5.9%	10.0%	3.8%
	\$100,000 or more	22.5%	9.5%	6.3%	3.9%	6.3%
Education	Less than High School	2.5%	11.3%	3.6%	4.3%	0.9%
	High School Graduate	15.1%	9.3%	3.6%	10.4%	2.8%
	Some College	23.2%	7.5%	9.0%	9.1%	4.4%
	College Graduate	21.6%	13.3%	3.9%	3.1%	6.1%
Own Or Rent Home	Own	18.9%	10.1%	5.4%	6.2%	3.9%
	Rent	17.7%	11.1%	2.3%	9.2%	5.5%
Employment	Employed FT or PT	17.1%	11.7%	5.7%	5.2%	4.3%
	Unemployed / Disabled / Retired	16.4%	7.1%	6.3%	7.2%	2.0%
	Student / Keeping house	23.7%	7.9%	2.3%	15.5%	6.1%
Adults In Household	One	21.8%	9.7%	6.0%	9.6%	5.6%
	Two	20.4%	8.2%	3.7%	6.0%	5.1%
	Three or more	15.0%	12.5%	6.8%	7.9%	2.6%
Children in Household	None	17.9%	8.4%	5.7%	7.0%	4.6%
	One or more	18.7%	12.7%	4.7%	7.0%	3.1%

Question Q8: What is the primary reason your household HAS taken storm water runoff reduction efforts?

		Conserve water	Protect property from flooding / Reduce flooding	Reduce erosion / Protect yard from erosion	Landscape to reduce erosion	Save money /Reduce sewer bill
Greater Cincinnati Region Residents		6.9%	13.9%	12.5%	7.4%	1.3%
Region	City of Cincinnati	10.3%	10.4%	5.9%	9.3%	0.1%
	Hamilton County Suburbs	5.0%	15.9%	10.5%	6.1%	2.2%
	Other OH and IN Counties	8.7%	14.5%	10.8%	7.6%	1.1%
	Northern KY Counties	2.9%	12.6%	23.4%	7.0%	1.7%
Age	18 - 29	4.6%	10.4%	1.1%	4.3%	1.8%
	30 - 45	6.9%	10.2%	19.9%	11.9%	0.6%
	46 - 64	9.4%	14.2%	12.0%	4.5%	1.4%
	65 and over	5.9%	23.1%	14.8%	7.2%	1.6%
Race	African - American	3.3%	10.5%	2.3%	6.2%	1.4%
	White	7.5%	13.9%	14.3%	7.3%	1.5%
Sex Of Respondent	Male	6.3%	13.2%	15.2%	9.2%	1.4%
	Female	7.5%	14.5%	10.1%	5.7%	1.2%
Household Income	Less than \$20,000	0.8%	15.6%	14.1%	2.7%	2.0%
	\$20,000 - \$49,999	5.9%	12.1%	13.8%	4.1%	
	\$50,000 - \$69,999	4.1%	12.9%	14.1%	6.4%	1.0%
	\$70,000 - \$99,999	7.1%	15.1%	7.4%	10.8%	3.7%
	\$100,000 or more	4.2%	11.7%	16.6%	8.3%	1.3%
Education	Less than High School	9.4%	5.4%	21.6%	10.5%	
	High School Graduate	7.6%	15.1%	12.6%	7.7%	0.7%
	Some College	5.9%	15.4%	9.9%	3.7%	2.0%
	College Graduate	6.4%	14.4%	11.2%	9.1%	1.7%
Own Or Rent Home	Own	6.5%	15.9%	14.2%	6.6%	1.6%
	Rent	3.9%	10.0%	8.1%	8.9%	0.6%
Employment	Employed FT or PT	6.9%	12.7%	13.1%	8.7%	1.4%
	Unemployed / Disabled / Retired	7.7%	18.9%	13.9%	7.0%	1.2%
	Student / Keeping house	5.6%	12.5%	8.2%	2.1%	0.6%
Adults In Household	One	4.4%	13.7%	4.8%	7.1%	1.2%
	Two	5.1%	15.4%	11.0%	8.7%	1.1%
	Three or more	9.4%	12.0%	15.7%	6.0%	1.6%
Children in Household	None	7.2%	16.1%	12.5%	5.8%	0.6%
	One or more	6.6%	11.1%	12.1%	9.5%	2.3%

Question Q8: What is the primary reason your household HAS taken storm water runoff reduction efforts?

		No reason to do it / Not a problem	Other	Don't Know	Count
Greater Cincinnati Region Residents		8.2%	2.1%	3.0%	1063
Region	City of Cincinnati	7.9%	2.6%	3.7%	153
	Hamilton County Suburbs	5.6%	0.6%	2.9%	260
	Other OH and IN Counties	10.5%	2.7%	2.4%	440
	Northern KY Counties	6.5%	2.4%	3.8%	210
Age	18 - 29	9.6%	5.4%	5.8%	208
	30 - 45	6.0%	1.0%	1.6%	294
	46 - 64	7.8%	2.0%	2.1%	346
	65 and over	10.5%	0.5%	4.3%	181
Race	African - American	8.9%	5.1%	4.6%	112
	White	7.6%	1.6%	3.0%	854
Sex Of Respondent	Male	9.8%	2.5%	2.3%	509
	Female	6.6%	1.7%	3.7%	554
Household Income	Less than \$20,000	4.5%	2.5%	2.1%	45
	\$20,000 - \$49,999	9.8%	7.2%	4.1%	180
	\$50,000 - \$69,999	6.9%	0.4%	3.6%	159
	\$70,000 - \$99,999	10.6%	0.4%	0.5%	194
	\$100,000 or more	5.7%	2.0%	1.8%	269
Education	Less than High School	20.3%	8.1%	2.0%	110
	High School Graduate	9.8%	0.8%	4.5%	299
	Some College	7.0%	0.5%	2.4%	314
	College Graduate	3.9%	2.8%	2.5%	332
Own Or Rent Home	Own	7.0%	1.1%	2.6%	777
	Rent	13.2%	5.5%	4.1%	240
Employment	Employed FT or PT	8.4%	2.5%	2.3%	692
	Unemployed / Disabled / Retired	8.9%	0.3%	3.1%	202
	Student / Keeping house	6.8%	2.5%	6.2%	156
Adults In Household	One	6.5%	3.1%	6.4%	93
	Two	9.7%	2.9%	2.7%	515
	Three or more	6.9%	1.0%	2.7%	450
Children in Household	None	8.1%	2.9%	3.1%	610
	One or more	8.3%	1.1%	2.8%	445

Question Q9: What is the primary reason your household HAS NOT taken storm water runoff reduction efforts?

		Live in apartment/ Condo/ No yard	Not a problem where I live	Not needed /Too expensive	Not aware of issue / Haven't heard about it	Other	Don't Know	Count
Greater Cincinnati Region Residents		18.2%	21.9%	8.8%	35.6%	4.1%	11.4%	123
Region	City of Cincinnati	15.8%	13.5%	9.7%	34.5%	11.5%	15.0%	21
	Hamilton County Suburbs	38.9%	20.3%	2.8%	24.0%	6.1%	8.0%	32
	Other OH and IN Counties	9.1%	29.6%	13.2%	36.0%		12.1%	60
	Northern KY Counties	11.9%			71.4%	6.2%	10.6%	10
Age	18 - 29	15.8%	11.7%		58.3%		14.2%	12
	30 - 45	11.3%	24.0%	5.7%	51.8%		7.2%	38
	46 - 64	18.6%	17.9%	9.0%	31.6%	5.6%	17.3%	39
	65 and over	31.6%	25.4%	11.9%	9.5%	10.9%	10.8%	26
Race	African - American	33.6%	4.5%	6.1%	33.4%	9.2%	13.2%	24
	White	15.9%	21.3%	8.4%	38.8%	3.2%	12.3%	86
Sex Of Respondent	Male	11.6%	31.8%	6.4%	42.1%	2.7%	5.4%	68
	Female	26.5%	9.6%	11.8%	27.5%	5.8%	18.8%	55
Household Income	Less than \$20,000	18.4%	30.6%	5.0%	21.3%	2.2%	22.5%	9
	\$20,000 - \$49,999	9.4%	9.3%	19.7%	42.7%	2.7%	16.2%	23
	\$50,000 - \$69,999	43.1%	19.5%		4.1%	15.1%	18.2%	14
	\$70,000 - \$99,999	3.0%	15.2%	18.0%	36.8%	9.7%	17.4%	12
	\$100,000 or more	6.3%	40.4%	2.0%	41.4%		9.9%	28
Education	Less than High School	72.6%			27.4%			7
	High School Graduate	15.1%	23.2%	9.6%	37.5%	6.3%	8.2%	60
	Some College	12.5%	33.6%	10.9%	31.6%		11.4%	31
	College Graduate	16.9%	11.4%	5.5%	38.2%	4.8%	23.1%	24
Own Or Rent Home	Own	9.5%	29.6%	11.7%	31.2%	6.5%	11.4%	68
	Rent	33.0%	15.0%	5.4%	32.0%	1.2%	13.3%	46
Employment	Employed FT or PT	16.3%	20.9%	6.1%	42.3%	3.6%	10.7%	78
	Unemployed / Disabled / Retired	27.5%	16.3%	14.0%	21.7%	5.2%	15.3%	34
	Student / Keeping house	3.6%	31.8%	12.1%	42.4%	5.0%	5.1%	7
Adults In Household	One	22.7%	14.2%	19.7%	29.6%	4.0%	9.7%	23
	Two	20.7%	30.3%	10.2%	25.9%	2.6%	10.3%	57
	Three or more	4.6%	16.6%		56.4%	6.8%	15.6%	38
Children in Household	None	24.9%	15.8%	11.0%	30.5%	5.5%	12.4%	86
	One or more	3.0%	32.5%	3.0%	50.4%	0.8%	10.3%	32

APPENDIX B
Technical Report

The Greater Cincinnati Survey

The Fall 2021 Greater Cincinnati Survey (GCS) is the 79th in a series of surveys that began in November of 1978. It is a semiannual survey of the adult population (18 and over) in the Greater Cincinnati region, frequently conducted in the Spring and Fall of each year by the Institute for Policy Research (IPR) at the University of Cincinnati. However, this schedule was disrupted in Spring 2020. No GCS was conducted between Spring 2020 and Spring 2021 due to the Covid-19 pandemic.

The GCS is operated on a cost-shared basis, giving policymakers, researchers, and other interested individuals an opportunity to gather high-quality data in a flexible and relatively inexpensive manner.

How the Sample was Selected

A random sample of 1,286 adults from throughout the Greater Cincinnati region was interviewed by landline and cellular telephone.

The random sample used in the Fall 2021 GCS was purchased from Dynata, Inc. Dynata screens each selected telephone number to eliminate non-working numbers, disconnected numbers, and business numbers to improve the efficiency of the sample, reducing the amount of time interviewers spend calling non-usable numbers.

Each of these randomly generated telephone numbers is called by one of our interviewers from a centrally supervised facility at the Institute for Policy Research. For landline numbers, if the phone number is a residential number, the interviewer then randomly selects a member of the household by asking to speak with the adult (18 years of age or older), currently living in the household, who has had the most recent birthday. This selection process ensures that every adult in the household has an equally likely chance of being included in the survey. No substitutions

are allowed. If, for example, the randomly selected adult is not at home when the household is first contacted, the interviewer cannot substitute by selecting someone else who just happens to be there at the time. Instead, he or she must make an appointment to call back when the randomly selected person is at home. In this way, respondent selection bias is minimized.

For cellular numbers, the interviewer asks screening questions to determine respondent qualifications for the survey, e.g., 18 years of age or older and a resident of the region. If the respondent is not in a safe place (e.g., driving a car) to do the interview at that time, the interviewer makes an appointment to call back.

When the Interviewing was Done

Respondents in the Fall 2021 GCS were interviewed between September 9 to October 27, 2021. The telephone calls during the interviewing period were made between 5:00 PM and 9:00 PM, Monday through Friday, from 10:00 AM to 6:00 PM on Saturday, and from 2:00 to 9:00 PM on Sunday.

After the interviews were completed, the open-ended questions were coded. Following this coding, the data analysis was conducted using the Statistical Package for the Social Sciences (SPSS 20.0).

Sampling Error

The Fall 2021 GCS, like all surveys, is subject to sampling error due to the fact that all residents in the area were not interviewed. For those questions asked of 1,250 or so respondents, the error is $\pm 2.7\%$. For those questions asked of 1,000 or so respondents, the error is $\pm 3.1\%$. For questions asked of 500 or so respondents, the error is $\pm 4.4\%$ and for 300 or so respondents, the error is $\pm 5.7\%$. Finally, for those asked of 200 or so respondents, it is $\pm 6.9\%$. For those

questions where fewer than 200 persons responded, the sampling error can be calculated as follows:

$$\text{Sampling Error} = \pm(1.96)\sqrt{\frac{P(1-P)}{N}}$$

Where P is the percentage of responses in the answer category being evaluated and N is the total number of persons answering the particular question.

For example, suppose you had the following distribution of answers to the question, "Should the state spend more money on road repair even if that means higher taxes?" Assume 500 respondents answered the question as follows:

YES	- 47%
NO	- 48%
DON'T KNOW	- 5%

The sampling error for the "YES" percentage of 47% would be

$$\text{Sampling Error} = \pm(1.96)\sqrt{\frac{.47(.53)}{500}} = 4.4$$

for the "NO" percentage of 48% it would be

$$\text{Sampling Error} = \pm(1.96)\sqrt{\frac{.48(.52)}{500}} = 4.4$$

and for the "DON'T KNOW" percentage of 5% it would be

$$\text{Sampling Error} = \pm(1.96)\sqrt{\frac{.05(.95)}{500}} = 1.9$$

In this case we would expect the true population figures to be within the following ranges:

YES	42.6% - 51.4% (i.e., 47% \pm 4.4%)
NO	43.6% - 52.4% (i.e., 48% \pm 4.4%)
DON'T KNOW	3.1% - 6.9% (i.e., 5% \pm 1.9%)

Weighting of the Data

To avoid biasing the sample in favor of persons who can be reached through more than one telephone number, each case is weighted inversely to its probability of being included in the sample. In addition, the data are weighted to correct for sampling biases due to size of household (i.e., number of persons aged 18 and over living in the household). Finally, the data have been weighted to correct for potential sampling biases on age, race, sex, education, and county of residence, using U.S. Census data.

Weights for Data Analysis

Several weighting variables for the GCS data have been created and added to the data file. The first, HHWT, is the weight that adjusts for households that can be reached on more than one telephone number. This weight has been developed so that households with more than one telephone number are mathematically weighted down, adjusting for the fact that households can have varying probability of selection. THIS WEIGHT SHOULD BE APPLIED ONLY WHEN HOUSEHOLDS ARE THE DESIRED UNIT OF ANALYSIS.

The second weighting variable, INDWT, adjusts for the fact that the sampling unit in the survey was the household, rather than the individual respondent. For example, an individual living alone in a household would have twice the chance of being selected for the survey than would either of two individuals living in a second household. INDWT adjusts for this unequal probability. WHEN THE INDIVIDUAL IS THE APPROPRIATE UNIT OF ANALYSIS RATHER THAN THE HOUSEHOLD, AND THERE IS NO CONCERN ABOUT INTERACTIONS WITH DEMOGRAPHIC VARIABLES, THIS WEIGHT SHOULD BE USED.

All of the other weighting variables adjust for under or over representation of various demographic groups in the population due to sampling variability. The degree of under or over representation is assessed by comparing the demographic data from our survey with the most recent population figures provided by the U.S. Bureau of the Census. We adjust for sampling biases based on gender, age, race, education, and county of residence. Compared to other demographic variables in our surveys, a number of people refuse to report their income. Therefore, we are unable to make adequate adjustments for sampling biases on total family income. However, weighting for education, which tends to correlate significantly with income, compensates for this deficiency to a fair degree. So do the adjustments for age and race.

All of these demographic factors discussed above, in addition to HHWT and INDWT are incorporated into each of three weights. These weights are:

CITYWT should be used when analyses are being conducted for residents of the City of Cincinnati only.

CENSUSWT should be used when respondents from only one particular county are being analyzed (typically this would be Hamilton County).

REGIONWT should be used when all respondents from the entire eight county area are being analyzed.

One of these weights should be used to ensure a representative sample for making estimates of the true population figures. Use of these weights is standard in our analyses for GCS clients, unless otherwise indicated.

Archiving of the Survey Data

The data collected in the Greater Cincinnati Survey are the property of the groups or agencies that purchase the questions. However, the University of Cincinnati requests that the GCS clients release the data to the University so that scholars and all members of the community who might also benefit from the data may have access to them. The University is willing,

however, to accept client-requested restrictions on access to the data -- for example, client approval of the use of the data before they are released to a third party.

Persons or groups who wish to have access to GCS data (that they did not purchase) should discuss with Dr. Kimberly Downing (513-556-5028) the current availability of the data in which they are interested. The demographic data collected in the GCS are available to anyone in the community who desires access to them.

APPENDIX C
Questionnaire

This appendix contains the questions used in the Fall 2021
Greater Cincinnati Survey.

FINAL VERSION: 9/7/21
Greater Cincinnati Survey: Fall 2021
GCS #79

“Hello, this is _____ calling for the University of Cincinnati. I am conducting a CONFIDENTIAL study of public opinion in your area. **APPROXIMATELY 1250 ADULTS FROM THE GREATER CINCINNATI REGION WILL PARTICIPATE IN THIS RESEARCH STUDY AND I'D REALLY APPRECIATE YOUR HELP AND COOPERATION.**”

“In order to determine who to interview in your household, I need to speak to the adult 18 or older – including yourself – who had the most recent birthday. Would that be yourself or is it someone else?”

- | |
|---|
| <p>A. IF RESPONDENT – “Then you're the one I want to talk to.” SKIP TO QUESTIONNAIRE</p> <p>B. IF SOMEONE ELSE -- “May I speak to him/her please?”</p> <p>IF RESPONDENT IS NOT HOME, ASK -- “Could you suggest a convenient time for me to call back when I might be able to reach him/her?” GIVE SHIFT TIMES IF NECESSARY. GET FIRST NAME OF RESPONDENT.</p> <p>C. DON'T KNOW <u>ALL</u> BIRTHDAYS, ONLY SOME, ASK -- “Of the ones that you <u>do</u> know, who had the most recent birthday?”</p> <p>IF RESPONDENT, INTERVIEW THAT PERSON. SKIP TO QUESTIONNAIRE.</p> <p>IF SOMEONE ELSE, FOLLOW SAME PROCEDURE AS B.</p> <p>D. DON'T KNOW ANY BIRTHDAYS OTHER THAN OWN. -- “Then you're the one I want to talk to.” SKIP TO QUESTIONNAIRE.</p> |
|---|

IF PERSON IS HESITANT, NOT INTERESTED, ETC:

- This is strictly a public opinion study, there are no right or wrong answers.
- We are interested in your opinions and experiences. If there are any questions you feel you cannot answer, we can skip them.
- This is your opportunity to give your opinions on what you like or dislike about your community and how to improve your community.
- All information collected from the respondent is kept strictly confidential.
- You can call collect to speak with the Project Director of this survey. Kim Downing can be reached at (513) 556-5028.

CELL PHONE INTRODUCTION:

“Hello, this is _____ calling for the University of Cincinnati. I am conducting a CONFIDENTIAL study of public opinion in your area. Approximately 1250 adults from the Greater Cincinnati Region will participate in this research study and I’d really appreciate your help and cooperation.”

“I know I am calling you on a cell phone. This is not a sales call.”

IF PERSON IS HESITANT, NOT INTERESTED, ETC:

- This is strictly a public opinion study; there are no right or wrong answers.
- We are interested in your opinions and experiences. If there are any questions you feel you cannot answer, we can skip them.
- This is your opportunity to give your opinions on what you like or dislike about your community and how to improve your community.
- All information collected from the respondent is kept strictly confidential.
- You can call collect to speak with the Project Director of this survey. Kim Downing can be reached at (513) 556-5028.

SCREEN 1: “We realize that we are contacting people on their cell phones. Your safety is important to me. Are you driving a car or operating another motor vehicle right now?”

- 1 Yes (SKIP TO CBACK)
- 2 No/Don’t Know/Refused (SKIPTO SCREEN2)

SCREEN 2: “Are you in a location where talking on the phone could jeopardize your safety or confidentiality?”

- 1 Yes (SKIP TO CBACK)
- 2 No/Don’t Know/Refused (SKIP TO SCREEN3)

SCREEN 3: “Thank you, are you 18 years of age or older?”

- 1 Yes (SKIP TO SCREEN4)
- 2 No/Don’t Know/Refused (TERMINATE: “Thank you very much, but we are only interviewing people age 18 and older.”)

(CINCINNATI OR HAMILTON COUNTY ONLY)

SCREEN 4A: “And are you a resident of Ohio?”

- 1 Yes (SKIP TO QUESTIONNAIRE)
- 2 No/Don’t Know/Refused (TERMINATE: “Thank you very much, but we are only interviewing people who are residents of Ohio).

(REGION ONLY)

SCREEN 4B: “And are you a resident of Indiana, Kentucky or Ohio?”

- 1 Yes (SKIP TO QUESTIONNAIRE)
- 2 No/Don’t Know/Refused (TERMINATE: “Thank you very much, but we are only interviewing people who are residents of Indiana, Kentucky or Ohio).

CBACK: (IF RESPONDENT CANNOT CONDUCT INTERVIEW AT THIS TIME)
READ/ASK –

“Thank you. We will contact you at another time. Can I just have your first name so I know who to call back?”

1. "First, in what county do you live?"
 1. Hamilton County, OH
 2. Clermont County, OH
 3. Butler County, OH
 4. Warren County, OH
 5. Boone County, KY
 6. Kenton County, KY
 7. Campbell County, KY
 8. Dearborn County, IN

(CELL PHONE: IF NOT WITHIN THESE COUNTIES THANK AND TERMINATE:
 "Thank you very much, but we are only interviewing people who are residents of certain counties in Indiana, Kentucky or Ohio.")

HAMILTON COUNTY ONLY (IF Q1 = 1, CONTINUE; ELSE SKIP TO Q3)

2. "Next, do you live inside the city limits of Cincinnati?"
 1. YES
 2. NO
 8. DON'T KNOW (PROBE: REREAD QUESTION)
 9. NA/REFUSED
 0. INAP

ALL RESPONDENTS -- ALL COUNTIES (1 THRU 8)

"Now thinking about your community . . ."

3. "Overall, how would you rate your community as a place to live . . . excellent, good, fair or poor?"
 1. EXCELLENT
 2. GOOD
 3. FAIR
 4. POOR
 8. DON'T KNOW (PROBE: "Generally speaking. . . ")
 9. NA/REFUSED
4. "Overall, how much impact do you think people like you can have in making your community a better place to live . . . (READ 1 TO 4)
 1. no impact at all,
 2. a small impact,
 3. a moderate impact, or
 4. a big impact?"
 8. DON'T KNOW (PROBE: "Generally speaking . . .")
 9. NA/REFUSED

“Next, I have a few questions about the issue of storm water and storm water management in the Greater Cincinnati area.”

5. “Storm water runoff is a major concern of many communities and local governments in rural, suburban and urban areas.”

“From what you may have read, seen or heard, what is one way that people can help reduce storm water runoff in the Greater Cincinnati region?”

(PROBE FOR SPECIFICS: “Could you be more specific please?”)

(PROBE FOR ONLY ONE RESPONSE)

OPEN-END: _____

98. DON'T KNOW (PROBE: “In general . . .” OR “What is the one way?”)

99. NA

6. “Storm water is the runoff and drainage caused by rain or melting snow and ice that flows over surfaces.”

“The Greater Cincinnati Regional Storm Water Collaborative has identified several ways that residents can help to REDUCE the amount of storm water runoff.”

“After I read each one, please tell me if you have HEARD A GREAT DEAL, SOME, NOT MUCH OR NOT AT ALL about it.”

“First. . . What about . . .”

(DON'T KNOW PROBE: REREAD QUESTION) (ROTATE ITEMS)

	A GREAT DEAL	SOME	NOT MUCH	NOT AT ALL	DON'T KNOW	NA
A. Reducing the amount of single-use plastic products used in your household	1	2	3	4	8	9
B. Using rain barrels to collect rainwater at home	1	2	3	4	8	9
C. Using yard care practices to reduce the use of fertilizer and pesticides to decrease pollutants	1	2	3	4	8	9
D. Using native plants in plantings and landscaping in yards to prevent soil erosion	1	2	3	4	8	9
E. Reducing soil erosion of the land near streams and rivers	1	2	3	4	8	9

7. “Now I would like to read you some ways that residents can reduce the impact of storm water runoff at their home.”

“After I read each one, please tell me if you OR anyone in your household have done this . . . A GREAT DEAL, SOME, NOT MUCH OR NOT AT ALL.”

First . . . What about . . .”

(DON'T KNOW PROBE: REREAD QUESTION) (ROTATE ITEMS)

	A GREAT DEAL	SOME	NOT MUCH	NOT AT ALL	VOL. DON'T HAVE YARD OR RIVER	DON'T KNOW	NA
A. reduce the amount of single-use plastic products used in your household	1	2	3	4	7	8	9
B. Use rain barrels to reduce storm water runoff at your home	1	2	3	4	7	8	9
C. Use yard care practices to reduce the use of fertilizer and pesticides to decrease pollutants	1	2	3	4	7	8	9
D. Use native plants in yard planting and landscaping to prevent soil erosion	1	2	3	4	7	8	9
E. Reduce soil erosion of the land near streams and rivers	1	2	3	4	7	8	9

8. (IF “A GREAT DEAL” OR “SOME” TO AT LEAST ONE ITEM IN Q7 CONTINUE, ELSE SKIP TO Q9)

“Now, what is the primary reason your household has taken storm water runoff reduction efforts? (PROBE FOR SPECIFICS; PROBE FOR ONLY ONE REASON)

OPEN-END: _____

98. DON'T KNOW (PROBE: “In general . . .” “What is the one reason . . .”)

99. NA/REFUSED

00. INAP

9. (IF “NOT MUCH,” “NOT AT ALL” OR “DON'T KNOW” TO ALL ITEMS IN Q7 CONTINUE, ELSE SKIP TO Q10)

“Now, what is the primary reason your household has not taken these storm water runoff reduction efforts? (PROBE FOR SPECIFICS; PROBE FOR ONLY ONE REASON)

OPEN-END: _____

98. DON'T KNOW (PROBE: “In general . . .” “What is the one reason . . .”)

99. NA/REFUSED

00. INAP

25-42. [THESE QUESTIONS INTENTIONALLY LEFT BLANK]

“Now some final questions . . .”

[LANDLINE SAMPLE ONLY: SKIP TO Q43]

[CELL SAMPLE: SKIP TO Q45]

43. “Not counting business lines, extension phones or cellular phones -- on how many different telephone numbers can your household be reached?”

1. ONE → SKIP TO Q45
2. TWO
3. THREE
4. FOUR
5. FIVE
6. SIX
7. SEVEN
8. EIGHT
9. NINE
10. TEN OR MORE

98. DON'T KNOW (PROBE: REREAD QUESTION) → **SKIP TO Q45**

99. NA/REFUSED → **SKIP TO Q45**

44. “How many of those (insert number) telephone numbers are used **ONLY** for electronic equipment--such as computers and fax machines . . . and never answered for personal calls?”

RECORD # ____ ____ (ENTER NUMBER OF LINES)

96. NONE

98. DON'T KNOW (PROBE: REREAD QUESTION)

99. NA/REFUSED

0. INAP

45. “INCLUDING YOURSELF, how many people aged 18 or older, CURRENTLY live in your household?”

RECORD # ____ ____

8. EIGHT OR MORE

9. NA/DON'T KNOW/REFUSED

46-48. [THESE QUESTIONS INTENTIONALLY LEFT BLANK]

“Next . . .”

49. “Are you currently married, widowed, divorced, separated, or have you never been married?”

1. MARRIED AND LIVING WITH SPOUSE (INCLUDE COMMON LAW MARRIAGE & SPOUSE AWAY IN SERVICE)

2. WIDOWED

3. DIVORCED

4. SEPARATED

5. NEVER MARRIED (INCLUDING ANNULMENTS)

6. PARTNERS NOT MARRIED (VOLUNTEERED)

9. NA/REFUSED

50. “What is the highest grade or year of school you completed?”

1. NEVER ATTENDED SCHOOL OR ONLY ATTENDED KINDERGARTEN

2. GRADES 1 THROUGH 8 (ELEMENTARY)

3. GRADES 9 THROUGH 11 (SOME HIGH SCHOOL)

4. GRADE 12 OR GED (HIGH SCHOOL GRADUATE)

5. COLLEGE 1 YEAR TO 3 YEARS (SOME COLLEGE OR TECHNICAL SCHOOL)

6. COLLEGE 4 YEARS OR MORE (COLLEGE GRADUATE)

8. DON'T KNOW (PROBE: REREAD QUESTION)

9. NA/REFUSED

51-56. [THESE QUESTIONS INTENTIONALLY LEFT BLANK]

57. “Do you own or rent your home?”

1. OWN

2. RENT

9. NA/REFUSED

58. How many of the persons who CURRENTLY live in your household are under 18 years of age, including babies and small children?”

RECORD # ____ ____

7. SEVEN OR MORE

8. NONE

9. NA/REFUSED

59. [QUESTION INTENTIONALLY LEFT BLANK]

60. "Last week . . . were you working full-time, part-time, or going to school, keeping house, or what?"

(CIRCLE ONE CODE ONLY. IF MORE THAN ONE RESPONSE, GIVE PREFERENCE TO SMALLEST [LOWEST] CODE NUMBER THAT APPLIES.)

1. WORKING FULL-TIME
2. WORKING PART-TIME
3. WITH A JOB BUT NOT AT WORK BECAUSE OF TEMPORARY ILLNESS, VACATION, STRIKE
4. UNEMPLOYED, LAID OFF, LOOKING FOR WORK
5. DISABLED, TOO ILL TO WORK (PERMANENT)
6. RETIRED
7. IN SCHOOL
8. KEEPING HOUSE

9. NA/REFUSED

61. "What is your current age?"

--	--

(CODE EXACT NUMBER OF YEARS OLD -- E.G., 45)

95. NINETY-FIVE YEARS OF AGE OR OLDER
97. REFUSED (DO NOT PROBE)
98. DON'T KNOW (PROBE: REREAD QUESTION)
99. NA/REFUSED

62a1-62a2. [THESE QUESTIONS INTENTIONALLY LEFT BLANK]

62b. "What is your race?" (IF NECESSARY: "Is it black, white or some other race?")

1. BLACK/AFRICAN-AMERICAN
2. WHITE
3. NATIVE AMERICAN
4. ASIAN/PACIFIC ISLANDER

5. MULTI-RACIAL
6. OTHER (PROBE) _____

9. NA/REFUSED
0. INAP

63A. "Next, what was the TOTAL income you and your family received in 2020, not just from wages or salaries but from ALL sources? Was it less than \$50,000, or \$50,000 or more?"

1. LESS THAN \$50,000 -- SKIP TO Q63B
2. \$50,000 OR MORE – SKIP TO Q63C

97. REFUSED
98. DON'T KNOW (PROBE: "Approximately...")
99. NA

63B. "Now I will read some income categories please stop me when I get to yours. . . . (READ CATEGORIES)

	MONTHLY EQUIVALENT
1. Less than \$9,999	\$ 0 - 833
2. \$10,000 - 19,999	\$ 834 - 1,666
3. \$20,000 - 29,999	\$1,667 - 2,499
4. \$30,000 - 39,999	\$2,500 - 3,332
5. \$40,000 - 49,999	\$3,333 - 4,166

97. REFUSED
98. DON'T KNOW (PROBE: "Approximately...")
99. NA
00. INAP

63C. "Now I will read some income categories please stop me when I get to yours... (READ CATEGORIES)

	MONTHLY EQUIVALENT
1. \$50,000 - 59,999	\$4,167 - 4,999
2. \$60,000 - 69,999	\$5,000 - 5,833
3. \$70,000 - 79,999	\$5,834 - 6,666
4. \$80,000 - 89,999	\$6,667 - 7,499
5. \$90,000 - 99,999	\$7,500 – 8,333
6. \$100,000 or more	\$8,334 or more

- 97 REFUSED
- 98 DON'T KNOW (PROBE: "Approximately...")
- 99 NA

NOTE: Income sources to be included:

- | | | |
|------------------------|----------------|------------------|
| 1. Wages & Salaries | 4. Social Sec. | 7. Unemployment |
| 2. Interest on Savings | 5. Pensions | Compensation |
| 3. Dividends | 6. Welfare | 8. Alimony |
| | | 9. Child Support |

64a. "Could you please tell me your zip code?"

(PLEASE ENTER ZIP CODE)

--	--	--	--	--

99998. DO NOT KNOW (PROBE: REREAD QUESTION)

99999. REFUSED

[HAMILTON COUNTY RESIDENTS ONLY]

"The next questions are for census purposes only. . ."

64b. "Could you please tell me your current address? We use this information to place your household into a specific census tract in your area. This way all areas of your county are equally represented."

(PLEASE ENTER STREET NUMBER, STREET NAME AND STREET TYPE)

STREET #	STREET NAME

(IF RESPONDENT IS HESITANT, PROBE FOR THE NAME OF THEIR STREET AND NEAREST CROSS-STREET)

(PLEASE ENTER STREET NUMBER, STREET NAME AND STREET TYPE)

(E.G. '801 DOVER AVENUE' **OR** DOVER AVENUE AND VICTORIA STREET)

(DO NOT ENTER ANY PUNCTUATION OR COMMENTS)

(IF THE RESPONDENT REFUSES TO GIVE THEIR ADDRESS OR CROSS-STREETS—TYPE 'REF' IN THE BOX BELOW.)

64c. "Could you please tell me the city in which you currently live?"

(PLEASE ENTER CITY NAME)

CITY NAME

98. DON'T KNOW

99. NA/REFUSED

65a-65b. [THESE QUESTIONS INTENTIONALLY LEFT BLANK]

“IF YOU HAVE ANY QUESTIONS ABOUT THIS PROJECT, PLEASE CONTACT DR. KIM DOWNING AT THE UNIVERSITY OF CINCINNATI INSTITUTE FOR POLICY RESEARCH AT (513) 556-5028.

IF YOU HAVE QUESTIONS ABOUT YOUR RIGHTS AS A RESEARCH PARTICIPANT, YOU MAY CONTACT THE UNIVERSITY OF CINCINNATI INSTITUTIONAL REVIEW BOARD AT (513) 558-5259 OR EMAIL THE IRB OFFICE AT IRB@UCMAIL.UC.EDU.”

“AS A REMINDER, IF YOU HAVE ANY QUESTIONS ABOUT THIS PROJECT, PLEASE CONTACT DR. KIM DOWNING AT 513-556-5028.”

66.

“That's all the questions I have -- You've been very helpful.
Thank you for your cooperation. Goodbye.”

INTERVIEWER SUPPLEMENT: PHONE ONLY

67. RECORD SEX OF RESPONDENT

- 1. MALE
- 2. FEMALE

68. Record Telephone Number

--	--	--	--	--	--	--	--	--	--	--

69. Record Your Interviewer Number

--	--	--	--

70. Record Date Interview Completed

--	--	--	--

(E.G. 09-07)

NOTE: BE SURE TO RECORD “FINAL CALL STATUS” ON CALL RECORD.

Appendix 1 - MCM 1

Tab 5 – General Public Education Materials (Bill Inserts, Social Media Posts, Website Stories, What’s Happening Publication)



Top Gardening Tips for a Healthy Yard and Happy Waterways

Soil

- Use tarps to cover loose soil piles to prevent erosion.
- Replant bare spots in your lawn to maintain soil stability.
- Mulch around plants to retain moisture, suppress weeds and protect against pests, diseases and cold temperatures.
- Consult with your local UK Cooperative Extension Service for FREE soil testing and plant diagnostic services to determine the most effective solutions for your soil.

Learn more at sd1.org    

Fertilizers, Herbicides & Pesticides

- Apply fertilizer in the fall for optimal effectiveness and apply herbicide to young, actively growing weeds for best results.
- Avoid product overuse, especially before rain, and always follow label instructions.

Plants

- Use native grasses and plants in your landscaping to reduce the need for additional nutrients.
- Select trees and bushes with non-aggressive root systems near sewer infrastructure to prevent pipe problems.

Additional Tips

- Install a rain barrel.
- Water during optimal times.
- Redirect downspout runoff.
- Adjust sprinklers to target lawn and landscape areas.
- Set lawn mower blades to at least three inches.
- Reduce stormwater runoff and help filter out pollutants by installing a rain garden.





Plant Power! Protecting Our Waterways, One Plant at a Time

Vegetation helps to slow stormwater runoff, reducing soil erosion and improving water quality. Here's how:

- Leaves, stems and other plant parts break the fall of raindrops, reducing their impact on the soil and preventing splash erosion.
- Established vegetation acts like a sponge, slowing water flow across the land. This allows more water to soak into the ground, reducing the risk of flooding.
- Plant roots help hold the ground in place, binding the soil together and preventing it from washing away.



More Plant Power Benefits

- Vegetation plays a vital role in healthy ecosystems, sustaining countless wildlife with food, protection and habitat.
- Plants can be aesthetically pleasing and help to beautify cities and towns.
- Vegetation can help cool buildings by providing shade from direct sunlight.

Did You Know?

Stripping away vegetation leaves the soil vulnerable, leading to erosion and sediment polluting our waterways.

In addition, steeper terrain and erosion-prone soils magnify the potential for damage and flooding when stripped of vegetation.



SD1 | Sanitation District No. 1

874 followers

3mo • 🌐



We've already had a sneak peek of winter—but are you ready for the next snowfall?



Before you grab that deicer, let's talk about how your winter prep choices impact not only your safety but also our environment.

Most of us use more salt than we need, which can harm local waterways, damage landscaping and even hurt our pets' paws. This winter, consider these tips to stay safe AND support our environment:

- 1 Shovel First: Clear as much snow and ice as you can before applying deicer.
- 2 Measure Wisely: Follow the product label—using more doesn't melt ice faster, but it can harm streams and plants.
- 3 Choose Eco-Friendly Products: Look for deicers labeled safe for pets, plants and the environment.

Small changes like these can make a big difference in protecting our community and Northern Kentucky's waterways. 🌱

💡 Looking for more sustainable winter tips? Visit SD1.org or comment below to share your favorite eco-friendly deicer or winter safety hack!

Let's keep our driveways—and our environment—safe this winter. 🚗 ❄️

[#WinterSafety](#) [#EnvironmentalStewardship](#) [#ProtectOurWaterways](#)
[#WinterPreparedness](#)

EASY ON THE SALT!

A 12 oz coffee mug holds
enough salt for 10 sidewalk
squares or a 20 ft driveway

**Choose
deicers
wisely**

Always follow label
instructions.

SD1.org





SD1

November 2, 2024 · 🌐



Keep our homes and waterways clean! Bring your household hazardous waste to the annual collection event tomorrow, Saturday, November 2, 2024, from 9:00 a.m. to 2:00 p.m. at Thomas More Stadium (7950 Freedom Way, Florence, KY 41042) – home of the Florence Y'alls! This is a great opportunity to safely dispose of those items that shouldn't go down the drain or in the trash.

For more details, visit www.nkyhhw.org.

[#BooneCounty](#) [#CampbellCounty](#) [#KentonCounty](#) [#HHW](#) [#SD1SW](#)
[#PollutionPrevention](#)

FREE Waste Collection Event

NOVEMBER 2, 9 AM - 2 PM

Thomas More Stadium
7950 Freedom Way, Florence, KY 41042

Accepted Items:

- Aerosol cans
- Antifreeze
- Batteries (all types)
- Electronics (PCs, laptops, cellphones, VCRs, cameras, headphones, etc.)
- Ink/toner cartridges
- Light bulbs (fluorescent tubes, CFLs, etc.)
- Oil/car fluids
- Oil paint (limit of 10 cans per vehicle)
- Pesticides
- Tanks/cylinders (propane, fire extinguisher, helium, acetylene, oxygen)
- TVs (limit of 2 per vehicle)

View details and download a registration form at SD1.org/HHW.





GARDENING TIPS

FOR A HEALTHY YARD AND HAPPY WATERWAYS

1

Install a Rain Barrel

Collect rainwater for garden use.

2

Water During Optimal Times

Water early in the morning or late in the evening to reduce evaporation.

3

Redirect Downspout Runoff

Direct runoff away from your house and into your garden.

4

Adjust Sprinklers

Target lawn and landscape areas to avoid water waste.

5

Set Lawn Mower Blades

Adjust blades to at least three inches to promote healthy grass.

6

Install a Rain Garden

Reduce stormwater runoff and help filter out pollutants by installing a rain garden.



sanitationist1 Don't let August slip away—there's still time to apply some healthy gardening tips in your yard... more

August 8, 2024



SD1 | Sanitation District 1 o...  @S... · Oct 22, 2024 Promote  

Fallen leaves are a beautiful part of NKY fall, but if they end up in the street , they can cause serious problems! Bag or compost them instead. Why? Clogged storm drains lead to flooded streets, bad smells and slippery hazards . [#Fall](#) [#StormwaterTips](#) [#AutumnLeaves](#)



 2

 5

 170





Posted on: April 3, 2024

[ARCHIVED] Plant Power! Protecting Our Waterways, One Plant at a Time

Vegetation helps to slow stormwater runoff, reducing soil erosion and improving water quality. Here's how:

- Leaves, stems and other plant parts break the fall of raindrops, reducing their impact on the soil and preventing splash erosion.
- Established vegetation acts like a sponge, slowing water flow across the land. This allows more water to soak into the ground, reducing the risk of flooding.
- Plant roots help hold the ground in place, binding the soil together and preventing it from washing away.



More Plant Power Benefits

- Vegetation plays a vital role in healthy ecosystems, sustaining countless wildlife with food, protection and habitat.
- Plants can be aesthetically pleasing and help to beautify cities and towns.
- Vegetation can help cool buildings by providing shade from direct sunlight.

Did You Know?

Stripping away vegetation leaves the soil vulnerable, leading to erosion and sediment polluting our waterways. In addition, steeper terrain and erosion-prone soils magnify the potential for damage and

All categories ▾

Tools



RSS



Notify Me®

Categories

- All Categories
- SD1 News Flash
- 2024 - Redesign

It's Hard To Imagine A Day Without SD1, Clean Water

Each fall, Sanitation District No. 1 participates in an annual "Imagine a Day Without Water" campaign that aims to drive home the importance of clean water in our community.

The value of reliable sanitation service in Northern Kentucky is often overlooked along with the thousands of miles of sewer pipes hidden beneath the ground, connecting virtually every home and business in our region to a wastewater treatment plant. Until something goes wrong – a broken pipe or a noxious odor – SD1 is generally "out of sight, out of mind."

To truly understand the value of reliable public sanitation, it is helpful to take a few minutes to actually imagine a day without clean water.

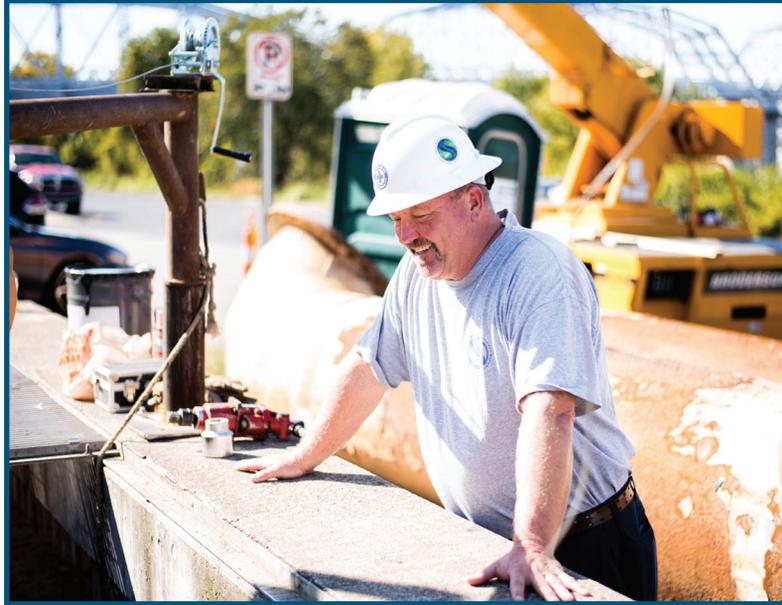
Our Health

Let's start with the role clean water plays in living a healthy life. SD1 treats about 35 million gallons of Northern Kentucky wastewater every single day. Across our region, when a toilet flushes, a load of laundry is done, a shower is taken or an item is manufactured, wastewater is created.

This wastewater contains a variety of pollutants, including human waste, food scraps and chemicals. Without wastewater treatment, these pollutants would end up in our waterways, causing serious environmental and health problems such as Hepatitis

A, typhoid fever, E. coli, cholera and polio. Globally, more than 3.5 million people die of diseases related to unsafe water every year (about one every 10 seconds).

SD1's wastewater treatment process removes these pollutants, making the water safe to discharge back into the Ohio River. This process takes up



unable to offer sterile environments for our most vulnerable neighbors and local industries wouldn't be able to produce...well, much of anything.

Our local economy depends on clean water: manufacturing, farming, health-

care, tourism, recreation, energy production and other economic sectors all need clean water to function and flourish.

to 30 hours and involves a variety of biological and chemical processes.

Our Environment

Northern Kentucky is a river town. SD1 protects our rivers and streams because their waters shape the boundaries of our community and our identity. That's why we work around the clock, 365 days a year to manage our region's wastewater and stormwater.

Our quality of life is directly linked to our quality of water. Each day, SD1's robust wastewater treatment program prevents about 100,000 pounds of waste from entering the Ohio River. That keeps the river safe and healthy for boating and other recreational activities.

Cleaner water means a healthier ecosystem, which makes our natural habitat a more enjoyable, desirable place to be. We're lucky – we don't have to pile in the car and drive for hours to experience the best that sports, arts and culture has to offer – it's all right here in our own backyard...because of clean water.

Our Economy

Without SD1's work to keep our waterways clean, local schools would be unable to provide safe drinking water to students; local hospitals would be

CONSIDER HOW MUCH WATER IT TAKES TO:

- **GROW ONE APPLE – 19 GALLONS**
- **MAKE ONE GLASS OF WINE – 32 GALLONS**
- **YIELD ONE BEEF STEAK – 1,230 GALLONS**
- **PRODUCE ONE PAIR OF SHOES – 2,110 GALLONS**
- **MANUFACTURE ONE CAR – 40,000 GALLONS**

That's why each dollar invested in American water infrastructure improvements yields a \$6 return on investment (2023 Value of Water Index). In fact, a 2009 study by the Science Media Center concluded that 20 percent of the US economy would grind to a halt without a reliable source of clean water.

So the next time you pay your SD1 bill, remember the value you receive for your investment in our community. SD1 might be "out of sight, out of mind," but can you imagine what life in Northern Kentucky would be like without us?





Western Regional Facility Plays Leading Role in SD1 Clean H2O40 Program in Boone County

In April, Sanitation District No. 1 will celebrate 12 years of operation of the \$300 million Western Regional Water Reclamation Facility and Tunnel Conveyance System in Petersburg.

The treatment plant, which has a capacity of 20 million gallons of wastewater treatment per day, is the newest of SD1's three major treatment facilities. It currently treats about 11.18 million gallons each day, serving most of Boone County and portions of Kenton County. SD1 currently has nearly 31,000 residential wastewater customers in Boone County and an additional 2,805 commercial customers.

Western Regional utilizes ultraviolet light to disinfect wastewater, killing harmful, odor-causing bacteria, improving treatment effectiveness while also reducing the cost. It takes about 24 hours for wastewater to go through the treatment process at Western Regional.

One innovation that has been added to the treatment process at Western Regional in recent years is the use of paracetic acid (PAA), a powerful sanitizing agent – introduced upstream of the UV system – that uses chemistry to effectively and efficiently disinfect wastewater. PAA neutralizes bacteria, viruses and other bio contaminants that could otherwise prevent Western Regional from meeting state and federal regulations.

The Western Regional Tunnel Conveyance System is a 6-mile storage

tunnel connecting the Gunpowder Pump Station to the treatment plant. It can store 14 million gallons of wet weather

Over the past 12 years, the plant and conveyance tunnel have reduced sanitary sewer overflows (SSOs) in Boone County by nearly 60 million gallons per year, making the facilities integral parts of SD1's Clean H2O40



sewer overflow mitigation program.

Clean H2O40 is a partnership between SD1 and state and federal regulators to address Northern Kentucky's sewer overflows over the next 20 years, with an ultimate target of January 1, 2040. The program's strategy focuses on storing excess stormwater in facilities such as the Western Regional tunnel and equalization tanks located across the region and then gradually releasing it back into the sewer system, keeping the

system from becoming overwhelmed.

"Sewer overflows are a threat to public health and quality of life," SD1 Executive Director Adam Chaney says. "Our team works tirelessly to eliminate overflows because we care about our community."

SD1 is currently in Phase 2 of its Clean H2O40 program, during which

it plans to eliminate about 40 million gallons of typical-year sanitary sewer overflows over the next six years. At the same time, SD1 plans to eliminate another 338 million gallons of typical-year combined sewer overflows (CSO), with projects spanning the region. During Phase 1, which was completed in 2023, SD1 eliminated about 69.7 million gallons of typical-year SSO and 223 million gallons of typical-year CSO.



**CLEAN
H₂O40**

Appendix 2 - MCM 2

Tab 1 – RiverSweep



DECEMBER 2024

THANK YOU OHIO RIVER SWEEP SPONSORS



OHIO RIVER VALLEY WATER SANITATION COMMISSION & FOUNDATION FOR OHIO RIVER EDUCATION
5735 KELLOGG AVENUE / CINCINNATI OH / (513) 231-7719 / OHIORIVERSWEEP.ORG



2024 SEASON AT A GLANCE



125 LITTER CLEAN UP
EVENTS ACROSS 6 STATES
(IL, IN, KY, OH, PA & WV)



4,267 VOLUNTEERS



90.39 TONS OF TRASH & 996
TIRES REMOVED

LEARN MORE ABOUT FORE EDUCATION & OUTREACH
RIVERLEARNING.ORG

TO DONATE PLEASE VISIT
ORSANCO.ORG/RIVER-SWEEP/SPONSORS

Dear SDI Team Members,

We would like to express our sincere gratitude on behalf of the Ohio River Valley Water Sanitation Commission (ORSANCO) and the Foundation for Ohio River Education (FORE) for your generous donation in support of the Ohio River Sweep program in 2024. Your funding played a crucial role in providing volunteer supplies and promotional materials, as well as facilitating staff event planning and support. These contributions significantly enhance the program's success across the six mainstem states that border the Ohio River. Thank you for your continued support and participation, it makes a huge impact in keeping our waterways trash free!

SUCCESS IN 2024

This year, the Ohio River Sweep continued with a seasonal format that facilitated 125 litter clean-up events, engaging 4,267 volunteers throughout the Ohio River Basin from March 1st to October 31st. The Ohio River Sweep season offers numerous opportunities for both large and small groups to significantly improve the waterways in their communities. Volunteers choose their preferred dates and locations for clean-up events, while Ohio River Sweep provides necessary support and ships event supplies such as T-shirts, gloves, trash grabbers, and trash bags. Overall, the 2024 season proved to be a remarkable success, resulting in the cleaning of over 258 miles! We collaborated with our sponsors to host events and offered volunteer opportunities to various groups, including Boy Scout troops, city and county parks and recreation departments, universities, rotary clubs, and more!

LOOKING AHEAD IN 2025

The Ohio River Sweep program thrives thanks to the generosity of funders and volunteers, you are essential to our success each season! This basin-wide program is a collaborative effort among the Ohio River Valley Water Sanitation Commission (ORSANCO), the Foundation for Ohio River Education (FORE), and various state and local environmental protection agencies. FORE, a 501(c)(3) non-profit supporting ORSANCO, offers environmental education and stewardship activities throughout the Ohio River Basin. We are responsible for raising and managing funds for the Ohio River Sweep program, and any remaining funds may be allocated to support FORE's environmental education and outreach efforts.

We would be grateful for the continued support of SD1 for the Ohio River Sweep program as we continue to expand upon our success in 2025 and beyond. Please review the various funding levels enclosed. Donations are accepted on our website at orsanco.org/river-sweep or riverlearning.org/getinvolved/makeadonation. Also, checks can be mailed to ORSANCO at 5735 Kellogg Avenue, Cincinnati, Ohio 45230 Attention: FORE.

Thank you very much for your support and consideration.

Warm regards,

David R. Bailey
David Bailey

President & Treasurer

Foundation for Ohio River Education



**★ WE NEED
your
★ SUPPORT! ★**

OHIO RIVER SWEEP DONATION LEVELS

All Levels

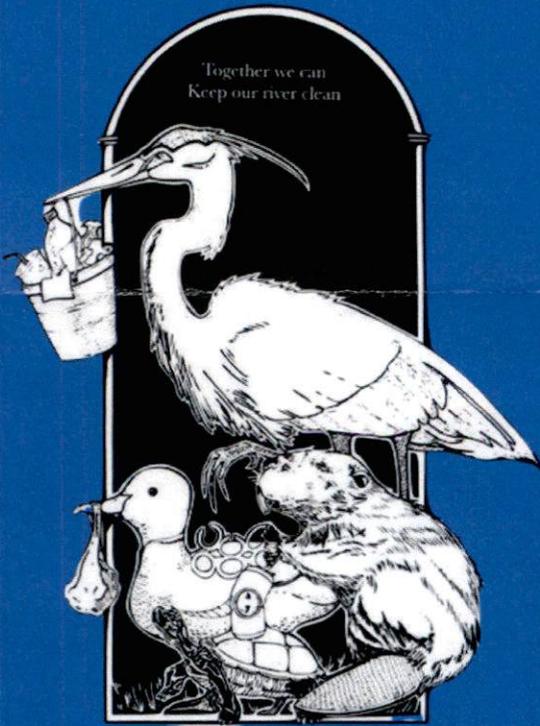
Recognition on our Ohio River Sweep sponsor page and electronic newsletter

\$5,000 or more

- Recognition on our Ohio River Sweep sponsor page and electronic newsletter
- Additional event planning support
- Logo recognition on event T-shirt

\$10,000 or more

- Recognition on our Ohio River Sweep sponsor page and electronic newsletter
- Additional event planning support
- Logo recognition on event T-shirt
- Special recognition on social media platforms
- Recognition on all promotional materials and press releases



OHIO RIVER SWEEP 2024

"Our river is vastly improved from the work performed. The representatives from Frankfort are using our county and how we organize and process the recovered materials as a pilot in getting this activity started throughout the State."
-Billy Steele, Pendleton county, KY

Thank you to our 2024 Ohio River Sweep Partners!



OHIO RIVER SWEEP 2024

Re: 2024 RiverSweep Statistics

From Lora Bonno <lbonno@sd1.org>
Date Fri 2/28/2025 10:50 AM
To Rachel Toney <rtoney@orsanco.org>

Thank you so much!

Lora Bonno

Admin Tech
SD1
1045 Eaton Dr
Ft. Wright, KY 41017
859-547-4441
lbonno@sd1.org
www.sd1.org

From: Rachel Toney <rtoney@orsanco.org>
Sent: Friday, February 28, 2025 10:48 AM
To: Lora Bonno <lbonno@sd1.org>
Subject: Re: 2024 RiverSweep Statistics

Sure thing!

Tires

- Boone County: 65
- Campbell County: 5
- Kenton County: 5

Trash

- Boone County: 6,460 lbs
- Campbell County: 8,165 lbs
- Kenton County: 9,075 lbs

On Fri, Feb 28, 2025 at 10:40 AM Lora Bonno <lbonno@sd1.org> wrote:

Hi Rachel!

It's a great program and we are so happy to support it!

Thank you so much for the information. If it's not too much trouble, I would love the stats for the trash and tires for just these 3 counties.

Best,
Lora

Lora Bonno

Admin Tech
SD1
1045 Eaton Dr
Ft. Wright, KY 41017
859-547-4441
lbonno@sd1.org
www.sd1.org

From: Rachel Toney <rtoney@orsanco.org>
Sent: Friday, February 28, 2025 10:32 AM
To: Lora Bonno <lbonno@sd1.org>
Cc: Annette Shumard <ashumard@orsanco.org>
Subject: Re: 2024 RiverSweep Statistics

Hi Lora,

My name is Rachel and I've recently taken over as the Ohio River Sweep coordinator for ORSANCO. We are very grateful for SD1's support and participation in our program each year and would be happy to provide these stats for your report!

- Number of cleanp events in 2024
 - Boone County: 7
 - Campbell County: 6
 - Kenton County: 10
 - These counties combined made up roughly 20% of our events for the whole year!
- Number of volunteers in 2024
 - Boone County: 134
 - Campbell County: 271
 - Kenton County: 313
 - These counties combined made up roughly 17% of our volunteers for the whole year!
- Unfortunately, we have faced challenges in keeping record of coordinators by county since we changed to a seasonal format, but there is usually just one coordinator for each county. The only Kentucky coordinator in these areas that I have a record of at this time is Megan Clere, who is the solid waste coordinator for Campbell County.

I hope these are helpful, I can also give you stats on the amount of trash and tires removed for these counties if that would be useful.

Best,
Rachel Toney
Outreach Specialist
FORE

rtoney@orsanco.org

513-231-7719 ext. 104

www.riverlearning.org

On Thu, Feb 27, 2025 at 10:05 AM Annette Shumard <ashumard@orsanco.org> wrote:

Hi can you help with this? I can introduce you

Annette Shumard

Ohio River Valley Water Sanitation Commission (ORSANCO)

Communications & Environmental Education Manager

Foundation for Ohio River Education (FORE) President

C: 513-833-1376

O: 513-231-7719 ext. 115

E: ashumard@orsanco.org

ORSANCO Website: orsanco.org

FORE Website: riverlearning.org

----- Forwarded message -----

From: **Lora Bonno** <lbonno@sd1.org>

Date: Thu, Feb 27, 2025 at 9:58 AM

Subject: 2024 RiverSweep Statistics

To: ashumard@orsanco.org <ashumard@orsanco.org>

Hi Annette,

Hope you are doing well!

Are you able to provide me with the following information? We are working on our annual report and would like to include this information.

1. How many cleanup events were hosted in each county listed below?

- BooneCampbell Kenton

2. How many volunteers participated in each county listed below?

- BooneCampbell Kenton

3. How many coordinators were there in each county listed below?

- BooneCampbell Kenton

Best,

Lora Bonno

Admin Tech

SD1

1045 Eaton Dr

[Ft. Wright, KY 41017](#)

859-547-4441

lbonno@sd1.org

www.sd1.org

Public Records Notice: I am not the Official Custodian of Public Records at SD1. All requests for public records must be sent to SD1's Official Custodian of Records at: [1045 Eaton Dr. Ft. Wright, KY 41017](#), Attention: Official Custodian of Records; facsimile at (859) 331-2436 or via email to records@sd1.org. Your request will not be forwarded.

--

Rachel Toney

Outreach Specialist

FORE

rtoney@orsanco.org

513-231-7719 ext. 104

www.riverlearning.org

Public Records Notice: I am not the Official Custodian of Public Records at SD1. All requests for public records must be sent to SD1's Official Custodian of Records at: 1045 Eaton Dr. Ft. Wright, KY 41017, Attention: Official Custodian of Records; facsimile at (859) 331-2436 or via email to records@sd1.org. Your request will not be forwarded.

--

Rachel Toney

Outreach Specialist

FORE

rtoney@orsanco.org

513-231-7719 ext. 104

www.riverlearning.org

Appendix 2 - MCM 2

Tab 2 – Household Hazardous Waste Event Report

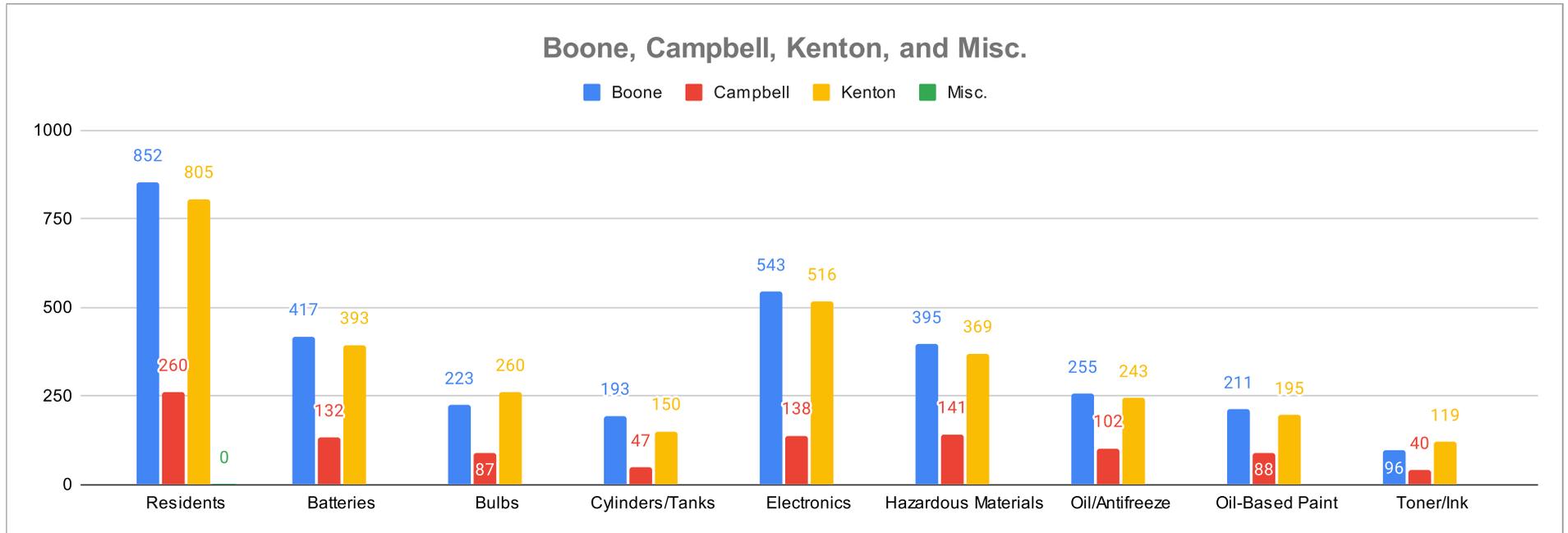
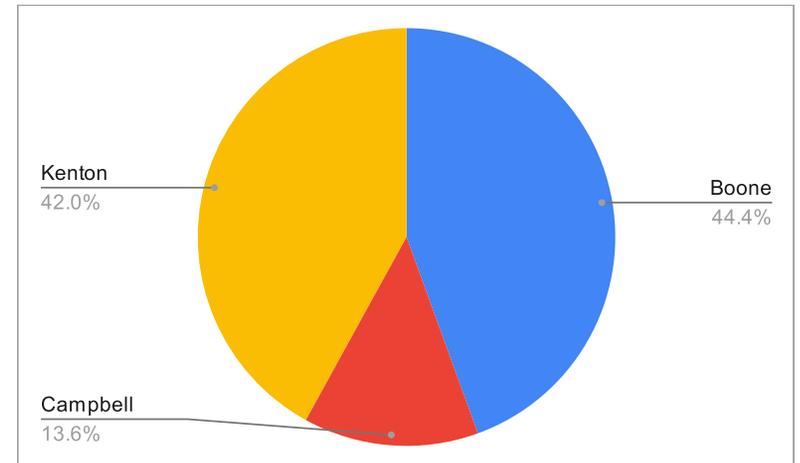
Total NKY Resident Participation for Household Hazardous Waste Collection Event

November 2, 2024

	<u>Boone</u>	<u>Campbell</u>	<u>Kenton</u>	<u>Misc.</u>	<u>Total NKY^</u>
Residents	852	260	805	0	1,917
Batteries	417	132	393		942
Bulbs	223	87	260		570
Cylinders/Tanks	193	47	150		390
Electronics	543	138	516		1,197
Hazardous Materials	395	141	369		905
Oil/Antifreeze	255	102	243		600
Oil-Based Paint	211	88	195		494
Toner/Ink	96	40	119		255
TOTAL*	2,333	775	2,245	0	5,353

*Data is pulled from number of vehicles.

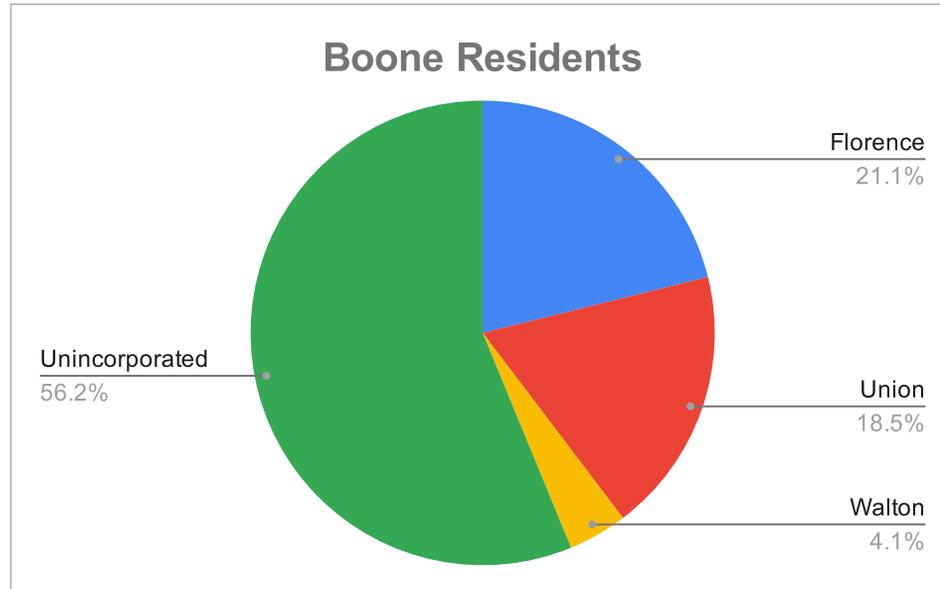
^Average of 319 residents per hour. (Six hours total; 8:30 AM - 2:30 PM)



Total Boone Resident Participation for Household Hazardous Waste Collection Event

November 2, 2024

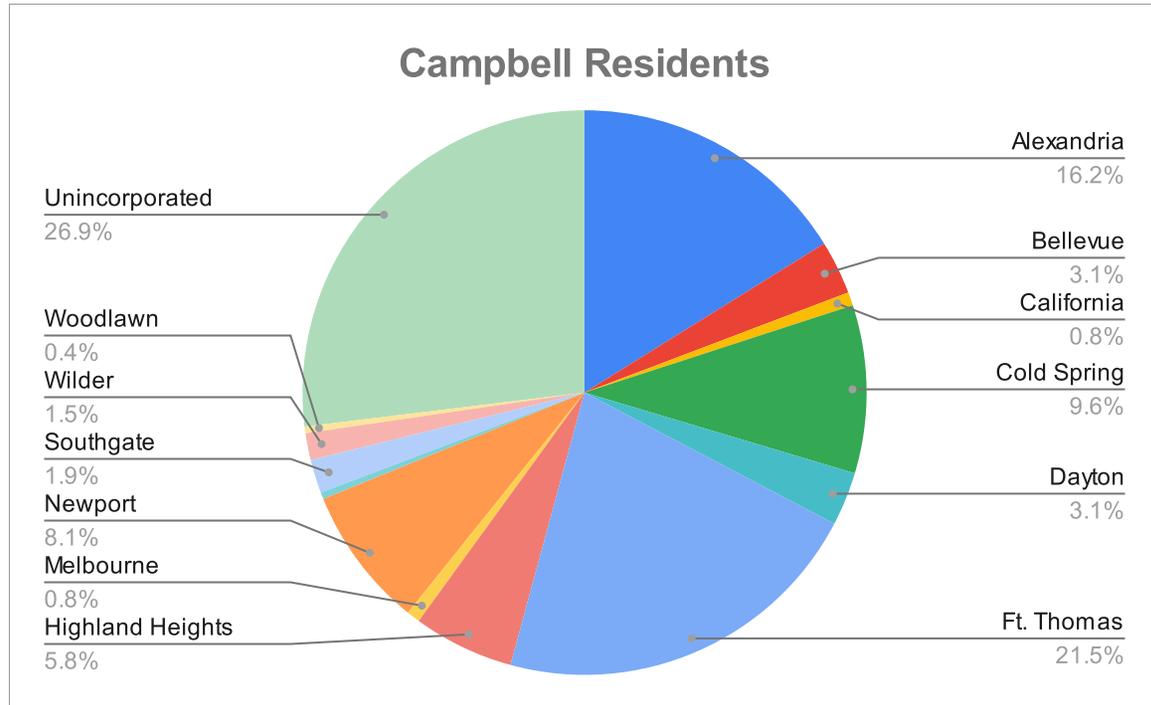
City	Residents
Florence	180
Union	158
Walton	35
Unincorporated	479
BOONE TOTAL	852



Total Campbell Resident Participation for Household Hazardous Waste Collection Event

November 2, 2024

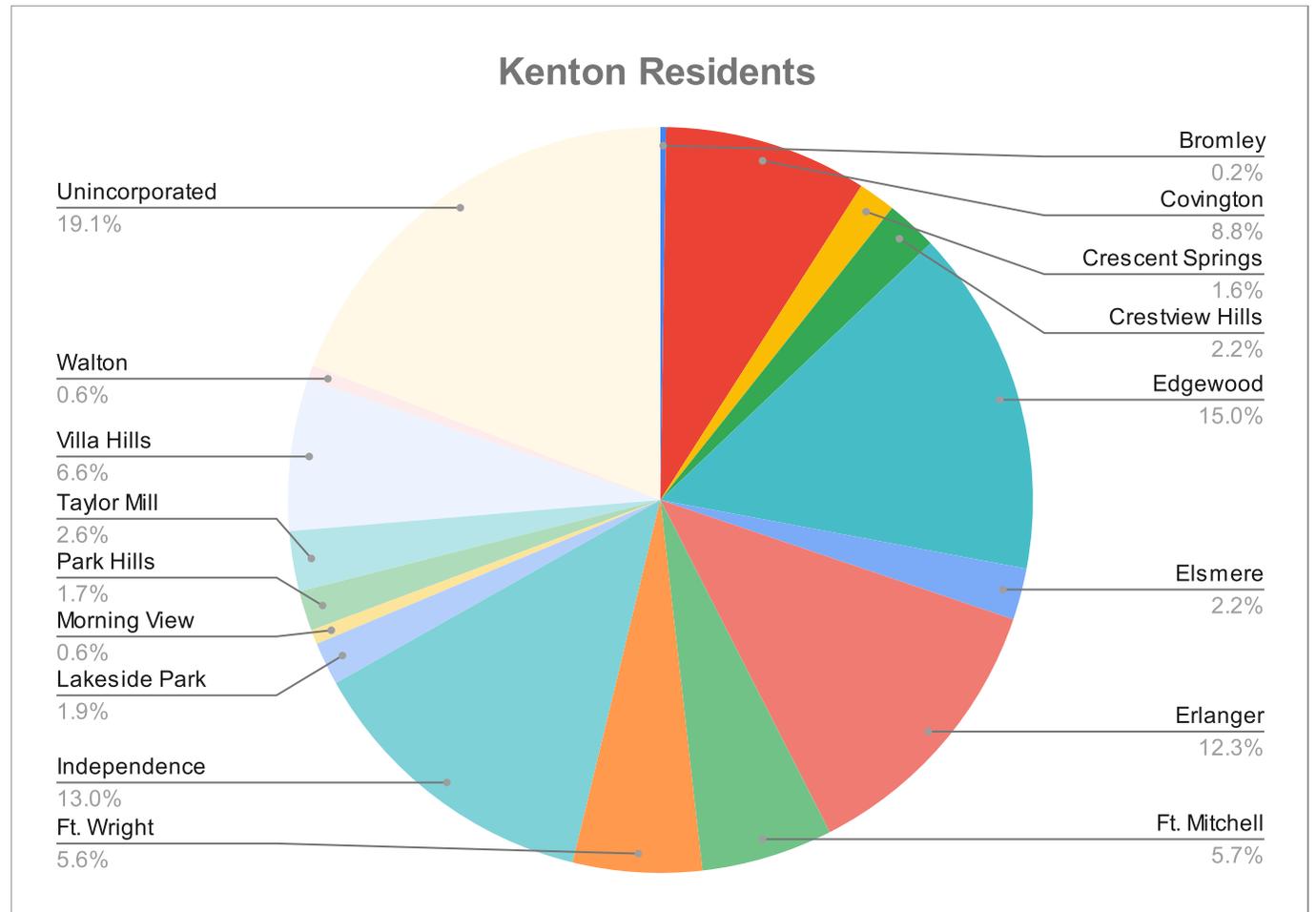
City	Residents
Alexandria	42
Bellevue	8
California	2
Cold Spring	25
Crestview	0
Dayton	8
Ft. Thomas	56
Highland Heights	15
Melbourne	2
Mentor	0
Newport	21
Silver Grove	1
Southgate	5
Wilder	4
Woodlawn	1
Unincorporated	70
CAMPBELL TOTAL	260



Total Kenton Resident Participation for Household Hazardous Waste Collection Event

November 2, 2024

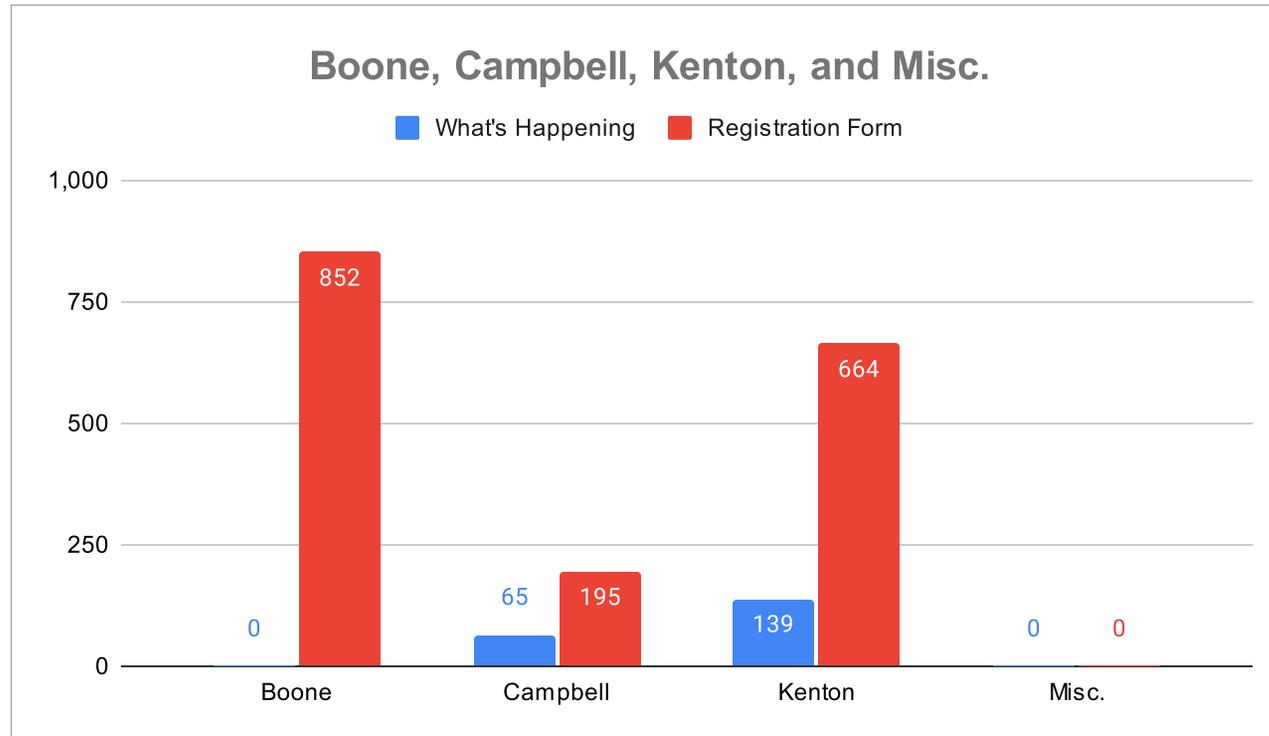
City	Residents
Bromley	2
Covington	71
Crescent Springs	13
Crestview Hills	18
Crittenden	0
Edgewood	121
Elsmere	18
Erlanger	99
Florence	0
Ft. Mitchell	46
Ft. Wright	45
Independence	105
Lakeside Park	15
Ludlow	0
Morning View	5
Park Hills	14
Ryland Heights	0
Taylor Mill	21
Villa Hills	53
Walton	5
Unincorporated	154
KENTON TOTAL	805



Total Marketing for Household Hazardous Waste Collection Event

November 2, 2024

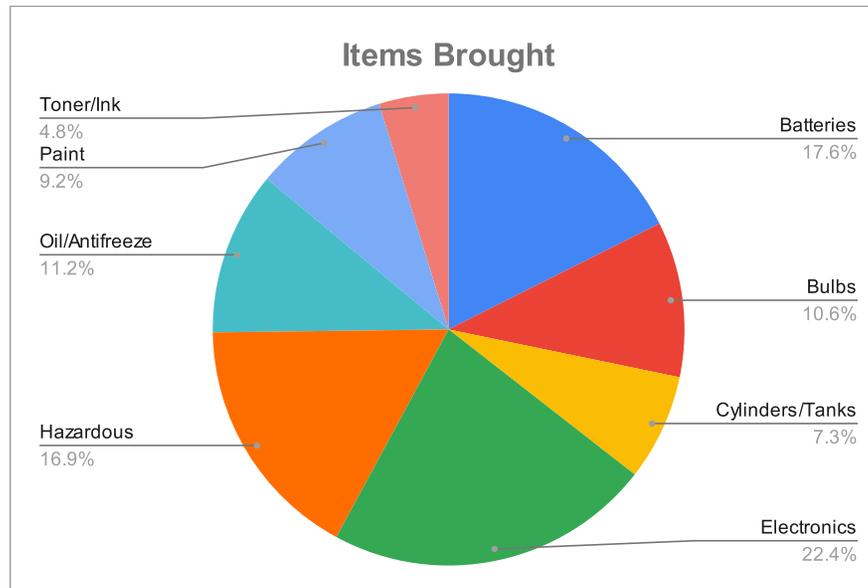
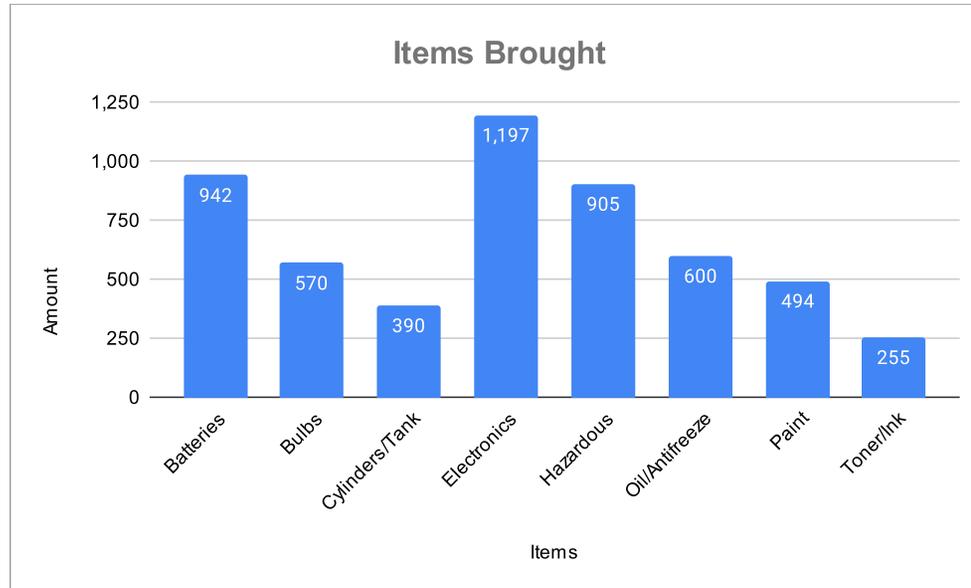
	Boone	Campbell	Kenton	Misc.	TOTAL
What's Happening	0	65	139	0	204
Registration Form	852	195	664	0	1,711
MARKETING TOTAL	852	260	803	0	



Total Items for Household Hazardous Waste Collection Event

November 2, 2024

Items	Amount	Percentage
Batteries	942	17.60%
Bulbs	570	10.65%
Cylinders/Tanks	390	7.29%
Electronics	1,197	22.36%
Hazardous Materials	905	16.91%
Oil/Antifreeze	600	11.21%
Paint	494	9.23%
Toner/Ink	255	4.76%
ITEMS TOTAL	5,353	100%



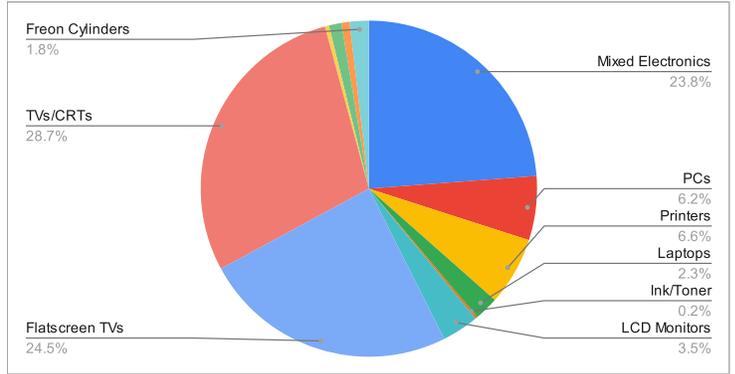
Total Vendor Collection Totals for Household Hazardous Waste Collection Event

November 2, 2024

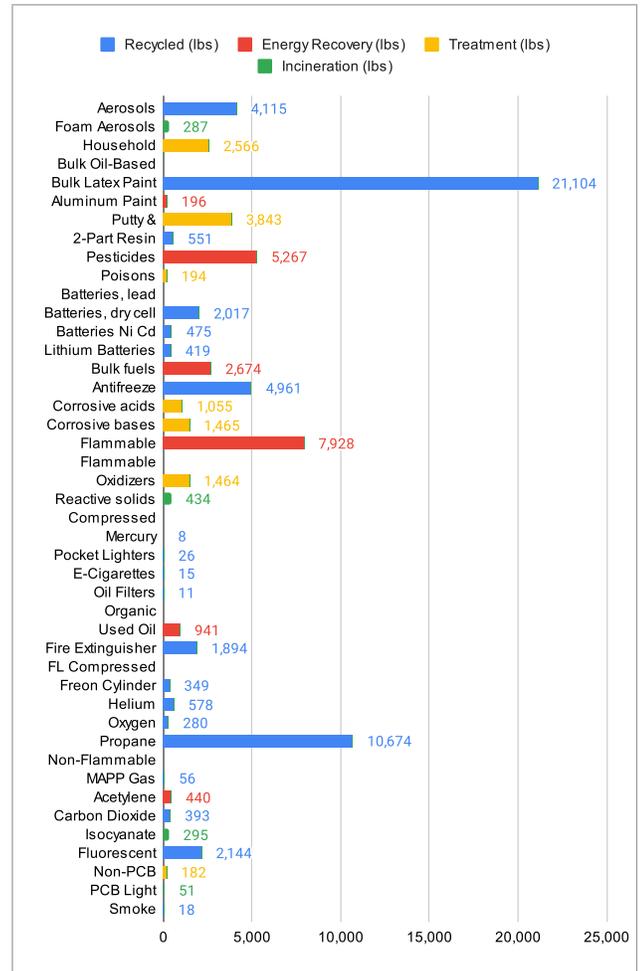
Boone County Solid Waste	
Items	Weight (lbs)
Used Oil	10,625
Lead-Acid Batteries	8,192
BCSW TOTAL	18,817



Tri-State Escrap Totals				
	Items	Weight (lbs)	Skids	LOADS
Electronics	Mixed Electronics	20,011	36	Semi
	PCs	5,183	8	7
	Printers	5,524	13	Boxtruck
	Laptops	1,945	3	2
	Ink/Toner	180	2	Sprinter Van
	LCD Monitors	2,984	9	1
	Flatscreen TVs	20,607	44	Boxvan
	TVs/CRTs	24,122	62	1
	Cell Phones	334	2	
	Large Proj TVs	1,014	8	
	Batteries*	657	4	
	Freon Cylinders	1,529	3	
	E-Cigarettes	15	1	
	ELECTRONICS TOTAL	84,105	195	11



Environmental Enterprises, Inc. Totals					
	Items	Recycled (lbs)	Energy Recovery (lbs)	Treatment (lbs)	Incineration (lbs)
Cleaners & Aerosols	Aerosols	4,115			
	Foam Aerosols				287
	Household Cleaners			2,566	
Paint & Adhesives	Bulk Oil-Based Paint				
	Bulk Latex Paint	21,104			
	Aluminum Paint		196		
	Putty & Adhesives			3,843	
Pesticides & Poisons	2-Part Resin	551			
	Pesticides		5,267		
Batteries	Poisons			194	
	Batteries, lead acid				
	Batteries, dry cell	2,017			
	Batteries Ni Cd	475			
Corrosives, Flammables, & Fuels	Lithium Batteries	419			
	Bulk fuels		2,674		
	Antifreeze	4,961			
	Corrosive acids			1,055	
	Corrosive bases			1,465	
	Flammable Liquids			7,928	
	Flammable Solids				
	Oxidizers			1,464	
	Reactive solids				434
	Compressed Gas				
	Mercury	8			
	Pocket Lighters	26			
	E-Cigarettes	15			
	Oil Filters	11			
	Organic Peroxide				
	Used Oil			941	
Cylinders & Tanks	Fire Extinguisher	1,894			
	FL Compressed Gas				
	Freon Cylinder	349			
	Helium Cylinders	578			
	Oxygen Cylinders	280			
	Propane	10,674			
	Non-Flammable Cylinders				
	MAPP Gas	56			
	Acetylene		440		
	Carbon Dioxide	393			
Isocyanate Cylinders				295	
Bulbs	Fluorescent Bulbs	2,144			
	Non-PCB Ballasts			182	
	PCB Light Ballasts				51
Electronics	Smoke Detectors	18			
HAZARDOUS WASTE TOTAL		50,088	17,446	10,769	1,067



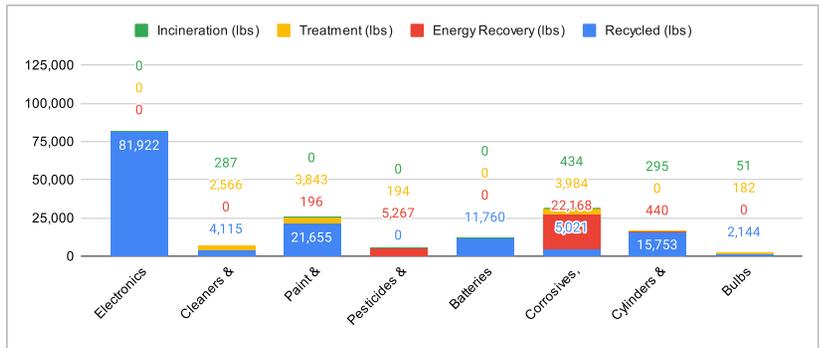
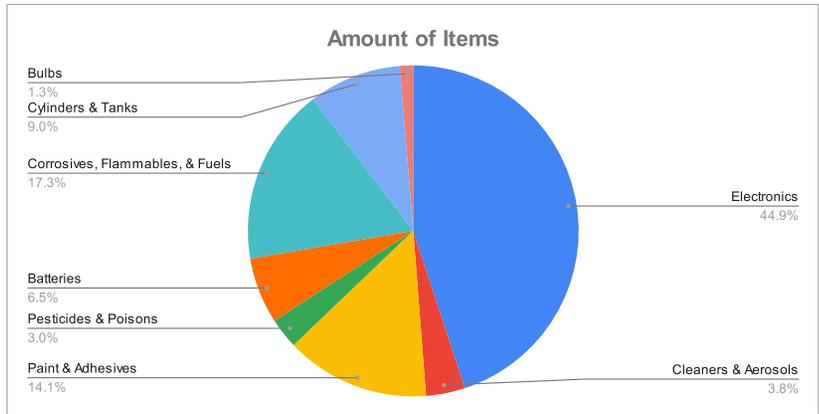
*Conversion factor: 8.5lbs/gallon for bulk fuels, bulk paint, bulk used oil, and antifreeze; 30lbs for lead-acid batteries; and actual weight.

Total Collection Totals for Household Hazardous Waste Collection Event

November 2, 2024

Items		Recycled (lbs)	Energy Recovery (lbs)	Treatment (lbs)	Incineration (lbs)
Electronics	Mixed Electronics	20,011			
	PCs	5,183			
	Printers	5,524			
	Laptops	1,945			
	Ink/Toner	180			
	LCD Monitors	2,984			
	Flatscreen TVs	20,607			
	TVs/CRTs	24,122			
	Cell Phones	334			
	Large Proj TVs	1,014			
Cleaners & Aerosols	Smoke Detectors	18			
	Aerosols	4,115			
	Foam Aerosols				287
Paint & Adhesives	Household Cleaners			2,566	
	Bulk Oil-Based Paint				
	Bulk Latex Paint	21,104			
	Aluminum Paint		196		
Pesticides & Poisons	Putty & Adhesives			3,843	
	2-Part Resin	551			
Batteries	Pesticides		5,267		
	Poisons			194	
	Batteries, lead acid	8,192			
	Batteries, dry cell	2,232			
	Batteries Ni Cd	786			
Corrosives, Flammables, & Fuels	Lithium Batteries	504			
	Battery Jumper Pack	46			
	Bulk fuels		2,674		
	Antifreeze	4,961			
	Corrosive acids			1,055	
	Corrosive bases			1,465	
	Flammable Liquids		7,928		
	Flammable Solids				
	Oxidizers			1,464	
	Reactive solids				434
	Compressed Gas				
	Mercury	8			
	Pocket Lighters	26			
	E-Cigarettes	15			
	Oil Filters	11			
	Organic Peroxide				
Used Oil		11,566			
Cylinders & Tanks	Fire Extinguisher	1,894			
	FL Compressed Gas				
	Freon Cylinder	1,878			
	Helium Cylinders	578			
	Oxygen Cylinders	280			
	Propane	10,674			
	Non-Flammable Cylinders				
	MAPP Gas	56			
	Acetylene		440		
	Carbon Dioxide	393			
Bulbs	Isocyanate Cylinders				295
	Fluorescent Bulbs	2,144			
	Non-PCB Ballasts			182	
	PCB Light Ballasts				51
HAZARDOUS WASTE TOTAL		142,370	28,071	10,769	1,067

Items	Recycled (lbs)	Energy Recovery (lbs)	Treatment (lbs)	Incineration (lbs)	TOTALS (lbs)	TOTALS (tons)
Electronics	81,922	0	0	0	81,922	40.96
Cleaners & Aerosols	4,115	0	2,566	287	6,968	3.48
Paint & Adhesives	21,655	196	3,843	0	25,694	12.85
Pesticides & Poisons	0	5,267	194	0	5,461	2.73
Batteries	11,760	0	0	0	11,760	5.88
Corrosives, Flammables, & Fuels	5,021	22,168	3,984	434	31,607	15.80
Cylinders & Tanks	15,753	440	0	295	16,488	8.24
Bulbs	2,144	0	182	51	2,377	1.19
TOTALS	142,370	28,071	10,769	1,067	182,277	91.14



*Conversion factor: 8.5lbs/gallon for bulk fuels, bulk paint, bulk used oil, and antifreeze; 30lbs for lead-acid batteries; and actual weight.

Total Collection Totals 2023 vs. 2024

November 2, 2024

Items	Recycled (2023)	Recycled (2024)	Percentage +/-	Energy Recovery (2023)	Energy Recovery (2024)	Percentage +/-	Treatment (2023)	Treatment (2024)	Percentage +/-	Incineration (2023)	Incineration (2024)	Percentage +/-	TOTAL (lbs) (2023)	TOTALS (lbs) (2024)	Percentage +/-	Items
Electronics	103,273	81,922	-20.67%	0	0	0.00%	0	0	0.00%	0	0	0.00%	103,273	81,922	-20.67%	Electronics
Cleaners & Aerosols	6,204	4,115	-33.67%	0	0	0.00%	3,250	2,566	-21.05%	0	287	0.00%	9,454	6,968	-26.30%	Cleaners & Aerosols
Paint & Adhesives	101,388	21,655	-78.64%	0	196	0.00%	5,662	3,843	-32.13%	101	0	-100.00%	107,151	25,694	-76.02%	Paint & Adhesives
Pesticides & Poisons	0	0	0.00%	6,396	5,267	-17.65%	52	194	273.08%	1,877	0	-100.00%	8,325	5,461	-34.40%	Pesticides & Poisons
Batteries	15,707	11,760	-25.13%	0	0	0.00%	0	0	100.00%	0	0	0.00%	15,707	11,760	-25.13%	Batteries
Corrosives, Flammables, & Fuels	6,847	5,021	-26.67%	33,811	22,168	-34.44%	2,904	3,984	37.19%	446	434	-2.69%	44,008	31,607	-28.18%	Corrosives, Flammables, & Fuels
Cylinders & Tanks	9,154	15,753	72.09%	0	440	100.00%	103	0	-100.00%	0	295	0.00%	9,257	16,488	78.11%	Cylinders & Tanks
Bulbs	2,317	2,144	100.00%	0	0	100.00%	0	182	100.00%	117	51	-56.41%	2,434	2,377	-2.34%	Bulbs
TOTALS	244,890	142,370	-41.86%	40,207	28,071	-30.18%	11,971	10,769	-10.04%	2,541	1,067	-58.01%	299,609	182,277	-39.16%	TOTAL DIFF

*Early voting affected the outcome of this event.

Total Volunteers & Sponsors for Household Hazardous Waste Collection Event

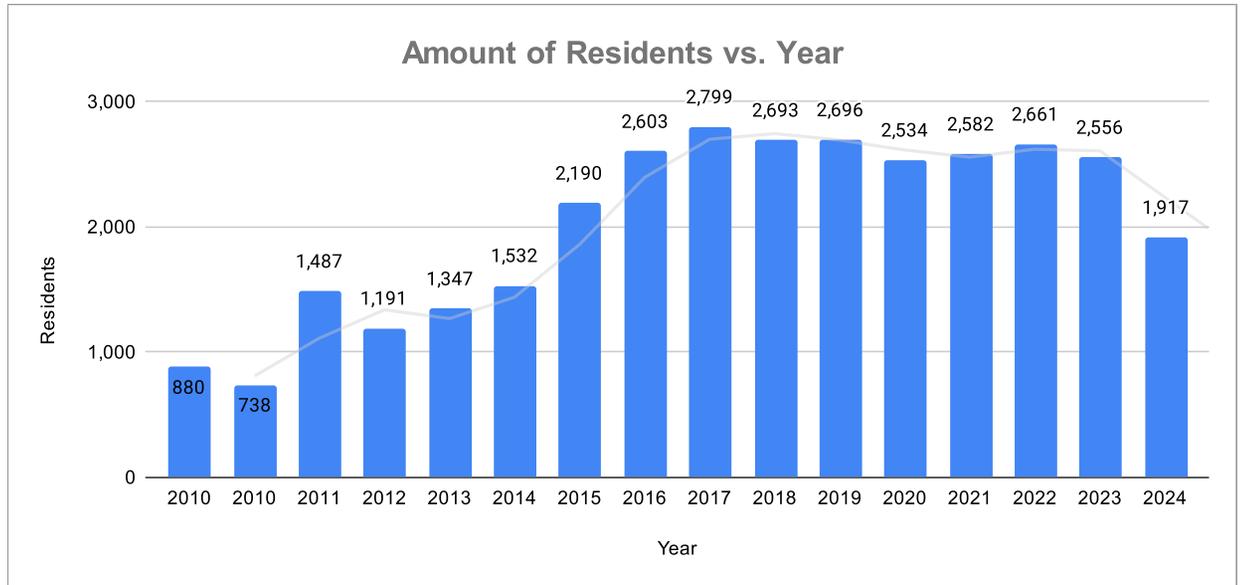
November 2, 2024

Volunteers & Sponsors	Total
Boone County Fiscal Court	39
Campbell County Fiscal Court	12
Kenton County Fiscal Court	13
UK Extension	1
City of Covington	1
City of Florence	4
City of Villa Hills	1
SD1	5
Highlands High School	14
BSA Troop 702	15
NKY Sierra Club	1
Ancra Cargo	1
Celanese	15
Master Recycler	5
Sun Sugar Farms	2
Keep Covington Beautiful	1
Boone County Volunteers	2
Campbell County Volunteers	0
Kenton County Volunteers	1
VOLUNTEERS & WORKERS TOTAL	133
Vendor: EEI	32
Vendor: Tri State Escrap	18
VENDORS, VOLUNTEERS, & WORKERS TOTAL	183

Total Participation Results for Household Hazardous Waste Collection Events

November 2, 2024

Month	Year	Residents	Location
April	2010	880	Toyota
November	2010	738	Turfway
November	2011	1,487	Turfway
November	2012	1,191	Turfway
November	2013	1,347	UC Health Stadium
November	2014	1,532	UC Health Stadium
November	2015	2,190	UC Health Stadium
November	2016	2,603	UC Health Stadium
November	2017	2,799	UC Health Stadium
November	2018	2,693	UC Health Stadium
November	2019	2,696	UC Health Stadium
November	2020	2,534	UC Health Stadium
November	2021	2,582	UC Health Stadium
November	2022	2,661	Thomas More Stadium
November	2023	2,556	Thomas More Stadium
November*	2024	1,917	Thomas More Stadium



**Early voting affected the outcome of this event.*

Appendix 2 - MCM 2
Tab 3 – SWAC Meeting



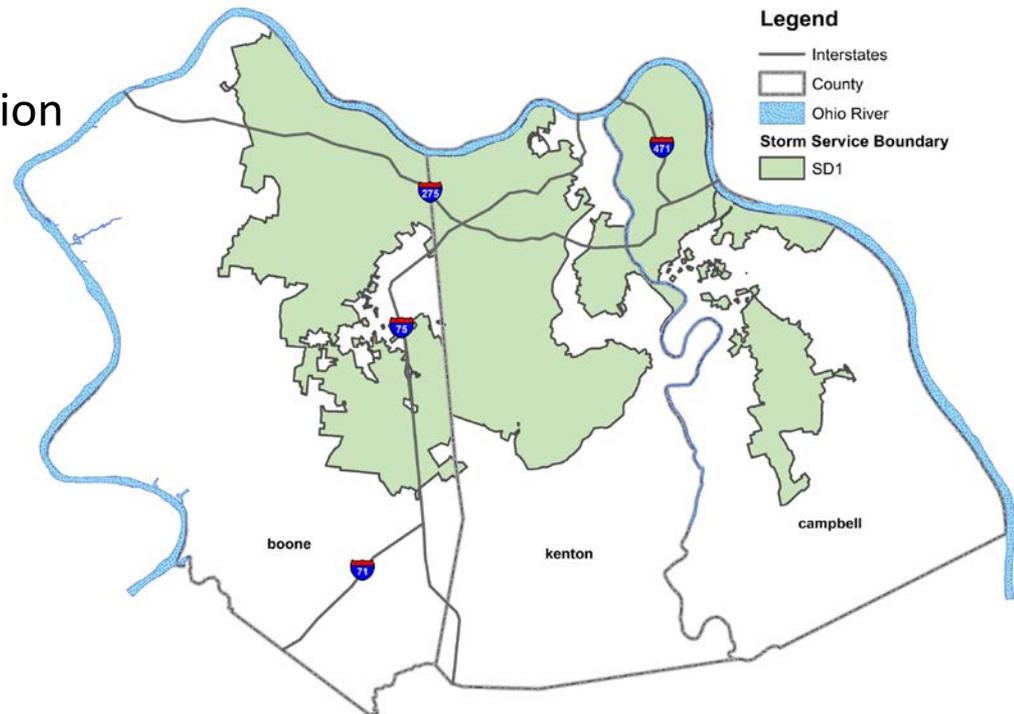
Welcome!

Storm Water Advisory Committee (SWAC) December 3, 2024

Topic	Speaker
Welcome/Introductions	All
Storm Water Permit Updates	Brooke Shireman
SD1's Stream Mitigation Bank	Craig Frye
Boone County Conservation District Updates	Mark Jacobs
Kenton County Conservation District Updates	Matt Wooten
Campbell County Cooperative Extension Service's Lakeside Commons Education Garden Project	Sarah Imbus
Wrap-up	Group

Phase II Municipal Separate Storm Sewer System (MS4) Permit Requirements

- Minimum Control Measures (MCMs):
 1. Public Education & Outreach
 2. Public Involvement & Participation
 3. Illicit Discharge Detection & Elimination
 4. Control of Construction Site Runoff
 5. Post-Construction Storm Water Management
 6. Pollution Prevention and Good Housekeeping for Municipal Operations
- Compliance and Success Monitoring



Phase II Municipal Separate Storm Sewer System (MS4) Permit Renewal

- 5 Year Permit Cycle
 - Current cycle ended in April 2023 but administratively extended
- Renewal Process
 - KDOW drafts updated permit
 - Released for public comment
 - EPA Region 4 review
 - Permit issued
 - SD1 submits revised SWQMP within 180 days from issue date

KPDES



**KENTUCKY POLLUTANT
DISCHARGE ELIMINATION
SYSTEM**

PERMIT

PERMIT NO.: KYG200000
AI NO.: 35050

**AUTHORIZATION TO DISCHARGE UNDER THE
KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM**

Pursuant to Authority in KRS 224,
Small Municipal Separate Storm Sewer Systems (MS4)
are authorized to discharge
Stormwater runoff from small MS4s to receiving waters of the Commonwealth in accordance with effluent
limitations, monitoring requirements and other conditions set forth in this permit.
to receiving waters named
Those water bodies of the Commonwealth that comprise the Mississippi and Ohio River basins and sub-basins within
the political and geographic boundaries of Kentucky
in accordance with effluent limitations, monitoring requirements and other conditions set forth in this permit.
This permit shall become effective on May 1, 2018.
This permit and the authorization to discharge shall expire at midnight, April 30, 2023.

March 30, 2018

Date Signed


Peter T. Goodmann, Director
Division of Water

DEPARTMENT FOR ENVIRONMENTAL PROTECTION
Division of Water, 300 Sower Boulevard, Frankfort, Kentucky 40601
Printed on Recycled Paper

Storm Water Construction General Permit Renewal



November 22, 2024

Kentucky Division of Water
300 Sower Blvd.
Frankfort, Kentucky 40601

Attention: Sarah Gaddis, Director

Re: General Permit for Stormwater Discharges Associated with Construction Activities
KPDES No.: KYR100000
AI No.: 35050
Response to Public Notice

Dear Ms. Gaddis:

The following review comments are respectively submitted by the Kentucky Stormwater Association (KSA) regarding the above referenced permit and fact sheet.

2024 KYR10 Fact Sheet

1. Section 1.1. Eligibility, last sentence states "for those that involve a significant contribution of pollutants to waters of the Commonwealth". Please provide clarification for "significant contribution of pollutants".
2. Section 3.3 Stabilization Requirements, suggest restructuring the section as follows for clarification, especially related to final versus temporary stabilization on portions of the project. Also suggest adding a definition in Section 7.2 for temporary stabilization since a definition is included for final stabilization.
 - Permittees are required to initiate temporary stabilization practices on those portions of the project where construction activities have temporarily ceased within fourteen (14) days of the date of activity cessation.
 - Permittees are required to initiate final stabilization practices on those portions of the project where construction activities have permanently ceased within fourteen (14) days of the date of activity cessation.
 - Final stabilization practices shall be initiated on any site where construction activities have been suspended for more than 180 days. In such cases, final stabilization practices shall be implemented as soon as practical but not later than 14 days after the 180th day of suspended activities.
3. Section 3.4 Buffer Zones, providing a definition in Section 7.2 for buffer zone, setback and no-disturbance would be helpful for clarification.
4. Section 5.3.2 NOI Submission Requirements and Deadlines, the link in this section and the same link in 7.3 results in an error message.

- 5 Year Permit Cycle
 - Current cycle ended in Nov 30, 2024
- Public Notice and Review
 - KDOW released draft for public comment period Oct 23 – Nov 22
 - SD1 reviewed as part of the Kentucky Stormwater Association (KSA)
 - KSA submitted 11 comments focused on clarification



Questions?



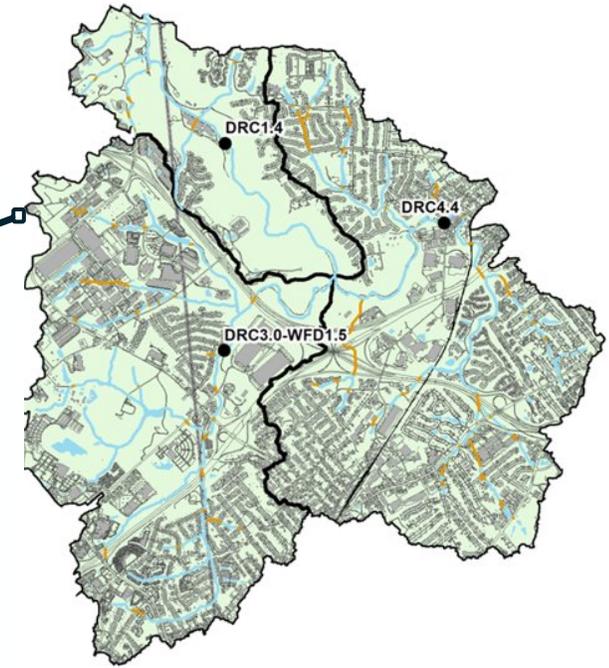
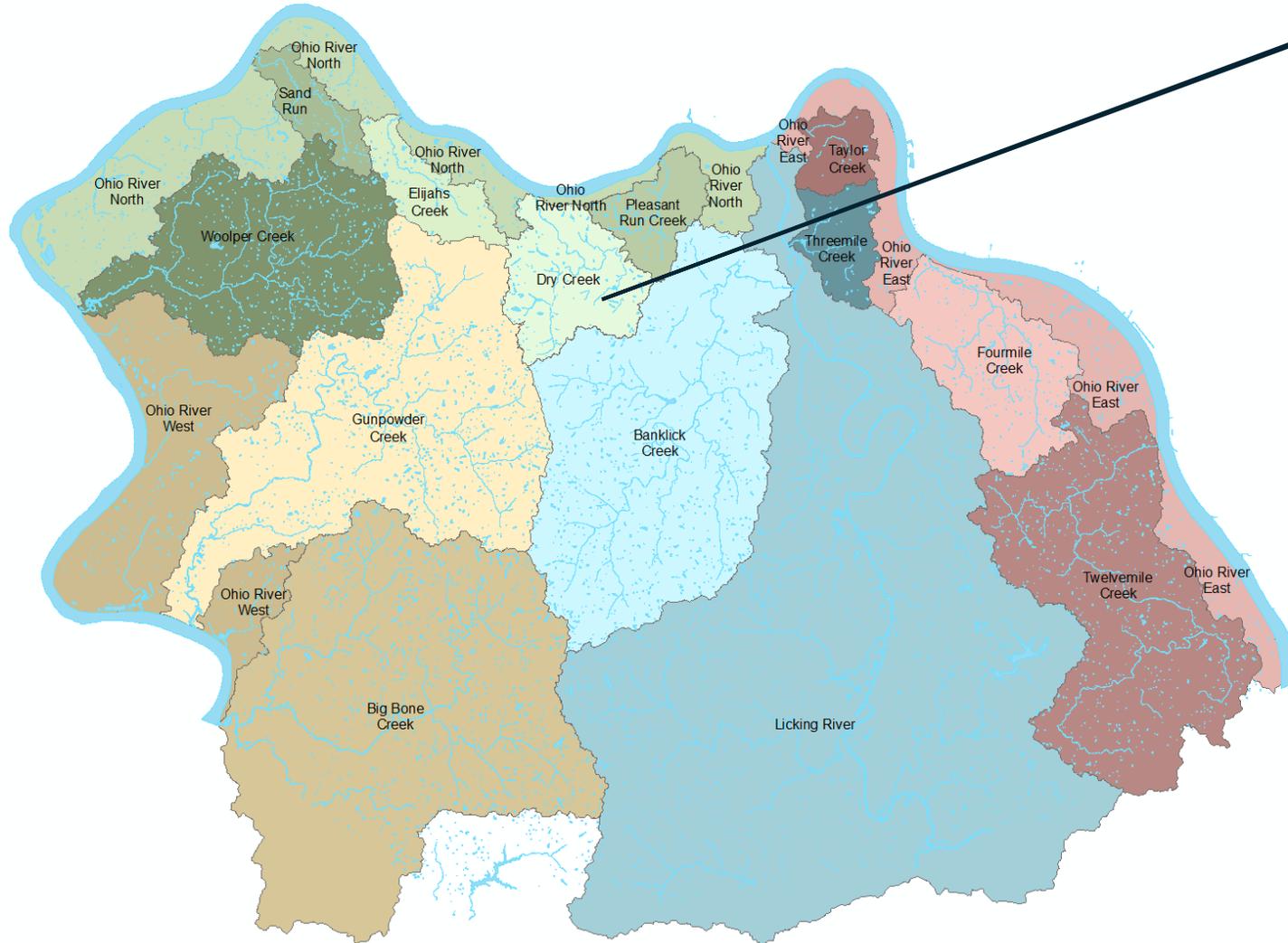
Storm Water Advisory Committee

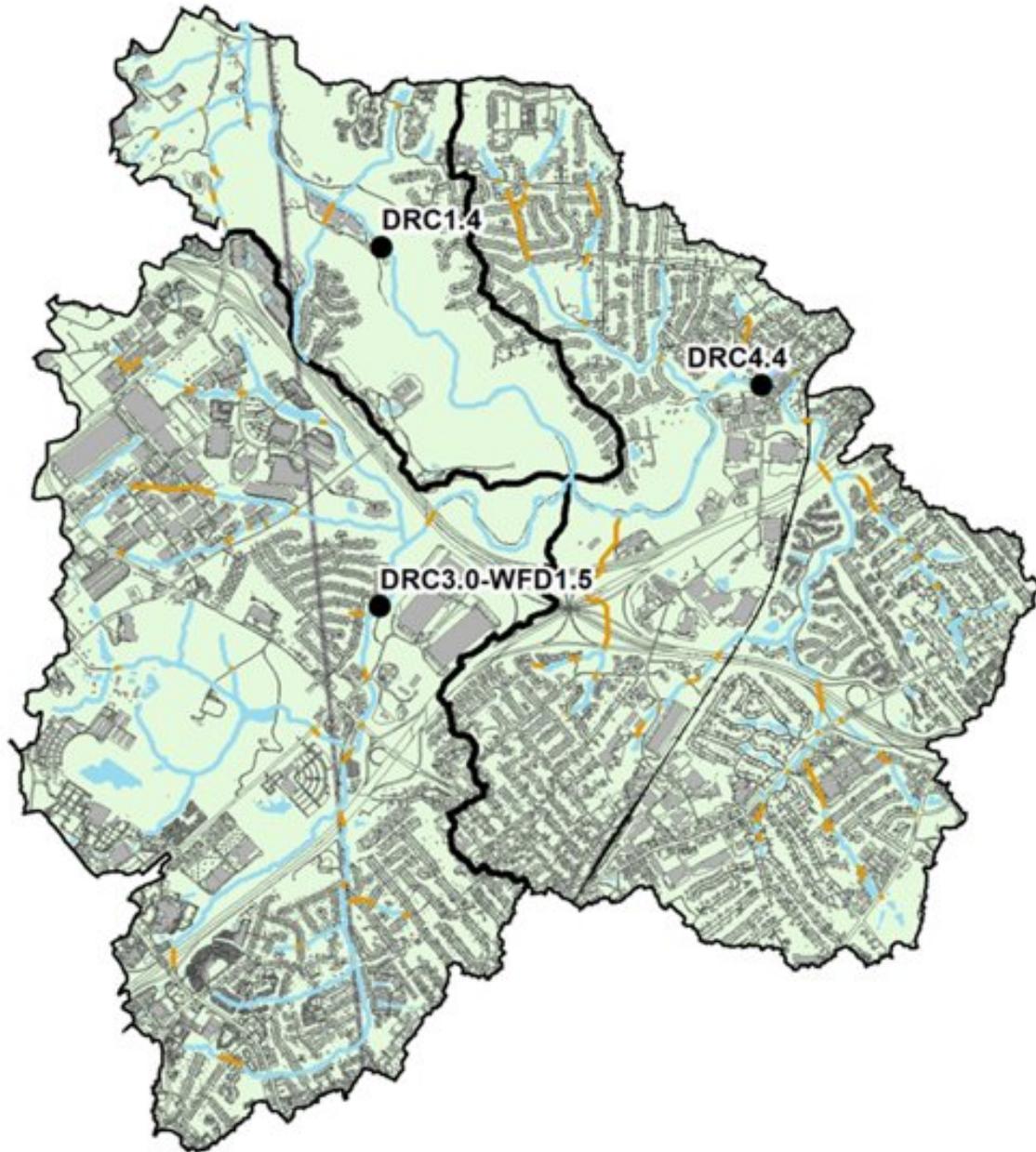
Dec 03, 2024

SANITATION DISTRICT NO. 1



Dry Creek Watershed





- Located in both Kenton and Boone County
- Originates in the city of Crestview Hills and flows 7 miles to the Ohio River
- Provides drainage to 8 cities and portions of incorporated Boone County
- Has a drainage area of approximately 12.8 square miles with 29% impervious
- Highly urbanized and the most developed in our Central Basin



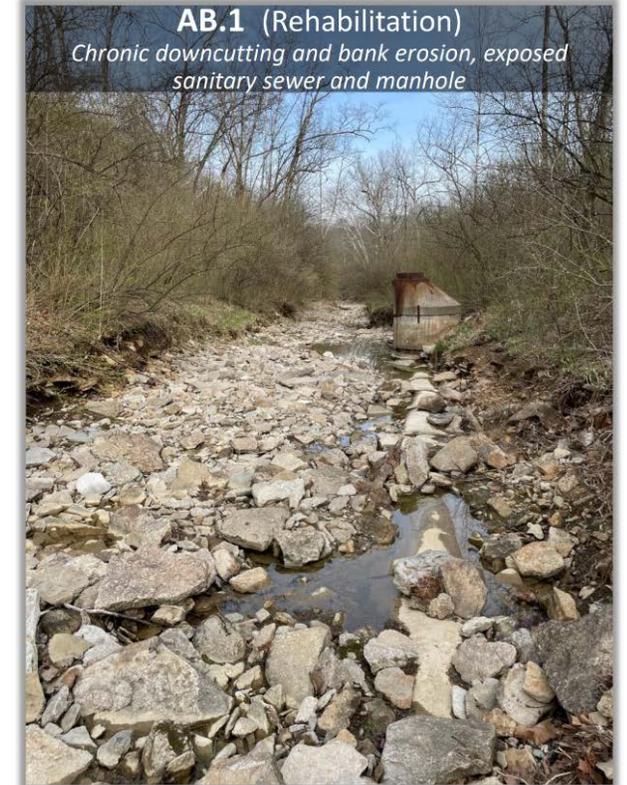
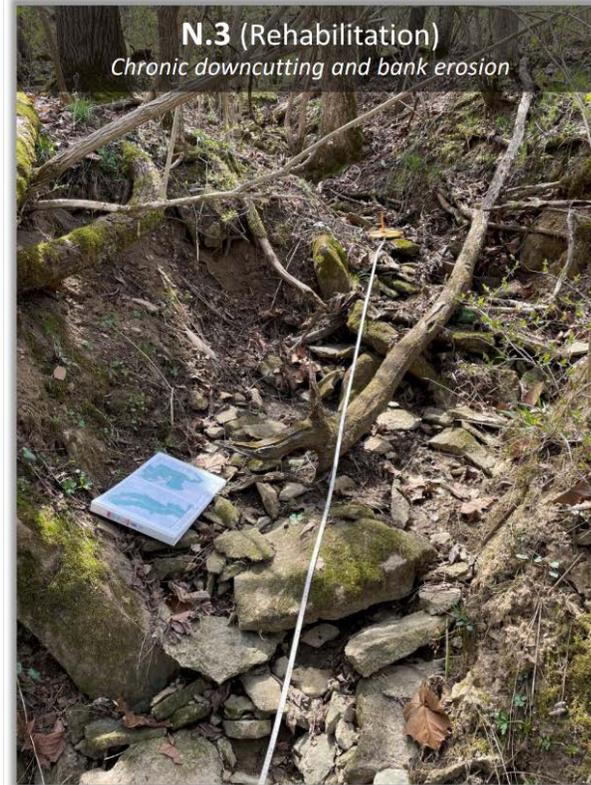
- Dry Creek is one of the most unstable streams in NKY, down cutting 3-4 cm/yr and widening 20-40cm/yr over the last 50 yrs
- Sewer Crossings impacted
- 42” Interceptor Upsize/rehab
- Need to do the stabilization of sewer crossings which is looking to be around \$5M



Existing Conditions Chronic Downcutting and Widening



Existing Conditions Highly Unstable Channels in the Dry Creek Valley

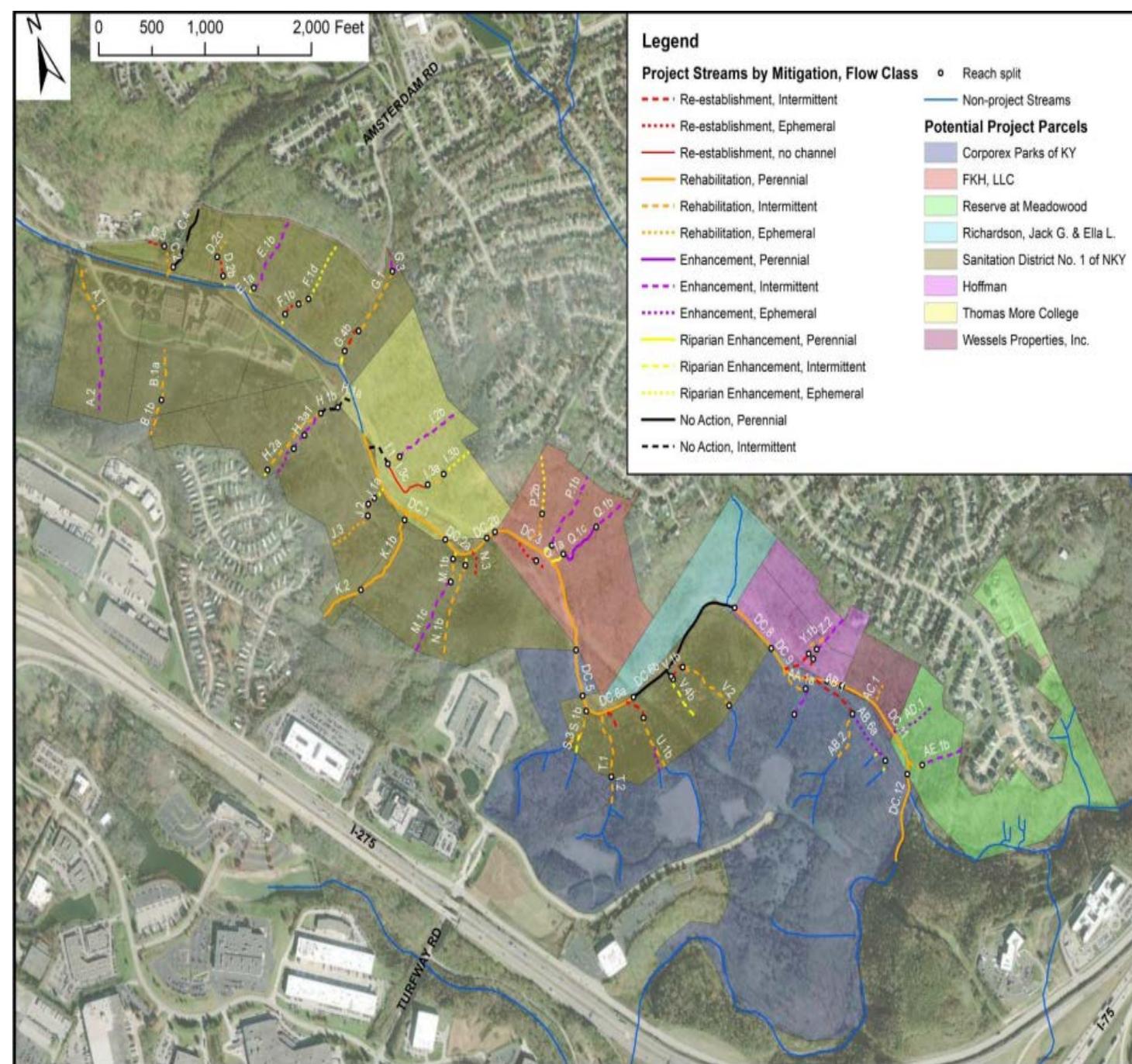


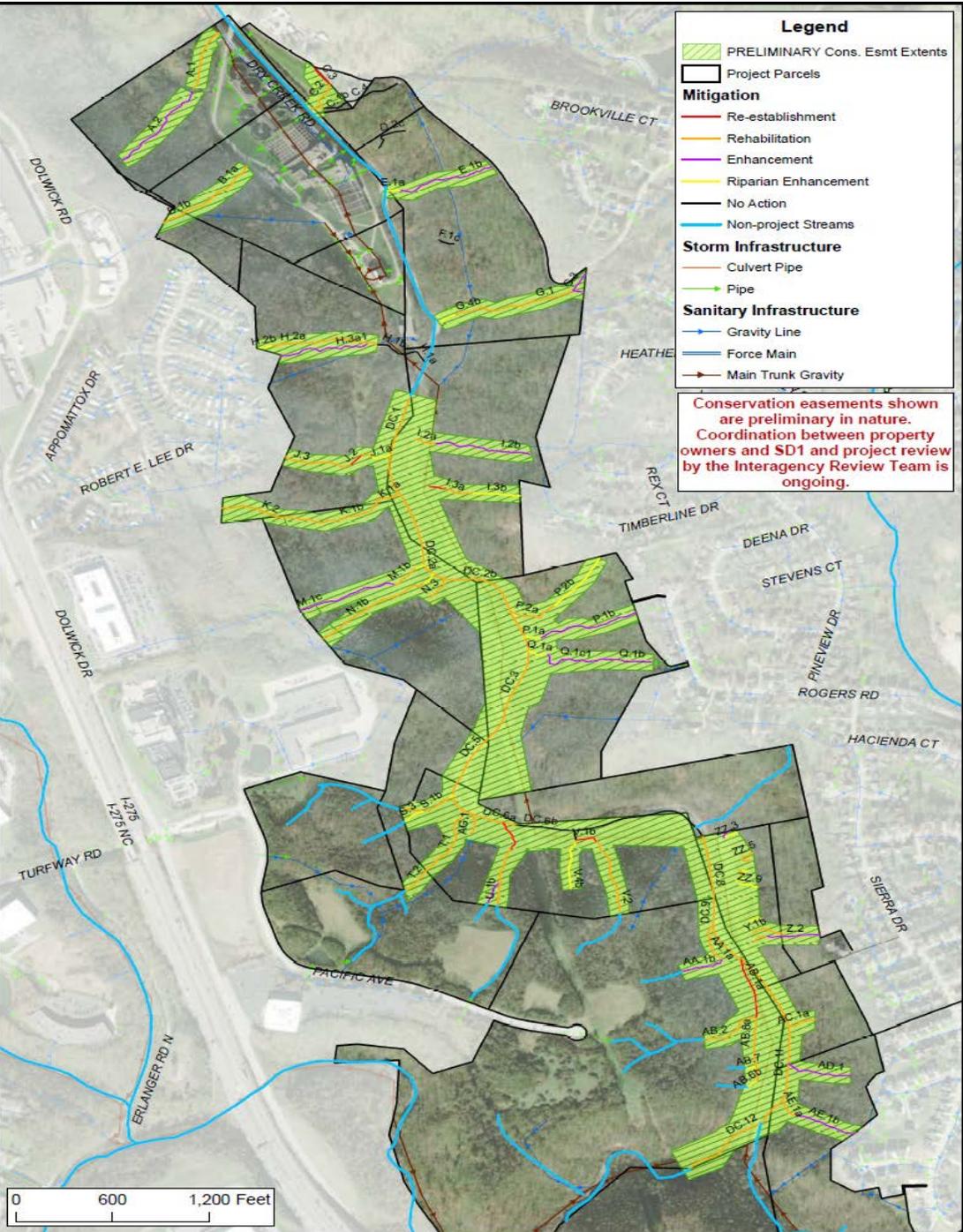
Mitigation Banking



- When development results in ecological loss a mitigation bank helps to offset the loss by preserving or restoring a different area
- NKY currently pays large sums in stream mitigation fees, all but a small portion have been used on projects outside of SD1's service area
- SD1s Mitigation Bank ensures that this preservation and restoration is occurring inside our service area
- Its more fair to SD1 customers, developers, and other stakeholders to route the mitigation fees from NKY stream impacts to projects that directly benefit NKY streams and stakeholders

- Wide Scale Restoration
- Revenue Saving
- Fiscal Responsibility
- Protecting assets using credit dollars
- Cost neutral project

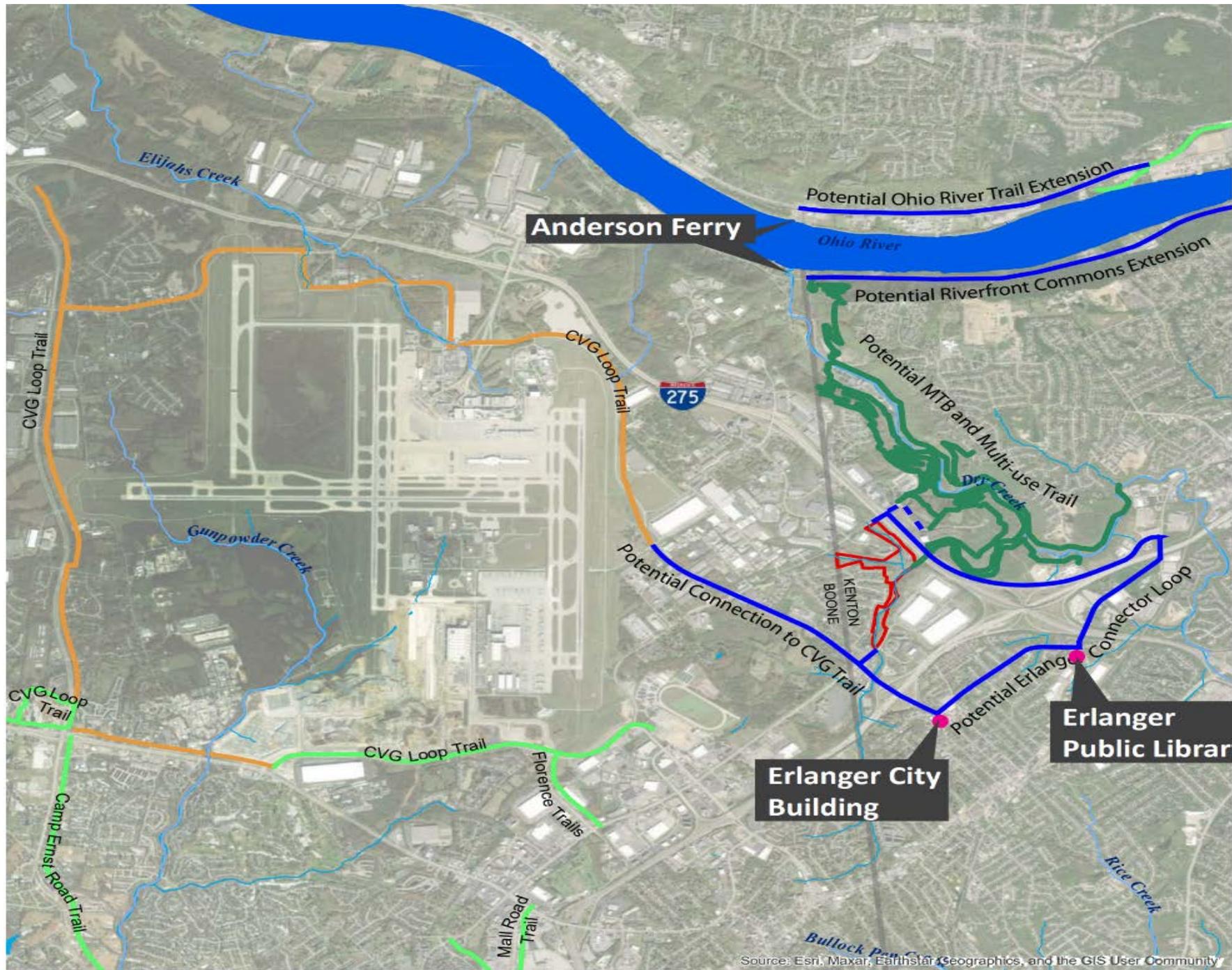




- 100 acres of land that will be protected
- 28k LF of stream/reaches
- 14k LF of Ephemeral
- 4k LF of Intermittent
- 10k LF of Perennial
- 28k credits
- 30% Design under review

Erlanger Adventure Park





Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



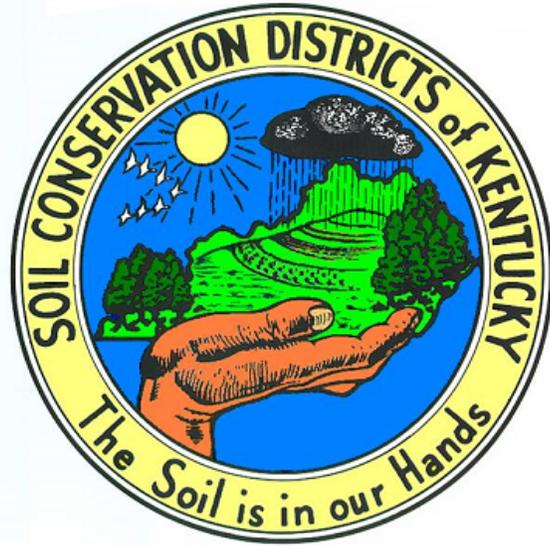


November 2018, post-construction





- 30% Design submitted to the USACE in June
- On-site visit with the IRT scheduled for 12/19
- Once SD1 receives approval credit sales will begin



KENTON COUNTY CONSERVATION DISTRICT



Matt Wooten, Director

Introduction

- + **The Mission of the Kenton County Conservation District (KCCD) encourages the protection, conservation, and management of our county's natural resources**

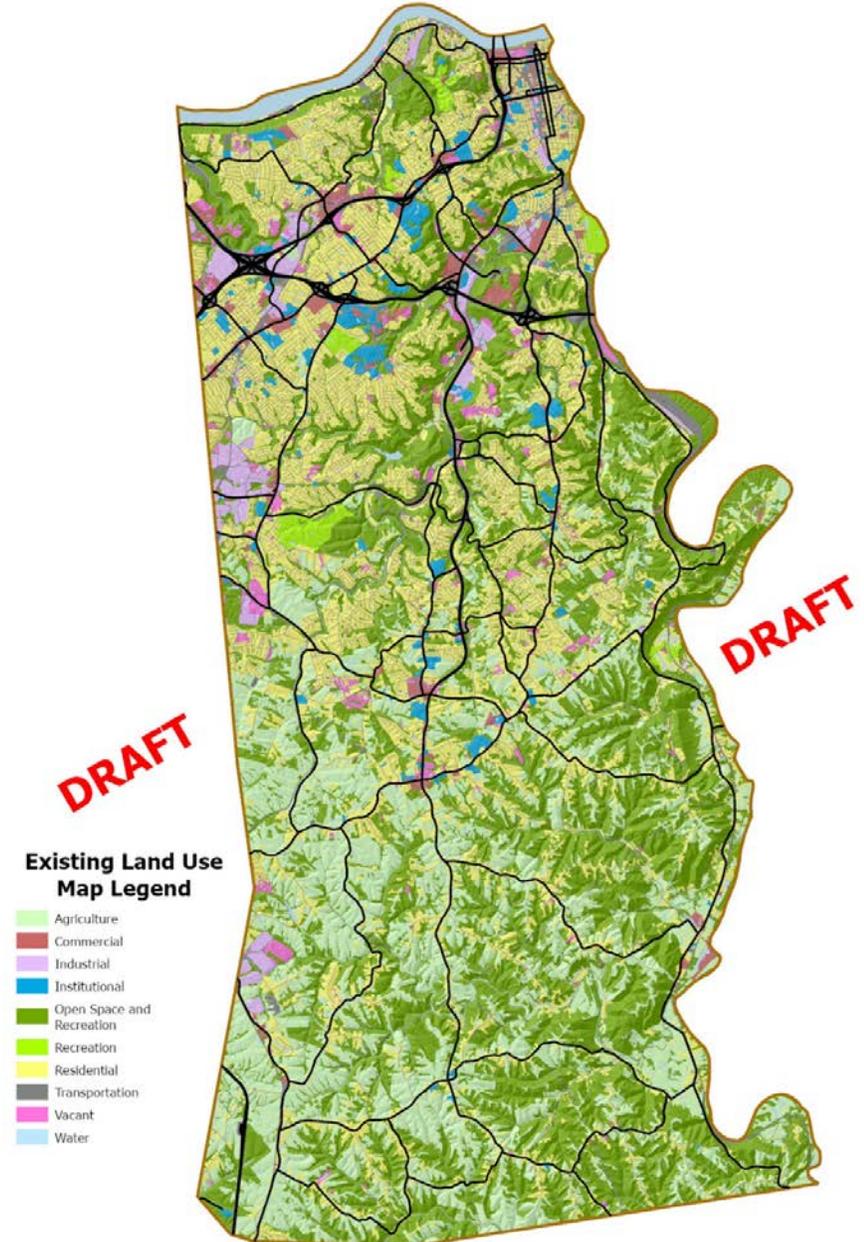


Initiatives

- + Operations
- + Watershed and Land Management
- + Education and Outreach
- + Agricultural

Quick Facts

- + Founded 1840
- + Population ~170,000
- + 391 stream miles
 - 31 Licking River
- + 51% Forest Cover
- + 17% Prime Ag



Operations

Address Budget needs-

- Working with Fiscal Court
- Working with KACD on legislative concerns

Address staffing needs

- Full-time Education Specialist via AmeriCorps
- Half-time Conservation Specialist

Watershed and Land Management

+ Morning View Heritage Area

- 224 acres

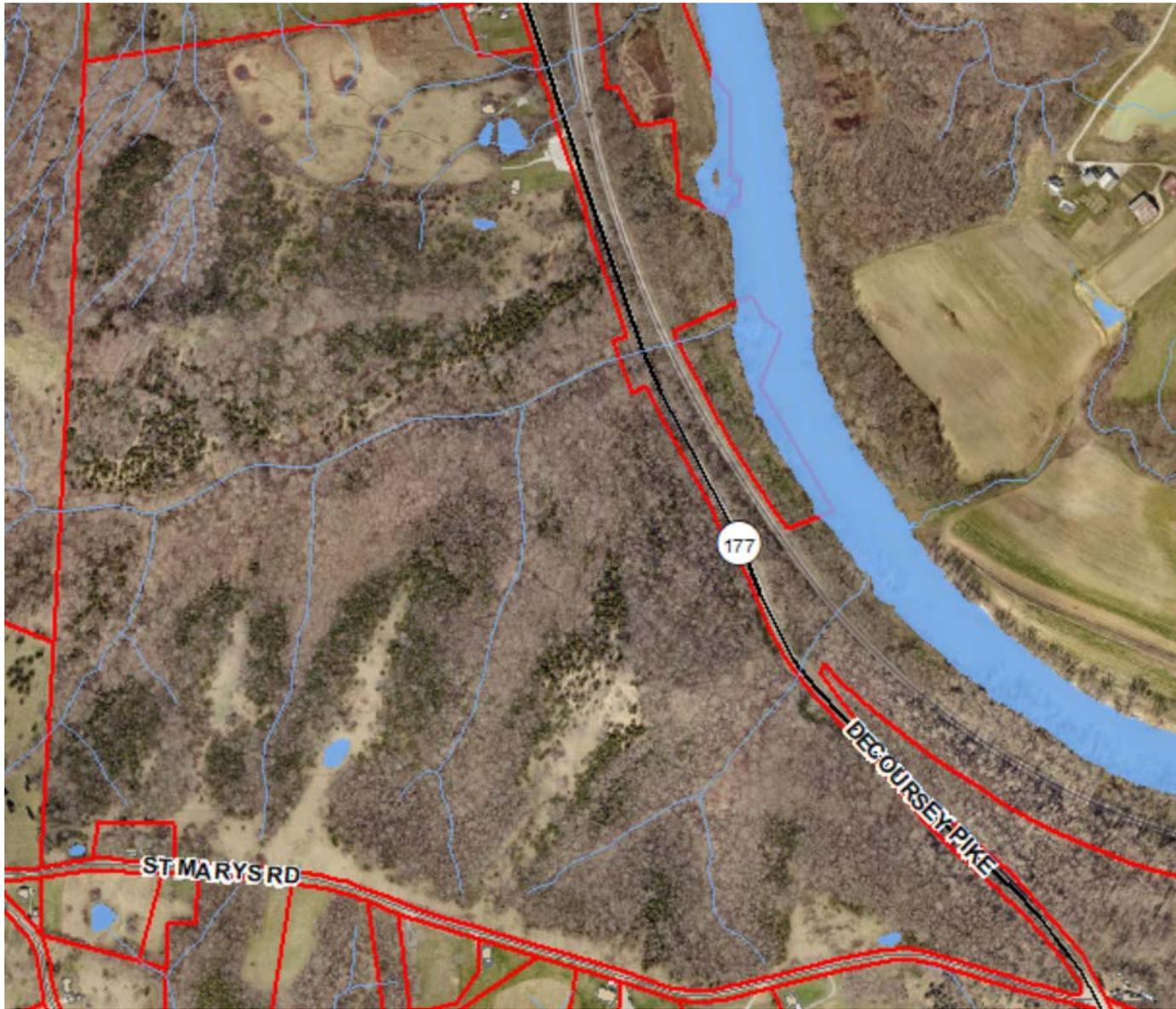
- Forest Management

- Prairie Development

- Wetland Habitat

- Licking River Access

- Bio-inventories

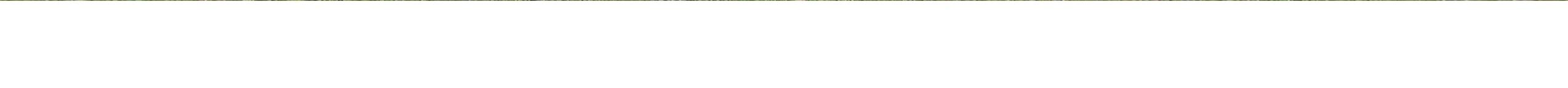


















Latin Name	Common Name	Fed Listed	1st search	2nd searches	Best Condition
<i>Actinonaias ligamentina</i>	Mucket		9		Live
<i>Amblema plicata</i>	Threeridge		34		Live
<i>Cyclonaias nodulata</i>	Wartyback		WD		WD
<i>Cyclonaias pustulosa</i>	Pimpleback		4		Live
<i>Cyclonaias tuberculata</i>	Purple Wartyback		26		Live
<i>Cyprogenia stegaria</i>	Fanshell	E	6	L	Live
<i>Ellipsaria lineolata</i>	Butterfly		1		Live
<i>Eurymia dilatata</i>	Spike		53		Live
<i>Fusconaia flava</i>	Wabash Pigtoe		2		Live
<i>Lampsilis cardium</i>	Plain Pocketbook		WD	L1	Live
<i>Lampsilis siliquoidea</i>	Fatmucket			WD	WD
<i>Lampsilis teres</i>	Yellow Sandshell			WD	WD
<i>Lasmigona costata</i>	Fluted Shell		WD	L1	Live
<i>Ligumia recta</i>	Black Sandshell		WD	L1	Live
<i>Megalonaias nervosa</i>	Washboard		2		Live
<i>Obliquaria reflexa</i>	Threehorn Wartyback		WD	L2	Live
<i>Pleurobema sintoxia</i>	Round Pigtoe			L2	Live
<i>Potamilus alatus</i>	Pink Heelsplitter		12		Live
<i>Potamilus fragilis</i>	Fragile Papershell			L1	Live
<i>Ptychobranhus fasciolaris</i>	Kidneyshell		8		Live
<i>Quadrula quadrula</i>	Mapleleaf		1		Live
<i>Strophitus undulatus</i>	Creepers			WD	WD
<i>Theliderma metanevra</i>	Monkeyface			SF	SF
<i>Tritogonia verrucosa</i>	Pistolgrip		1		Live
<i>Truncilla donaciformis</i>	Fawnsfoot		WD		WD
<i>Truncilla truncata</i>	Deertoe			WD	WD
	Abundance		159		
	Richness		19	12	26
19 Live Species, 7 Deadshell Species					



Education and Outreach

- + Workshops
 - Expanded urban/suburban focus
- + Local Tabling Events
- + Envirothon
- + Martin Woods
- + Division of Forestry Grant
 - Underserved communities



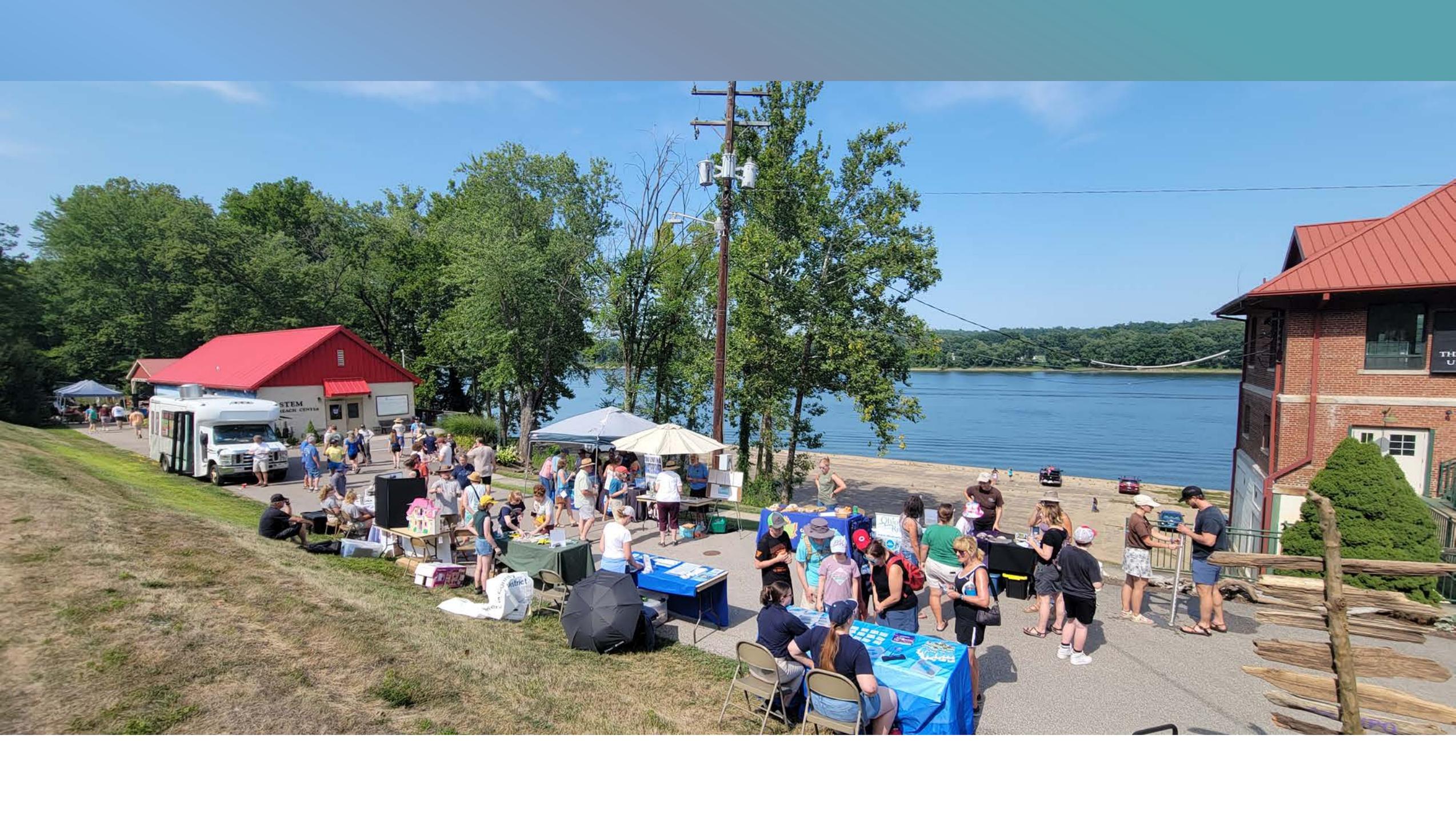
PREVENTING & ADDRESSING ALGAL BLOOMS IN ESTABLISHED PONDS

Martin Woods









Agricultural Technical Assistance

- + Local/State Cost Share
- + NRCS Liaison
- + Tech expertise
 - Ag Water Quality Plans
 - Erosion Concerns
 - Pond Management

Pond Assessment

- + Water quality concerns
- + Land use impacts
- + Management recommendations



Easement and Deed Holding

- + Conservation Property
 - MVHA, MW, Independence Station property, etc.
- + Easement Inspection
 - Contract based
 - FILO, mitigation, etc.



Questions???

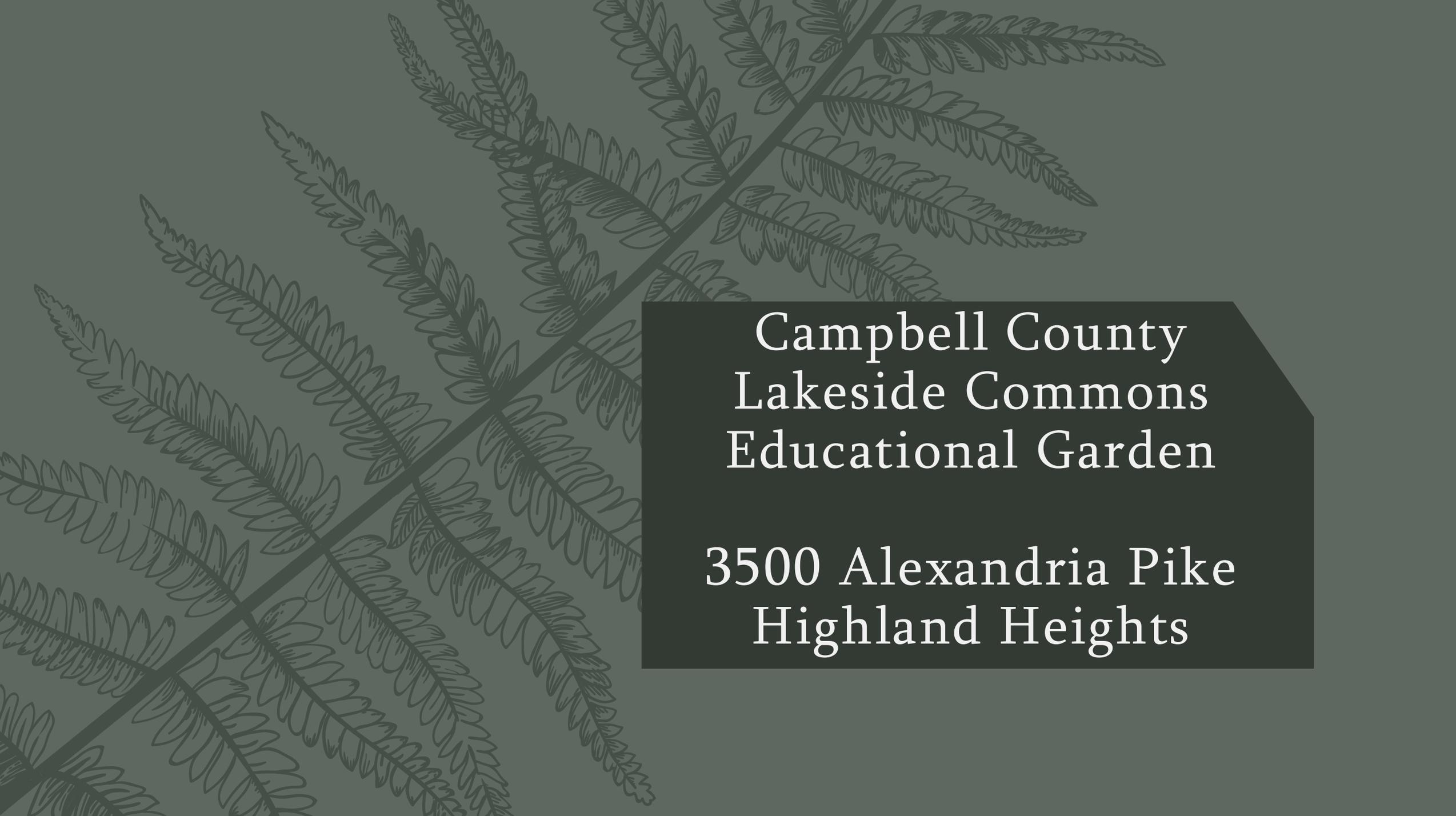
Matt Wooten, Director

Matt.wooten@kccdky.org

859-356-1019



**KENTON COUNTY
CONSERVATION
DISTRICT**



Campbell County
Lakeside Commons
Educational Garden

3500 Alexandria Pike
Highland Heights



Presentation title

Community:
Campbell County Extension
4H, FCS, Hort, Ag, Env.
Senior Center
Farmers Market
NKU
City of Highland Heights
Police Dept.
County Parks & Rec.

More community gardens

Safer community places to walk, run, bike, etc.

More training for food gardening skills

More community parks and green spaces

Safe and accessible public water and sewer

More youth community leadership opportunities

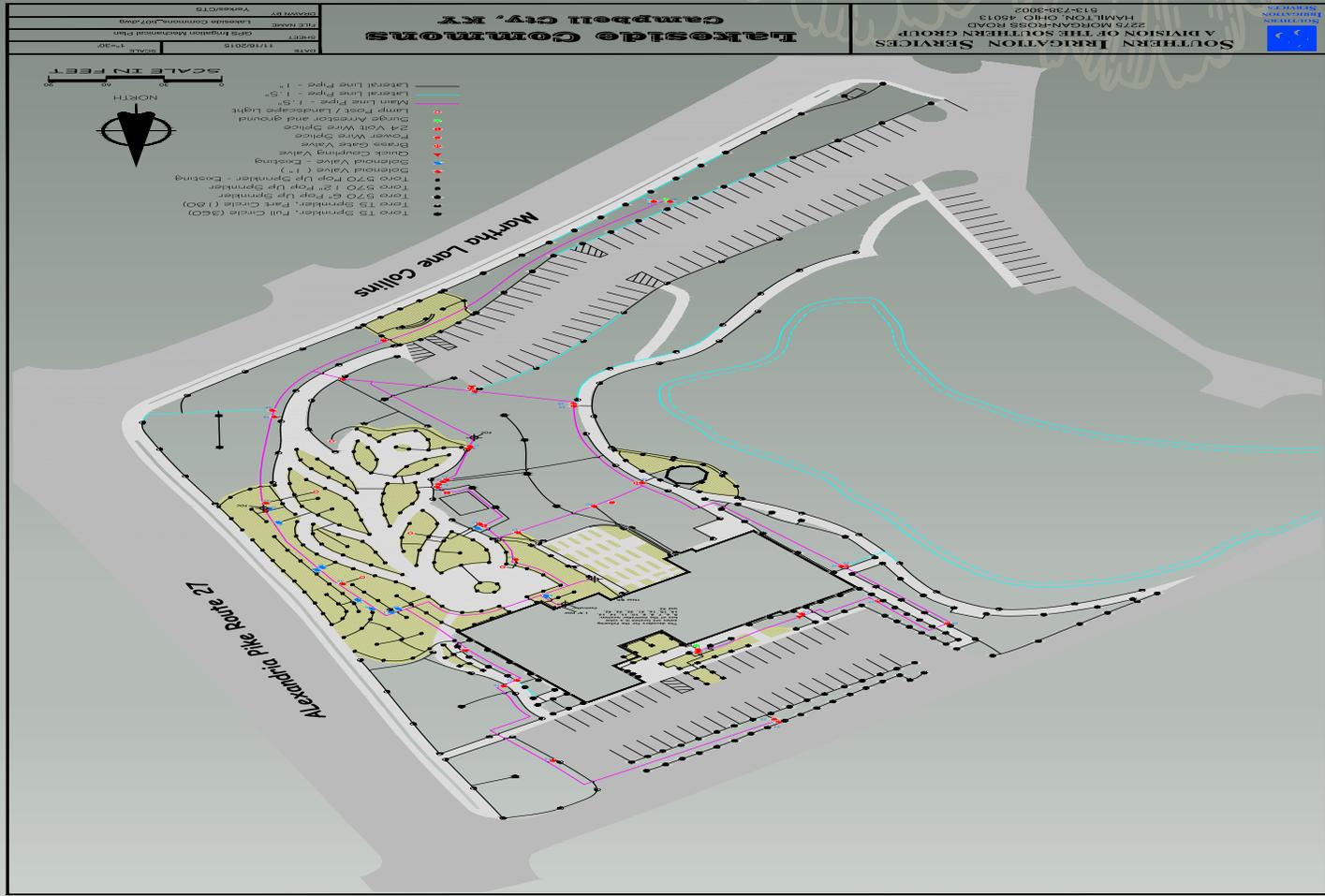
More active community volunteers

More pride in the community and its assets

More individual physical activity opportunities

Fewer overweight or obese youth and adults





Connectivity &
 Accessibility

ADA Compliant

Outdoor Classroom

Connectivity





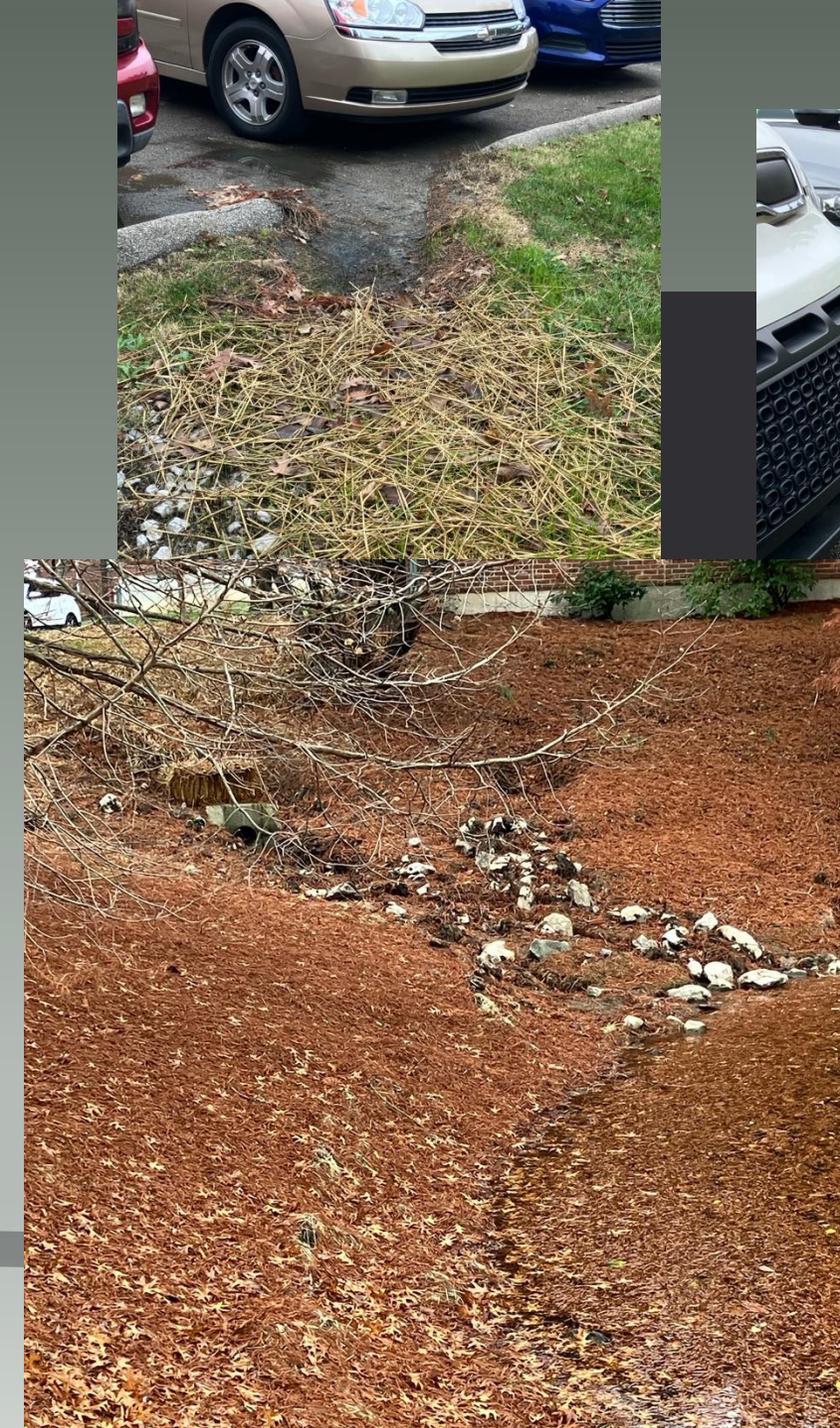
Erosion



Riparian Buffer

Outdoor Classroom





Drainage



Rain Garden



Happy Gardening
Sarah.imbus@uky.edu/859.572.2600

Appendix 3 - MCM 3

Tab 1 – 2023 Summary of Illicit Discharge Investigations Table

Summary of Illicit Discharge Investigations - Permit Year 2024

Tracking Number	Contaminant	Date Received	Remediation Date	Status	City	Watershed	Remediation Method	Source	Illicit Discharge	Notes
24-0001	Oil	1/2/2024	1/5/2024	Complete	Unincorporated Boone County	Gunpowder Creek	DOW	Dumping	No	60 ft of the UT South Fork Gunpowder Creek with staining and sheen but not in or coming from MS4. Turned over to KDOW regional office.
24-0003	Other	4/19/2024	4/19/2024	Complete	Walton	Big Bone Creek	Other	Dumping	Yes	Dried thin layer of paint dumped on ground and entering MS4. Unable to locate responsible party. Ensured substance was no longer impacting MS4 and documented in database.
24-0004	Other	5/21/2024	5/21/2024	Complete	Elsmere	Banklick Creek	DOW	Other	No	Cloudy substance in Bullock Pen likely from an industrial permittee. Not in or coming from MS4. Turned over to KDOW regional office.
24-0005	Other	5/20/2024	5/20/2024	Complete	Unincorporated Boone County	Gunpowder Creek	DOW	Other	No	Cloudy substance in Gunpowder Creek. Conducted creek walk to locate source. Likely from an industrial permittee but not in or coming from MS4. Turned over to KDOW regional office.
24-0006	None	5/20/2024	5/20/2024	Complete	Independence	Banklick Creek	None	N/A	No	Potential issue with residential pool but no discharge detected.
24-0007	Process Wastewater	5/20/2024	7/3/2024	Complete	Elsmere	Banklick Creek	Disconnected	Lateral	No	Industrial wastewater permittee site was discharging process wastewater into private storm system. The system did not discharge to the MS4 but SD1 worked with the permittee to properly redirect the discharge to the sanitary system.
24-0008	Process Wastewater	7/12/2024	7/12/2024	Complete	Unincorporated Boone County	Gunpowder Creek	DOW	Dumping	No	Potential discharge of carpet cleaning solution to a UT of Gunpowder creek. Not in or coming from MS4. Turned over to KDOW regional office.
24-0009	None	7/18/2024	7/18/2024	Complete	Independence	Banklick Creek	None	N/A	No	Possible concrete washout entering catch basin. Investigation did not show washout entering MS4.
24-0010	Other	8/5/2024	8/12/2024	Complete	Unincorporated Boone County	Gunpowder Creek	Best Management Practices	Dumping	Yes	Potential dumping of small amount of residential food waste into storm system. Ensured that dumping had not traveled downstream and notified resident of proper disposal practices.
24-0011	Nutrients	8/19/2024	8/19/2024	Complete	Hebron	Woolper Creek	Best Management Practices	Non Point	No	Algae observed in creek but source was likely nonpoint runoff and not from MS4. Residents were informed of proper nutrient management.
24-0012	None	7/11/2023	8/29/2024	Complete	Erlanger	Dry Creek	None	N/A	No	Some elevated numbers found in compliance sample but system trace did not identify any discharge.
24-0013	Process Wastewater	8/29/2024	11/6/2024	Complete	Unincorporated Boone County	Dry Creek	DOW	Lateral	Yes	Elevated ammonia levels in compliance sample. Determined source is a stormwater industrial permittee. Turned over to KDOW regional office to determine if levels are within their permitted discharge limits.
24-0014	Oil	10/15/2024	10/15/2024	Complete	Edgewood	Banklick Creek	Clean up	Dumping	Yes	Road sealing machine caught fire and discharged hydraulic fluid and diesel into MS4. Emergency management was notified and performed clean-up. Cost recovery is in process.
24-0017	Sewage	10/21/2024	12/11/2024	Complete	Edgewood	Banklick Creek	Corrective Maintenance	Other	No	Determined to be failing public sanitary system. SD1 followed SORP protocol for clean-up and fix.
24-0019	Process Wastewater	10/23/2024	10/25/2024	Complete	Fort Wright	Banklick Creek	Other	Dumping	Yes	Runoff from construction renovations. Contractor was given verbal warning and instructed to prevent further discharges into the MS4.
24-0021	Paint	11/19/2024	11/19/2024	Complete	Newport	Taylor Creek	Best Management Practices	Dumping	Yes	Dumping of paint into catch basin. Identified home with potential contractor and provided proper disposal information.

Appendix 3 - MCM 3

Tab 2 – 2023 Summary of Trouble Call Investigations

Summary of Trouble Call Investigations - 2024

Date Received	Inspection Type Text	Outcome
1/2/2024	Customer Notification	60 ft of the UT South Fork Gunpowder Creek with staining and sheen but not in or coming from MS4. Turned over to KDOW regional office.
4/19/2024	SD1 Trouble Call	Dried thin layer of possible orange paint dumped on ground and entering MS4. Unable to locate responsible party. Ensured substance was no longer impacting MS4 and documented in database.
5/20/2024	Customer Notification	Cloudy substance in Gunpowder Creek. Conducted creek walk to locate source. Likely from an industrial permittee but not in or coming from MS4. Turned over to KDOW regional office.
5/20/2024	SD1 Trouble Call	Potential issue with residential pool but no discharge detected.
5/20/2024	SD1 Trouble Call	Industrial wastewater permittee site was discharging process wastewater into private storm system. The system did not discharge to the MS4 but SD1 worked with the permit to properly redirect the discharge to the sanitary system.
7/12/2024	Customer Notification	Potential discharge of carpet cleaning solution to a UT of Gunpowder creek. Not in or coming from MS4. Turned over to KDOW regional office.
8/5/2024	Customer Notification	Potential dumping of small amount of residential food waste into storm system. Ensured that dumping had not traveled downstream and notified resident of proper disposal practices.
8/19/2024	SD1 Trouble Call	Algae observed in creek but source was likely nonpoint runoff not from MS4. Residents were informed of proper nutrient management.
10/15/2024	SD1 Trouble Call	Road sealing machine caught fire and discharged hydraulic fluid and diesel into MS4. Emergency management was notified and performed clean-up. Cost recovery is in process.
10/23/2024	SD1 Trouble Call	Runoff from construction renovations. Contractor was given verbal warning and instructed to prevent further discharges into the MS4.
11/19/2024	SD1 Trouble Call	Dumping of paint into catch basin. Identified home with potential contractor and provided proper disposal information.

Appendix 3 - MCM 3

Tab 3 – IDDE Field Reference Guide and Lucity Database Example

Illicit Discharge Detection and Elimination Program

Field Reference Guide



**SD1 of Northern Kentucky
1045 Eaton Drive
Fort Wright, KY 41017
(859) 578-7460**

Revision Number: 2
June 2013

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1.0.0 Introduction

Background Information

In accordance with the Phase II Storm Water Regulations for separate storm sewer systems (MS4s) and Northern Kentucky's Storm Water Management Plan (SWMP), SD1 has developed a comprehensive Illicit Discharge Detection and Elimination Program (IDDEP). The IDDEP includes procedures for identifying and eliminating illicit discharges to the public storm drainage system within SD1's Storm Water Service Area as defined by the Kentucky Division of Water (KDOW).

An illicit discharge has been defined by the U.S. Environmental Protection Agency (EPA) as any discharge into a separate storm sewer system that is not composed entirely of storm water.

The objective of the IDDEP Field Reference Guide is to aid SD1 staff in conducting an illicit discharge inspection. Inspections are conducted during a scheduled screening of a storm structure or a trouble call generated by a concerned resident. Due to the subjectivity of an inspection, it is critical that this document is referenced to maintain data consistency and accuracy.

Understanding Illicit Discharges

Typically, an illicit discharge enters the storm sewer system either through direct connections, such as sanitary sewer piping, or indirectly through cracked sanitary sewer conveyance systems, spills collected by storm drains or from contaminants dumped directly into a storm drain inlet. Discharges are illegal because they do not receive treatment before entering local waterways. Pollutants associated with illicit discharges include heavy metals, toxics, oil and grease, solvents, nutrients and pathogens. These untreated discharges have the potential to cause significant degradation to receiving water bodies, as well as the ability to compromise public health.

2.0.0 Structure Types

The information in this section describes the different types of structures that comprise the MS4. There are a variety of different structure types that belong to either of two groups, the Closed System or the Open System.

2.1.0 Closed System

The Closed System refers to the network of pipes and connected structures that are associated with the MS4. The six closed system structures and descriptions are listed below.

Manholes

Storm and Common are the two types of manholes associated with SD1's MS4. A storm manhole only conveys storm water. A common manhole acts as a shared entry to a separate sanitary pipe and a separate storm pipe that do not connect with one another. Both types of manholes have the same exterior.



Catch Basins

A catch basin is a wide inlet on the surface of the ground that collects storm water runoff and sends the water through the storm line. There are 7 types of catch basins: curb inlet, curb and grate inlet, grate inlet, yard inlet, riser (at pond), yard with slab and other. The catch basin on the right is an example of a grate inlet.



Pipe Inlets

A pipe inlet has a channel or swale directing flow into the structure, which allows entry of the flow to the storm sewer.

Pipe Outlets

A pipe outlet has a channel or swale accepting flow from the storm sewer. When flow exits the pipe outlet it is transported via the open system.



Stubs

Stubs are used to represent the start of a pipe or presence of unmapped systems that are either private or public that could not be or were not further traced.

Splices

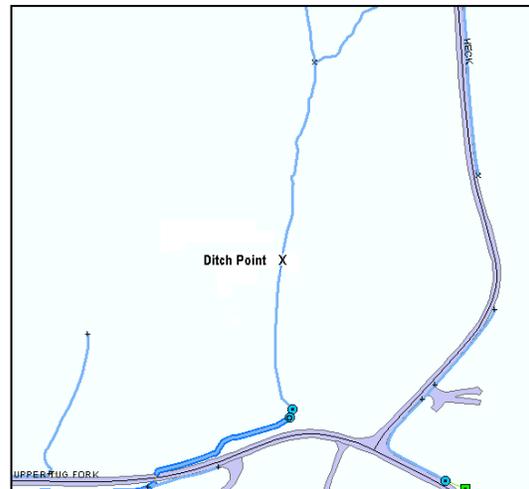
A splice identifies the occurrence of a subsurface change in the attribution (e.g. size or material) of pipes or culverts between structures. Splices are also used to represent a subsurface connection (e.g. tee) in the closed system.

2.2.0 Open System

The Open System refers to the portion of the MS4 that routes flow through either man-made or natural ditches and channels and culverts. These three open system points and descriptions are listed below.

Ditch Points

A ditch point is a point in an open channel that recognizes the start of a channel, location of the confluence of branching streams or identifies a channel with significant scour or a water quality issue.



Channel Points

Channel points represent intersections of channels (rivers or streams), swales or overland flow. In the photo, the channel point is where the person is standing and the two streams meet.



Culvert Points

A culvert point is used to identify the ends of a culvert, which allow water to pass under road bridges, railways and footpaths. The photo shows a culvert point under a driveway.



2.3.0 Types of Pipes

There are many different types of pipes in SD1's MS4 that are used to convey storm water. Below are pictures of the most common pipes.



High Density Polyethylene (HDPE)



Polyvinyl Chloride (PVC)



Corrugated Metal Pipe (CMP)



Reinforced Concrete Pipe (RCP)



Vitrified Clay Pipe (VCP)



Ductile Iron Pipe (DIP)

3.0.0 Field Inspection Procedure

The purpose of this section is to explain the course of action SD1 uses upon arriving at a structure for inspection. It is necessary to record all the information generated during an inspection. SD1 utilizes Lucy to store the data from inspections. Lucy is a software based data management system that provides tools to organize and manage inspections. The information collected from inspection and water quality observations are stored in the Sampling module of Lucy.

- See [SOP for Lucy Sampling Module](#) for detailed instructions about completing the inspection and entering collected data into Lucy.

3.1.0 Take a Picture

Upon locating the structure, the first step to the inspection is to take a picture. The picture should include the structure, flow and any landmarks in the area. If the structure contains an interior (e.g. manholes, catch basins) take a picture of it with the downstream flow exiting the right of the photo, as seen below. Photos of the structure and surrounding stream are very important to the field inspection. They not only document the inspection but they also are referenced for further inspections.



In the examples above the first picture shows the exterior of the curb inlet. The second is the interior and the flow is seen exiting on the right of the frame.

3.2.0 Physical Indicators

Physical indicators can identify obvious discharges with very high turbidity and strong odors or colors. There are seven indicators that can predict an illicit discharge: *Presence of Flow, Odor, Color, Turbidity, Floatables, Stain/Deposits, Vegetation*. Each indicator is separated into four sections:

Description

Classification/Type

Severity

Photos (if available)

3.2.1 Presence of Flow

Description

When dry weather flows are observed, the flow is considered to be non-storm related, which may indicate the presence of an illicit discharge. Illicit discharges can be categorized three ways based on frequency of discharge.

Classification/Type

- Transitory Discharge - This is typically a one time event caused by dumping, spills and line breaks.
- Intermittent Discharge - This occurs occasionally (e.g. hourly, weekly) and can be caused by line breaks or cross connections.
- Continuous Discharge - This type of discharge is caused by cross connections, straight pipes, or malfunctioning household sewage treatment systems.

Severity

1. Trickle
2. Low Flow
3. $\frac{1}{4}$ Pipe
4. $\frac{1}{2}$ Pipe
5. $\frac{3}{4}$ Pipe
6. Full Pipe

The difference between trickle and low flow is that a trickle will break up and drip, while low flow is below $\frac{1}{4}$ pipe, but is continuous flowing.

Photos



Trickle



Low Flow



¼ Pipe



½ Pipe

3.2.2 Odor

Description

The presence of odor during an inspection can assist in classifying a discharge, as well as tracking it to a source. Describe any odors that originate from the structure or point and give it a severity score.

Classification/Type

- N/A - not applicable
- Sewage - musky odor
- Rotten Eggs - sulfur odor
- Rancid/Sour - death/dumpster odor
- Petroleum - fuel or oil odor
- Fragrant - soapy odor
- Other - odor not able to be described

Severity

1. Faint/Barely Detectible - faint odor detected or origin cannot be found
2. Moderate/Easily Detected - moderate odor within pipe
3. Strong/Noticed From Away - strong odor detected a good distance from the structure

3.2.3 Color

Description

Colors are important to an inspection because they can help identify industrial discharges. Discharges exhibiting a particular color are the easiest to trace to their source. The best way to observe color in the field is to collect it in a sample bottle and hold it up to a light source.

Classification/Type

- N/A - not applicable
- Black
- Blue
- Brown
- Gray
- Green
- Orange
- Red
- White
- Yellow
- Other - color not listed

Severity

1. Slightly tinted
2. Moderately tinted
3. Intense

Photos



Green Severity: 2



Red Severity: 1



Brown Severity: 2



Brown Severity: 3



White Severity: 3



Black Severity: 3

3.2.4 Turbidity

Description

Turbidity is a measurement of the cloudiness of the discharge, which examines how easily light penetrates through the discharge. Like color, the best way to observe turbidity is to collect it in a sample bottle and hold it up to a light source. It is easy to confuse turbidity with color. The difference between the two is that turbidity is a measure of how easily the sample is penetrated by light, while color measures the tint and intensity of the discharge.

Classification/Type

- Transparent - will transmit rays of light through the sample, and objects situated beyond or behind can be distinctly seen
- Translucent - will permit light to pass through the sample, but light is diffused so that objects on the opposite side are not clearly visible (For example, frosted window glass is translucent but not transparent.)
- Opaque - the sample is impenetrable to light, not allowing light to pass through

Severity

A severity scale is not necessary for Turbidity.

Photo



Transparent

Translucent

Opaque

3.2.5 Floatables

Description

Floatables is a description of the water surface. Floatable data is based on a visual observation. Floatables are broken into two groups, naturally occurring and illicit related.

Classification/Type

- Natural Sheen - colorful bands that crack and disperse when disturbed; caused by minerals or organic decay
- Oil Sheen - colorful bands that swirl and stay together when disturbed; caused by petroleum products
- Natural Foam - bubbles located at a water drop off that breaks up quickly and contain no odor; caused by water turbulence and organic decay
- Suds - bubbles with iridescent colors that have a fragrance; caused by detergent, gray water or sewage
- Surface Scum - algae on top of water, leaves, natural debris; caused by pollen, leaves and natural processes
- Sewage - toilet paper, feces, etc.; caused by failing sanitary or septic lines

Severity

1. Slight
2. Some
3. Severe

Photos



Natural Sheen Severity: 3



Oil Sheen Severity: 3



Natural Foam Severity: 1



Natural Foam Severity: 2



Soap Suds Severity: 2



Soap Suds Severity: 3



Surface Scum Severity: 1



Surface Scum Severity: 3



Sewage Severity: 1



Sewage Severity: 3

3.2.6 Deposits/Staining

Description

This section describes the appearance of the structure or the immediate surrounding area. Even if there is no flow discharging from a particular structure or point, there may be some indications of past illicit discharges in the forms of deposits or staining. Deposits and stains are important because they can indicate intermittent or transitory discharges that have occurred in the past.

Classification/Type

- N/A - not applicable
- Algae - can be an indication of nutrient enriched flows
- Grease - can indicate sewage or industrial flows
- Mineral - deposits are common with iron bacteria
- Oil - can be an indication of dumping upstream
- Sediment - is evidence of flow eroding soil upstream

Severity

1. Slight
2. Some
3. Severe

Photos



Algae Severity: 2



Algae Severity: 3



Grease Severity: 1



Grease Severity: 3



Mineral Severity: 2



Oil Severity: 3



Sediment Severity: 1



Sediment Severity: 3

3.2.7 Vegetation

Description

Another sign of intermittent discharges may be changes in vegetation. Some pollutants may kill vegetation around the structure or point, while others may promote excessive growth of algae or other vegetation.

Classification/Type

- N/A - not applicable
- Dead
- Normal
- Excessive

Severity

A severity scale is not necessary for Vegetation.

Photos



Vegetation: Dead



Vegetation: Excessive

3.2.8 Naturally Occurring Phenomena

There are two naturally occurring phenomena in the field, Iron Bacteria and *Microcystis*. These two occurrences may look like illicit discharges but they are the result of natural processes.

- Iron Bacteria – is a natural part of the environment in most parts of the world. Microorganisms combine dissolved iron or manganese with oxygen and form rust-colored deposits or stains. In the process, the bacteria produce an orange or brown slime in water or on the surface of the ground. It may have a floatable component that resembles oil but it will separate like a natural sheen when disturbed.



- *Microcystis* – is a cyanobacteria algae that grows naturally on the surface of many waterbodies. Under certain conditions (such as warm weather and an abundance of nutrients in the water) the algae may undergo an explosive type of growth that results in dense, floating mats of algae. In calm freshwater areas, it may look like someone has spilled green paint on the surface. On



closer inspection, the mats can be seen to be comprised of small flakes or balls. If the algae is blown by wind or pushed by currents into higher salinity waters where it cannot survive, it generally takes on a greenish-yellow color and a chunky appearance as it dies. Some strains of *Microcystis* may produce toxins that have been reported to result in health problems to animals that drink the water, and minor skin irritation and gastrointestinal discomfort in humans that come in contact with toxic blooms. Do not use herbicides to kill *Microcystis* cells because this will release the toxins directly into the water. If exposed, wash the area thoroughly with clean water. Also thoroughly wash the fur of a pet that has been swimming in waters containing *Microcystis*.

3.3.0 Water Quality and Sampling

Water quality measurements and sampling are used when flow is present at a structure or point but the physical indicators are not obvious. Testing and analyzing this water is necessary to be sure whether the discharge is illicit in

origin. Some of these parameters are analyzed in the field using specific tests and instrumentation while others need laboratory testing.

3.3.1 Field Analysis

Field tests for dissolved oxygen (DO), pH, temperature, and conductivity are performed using a multi-probe instrument. See *Standard Operating Procedures for Hydrolab Quanta and Quanta G Water Quality Monitoring Systems* for instructions.

- DO - Low DO levels can indicate a sewage problem.
- pH - Extreme values can indicate industrial flows, however, they are not useful in finding sewage problems.
- Temperature - Sanitary and industrial discharges can greatly influence flow temperatures.
- Conductivity - Measures of dissolved solids (e.g. salt) can be greatly influenced by industrial discharges.

Detergent field tests are performed using the Methylene Blue Method. See *SOP for Detergents CHEMets Field Test Kit* for instructions.

- Surfactants - Values that exceed 0.25 ppm indicates the presence of detergents from sewage, septage or grey water sources.

Fluoride analysis is performed using a Colorimeter analysis method. See *Standard Operating Procedures for Hach DR/850 Colorimeter* for instructions.

- Fluoride - Values that exceed 0.65 mg/L indicates flow from potable water sources.

Ammonia analysis is performed using a Colorimeter analysis method. See *Standard Operating Procedures for Hach DR/850 Colorimeter* for instructions.

- Ammonia – Values that exceed 0.3 mg/L can indicate flow from sewage, septage or grey water sources.

3.3.2 Lab Analysis

Samples will need to be collected and taken to a lab for the following parameters: fecal coliform, *Escherichia coliform* (*E. coli*), ammonia, Total Kjeldahl nitrogen (TKN), total phosphorus (total P), nitrate-nitrite (NO₃-NO₂), and chlorides. See *Standard Operating Procedures for Collection of Discrete Water Samples* for proper sampling protocol.

- Bacteria (fecal and *E. coli*) - Elevated levels can potentially indicate the presence of sanitary wastewater.
- Ammonia - Elevated levels can potentially indicate the presence of sanitary wastewater.
- TKN - Elevated levels can potentially indicate industrial waste processes.
- Total P - Elevated levels can potentially indicate the presence of sanitary wastewater.
- NO₃-NO₂ - Elevated levels indicate excessive nutrient sources.
- Chlorides - Elevated levels can potentially indicate industrial waste processes.

Lucidity Database Entry Example for Physical Indicators (IDDE Field Reference Guide Section 3.2)

Observations	
Odor Type	6 Decaying Organics 
Odor Severity	1 Faint/barely detectable 
Color Type	2 Brown 
Color Severity	2 Moderately tinted 
Turbidity Severity	2 Translucent 
Floatable Type	7 Algae 
Floatable Severity	2 Some 
Deposits/Stains	1 Mineral 
Deposits Severity	2 Some 
Vegetation Type	0 N/A 
Outfall Severity	1 Trickle 

Screen Shot of Electronic Inspection Checklist

ASSET MANAGEMENT

Home Sampling StormSampling_Form_Illicit

+ [Navigation icons: Add, Save, Print, Undo, Redo, Home, Refresh, Settings]

Structure Rec #
[Input field]

Discharge Rec #
[Input field]

Sample Date *
[Date picker]

Sample Time
[Time picker]

General

Inspection Type [Input field]	<input type="checkbox"/> Samples Taken
Last Rainfall [Input field]	Sample Crew [Input field]
Last Rainfall Date [Date picker]	Sample Type [Input field]
Rainfall Amount [Input field]	Sample Numbers [Input field]
Hrs after Rain [Input field]	<input type="checkbox"/> Photos Taken
<input type="checkbox"/> Dry Weather Flow	Flow Survey [Input field]

Field Data

Chlorine

Detergents

Outfall Flow Rate

At Flow Rate

Flow Rate Severity



User Values

Ammonia

E-Coli Value

Fluoride

General Comment

Observations

Odor Type



Odor Severity



Color Type



Color Severity



Turbidity Severity



Floatable Type



Floatable Severity



Deposits/Stains



Deposits Severity



Vegetation Type



Outfall Severity



Odor Type

Code	Type
0	N/A
1	Sewage
2	Rotten Eggs
3	Rancid/Sour
4	Petroleum/Gas
5	Fragrant
6	Decaying Organics
7	Chemical
8	Laundry
9	Natural Gas/Methane
999	Other

Page 1 of 1 1 - 11 of 11 items

Cancel Edit List Select

Deposits/Stains

Code	Type
0	N/A
1	Mineral
2	Sediment
3	Oil
4	Grease
5	Algae
6	Blue-green Algae
7	Iron Bacteria
8	Sewage Fungus
999	Other

Page 1 of 1 1 - 10 of 10 items

Cancel Edit List Select

During a dry weather screening event, a cloudy substance was observed in Bullock Pen Creek. Through upstream tracing it was determined to not be coming from the MS4 but likely a permitted industry. The information was documented in this sample record and turned over to the KDOW regional office.

Stream Sampling Detail Report

3/4/2025
3:43:09PM

Structure #: 021.06.0605 Sample Date: 5/21/2024 12:00 pm Sample Rec #: 7,237
Discharge Rec #: 1568 Illicit Disch Track #: 24-0004

Outfall Location:

Tracking No: Outfall Type: Closed
Reason: Illicit Type:
Regulatory Type: Illicit Status: PCI Complete
Discharge Source:
Sample Crew: ca,ks
Inspected By: Bypass Status: Other
Last Rainfall: Photos Taken: False
Last Rainfall Date: Photo Numbers
Rainfall (in): Samples Taken: False
Max Rate (in/hr): Sample Type:
Hrs after Rain: Sample Numbers:
Dry Weather Flow: True Samples From:
Drainage Area: Receiving Stream:
Land Use:

Results 1

US Results	At Structure	DS Results
Distance From Structure:		
DO Value:		
pH Value:		
Temperature Value:		
Fecal Value:		
E-Coli Value:		
BOD Value:		
Outfall Flow Rate:		
Outfall Severity:	Low Flow	
Flow Rate:		
Flow Rate Severity:		

Results 2

US Results	At Structure	DS Results
Odor Type:	N/A	
Odor Severity:		
Color Type:	Gray	
Color Severity:	Intense	
Turbidity Severity:	Opaque	
Floatable Type:	Other	
Floatable Severity:	Massive/Severe	
Deposits/Stains:	N/A	
Deposits Severity:		
Vegetation Type:	Normal	

User Values

Ammonia:	Number 9:	Number 17:
TKN:	Number 10:	Number 18:
Total P:	Number 11:	Number 19:
N03-N02:	Number 12:	Number 20:
Chlorides:	Number 13:	Number 21:
E-Coli Value:	Number 14:	Number 22:
Fecal Value:	Number 15:	Number 23:
Fluoride:	Number 16:	Number 24:

Stream Sampling Detail Report

3/4/2025

3:43:09PM

Inspection Status:

User 7:

Flow Survey:

User 8:

User 3:

User 9:

Lab Sample#:

User 10:

User 5:

User 11:

User 6:

User 12:

Trash:

User 14:

User 15:

Comments: The creek is very turbid. This was noticed during a PCI Inspection.



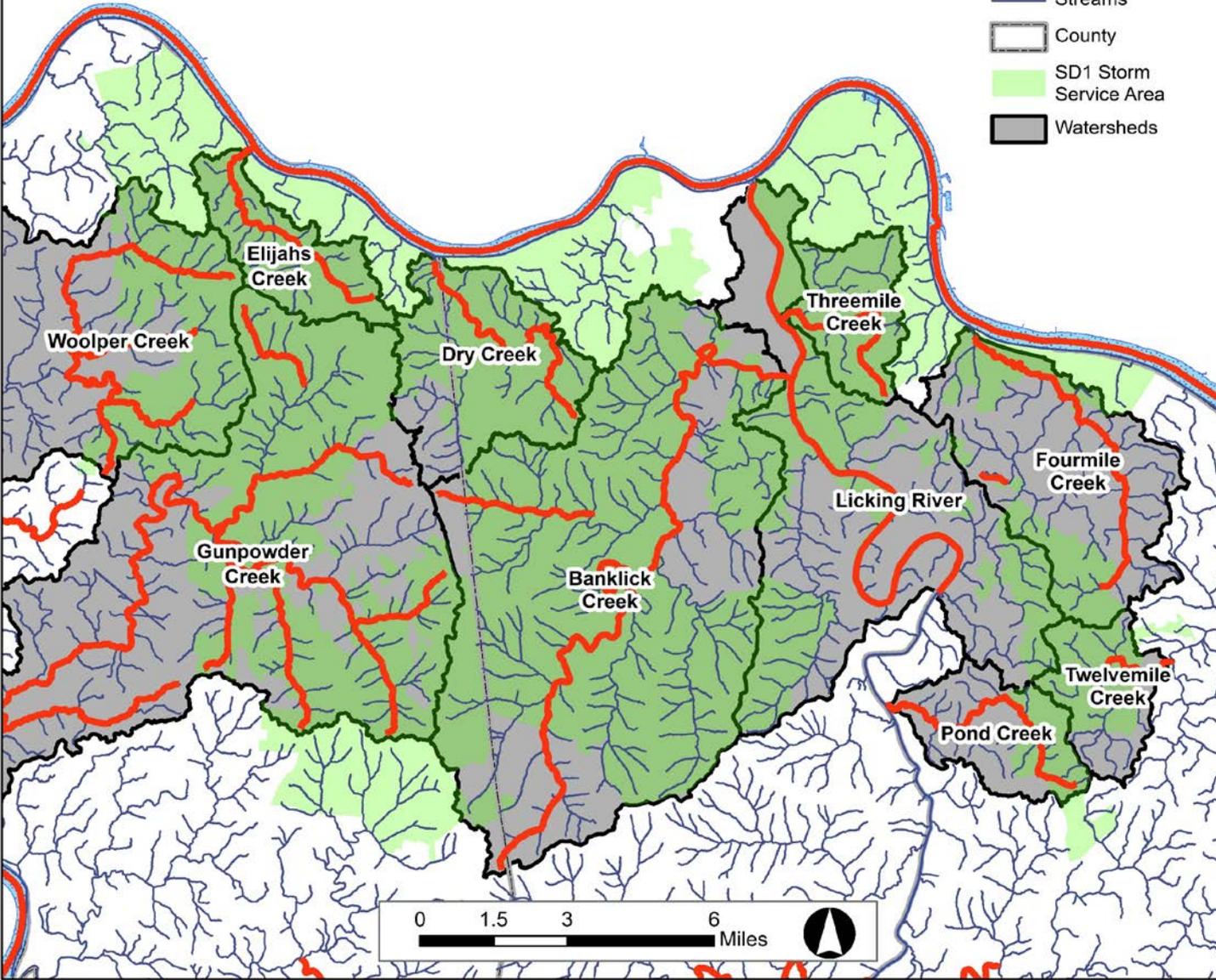
Appendix 3 – MCM 3

Tab 4 – Watersheds with 2022 305(b) Impaired Segments in SD1's Storm Water Service Area

Watersheds with Impaired Segments in SD1's Storm Water Service Area

Legend

- 2024 305(b) Impaired Segments
- Streams
- County
- SD1 Storm Service Area
- Watersheds



Watershed	Warm Water Aquatic Habitat (WAH)	Primary Contact Recreation (PCR)
Elijahs Creek	Non Support	-
Woolper Creek	Non Support	Non Support
Gunpowder Creek	Non Support	Non Support
Dry Creek	Partial Support	-
Banklick Creek	Non Support	Non Support
Licking River	-	Non Support
Threemile Creek	Non Support	Non Support
Fourmile Creek	Non Support	Non Support
Twelvemile Creek	-	Non Support
Pond Creek	Partial Support	-

The segments of the Ohio River boarding the storm service area are listed as non-support for fish consumption and non-support/partial support for primary contact recreation.

See 2024 305(b) Impaired Segments Table for additional details, including listed segments, causes and sources of impairments.

2024 305(b) Impaired Segments Table

Watershed	Segment	WAH	PCR	WAH_CAUSE	WAH_SOURCE	PCR_CAUSE	PCR_SOURCE	COUNTY
Elijahs Creek	Elijahs Creek 0.0 to 5.6	Non Support-4A	Not Assessed-3	Ethylene Glycol-4A	Industrial/Commercial Site Stormwater Discharge (Permitted)			Boone
Woolper Creek	Woolper Creek 7.45 to 14.2	Non Support-5	Non Support-5	Total Suspended Solids (TSS)-5; Nutrient/Eutrophication Biological Indicators-5; Organic Enrichment (Sewage) Biological Indicators-5; Cause Unknown-5	Illegal Dumps or Other Inappropriate Waste Disposal, Impacts from Hydrostructure Flow Regulation/Modification, Urban Runoff/Storm Sewers, Illegal Dumps or Other Inappropriate Waste Disposal, Illegal Dumps or Other Inappropriate Waste Disposal, Urban Runoff	Escherichia coli (E. coli)-5	Loss of Riparian Habitat, Managed Pasture Grazing, Non-Point Source, Residential Districts, Upstream Source	Boone
	Woolper Creek UT 0.0 to 3.4	Not Assessed-3	Partial Support-5			Escherichia coli (E. coli)-5	Non-irrigated Crop Production, Managed Pasture Grazing, Upstream Source	Boone
	Allen Fork 0.0 to 4.3	Full Support-2	Non Support-5			Escherichia coli (E. coli)-5	Managed Pasture Grazing, Municipal (Urbanized High Density Area), Residential Districts	Boone
	Allen Fork UT 0.0 to 2.0	Not Assessed-3	Partial Support-5			Escherichia coli (E. coli)-5	Loss of Riparian Habitat, Managed Pasture Grazing, Non-Point Source, Residential Districts	Boone
Gunpowder Creek	Gunpowder Creek 0.3 to 15.35	Full Support-2	Partial Support-5			Escherichia coli (E. coli)-5	Package Plant or Other Permitted Small Flows Discharges	Boone
	Gunpowder Creek 15.35 to 17.05	Non Support-5	Not Assessed-3	Ethylene Glycol-4A; Sedimentation/Siltation-5; Nutrient/Eutrophication Biological Indicators-5; Organic Enrichment (Sewage) Biological Indicators-5	Airports, Agriculture, Highway/Road/Bridge Runoff (Non-construction Related), Loss of Riparian Habitat, Site Clearance (Land Development or Redevelopment), Streambank Modifications/destabilization, Unspecified Urban Stormwater, Agriculture, Site Clearance			Boone
	Gunpowder Creek 19.35 to 21.95	Partial Support-5	Not Assessed-3	Cause Unknown-5	Unspecified Urban Stormwater			Boone
	Gunpowder Creek UT 0.0 to 4.0	Partial Support-5	Non Support-5	Benthic Macroinvertebrates Bioassessments-4C; Habitat Assessment-4C; Sedimentation/Siltation-5	Habitat Modification - other than Hydromodification, Non-Point Source, Residential Districts, Urban Runoff/Storm Sewers, Habitat Modification - other than Hydromodification, Habitat Modification - other than Hydromodification, Non-Point Source, Residential	Escherichia coli (E. coli)-5	Source Unknown	Boone
	Riddles Run 0.0 to 4.7	Partial Support-5	Partial Support-5	Benthic Macroinvertebrates Bioassessments-4C; Habitat Assessment-4C; Sedimentation/Siltation-5	Habitat Modification - other than Hydromodification, Habitat Modification - other than Hydromodification, Non-Point Source, Residential Districts, Habitat Modification - other than Hydromodification, Non-Point Source, Residential Districts	Escherichia coli (E. coli)-5	Livestock (Grazing or Feeding Operations), On-site Treatment Systems (Septic Systems and Similar Decentralized Systems), Package Plant or Other Permitted Small Flows Discharges, Non-Point Source	Boone
	South Fork Gunpowder Creek 0.0 to 1.95	Non Support-5	Not Assessed-3	Sedimentation/Siltation-5; Turbidity-5; Nutrient/Eutrophication Biological Indicators-5; Organic Enrichment (Sewage) Biological Indicators-5	Agriculture, Post-development Erosion and Sedimentation, Site Clearance (Land Development or Redevelopment), Agriculture, Package Plant or Other Permitted Small Flows Discharges, Post-development Erosion and Sedimentation, Site Clearance (Land Development)			Boone
	South Fork Gunpowder Creek 4.2 to 6.4	Non Support-4C	Non Support-5	Benthic Macroinvertebrates Bioassessments-4C; Habitat Assessment-4C	Habitat Modification - other than Hydromodification, Habitat Modification - other than Hydromodification	Escherichia coli (E. coli)-5	Non-Point Source, Residential Districts, Upstream Source	Boone
	South Fork Gunpowder Creek 6.4 to 8.1	Not Assessed-3	Non Support-5			Escherichia coli (E. coli)-5	Source Unknown	Boone
	South Fork Gunpowder Creek 1.95 to 4.2	Partial Support-4C	Not Assessed-3	Benthic Macroinvertebrates Bioassessments-4C	Habitat Modification - other than Hydromodification			Boone
	South Fork Gunpowder Creek UT 0.0 to 2.5	Partial Support-4C	Partial Support-5	Benthic Macroinvertebrates Bioassessments-4C; Habitat Assessment-4C	Habitat Modification - other than Hydromodification, Habitat Modification - other than Hydromodification	Escherichia coli (E. coli)-5	Non-Point Source, Upstream Source	Boone

Watershed	Segment	WAH	PCR	WAH_CAUSE	WAH_SOURCE	PCR_CAUSE	PCR_SOURCE	COUNTY
Gunpowder Creek	Long Branch 0.0 to 2.55	Partial Support-4C	Partial Support-5	Benthic Macroinvertebrates Bioassessments-4C; Habitat Assessment-4C	Agriculture, Habitat Modification - other than Hydromodification, Non-Point Source, Residential Districts, Urban Runoff/Storm Sewers, Habitat Modification - other than Hydromodification	Escherichia coli (E. coli)-5	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems), Non-Point Source, Residential Districts, Discharges from Municipal Separate Storm Sewer Systems (MS4), Agriculture	Boone
	Fowlers Fork 0.0 to 4.1	Partial Support-4C	Non Support-5	Benthic Macroinvertebrates Bioassessments-4C; Habitat Assessment-4C	Habitat Modification - other than Hydromodification, Habitat Modification - other than Hydromodification	Escherichia coli (E. coli)-5	Livestock (Grazing or Feeding Operations), Non-Point Source, On-site Treatment Systems (Septic Systems and Similar Decentralized Systems), Upstream Source, Urban Runoff/Storm Sewers	Boone
Dry Creek	Dry Creek 0.1 to 6.95	Partial Support-5	Not Assessed-3	Nutrient/Eutrophication Biological Indicators-5; Organic Enrichment (Sewage) Biological Indicators-5	Agriculture, Municipal Point Source Discharges, Unspecified Urban Stormwater, Agriculture, Municipal Point Source Discharges, Unspecified Urban Stormwater			Boone, Kenton
Banklick Creek	Banklick Creek 0.0 to 3.5	Partial Support-5	Non Support-5	Sedimentation/Siltation-5; Nutrient/Eutrophication Biological Indicators-5; Organic Enrichment (Sewage) Biological Indicators-5	Site Clearance (Land Development or Redevelopment), Urban Runoff/Storm Sewers, Urban Runoff/Storm Sewers, Municipal Point Source Discharges	Pathogens-5	Unspecified Urban Stormwater, Municipal Point Source Discharges	Kenton
	Banklick Creek 3.5 to 8.2	Non Support-5	Non Support-5	Sedimentation/Siltation-5; Nutrient/Eutrophication Biological Indicators-5; Organic Enrichment (Sewage) Biological Indicators-5	Agriculture, Agriculture, On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Pathogens-5	Agriculture, On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Kenton
	Banklick Creek 8.2 to 19.55	Partial Support-5	Partial Support-5	Nutrient/Eutrophication Biological Indicators-5; Organic Enrichment (Sewage) Biological Indicators-5	Agriculture, On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Pathogens-5	Agriculture, On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Boone, Kenton
	Bullock Pen Creek 2.15 to 5.65	Partial Support-6	Not Assessed-3	Benthic Macroinvertebrates Bioassessments-4C; Cause Unknown-5; Habitat Assessment-4C	Source Unknown, Residential Districts, Habitat Modification - other than Hydromodification, Residential Districts, Habitat Modification - other than Hydromodification			Boone, Kenton
Threemile Creek	Threemile Creek 0.1 to 4.8	Non Support-5	Non Support-5	Nutrient/Eutrophication Biological Indicators-5; Organic Enrichment (Sewage) Biological Indicators-5	Sanitary Sewer Overflows (Collection System Failures), Sanitary Sewer Overflows (Collection System Failures)	Pathogens-5	Sanitary Sewer Overflows (Collection System Failures), Source Unknown	Campbell
Licking River	Licking River 0.1 to 4.75	Full Support-2	Non Support-4A			Escherichia coli (E. coli)-4A	Municipal (Urbanized High Density Area), Combined Sewer Overflows, Urban Runoff/Storm Sewers	Campbell, Kenton
	Licking River 5.75 to 14.7	Not Assessed-3	Partial Support-4A			Pathogens-4A	Source Unknown	Campbell, Kenton
	Licking River 4.75 to 5.75	Not Assessed-3	Partial Support-4A			Pathogens-4A	Source Unknown	Campbell, Kenton
Fourmile Creek	Fourmile Creek 0.2 to 8.3	Full Support-2	Non Support-4A			Pathogens-4A	Municipal Point Source Discharges, Sanitary Sewer Overflows (Collection System Failures)	Campbell
	Owl Creek UT 0.45 to 1.1	Non Support-5	Not Assessed-3	Combined Biota/Habitat Bioassessments-4C; Sedimentation/Siltation-5	Inadequate Instream Habitat, Highway/Road/Bridge Runoff (Non-construction Related), Loss of Riparian Habitat, Removal of Riparian Vegetation, Site Clearance (Land Development or Redevelopment), Highway/Road/Bridge Runoff (Non-construction Related), Remove			Campbell
Twelvemile Creek	Brush Creek 0.0 to 2.4	Full Support-2	Non Support-4A			Escherichia coli (E. coli)-4A	Non-Point Source	Campbell
Pond Creek	Pond Creek 0.0 to 6.2	Partial Support-5	Not Assessed-3	Habitat Assessment-4C; Fish Bioassessments-4C; Benthic Macroinvertebrates Bioassessments-4C; Sedimentation/Siltation-5	Habitat Modification - other than Hydromodification, Channelization, Streambank Modifications/destabilization, Non-Point Source, Habitat Modification - other than Hydromodification, Package Plant or Other Permitted Small Flows Discharges, Habitat Modification - other than Hydromodification, Non-Point Source, Package Plant or Other Permitted Small Flows Discharges, Streambank Modifications/destabilization, Non-Point Source, Channelization			Campbell

Appendix 3 – MCM 3

Tab 5 – Annual IDDE training

2024 SD1 Illicit Discharge Training



September 2024





Agenda

- NPDES Phase II Permit
- Illicit Discharge Detection and Elimination Plan
- Methodology
- Memorandum of Understanding

NPDES Phase II Requirements

- Phase II Municipal Separate Storm Sewer System (MS4) Permit Requirements
 - Minimum Control Measures (MCMs):
 1. Public Education & Outreach
 2. Public Involvement & Participation
 3. Illicit Discharge Detection & Elimination
 4. Control of Construction Site Runoff
 5. Post-Construction Storm Water Management
 6. Pollution Prevention and Good Housekeeping for Municipal Operations

MCM 3:

Illicit Discharge Detection and Elimination Plan

- An illicit discharge is anything that is discharged to the Municipal Separate Storm Sewer System (MS4) that is not entirely composed of storm water.
- All illicit discharge activity should be routed through trouble call.



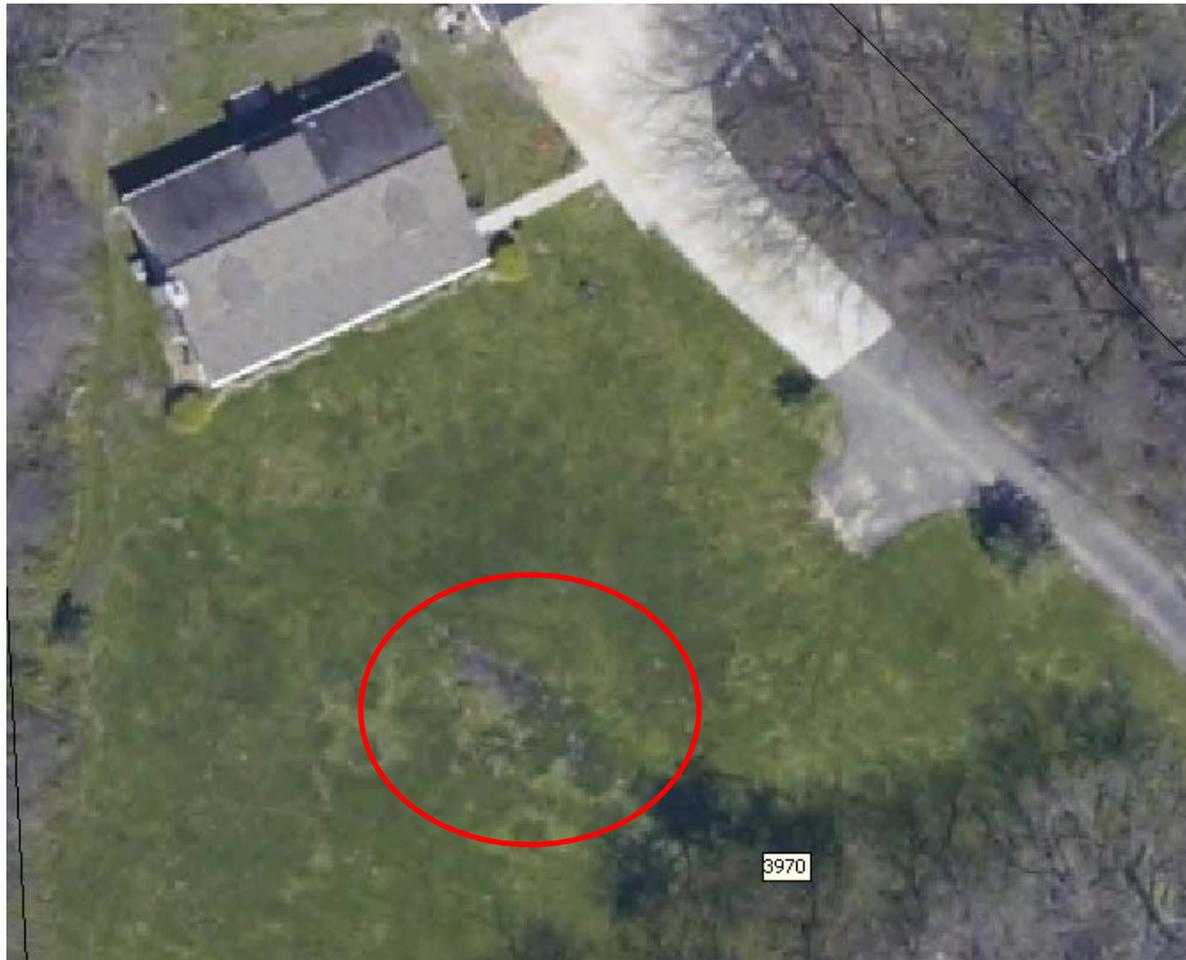
Types of Discharges

- Illicit Discharges
 - MS4 (Municipal Separate Storm Sewer System)
 - Sanitation District No. 1 responsibility
- Unpermitted Discharges
 - Waters of the Commonwealth (Blue Line Stream)
 - Kentucky Division of Water responsibility
- Surface Discharges
 - Failing septic
 - Northern Kentucky Independent Health Department responsibility
 - Failing private lateral
 - Sanitation District No. 1 responsibility

Sanitary



Failing Septic



Paint



Grease



Concrete



Industrial



?



Harmful Algal Blooms



?



Iron Bacteria



Allowable non-storm water discharges

- Landscape irrigation
- Discharges from potable water sources
- Diverted stream flows
- Ground water infiltration (per 40 CFR 35.2005 (20)) to separate storm sewers
- Springs
- Flows from riparian habitats and wetlands
- Foundation and footing drains
- Air conditioning drains
- Air condition condensation
- Water from sump pumps
- Noncommercial car washing
- Street wash waters
- Discharge from fire fighting activities
- Water line flushing
- Discharges associated with emergency removal and treatment activities for hazardous materials, authorized by the federal state, or local government on-scene coordinator
- Flushing and cleaning of storm water conveyances with unmodified potable water
- Wash water from the cleaning of the exterior of buildings, including gutters, provided that the discharge does not pose an environmental or health threat
- Dechlorinated swimming pool discharges
- Discharges associated with dye testing, but requires a verbal notification to SD1 prior to the time of the test
- Discharges specified in writing by SD1 as being necessary to protect the public health and safety



Methodology

- Detection
- Investigation
- Notification
- Enforcement
- Remediation

Detection

- Customer Notification
- SD1 Notification
 - Trouble Calls
 - CCTV
- Permit Compliance Inspections

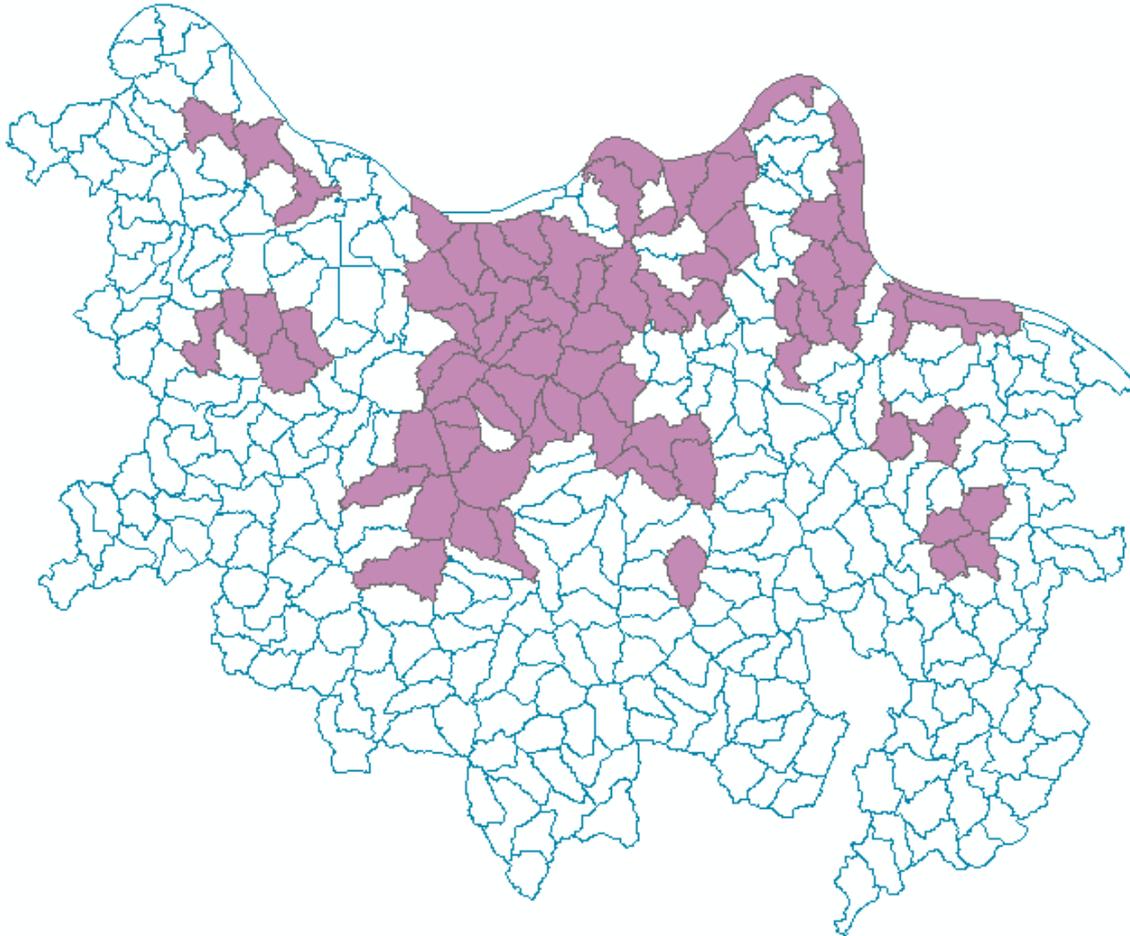


Priority Area Inspections

- Highly Probable Locations
- Screening Factors
 - Subbasin
 - Characterization
- New Permit Component



Priority Area Inspections



Detection

Physical Characteristics

- Odor
- Color
- Turbidity
- Floatables
- Deposits/Stains
- Vegetation
- Flow



Detection

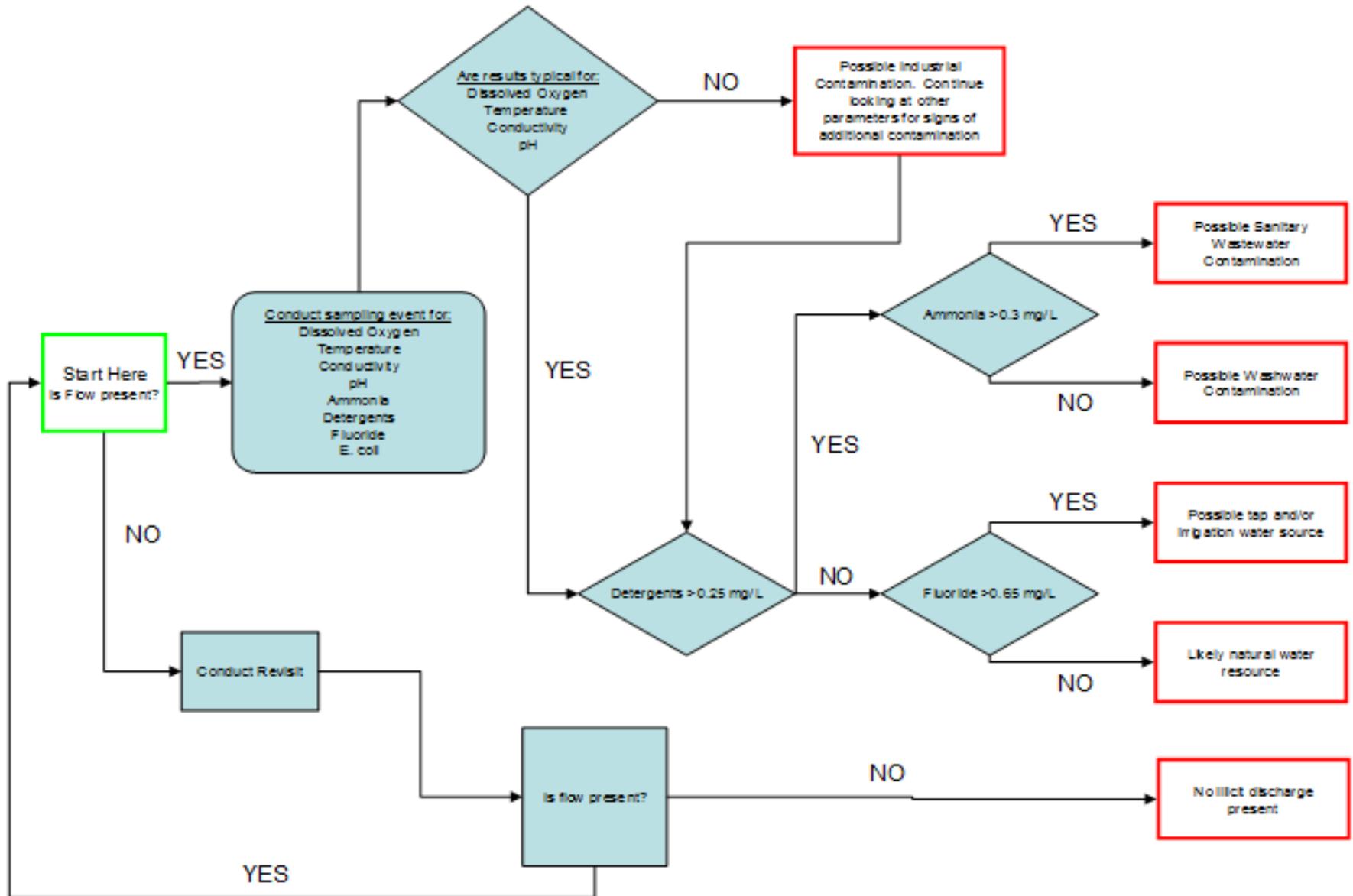
Field Data

- Hach DR 1900 Spectrophotometer
 - Chlorine
 - Fluoride
 - Ammonia
 - Detergents
- Lab
 - E. Coli



SD1

Flow Chart Method to Identify Illicit Discharges



Investigation

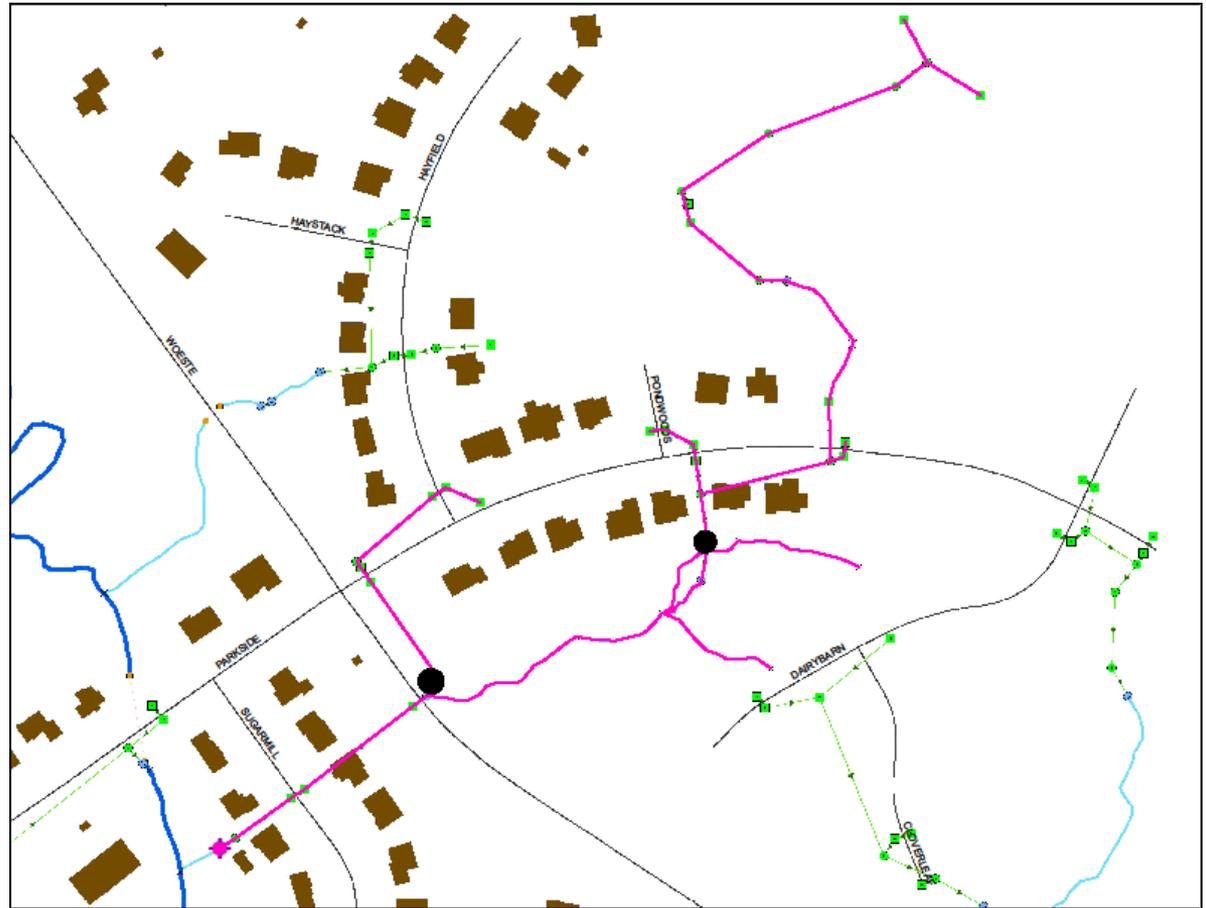
- Backtracking
- Dye Testing
- CCTV
- Smoke Testing
- Excavation



Investigation

Backtracking

- Upstream Sampling



Notification

- Health Department
 - Failing septic systems
 - SD1 construction involving septic systems
- Local DOW Office
 - Unpermitted discharges
 - Illegal dumping



Enforcement

- Enforcement Response Plan
- Enforcement Response Guide
- Request for Extension
- Request for Reconsideration

September 26, 2007

CERTIFIED MAIL # 91 7108 2133 3933 4291 6133

Jim Trego
Plant Manager
Home City Ice Co.
5 Plum Street
Wilder, KY 41076

Re: Notice of Violation

Dear Mr. Trego:

On or about September 20, 2007, an authorized representative of Sanitation District No.1 (District) identified the following violation(s) of the Northern Kentucky Regional Storm Water Management Program Rules and Regulations ("Rules & Regulations") existing at or near 5 Plum St.:

Non-Compliance Description: Process wastewater from the condenser overflow tank at your facility is discharging to the public storm sewer system. This discharge is in violation of Section 502 of the Rules & Regulations.

Section 502: PROHIBITION OF ILLEGAL DISCHARGES

No person shall discharge or cause to be discharged to the storm drainage system or watercourses any materials, including but not limited to pollutants or water containing any pollutants that cause or contribute to a violation of applicable water quality standards, other than storm water.

You are hereby notified that the continuance of the conditions above stated, whether ongoing or intermittent, will result in additional enforcement action in accordance with the Rules & Regulations. You must perform the following remedial measures to correct the above conditions to avoid further enforcement actions by the District:

Remedial Measure: You must terminate the discharge from condenser overflow tank to the public storm sewer system by the due date below.

Due Date: October 8, 2007

Fine amount: \$0.00

Remediation

- SD1 responsibility (within project area – trench)
- Homeowner responsibility
- Remediation activities
- Post correction inspections
 - Illicit crew
 - Collection Systems

Documentation

- **Lucidity**
 - Inventory
 - Sampling
 - Building Inspections
 - Illicit Discharge Module

GBA Master Series 6.72: [Stream Sampling - No Filter]

Structure ID: [] Sample Date: [/ /] AM Sample Rec #: 99

General Results 1 Results 2 Custom Comments

	US	At	DS
DO Value	[]	[]	[]
pH Value	[]	[]	[]
Temperature Value	[]	[]	[]
Conductivity	[]	[]	[]
E-Coli Value	[]	[]	[]
Fecal Value	[]	[]	[]
Outfall Flow Rate	[]	[]	[]
Outfall Severity	[]	[]	[]
Flow Rate	[]	[]	[]
Flow Rate Severity	[]	[]	[]

Record 0 of 0 Add Mode Ready...

GBA Master Series 6.72: [Stream Sampling - No Filter]

Structure ID: [] Sample Date: [/ /] AM Sample Rec #: 99

General Results 1 Results 2 Custom Comments

	US	At	DS
Odor Type	[]	[]	[]
Odor Severity	[]	[]	[]
Color Type	[]	[]	[]
Color Severity	[]	[]	[]
Turbidity Severity	[]	[]	[]
Floatable Type	[]	[]	[]
Floatable Severity	[]	[]	[]
Deposits/Stains	[]	[]	[]
Deposits Severity	[]	[]	[]
Vegetation Type	[]	[]	[]

Record 0 of 0 Add Mode Ready...

Memorandum of Understanding

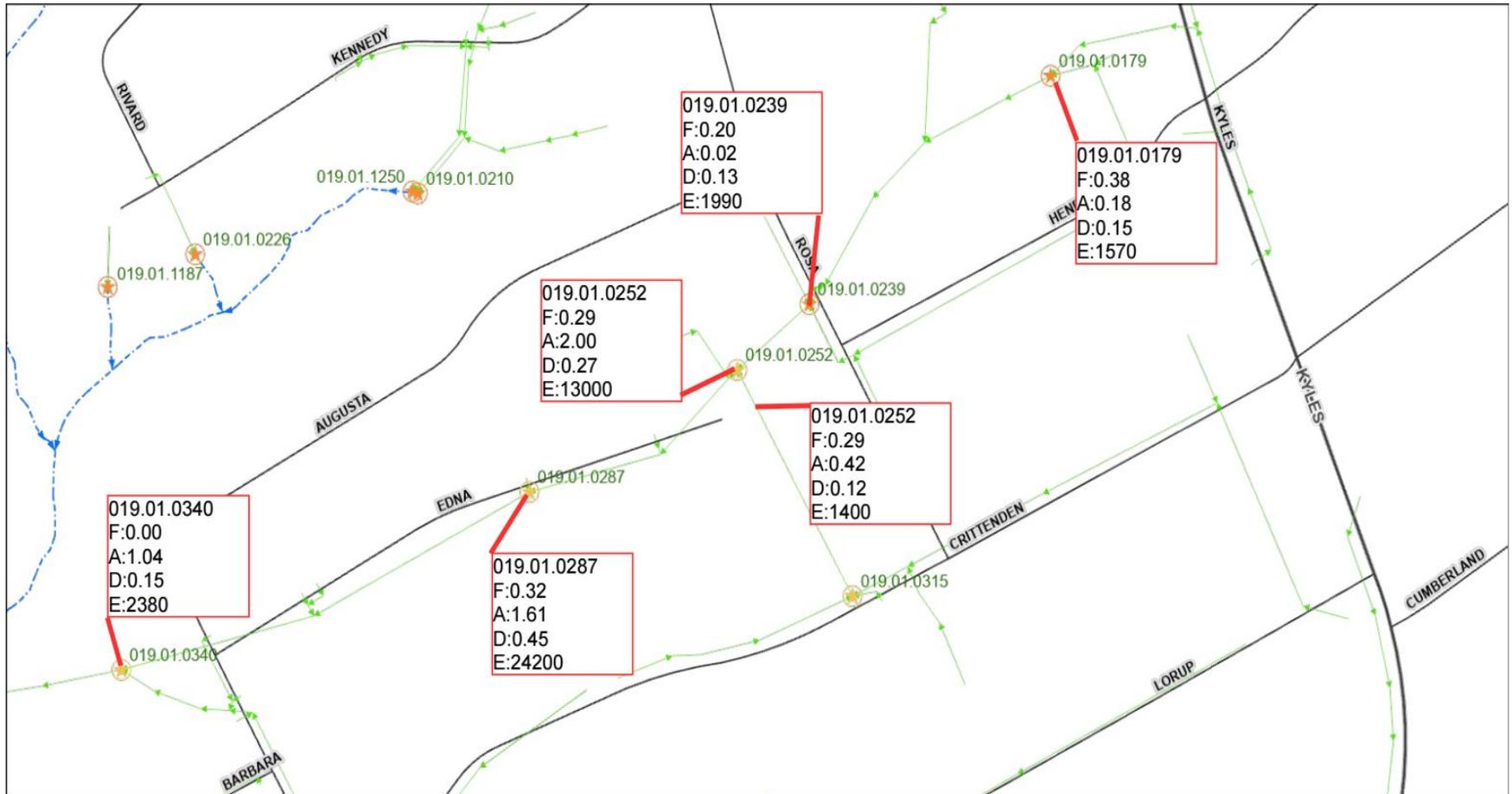
- Between SD1 and the Health Department
- Effective in January 2014
- SD1 responsibilities
- Health Department responsibilities



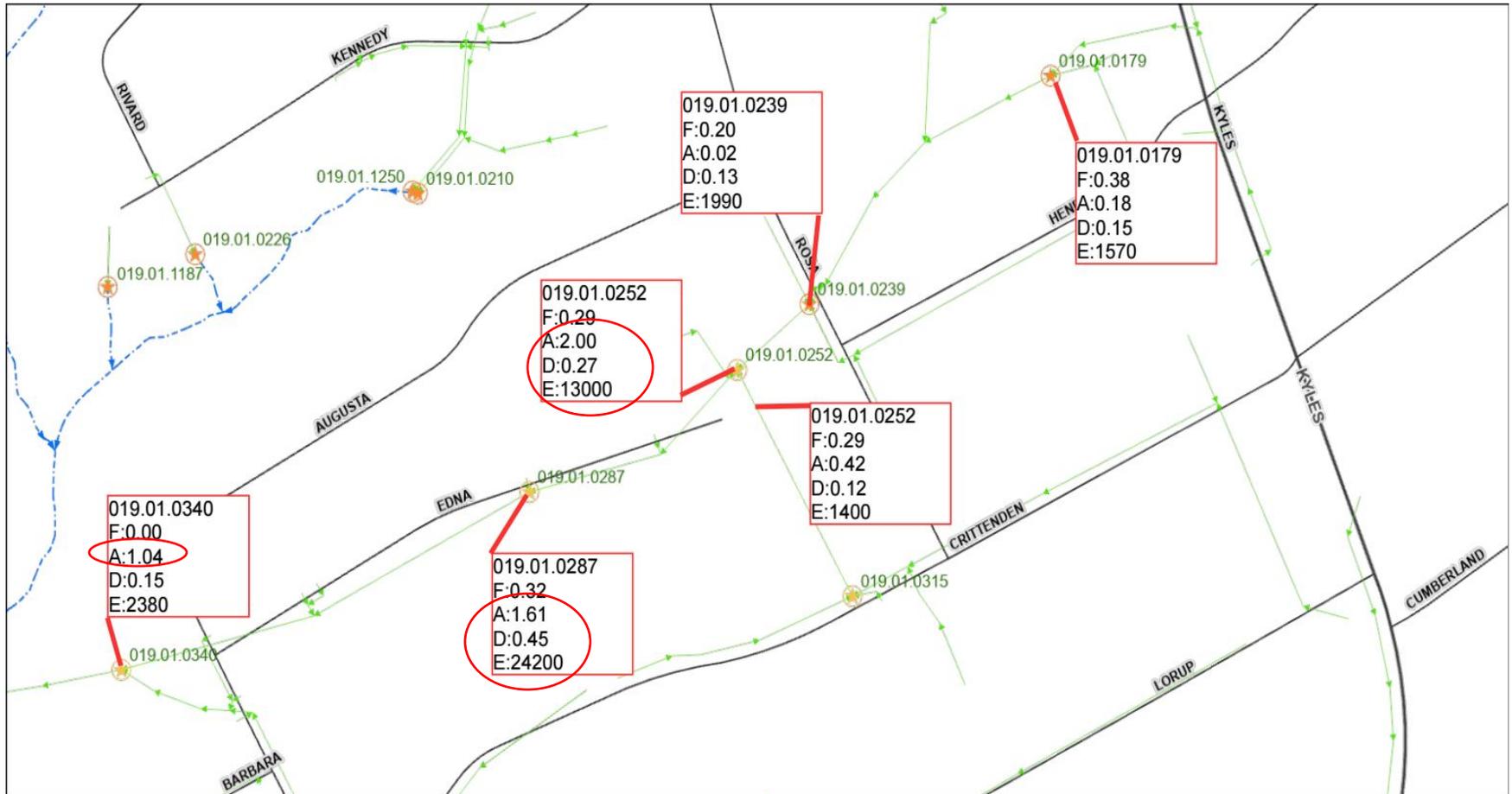
Overlap With CIP Projects



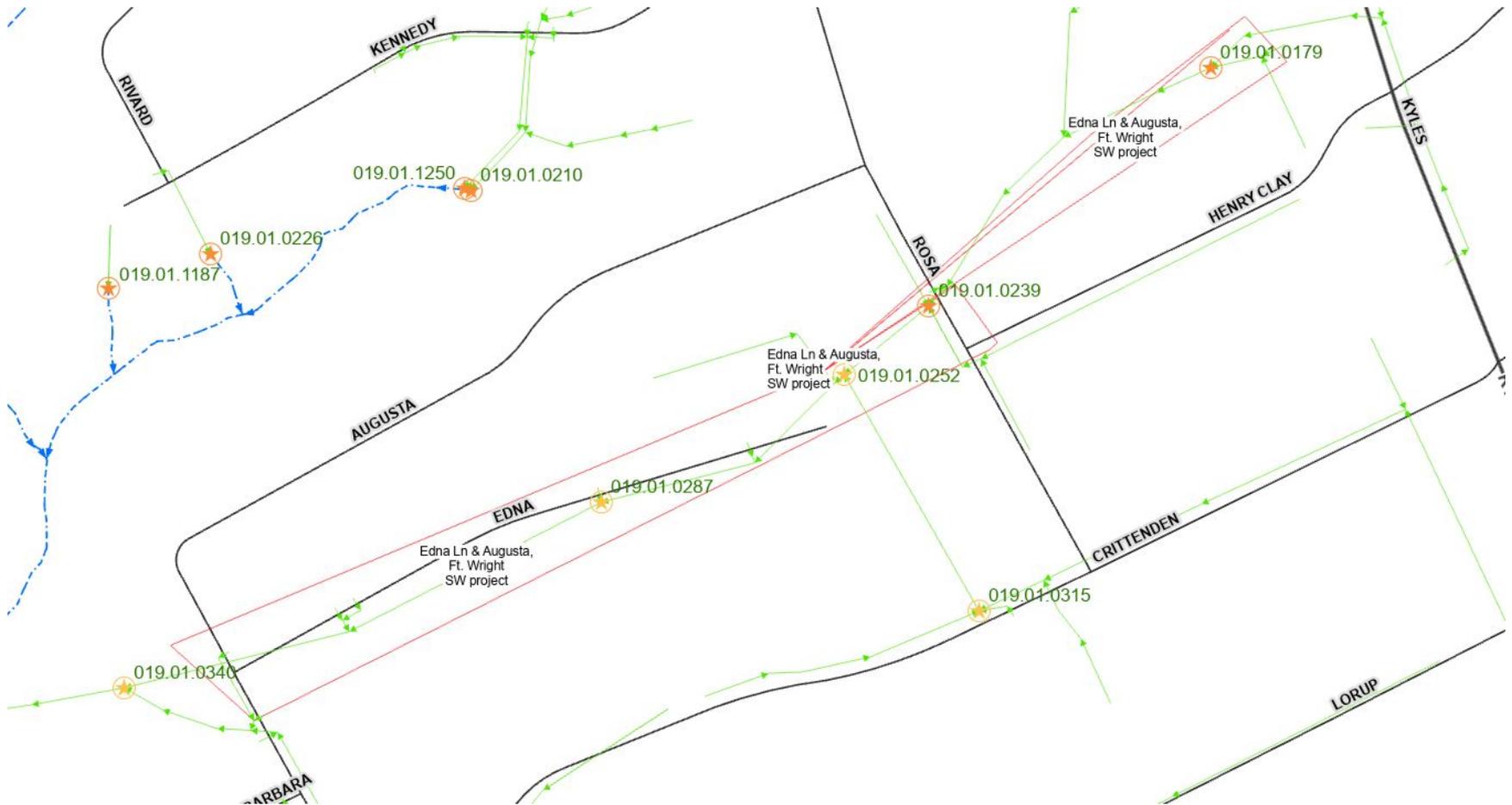
Overlap With CIP Projects

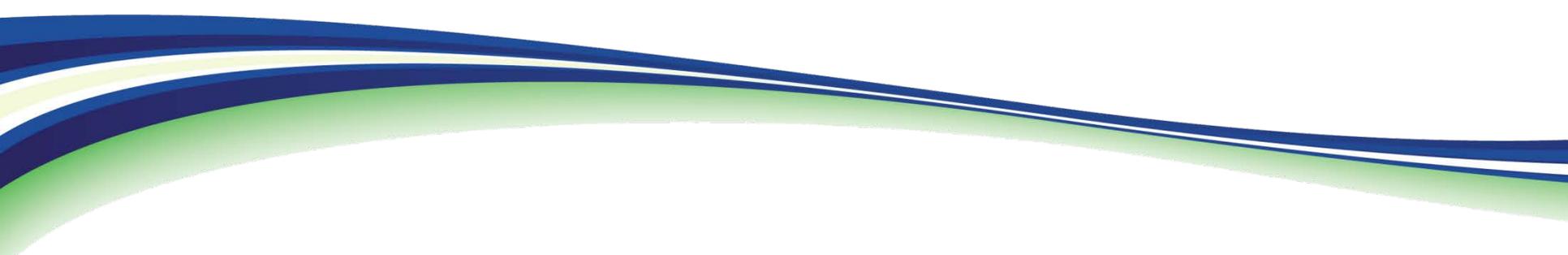


Overlap With CIP Projects



Overlap With CIP Projects





Questions?

Appendix 4 - MCM 4

Tab 1 – Link to permit application

Link to SD1's online Storm Water Permit Application <https://forms.sd1.org/forms/StormWaterPermit>



Development Services Applications (July 2023 - June 2024)

Getting Started	Project Information	Project Description	Fee Calculations	Submittal Requirements
Record Drawing Requirements	Checklist	Submission		

The application form and supporting documentation must be completed in its entirety and submitted through this Form Process.

The omission of required items may be cause for rejection of the submittal without review.

*** indicates a required field**

Select the Permit Type you wish to apply for: *

Please see the "SD1's Storm Water Rules and Regulations" found [here](#) for submittal requirements and additional Permitting information.

Previous

Next

Save as Draft

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Tab 2 – Land Disturbance Permit Plan Review Checklist

REVIEW COMMENTS -- PLAN REVIEW CHECKLIST
For Land Disturbing Permit Submittals

General Items:		Type of Permit/Applicable Code Section		
		Clearing	Grading	Land Disturbance
	Provide the following number of hard copies: (Only 1 Storm Water Management Report is required with each submittal)			
	Initial submittal	1	1	1
	Final submittal	2	2	3
	Provide the project name.	406.3	407.3	408.3
	Provide the date.	406.3	407.3	408.3
	Provide a completed Clearing Permit / Grading Permit / SD1 Land Disturbance Permit Application (including appropriate checklists, certifications, fees, etc.).	406.1	407.1	408.1
	Provide contact information including mailing address, phone number, and email for all persons signing the Permit Application	406.1	407.1	408.1
	Provide electronic copy of submittal plans and electronic copy of computations (if computer generated).	406.12	407.13	406.16
	Provide special notes that may pertain to the project.	As Needed	As Needed	As Needed
	Provide a copy of the Notice of Intent (NOI) for coverage under a Kentucky Pollutant Discharge Elimination System (KPDES) General Permit for Storm Water Discharges Associated with Construction Activities (KYR10)	406.2	407.2	408.2

Items to be identified on Plan Sheets:		Type of Permit/Applicable Code Section		
		Clearing	Grading	Land Disturbance
Standard				
	A KY Licensed Engineer must sign and stamp the submittal plans.	406.12	407.13	408.16
	Provide a location (vicinity) map (a map which clearly shows the location of the property with respect to existing roads and landmarks).	406.3	407.3	408.3
	Provide a north arrow on all plan sheets.	406.3	407.3	408.3
	Provide a drawing scale on all plan sheets. The plan scale shall not be smaller than 1"= 100'.	406.4	407.4	408.4

	Identify the water quality classification as defined by the Kentucky Division of Water of the receiving waterways to which the site discharges.	406.7	407.10	408.13
	Provide the property boundaries, including but not limited to:	Recommended	Recommended	408.7
	Dimensions of overall property boundary,	Recommended	Recommended	408.7
	Dimensions of individual lots or description of typical lot size shown.	Recommended	Recommended	408.7
	Provide the location and arrangement of all common open space areas and recreational facilities.	n/a	n/a	408.8
	Identify the adjacent property owners.	Recommended	Recommended	Recommended
	Provide existing and proposed contours and the location and description of the benchmark used.	406.8	407.7	408.6
	Provide existing and proposed contours of not more than two (2) feet within the areas to be disturbed.	406.8	407.7	408.6
	Provide existing and proposed contours of not more than five (5) feet on the remainder of the property.	406.8	407.7	408.6
	Provide the location and description of the benchmark used.	n/a	407.7	408.6
	The elevations must be based on mean sea level (USGS datum).	406.8	407.7	408.6
	Identify existing and proposed public and private right-of-ways and streets.	406.5	407.5	408.5
	Provide and identify proposed easements for public or private dedicated storm water drainage systems. Systems dedicated to SD1, at least a 20-foot public easement shall be shown and dedicated to SD1.	n/a	n/a	408.11
	Provide the location and identification of any storm water conveyance system (natural or man-made) on the site or within 100 Feet of the development boundary.	406.6	407.9	408.12
	Identify adjoining storm drainage structures and facilities to demonstrate continuity in the overall storm water drainage system.	As needed	As needed	As needed
	Provisions for control of all construction site waste.	406.13	407.12	408.15
	Provide conceptual or schematic plans for the entire property in order to show the relationship of the relevant phase to the entire development.	406.14	407.14	408.17
Closed System				
	Provide the locations of proposed storm water and water resource facilities, including all facilities relating thereto, such as manholes, pump stations, catch basins, inlets, and headwalls.	n/a	407.8	408.9
	Provide numbering for the storm water facilities (inlets, catch basins, junction boxes, headwalls, manholes, etc.) that correspond to the respective	n/a	n/a	408.9 and 408.10

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	profiles of the storm sewers and culverts.			
	Identify and label connections to existing facilities or pipelines.	n/a	n/a	408.09 and 408.10
	Identify existing utilities, sewers and Storm drainage structures and facilities.	As needed	As needed	408.10
	Provide profiles for all proposed storm water sewers, culverts, and facilities.	n/a	n/a	408.10
	Provide percent grades on the profiles (sewers on 20% slopes or greater shall be anchored securely with concrete anchors or equal, as appropriate).	n/a	n/a	408.10 and 608
	Provide pipe diameters on the profiles (minimum diameter for public storm sewers shall be 15" for Inlet headwalls and 12" for systems with a catch basin at the initial point).	n/a	n/a	408.10 and 606
	Provide the pipe materials on the profiles.	n/a	n/a	408.10
	Provide the pipe lengths on the profiles.	n/a	n/a	408.10
	Provide the invert elevations on the profiles.	n/a	n/a	408.10
	Provide existing and proposed public utility (water, storm and sanitary sewer) crossings on the profiles.	n/a	n/a	408.10
	Provide existing private utility (gas, electric, telephone, etc.) crossings on the profiles.	n/a	n/a	408.10
	Provide identification numbers for storm water facilities (inlets, catch basins, junction boxes, headwalls, and manholes) that correspond to the plan views.	n/a	n/a	409.9 and 408.10
	Provide hydraulic grade lines (HGL) for all storm water systems on the profiles.	n/a	n/a	408.10 and 609
	The HGL for the 25-year check storm for all public storm water systems shall be shown on the profiles.	n/a	n/a	408.10 and 609
	The HGL in any public inlet, catch basin, or manhole must be a minimum one (1) foot below the structure rim.	n/a	n/a	609
	Provide all calculations for the 25-year storm to ensure proper conveyance of runoff to the control facility on private property.	n/a	n/a	609
	Provide outlet velocities on the profiles, plans, or in the drainage calculations.	n/a	n/a	607 and 609
	Provide a note indicating that SD1 is to be contacted 72 hours prior to the installation of the public storm sewer system.(Boone and Campbell Counties Only)	n/a	n/a	901

Open Channel				
	Provide appropriate channel protection at the outlets.	n/a	n/a	607
	Provide appropriate channel linings for drainage channels and water courses.	n/a	As needed per 615	615
Detention/Retention Facilities				
	Clearly identify detention/retention facilities.	n/a	n/a	408.9
	Provide detailed drawings of all overflow facilities and controlling facilities, including valves, etc.	n/a	n/a	408.9 and 408.10
	Provide maximum volume capacity labels for detention/retention facilities.	n/a	n/a	408.9
	Provide a trash rack, or other acceptable technique, on the low flow outlet in the detention basins.	n/a	n/a	710 and 809
	The basin side slopes shall be no greater than 3:1.	n/a	n/a	711 and 810
	Provide a minimum 1% bottom drainage slope for dry basins.	n/a	n/a	711 and 810
	Provide paved channels for dry basin bottom slopes less than 2%.	n/a	n/a	711 and 810
	The dam crest elevation shall not be less than one (1) foot above the highest water surface elevation during the 100-year event.	n/a	n/a	711.2 and 810.2
	Provide erosion control linings for open channels receiving discharge.	n/a	n/a	711.3 and 810.3
	Provide energy dissipation at spillways if necessary to protect against erosion.	n/a	n/a	711.4 and 810.5
	Provide fencing around the detention area if side slopes of the basin are steeper than 4:1	n/a	n/a	711.7 and 810.7
	Provide anti-seep collars, baffles, and outlet protection, if needed.	n/a	n/a	711.8 and 810.8
	Publicly dedicated detention/retention facilities shall be included as a lot on the final plat.	n/a	n/a	814
	Provide notes identifying maintenance responsibility for detention/retention facilities and required maintenance activities.	n/a	n/a	408.9, 715, 814, and 1003
	Provide a note indicating that SD1 is to be contacted 72 hours prior to the installation of the Water Quality Feature.	n/a	n/a	901
Sediment and Erosion Control				
	Provide the clearing limits on the plans.	406.10	As needed	As needed
	Identify affected or disturbed areas during construction on or within close proximity of the project site (i.e. excavation, fill, or storage).	406.11	407.11	408.14
	Provide the location of construction access points with provisions shown to minimize tracking of material onto adjacent streets and roads.	406.9	407.6	904.8

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Provide the location of erosion control measures (BMPs) along with number each individual BMP for identification and reference purposes.	406.11	407.11	408.14
Provide perimeter controls required to prevent sediment from leaving the site. (When required)	904.7	904.7	904.7
Provide a stream crossing plan and detail. (When Applicable)	1006	1006	1006
Provide water control barriers at concentrated flow areas. Including existing and proposed storm sewer and culvert inlet and outlets.	904.5	904.5	904.5
Storm drains within public right-of-ways should have non-binding sediment control barriers.	904.6	904.6	904.6
Provide details or standard drawings for BMPs.	406.11	407.11	408.14
Provide an Erosion Prevention And Sediment Control (EPSC) Plan.	903	903	903
Provide designs and calculations for site specific BMPs.	406.12	407.13	408.16
Provide calculations to verify the sediment basins, if used, are properly designed and sized.	501.5	501.5	501.5
Provide a note indicating that SD1 is to be notified 72 hours prior to any land disturbing activity.	901	901	901
Provide notes indicating that site stabilization shall begin within 14 days on areas of the site where construction activities have permanently or temporarily (ceased in accordance with KYR10.	904.2	904.2	904.2
Provide a note indicating the owner or authorized representative is responsible for periodic maintenance inspections and SD1 may conduct periodic maintenance inspections.	1001 and 1002	1001 and 1002	1001 and 1002
Provide a note indicating the construction BMPs shall be revised or added if deemed necessary.	900	900	900
Provide a note that the contractor may be required to provide additional erosion and sediment control measures as deemed necessary to meet the requirements of the Rules and Regulations.	901	901	901

Design Documentation And Calculations:		Type of Permit/Applicable Code Section		
		Clearing	Grading	Land Disturbance
Standard				
	Provide calculations to support the drainage and/or sediment control designs included in the submittal.	406.12	407.13	408.16
	Provide computations in a format meeting the SD1's requirements (i.e. Plan Submittal Format).	406.12	407.13	408.16
	The calculations shall be sealed by a Kentucky Licensed Professional Engineer.	406.12	407.13	408.16
	Prevent the introduction of potentially harmful materials into the storm drainage system and receiving waters in compliance with the requirements of the Kentucky Pollutant Discharge Elimination System permit process.	1200	1200	1200
	Additional controls or localized restrictions may be placed on specific sites, as deemed necessary by SD1.	As needed.	As needed	As needed.
Closed System				
	Provide pipe capacities designed as open channel flow (non-surcharged) for public and private storm sewer pipes.	n/a	n/a	604
	Public storm sewer sizes shall not be reduced more than one standard increment of pipe diameter due to an increase in invert gradient after balancing energy losses within the structure.	n/a	n/a	610
	Provide pipe velocities in the drainage calculations.	n/a	n/a	607
	Provide a minimum pipe velocity of 2 ft/sec for public storm sewer pipes.	n/a	n/a	607
	Provide a maximum pipe velocity of 25 ft/sec for public storm sewer pipes.	n/a	n/a	607
	Provide outlet velocities in the drainage calculations.	n/a	n/a	607
	The design shall include non-erosive velocities at headwalls and outlets of storm sewers and culverts.	n/a	n/a	607
	Verify receiving channel/stream has adequate erosion protection.	n/a	n/a	607
	Provide capacity calculations of all public on-street inlets with drainage areas equal to or greater than one acre.	n/a	n/a	611
	Provide capacity calculations of all public off-street yard drains with drainage areas equal to or greater than one acre.	n/a	n/a	612
	The submergence of off-street yard drains shall not exceed one (1) foot above the highest opening of an inlet at its surface for	n/a	n/a	612

	a 10-year design storm.			
	Provide calculations for the 25-year check storm conditions for off-street yard drains to ensure against damaging flooding.	n/a	n/a	612
	Provide capacity calculations of all public off-street inlets with drainage areas equal to or greater than one acre.	n/a	n/a	613
	Provide calculations for the 25-year check storm conditions for off-street inlets drains to ensure against damaging flooding.	n/a	n/a	613
	Storm sewer outlet must not be subject to backwater conditions.	n/a	n/a	614
	Provide standard headwalls and/or wing walls with rock channel protection and aprons for all outfalls.	n/a	n/a	614
	Verify the invert of the first storm sewer appurtenance upstream of the outfall structure is above the elevation of the calculated 100-year flood plan.	n/a	n/a	n/a
	Provide design calculations for culverts and bridges.	n/a	n/a	616
	The headwater depth on culverts shall not exceed 2 times the diameter.	n/a	n/a	616
Open Channel				
	Provide drainage channel and water courses design calculations in the submittal package.	406.12	407.13	408.16
	Provide channel linings design.	n/a	615	615
	Provide channel velocity calculations.	n/a	615	615
	Provide channels designed to control erosive flows from 10-year design storm.	n/a	615	615
	Provide calculations for channel capacities: 25-year design storm for all developments, 100-year design storm for main flood control channels.	n/a	501 and 604	501 and 604
	Provide calculations to verify existing channels have been checked for additional capacity requirements.	n/a	604	604
Detention/Retention Facilities				
	Shall meet the design criteria of the Kentucky Erosion Prevention and Sediment Control Best Management Practices Planning and Technical Specifications Manual (latest edition).	n/a	n/a	501.5
	Provide detention/retention facilities design and routing calculations for 3-month, 2-year, 10-year, 25-year, 50-year, and 100-year discharges in the submittal package.	n/a	n/a	706, 712, 805, and 811
	Provide pre- and post-development drainage area maps to support calculations in the submittal	n/a	n/a	708 and 709

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	package. Separate Storm Sewer Area require 2, 10, 25, 50, and 100-year storm frequency.			
	Combined Sewer Area require 3-month, 2-year, 10-year, 25-year, 50-year, and 100-year storm frequency.	n/a	n/a	807 and 808
	Provide time of concentration (Tc) flow routes for pre- and post-development. Minimum time of concentration for any area shall be 6 minutes.	n/a	n/a	504 and 505
	Provide outlet structures designed with release rates not greater than the 2-year, 10-year, 25-year, 50-year, 100-year storm pre-development runoff rates. (Separate storm sewer area only)	n/a	n/a	710
	The 2-year storm event shall be less than or equal to 0.4 cfs per acre of drainage area (Separate storm sewer area only)	n/a	n/a	709
	Provide outlet structures designed with release rates not greater than the 3-month, 2-year, 10-year, 25-year, and 50-year storm pre-development runoff rates. A safe flow pass-through must be provided for the 100-year storm event. (Combined sewer area only)	n/a	n/a	810
	Provide an emergency spillway designed to accommodate flow equal to a 100-year storm post-development discharge. (if required)	n/a	n/a	710 and 809
	The dam crest elevation shall not be less than one (1) foot above the highest water surface elevation during the 100-year event.	n/a	n/a	711.2 and 810.2
	The discharge velocities must be controlled at the same rate as a closed system.	n/a	n/a	711.3 and 810.3
	Verify the detention basin fully discharges within 36 hours of a storm event. 36 to 48 hours for extended detention basins.	n/a	n/a	711.6 and 810.6
	If required by the State, detention/retention facilities shall have dams and spillways that conform to KDOW Design Criteria For Dams and Associated Structures. Applicant is solely responsible for applying for and obtaining any permits required by KDOW. In addition, KDOW Dam Safety Division reviews dams with dam height of 25 feet or greater as measured from the natural bed of the stream or watercourse at the downstream toe of the barrier to the low point in the top of the dam and/or Impounding capacity of fifty (50) acre-feet or more at the lowest point on the top of the dam.	n/a	n/a	n/a
	Provide maintenance accessibility and responsibility for maintenance (for public and private facilities).	n/a	n/a	711.9, 715, 811.9, 814, and 1003

Sanitation District No. 1 of Northern Kentucky
 Storm Water Rules and Regulations

	If applicable, Provide calculations for design of optional parking lot storage. (Generally limited to areas served by Combined Sewers in extremely urbanized areas of the Counties).	n/a	n/a	713, 714, 813, and 814
	Residential facilities are to be deeded to the appropriate legislative body.	n/a	n/a	715 and 814
	For retention basins, only appropriate inlet and outlet structures are to be dedicated to the appropriate legislative body.	n/a	n/a	715 and 814
	Post-Construction Water Quality Separate Storm Sewer Area			700
	New Development Projects: First 0.8 inches of rainfall must be passed through a water quality BMP before being discharged from the site			702
	Re-Development Projects: First 0.4 inches of rainfall must be passed through a water quality BMP before discharged from the site			702
	Post-Construction Water Quality Combined Sewer Area			800
	New Development Projects: That disturb 10,000 SF or more land and add 2,500 SF or more of impervious area. First 0.8 inches of rainfall must be passed through a water quality BMP before being discharged from the site			802
	Re-Development Projects: That disturb 10,000 SF or more land and add 2,500 SF or more of impervious area. Annual runoff from the site must be reduced by 15% utilizing one of the following methods: a. First 0.8 inches of rainfall must be passed through a volume-control BMP before being discharged from the site b. Reduce the existing impervious area such that annual runoff from the site is reduced by 15%; or, c. A combination of (a) and (b) above to achieve 15% reduction in annual runoff from the existing site			802
	Provide the original signed and notarized copy of the Post Construction Storm Water Facility Maintenance Agreement. All fields on the maintenance agreement must be completed and include the legal description of the parcel as filed at the court house.			1004

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Tab 3 – SD1 Enforcement Response Plan

SANITATION DISTRICT NO. 1
STORM WATER
ENFORCEMENT RESPONSE PLAN



SANITATION DISTRICT No .1
1045 EATON DRIVE
FORT WRIGHT, KY 41017

June 2020

1. Introduction

The Enforcement Response Plan (ERP) has been developed by Sanitation District No. 1 (SD1) to ensure that violations of the SD1 Storm Water Rules and Regulations (Rules and Regulations) are remedied. The ERP is an interpretation of the Rules and Regulations to set out general procedures for enforcement. Specifically, the ERP addresses the enforcement of violations associated with illicit discharges, construction site management, storm sewer one year warranty period, and long-term post-construction storm water best management practices (BMPs).

- **Illicit Discharges:** An illicit discharge is defined by the US EPA and the Kentucky Division of Water (KDOW) as any discharge entering the municipal separate storm sewer system (MS4) that is not composed entirely of storm water runoff. Examples of common illicit discharges include dumping, sanitary wastewater, laundry wastewater, commercial car wash discharges, improper disposal of household or automotive chemicals, concrete washouts and spills from roadway accidents. SD1 has developed an Illicit Discharge Detection and Elimination Program to identify, investigate and enforce correction of illegal discharges of pollutants into the MS4.
- **Construction Site Management:**
 - **Erosion Protection and Sediment Control:** KDOW requires regulations specific to controlling construction site runoff to ensure that soil disturbed during construction is not washed into the MS4 or local waterways. Enforcing these regulations is of utmost importance as sediment is a major pollutant of concern in Northern Kentucky.
 - **Notice of Termination:** All Clearing, Grading and Land Disturbance Permits and Homebuilding Permit Transfers approved by SD1 must be officially terminated through the Notice of Termination (NOT) application process. NOTs are not required for Storm Sewer or Storm Sewer Connection permits.
 - **Post-Construction Storm Water Facility Maintenance Agreements/Storm Water Management Facility Easement/Storm Water Memorandum of Understanding:** All owners of post-construction storm water best management practices are required to enter into a standard long-term maintenance agreement with SD1 utilizing one of the above.
- **Storm Sewer One Year Warranty Period:** During the warranty period, the developer and its contractor(s) shall be responsible for correcting all deficiencies in their work, and performing all repair of the storm sewers, related facilities and appurtenances required to correct such deficiencies.

- Long-term Post-Construction Storm Water BMPs: Post-construction storm water BMPs are designed and implemented to reduce storm water runoff and improve water quality from fully developed sites. BMPs are implemented as part of the land disturbance permitting process as outlined in the Rules and Regulations.

2. Enforcement Authorities and Documents

- a. Illicit Discharges
 - i. *Rules and Regulations Section 1200: Illicit Discharges and Connections*
 - ii. *Rules and Regulations Section 1300: Enforcement*
- b. Erosion Protection and Sediment Control
 - i. *Rules and Regulations Section 900: Soil Erosion, Sediment and Slope Control*
 - ii. *Rules and Regulations Section 1000: Inspection and Maintenance Requirements for Post Construction*
 - iii. *Rules and Regulations Section 1300: Enforcement*
- c. Land Disturbance Permitting BMPs
 - i. *Rules and Regulations Section 700: Post-Construction Storm Water Control Facilities in the Separate Storm Sewer Area*
 - ii. *Rules and Regulations Section 800: Post-Construction Storm Water Control Facilities in the Combined Storm Sewer Area*
 - iii. *Rules and Regulations Section 1000: Inspection and Maintenance Requirements for Post Construction*
 - iv. *Rules and Regulations Section 1300: Enforcement*
 - v. *Post-Construction Storm Water Facility Maintenance Agreement*

3. Personnel:

The following SD1 personnel are available for responding to instances of noncompliance:

- a. Executive Management
 - i. Executive Director (ED)
 - ii. Senior Director of Engineering (SD)
 - iii. General Counsel (GC)
- b. Department Management and Staff
 - i. Director (DD)
 - ii. Manager (M)
 - iii. Administrator (A)
 - iv. Coordinator (C)
 - v. Specialist (S)

In addition, other personnel within SD1 are available as needed to assist in any necessary support operation in connection with violations. Support includes, but is not limited to, Finance, Collection Systems and Laboratory support services.

As noted in Section 1301 of the Rules and Regulations, the Executive Director may designate an individual to issue enforcement provisions. The Administrative Action

Designee Acknowledgment document identifies the positions which may serve as the designee for specific enforcement provisions.

4. Enforcement Jurisdiction:

Any violation originating within the SD1 Storm Water Service Area boundary is subject to enforcement under the Rules and Regulations. Violations originating within the Kentucky Transportation Cabinet (KYTC) jurisdiction will be the responsibility of KYTC. All violations originating outside the service area boundary will be the responsibility of the applicable regulatory authority.

5. Enforcement Response Guide:

The purpose of the ERG is to define a range of appropriate enforcement actions based on the nature and severity of the violation and the overall degree of noncompliance. In addition, the ERG will promote consistent and timely use of the enforcement remedies available to SD1 by eliminating uncertainty and confusion concerning enforcement options. Anticipated types of violations are listed in the ERG and a range of initial and follow-up enforcement responses has been developed for each type of violation.

6. Enforcement Response Criteria

In order for the ERG to be an effective tool, the following criteria will be considered when making a determination on the type and level of enforcement to be utilized for the identified category:

a. Magnitude of the Violation

- **Illicit Discharge** – The magnitude of the violation is the primary determinate in evaluating the degree of enforcement required. Violations minor in nature may only require a Correction Notice, while more severe violations may require elevated enforcement such as a Cease and Desist Order.
- **Construction Site Management** – Violations with a contained environmental impact or un-willful in nature may only require a Correction Notice. Widespread environmental impact or willful in nature may require elevated enforcement such as a Stop Work Order.
- **Long-term Post-construction BMPs** – Violations with a contained environmental impact may only require a Correction Notice. Widespread environmental impact may require elevated enforcement actions.

b. Duration of Violation

- **Illicit Discharge** – Violations, regardless of the severity, which continue over a prolonged period of time, will subject the noncompliant Person to escalating enforcement actions.

- **Construction Site Management** – Violations not corrected within the allotted timeframe specified in the enforcement response guide table will subject the noncompliant Person to escalating administrative enforcement actions.
- **Long-term Post-construction BMPs** – Violations not corrected within the allotted timeframe specified in the enforcement response guide table will subject the noncompliant Person to escalating administrative enforcement actions.

c. **Compliance History/Escalated Administrative Enforcement**

- **Illicit Discharge** – Noncompliant owners exhibiting recurring compliance problems will warrant more severe enforcement actions than those with the same type of violations but a history of compliance.
- **Construction Site Management** – Noncompliant owners with consecutive escalated administrative enforcement actions in the same quarter due to not correcting documented issues in the allotted time frame, will warrant more severe enforcement response action than those with the same type of violations but a history of compliance.
- **Long-term Post-construction BMPs** – Noncompliant owners with consecutive escalated administrative enforcement due to not correcting documented issues in the allotted time frame, will warrant more severe enforcement response action than those with the same type of violations but a history of compliance.

d. **Good Faith of the Owners**

Good faith is defined as the owner's honest intention to remedy noncompliance, coupled with actions which show intent to remedy. Good faith is demonstrated by cooperation and completion of corrective measures in the allotted time frame as specified in the enforcement response guide table. A noncompliant owner's demonstrated willingness to comply will generally result in less stringent enforcement responses.

7. Enforcement Provisions

Once a violation of SD1's Rules and Regulations by a noncompliant Person has been identified, an enforcement response will be initiated. The response will be proportional to the violation's severity and be sufficient to ensure compliance in a timely manner. The types of enforcement responses utilized by SD1 are designed to cover the full range of possible violations. The responses may be used individually or in combination. Refer to Section 1301 of the Rules and Regulations for a list and explanation of the enforcement provisions.

8. Extension Request

If the remediation activities stated in any enforcement action (e.g., CN, NOV, etc.) cannot be completed by the due date, an extension request must be submitted, in writing (letter or email), to SD1. The extension request must be submitted before the due date stated in the notice. The following information must be included in the request:

- a. Progress on remediation activities.
- b. Why required activities have not been completed by designated due date.
- c. What actions still need to be performed.
- d. Revised date when work will be completed.

The Administrative Action Designee for the enforcement issued will approve or deny the request and notify the Person within 3 business days. If the request is denied, the Person can follow the request for reconsideration/appeals process in Section 1400 of the Rules and Regulations.

9. Removal Request

If the Person under enforcement believes the enforcement has been wrongfully issued, the Person must submit a request in writing (letter or email) to SD1 for the removal of the enforcement. The request must include a justification and supporting evidence. The Administrative Action Designee for the enforcement issued will approve or deny the request and notify the Person within 5 business days. If the request is denied, the Person can follow the request for reconsideration/appeals process in Section 1400 of the Rules and Regulations.

10. Use of the Enforcement Response Guide

The following details how to utilize the Enforcement Response Guide (ERG) for determining the most appropriate enforcement action for the observed violation(s):

Determine whether the violation of the Rules and Regulations is associated with an illicit discharge, construction site management, one year warranty period, or permitted long-term post-construction BMP.

- a. Locate the type of noncompliance in the first column and identify the most accurate description of the violation in the second column. First-time offenders or noncompliant Owners demonstrating good faith efforts may merit a more lenient response. Similarly, repeat offenders or those demonstrating negligence may require a more stringent response.
- b. Identified enforcement response party in column six assesses the appropriateness of the recommended response(s) in column three and initiate the enforcement response to the noncompliant Owner utilizing the appropriate method in column four. The location of the electronic templates for enforcement are referenced below each table.
- c. Identify corrective action or other response(s) required of the noncompliant

Owner, and identify the appropriate time (column five) to accomplish the corrective action.

- d. Notify the appropriate SD1 personnel of the violation and identified enforcement measures as specified in the “SD1 Notification” column seven of the ERG.
- e. For violations that require enforcement actions by external agencies (i.e., Kentucky Division of Water, Northern Kentucky Independent Health Department, etc.), notify the appropriate agency as specified in the “Enforcement Notification” column four of the ERG.
- f. Document all enforcement actions and associated communications in the appropriate format for record-keeping purposes:
 - i. Illicit Discharge Non-Compliance/Enforcement: All illicit discharge violations, associated enforcement and related conversations must be documented in the Lucity Illicit Discharge Module.
 - ii. Construction Site Management: All issues of construction site management non-compliance and resulting enforcement actions must be documented in the Lucity Projects Module and the permitted site’s project folder.
 - iii. One Year Warranty Period: All issues related to storm sewer pipe construction non-compliance and resulting enforcement actions must be documented in the Lucity Projects Module and the permitted site’s project folder.
 - iv. Long-term Post-Construction Storm Water BMPs: All issues of non-compliance associated with storm water BMPs, resulting enforcement measures and related conversations must be documented in Lucity’s BMP Module.
- g. Use the following table to determine amounts for administrative fines:

Fine Amount	Violation Type
\$250	<ul style="list-style-type: none"> ○ Violation is minor in nature ○ Short duration or one-time violations ○ Failure to address previous enforcement actions ○ Documentation violations
\$500	<ul style="list-style-type: none"> ○ Results in minimal harm to the environment ○ One-time offense
\$1000	<ul style="list-style-type: none"> ○ Violation is major in nature and results in significant harm to the environment ○ Violation is willful or intentional ○ Duration is ongoing or repetitive

ENFORCEMENT RESPONSE GUIDE: ILLICIT DISCHARGES

COMPLIANCE REQUIREMENT	NATURE OF VIOLATION	ENFORCEMENT RESPONSE	ENFORCEMENT NOTIFICATION	REMEDIATION TIME	ENFORCEMENT RESPONSIBLE PARTY	SD1 NOTIFICATION
Illicit Discharge to MS4	Minor Illicit Discharge that is undergoing remediation	VN	Verbal	24 hours	C/S or A	DD, M, A
	Illicit Connections <ul style="list-style-type: none"> Any unauthorized connection (direct or indirect) discharging residential, commercial or industrial wastewater (sanitary laterals, septic systems, grey water discharges, pool water discharges, etc.) 	CN	Certified Mail	30 days	A	SD, GC, DD, DCS, M, C/S
	KPDES permitted discharge (failing permit limits)	---	Transfer to KDOW via email	---	A	DD, M, C/S
	Illegal dumping <ul style="list-style-type: none"> Food service waste (fats, oils, grease, juices, etc.) Solid/Nonhazardous waste (garbage, concrete wash water, yard waste, etc.) Hazardous waste (liquid and solid chemicals) 	CN or NOV or Escalated Administrative Enforcement	Certified Mail	24 hours – 5 days	A	SD, GC, DD, M, C/S
Unpermitted Discharge to Waterbody or Ground Surface	Failing sanitary lateral	---	Transfer to SD1 Collection Systems via Trouble Call	---	A	DD, M, C/S
	Failing septic system	---	Transfer to NKHD via email	---	C/S	DD, M, A
	Unpermitted discharge ("straight pipe")	---	Transfer to KDOW via email	---	C/S	DD, M, A
	KPDES permitted discharge (failing permit limits)	---	Transfer to KDOW via email	---	A	DD, M, C/S

COMPLIANCE REQUIREMENT	NATURE OF VIOLATION	ENFORCEMENT RESPONSE	ENFORCEMENT NOTIFICATION	REMEDIATION TIME	ENFORCEMENT RESPONSIBLE PARTY	SD1 NOTIFICATION
Unpermitted Discharge to Waterbody or Ground Surface	Illegal dumping Food service waste (fats, oils, grease, juices, etc.) Solid/Nonhazardous waste (garbage, paint, concrete wash water, yard waste, etc.) Hazardous waste (liquid and solid chemicals)	---	Transfer to appropriate agency (e.g., KDOW, NKHD, County Solid Waste, County Emergency Management, etc.) via phone call & email	---	A	DD, M, C/S
Previous Non-Compliance	History of violations by same party	NOV	Certified Mail	30 days	A	SD, GC, DD, DCS, M, C/S
	Failure to correct any items issued a CN within allotted timeframe	NOV	Certified Mail	30 days	A	SD, GC, DD, DCS, M, C/S
	Failure to correct any items issued a NOV within allotted timeframe	Escalated Administrative Enforcement	Certified Mail	30 days	A, GC	ED, SD, GC, DD, DCS, M, C/S

Enforcement Response

- VN Verbal Notice
- CN Correction Notice
- NOV Notice of Violation

Parties Associated with Enforcement of Illicit Discharges

- ED Executive Director
- SD Senior Director, Engineering
- GC General Counsel
- DD Department Director (Engineering Services or Water Resources)
- DCS Director of Customer Service
- M Manager
- A Administrator
- C/S Coordinator/Specialist
- NKHD Northern Kentucky Health Department
- KDOW Kentucky Division of Water

Enforcement Templates Location

X:\STORMWTR\Permit Compliance\MCM 3 - Illicit Discharge\Enforcement\Corrective Action Notice

ENFORCEMENT RESPONSE GUIDE: CONSTRUCTION SITE MANAGEMENT

COMPLIANCE REQUIREMENT	NATURE OF VIOLATION	ENFORCEMENT RESPONSE	ENFORCEMENT NOTIFICATION	REMEDIATION TIME	ENFORCEMENT RESPONSIBLE PARTY	SD1 NOTIFICATION
Project Initiation	Failure to obtain the appropriate land disturbance permit from SD1	Stop Work Order	Posted Onsite, Email and/or Certified Mail	---	A	ED, SD, GC, DD, M, C/S
	Starting site construction without 72 hour notice/onsite pre-construction meeting	NOV	Email w/ Violation Form	3 days	A	DD, M, C/S
Storm Water Pollution Prevention Plan	Failure to produce the SWPPP	CN	Email w/ Violation Form	3 days	A	DD, M, C/S
	Failure to keep the SWPPP updated (marked up plans, current self-inspection reports)	CN	Email w/ Violation Form	3 days	A	DD, M, C/S
	No site self-inspection reports	CN	Email w/ Violation Form	3 days	A	DD, M, C/S
	No onsite responsible person identified	CN	Email w/ Violation Form	3 days	A	DD, M, C/S
	Failure to keep up with good housekeeping practices	CN	Email w/ Violation Form	3 days	A	DD, M, C/S
BMP Implementation	Failure to properly install BMPs per plan detail or manufacturer's recommendation	CN	Email w/ Violation Form	3 days	A	DD, M, C/S
	Failure to provide dust control	CN	Email w/ Violation Form	3 days	A	DD, M, C/S

COMPLIANCE REQUIREMENT	NATURE OF VIOLATION	ENFORCEMENT RESPONSE	ENFORCEMENT NOTIFICATION	REMEDIATION TIME	SD1 ENFORCEMENT RESPONSIBLE PARTY	SD1 NOTIFICATION
BMP Implementation	Concrete discharge to infrastructure or waterway	NOV	Email w/ Violation Form	3 days	A	DD, M, C/S
	Improper material storage	CN	Email w/ Violation Form	3 days	A	DD, M, C/S
	Improper fuel tank containment	CN	Email w/ Violation Form	3 days	A	DD, M, C/S
	Failure to install construction entrance per plan detail	CN	Email w/ Violation Form	3 days	A	DD, M, C/S
	Failure to install/maintain channel lining per plan detail	CN	Email w/ Violation Form	3 days	A	DD, M, C/S
	Failure to keep roadway free of mud/debris	CN	Email w/ Violation Form	3 days	A	DD, M, C/S
	Failure to stabilize stock piles	CN	Email w/ Violation Form	3 days	A	DD, M, C/S
	Failure to install controls for individual building lot protection	CN	Email w/ Violation Form	3 days	A	DD, M, C/S
	Failure to provide maintenance to any BMPs as needed	CN	Email w/ Violation Form	3 days	A	DD, M, C/S
	Dewatering without filter controls	NOV	Email w/ Violation Form	3 days	A	DD, M, C/S
Failure to install sediment basin per approved plans	NOV	Email w/ Violation Form	3 days	A	DD, M, C/S	

COMPLIANCE REQUIREMENT	NATURE OF VIOLATION	ENFORCEMENT RESPONSE	ENFORCEMENT NOTIFICATION	REMEDIATION TIME	ENFORCEMENT RESPONSIBLE PARTY	SD1 NOTIFICATION
Previous Non-Compliance	Failure to correct any items issued a CN within the allotted timeframe	NOV	Email w/ Violation Form	3 days	A	DD, M, C/S
	Failure to correct any items issued an NOV within the allotted timeframe	Escalated Administrative Enforcement	Posted Onsite/Email/ Certified Mail	---	A, GC	ED, SD, GC, DD, M, C/S
	Working after a Stop Work Order has been issued	Escalated Administrative Enforcement	Posted Onsite/Email/ Certified Mail	---	A, GC	ED, SD, GC, DD, M, C/S
	Failure to complete NOT process (via Courtesy)	CN	Email w/ NOT Letter	30 days	A	DD, M, C/S
	Failure to complete NOT process (via CN)	NOV	Email w/ NOT Letter	30 days	A	SD, DD, M, C/S
	Failure to complete NOT process (via NOV) – <u>Excluding BMP punch list</u>	NOV Administrative Fines	Certified Mail & Email	---	A	ED, SD, GC, DD, M, C/S
	Failure to complete NOT process (via NOV) – <u>MA BMP punch list only</u>	Intent to perform work letter	Certified Mail & Email	30 days	A	ED, SD, GC, DD, M, C/S
	Failure to complete NOT process (<u>via Intent to Perform Work Letter</u>) – <u>BMP punch list only</u>	SD1 performs deficient punch list work	SD1 mobilization	---	A	ED, SD, GC, DD, M, C/S
Failure to submit MA (via prior notification)	Escalated Administrative Enforcement	Posted Onsite/Email/ Certified Mail/Stop Work Order	---	A	ED, SD, GC, DD, M, C/S	

ENFORCEMENT RESPONSE GUIDE: ONE YEAR WARRANTY PERIOD (OYWP)

COMPLIANCE REQUIREMENT	NATURE OF VIOLATION	ENFORCEMENT RESPONSE	ENFORCEMENT NOTIFICATION	REMEDIATION TIME	ENFORCEMENT RESPONSIBLE PARTY	SD1 NOTIFICATION
Correct OYWP Deficiencies	Failure to Correct OYWP Deficiencies	Escalated Administrative Enforcement	Email w/ Violation Form	60 days	A	DD, M, C/S

Enforcement Response

CN Correction Notice
 NOV Notice of Violation

Parties Associated with Enforcement of Erosion Prevention & Sediment Control

ED Executive Director
 SD Senior Director, Engineering
 GC General Counsel
 DD Department Director (Engineering Services or Water Resources)
 M Manager
 A Administrator
 C/S Coordinator/Specialist

Enforcement Templates Location

EPSC
 X:\STORMWTR\Permit Compliance\MCM 4 - Construction Sites\Enforcement Templates\Violation Forms\EPSC Violation Templates

NOT
 X:\STORMWTR\Permit Compliance\MCM 4 - Construction Sites\Enforcement Templates\Violation Forms\not Violation Templates

MA
 X:\STORMWTR\Permit Compliance\MCM 4 - Construction Sites\Enforcement Templates\Violation Forms\Maintenance Agreements

ENFORCEMENT RESPONSE GUIDE: PERMITTED LONG-TERM POST-CONSTRUCTION BMPS

COMPLIANCE REQUIREMENT	NATURE OF VIOLATION	ENFORCEMENT RESPONSE	ENFORCEMENT NOTIFICATION	REMEDIATION TIME	ENFORCEMENT RESPONSIBLE PARTY	SD1 NOTIFICATION
BMP Installation	Failure to install post-construction BMP per approved plans	CN	Email w/ Violation Form	3 days	A	DD, M, C/S
	Failure to adequately protect post-construction BMP with EPSC controls	CN	Email w/ Violation Form	3 days	A	DD, M, C/S
SD1 BMP Inspection	Failure to maintain BMP in accordance with BMP maintenance checklist & maintenance agreement*	CN	Certified Mail	30 days	A	DD, M, C/S
	Denial of Access to SD1 with Proper Identification*	NOV	Certified Mail	5 days	A	DD, M, C/S
	Unauthorized Alteration of BMP from SD1 Approved Design - Does Not Immediately Impact Functionality of BMP*	CN	Certified Mail	30 days	A	DD, M, C/S
	Unauthorized Alteration of BMP from SD1 Approved Design – Does Immediately Impact Functionality of BMP*	NOV	Certified Mail	30 days	A	SD, GC, DD, M, C/S
	Failure to follow provided maintenance schedule	CN	Certified Mail	---	A	DD, M, C/S
	Failure to provide annual inspection report upon request	NOV	Certified Mail	---	A	DD, M, C/S
Previous Non-Compliance	Failure to correct any items issued a CN within the allotted timeframe*	NOV	Certified Mail	30 Days	A	SD, DD, M, C/S

COMPLIANCE REQUIREMENT	NATURE OF VIOLATION	ENFORCEMENT RESPONSE	ENFORCEMENT NOTIFICATION	REMEDIATION TIME	ENFORCEMENT RESPONSIBLE PARTY	SD1 NOTIFICATION
Previous Non-Compliance	Failure to correct any items issued a NOV within the allotted timeframe*	Escalated Administrative Enforcement	Certified Mail	30 days	ECA, GC	ED, DED, GC, DIWM, ECM, ES
	Failure to Reimburse SD1 for Work Performed	Refer to Legal for Administrative Process	---	---	---	---

* In addition to violations and enforcement responses for BMPs installed as part of the permitted development process, these violations and enforcement responses may also be utilized for necessary enforcement against post-construction BMPs receiving credit in accordance with the Northern Kentucky Regional Storm Water Management Program Credit Policy.

Enforcement Response

CN Correction Notice
NOV Notice of Violation

Parties Associated with Enforcement of Permitted Development BMPs

ED Executive Director
SD Senior Director, Engineering
GC General Counsel
DD Department Director (Engineering Services or Water Resources)
M Manager
A Administrator
C/S Coordinator/Specialist

Enforcement Templates Location

X:\STORMWTR\Permit Compliance\MCM 5 - Post Construction\Standard Operating Procedures

Appendix 4 - MCM 4

Tab 4 - MCM 4 Training Documentation – Internal Staff

First Name	Last Name	Company	Qualification Number	Qualification Date	Qualification Expiration
Jarred	Bannon	Crane Environmental Services Llc	220300001	3/2/2022	3/2/2025
Jenna	Basham	Crane Environmental Services LLC	220300002	3/2/2022	3/2/2025
Jacob	Chaney	Hinkle Contracting Company	220300003	3/2/2022	3/2/2025
Dylan	Durbin	City of Bardstown	220300004	3/2/2022	3/2/2025
Aurora	Esquivel	Charles Deweese Construction, Inc.	220300005	3/2/2022	3/2/2025
Jacob	Gabbard	Green River Equipment Leasing, Inc.	220300006	3/2/2022	3/2/2025
John	Green	Hinkle Contracting Company Llc	220300007	3/2/2022	3/2/2025
Ellen	Mullen	Crane Environmental Services Llc	220300008	3/2/2022	3/2/2025
Tyler	Rankin	GAI Consultants, Inc.	220300009	3/2/2022	3/2/2025
Gregory H	Baker	Tobacco Rose Farm Construction & Development Llc	220300010	3/9/2022	3/9/2025
Shelia	Baker	Tobacco Rose Farm Construction & Development Llc	220300011	3/9/2022	3/9/2025
Marie	Bezold	GAI Consultants	220300012	3/9/2022	3/9/2025
Tom	Bond	City of Lawrenceburg	220300013	3/9/2022	3/9/2025
Henry Jacob	Buchenberger	Ecogro	220300014	3/9/2022	3/9/2025
Samuel	Bunting	H&b Lawn And Land, Llc	220300015	3/9/2022	3/9/2025
Jarrad	Burton	East Kentucky Power Cooprative, Inc.	220300016	3/9/2022	3/9/2025
Zachary	Capps	Iuoe Local 181	220300017	3/9/2022	3/9/2025
Alan	Culbertson	Fisher Contracting Company	220300018	3/9/2022	3/9/2025
John	Dalton	Weddle Enterprises Inc.	220300019	3/9/2022	3/9/2025
Brad	Donohoo	Thalle Construction Co., Inc.	220300020	3/9/2022	3/9/2025
Brandon	Edwards	Barton Malow Company	220300021	3/9/2022	3/9/2025
George	Eschker	Barton Malow Company	220300022	3/9/2022	3/9/2025
Adam	Evans	Weddle Enterprises Inc.	220300023	3/9/2022	3/9/2025
Matthew	Goings	Ryan Incorporated Central	220300024	3/9/2022	3/9/2025
Paul	Hafner	Thoroughbred Engineering	220300025	3/9/2022	3/9/2025
Devin	Hardyman	East Kentucky Power Cooperative, Inc.	220300026	3/9/2022	3/9/2025
Michael	House	Barton Malow Company	220300027	3/9/2022	3/9/2025
Logan	Jackson	Gray Construction	220300028	3/9/2022	3/9/2025
Phillip	Jordan	Barton Malow Company	220300029	3/9/2022	3/9/2025
Steven	Kinney	Barton Malow	220300030	3/9/2022	3/9/2025
Kyle	Kremer	Barton Malow Company	220300031	3/9/2022	3/9/2025
Joseph	Morrow	Mohawk Valley Materials	220300032	3/9/2022	3/9/2025
Larry	Mounce	Ridgewater LLC	220300033	3/9/2022	3/9/2025
Trisha	Novack	Terracon	220300034	3/9/2022	3/9/2025
Scott	Potvin	Barton Malow Company	220300035	3/9/2022	3/9/2025
Brad	Redmon	Ridgewater LLC	220300036	3/9/2022	3/9/2025
Jeremy	Reynolds	Georgetown-Scott County Planning Commission	220300037	3/9/2022	3/9/2025
Jason	Roseberry	East Kentucky Power Cooperative, Inc.	220300038	3/9/2022	3/9/2025
Vanessa	Rudd	Usace	220300039	3/9/2022	3/9/2025
Ciera	Simon	City Of Owensboro	220300040	3/9/2022	3/9/2025

Matt	Staton	University of Kentucky Environmental Management	220300041	3/9/2022	3/9/2025
Ryan	Steele	Weddle Enterprises Inc.	220300042	3/9/2022	3/9/2025
Jace	Swartzlander	Thalle Construction Co., Inc.	220300043	3/9/2022	3/9/2025
Gregory	Swindle	Thalle Construction Co., Inc.	220300044	3/9/2022	3/9/2025
Jeremy	Tarrence	Apex Excavation	220300045	3/9/2022	3/9/2025
Dylan	Ware	East Kentucky Power Cooperative, Inc.	220300046	3/9/2022	3/9/2025
Kyle	Wisener	Heeter Construction	220300047	3/9/2022	3/9/2025
Michael	Wallace	Green River Equipment Leasing, Inc.	220400048	4/13/2022	4/13/2025
Zachary	Wright	Mohawk Valley Materials	220500049	5/11/2022	5/11/2025
Terry	Bailey	AT&T	220600050	6/8/2022	6/8/2025
Marissa	Baker	Tobacco Rose	220600051	6/8/2022	6/8/2025
Gregory	Baker	Tobacco Rose Farm Construction	220600052	6/8/2022	6/8/2025
Zebulun	Bame	True Inspection Services	220600053	6/8/2022	6/8/2025
John	Berry	City of Owensboro	220600054	6/8/2022	6/8/2025
Taylor	Fields	City of Mt. Washington	220600055	6/8/2022	6/8/2025
James	Johnson	Bluegrass Contracting Corp.	220600056	6/8/2022	6/8/2025
Tracy	Logan	City Of Madisonville Ky	220600057	6/8/2022	6/8/2025
Chris	Long	AT&T	220600058	6/8/2022	6/8/2025
Travis	Mccoy	Solid Ground Consulting Engineers	220600059	6/8/2022	6/8/2025
Tanner	Mckenzie	Bluegrass Contracting Corp	220600060	6/8/2022	6/8/2025
Josh	Miller	Clark Construction Co.	220600061	6/8/2022	6/8/2025
Angela	Pelfrey	Bluegrass Contracting Corporation	220600062	6/8/2022	6/8/2025
John	Roach	AT&T	220600063	6/8/2022	6/8/2025
Raymond	Sanders	City Of Madisonville	220600064	6/8/2022	6/8/2025
Thomas	Shafer	Age Engineering	220600065	6/8/2022	6/8/2025
Steve	Sidle	Barton Malow Company	220600066	6/8/2022	6/8/2025
Sam	Sigmon	Denham-Blythe	220600067	6/8/2022	6/8/2025
Beck	Smith	Solid Ground Consulting Engineers	220600068	6/8/2022	6/8/2025
Sylvester	White	Nucor	220600069	6/8/2022	6/8/2025
Kerry	Williams	Nucor Brandenburg	220600070	6/8/2022	6/8/2025
Michael	Wright	City of Cold Spring	220600071	6/8/2022	6/8/2025
Robert	Burton	Davis H. Elliot Co.	220800072	8/10/2022	8/10/2025
Robert	Caldwell	Davis H. Elliot Co.	220800073	8/10/2022	8/10/2025
Francis	Detherage	Davis H. Elliot Co.	220800074	8/10/2022	8/10/2025
Brandon	Durham	Davis H. Elliot Co.	220800075	8/10/2022	8/10/2025
Jerry	Evans	Davis H. Elliot Co.	220800076	8/10/2022	8/10/2025
Bobby	Gooch	Davis H. Elliot Co.	220800077	8/10/2022	8/10/2025
Kyle	Miller	Davis H. Elliot Co.	220800078	8/10/2022	8/10/2025
William	Minton	Davis H. Elliot Co.	220800079	8/10/2022	8/10/2025
Lewis	Allen	City of Campbellsville	221000080	10/19/2022	10/19/2025
Kevin	Alwine	ABR Construction, Inc.	221000081	10/19/2022	10/19/2025
Thomas	Beke	Bascon Inc.	221000082	10/19/2022	10/19/2025
Derek	Benham	Nucor Brandenburg	221000083	10/19/2022	10/19/2025
Westley	Billingsley	Glasgow Public Works	221000084	10/19/2022	10/19/2025
Charles	Carson	ABR Construction, Inc	221000085	10/19/2022	10/19/2025
Ben	Cornett	Lexington Fayette Urban County Government	221000087	10/19/2022	10/19/2025
Jeremy	Couch	City of Richmond	221000088	10/19/2022	10/19/2025
Josh	Edwards	City of Shepherdsville	221000089	10/19/2022	10/19/2025
Shaleum	Fields	City of Georgetown	221000090	10/19/2022	10/19/2025
Scott	Fleming	City of Shepherdsville	221000091	10/19/2022	10/19/2025
Jon	Gussler	Yates Construction	221000092	10/19/2022	10/19/2025

Ryan	Hall	Solid Ground Consulting Engineers	221000093	10/19/2022	10/19/2025
Jeffrey	Harris	City of Ashland	221000094	10/19/2022	10/19/2025
Sam	Hatcher	City of Glasgow	221000095	10/19/2022	10/19/2025
Jeremy	Jackson	Jackson Group	221000096	10/19/2022	10/19/2025
Don	Larimore	Yates Construction	221000097	10/19/2022	10/19/2025
Christopher	Manning	Consulting Services Incorporated	221000098	10/19/2022	10/19/2025
Jesse	Smith	Nucor	221000099	10/19/2022	10/19/2025
Mark	Stell	Bristol Group	221000100	10/19/2022	10/19/2025
Darren	Whitehouse	ABR Construction, Inc.	221000102	10/19/2022	10/19/2025
Lincoln	Bell	City of Glasgow	221100103	11/3/2022	11/3/2025
Cory	Bloyd	Third Rock Consultants	221100104	11/3/2022	11/3/2025
Mark	Brasher	Daviess County Road Dept	221100105	11/3/2022	11/3/2025
Zak	Dunn	City of Hopkinsville - Community & Development Services	221100106	11/3/2022	11/3/2025
Kenny	Dunn	AT&T	221100107	11/3/2022	11/3/2025
Dekia	Gaither	EKU	221100108	11/3/2022	11/3/2025
Paul	Goodin	Chu Con Inc.	221100109	11/3/2022	11/3/2025
William	Hall	Third Rock Consultants	221100110	11/3/2022	11/3/2025
Jim	Hanssen	Ecogro	221100111	11/3/2022	11/3/2025
Sherana	Key	City of Shelbyville - PW	221100112	11/3/2022	11/3/2025
Jared	Looney	Third Rock Consultants	221100113	11/3/2022	11/3/2025
Casey	Mattingly	Third Rock Consultants	221100114	11/3/2022	11/3/2025
Hunter	Ragan	City of Owensboro	221100115	11/3/2022	11/3/2025
Ray	Richardson	City of Frankfort	221100116	11/3/2022	11/3/2025
April	Russell	City of Glasgow	221100117	11/3/2022	11/3/2025
Abigail	Terry	Tetra Tech	221100118	11/3/2022	11/3/2025
Philip	Bowman	S&ME	230200001	2/8/2023	2/8/2026
Joshua	Broughton	City of Vine Grove	230200002	2/8/2023	2/8/2026
Matthew	Calvert	Henderson Water Utility	230200003	2/8/2023	2/8/2026
Malea	Casey	Stantec	230200004	2/8/2023	2/8/2026
Adam	Caudill	City Of Flatwoods	230200005	2/8/2023	2/8/2026
Cyrus	Chastain	Stantec Consulting, Inc.	230200006	2/8/2023	2/8/2026
James	Clark	City of Vine Grove	230200007	2/8/2023	2/8/2026
Hayden	Dickens	Denham-Blythe Company, Inc.	230200008	2/8/2023	2/8/2026
Aaron	Dockery	City of Somerset	230200009	2/8/2023	2/8/2026
Mike	Dumadag	Midwest Testing	230200010	2/8/2023	2/8/2026
Matt	Garrett	City of Flatwoods	230200011	2/8/2023	2/8/2026
Angel	Gonzales	City of Vine Grove	230200012	2/8/2023	2/8/2026
Summer Lynn	Hargrove	Knight Electric, Inc.	230200013	2/8/2023	2/8/2026
Marshall	Haydon	Haydon Bridge	230200014	2/8/2023	2/8/2026
Gary	Howard	Mohawk Valley Materials	230200015	2/8/2023	2/8/2026
Shawn	Hutchins	Ecogro	230200016	2/8/2023	2/8/2026
Cody	Jones	Stantec	230200017	2/8/2023	2/8/2026
Tim	Kelley	City Of Middlesboro	230200018	2/8/2023	2/8/2026
Corey	Kirby	Nucor Steel Brandenburg	230200019	2/8/2023	2/8/2026
David	Lynn	Mclean County Fiscal Court	230200020	2/8/2023	2/8/2026
Penny	Martin	Green Solutions Landcare	230200021	2/8/2023	2/8/2026
Edgar	Mattingly	Haydon Bridge Company	230200022	2/8/2023	2/8/2026
Jack	McCaslin	GN Excavating & Trucking	230200023	2/8/2023	2/8/2026
Isaac	Mosley	Construction	230200024	2/8/2023	2/8/2026
Elizabeth	Nanney	Construction	230200025	2/8/2023	2/8/2026
Donnie	Parrett	City of Vine Grove	230200026	2/8/2023	2/8/2026

David	Perry	City of Mt. Washington	230200027	2/8/2023	2/8/2026
Dustin	Phillips	Nucor Steel Brandenburg	230200028	2/8/2023	2/8/2026
Amos	Rieber	Denham-Blythe Company, Inc.	230200029	2/8/2023	2/8/2026
Wayne	Skipworth	Hinkle Construction Services	230200030	2/8/2023	2/8/2026
Jordan	Thomas	Ecogro	230200031	2/8/2023	2/8/2026
Fischer	Thurston	Knight Electric, Inc.	230200032	2/8/2023	2/8/2026
Jason	Tiffin	Mohawk Valley Materials, Inc.	230200033	2/8/2023	2/8/2026
Will	Walker	Ecogro	230200034	2/8/2023	2/8/2026
Russ	Whitlock	Capstone Consultants	230200035	2/8/2023	2/8/2026
Yul	Venters	S&ME	230300036	3/8/2023	3/8/2026
Phillip	Breeding	Ball Homes	230300037	3/21/2023	3/21/2026
Robert	Bullock	CDP Engineers Inc.	230300038	3/21/2023	3/21/2026
Christopher	Crumpton	Bluestone Engineers, Pllc	230300039	3/21/2023	3/21/2026
Jason	Groh	City of Russell	230300040	3/21/2023	3/21/2026
Dave	Herndon	City of Hopkinsville	230300041	3/21/2023	3/21/2026
Hunter	Jeffries	Todd Johnson Contracting, Inc.	230300042	3/21/2023	3/21/2026
Ben	Johnson	Ball Homes, LLC	230300043	3/21/2023	3/21/2026
Jeremy	Johnson	Todd Johnson Contracting, Inc.	230300044	3/21/2023	3/21/2026
Kevin	Lewis	University of Kentucky - Environmental Quality Management	230300045	3/21/2023	3/21/2026
Roger	Potter	City of Russell	230300046	3/21/2023	3/21/2026
Patrick	Schutte	City of LaGrange	230300047	3/21/2023	3/21/2026
Matt	Staton	University of Kentucky Environmental Management	230300048	3/21/2023	3/21/2026
Anthony	Tharp	City of Wurtland	230300049	3/21/2023	3/21/2026
Richard	Walker	Tetra Tech	230300050	3/21/2023	3/21/2026
Joe	Williams	M&W Excavation	230300051	3/21/2023	3/21/2026
Major	Ballard	Ky Dep	230500052	5/3/2023	5/3/2026
Wesley	Cassady	Fisher Contracting Co.	230500053	5/3/2023	5/3/2026
Joseph	Kreikemeier	Paric Corporation	230500054	5/3/2023	5/3/2026
Michael	LeMaster	LFUCG - Environmental Services	230500055	5/3/2023	5/3/2026
Gerry	Regensburger	City of Walton	230500056	5/3/2023	5/3/2026
Andrew	Sponaule	Prime Engineering	230500057	5/3/2023	5/3/2026
Grant	Straiton	Blue Ridge Power	230500058	5/3/2023	5/3/2026
Ryan	Vance	Blue Ridge Power	230500059	5/3/2023	5/3/2026
Jon	Ash	USACE	230500060	7/26/2023	7/26/2026
Jason	Atcher	HCWD I	230500061	7/26/2023	7/26/2026
Derrick	Born	USAG Fort Knox	230500062	7/26/2023	7/26/2026
Coleman	England	DPW	230500063	7/26/2023	7/26/2026
Allie	Erdman	The Ginn Group	230500064	7/26/2023	7/26/2026
Angela	Fackler	Lendlease	230500065	7/26/2023	7/26/2026
William	Haub	USACE	230500066	7/26/2023	7/26/2026
Mike	Hasty	DPW	230500067	7/26/2023	7/26/2026
Mark	Hazelwood	DPW	230500068	7/26/2023	7/26/2026
Patrick	Jordan	DPTMS	230500069	7/26/2023	7/26/2026
Jerrold	Miniard	DPTMS	230500070	7/26/2023	7/26/2026
Jon	Philip	Hardin County Water District	230500071	7/26/2023	7/26/2026
Charles	Roth	Environmental Research Group LLC	230500072	7/26/2023	7/26/2026
David	Smith	USACE	230500073	7/26/2023	7/26/2026
Kasey	Tipton	USACE	230500074	7/26/2023	7/26/2026
Anthony	Torgersen	DPTMS	230500075	7/26/2023	7/26/2026
Denis	Walls	DPTMS	230500076	7/26/2023	7/26/2026
Jerome	Walls	DPW	230500077	7/26/2023	7/26/2026
John	Wiseman	DPW	230500078	7/26/2023	7/26/2026
Kimberly	Arndt	Lutgring Bros., Inc.	230900079	9/7/2023	9/7/2026
Matthew	Bogen	Cardinal Engineering	230900080	9/7/2023	9/7/2026
Jack	Cobb	City of Nicholasville	230900081	9/7/2023	9/7/2026
Steven	Cole	City of Ashland	230900082	9/7/2023	9/7/2026
Jessica	Dixon	East Kentucky Power Cooperative	230900083	9/7/2023	9/7/2026

Adam	Engels	City Of Florence	230900084	9/7/2023	9/7/2026
Brian	Ferguson	Pitman Green LLC	230900085	9/7/2023	9/7/2026
John	Goldey	Jessamine County Planning And Zoning	230900086	9/7/2023	9/7/2026
John	Hale	Bill Adams Construction	230900087	9/7/2023	9/7/2026
Kevin	Hunter	Sanitation District No. 1	230900088	9/7/2023	9/7/2026
Georgia	Jones	Lawrence Construction	230900089	9/7/2023	9/7/2026
Ben	Judah	Franklin County - Planning & Zoning	230900090	9/7/2023	9/7/2026
Herbert Ray	Lemaster	Tetra Tech	230900091	9/7/2023	9/7/2026
Carey	Mclaughlin	Sanitation District 1	230900092	9/7/2023	9/7/2026
Gina	Morris	Third Rock Consultants	230900093	9/7/2023	9/7/2026
Derek	Schade	Oldham County Fiscal Court	230900094	9/7/2023	9/7/2026
Tim	Sharp	Scotty's Contracting	230900095	9/7/2023	9/7/2026
Jim	Silliman	Oldham County Fiscal Court	230900096	9/7/2023	9/7/2026
David	Smith	Ball Homes LLC	230900097	9/7/2023	9/7/2026
Mark	Thomas	Summit Architects+Engineers	230900098	9/7/2023	9/7/2026
Michael	Thompson Jr.	Oldham County Fiscal Court	230900099	9/7/2023	9/7/2026
Thomas	Wells	Tommy Wells Construction	230900100	9/7/2023	9/7/2026
Don	Coffman	City of Mount Washington	231000101	10/11/2023	10/11/2026
Richard	Anderson	NiSource	231000102	10/18/2023	10/18/2026
Rhon	Blevins	City of Somerset	231000103	10/18/2023	10/18/2026
Jakob	Casey	Denham-Blythe Company, Inc.	231000104	10/18/2023	10/18/2026
Steven	Chafin	C Squared Excavating	231000105	10/18/2023	10/18/2026
Keyon	Chapman	City of Murray - Street	231000106	10/18/2023	10/18/2026
Matthew	Collier	Safety Management Group	231000107	10/18/2023	10/18/2026
Patrick	Eidson	Eastern Kentucky University	231000108	10/18/2023	10/18/2026
Clint	Evans	City of Murray - Street	231000109	10/18/2023	10/18/2026
Savannah	Flesher	CVG Airport Authority	231000110	10/18/2023	10/18/2026
William	Galusha	Galusha Contracting, LLC	231000111	10/18/2023	10/18/2026
Matthew	Gregory	Hinkle Contracting, Llc	231000112	10/18/2023	10/18/2026
Calvin	Gresham	Ctl Engineering	231000113	10/18/2023	10/18/2026
Kristen	Guggenheim	Nucor	231000114	10/18/2023	10/18/2026
Bob	Jackson	Cvg Airport Authority	231000115	10/18/2023	10/18/2026
Brantley	Johnson	Drains Unlimited, Inc.	231000116	10/18/2023	10/18/2026
Bobby	Justice	Drains Unlimited, Inc.	231000117	10/18/2023	10/18/2026
Jeremy	Maples	Age Engineering	231000118	10/18/2023	10/18/2026
Hugh	Merriman	Age Engineering Services	231000119	10/18/2023	10/18/2026
Jonathan	Owen	Haydon Bridge Company	231000120	10/18/2023	10/18/2026
Michael	Pennington	Drains Unlimited, Inc.	231000121	10/18/2023	10/18/2026
Brad	Quatman	Cvg Airport Authority	231000122	10/18/2023	10/18/2026
Michael	Roshel	Denham-Blythe Company, Inc.	231000123	10/18/2023	10/18/2026
Vincent	Shiben	Denham-Blythe Company, Inc.	231000124	10/18/2023	10/18/2026
Jason	Slone	Drains Unlimited, Inc.	231000125	10/18/2023	10/18/2026
Isaac	Smith	Denham-Blythe Company, Inc.	231000126	10/18/2023	10/18/2026
Brandon	Snow	Age Engineeirng	231000127	10/18/2023	10/18/2026
David	Travis	City of Ashland	231000128	10/18/2023	10/18/2026
Ken	Ward	Woodford Excavation & Transport Inc.	231000129	10/18/2023	10/18/2026
Phillip	Williamson	Safety Management Group	231000130	10/18/2023	10/18/2026
Adam	Burkhalter	Wanzek Construction	231000131	11/8/2023	11/8/2026
Michael	Hann	Wanzek Construction	231000132	11/8/2023	11/8/2026
Caleb	Patterson	Denham-blythe	231000133	11/8/2023	11/8/2026
Brent	Pollard	Wanzek Construction	231000134	11/8/2023	11/8/2026
Braxton	Rose	Castle Energy Group	231000135	11/8/2023	11/8/2026
Sarah	Sams	East Kentucky Power Cooperative	231000136	11/8/2023	11/8/2026
Ryan	Tapp	Wanzek Construction	231000137	11/8/2023	11/8/2026
Donovan	Ward	East Kentucky Power Cooperative	231000138	11/8/2023	11/8/2026
John	Anderson	Nucor Steel Brandenburg	240200001	2/27/2024	2/27/2027
Charles	Bishop	Nucor Steel Gallatin	240200002	2/27/2024	2/27/2027
Kate	Bomar	Stantec	240200003	2/27/2024	2/27/2027
Douglas	Boom	City of Henderson	240200004	2/27/2024	2/27/2027
Kevin	Collignon	City of Owensboro	240200005	2/27/2024	2/27/2027
Charles	Cook	City of Elizabethtown	240200006	2/27/2024	2/27/2027
Michael	Craft	Smith Contractors	240200007	2/27/2024	2/27/2027
Aaron	Crouch	City of Elizabethtown	240200008	2/27/2024	2/27/2027

Patrick	Deming	CMW, Inc.	240200009	2/27/2024	2/27/2027
Corey	Dolt	Lochmueller Group	240200010	2/27/2024	2/27/2027
Michael	Hamilton	City of Owensboro	240200011	2/27/2024	2/27/2027
Jesse	Hatter	AGE Engineering Services, Inc.	240200012	2/27/2024	2/27/2027
Gretchen	Henderson	Lge-ku	240200013	2/27/2024	2/27/2027
Ronnie	Hitch	City Of Cold Spring	240200014	2/27/2024	2/27/2027
Warner	Mattingly	City of Henderson - Water Utility	240200015	2/27/2024	2/27/2027
Jeffrey	Miller	Nucor Steel Brandenburg	240200016	2/27/2024	2/27/2027
Larry	Mounce	Ridgewater LLC	240200017	2/27/2024	2/27/2027
Lucas	Mullins	AGE Engineering	240200018	2/27/2024	2/27/2027
Lucy	Pacholik	Tetra Tech	240200019	2/27/2024	2/27/2027
Justin	Ramirez	Lochmueller Group	240200020	2/27/2024	2/27/2027
Zachary	Reichert	Palmer Engineering	240200021	2/27/2024	2/27/2027
Vanessa	Rudd	USACE	240200022	2/27/2024	2/27/2027
Zachary	Straney	Nucor Brandenburg	240200023	2/27/2024	2/27/2027
Paul	Stratton	Age Engineering	240200024	2/27/2024	2/27/2027
Ryan	Weingeroff	City of Nicholasville	240200025	2/27/2024	2/27/2027
Stephanie	Wenther	City of LaGrange Police Dept	240200026	2/27/2024	2/27/2027
Randy	Boyd	East Kentucky Power Cooperative	240300027	3/6/2024	3/6/2027
Jarrad	Burton	East Kentucky Power Cooperative	240300028	3/6/2024	3/6/2027
Wesley	Byrd	East Kentucky Power Cooperative	240300029	3/6/2024	3/6/2027
Chris	Carpenter	East Kentucky Power Cooperative	240300030	3/6/2024	3/6/2027
Chris	Clark	East Kentucky Power Cooperative	240300031	3/6/2024	3/6/2027
Jeff	Crawford	East Kentucky Power Cooperative	240300032	3/6/2024	3/6/2027
Madison	Edwards	East Kentucky Power Cooperative	240300033	3/6/2024	3/6/2027
Sarah	Fraley	East Kentucky Power Cooperative	240300034	3/6/2024	3/6/2027
David	Graham	East Kentucky Power Cooperative	240300035	3/6/2024	3/6/2027
Devin	Hamilton	East Kentucky Power Cooperative	240300036	3/6/2024	3/6/2027
Doug	Haney	East Kentucky Power Cooperative	240300037	3/6/2024	3/6/2027
Jeremy	Hughes	East Kentucky Power Cooperative	240300038	3/6/2024	3/6/2027
Zak	Kelley	East Kentucky Power Cooperative	240300039	3/6/2024	3/6/2027
Russell	Marshall	East Kentucky Power Cooperative	240300040	3/6/2024	3/6/2027
Everett	McKinney	East Kentucky Power Cooperative	240300041	3/6/2024	3/6/2027
Kelsey	Meranda	East Kentucky Power Cooperative	240300042	3/6/2024	3/6/2027
Jason	Ritchie	R+R Electric	240300043	3/6/2024	3/6/2027
Jason	Roseberry	East Kentucky Power Cooperative	240300044	3/6/2024	3/6/2027
Kenny	Roy	East Kentucky Power Cooperative	240300045	3/6/2024	3/6/2027
Sarah	Sams	East Kentucky Power Cooperative	240300046	3/6/2024	3/6/2027
Charles	Sowder	East Kentucky Power Cooperative	240300047	3/6/2024	3/6/2027
Lucas	Spencer	East Kentucky Power Cooperative	240300048	3/6/2024	3/6/2027
Robert	Webb	East Kentucky Power Cooperative	240300049	3/6/2024	3/6/2027
Josh	Young	East Kentucky Power Cooperative	240300050	3/6/2024	3/6/2027
Barry	Allen	East Kentucky Power Cooperative	240300051	3/13/2024	3/13/2027
Shawn	Goad	East KY Power Cooperative	240300052	3/13/2024	3/13/2027
Dylan	Ware	East Kentucky Power Cooperative	240300053	3/13/2024	3/13/2027
Jerry	Adkins	Intech Contracting, Llc	240400054	4/9/2024	4/9/2027
Noah	Anthony	Denham Blythe	240400055	4/9/2024	4/9/2027
Noah	Bailey	City of Shelbyville - PW	240400056	4/9/2024	4/9/2027
Weston	Cline	East Kentucky Power Cooperative	240400057	4/9/2024	4/9/2027
Zachary	Cosby	Owl Services	240400058	4/9/2024	4/9/2027
Christina	Dailey	East Kentucky Power Cooperative	240400059	4/9/2024	4/9/2027
Rita	Davis	City of Elizabethtown	240400060	4/9/2024	4/9/2027
Kristie	Dougherty	Cardinal Engineering	240400061	4/9/2024	4/9/2027
Alec	Flynn	Oldham County Fiscal Court	240400062	4/9/2024	4/9/2027
George	Garza	Palmer Engineering	240400063	4/9/2024	4/9/2027
James	Gray	City of Elizabethtown	240400064	4/9/2024	4/9/2027
Noah	Hall	Denham Blythe	240400065	4/9/2024	4/9/2027
Garrett	Hasson	Sunesis Environmental Llc	240400066	4/9/2024	4/9/2027
Trevor	Hill	Rock & Dirt, LLC	240400067	4/9/2024	4/9/2027
Brent	Howerton	Sunesis Environmental Llc	240400068	4/9/2024	4/9/2027
Mark	Inman	City of Campbellsville	240400069	4/9/2024	4/9/2027
Cole	Johnson	Denham Blythe	240400070	4/9/2024	4/9/2027
John	Mautz	East Kentucky Power Cooperative	240400071	4/9/2024	4/9/2027

Richard	Maxted	Clayton Properties	240400072	4/9/2024	4/9/2027
James	Murphy II	Murphy Excavating	240400073	4/9/2024	4/9/2027
Austin	Nutter	City of Shelbyville - PW	240400074	4/9/2024	4/9/2027
Aaron	Robertson	City of Vine Grove	240400075	4/9/2024	4/9/2027
Jacob	Rose	Denham Blythe	240400076	4/9/2024	4/9/2027
Benjamin	Silliman	Civil & Environmental Consultants (cec)	240400077	4/9/2024	4/9/2027
Terry	Sublett	East Kentucky Power Cooperative	240400078	4/9/2024	4/9/2027
Todd	Svoboda	East Kentucky Power Cooperative	240400079	4/9/2024	4/9/2027
Matthew	Thomas	City of Berea	240400080	4/9/2024	4/9/2027
Chris	Wilson	R.C. Lawnscape, LLC	240400081	4/9/2024	4/9/2027
Emily	Woodward	Campbell County Planning and Zoning	240400082	4/9/2024	4/9/2027
Emily	Underwood	Jessamine County Planning & Zoning	240500083	5/8/2024	5/8/2027
Manuel	Ball	Jagoe Homes, Inc.	240600084	6/4/2024	6/4/2027
Jamie	Black	Ray Black & Son, Inc.	240600085	6/4/2024	6/4/2027
Reginald	Chaney	City of Somerset	240600086	6/4/2024	6/4/2027
Gil	Conner	Scott & Murphy, Inc.	240600087	6/4/2024	6/4/2027
Mason	Douglas	Lochmueller Group	240600088	6/4/2024	6/4/2027
Gage	Dunn	Ray Black & Son, Inc.	240600089	6/4/2024	6/4/2027
Clifford	Huddleston	Kay & Kay Contracting, LLC	240600090	6/4/2024	6/4/2027
Brad	Jagoe	Jagoe Homes, Inc.	240600091	6/4/2024	6/4/2027
William	Jagoe	Jagoe Homes Inc	240600092	6/4/2024	6/4/2027
Travis	Mcgowan	McGowan Excavating Inc.	240600093	6/4/2024	6/4/2027
Keith	Payne	Jagoe Homes, Inc.	240600094	6/4/2024	6/4/2027
Jonathan	Porter	East Kentucky Power Coop	240600095	6/4/2024	6/4/2027
Burnam	Robertson	Eastern Kentucky University	240600096	6/4/2024	6/4/2027
Daniel	Wells	Ray Black & Son, Inc.	240600097	6/4/2024	6/4/2027
Craig	Millay	Jagoe Homes Inc.	240600098	6/12/2024	6/12/2027
Lee	Mills	Bryant Engineering	240600099	6/12/2024	6/12/2027
Kelly	Beaver	Jagoe Homes, Inc	240600100	6/12/2024	6/12/2027
Terry	Cook	Jagoe Homes, Inc.	240600101	6/12/2024	6/12/2027
Michael	Farris	Envision Contractors, LLC	240600102	6/12/2024	6/12/2027
Jake	Grant	Envision Contractors, LLC	240600103	6/12/2024	6/12/2027
Bernie	Hill	Jagoe Homes, Inc.	240600104	6/12/2024	6/12/2027
Cindy	Hughes	AGE Engineering Services, Inc.	240600105	6/12/2024	6/12/2027
David	Hutchinson	Jagoe Homes, Inc.	240600106	6/12/2024	6/12/2027
Daniel Stacy	Johnson	D&S Industries LLC	240600107	6/12/2024	6/12/2027
Terry	Kerr	Keramida	240600108	6/12/2024	6/12/2027
Darek	Lewis	Jagoe Homes, Inc.	240600109	6/12/2024	6/12/2027
Shannon	Lewis	Jagoe Homes, Inc.	240600110	6/12/2024	6/12/2027
Jacob	Mayes	Jagoe Homes, Inc.	240600111	6/12/2024	6/12/2027
Jaxson	Mcalpin	AGE Engineering Services, Inc.	240600112	6/12/2024	6/12/2027
Jason	Miles	Jagoe Homes, Inc.	240600113	6/12/2024	6/12/2027
Shawn	Mills	CSI	240600114	6/12/2024	6/12/2027
Drake	Morrison	Envision Contractors, LLC	240600115	6/12/2024	6/12/2027
Jackeline	Orozco Cruz	Jl Renovations LLC	240600116	6/12/2024	6/12/2027
James	Scrivner	Bryant Engineering	240600117	6/12/2024	6/12/2027
Ryker	Shelton	Wanzek Construction	240600118	6/12/2024	6/12/2027
Dennis	Stevens	Jagoe Homes, Inc.	240600119	6/12/2024	6/12/2027
Mike	Tegmeyer	Jagoe Homes, Inc.	240600120	6/12/2024	6/12/2027
Daniel	Turley	Envision Contractors, LLC	240600121	6/12/2024	6/12/2027
Joey	Wilson	Jagoe Homes, Inc.	240600122	6/12/2024	6/12/2027
Sandra	Johnson	D&S Industries LLC	240700123	7/10/2024	7/10/2027
Tara	Alsip	Ray Black & Son, Inc.	240800124	8/21/2024	8/21/2027
Joshua	Black	Bray Construction Services	240800125	8/21/2024	8/21/2027
Brian	Branham	City of Mount Washington	240800126	8/21/2024	8/21/2027
Samuel	Brinegar	Lochmueller Group	240800127	8/21/2024	8/21/2027
Stephen	Cecconi	Haydon Materials, LLC	240800128	8/21/2024	8/21/2027
Josh	Connors	Griggs Enterprises, Inc.	240800129	8/21/2024	8/21/2027
Dirk	Dooper	Daviess County Fiscal Court	240800130	8/21/2024	8/21/2027
Timothy	Griggs	Griggs Enterprises, Inc.	240800131	8/21/2024	8/21/2027
Grant	Guyton	Griggs Enterprises, Inc.	240800132	8/21/2024	8/21/2027
Courtenay	Howell	City of Bowling Green	240800133	8/21/2024	8/21/2027
Matthew	Kerr	Griggs Enterprises, Inc.	240800134	8/21/2024	8/21/2027

Jeff	King	Daviess County Fiscal Court	240800135	8/21/2024	8/21/2027
Steve	Lingerfelt	City of Shively	240800136	8/21/2024	8/21/2027
Cindy	Owens	McCain Bros. Excavating, LLC	240800137	8/21/2024	8/21/2027
Brandon	Phillips	Phillips Brothers Construction	240800138	8/21/2024	8/21/2027
Ryan	Rathfon	Tetra Tech	240800139	8/21/2024	8/21/2027
Jerry	Reddish	Daviess County Fiscal Court	240800140	8/21/2024	8/21/2027
Raymond	Sanders	City of Madisonville	240800141	8/21/2024	8/21/2027
Ciera	Simon	City of Owensboro	240800142	8/21/2024	8/21/2027
Ben	Troxell	ABR Construction Inc	240800143	8/21/2024	8/21/2027
MJ	Arnold	City of Danville	240800144	8/28/2024	8/28/2027
Michael	Brockman	City of Shively	240800145	8/28/2024	8/28/2027
Paul	Burchett	Bush & Burchett, Inc.	240800146	8/28/2024	8/28/2027
Lolita	Colson	The Whiting-Turner Contracting Company	240800147	8/28/2024	8/28/2027
Michael	Crouch	EKPC	240800148	8/28/2024	8/28/2027
Johnathan	Duff	Davis H. Elliot	240800149	8/28/2024	8/28/2027
Colson	Elkins	W. G. Yates & Sons Construction Co	240800150	8/28/2024	8/28/2027
Jason	Evans	Keramida	240800151	8/28/2024	8/28/2027
Daron	Fanakos	Davis H. Elliot Construction	240800152	8/28/2024	8/28/2027
Kenneth	Gevedon	Tetrattech	240800153	8/28/2024	8/28/2027
Philip	Gough	Denham Blythe	240800154	8/28/2024	8/28/2027
Mchenry	Hagan	Haydon Bridge Company	240800155	8/28/2024	8/28/2027
Chris	Harkins	Abbie Jones Consulting PSC	240800156	8/28/2024	8/28/2027
Earl	Harmon	East KY Power Cooperative	240800157	8/28/2024	8/28/2027
Jeremy	Hopson	NiSource	240800158	8/28/2024	8/28/2027
Tyler	Hunley	Bush And Burchett	240800159	8/28/2024	8/28/2027
Robert	Koehler	Murray State University - Facilities Design and Construction	240800160	8/28/2024	8/28/2027
Malinda	Lemons	Denham Blythe	240800161	8/28/2024	8/28/2027
Larry	McGeorge	Chu-con Inc.	240800162	8/28/2024	8/28/2027
Ryan	McGregor	Third Rock Consultants	240800163	8/28/2024	8/28/2027
Randy	McGuffey	Davis H. Elliot	240800164	8/28/2024	8/28/2027
Christopher	Montgomery	Jessamine County-City of Wilmore Joint Planning and Zoning	240800165	8/28/2024	8/28/2027
Justin	Mooney	Safety Management Group	240800166	8/28/2024	8/28/2027
Kate	Moore	Tetra Tech	240800167	8/28/2024	8/28/2027
Jacob	Neuzel	Denham Blythe	240800168	8/28/2024	8/28/2027
Leslie	Overstreet	Moss & Associates	240800169	8/28/2024	8/28/2027
Brittany	Pekara	Western Kentucky University	240800170	8/28/2024	8/28/2027
Kyle	Popelier	Scott and Murphy Inc.	240800171	8/28/2024	8/28/2027
Ryan	Powell	City of Vine Grove	240800172	8/28/2024	8/28/2027
Kiley	Power	Third Rock Consultants, Llc	240800173	8/28/2024	8/28/2027
Jerry	Roberts	East Kentucky Power Cooperative	240800174	8/28/2024	8/28/2027
Annemarie	Sacra	City of Mount Washington	240800175	8/28/2024	8/28/2027
Michael	Saenz	Wanzek	240800176	8/28/2024	8/28/2027
Kevin	Sharbutt	Wanzek	240800177	8/28/2024	8/28/2027
James	Simpson	Davis H Elliot Construction Company, Inc.	240800178	8/28/2024	8/28/2027
Nathan	Weber	University of Kentucky	240800179	8/28/2024	8/28/2027
Steven	Weber	Wanzek	240800180	8/28/2024	8/28/2027
James	Whittenberg	Eastern Kentucky University	240800181	8/28/2024	8/28/2027
John	Green	Hinkle Contracting Company Llc	240900182	9/11/2024	9/11/2027
Peggy	Henn	SD1	241000183	10/9/2024	10/9/2027
Drew	Mullins	Eastern Kentucky University	241000184	10/9/2024	10/9/2027
Shann	Easterling	Tetra Tech	241100185	11/13/2024	11/13/2027



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Appendix 4 – MCM 4

Tab 5 - MCM 4 Training Documentation - External



DATE

Pre-Construction Agenda Items

Project Name:**Project Permit Number:****Anticipated Permit Inspector:**

1. Introductions

- a. Identify each person at the pre-construction meeting
- b. Be sure to identify the onsite responsible person
 - i. Including email address and phone number
- c. Site will include public storm system installation Yes No
 - i. If yes, notify Mike O'bryan for SD1 inspections (859-250-78625) within Boone and Campbell County
 - ii. If yes, notify Laura Tenfelde (859-392-7067) within Kenton County
- d. Site will include post-construction BMP installations Yes No
 - i. If yes, prior to installation notify applicable inspector for inspection and/or questions.
 1. Kevin Hunter at 859-640-7208
 2. Peggy Henn at 859-250-0801
 - ii. Failure to notify inspector may result in the requirement to submit additional signed documentation stating BMP is installed per approved design.
- e. Identify any access restrictions to site

2. Explain SD1's Inspection Process

- a. Frequency of your inspections:
 - i. Issued site ranking
 - ii. Construction site activity
 - iii. Frequency of site compliance and non-compliance
- b. Inspection reports are emailed out immediately upon completion
 - i. Types of reports

1. Non-compliance report - item(s) need addressed by compliance date on report
 2. Compliance report - site in compliance at the time of the inspection
 3. Informational report - provide general information regarding site (i.e. identifying potential future non-compliance item(s))
- ii. The permittee is automatically emailed each report along with the onsite responsible person. Onsite responsible person to notify SD1 if this person changes anytime throughout the project
 - iii. Ask for any other contact who would like to be added to the email list

3. Self-Inspection Requirements and Expectations

- a. Provide copy of Contractors Inspection form
- b. The Permittee has the choice to complete the required site self-inspections once every 7 days or once every 14 days and after each half inch of rain.
- c. Determine where reports will be located throughout the project.

* Stress the importance of accurate and thorough self-inspection reports (first thing KDOW, EPA ask for during a site visit)

4. Changes to plans

- a. BMPs to be installed per plan and / or as required per sequencing of construction
- b. Any significant changes need to be discussed with you
- c. A site plan needs to be marked up with BMPs installed and / or changes (e.g., instead of silt fence used wood chip berm, did not install something because ...)
- d. This marked up plan needs to be with the self-inspection reports

* Stress the importance of this marked up plan (first thing KDOW, EPA ask for during a site visit)

5. Site Plan Review

- a. Identify how site BMPs will be referenced in report
- b. Discuss the contractors' plan sequencing of construction noting:
 - i. Where and when work will begin
 - ii. What and when BMPs will be installed; if applicable, discuss when the sediment basin(s) will be installed, discuss the need for these to be installed as soon as applicable
- c. Discuss that BMPs need to be installed per the standard detail as shown on the plans or as discussed with you

- i. BMPs are designed to hold up a 2-year storm event (2.29 inches in 6 hour period)
 - d. SWPPP (Storm Water Pollution Prevention Plan)
 - i. Identify and discuss the notes on the plans and or stand-alone document(s)
 - ii. Discuss the importance of maintenance associated with each BMP; installing the BMPs is the easy part consistently maintaining the BMPs is the hard part
 - iii. Inactive/dormant areas of project need to be seeded and strawed after 21 days of inactivity
 - e. Provide KY Erosion Prevention and Sediment Control Field Guide (if available/requested) or provide website link:
<http://conservation.ky.gov/Publications/Kentucky%20Erosion%20and%20Sedimentation%20Control%20Field%20Guide.pdf>

6. **Pollution Prevention Items**

- a. Remind pre-con participants that the only thing that should enter the storm water system is storm water
 - i. All chemicals on site should be properly stored and contained (i.e., fuel, oil, hydraulic fluid)
 - ii. Perform equipment maintenance where the materials will not contact storm water
 - iii. Dumpsters must be covered and not leak
 - iv. Spill kits should be on site and properly equipped
 - v. Proper BMP's should be used when dealing with concrete washout and concrete saw cutting

7. **Post Construction BMPs (if applicable)**

- a. Notify applicable inspector for inspection and or questions.
 - i. Kevin Hunter at 859-640-7208
 - ii. Peggy Henn at 859-250-0801
- b. Biggest failure of post-construction BMPs is sediment
 - i. Post-construction BMP(s) should be installed at the end of the project after establishment of permanent vegetation; if this is not possible extra caution/steps need to be taken to protect the post-construction BMP from sediment

8. NOT (Notice of Termination)

- a. Process starts once all (at least the majority of) areas are seeded and stabilized.
 - i. SD1 will send the NOT application to the permittee, CC. the design Engineer
- b. Remind pre-con participants Record Drawings are required
 - i. Provide record drawing requirement information, if requested
- c. Once permanent grass is established (with 70% coverage) all BMPs are required to be removed to approve the NOT

9. General Guidance

- a. Straw bales are not to be used for a long-term permanent construction BMP. Temporary use (3-4 days or in the event of pending rain) of straw bales is permitted but must be replaced with a permanent BMP per approved plans.
- b. Do not use silt fence in areas of concentrated flow
- c. Highly recommend:
 - i. The use of rock checks with mini-silt traps in front of the rock checks; the use of larger rock is recommended with smaller rocks on the face to fill the voids
 - ii. The use of well-defined diversion ditches directing flow to sediment traps
 - iii. Once pavement is installed recommend the use of catch basin inserts to help prevent street/parking lot flooding
- d. Concrete washout must be installed and or have enough capacity within an existing washout before any concrete pour
 - i. Washouts must be lined and if above ground located on level ground
- e. Mortar mixers must be located away from storm drains, drainage swales and impervious areas.
- f. Channel liner must be installed at all headwalls and or as shown on the plans
 - i. Channel liner must be the correct size rock, installed per the dimensions as shown on the plans (if applicable) and installed on filter fabric
 - ii. Channel liner must be clean and free of sediment at the conclusion of construction.
- g. Recommend finish grading areas as applicable and seeding and strawing immediately; established vegetation is our friend

10. General Talking Points

- a. It is difficult to keep construction sites in compliance 100% of the time. If non-compliance situation(s) occur, every attempt must be made to address non-compliance items as soon as they are detected.
 - b. Stress the importance of communication via a phone call, email, or an onsite meeting. Convey your openness to working together to achieve site compliance

- 11. **Common non-compliance issues**
 - a. Failure to provide maintenance to BMPs predominately silt fence, and inlet protection
 - b. Failure to adequately protect post-construction BMP from sediment
 - c. Failure to seed finished and or inactive areas of the construction site within allotted time (21 days)

- 12. **Additional Comments**

Save Local Waters - Stormwater Float

Save Local Waters <rachel.cranmer-hamilton-co.org@shared1.ccsend.com>

Mon 8/26/2024 8:54 AM

To:Lora Bonno <lbonno@sd1.org>



Stormwater Float

September 19, 2024

Calling all developers, contractors, & inspectors!

Join us on **September 19th** to learn how developers and contractors are meeting sediment erosion control and stormwater BMP requirements that protect local waterways. Attendees will then board the Belle of Cincinnati River Boat for a day-long workshop including lunch and speaker sessions about industry regulations and trends.



This workshop is approved for 2.75 hours via Envirocert.

Register [here](#).

AGENDA

8:30 to 9:15	Registration, Refreshments, and Networking with Vendors
9:15 to 9:20	Welcome and Introductions
9:20 to 9:45	Overview of Vendors
9:45 to 10:30	<u>Reenvisioning Parks and Greenspaces for Green Infrastructures Stormwater Control</u> David Gamstetter, Project Developer, Davey Resource Group
10:30 to 10:45	<u>Break</u>
10:45 to 11:15	<u>Regional Evaluation for Detention Basin Retrofits in Southwest Ohio</u> Chris Rust, PE, Project Manager, Strand Associates, Inc. David Rutter, Ohio Kentucky Indiana Regional Council of Governments
11:15 to 12:00	<u>Regulation Session: Review and Permit Updates</u> <i>Lucas Hanks, MS4 Coordinator, Kentucky Division of Water, Surface Water Permits Branch</i> <i>Justin Reinhart, PE, Stormwater Engineer, Ohio EPA, Division of Surface Water</i>
12:00 to 1:30	<u>Lunch, Visit with Vendors, and Boat Exploration</u>
1:30 to 2:15	<u>Runoff Reduction and Water Quality Improvements Provided by a Bioretention Cell, a High Flow Media Filter, and a Constructed Stormwater Wetland in the Great Lakes Region</u> Ryan Winston, PhD, PE, Associate Professor, Ohio State University
2:15 to 2:30	<u>Closing Remarks and Disembark</u>



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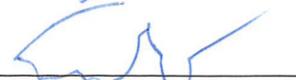
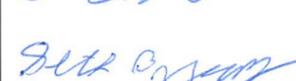
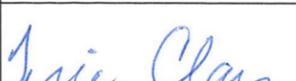
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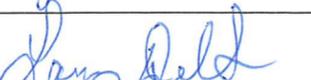
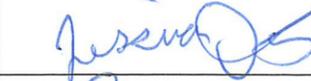
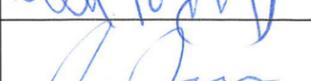


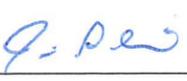
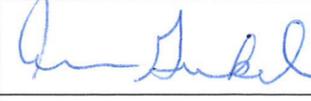
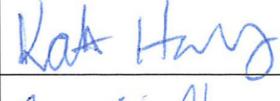
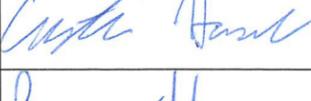
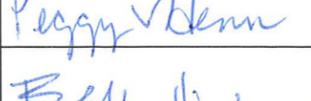
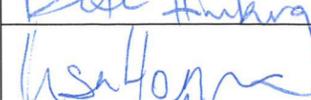
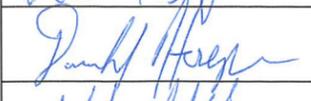
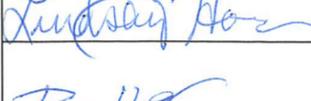
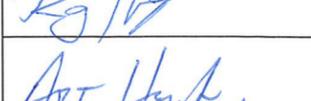
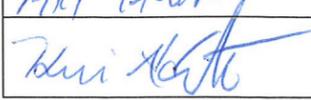
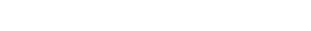
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Signature	Last Name	First Name	Company	Title	Email Address
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	Freed	Caleb (C.J.)	Cincinnati State Technical &	Student - Environmental Engineering Technology	cjfreed@cincinnati-state.edu
	Gad	Ish	The Ohio State University	Student	gad.13@buckeyemail.osu.edu
	Gamstetter	David	Davey Resource Group	Business Developer	David.Gamstetter@Davey.com

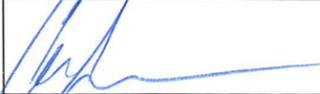
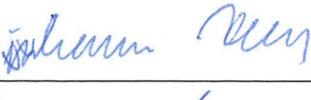
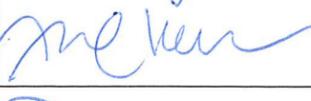
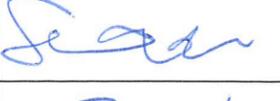
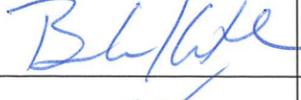
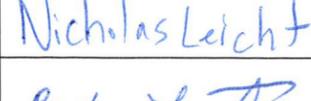
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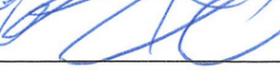
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Gauly Padilla jess@ Cincinnati State

Brooke Shireman

From: Chris Cole <ccole@sd1.org>
Sent: Thursday, December 19, 2024 1:51 PM
To: Brooke Shireman
Subject: SD1 Press Release: SD1 Recognizes Local Contractors for Stormwater Management Efforts

[View on web](#) | [Read what you missed](#)



By Chris Cole • Dec 19, 2024

Smart Brevity® count: 1.5 mins...346 words

I wanted to let you know that we'll be sending out the following press release today.

SD1 Press Release: SD1 Recognizes Local Contractors for Stormwater Management Efforts



FORT WRIGHT, Ky. – Sanitation District No. 1 (SD1) has presented the 2024 Erosion Prevention and Sediment Control Excellence Award to three local construction companies for their proactive approach to addressing stormwater challenges, timely implementation of best management practices (BMPs) and for ensuring their projects have minimal off-site impacts on our local environment.

The 19th annual awards recognize:

- Matt Coppage (Coppage Construction Company) for work on the Elsmere North project in Elsmere;
- Ben Clough (Fischer Homes Inc.) for work on the Overlook at Sunrock project in Wilder; and
- Brian Koch (Joshua One) for work on the Park Pointe project in Park Hills.

“Erosion and sediment control requires constant attention,” said Jason Burlage, SD1’s regulatory compliance manager. “This is an essential element in protecting water quality and the landscape to protect local

residents. Coppage Construction Company, Fischer Homes Inc., and Joshua One have all demonstrated a commitment to this work by embracing BMPs at their job sites.”

BMPs are design, construction and maintenance practices that minimize the impact of stormwater runoff by holding it in place, slowing it down and filtering it for pollutants. BMPs such as silt fences and sediment basins ensure that stormwater runoff will not erode the soil and cause damage to property and the environment. They are another way SD1 works around the clock, 365 days a year to protect public health, property and the environment, and to support the region’s economic vitality.

About SD1

SD1 is responsible for the collection and treatment of northern Kentucky’s wastewater and also serves as the regional storm water management agency. SD1 is the second largest public sewer utility in Kentucky, serving more than 347,717 residents throughout Boone, Campbell and Kenton counties. SD1 maintains approximately 1,720 miles of sanitary-sewer system pipeline, 129 wastewater pumping stations, 16 flood pump stations, six package treatment plants, three major wastewater treatment plants, 505 miles of storm-sewer system and 35,046 storm-sewer structures.

SD1

Was this edition useful?



 [Leave feedback](#)

Your responses are anonymous

Appendix 4 - MCM 4

Tab 6 – Construction Site Inspection Form

EPSC Construction Site Inspection Report

Inspection Inform

Inspection Type: *

-
- Information ONLY
- 5 business days
- 10-15 business days
- 20-25 business days
- Bi-monthly/Inactive Site
- Pre-rain
- Post-rain
- During rain
- Follow-up to complaint
- Follow-up to Non-Compliance Item(s)
- Follow-up to enforcement
- Snow covered
- Pre-construction Meeting Info Only
- Random Site Inspection

Inspection Date *

1/23/2023



Inspector Name *

Project Information

Project Name *

Permit Type

Status

Permit Number *

Owner

Owner Name

Permittee Name

Permittee Phone Numbers

Permittee Email Address

Contractor Name

On-site Responsible Person

On-site Responsible Person Phone Number

On-site Responsible Person Email Address

Optional Email Addressee1

Optional Email Addressee2

Buffer Zones

Area between land disturbance and edge of receiving water. 25' buffer from high quality waters, 50' buffer from impaired waters.

Are applicable buffer zones being maintained?

- Yes
 No
 N/A

Erosion Protection and Sediment Control

Are erosion and sediment BMPs installed according to the phasing and sequencing of construction per project plan? Yes No

Are erosion and sediment BMPs installed, functioning correctly? Yes No

Is a sediment basin installed per approved plans and construction sequencing? Yes No N/A

Are BMPs being maintained according to the SWPPP or acceptable industry standards? Yes No

Provide Maintenance to:

Perimeter protection/silt fence located at:

Rock check dam located at:

Storm drains located at:

Construction entrance located at:

Are additional BMPs required to control runoff from the site? Yes No

Pollution Prevention and Good Housekeeping

Is the concrete washout properly functioning? Yes No N/A

Is the trash/litter from the work area collected and in waste containers? Yes
 No
 N/A

Are the vehicle and equipment fueling and maintenance areas free of spills, leaks or any other material? Yes
 No
 N/A

Are proper materials and procedures (i.e., spill kits) in place in the event of a spill or leak? Yes
 No
 N/A

Are materials that are potential storm water contaminants sufficiently stored away from waterways? Yes
 No
 N/A

Are loose materials and stockpiles outside of BMP-protected area(s) (i.e., aggregate, sand, mulch) stored inside or under cover? Yes
 No
 N/A

On-Site Inspection and Soil Stabilization

Do on-site inspection logs show site inspections every seven calendar days or once every two weeks and within 24 hours of any half-inch or greater storm event? Yes
 No
 Not Requested

Are all applicable disturbed areas being stabilized through the implementation of acceptable soil stabilization and according to the SWPPP requirements? Yes
 No
 N/A

(If activity ceased for 21 days or more, temporary or permanent stabilization measures shall be installed within 14 days.)

Compliance Activity

Have the proper actions been taken regarding previous deficiencies or violations?

- Yes
- No
- Somewhat
- Actively working towards compliance
- N/A
- Snow covered

Final Stabilization

Have all land disturbing activities at the site ceased?

- Yes
- No

Is there perennial vegetative cover with a density of at least 70% cover established on disburbed areas?

- Yes
- No

Has channel lining been installed using the appropriate rock size with filter fabric per approved plan design, and is it free of sediment and debris buildup?

- Yes
- No
- N/A

Have all applicable BMPs been removed?

- Yes
- No
- N/A

Comments:

Site Inspection Conclusions

Action Required *

- Yes
- No
- Update ONLY
- Information ONLY

Enforcement Recommended *

- Yes
- No

Submit

Save as Draft

Appendix 5 - MCM 5

Tab 1 – MCM 5 Qualifications and Trainings

Save Local Waters - Stormwater Float

Save Local Waters <rachel.cranmer-hamilton-co.org@shared1.ccsend.com>

Mon 8/26/2024 8:54 AM

To:Lora Bonno <lbonno@sd1.org>



Stormwater Float

September 19, 2024

Calling all developers, contractors, & inspectors!

Join us on **September 19th** to learn how developers and contractors are meeting sediment erosion control and stormwater BMP requirements that protect local waterways. Attendees will then board the Belle of Cincinnati River Boat for a day-long workshop including lunch and speaker sessions about industry regulations and trends.



This workshop is approved for 2.75 hours via Envirocert.

Register [here](#).

AGENDA

8:30 to 9:15	Registration, Refreshments, and Networking with Vendors
9:15 to 9:20	Welcome and Introductions
9:20 to 9:45	Overview of Vendors
9:45 to 10:30	<u>Reenvisioning Parks and Greenspaces for Green Infrastructures Stormwater Control</u> David Gamstetter, Project Developer, Davey Resource Group
10:30 to 10:45	<u>Break</u>
10:45 to 11:15	<u>Regional Evaluation for Detention Basin Retrofits in Southwest Ohio</u> Chris Rust, PE, Project Manager, Strand Associates, Inc. David Rutter, Ohio Kentucky Indiana Regional Council of Governments
11:15 to 12:00	<u>Regulation Session: Review and Permit Updates</u> <i>Lucas Hanks, MS4 Coordinator, Kentucky Division of Water, Surface Water Permits Branch</i> <i>Justin Reinhart, PE, Stormwater Engineer, Ohio EPA, Division of Surface Water</i>
12:00 to 1:30	<u>Lunch, Visit with Vendors, and Boat Exploration</u>
1:30 to 2:15	<u>Runoff Reduction and Water Quality Improvements Provided by a Bioretention Cell, a High Flow Media Filter, and a Constructed Stormwater Wetland in the Great Lakes Region</u> Ryan Winston, PhD, PE, Associate Professor, Ohio State University
2:15 to 2:30	<u>Closing Remarks and Disembark</u>



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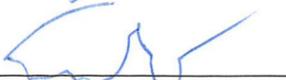
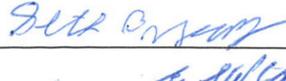
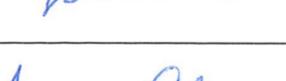
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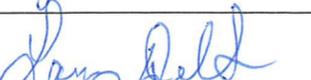
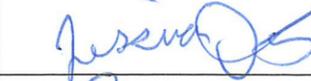


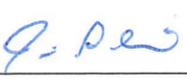
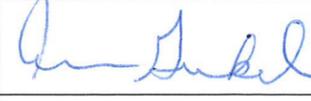
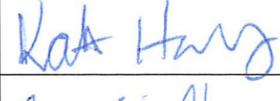
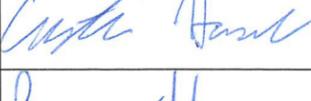
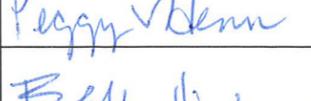
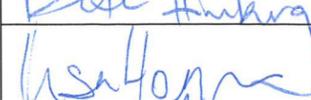
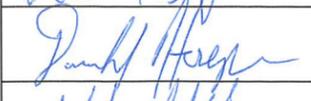
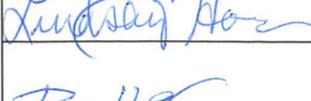
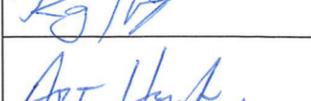
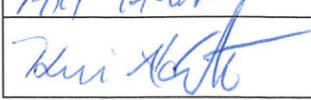
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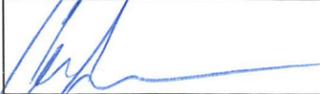
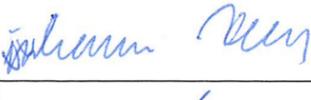
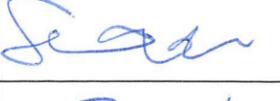
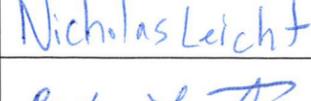
Signature	Last Name	First Name	Company	Title	Email Address
	Gibson	Jim	SD1	Director of Water Resources	jgibson@sd1.org
	Gleason	Jim	Hamilton County Conservatio	Board of Supervisor	jim.gleason@hamilton-co.org
	Golsch	Haley	Hamilton County Conservatio	Urban Technician	haley.golsh@hamilton-co.org
	Gravitt	Nolan	Cincinnati State Technical &	Student - Environmental Engineering Technology	ann.fallon@cincinnatiastate.edu
	Gunkel	Ann	Cincinnati State Technical &	Program Chair Environmental Engineering Technology	ann.gunkel@cincinnatiastate.edu
	Hall	Chris	Hamilton County Conservatio	Streams Specialist	chris.hall@hamilton-co.org
	Hamilton	Kaleb	City of Monroe	Service Worker II	hamiltonj@monroeohio.org
	Hanks	Lucas	Kentucky Division of Water	MS4 Coordinator	lucas.hanks@ky.gov
	Harney	Katrina	SD1	Education Specialist	kharney@sd1.org
	Hassel	Austin	Cincinnati State	Student	ann.fallon@cincinnatiastate.edu
	Henn	Peggy	SD1	Environmental Inspector	phenn@sd1.org
	Himburg	Beth	Mill Creek Alliance	Water Quality Monitoring Program and Community Outreach Director	bhimburg@themillcreekalliance.org
	Hoeper	Lisa	City of Blue Ash	Parks and Recreation	hoeperocks@gmail.com
	Hoeper	Lisa	City of Blue Ash	Parks and Recreation	hoeperocks@gmail.com
	Holliday	Mike	City of Fairfield	Construction Inspector	mholliday@fairfieldoh.gov
	Horan	Lindsay	HCCD	Stream Technician	lindsay.horan@hamilton-co.org
	Hougland	Roger	Allied Underwater Services	territory manager	r.hougland@alliedunderwaterservices.com
	Houston	Art	Rymar Waterworks	Sales	art@utility-solutions.com
	Hunter	Kevin	SD1	Environmental Inspector Team Leader	khunter@sd1.org

Hobbs

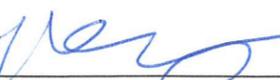
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Signature	Last Name	First Name	Company	Title	Email Address
	Ison	Jared	SD1	Development Services Coordinator	jison@sd1.org
	Jasso	Galy	Cincinnati State Technical &	Student - Environmental Engineering Technology	gapadillajasso2@cincinnati-state.edu
	Johnson	Andrew	Kenton County Conservation	Board Supervisor	andrew.johnson8591@gmail.com
	Kaeff	Chris	Williams Creek Management	Regional Leader of Greater Cincinnati	ckaeff@williamscreekmgt.com
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	King	Julianna	Cincinnati State	Student	ann.fallon@cincinnati-state.edu
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	Koch	April	HPA Development Group	Project Coordinator	akoch@hpadg.com
	Korte	Steve	Hamilton County Conservation	Board of Supervisor	steve.korte@hamilton-co.org
	Krauth	Brandon	Butler County Storm Water District	Storm Water Inspector	krauthb@bceo.org
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	Lee	Jason	City of Hamilton, Ohio	Civil Engineer	jason.lee@hamilton-oh.gov
	Leight	Nicholas	Cincinnati State	Student	ann.fallon@cincinnati-state.edu
	Lentz	Bob	Butler County Storm Water District	Storm Water Coordinator	lentzb@stormwaterdistrict.org
Signature	Last Name	First Name	Company	Title	Email Address

<i>Travis Luncan</i>	Luncan	Travis	Warren SWCD	Urban Technician	travis.luncan@co.warren.oh.us
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<i>Anne Munro</i>	Munro	Anne	Cincinnati State	Student	amunro@cincinnati.state.edu
<i>Jacob Slynch</i>	Slynch	Jacob			

Signature	Last Name	First Name	Company	Title	Email Address
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	Ponzer	Carl	Hamilton County Planning + I	Project Engineer	carl.ponzer@hamilton-co.org
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	Rice	Adrienne	Butler County Storm Water D	Storm Water Inspector	ricea@bceo.org
	Richards	Kelsey	City of Loveland	City Engineer	krichards@lovelandoh.gov
	Roberts	James	City of Forest Park	Assistant Public Works Director	jroberts@forestpark.org
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	Schlosser	Mark	Clermont County Engineer's	Assistant Road Superintendent	mschlosser@clermontcountyohio.gov
	Schmidhammer	Jon	Meredith Brothers Inc.	Product Specialist	jons@meredithbrothersinc.com
	Shireman	Brooke	SD1	Environmental Compliance Manager	bshireman@sd1.org
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	Smith	Aaron	DR Horton-Indiana, LLC	Division Stormwater Compliance Specialist I	ASmith8@drhorton.com
Signature	Last Name	First Name	Company	Title	Email Address

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	Smith	Doug	Abercrombie & Associates, Inc.	Senior Project Manager	Dsmith@abercrombie-associates.com
<i>Seth Snider</i>	Snider	Seth	Cincinnati State	Student	ann.fallon@cincinnati-state.edu
	Sommer	Joe	Contech Engineered Solutions	Sales Engineer/Account Manager	Joseph.Sommer@ContechES.com
<i>Kevin Stenger</i>	Stenger	Kevin	SD1	Environmental Technician	kstenger@sd1.org
<i>John Thompson</i>	Thompson	John	Cincinnati State	Student	ann.fallon@cincinnati-state.edu
<i>Phillip Vanderyt</i>	VANDERYT	PHILLIP	City of Cincinnati Greater Cincinnati	Water Works Construction Inspector	phillip.vanderyt@gcww.cincinnati-oh.gov
<i>Brian Wagner</i>	Wagner	Brian	Cincinnati State	Student	ann.fallon@cincinnati-state.edu
<i>Tracy Watson</i>	Watson	Tracy	SD1	Engineering Administrative Assistant	twatson@sd1.org
<i>Jordan Weber</i>	Weber	Jordan	McGill Smith Punshon, Inc.	Project Manager	jweber@mspdesign.com
<i>Ashlee Widener</i>	Widener	Ashlee	Butler Soil & Water Conservation District	Water Resource Specialist	ashlee.widener@bcoho.gov
<i>Tim Williams</i>	Williams	Tim	Hamilton County Planning + Information Services	Project Inspector 2	tim.williams@hamilton-co.org
<i>Ryan Winston</i>	Winston	Ryan	Ohio State University	Associate Professor	winston.201@osu.edu
<i>Matt Wooten</i>	Wooten	Matt	Kenton County Conservation District	Director	matt.wooten@kccdky.org
<i>Dakota Zimmer</i>	Zimmer	Dakota	Butler Soil and Water Conservation District	Natural Resource Technician	dakota.zimmer@bcoho.gov

Qualy Padilla jessie Cincinnati State

Anna T. Sadowski, P.E.

AREAS OF EXPERTISE

- Municipal Engineering
- Storm Water Management
- Green Infrastructure
- Plan Review Support
- Permitting

PROFESSIONAL EXPERIENCE

Plan Review Support Services, Sanitation District No. 1 – Since 2021, Anna has been the Primary Plan Reviewer for SD1 on both storm water and sanitary sewer applications. She has completed technical reviews of numerous Land Disturbance Permit (LDP) applications including reviews of water quantity and water quality BMP designs, evaluation of storm water calculations, and supplemental storm water modeling support and has reviewed sanitary and storm sewer pipe designs. Over this time Anna has participated in nearly 270 plan review efforts for SD1 including

- 165 storm water only plan reviews (127 LDPs, 32 grading permits and 6 clearing permits),
- 47 sanitary only plan reviews,
- 55 plan reviews with combination of storm water and sanitary, and
- 3 miscellaneous plan reviews.

Some of these projects have included the Katsie Court residential development in Fort Thomas, the Ovation development in Newport, and the Union Promenade development. Anna routinely coordinates with SD1 staff to facilitate reviews and provide status updates on applications.

Developer Plan Reviews, Villages of Lannon and Bristol, WI – Anna reviewed developer plans for these high-growth communities, including subdivisions, business parks, and commercial businesses. The reviews included checking HydroCAD and WinSLAMM modeling to verify that proposed best management practices, such as ponds, swales, and infiltration basins, met water quantity and quality regulations. Anna’s thorough storm water management plan reviews also checked compliance with Village ordinances and Wisconsin Department of Natural Resources (WDNR) technical standards. She understands the importance of providing comprehensive storm water reviews for new development in order to prevent future flooding issues on site

and downstream. In addition to storm water management plans, Anna has also reviewed erosion control, storm sewer, site grading, and site layout plans for these Villages. These on-call contracts require quick turnarounds and a high level of responsiveness.

Green Infrastructure On-Call Contract, Milwaukee Metropolitan Sewerage District (MMSD), WI – Anna is currently serving as a lead engineer to develop green infrastructure concept plans and final designs for various entities such as schools, churches, and non-profit organizations within MMSD’s service area. Design has included permeable pavers, rain gardens, bioretention basins, native landscaping, and streambank stabilization.

Marquette Interchange Storm Water Improvements, MMSD, WI – Anna served as lead project engineer for the green infrastructure and storm water management project beneath Milwaukee’s Marquette Interchange as part of Strand’s green infrastructure on-call contract. The design included bioretention basins, rock-lined channels, permeable pavers, treatment devices, and a porous maintenance path. Anna helped coordinate multiple stakeholder and public information sessions for this fast-tracked project and corresponded closely with the City of Milwaukee, Wisconsin Department of Transportation (WisDOT), and WDNR.

Total Maximum Daily Load (TMDL) Storm Water Plan Updates, City of Sheboygan and City of Portage, WI – Anna prepared HydroCAD, WinSLAMM, and XPSWMM models and performed alternatives analyses for urban core watersheds experiencing pollutant loading and severe flooding. Alternatives included concepts plans for detention basins, underground storage, and bioretention basins.

YEARS OF EXPERIENCE

7

YEARS WITH FIRM

7

EDUCATION

B.S. Civil Engineering – University of Wisconsin-Madison, 2016

REGISTRATION

Professional Engineer in Wisconsin

Anna T. Sadowski, P.E.

She also updated City municipal separate storm sewer system (MS4) programs to follow WDNR permit requirements.

22nd Avenue Reconstruction, Kenosha, WI –

Anna completed the storm sewer design for this 0.7-mile urban roadway reconstruction. The design included replacement of nearly 2,000 linear feet of existing 12-inch and 15-inch storm sewer laterals. Fifty-two new inlets and manholes were designed to provide adequate drainage for the corridor's eight intersections. The existing mainline was maintained and existing offsite sump pumps, drain tiles, and concrete storm sewers were tied into the new design. A detailed storm sewer construction staging plan was developed to ensure traffic was maintained on one side of the road at all times.

Bristol Woods Park Parkway and Parking Lot Improvement Project, Kenosha County, WI –

Anna was as the Project Engineer for the Bristol Woods Park Parkway and Parking Lot Improvements designing parkway and parking lot expansions, ditches, turn lane, and pond dredging plans. Anna completed the storm water management plan for the project and modeled the site's proposed water quantity and quality parameters using HydroCAD and WinSLAMM.

Sunny Slope Road and Grange Avenue Intersection Reconstruction, City of New Berlin, WI –

Anna completed the storm sewer and bioretention basin design for the Sunny Slope Road and Grange Avenue Intersection reconstruction project. She assisted with the design of storm water conveyance infrastructure for a 25-year event, per City requirements. This included curb and gutter throughout the majority of the intersection, as well as storm sewer systems as large as 42-inch in diameter and a bioretention basin.

CTH PP Reconstruction, Sheboygan County, WI –

Anna designed and modeled a storm sewer system for both urban and rural segments, including a roundabout, in Sheboygan County. The design provided an improved storm water drainage system incorporating both open ditches and more than 2,000 linear feet of 12-inch to 30-inch diameter storm sewers. Anna modeled the storm sewer capacity for the 10-year and

25-year storms using StormCAD. She also developed erosion control plans for this project and completed the WDNR construction site storm water permitting.

STH 11 Urban Reconstruction, Racine, WI –

Anna designed a storm sewer system for a 1.2-mile urban corridor in the City of Racine. The design included replacement of nearly 3,000 linear feet of 12-inch, 15-inch, and 18-inch storm sewer laterals. Anna coordinated extensively with utilities to avoid sanitary, water, gas, and electric line conflicts throughout the corridor. She also developed staging plans to ensure one lane of traffic was maintained during storm sewer installation.

Asphalt Pulverize and Overlay, Town of Brookfield, WI –

Anna prepared plans for an asphalt pulverize and overlay of residential streets as part of the 2017 and 2018 Road Programs. The designs included curb and gutter replacement, ditch regrading, and turf restoration.

Permitting Experience

- Construction site storm water permitting through the Wisconsin Department of Natural Resources (WDNR).
- Storm water management and erosion control permitting through municipalities.
- Water main extension approval requests through the WDNR.

Field Experience

- Served as the Resident Project Representative (RPR) for the Bristol Woods Park Parkway and Parking Lot Improvement Project.
- Served as RPR for the Town of Brookfield on the 2017 and 2018 Road Programs.
- Construction inspection of fire hydrant relocations, residential water service installations, water service pressure tests, asphalt pulverize and overlay, excavation below subgrade, and ditch grading.

Modeling and Software Experience

- Storm Water Modeling –HydroCAD, StormCAD, XPSWMM, and WinSLAMM.
- Design Software – AutoCAD Civil 3D and Microstation.

Christopher J. Rust, P.E.



AREAS OF EXPERTISE

- Green Infrastructure BMP Planning and Design
- Plan Review Support
- Watershed Planning and Management
- Detention Basin Retrofits
- Hydraulic and Hydrologic Monitoring and Modeling
- Design of Storm Sewer Systems

PROFESSIONAL EXPERIENCE

Plan Review Support Services, Sanitation District No. 1 – Chris has assisted SD1 staff with technical support and detailed plan review services over the last 15 years for both storm water and sanitary applications. Chris has completed technical reviews of numerous Land Disturbance Permit (LDP) applications including reviews of water quantity and water quality BMP designs, evaluation of storm water calculations, and supplemental storm water modeling support and he has reviewed sanitary and storm sewer pipe designs. Additionally, Chris has developed and facilitated storm water presentations for training sessions to SD1 staff, including an overview of SD1 rules and regulations, water quality treatment standards, HydroCAD modeling, continuous simulation modeling for sediment transport, and EPSC plan review training. The training sessions were intended to support SD1 staff involved with the plan review and approval process. Over this time Chris has participated in over 300 plan review efforts for SD1. Some of these projects have included the Arcadia development in Alexandria, the Hills of Crescent Springs development, the CVG Airport runway expansion project, the Katsie Court residential development in Fort Thomas, the Ovation development in Newport, and the Union Promenade development in Union.

Storm Water Program Management Assistance, Sanitation District No. 1 – During the last 15 years Chris has assisted SD1 staff with a variety of tasks and projects related to SD1’s storm water program in response to both MS4 Phase II storm water permit compliance and watershed-based Consent Decree compliance. Specific tasks and projects have included the following:

- Development of green infrastructure BMP opportunities, including planning-level costs and storm water benefits, that have been included in SD1’s Watershed Plans as required by the Consent Decree.

- Development of SD1’s Storm Water BMP Manual to meet post-construction storm water runoff permit requirements.
- Storm water training sessions for both SD1 staff and the local development and engineering community.
- Development of a planning-level detention basin retrofit opportunity and prioritization program for SD1-owned detention basins.
- Storm water plan review assistance to SD1 staff on land disturbance permits.

Hydromodification Studies, Sanitation District No. 1 – Chris assisted SD1 staff with in-stream monitoring surveys on approximately 20 streams in the region to quantify and predict stream alterations resulting from development. The field data was analyzed to determine critical flows (Q-critical) that will result in hydromodification of impacted streams. The hydromodification studies have resulted in the development and implementation of storm water regulations that are intended to minimize the impacts to the local streams and SD1’s infrastructure.

Storm Water BMP Planning, Design and Implementation, Sanitation District No. 1 – Chris has assisted SD1 with a wide variety of storm water BMPs that have been planned, designed and implemented in accordance with MS4 Phase II permit and Consent Decree requirements. Tasks have included BMP research, concept and final designs, cost-benefit analyses, performance evaluations, and functional assessments. Chris has served as either the project manager or lead design engineer on the following SD1 BMP projects:

- Terraced Reforestation of Interstate Right-of-Way, Covington (ACEC national award winner).
- KYTC Detention Basin Retrofit, Ft. Wright.
- 12th Street Green Street, Covington.

YEARS OF EXPERIENCE

17

YEARS WITH FIRM

17

EDUCATION

M. Eng. Civil Engineering – University of Louisville, Kentucky, 2006

B.S. Civil Engineering – University of Louisville, Kentucky, 2005

REGISTRATION

Professional Engineer in Ohio and Kentucky

Christopher J. Rust, P.E.



- Jacob Price Storm Sewer Separation, Covington.
- Development of typical details for extended detention basins and rock channel protection, SD1 service area.

Jacob Price Storm Water Collection System Improvements, Sanitation District No. 1

Chris was the project manager for this project that included more than 2,700 linear feet of new separated storm sewer ranging from 12- to 30-inch diameter. The project was designed in accordance with SD1 Rules and Regulations and included a levee modification permit from the Army Corps of Engineers. Storm water modeling was completed to evaluate storm sewer capacities and hydraulic grade lines for design storm events.

Water Quality and Storm Water Management Regulations Modeling, Sanitation District No. 1

Chris has performed a variety of storm water modeling efforts to assist in development and justification of storm water management water quality rules and regulations developed by SD1. These modeling efforts include analyzing the impacts of the proposed rules and regulations, generating sensitivity analyses to assess optimal BMP configurations, developing credit policy language based on modeling results, and evaluating potential opportunities for detention basin retrofits to include water quality components.

Upper Woolper Creek Watershed Analysis, Boone County Fiscal Court, Boone County Conservation District, and Sanitation District No. 1

Chris served as the project manager and lead modeling engineer for this project. He led the data gathering and review, site investigations, and the development of a SWMM model to evaluate detention basin and culvert retrofit opportunities with the goal of providing additional storm water management for flood control and water quality improvement within the Upper Woolper Creek watershed. The SWMM model is being using to evaluate existing and proposed conditions for a variety of storm events ranging from the 3-month to the 100-year event. The analysis includes an evaluation of the hydraulic capacity of storm sewers 24-inches in diameter and larger, as well

as the development of graphical representations of the 2-, 10-, and 100-year floodplain along the main stem of Upper Woolper Creek.

Allen Fork Watershed and South Fork Gunpowder Watershed Studies, Boone County Conservation District and Sanitation District No. 1

Chris served as the project manager and lead modeling engineer for watershed studies within the Allen Fork watershed near Burlington and the South Fork Gunpowder Creek watershed near Florence. He assisted with data gathering in the field at key storm water management features, evaluated existing conditions of detention basins throughout the watersheds, and developed storm water management models to assess how cost-effective storm water controls could provide both a water quantity and water quality benefit within each watershed. The modeling ranged from smaller storm events to assess water quality improvements and larger design storms to assess improved performance of existing detention basins.

Storm Water Master Plan, City of Florence, KY

Chris was the project manager and lead project engineer for the development of a storm water master plan for the City of Florence. The master plan highlights opportunities and recommendations to enhance the City's program to address flooding issues, water quality impairments, stream erosion problems, and storm system infrastructure issues. The project included an evaluation of 20 detention basins that are owned and operated by the City. Chris continues to provide on-going support to the City for storm water planning and regulatory initiatives.

Detention Basin Evaluations and Design, Banklick Watershed Council, KY

Chris was the lead project engineer for the evaluation of dozens of detention basins throughout the Banklick Creek watershed. The evaluation identified cost-effective opportunities for basin retrofits, primarily targeted at outlet control structure modifications. Chris led the development of design details that were used to implement the improvements at several of the detention basins. He continues to provide the Banklick Creek Watershed Council with technical support for basin retrofits.



Casey Apgar
capgar@sd1.org

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- Home
- PDH
- My PDHs
- CERTIFICATIONS
- My Certifications
- My Purchases
- INFORMATION
- Messages
- Edit Work History
- EXAMS
- Results

CERTIFICATION	CERTIFICATION #	EFFECTIVE DATE	EXPIRATION DATE
(NGICP) National Green Infrastructure Certification Program	00944	2020-12-08	2026-01-01



LUNCH AND LEARN SIGN-IN SHEET

Company: SD1	Date: 1/10/2024
Facilitator:	Presenter: Valerie Forsyth / Quinten Miller
Company Address: 1045 Eaton Dr., Ft. Wright, KY 41017	
859-578-7450	

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Darren Martin	Enviro Comp.	DMartin@SD1.org	859 547-1641
Kevin Hunter	lead environmental spec.	khunter@sd1.org	859-640-7208
Brooke Shireman	Env. Comp. Mng.	bshireman@sd1.org	859-547-1666

Appendix 5 - MCM 5

Tab 2 – Maintenance Agreement Template

AFTER RECORDING
PLEASE RETURN TO:
SD1
ATTN: PLAN REVIEW ADMINISTRATOR
ENGINEERING SERVICES DEPARTMENT
1045 EATON DRIVE
FT. WRIGHT, KY 41017
(859) 578-6892

SD1 Post-Construction Storm Water Facility Maintenance Agreement

This SD1 Post-Construction Storm Water Facility Maintenance Agreement (“Agreement”), is made and entered into by _____ and _____ between _____ (Print or Type Full Name of Owner(s)) (the “Landowner”), a _____ (Print or Type State and Type of Corporation, LLC, LLP, etc.), whose mailing address is _____, and Sanitation District No. 1, a sanitation district formed under KRS Chapter 220, (“SD1”), whose mailing address is 1045 Eaton Drive, Ft. Wright, Kentucky 41017. (Landowner and SD1 are sometimes collectively referred to herein as the “Parties”).

WITNESSETH

WHEREAS, the Landowner is the owner of certain real property (the “Property”), described as:

Group No.: _____

Deed Book/Page No.: _____

PIDN: _____

Address: _____

Recorded in _____ (Print or Type County Name) County Clerk’s records in Kentucky; and

The legal description for the above-referenced property is incorporated herein by reference and attached hereto as Exhibit A.

WHEREAS, the Landowner is proceeding to build on and develop the Property; and

WHEREAS, the Site Plan or Subdivision Plan known as _____
(*Print or Type Name of Plan/Development*), which is incorporated herein by reference, and attached hereto as Exhibit B, as submitted to SD1 (the "Plan"). Said Plan provides for detention and water quality improvements of storm water within the vicinity of the Property; and

WHEREAS, SD1 and the Landowner, its successors, and assigns, including any homeowners association, agree that the health, safety, and welfare of the residents of the County in Kentucky where the Property is located require that on-site storm water management facilities (the "Facilities") be constructed and maintained on the Property; and
WHEREAS, SD1 requires that the Facilities as shown on the Plan be constructed and adequately maintained by the Landowner, its successors, and assigns, including any homeowners association.

NOW, THEREFORE, in consideration of the foregoing premises, the mutual covenants contained herein, and the following terms and conditions, the Parties hereto agree as follows:

1. The Facilities shall be constructed by the Landowner, its successors, and assigns, in accordance with the plans and specifications identified in the Plan. This Agreement, completed by the Landowner, shall be submitted within thirty (30) calendar days of the filing of the site/subdivision plat. For all other projects this agreement must be submitted prior to the approval of the Storm Water Permit associated with this agreement. The execution of this Agreement by SD1 shall not constitute an approval or acceptance of the completed Facilities by the Landowner, which approval, if given, shall be by a separate written document executed by SD1. SD1 shall grant final approval and acceptance of the Facilities if the Facilities are constructed in accordance with the Plan.
2. The Landowner, its successors, and assigns, including any homeowners association, shall adequately maintain the Facilities. This includes all private pipes, channels or other conveyances built as part of the Facility, as well as all structures, improvements, and vegetation included to control the quantity and quality of the storm water. In the event a maintenance schedule for the Facilities (including sediment removal) is outlined on the approved Plan, the schedule will be followed. Adequate maintenance is herein defined as maintaining good working condition such that the Facilities are performing as designed. The BMP Inspection and Maintenance Checklists (found in the Storm Water Best Management Practices Manual, Sanitation District No. 1 of Northern Kentucky and as may be amended from time to time, which Manual is made a part hereof and incorporated herein by reference) are to be used to establish what good working condition is acceptable to SD1.
3. The Parties acknowledge that this Agreement shall not be applicable to any public storm water management facilities, if any, situated on the Plan.
4. The Landowner, its successors, and assigns, shall inspect the Facilities and complete an inspection report annually. The purpose of the inspection is to assure safe and proper functioning of the Facilities. The inspection shall cover the entire Facilities, berms, outlet structure, pond areas, access roads, and any other component of the Facilities. Proposed corrective actions and a schedule for such actions shall be identified in the inspection report for any deficiencies identified. Inspection reports shall be maintained for a period of five (5) years from the date of the inspection and shall be made available to SD1 during Landowner's normal business hours upon five (5) business days advance notice of SD1's request for review.
5. The Landowner, its successors, and assigns hereby grant permission to SD1, its authorized agents, and employees to enter upon the Property to inspect the Facilities whenever SD1 deems necessary. SD1 shall provide the Landowner, its successors, and assigns, with copies of its inspection findings and a written directive to commence repairs, if necessary, within a reasonable time period.
6. In the event the Landowner, its successors, and assigns fail to maintain the Facilities in good working condition acceptable to SD1 after the notice and right to cure under paragraph five (5) above, SD1 may

enter upon the Property and make such repairs, replacements or maintenance to the Facilities as may be necessary in SD1's sole judgment, and to charge the costs of such repairs, replacements or maintenance to the Landowner, its successors, and assigns. This provision shall not be construed to allow SD1 to erect any structure of a permanent nature on the land of the Landowner outside of the easement for the Facilities, nor to materially alter any specifications set forth in the Plan. It is expressly understood and agreed that, until such time, if any, that SD1 expressly assumes the maintenance responsibility for the Facilities, SD1 is under no obligation to routinely maintain or repair said Facilities, and in no event shall this Agreement be construed to impose any such obligation on SD1.

7. In the event SD1, pursuant to paragraph six (6) of this Agreement, performs work of any nature, or expends any funds in performance of said work for labor, use of equipment, supplies, materials, and the like, the Landowner, its successors, and assigns, shall reimburse SD1 upon demand, within thirty (30) days of receipt thereof of an invoice for all actual costs incurred by SD1 hereunder. In connection with all work performed pursuant to paragraph five (5) of this Agreement, SD1 shall provide Landowner, upon Landowner's written request, a copy of all drawings and specifications for the work performed.
8. This Agreement imposes no liability of any kind whatsoever on SD1 to maintain the Facilities and the Landowner agrees to release SD1 from any liability in the event the Facilities fail to operate properly.
9. Notwithstanding the above, in the event SD1 expressly assumes maintenance responsibility for the Facilities, the Landowner, its successors, and assigns, shall be released from any obligations under this Agreement that arise after the date of SD1 assumes such maintenance responsibility by way of an Assignment of the SD1 Post-Construction Storm Water Facility Maintenance Agreement to SD1 and Release of Landowner.
10. This Agreement shall be recorded among the land records of the County in Kentucky where the Property is located and shall constitute a covenant running with the land, and shall be binding on the Landowner, its administrators, executors, assigns, heirs, and any other successors in interests, including any homeowners association.

11. **Notices:** Any notice, communication or request under this Agreement to either of the Parties shall be in writing and shall be effectively delivered if delivered personally or sent by overnight courier service with all fees prepaid to the following:

SD1:

Sanitation District No. 1
Attention: Legal Department
1045 Eaton Drive
Ft. Wright, KY 41017

Landowner:

Company Name: _____

Attention: _____

Address: _____

Email Address: _____

Phone Number: _____

Local Contact:

Company Name: _____

Attention: _____

Address: _____

Email Address: _____

Phone Number: _____

It is the responsibility of the Landowner to notify SD1, in writing, of the new Notice contact information for Landowner upon any transfer of the Property.

Signature Pages to Follow

*Signature Page 1 To
SDI Post-Construction Storm Water Facility Maintenance Agreement*

IN WITNESS WHEREOF, the Parties have made and executed this Agreement as of the date all Parties sign this Agreement.

Company/Corporation/Partnership Name

By: _____
(Signature of representative authorized to sign on behalf of the above-referenced company/corporation/partnership)

(Print or Type Name) (Print or Type Title)

STATE (COMMONWEALTH) OF _____ : SS

COUNTY OF _____

The foregoing Agreement was acknowledged before me this _____ day of _____,

20_____, by _____ (Name), _____

(Title), who is authorized to sign on behalf of _____

(Print or Type Name of Company/Corporation/Partnership).

NOTARY PUBLIC

My Commission Expires: _____

Notary ID No.: _____

Signature Page 2 to Follow

*Signature Page 2 To
SD1 Post-Construction Storm Water Facility Maintenance Agreement*

SANITATION DISTRICT NO. 1:

By: _____
Printed Name: Brian M. Ellerman
Title: General Counsel

COMMONWEALTH OF KENTUCKY: SS
COUNTY OF KENTON

The foregoing Agreement was acknowledged before me this _____ day of _____,
20____, by Brian M. Ellerman, General Counsel, on behalf of SD1.

NOTARY PUBLIC

My Commission Expires: _____

Notary ID No.: _____

This Instrument Prepared By:

Brian M. Ellerman
General Counsel - Sanitation District No. 1
1045 Eaton Drive
Ft. Wright, KY 41017

Appendix 5 - MCM 5

Tab 3 – Post-Construction BMP Maintenance Inspection Checklist

BMP Checklist Report

1/24/2025

bmp list

11:31 AM

Checklist Rec #: 7

Checklist Name: Biofiltration Swale

Checklist Items

<u>No:</u>	<u>Checklist Item:</u>
1	Swale is free of organic/inorganic debris and trash
2	No standing water is present 48 hours after rain event
3	Plants are established, healthy and weeding has been preformed preventing nuisance weed takeover
4	No evidence of erosion/rills greater than 2 inches in size
5	If present, riprap and/or check dams are intact
6	No blockages or sediment build-up on inlets, outlets, and control structures
7	Sediment depth shall not exceed 2 inches in any spot and shall not cover more than 10% of BMP
8	No erosion or under-cutting of inlet/outlet structures
9	Clean outs are free of debris and blockages

Checklist Rec #: 8

Checklist Name: Vegetated Swale

Checklist Items

<u>No:</u>	<u>Checklist Item:</u>
1	Swale is free of organic/inorganic debris and trash
2	No standing water is present 48 hours after rain event
3	Plants are established, healthy and weeding has been performed preventing nuisance weed takeover
4	No evidence of erosion/rills greater than 4 inches in size
5	If present, riprap and/or check dams are intact
6	No blockages or sediment build-up on inlets, outlets and control structures (if applicable)
7	Sediment depth shall not exceed 4" in any spot and shall not cover more than 10% of BMP
8	No erosion or under-cutting of inlet/outlet structures, if structures present (if applicable)

Checklist Rec #: 10

Checklist Name: Planter Box

Checklist Items

<u>No:</u>	<u>Checklist Item:</u>
1	Planter box is free of excessive trash and debris
2	Plants are properly pruned and maintained
3	Plants are established and healthy
4	No standing water is present 24 hours after rain event
5	No evidence of erosion/rills greater than 2 inches in size
6	No blockages or sediment build-up on inlets, outlets, and control structures
7	No sediment build-up in BMP that is prohibiting drainage

Checklist Rec #: 12

Checklist Name: Rain Garden

Checklist Items

<u>No:</u>	<u>Checklist Item:</u>
1	Basin is free of organic/inorganic debris and trash
2	No standing water is present 24 hours after rain event
3	Plants are established and healthy and properly maintained.
4	No evidence of erosion/rills greater than 2 inches in size
5	Riprap and/or check dams are intact to prevent erosion
6	No blockages or sediment build-up on inlets, outlets, and/or control structures
7	Cleanouts are free of debris and blockages
8	Sediment depth shall not exceed 2 inches in any spot and shall not cover more than 10% of BMP

BMP Checklist Report

1/24/2025

bmp list

11:31 AM

Checklist Rec #: 13

Checklist Name: Bioretention Basin

Checklist Items

<u>No:</u>	<u>Checklist Item:</u>
1	All structures, grates and windows are free of debris causing blockages
2	Embankments of the basin are not settling
3	No evidence of pollutants such as oil, gasoline or other contaminants
4	If spillway present, no visibly missing rock or soil due to erosion
5	Basin is free of animal burrows that may affect slope stability
6	No standing water is present 48 hours after rain event
7	Plants are established, healthy and weeding has been performed preventing nuisance weed takeover
8	No evidence of erosion/rills greater than 2 inches in size
9	Riprap and/or check dams are intact to prevent erosion
10	No blockages or sediment build-up on inlets, outlets and/or control structures
11	Cleanouts are free of debris and blockages
12	Sediment depth shall not exceed 2" in any spot and shall not cover more than 10% of BMP
13	No undercutting of inlet, outlet or control structure

Checklist Rec #: 14

Checklist Name: Retention Basin

Checklist Items

<u>No:</u>	<u>Checklist Item:</u>
1	Trash and Debris shall not exceed amount of filling standard 25-gallon garbage can
2	If spillway present, no visibly missing rock or soil due to erosion
3	No evidence of pollutants such as oil, gasoline, or other contaminants
4	Water level within basin is maintained at proper height
5	No blockages or sediment build-up on inlets, outlets, or control structures
6	Vegetation on slopes is adequate to prevent erosion
7	Algae does not cover more than 50% of basin surface
8	If present, Riprap is in place and free of debris
9	No evidence of erosion/rills greater than 4 inches in size
10	Berms of the basin are stable and structurally sound.
11	No tree growth exists that would prevent maintenance access or interfere with maintenance activities

Checklist Rec #: 17

Checklist Name: Permeable Asphalt/Concrete

Checklist Items

<u>No:</u>	<u>Checklist Item:</u>
1	No degradation, crumbling, or cracking of asphalt/concrete
2	No settling of asphalt
4	No standing water is present
5	If present, outflow pipe is free of debris and clogging
3	No sediment/debris build-up on asphalt
6	No evidence of oil, gasoline, contaminants or other pollutants
7	Areas adjacent to the asphalt are stabilized and free from erosion
8	No vegetative growth exists within asphalt

Checklist Rec #: 18

Checklist Name: Permeable Pavers

Checklist Items

<u>No:</u>	<u>Checklist Item:</u>
1	No degradation, crumbling, or cracking of surface materials
2	No settling of surface materials
3	No sediment/debris build-up between surface materials
4	No standing water is present
5	If present, outflow pipe is free of debris and clogging
7	No evidence of oil, gasoline, contaminants or other pollutants
6	Areas adjacent to the surface materials are stabilized and free from erosion
8	No vegetative growth exists between surface materials.

BMP Checklist Report

1/24/2025

bmp list

11:31 AM

Checklist Rec #: 19**Checklist Name:** Gravity Separator**Checklist Items**

<u>No:</u>	<u>Checklist Item:</u>
1	Sediment depth shall not exceed 6 inches in inlet chamber
2	No excessive accumulation of trash/debris near inlet, outlet, or within structure
3	Drain-pipes and clean-outs are not clogging
4	All pipes are free of structural damage
5	Access cover is functioning properly
6	Vault structure is free of cracks wider than 1/2 inch
7	Baffles are intact and functioning properly with no signs of failure
8	Access ladder is functioning properly

Checklist Rec #: 25**Checklist Name:** Detention Basin**Checklist Items**

<u>No:</u>	<u>Checklist Item:</u>
1	Trash and debris shall not exceed amount of filling a standard 25-gallon garbage can
2	If present, forebay is structurally sound and functioning per original design
3	All structures, grates, and windows are free of debris and blockages
4	No evidence of erosion/ rills greater than 4 inches in size
5	Embankments of the basin are not settling
6	If present, Riprap is in place and free of debris
7	Grass/ vegetation is not affecting the functionality of the basin
8	Inlet/ Outlet pipe is free of debris and/ or sediment preventing proper draining
9	No standing water is present 48 hours after a rain event
10	No evidence of pollutants such as oil, gasoline, or other contaminants
11	If spillway present, no visibly missing rock or soil due to erosion
12	No trees > 4 feet in height with potential to block inlet, outlet, or spillway
13	No trees >4 feet in height with potential to affect bank stability
14	Basin is free of animal burrows that may affect slope stability

Checklist Rec #: 35**Checklist Name:** Extended Detention Basin**Checklist Items**

<u>No:</u>	<u>Checklist Item:</u>
2	If present, forebay is structurally sound and functioning per original design
3	All structures, grates, and windows are free of debris and blockages
4	No evidence of erosion/ rills greater than 4 inches in size
6	If present, Riprap is in place and free of debris
7	Grass/ vegetation is not affecting the functionality of the basin
1	Trash and debris shall not exceed amount of filling a standard 25-gallon garbage can
5	Embankments of the basin are not settling and are structurally sound.
8	No standing water is present 48 hours after a rain event
9	No evidence of pollutants such as oil, gasoline, or other contaminants
10	If spillway present, no visibly missing rock or soil due to erosion
11	No trees > 4 feet in height with potential to block inlet, outlet, or spillway or affect bank stability.
12	If present, orifice restrictor plate is free of sediment and debris and is functioning properly.
13	Outlet Control Structure Functioning per Approved Design

Checklist Rec #: 37**Checklist Name:** Contech CDS**Checklist Items**

<u>No:</u>	<u>Checklist Item:</u>
1	Visual inspection reveals no blockages or obstructions in the inlet and separation screen
2	Depth of water level to sediment layer shall be more than 3 feet.

BMP Checklist Report

1/24/2025

bmp list

11:31 AM

Checklist Rec #: 38 **Checklist Name:** Flexstorm Insert**Checklist Items**

<u>No:</u>	<u>Checklist Item:</u>
1	Sediment bag shall not exceed 50% capacity
2	Bag shall not have greater than 0.5inch tears on lower half of bag

Checklist Rec #: 40 **Checklist Name:** ADS Water Quality Unit 3620W**Checklist Items**

<u>No:</u>	<u>Checklist Item:</u>
2	Oil depth not to exceed 1/3 total water column
1	Sediment depth not to exceed 9 in or less than 1 ft of water cover.

Checklist Rec #: 41 **Checklist Name:** Contech ChamberMaxx**Checklist Items**

<u>No:</u>	<u>Checklist Item:</u>
1	Sediment depth not to exceed 4 in

Checklist Rec #: 43 **Checklist Name:** Stormceptor STC 450i**Checklist Items**

<u>No:</u>	<u>Checklist Item:</u>
1	Sediment depth shall not exceed 8 in

Checklist Rec #: 44 **Checklist Name:** Generic**Checklist Items**

<u>No:</u>	<u>Checklist Item:</u>
1	Sediment load does not exceed desired level

Checklist Rec #: 71 **Checklist Name:** Underground Detention Basin**Checklist Items**

<u>No:</u>	<u>Checklist Item:</u>
1	Trash and debris shall not exceed amount of filling a standard 25-gallon garbage can
2	All structures, grates, and windows are free of debris and blockages
3	Inlet/ Outlet pipe is free of debris and/ or sediment preventing proper draining
4	No standing water is present 48 hours after a rain event
5	No evidence of pollutants such as oil, gasoline, or other contaminants
6	If present, orifice restrictor plate is free of sediment and debris
7	If present, orifice restrictor plate is functioning properly
8	Outlet Control Structure Functioning per Approved Design

Checklist Rec #: 72 **Checklist Name:** Contech StormFilter**Checklist Items**

<u>No:</u>	<u>Checklist Item:</u>
1	Sediment loading on the vault floor is less than 4"
2	Scum line present above the top cap of the filters
3	No static water (greater than 4") above the cartridge bottom for more than 24 hrs after a rain event

BMP Checklist Report

1/24/2025

bmp list

11:31 AM

Checklist Rec #: 75

Checklist Name: Permeable Concrete

Checklist Items

<u>No:</u>	<u>Checklist Item:</u>
1	No degradation, crumbling, or cracking of concrete
2	No settling of concrete
3	No sediment/debris build-up on concrete
4	No standing water is present
5	If present, outflow pipe is free of debris and clogging
6	No evidence of oil, gasoline, contaminants or other pollutants
7	Areas adjacent to the concrete are stabilized and free from erosion
8	No vegetative growth exists within concrete

Appendix 6 - MCM 6

Tab 1 – MCM 6 Training Documentation

Agenda

Time	Topic	Speaker
8:00 – 8:10	Welcome/Introductions	Darren Martin
8:10 – 8:15	Co-Permittee Audit Recap	Brooke Shireman
8:15 – 8:30	SWPPP Overview and Updates	Brooke Shireman
8:30 – 9:00	Updated Site Assessment Forms, Illicit Discharges, Trouble Call, Questions	Darren Martin

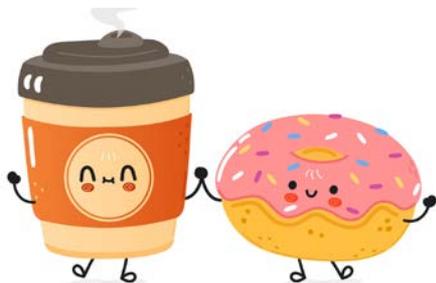
2024 Co-Permittee Storm Water Pollution Prevention Training

November 5th and 7th , 2024



Agenda

Time	Topic	Speaker
8:00 – 8:10	Welcome/Introductions	Darren Martin
8:10 – 8:15	Co-Permittee Audit Recap	Brooke Shireman
8:15 – 8:30	SWPPP Overview and Updates	Brooke Shireman
8:30 – 9:00	Updated Site Assessment Forms, Illicit Discharges, Trouble Call, Questions	Darren Martin



MS4 Phase II Requirements

Minimum Control Measures (MCMs):

1. Public Education & Outreach
2. Public Involvement & Participation
3. Illicit Discharge Detection & Elimination
4. Control of Construction Site Runoff
5. Post-Construction Storm Water Management
6. Pollution Prevention and Good Housekeeping for Municipal Operations

SD1

Co-Permittees & SD1

KDOW MS4 Program Co-Permittee Audits

Completed

2018

Alexandria, Boone County

2019

Ft. Thomas, Kenton County (File Audits)

2020

Campbell County, Elsmere, Woodlawn
(Virtual)

2021

Bellevue, Bromley, Crestview Hills, Dayton,
Edgewood, Ft. Mitchell (Virtual)

2022

Crescent Springs, Ft. Wright, Highland
Heights, Kenton Vale, Lakeside Park,
Melbourne

2023

Erlanger, Independence, Ludlow, Newport,
Park Hills, Silver Grove, Southgate

2024

Taylor Mill, Union, Villa Hills

2025

Wilder and Crestview



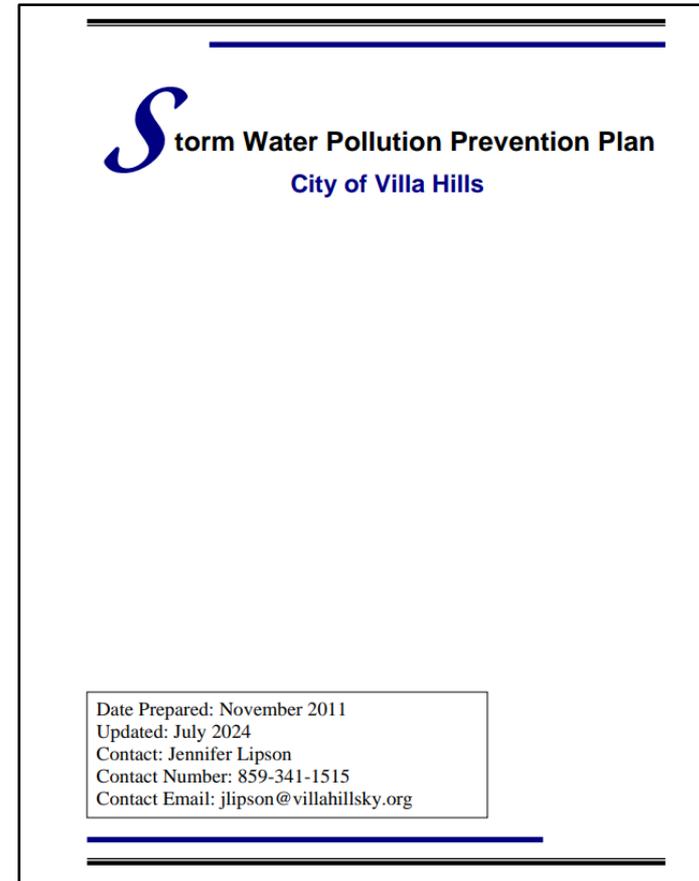
2024 Audit Preparation

- SD1 will work with KDOW and co-permittees to select dates
- SD1 will schedule preparation meetings with co-permittees
 - Review and Update SWPPP
 - Compile Records and Supporting Information



Storm Water Pollution Prevention Plan (SWPPP)

- Each community has a plan
 - If you can't find your copy, contact us
- Important to review the plan annually
 - Helpful to review when completing the annual site inspection
- Make updates if needed
 - Pollution prevention team, new buildings, location changes, different process
 - Send us the updated plan



Site Inspection

- Site Walkthrough
 - Public Works Building/Garage
- Ensure identified BMPs are in place and functioning
 - Spill kits
 - Salt storage
 - Process for storm drain protection
 - Proper chemical storage



Pollution Prevention Self Audits

- Annual Audits
 - Perform for each municipal facility
 - Visual inspections of potential pollutant sources that may enter the storm water drainage systems through storm drains or non-storm water discharges
 - Review and assessment of all BMPs to determine effectiveness
 - Inspection of equipment needed to implement the SWPPP (street sweepers, spill kits, drip pans, etc.)
 - SD1 assistance is available
 - Perform audits of all facilities by December 15, 2024
 - SD1 will send an email reminder



Updates Electronic Audit Form

<https://forms.sd1.org/Forms/v3DGo>



Storm Water Pollution Prevention Plan Site Assessment

Complete this form annually by Dec. 15

City OR County: *

If you represent a City, choose that City, not its County.

Facility Name: *

(e.g., Public Works Garage, City Building, City Park)

Facility Street Address: *



Example Pollution Prevention Language for Contracts

Allowing pollutants to directly or indirectly discharge to the storm sewer system, or any lake, stream, river or wetland, is prohibited by federal, state and local regulations. The Contractor shall take all measures necessary to prevent pollutants from discharging to storm drains and other waterways. For the purpose of eliminating stormwater pollution, the contractor shall implement effective Best Management Practices (BMPs). BMPs include general good housekeeping practices, appropriate scheduling of activities, operational practices, maintenance procedures and other measures to prevent the discharge of pollutants directly or indirectly to the storm drain system.



Keys to a Successful Self Audit

- Pollution Prevention Team Involvement
- Be Observant
- Be Honest
- Keep BMP Summary Sheet in Mind



How to Report a Trouble Call

1. Call **(859) 578-7450 - Option 1** for emergencies

- Advantages of using the Trouble Call Line:
 - Call is immediately logged into our tracking system
 - Responder notification is sent within seconds allowing for faster dispatch
 - Responders are notified immediately
 - This number is staffed 24 / 7 / 365
 - Facilitates timely follow-up

2. Email **Info@sd1.org** for non-emergencies

- Allows user to provide more detailed information, pictures, and other documentation
- Only staffed during normal business hours



Questions?

SW New Hire Quiz Test Scores

Emp ID	Test Date	Score	Number of Questions	Quiz Score Percentage
1359	01/03/2024	6	6	100%
1361	01/16/2024	5	6	83%
1360	01/29/2024	6	6	100%
1235	02/06/2024	5	6	83%
1367	02/28/2024	6	6	100%
1366	03/05/2024	6	6	100%
1363	03/05/2024	4	6	67%
1364	03/05/2024	5	6	83%
1365	03/12/2024	6	6	100%
1368	03/25/2024	6	6	100%
1369	04/09/2024	6	6	100%
1370	05/01/2024	6	6	100%
1371	05/15/2024	6	6	100%
1372	05/29/2024	6	6	100%
1373	05/29/2024	6	6	100%
1377	06/03/2024	6	6	100%
1378	06/03/2024	6	6	100%
1380	07/11/2024	6	6	100%
1379	07/11/2024	6	6	100%
1381	07/15/2024	5	6	83%
1382	07/15/2024	5	6	83%
1383	07/31/2024	6	6	100%
1384	07/31/2024	5	6	83%
1385	07/31/2024	5	6	83%
1388	08/26/2024	6	6	100%
1387	08/26/2024	6	6	100%
1389	08/29/2024	6	6	100%
1390	09/04/2024	6	6	100%
1311	10/22/2024	5	6	83%
1374	10/22/2024	6	6	100%
1393	11/13/2024	6	6	100%
1395	11/13/2024	6	6	100%
1394	11/13/2024	6	6	100%
1397	11/22/2024	5	6	83%
1398	12/02/2024	6	6	100%
			Average Score:	95%

35 SW New Hire Tests Completed

Appendix 6 - MCM 6
Tab 2 – SWPPP Inspection Checklist



Storm Water Pollution Prevention Plan Site Assessment

Complete this form and return it no later than Dec. 15 to:

SD1, Environmental Compliance Administrator, 1045 Eaton Drive, Ft. Wright, KY 41017

City OR County: _____
If you represent a City, list that City, not its County.

Facility Name/Type: SD1 Eastern Regional Date: 10/5/24
(e.g., Public Works Garage, City Building, City Park)

Facility Street Address: _____

Audited By: Jesse Martin Auditor's Email Address: _____

Individuals Present During Assessment: _____

Vehicle and Equipment Wash Areas

Are there designated areas? Yes No Not applicable

If NO, why is there no designated area?
Question by assessor

Are the areas properly labeled? Yes No Not applicable

BMP in place: Are oils and other contaminants prevented from entering the storm water system?
 Yes No Not applicable

Are maintenance records kept and available for review?
 Yes No Not applicable

Comments: _____

Drip Pan Storage Areas

Are there designated areas? Yes No Not applicable

If NO, why is there no designated area?

Are the areas properly labeled? Yes No Not applicable

BMP in place: Are drip pans stocked? Yes No Not applicable

Comments: _____

Refueling Station Locations

Are there designated areas? Yes No Not applicable

If NO, why is there no designated area?
no refueling

Are the areas properly labeled? Yes No Not applicable

BMP in place: Is there proper containment? Yes No Not applicable

Comments: _____

Spill Kit Locations

Are there designated areas? Yes No Not applicable
If **NO**, why is there no designated area?

Are the areas properly labeled? Yes No Not applicable
BMP in place: Is the kit fully stocked? Yes No Not applicable

Comments: _____

Oil Storage Areas

Are there designated areas? Yes No Not applicable
If **NO**, why is there no designated area?

Are the areas properly labeled? Yes No Not applicable
BMP in place: Is there proper containment? Yes No Not applicable

Comments: _____

Oil Recycling Areas

Are there designated areas? Yes No Not applicable
If **NO**, why is there no designated area?

Are the areas properly labeled? Yes No Not applicable
BMP in place: Is there proper containment? Yes No Not applicable
Is the oil recycled when the area becomes full? Yes No Not applicable
Are oil recycling records kept and available for review? Yes No Not applicable

Comments: _____

Solvent Storage Areas

Are there designated areas? Yes No Not applicable
If **NO**, why is there no designated area?

Are the areas properly labeled? Yes No Not applicable
BMP in place: Is there proper containment? Yes No Not applicable

Comments: _____

Light Bulb Recycling Areas

Are there designated areas? Yes No Not applicable
If **NO**, why is there no designated area?

Are the areas properly labeled? Yes No Not applicable
BMP in place: Are the items recycled when the area becomes full? Yes No Not applicable

Comments: _____

Battery Recycling Areas

Are there designated areas? Yes No Not applicable
If **NO**, why is there no designated area?

Are the areas properly labeled? Yes No Not applicable
BMP in place: Are the items recycled when the area becomes full?
 Yes No Not applicable

Comments: _____

Pesticide and Herbicide Storage Areas and Application

Are there designated areas? Yes No Not applicable
If **NO**, why is there no designated area?

Are the areas properly labeled? Yes No Not applicable
BMP in place: Is there proper containment? Yes No Not applicable
Are application logs and certification records kept and available for review?
 Yes No Not applicable

Comments: _____

Material Storage Areas (sand, gravel, mulch, salt)

Are there designated areas? Yes No Not applicable
If **NO**, why is there no designated area?
NA

Are the areas properly labeled? Yes No Not applicable
BMP in place: Is the area covered so it is protected from rainfall?
 Yes No Not applicable

Comments: _____

Salt Application

Is salt used on your roadways? Yes No Not applicable
If **NO**, please explain.

Is the equipment properly maintained? Yes No Not applicable
Is the equipment being calibrated before spreading the salt?
 Yes No Not applicable
Is there documentation for the maintenance, calibration, and amount of salt used?
 Yes No Not applicable

Comments: _____

Waste Disposal

Does your community have a contract for waste collection?

Yes No Not applicable

If **YES**, indicate your contract partner. If **NO**, explain how your waste is managed.

Are hazardous waste disposal records kept and available for review?

Yes No Not applicable

If **NO**, please explain:

Building and Grounds

Were any other storm water contamination sources identified during this inspection?

Yes No Not applicable

If **YES**, please explain and note your corrective actions. _____

Outsourced Work

Is any of the work mentioned above outsourced? Yes No Not applicable

Does the contract include provisions that hold them accountable?

Yes No Not applicable

Additionally, is their work being inspected to ensure it meets permit requirements?

Yes No Not applicable

Comments: _____

Feel free to attach/submit accompanying photos.



Storm Water Pollution Prevention Plan Site Assessment

Complete this form annually by Dec. 15

City OR County:

CITY OF EDGEWOOD

If you represent a City, choose that City, not its County.

Facility Name/Type: *

General Services Garage

(e.g., Public Works Garage, City Building, City Park)

Facility Street Address: *

553 South Loop Road

Date:

12/3/2024

Filing Year: *

2024

Audited By: *

Rick Lunnemann and Chris Whitehead

Auditor's Email Address: *

Rlunnemann@edgewoodky.gov

Please ensure accuracy with this field as it will be used to communicate with you for any follow-up on this submission. If you don't receive a confirmation email within 24 hours of your submission, please contact info@sd1.org for assistance.

Individuals Present During Assessment:

Rick Lunnemann and Chris Whitehead

Vehicle and Equipment Wash Areas

Are there designated areas? *

Yes

No

Are the areas properly labeled? *

Yes

No

BMP in place: Are oils and other contaminants prevented from entering the storm water system? *

Yes

No

Are maintenance records kept and available for review? *

Comments:

Drip Pan Storage Areas

Are there designated areas? *

Yes

No

Are the areas properly labeled? *

Yes

No

BMP in place: Are drip pans stocked? *

Yes

No

Comments:

Refueling Station Locations

Are there designated areas? *

Yes

No

Are the areas properly labeled? *

Yes

No

BMP in place: Is there proper containment? *

Yes

No

Comments:

Spill Kit Locations

Are there designated areas? *

Yes No

Are the areas properly labeled? *

Yes No

BMP in place: Is the kit fully stocked? *

Yes No

Comments:

Oil Storage Areas

Are there designated areas? *

Yes No

Are the areas properly labeled? *

Yes No

BMP in place: Is there proper containment? *

Yes No

Comments:

Oil Recycling Areas

Are there designated areas? *

Yes No

Are the areas properly labeled? *

Yes No

BMP in place: Is there proper containment? *

Yes No

Is the oil recycled when the area becomes full? *

Yes No

Are oil recycling records kept and available for review? *

Comments

Solvent Storage Areas

Are there designated areas? *

Yes

No

Are the areas properly labeled? *

Yes

No

BMP in place: Is there proper containment? *

Yes

No

Comments

Light Bulb Recycling Areas

Are there designated areas? *

Yes

No

Why is there no designated area? *

Not applicable

Comments:

Battery Recycling Areas

Are there designated areas? *

Yes

No

Why is there no designated area? *

Not applicable

Comments

Pesticide and Herbicide Storage Areas and Application

Are there designated areas? *

Yes

No

Why is there no designated area? *

All pesticides/herbicides stored at Presidents Park maintenance garage.

Comments:

Material Storage Areas (sand, gravel, mulch, salt)

Are there designated areas? *

Yes No

Are the areas properly labeled? *

Yes No

BMP in place: Is the area covered so it is protected from rainfall? *

Yes No

Comments:

Missing signs will be installed.

Salt Application

Is salt used on your roadways? *

Yes No

Is the equipment properly maintained? *

Yes No

Is the equipment being calibrated before spreading the salt? *

Yes No

Is there documentation for the maintenance, calibration, and amount of salt used? *

Yes No

Comments:

Waste Disposal

Does your community have a contract for waste collection? *

Yes No

Additional Information: *

Using the text box below, indicate your contract partner if you chose YES. If you chose NO, explain how your waste is managed.

Are hazardous waste disposal records kept and available for review? *

Yes No

Additional Information: *

If NO, please explain in the text box below.

Items such as old refrigerators/freezers are currently disposed of at a proper recycling facility and City pays invoices for disposal but currently documentation is not maintained except for cancelled checks.

Building and Grounds

Were any other storm water contamination sources identified during this inspection? *

Yes No

Please explain and note your corrective action: *

There is a catch basin near salt storage area that we will begin to protect from pollutants during snow removal operations

Outsourced Work

Is any of the work mentioned above outsourced? *

Yes No

Does the contract include provisions that hold them accountable? *

Yes No

Additionally, is their work being inspected to ensure it meets permit requirements? *

Yes No

Comments:

Trash collection

Accompanying photos:

Internal Processing

Decision *

Approved
 Needs additional information

*Note: The questions for original submitter section will be used in the email sent to the original submitter only if the decision "Needs additional information" is chosen. It will also not be stored to the repository. To store additional information about the form, or the response from the submitter, use the "Follow up notes" section.

Follow up notes:

Appendix 7 - Miscellaneous Information

Tab 1 – Training Documentation

Training Log for B.Shireman 2024

Event	Date	Hours	Certificate Provided
Storm Trap Lunch and Learn	1/10/2024	1	No
CWP Illicit Discharge Webinar	1/24/2024	1.5	No
Contech Lunch and Learn	2/1/2024	1	Yes
KSA Quarterly	2/7/2024	2	Yes
Webinar - How does GI really work?	4/19/2024	1	Yes
KSA Quarterly	5/14/2024	2	Yes
Introductory & Advanced WS in CBSM	6/25, 27/ 2024	10	Yes
KSA Conference	7/10 - 7/12/24	9.5	Yes
Webinar - An Investigation of MS4 Discharges	8/8/2024	0.5	No
Webinar - Industrial Stormwater Management	8/13/2024	1.5	No
Southeast Ohio and NKY Stormwater Float	9/19/2024	4	Yes
KSA Quarterly	10/23/2024	1.5	Yes
National SW Day Webinar	11/15/2024	1.5	Yes
TOTAL HOURS		37	

Certificate of Completion

presented by



This certifies that

Brooke Shireman

attended the **1-Hour Technical Seminar** presented by Contech Engineered Solutions, LLC on **February 2, 2024**.

This program covered technical issues relevant to the engineering profession as outlined below:

Program sponsor:	Sanitation District 1
Presented by:	Joseph A. Sommer, Account Manager/Sales Engineer
Topics of discussion:	Stormwater Solutions Overview
Duration:	1 hour

Joseph A. Sommer

Joseph A. Sommer
Account Manager/Sales Engineer

Please check with your governing board to confirm this method of education meets registration requirements



**KENTUCKY
STORMWATER
ASSOCIATION**

**2024 Kentucky Stormwater Association Winter Quarterly
February 7, 2024 (10 AM - Noon ET)
Professional Development Hours
Virtual Webinar via Zoom**

Presentation Title	Speaker	Duration (hours)	Session Attended (check box)
KSA Board Updates and Introduction to the Limelight Series	KSA Board and Adam Shelley (Research Communications Specialist), Kentucky Water Research Institute (KWRI)	0.2	<input checked="" type="checkbox"/>
Minimal Elements for Compliance	Lucas Hanks (MS4 Coordinator), KY Division of Water (KDOW)	0.15	<input checked="" type="checkbox"/>
Beneficial Elements for More Effective Ordinances	Steve Evans (Associate Director), KWRI	0.35	<input checked="" type="checkbox"/>
Innovative Approaches to MCMs (MCMs 3, 4, and 5)	Matt Powell, City of Bowling Green; Brooke Shireman, SD1; Neal Crawford, QK4 and David Curry, City of Radcliff	0.6	<input checked="" type="checkbox"/>
Stormwater Fees	Steve Evans, KWRI; Nikki Koller, Warren County Stormwater; Josh Morgan, City of Danville	0.5	<input checked="" type="checkbox"/>
Co-Permittee Agreements	Steve Evans, KWRI; Allison Thomas, Bullitt County	0.2	<input checked="" type="checkbox"/>
Total PDH Hours		2	



certifies that

Brooke Shireman

has earned **0.1 Continuing Education Unit (CEU)**
or **1.0 Professional Development Hour (PDH)**

by successfully completing

How does green stormwater infrastructure really work? Improving design through monitoring

on April 19, 2024

A handwritten signature in black ink that reads "Robin Pugh".

Robin Pugh
Continuing Education Coordinator



You may use this Certificate to apply for Professional Development Hours with your state's governing certification agency. Please Note: it's your responsibility to pursue credit. We cannot guarantee credit will be awarded.



**KENTUCKY
STORMWATER
ASSOCIATION**

**2024 Kentucky Stormwater Association Spring Quarterly
May 14, 2024 (10 AM - Noon ET)
Professional Development Hours
Virtual Webinar via Zoom**

Presentation Title	Speaker	Duration (hours)	Session Attended (check box)
KSA Board Updates and Announcements	KSA Board	0.15	<input checked="" type="checkbox"/>
Kentucky Communities Are Embracing Their Local Waterways and Basin Coordinators Have a Seat at the Table	Brian Storz, Licking River Basin Coordinator, KY Division of Water (KDOW)	0.50	<input checked="" type="checkbox"/>
OSG Green Infrastructure Assistance Program Updates	Dale Booth, Environmental Scientist, KDOW	0.20	<input type="checkbox"/>
Kentucky's Clean Water State Revolving Fund (CWSRF): Considerations for Stormwater Management	Becca Trueman, Quantified Ventures	0.65	<input checked="" type="checkbox"/>
Creek Cleanup Efforts	Meredith Meyers, Louisville MSD	0.50	<input type="checkbox"/>
Total PDH Hours		2	

CERTIFICATE

OF COMPLETION

This Certifies that

Brooke Shireman

has successfully completed the

**INTRODUCTORY & ADVANCED WORKSHOPS IN
COMMUNITY-BASED SOCIAL MARKETING**

June 27th, 2024

DATE



DOUG MCKENZIE-MOHR, PH.D.
FOUNDER, CBSM



~~9.5~~
9.5

Presentation Title	Speaker	Date/Time	Session Attended (Initial)
Pre-Conference Workshop	Lucas Hanks, KY Division of Water, Chad McCormick, Land Design & Development and Jennifer Herrell, City of Shelbyville	Wednesday, July 10 10:00 am - 12:00 pm	
State of the Commonwealth	Sarah Gaddis, KY Division of Water	Wednesday, July 10 1:30 pm - 2:00 pm	BS .5
Digital Update of the Erosion Prevention and Sediment Control Guidebook	Paulette Akers, KDOW	Wednesday, July 10 2:00 pm - 2:30 pm	BS .5
This is the Ohio - Life, Death, Rebirth of the Beautiful River	Morgan Atkinson, Duckworks, Inc	Wednesday, July 10 3:00 pm - 4:00 pm	BS 1
MS4 Legal Update	Skipp Kropp, Steptoe & Johnson PLLC	Wednesday, July 10 4:00 pm - 5:00 pm	BS 1
An Overview of the Ohio River Basin Alliance (ORBA) and the ORB Restoration Plan	Chris Lorentz, Ph.D., Thomas More College	Thursday, July 11 8:30 am - 9:30 am	BS 1
Owensboro Stormwater and Combined Sewer Mitigation Efforts	Garrett Gorden, Kevin Collignon & Bryan Henderson, Regional Water Resource Agency (RWRA)	Thursday, July 11 9:30 am - 10:00 am	BS .5
US Army Corps of Engineers Program Overview	Brandon Brummett, US Army Corps of Engineers	Thursday, July 11 9:30 am - 10:00 am	
Teaching the Public about Stormwater Mitigation through Partnership with Daviess County Cooperative Extension	Annette Meyer Heisdorffer & Bryan Henderson, RWRA	Thursday, July 11 10:00 am - 10:30 am	
Improving MS4 Compliance Through Stormwater Precipitation Monitoring Advancements	Brittany Pekara, Western Kentucky University	Thursday, July 11 10:00 am - 10:30 am	BS .5
Lessons Learned: BMP Inspections, Tracking, and Maintenance Plan Development for the University of Kentucky	Steven Vogel, Strand Associates, Inc. & Nathan Weber, University of Kentucky	Thursday, July 11 11:00 am - 12:00 pm	BS 1
PFAS in Stormwater: What we Know Part II	Stacey Isaac, Geosyntec Consultants	Thursday, July 11 11:00 am - 11:30 am	
Stormwater to Groundwater: What's the Connection?	Julie Morelli, POWER Engineers, Inc.	Thursday, July 11 11:30 am - 12:00 pm	
Green Infrastructure: Lessons Learned for Combined Infiltration/Detention Underground Stormwater Systems	Colette Easter, Louisville MSD & Neal Crawford, Qk4	Thursday, July 11 1:30 pm - 2:30 pm	
Inspecting Industrial Sites - An Overview for Folks New to Industrial Stormwater Compliance	Nathan Collier, POWER Engineers, Inc.	Thursday, July 11 1:30 pm - 2:00 pm	
Viewing the Regulatory Landscape for Approvals of Proprietary Manufactured Treatment Devices for Stormwater Quality	Mark Miller, AquaShield, Inc.	Thursday, July 11 2:00 pm - 2:30 pm	
Integration of Nature-based Solutions (NbS) in Source Water Protection Planning	Dale Booth, KDOW	Thursday, July 11 3:00 pm - 3:30 pm	BS .5
Effective Communication with Contractors	Mack Overton, KERAMIDA	Thursday, July 11 3:00 pm - 3:30 pm	
Increasing Climate Resiliency in Your Community with Green Infrastructure and Adaptable Trees	David Gamstetter, Davey Resource Group	Thursday, July 11 3:30 pm - 4:00 pm	
Evaluation of Rolled Erosion Control Products Fiber Properties and Performance	Kevin Boyce, American Exelsior	Thursday, July 11 3:30 pm - 4:00 pm	
Big Ideas and Best Practices - Reflections on Progress through Partnership from the Bowling Green MS4 Program	Jason Polk, WKU CHNGES & Matt Powell, City of Bowling Green	Friday, July 12 8:30 am - 9:30 am	BS 1
Insights and Recommendations from the 2022 Kentucky MS4 Annual Report Review	Steve Evans & Adam Shelley, Kentucky Water Research Institute (KWRI)	Friday, July 12 9:30 am - 10:00 am	BS .5
Storm Water Fee Credits - Successes and Struggles through 20 years of Implementation	Brooke Shireman, Sanitation District No. 1 (SD1)	Friday, July 12 10:00 am - 10:30 am	BS .5
Protecting Your Local Waterways with Detention Basin Retrofits	Brian Storz, KDOW	Friday, July 12 10:30 am - 11:30 am	BS 1

Certificate *of* Participation

Brooke Shireman

Participated in the following CEU opportunity:
Southwest Ohio & Northern Kentucky Stormwater Float
(4 hours)

Hosted on September 19, 2024 in Newport, Kentucky

The event was organized by:



Sara Fehring
Sara Fehring
Executive Director

Hamilton County Conservation District

For additional information on the event, you can contact the Hamilton County Conservation District at (513) 946-8020



**KENTUCKY
STORMWATER
ASSOCIATION**

**2024 Kentucky Stormwater Association Fall Quarterly
October 23, 2024 (10 AM - Noon ET)
Professional Development Hours
Virtual Webinar via Zoom**

Presentation Title	Speaker	Duration (hours)	Session Attended (check box)
Welcome and KSA Board Updates	KSA Board	0.25	✓
Limelight Series (Key Steps to Your Compliance and Enforcement Program)	Demetria Kimball, Program Manager Sr - LFUCG Division of Environmental Services	1.25	✓
			1.5

CERTIFICATE

PROUDLY PRESENTED TO

Brooke Shireman

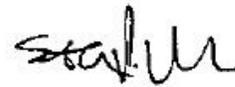
National Stormwater Day 2024 - Webinar - 1.5 PDHs

Nov 15, 2024

Date of Completion

Seth P. Brown, Ph.D., P.E.

NMSA Executive Director



Signature





EnviroCert International, Inc.

3054 Fite Circle, Suite 108, Sacramento, CA 95827

(279) 888-6911 | www.envirocert.org

Brooke Leigh Shireman

CPMSM

Certified Professional in Municipal
Stormwater Management

429

CERTIFICATION NO.

21-Jun-2025

EXPIRES



ENVIROCERT

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NOTICE:

All certified professionals are required to adhere strictly to the Code of Conduct and Ethics and are responsible for maintaining their active status with ECI to exercise the rights and privileges under this certification.