

JEFFERSON COUNTY COMMISSION

MUNICIPAL SEPARATE STORM SEWER SYSTEM

PERMIT NUMBER: ALS000001

ANNUAL REPORT FOR REPORTING PERIOD OCTOBER 1, 2021 TO SEPTEMBER 30, 2022

Jefferson County Commission

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Cal Markert, P.E., County Manager

Heather Carter, P.E., County Engineer
Department of Roads and Transportation





I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information 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 a fine and imprisonment for known violations (NPDES PERMIT ALS000001, PART V (K) dated September 27, 2018).

Cal Markert

1-31-23

Cal Markert, P.E., County Manager

Date

Heather Carter

1/27/23

Heather Carter, P.E., County Engineer

Date

**ANNUAL REPORT - Year Four of Five
October 1, 2021 to September 30, 2022**

TABLE OF CONTENTS

I. GENERAL INFORMATION	
A. Contacts	5
II. PROGRAM EVALUATION	
A. Program Objectives	7
B. Major Findings	8
C. Major Accomplishments	10
D. Program Strength and Weaknesses	37
E. Future Direction	39
F. Effectiveness of SWMPP	41
III. NARRATIVE REPORT	
A. Summary Table	43
B. Public Education Implementation Status Table	56
IV. MONITORING SECTION	60
V. STORMWATER MANAGEMENT PROGRAM PLAN	63
VI. PROGRAM BUDGETS	65

VII. APPENDICES

- A. Stormwater Management Program Plan
- B. Structural Controls
- C. Public Education and Public Involvement
- D. Illicit Discharge Detection and Elimination
- E. Construction Site Storm Water Runoff Control
- F. Post Construction Stormwater Management; New and Redevelopment
- G. Spill Prevention and Response
- H. Pollution Prevention/Good Housekeeping
- I. PHF
- J. Oils, Toxics, and Household Hazardous Waste Control
- K. Industrial Storm Water Runoff
- L. Monitoring
- M. Major Findings; Future Direction; Budgets

I. General Information

A. CONTACTS

The Stormwater Program staff of the Jefferson County Commission, under the supervision of Cal Markert, County Manager, responsible for all County Department functions and Heather Carter, County Engineer; collected and coordinated information from various Jefferson County Departments for inclusion in preparation of this 2022 Annual Report.

Any question about this report should be directed to persons listed below:

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II. Program Evaluation

A. PROGRAM OBJECTIVES

The requirements of the National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Permit ALS000001 (Permit), issued by the Alabama Department of Environmental Management (ADEM), list specific responsibilities for the Permittee/Co-Permittees. The Stormwater Management Program (SWMP) is responsible for implementing the Stormwater Management Program Plan (SWMPP) within unincorporated Jefferson County, Alabama. The SWMP stipulates certain obligations that must be met for the Permittee to comply with the requirements of the Permit. Please refer to **Appendix A** for the latest version of the SWMPP.

B. MAJOR FINDINGS

During the Permit Year October 1, 2021, through September 30, 2022, the following information was collected and evaluated as major findings that have impacted water quality:

- According to the final 2022 water quality 303(d) list of ADEM and the Environmental Protection Agency (EPA), **nine** stream segments of waterways within, or flowing through, the Jefferson County jurisdiction are designated as impaired by not fully meeting their usage classification. The County's MS4 area is comingled with multiple municipalities. As a result, the municipalities are potentially significant contributors to the impaired streams. This is a determination reached by ADEM in a federally required biennial evaluation of the status of water bodies within the state. The evaluation is conducted from best available data and a determination of the waterways' ability to support its designated usage classification.

The **seven** segments on the 303(d) list in the Black Warrior River basin are typically designated as impaired for chemical impairments such as pesticides (Dieldrin), nutrients, and pathogens (E. coli). Sources of this pollution range from urban runoff, municipal, and pasture grazing.

The **two** segments on the 303(d) list in the Cahaba River basin are designated as impaired for total dissolved solids and metals such as Mercury. The sources of the pollutants are industrial and atmospheric deposition.

A stream segment of a waterway on the 303(d) list is removed only when it has either: (1) a Total Maximum Daily Load (TMDL) approved by the EPA that allocates the pollutant reductions to the responsible parties, or (2) has improved in water quality as determined by further data. The original stream segments have been reduced to EPA-approved TMDLs within the MS4 area which are listed on the ADEM website. The finalized, EPA-approved TMDLs* are:

- Cahaba River for nutrients,
- Shades Creek (including Mud, Mill and Cooley Creeks) for pathogens,
- Shades Creek for siltation, and habitat alterations,
- Village Creek for metals, siltation, and habitat alteration,
- Village Creek (Bayview Lake) for siltation,
- Village Creek for pathogens,
- Camp Branch for pH, siltation, and habitat alteration,
- Locust Fork for nutrients,
- Patton Creek for organic enrichments and dissolved oxygen problems.

Fortunately, data for siltation from habitat alteration in both the Locust Fork and Newfound Creek indicated the impairment no longer exists. ADEM intends to delist these waterways and will not develop a TMDL. As an MS4 entity, Jefferson County concludes the pollutant loading for these parameters has improved by proper Best Management Practices (BMPs), stormwater management plans, and other mechanisms required by the Permit. The current 303(d) List and 303(d) Factsheet for waters in Jefferson County is included in **Appendix N**.

*Due to the complexity of the documented impairments for the above-mentioned stream segments, *many have more than a single TMDL*. In addition, at this time there is no

implementation legislation in place for the designated reductions which are allocated to the MS4 in a TMDL. However, the *intent* of the EPA is to have the MS4 jurisdiction over the impaired water body to assume the responsibility for the nonpoint source allocations of the TMDLs in the re-issued Phase I NPDES Permits to be completed by ADEM. That intent has not been finalized by EPA through ADEM at this time.

- A total of 12 Litter Gitters are installed in various waterways around Jefferson County to collect litter / floatables. Six Litter Gitters were installed as a three-year project in various creeks around Jefferson County. Funds for some of the Litter Gitters were obtained by an EPA grant that was spearheaded by the Freshwater Land Trust in partnership with many other organizations including the Jefferson County Stormwater Program. Several local municipalities have opted to install these devices in their jurisdictions with their municipal funds. Three businesses have sponsored devices. Please see **Appendix H** for a listing of locations, and the tonnage collected.

C. MAJOR ACCOMPLISHMENTS

The following list outlines major accomplishments during the Permit Year October 1, 2021, through September 30, 2022 in accordance with the 11 requirements as outlined in Jefferson County MS4 NPDES Permit:

1. Structural Controls

The County's Roads and Transportation Department (R&TD) maintains and inspects existing and newly constructed structural controls on an annual basis. **Four inspections** were performed on the two County retention ponds. Routine maintenance activities were performed during this Permit Year and are captured in the County's work order management software program, Cityworks. Stormwater collected is reused on site. Because of their isolated locations, there was no need to remove floatables, litter, sediment, or debris from the ponds. There have been no changes or revisions to the structural controls. Please see **Appendix B**.

2. Public Education and Public Involvement

Public Education and Public Involvement is a Permit requirement and is used as a delivery tool that aids in implementing the other Permit requirements. A summary table has been created to identify every Permit requirement that the following education initiatives addressed. The table has been included at the end of Section III, Summary Table.

Stormwater Program staff created the Clean Water Awareness Campaign to inform, involve, educate the public, and affect behavioral change to reduce polluted stormwater runoff caused by the impacts of vehicle fluids, household hazardous waste, erosion and sedimentation, household cooking oil, prescription drug disposal, yard chemicals, pet waste, and litter. The campaign was designed to transcend the County's limited funds, non-contiguous geography, and diverse population.

Stormwater Program staff identified the need to create a system that would improve its ability to deliver the Clean Water Awareness Campaign messages to the public. The staff developed a collaborative network of agencies and organizations whose missions intersect with stormwater pollution prevention. This collaborative network has resulted in a message delivery system which has expanded the reach of the Clean Water Awareness Campaign by opening access to new audiences, reducing message fragmentation, and enhancing credibility through message uniformity. These partnerships have assisted Jefferson County in identifying key community contacts to potentially serve Jefferson County as change agents regarding stormwater pollution prevention. The community contacts have assisted Jefferson County in targeting programs, tailoring events, and encouraging community participation.

A series of posters was created to serve as the flagship component of the Clean Water Awareness Campaign. Additional communication mechanisms such as an e-newsletter, brochures, monitor slides, seminars/workshops and a 12-month printed calendar also were created and launched to provide cost-effective ways to support the posters and related components of the Clean Water Awareness Campaign.

Please see **Appendix C** for all new Public Education and Public Involvement documents.

a. Boards, Committees, Stakeholder Group, Partners

Stormwater Program staff participate in and/or serve on 15 various boards, committees, and stakeholder groups to evaluate needs, identify potential resources, and coordinate efforts with the goal of addressing concerns through projects, events, campaigns, and educational materials. The Stormwater Program staff worked with the following entities during Permit Year 2021-2022: Alabama Partners for Clean Air, Alabama People Against A Littered State, Alabama Stormwater Association, Birmingham Botanical Garden Brown Bag Lunch and Learn Committee, Health Action Partnership Environmental Quality Committee, Household Hazardous Waste Day Committee, Jefferson County Water Festival Committee, Martin Luther King Service Day Project Committee, Mulga Loop Road Cleanup Committee, Litter Gitters Committee, Litter Quitters Anti-Litter Video Competition Committee, Rain Barrel Workshop Committee, Valley Creek Cleanup Committee, Village Creek Human and Environmental Justice Society, and United States Army Corp of Engineers Valley Creek Flood Feasibility Study Group. The committees and stakeholder groups listed meet in an informal manner either in person, or in various digital platforms whereas no minutes or agendas are created.

b. Formalized Agreements

Stormwater Program staff intentionally partner with neighboring stormwater programs in and around Jefferson County to enhance outreach and reduce duplication of materials and expenses. Partnerships include watershed committees, events, and communication materials. Local stormwater agencies include City of Bessemer, City of Birmingham, City of Leeds, City of Hoover, and Jefferson County Department of Health Watershed Protection Program.

The Jefferson County Commission formalized partnerships with local and state programs which are established by ongoing Memorandums of Understanding (MOU). The benefits of entering into MOUs include reducing expenses by sharing knowledge and resources, minimizing duplication of effort, enhancing the efficiency of stormwater pollution prevention outreach and involvement efforts, and expanding the reach of both agencies to improve stormwater quality. Copies of the MOUs have been submitted in previous reports and are currently on file.

- i. Alabama Cooperative Extension System (ACES). ACES promotes environmental stewardship with a focus on providing trainings for lawn care industry certification and educating the public on water resources, conservation, and water quality. ACES works collaboratively on projects offered to students (Alabama 4-H, festivals, and fairs), water quality and prudent yard care practice seminars offered to the public (rain barrel workshops and brown bag lunch and learns), water quality workshops showcasing proper BMPs for land use offered to particular trades (lawn care industry and homebuilders), publications (posters, brochures, and stormwater calendars), and proper disposal of household items (household hazardous waste and electronic events).
- ii. Friends of Birmingham Botanical Gardens (FBBG). The FBBG promotes knowledge and appreciation of plants and the environment with educational offerings to over 330,000 visitors annually. The FBBG Strategic Plan emphasizes and implements practices that reduce stormwater runoff. The FBBG has co-hosted

the Brown Bag Lunch and Learn Seminars and the Rain Barrel Workshops which are promoted to and attended by professionals and the public.

- iii. Jefferson County Soil and Water Conservation District (JCSWCD). The JCSWCD promotes environmental stewardship with a focus on water resources, conservation, and water quality; and to promote, publicize, and facilitate the proper management and disposal of used oil, household hazardous wastes, electronics, batteries, and similar items thereby preventing these materials from being carried by stormwater into the storm drainage system and negatively impacting water quality in rivers, creeks, lakes, and streams. The JCSWCD works collaboratively on projects, events, trainings, publications and other activities to include educational fairs and programs offered to students (local water festivals for 4th grades, Urban Forestry Fairs for 5th graders, Litter Quitters offered to high schools), water quality seminars offered to the public (water monitoring, low impact landscaping practices), water quality workshops showcasing proper BMPs for land use offered to particular trades (lawn care industry, homebuilders), publications (posters, brochures, stormwater calendars), and proper disposal of household items (household hazardous waste and electronic collection events). The JCSWCD spearheads the Litter Quitters High School Anti-Litter Video Competition and is a co-host to the Rain Barrel Workshops.
- iv. Turkey Creek Nature Preserve (TCNP). TCNP assists Stormwater Program staff in achieving educational goals by including a stormwater education component in all student curriculums, community events and cleanups. TCNP also provides various opportunities to promote the Clean Water Awareness Campaign messages on its blog site and in kiosks throughout the park. TCNP houses a recycling trailer for area residents to properly dispose of paper, aluminum, and plastic.

c. **Communication Mechanisms/Advertisements**

Stormwater Program staff created and distributed various items to inform the public on the various targeted pollutants, their negative impacts on local water quality, how to report stormwater pollution, and techniques they can use to reduce their stormwater runoff. These items were distributed on social media, highlighted in the JeffCo H2O e-Newsletters, displayed in holders at the front counter of the Department of Development Services, given out at events, workshops, presentations, and other community meetings, and are located on the County's website for viewing: (<http://www.jccal.org/Default.asp?ID=2022&pg=Community+Outreach>).

- i. **Brochures and Flyers.** The Stormwater Program created **12 various brochures and three flyers** to inform and educate the public about stormwater runoff and to provide helpful tips and resources to improve water quality. Three brochures are in the review stage and have not been distributed to the public. The brochures include the education website address and the hotline number for public reporting as well as a “what you can do” list of behaviors to reduce polluted runoff. During this reporting year, **9 brochures and three flyers** were displayed at the County's Department of Development Services (DDS) front counters in brochure holders. These brochures and flyers also are available to the public on the County's Stormwater webpage. During this reporting period, a total of **458 downloads** of various brochures and flyers were made from the County's Stormwater webpage.

The brochures and flyers not in the review process have been submitted in previous reports and are on file. A listing of this year's downloads has been included in **Appendix C**.

A **Jefferson County Environmental Community Resource Book** was updated during FY2021. The Resource Book contains the services that various local stormwater programs, environmental agencies and other like-minded programs offer to the public. This Resource Book is located on the County's website.

- a) **Electronic Waste (E-Waste).** This brochure discusses the importance of properly disposing of e-waste items.
- b) **Good Housekeeping.** This brochure informs businesses of their responsibility to implement good housekeeping practices to prevent pollutants from entering the storm drainage system. Stormwater Program Staff received permission from Darren Lanier, Deputy Director Revenue Department, to distribute information to individuals applying for and/or renewing business licenses at the Main Courthouse, Center Point, Gardendale, and Hoover satellite courthouses. A supply of **175 Good Housekeeping brochures** per month was provided to the Revenue Department from October 2021 through September 2022, resulting in a total of **2,100 brochures** for distribution at Revenue's four locations.
- c) **Helpful Information.** This brochure provides an easy reference to services for residents of unincorporated Jefferson County. Included is an environmental section which provides contact information for proper household trash disposal and recycling, reporting illegal dumping, reporting suspected water pollution, and reporting sanitary sewer emergencies.
- d) **Homeowners Guide to Stormwater.** This brochure provides homeowners information on how to develop and implement a stormwater management plan on their property outlining various green infrastructure and low impact development techniques and practices.
- e) **Identifying and Reporting Water Pollution.** This brochure discusses how to identify illicit connections, illicit discharges, illegal dumping, and the negative impacts these activities have on health, safety, and water quality. A hotline phone number is provided for the public to report suspected water pollution.
- f) **Illegal Dumping.** This brochure informs residents of the negative health, safety and environmental impacts caused by illegal dumping. State and county code, ordinance, and enforcement references are cited. An illegal dumping reporting phone number and suspected water pollution reporting hotline phone number are included. Information about household hazardous waste events along with contact information for landfills and transfer stations which accept household trash, yard debris, household items, construction waste, and other materials is included.
- g) **Lawn, Garden Products, and Yard Waste.** This brochure encourages the proper use of fertilizer, pesticide, and herbicides and explains their potential negative impacts on water quality if not correctly applied. The brochure also discusses the negative impacts of illegal dumping and advocates proper disposal of unwanted materials.

- h) **Preventing Stormwater Polluted Runoff.** This brochure provides an overview of the negative impacts of stormwater polluted runoff and the way in which everyday activities contribute to nonpoint source pollution. Specifically discussed are used oil, fertilizer, pesticide, herbicide, illegal dumping, and household hazardous waste. Proper disposal is encouraged, and the water pollution reporting hotline phone number is included.
 - i) **Rain Rain Come Our Way.** This brochure illustrates the benefits of harvesting rainwater and encourages the installation of rain barrels on residential properties. The roles that impervious surfaces, rain gardens, groundwater, and surface water play in water quality are also discussed.
 - j) **Stormwater Pond Maintenance.** This brochure informs stormwater pond owner(s) of their responsibilities to inspect and maintain their stormwater pond. Included is a maintenance checklist.
 - k) **Vehicle Equipment Care and Maintenance.** This brochure discusses the potential negative impacts that improperly disposed or spilled motor oil and vehicle fluids can have on water quality. Good Housekeeping practices such as spill prevention, dry methods of spill cleanup, proper disposal or recycling, and preferred car washing procedures are provided. The water pollution reporting hotline phone number is included.
 - l) **Volunteer Litter Cleanup Program.** This brochure encourages residents not to litter while also encouraging them to organize and participate in a roadside litter cleanup. An overview of the steps involved in organizing a cleanup is provided. The negative health, safety and environmental impacts caused by litter are discussed and an illegal dumping reporting phone number and water pollution reporting hotline phone number are included.
 - m) The three flyers are: **Actions Matter** (pollution reporting), **It's Your "Doody"** (dog waste), and **Jefferson County Cooking Oil and Grease Recycling Locations.**
- ii. **Calendar.** A 12-month printed 2022 Stormwater Calendar was created in partnership with the City of Birmingham to provide a cost-effective way to educate and inform Jefferson County residents regarding stormwater program elements such as non-point source pollution, proper disposal of HHW, illicit discharges, and various Low Impact Development (LID)/Green Infrastructure (GI) practices that assist with the reduction of stormwater leaving a site during a rain event. Each month, a Stormwater Program element or a LID/GI practice has been highlighted and emphasizes proper disposal, water conservation, and the use of various features to collect, store and filter the rain into the ground to prevent runoff. A poster, created by the Environment America Research and Policy Center, was used for the centerfold of the calendar that highlights an infographic showing how investments in stormwater practices can help protect the County's local waterways. These investments include items that homeowners can install such as rain gardens, constructed wetlands, vegetative buffers, and the use of native plants. The intent of this Stormwater Calendar is to encourage people to use the various LID/GI techniques to reduce the volume and velocity of stormwater runoff as well as protect the County's local creeks and streams from pollution. A total of **5,000**

Stormwater Calendars were printed and distributed, with 2,000 of those distributed in unincorporated Jefferson County.

iii. **Media.**

Various strategies have been implemented to utilize both traditional and new media.

- a) The County has a Public Information Officer who handles press releases, media alerts for stormwater events, promotion of workshops, and community activities in which the public can participate. These items are written and distributed to local media, posted on the County's social media platforms such as Nextdoor, Facebook, Twitter, and Instagram, and posted on the County's website, www.jccal.org.
- b) The County's Public Information Office contracted with various local media agencies to run ads that pertain to the Stormwater Permit and highlight the newly launched *Keep it Clean JeffCo* Campaign. Ads were run in Bham Now, Trussville Tribune, Bessemer / Western Star and Birmingham Times.
- c) As part of the Litter Quitters Video Competition, six live interviews were given by staff, two different billboard ads were created and displayed, three digital ads, three print articles, one paid print advertisement, one radio message in both English and Spanish, and one television public service message were created and aired.
- d) On November 23, 2021, a television press conference was held to promote the County's Household Oil and Grease Recycling Program to remind those frying turkeys on Thanksgiving how to properly dispose of their used frying oil. Information from the news conference was aired on **two local television stations** during the Thanksgiving holidays and parts of the story were shared on the County's Facebook, Twitter, and Instagram accounts.
- e) As part of the volunteer roadside litter cleanups, one live television interview and one radio interview were given. On March 2, 2022, the Valley Creek Cleanup was promoted and discussed during the morning Gary Richardson show on WJLD radio. On March 3, 2022, the Valley Creek Cleanup was promoted on three segments of Good Day Alabama with Jeh Jeh Pruitt on FOX 6.
- f) Stormwater Program staff utilized the social media capabilities of other local organizations and agencies with which a signed MOU exists to assist with distributing Clean Water Awareness Campaign information and informing the public about upcoming workshops, activities, and events.

iv. **Newsletters**

A quarterly e-newsletter, *JeffCo H₂O News*, was launched in 2012, and continues to provide a cost-effective way to support the posters and related components of the Clean Water Awareness Campaign. The e-newsletter content expands upon the poster topics and provides links to resources, activities, and events that can assist positive behavioral change. The e-newsletter is distributed electronically on a quarterly basis to more than **1,000 Jefferson County employees, 345 local**

organizations, businesses, and individuals, including **23 print and electronic media**, and is posted on the County’s website, Facebook page, and Twitter page.

v. **Posters**

A series of posters was created to serve as the flagship component of the Clean Water Awareness Campaign. The posters deliver stormwater pollution prevention information in a highly visual manner to attract attention and utilize catchy headlines and taglines to further engage the public. Each poster lists the Stormwater Hotline phone number and the County’s website. Currently **28 posters** are being utilized. Images of the posters have been submitted in previous reports and are currently on file.

These posters are displayed at various locations throughout the County including poster holders in the DDS office; distributed electronically in various newsletters, blogs, and articles; and distributed at various events throughout the year. The posters are as follows:

- a) ***1 Drop Matters!*** This oil and grease/vehicle fluid component contains **two posters** that focus on proper maintenance, cleanup, and disposal of fluids from all types of vehicles.
- b) ***Actions Matter!*** This **one ‘call to action’ poster** reminds the public that pollution from motor oil, yard products, eroded soil, pet waste and litter harm the County’s water quality.
- c) ***Bag It and Trash It!*** This pet waste/nutrient component contains **two posters** that focus on pet owners. These posters were created to inform pet owners on the importance of picking up and properly disposing of pet waste both at home and in public areas.
- d) ***From Roof to Stream.*** This stormwater pollution prevention component contains **one poster** that informs people how their everyday activities can have a negative effect on water quality but stresses that these effects can be prevented.
- e) ***Household Oil and Grease Recycling.*** This program contains **eight posters** that focus on the correlation between pouring Fats, Oils, and Grease (FOG) down household drainpipes resulting in clogs, sanitary sewer overflows, and stormwater pollution. These materials are a shared resource between Environmental Services Department and the Stormwater Program. Please also refer to Major Accomplishments, Illicit Discharge Detection and Elimination (II.C.3).
- f) ***It is ‘Mulch’ Better!*** This runoff reduction and erosion prevention component contains **eight posters** which address the benefits of mulching, such as moisture retention, weed reduction, managing yard debris, reducing soil erosion, and nutrient delivery.
- g) ***Reduce Runoff!*** This component contains **two posters** that focus on stormwater polluted runoff and runoff reduction. One poster reminds people to direct downspouts and sprinklers to vegetation and not impervious surfaces. Another poster promotes the use of rain barrels to help reduce runoff.

- h) ***'Spread' the Word!*** This pesticide, herbicide, and fertilizer component contains **six posters** that educate the public on the importance of applying the appropriate product in the correct amounts.
- i) **Storm Drain Systems.** This **one poster** was created to illustrate the parts of the storm drain system and reinforce that the system was designed to transport rainwater to the nearest waterbody with no treatment or trash removal. It also states that it is illegal to place anything in the storm drain system.
- j) ***Trash Blows! Trash Floats! Trash Litters!*** This floatable/litter abatement component contains **five posters** that focus on people transporting trash, debris, and other waste to landfills and intentionally discarding items out of vehicle windows.
- k) ***Where does your water shed?*** This **one poster** highlights the major creeks and significant watersheds / drainage basins of Jefferson County. It was printed on a magnetic surface so that the public can place colored magnets on the map to indicate where they live and therefore locate in which watershed they reside.

vi. **Website**

Information such as the Program Plan, Annual Reports, Community Outreach Programs, and the Clean Water Awareness Survey are located under the Stormwater Management Program tab housed within the Department of Development Services webpage (www.jccal.org/dsStormwater).

New web pages were created to provide helpful information to the public regarding the proper disposal of items such as residential waste, prescription drugs, household cooking oil and grease, hazardous waste, and electronics. Information on the volunteer litter cleanup program is accessible. These new pages are located under a Keep It Clean tab located on the main webpage ([Jefferson County – Keep It Clean \(jccal.org\)](http://Jefferson County – Keep It Clean (jccal.org))).

d. **Litter, Floatables and Debris Removal**

- i. All new concrete storm drain lids or those in need of replacement are imprinted with the message “No Dumping, Drains to Waterways.” The County’s R&TD installed **46 stamped inlet covers** during this reporting period. The image of the inlet cover has been submitted in previous reports and is currently on file. Please see **Appendix H**.
- ii. A total of **10 signs at five locations** are displayed throughout the County to inform the public about what creek or watershed they are crossing and lists the water pollution reporting hotline number. At each site, the signs were placed so that they could be viewed by oncoming traffic from both directions. The signs were installed in 2021 and are located along Sardis Road crossing Turkey Creek, Dickey Springs Road crossing Shades Creek, Lock 17 Road crossing Valley Creek, Minor Parkway crossing Village Creek, and Republic Road crossing Five Mile Creek. Photos of these signs have been submitted in previous reports and are currently on file.
- iii. Stormwater Program staff has maintained a partnership with Alabama People Against a Littered State (AL PALS) since 2012, promoting and coordinating various community-based roadside litter cleanups in Jefferson County including the

2022 “Don’t Drop it On Alabama” statewide Spring Cleanup. In March 2022, staff was invited and accepted to serve an extended three-year term on the AL PALS Board of Directors from 2022 to 2025.

In Jefferson County, **81 roadside cleanups** were held resulting in **510 volunteers** spending over **2,040 hours** picking up **48.78 tons** of litter along **150.27 linear miles** of roadways and out of ditches. Of those totals, **78 cleanups** were held along roadways in unincorporated areas of Jefferson County or that the Jefferson County R&TD maintains, resulting in **417 volunteers** spending **1,668 hours** picking up **47.51 tons** of litter along **144.27 linear miles** of roadways and out of ditches. The amount of material collected is contained in the County’s R&TD yearly tonnage report under material debris removed from ditches. Please see **Appendices C and H**.

The County was recognized at the AL PALS Governor’s Awards Program on November 17, 2021, for its outstanding commitment in the areas of local cleanup efforts, environmental education, and volunteerism. The County’s R&TD, Marla Thomas, Edgewater A Community, Concord Community, Oak Grove High School, Jefferson County Sheriff’s Office, Allie Renta, and Lillie Mathis all received awards in their respective categories. These achievements were featured in the Alabama PALS Winter Quarter 2022 newsletter, *The PALS Prints Volume 44*.

On February 3, 2022, the County Commission presented the AL PALS Award winners Resolutions for their achievements.

- iv. Stormwater Program staff developed partnerships with various agencies specifically targeting the removal of trash and debris from waterways. In Jefferson County, **20 cleanups** were held resulting in **845 volunteers** spending over **3,380 hours** picking up **9.56 tons** of litter along **74.50 linear miles** of creek banks, bridge abutments, nearby roadways, and ditches and out of the creeks themselves. Of those totals, **5 cleanups** were held in Unincorporated areas of Jefferson County resulting in **206 volunteers** spending **824 hours** picking up **4.59 tons** of litter which was disposed of by the County’s R&TD or other partnering agencies. Please see **Appendices C and H**.
- v. Litter Quitters is an anti-litter, stormwater protection, community outreach and public awareness campaign to encourage everyone to stop littering, especially young drivers. The first part of the campaign focuses on educating high school students in Jefferson County about litter and its negative impacts on waterways and the environment. The second part is to encourage these students to share their newly learned knowledge to others by tasking them to produce and submit a 60-second anti-litter video during a 12-day competition among other high schools in their watershed.

The videos with the most ‘likes’ in each watershed win cash prizes. Keeping the video competition on a local level and students focused on their local watersheds, the 30 public high schools were divided into the County’s three major watershed basins: Locust Fork, Valley Creek, and the Cahaba.

The third and last part of the Litter Quitters Campaign focuses on expanding the anti-litter message to a broader audience with the use of professionally produced

messages / public service announcements (PSA). Schools that participated in the video competition were invited to send one student representative to take part in the television PSA. Radio and billboard PSAs are also part of the mass media campaign. The radio PSAs are professionally created using the voices of select students from the television PSA. The billboards consist of two images that remind drivers how to properly dispose of their trash while driving. All PSAs run concurrently for a bigger impact. The media campaign and the prizes are funded by members of the Committee and annual sponsors.

The Litter Quitters website, <https://www.litterquitters.org>, created during FY 2019, houses the PSAs from the annual media campaigns, as well as information on County watersheds and effects polluted runoff such as litter have on the waterways. This website also houses the videos that were entered into the competition and a listing of local volunteer litter cleanups.

Litter Quitters is spearheaded by the Jefferson County Conservation District in partnership with members from the Alabama Cooperative Extension System, City of Birmingham, City of Bessemer, City of Hoover, City of Leeds, Creative Directions, Inc., Freshwater Land Trust, Jefferson County Commission, Jefferson County Department of Health, Keep Birmingham Beautiful, and Storm Water Management Authority, Inc.

While 30 schools were invited to participate, **eight schools** submitted videos. Reports show **16,234 video views** during the 12-day competition. Students from 11 schools participated in the television PSA, two students participated in the radio PSA which was recorded in English and Spanish. A total of **9,010,501 media delivery impressions** were recorded from the campaign. A detailed report is included in **Appendix C**.

e. **Pesticide, Herbicide Fertilizer/Landscape (articles, publications, and workshops)**

During this reporting period, several workshops were held, and various articles and newsletters were written, to provide residents, private landowners, and those that lease land from Jefferson County information specific to the proper use and application of yard chemicals, care of landscaping, pest management, and sustainable home lawn and garden practices. These activities and publications were promoted through the Jefferson County Clean Water Awareness Campaign and by various partnering organizations including Alabama Cooperative Extension System, Friends of Birmingham Botanical Gardens, Alabama Green Industry Training Center, and Green Industry Web Portal. The MOUs have been submitted in previous reports and are currently on file.

- i. *Step Away from The Spray – Fight the Bite!* During this reporting period, an Integrated Pest Management (IPM) Program was promoted. The program makes available information that helps residents manage pests in a more environmentally friendly manner and provides references to experts who offer homeowners a variety of targeted controls. It makes available a biologic tool, *Bacillus thuringiensis israelensis* (Bti) tablets, to assist residents in managing mosquitos, a common Alabama pest that people routinely treat with broad spectrum pesticides. These materials were made available at the Stormwater Program office, County Satellite Courthouses, community-based meetings, events, seminars, workshops and given

to partnering agencies to distribute. During this program year, a total of **200 mosquito dunks**, packaged into 2 dunks per pack, were distributed. This is the last year the mosquito dunks will be distributed due to funding. IPM practices will continue to be promoted to residents.

- ii. The Stormwater Program promoted free webinars hosted by Alabama Cooperative Extension System as part of the Horticulture and Home Grounds 2022 team's *Get Outside with Alabama Smart Yards!* and the Urban Green team, a *Back 2 Basics Wednesdays* Webinar Series: https://www.facebook.com/pg/AlabamaSmartYardsAlabamaExtension/videos/?ref=page_internal and <https://www.aces.edu/blog/topics/lawn-garden-urban/urban-green-back-2-basics-wednesdays-webinar-series/>. These webinars, along with the toll-free Master Gardener Helpline and the weekly Alabama Garden Chat webinars, were promoted to various groups, communities and people that called the Stormwater Program with general questions about yard and landscape issues.

f. Public Engagement and Public Involvement

The Stormwater Program staff engaged and involved the public by encouraging them to call and report suspected pollution, offering materials at various public events, speaking to communities and civic groups, and hosting and promoting stormwater related seminars /workshops throughout the year. They are listed alphabetically below.

i. Complaint Reporting.

The Stormwater Program has a dedicated hotline number for the public to report suspected water pollution. This hotline number is displayed on all educational items including the backpacks volunteers use in local cleanup, education brochures, Clean Water Awareness posters, and is featured on the top left corner of every month in the Stormwater Calendar. Please refer to Major Accomplishments, Illicit Discharge Detection and Elimination (I.I.C.3).

ii. Events

The County's Stormwater Program information is generally displayed on a table or booth where the public can acquire information about the program, upcoming events and/or educational campaigns. Events tend to be a general audience where a wide variety of people congregate. A total of seven events were scheduled but two annual events were cancelled as a direct result of the COVID-19 pandemic. For the **five events that were held**, more than **1,547 people participated**.

- a) **Birmingham Zoo Annual Teacher Night Out.** On March 21, 2022, Stormwater Program staff, in partnership with Alabama Cooperative Extension Systems and the Jefferson County Soil Water Conservation District, displayed and distributed materials at a booth during an event for local teachers. Alabama Water Watch's 4-H monitoring program, Litter Quitters High School Anti-Litter Video Competition, Urban Forestry Festival, and the Water Festival programs were promoted to encourage more participation. Litter Quitters decals and backpacks, along with 2022 Stormwater Calendars, were distributed. It was reported that **175 teachers** from local schools attended the event.
- b) **Earth Day at the Gardens.** On April 23, 2022, Stormwater Program staff displayed Clean Water Awareness Campaign posters, held a fun interactive

children's' activity, and distributed stormwater materials at a booth during a free event held at the Birmingham Botanical Gardens. The visual display showcased how used motor and cooking oil and grease can negatively impact the environment when not disposed of properly. Information on the County's Household Oil and Grease Recycling Program, new recycling containers and other printed stormwater materials were distributed to participants. Jefferson County shared this booth with the City of Birmingham who assisted in the children's water painting activity. The activity allowed the participants to create attractive artwork which reinforced the visual display showing that the properties of oil and water do not allow them to mix. It was reported that close to **400 people** attended this annual event. Please see **Appendix C**.

- c) **Fishing Rodeo.** On June 11, 2022, Jefferson County's Household Oil and Grease Recycling containers along with other printed materials on Jefferson County's Household Oil and Grease Recycling Program were distributed at a booth during the event that was free and open to the public. Current listings of all the local Recycling Centers were distributed along with trash bags and information on the volunteer litter cleanup events. The County's staff and the City of Birmingham staff shared this booth and assisted in talking to the participants and distributing information. It was reported that close to **250 people attended** this annual event held at the East Lake Park.
- d) **National Neighborhood Night Out.** Various Stormwater Program educational materials were distributed by the Jefferson County Sheriff's Office during two National Neighborhood Night Out events held on August 2, 2022, at the Bessemer Recreation Center and August 12, 2022, at the Lake View Municipal Complex. A total of **100 Stormwater Hotline backpacks** were distributed along with information on the County's Household Oil and Grease Program and how to report suspected water pollution and illegal dumping.
- e) **Salamander Festival.** Given the COVID-19 Pandemic, the in-person Salamander Festival which takes place the last weekend in January, went to a virtual format featuring the favorite icon, the Spotted Salamander. The virtual festival included art, activities, other critters, fun stories, information about the environment, and lots of interesting videos. Additionally, the festival featured a real (non-virtual) hike, called "The Salamander Storyboard Trail Hike" which took place at Homewood Forest Preserve. Attendees could take the hike on their own, guided by Storyboard signs. There were QR Codes along the way for additional information. Presentations on the Shades Creek Watershed, the salamanders and their migrations and other topics were shared over a course of a month starting on January 29, 2022. There were no metrics kept on how many people attended this virtual event or hike.
- f) Jefferson County is in a region that experiences the impacts of severe weather conditions including tornados, hurricanes, and both drought and heavy rainfall. To minimize the discharge of pollutants from areas impacted by these factors, the Stormwater Program staff has identified resources, coordinated efforts, and implemented projects to assist affected communities in replanting trees and other plants to restore the benefits that such vegetation brings, including reducing stormwater runoff, capturing, and filtering pollutants, increasing

stormwater infiltration, and reducing soil erosion. Jefferson County continued using its Program in affected areas due to severe weather. Below is the list of events that took place during this permit year:

- 1) A tree seedling give-a-way was held by the Jefferson County Soil and Water Conservation District in partnership with the Alabama Forestry Commission on February 26, 2022. Reports indicate that **1,700 trees** were distributed to the public during this event.
- 2) The Mid-HOLT project is a planned four-stage green infrastructure (GI) pilot project located in a vacant lot next to the Midfield Fire Station (704 Doctor M.L.K. Jr. Drive, Midfield, AL 35228). This area is along the entrance to the three mile long High Ore Line Trail which connects Midfield to Red Mountain Park. This trail is one of the most used trails in the Red Rock Trail system by people from all over Jefferson County, is in the Valley Creek watershed, and even crosses the creek within the first mile. The GI project area is perpendicular to a heavily traveled road with no curb and gutter along a low area where all the rain sheet flows to the eight-foot culvert.

Given the high use of the trail and ability to showcase stormwater friendly practices in a highly visible manner, this site was chosen for the GI pilot project. Phase one, which consisted of planning and planting the **800 square foot High Ore Garden** with nearly 300 pollinator friendly plants and installation of a bench and concrete pad for the bench located along the sidewalk, was completed during FY2021. During this reporting year, new plants were added to the pollinator garden to replace those that did not thrive and in May of 2022, a **600 square foot Community Food Garden** was installed as part of Phase II. Jefferson County Master Gardener Interns spearheaded both projects which have helped stabilize the soil in areas that were once prone to erosion from stormwater runoff. Please see **Appendix C** for a more comprehensive report on the project details.

iii. Presentations

Presentations directly related to the County's Stormwater Program, water quality and the Alabama MS4 NPDES requirements were given in various formats. Presentations were made at neighborhood meetings, schools, and community forums. Presentations are tailored to the specific audience; however, they always include an overview of the Stormwater program, various pollutants, their impacts to the environment, and how to report stormwater pollution. The presentations are listed in alphabetical order below. There were nine presentations scheduled by staff; of those, one was administered by teachers because of the COVID-19 pandemic. Reports indicate that a total **260 people attended seven presentations.**

- a) **Brown Bag Lunch and Learn Series. Two PowerPoint presentations** which included information about the County's stormwater permit, program requirements, pollutants, along with techniques and practices that homeowners can do to reduce stormwater runoff were given in the series were given to a total of **59 people**. One was given on July 13, 2022, in a zoom format as part of the annual Brown Bag Lunch and Learn Series, and the other in person at the

Bessemer Public Library on September 13, 2022, as part of quarterly Lunch and Learns. Reports indicate that 36 people attended the first event and 23 people attended the second event.

- b) **Erosion and Sedimentation Control (ESC) Workshops.** Stormwater program staff and its municipal partners gave presentations on their respective programs to the attendees of the Erosion and Sedimentation Control Workshop which took place on June 21, 2022. Please refer to Major Accomplishments, Construction Site Storm Water Runoff Control (II.C.4) and see **Appendices C and E.**
- c) **Litter Quitters High School Video Competition.** PowerPoint presentations about watersheds, litter and the competition rules normally are given in person to students that will be participating in the anti-litter video competition. Given the uncertainty of school closures, remote learning, and other safety precautions from COVID-19 during this school year, the Litter Quitters school presentations were recorded and made available for download or viewing from the Litter Quitters website ([Classroom Resources | Litter Quitters](#)). During this fiscal year, **136 students within 10 schools viewed** the presentations. Of the total students, Jefferson County Stormwater staff gave two virtual presentations to 38 students from Clay-Chalkville and McAdory on November 2, 2021, and January 21, 2022, whereas 11 students from Oak Grove watched the recorded presentation from the website.

To promote Litter Quitters and encourage local businesses to watch and like the videos during the competition, Stormwater Program staff and other committee members gave one presentation to the Birmingham Environmental Professionals' Association at their annual conference on February 9, 2022. It was reported that **132 people attended.**

- d) Stormwater program staff gave **two presentations** to approximately **31 people** in various Jefferson County communities, local organizations, schools, and neighborhood associations to encourage community participation in roadside litter cleanups events and how to report suspected water pollution. The presentations also include information about the negative effects of many pollutants on the County's local waterways and how these pollutants can be prevented, such as pet waste, lawn and garden chemicals, bare soil, vehicle fluids and household cooking oil and grease. Stormwater education materials listing the pollution reporting number and the sanitary sewer overflow hotline numbers were distributed in addition to the latest Stormwater Calendar. The dates and locations were:
- August 18, 2022, Minor Heights Neighborhood Watch Meeting, 9 residents
 - September 30, 2022, Nature Group Homeschoolers Club, 22 students and parents

iv. **Workshops and Seminars**

A total of **17 presentations** directly related to the Stormwater Program NPDES requirements were made to **937 people** in various settings. Those in attendance have chosen to come and generally get more detailed information on a specific topic

yet information on the entire stormwater program is often covered. Surveys and evaluations are typically administered post event and are considered when updating and modifying future content. The presentations are listed below.

- 1) **Alabama Water Watch Chemical Workshops.** Stormwater program staff assisted Alabama Water Watch staff with two Alabama Water Watch Trainings on May 6, 2022, (Basic Water Chemistry; Chemistry Recertification) to **certify 25 and recertify two volunteer citizen** monitors. Staff gave **one informal presentation** on the County’s MS4 Permit and program during lunch. These community volunteers become stewards of the watershed and act as liaisons who will teach their friends, neighbors, and community leaders the importance of reducing stormwater pollution.
- 2) **Brown Bag Lunch and Learn Seminars. 14 seminars** were scheduled during this reporting period. The seminars, normally held in person at the Birmingham Botanical Gardens, were updated in 2020 to a digital zoom platform and were open to all residents of Jefferson County. The seminars were promoted in the JeffCo H₂O Newsletters, blogs, County and partner websites, and flyers were distributed at community events and meetings. Instructors from varying organizations were chosen for each topic. The topics, intended to be of practical application to homeowners, included the stormwater benefits of low impact landscape designs, proper planting and gardening techniques, and prudent use of fertilizers and pesticides. Reports indicate **876 participants** viewed the seminars of which **500 participants attended the live** Zoom presentations and **376 participants viewed** the recordings on YouTube as of September 30, 2022. A link for participants to fill out surveys was sent out to class participants along with a copy of the presentation and a link to view the presentation again. For those that signed up for the seminar but did not log on to watch during the set time, a follow up email was sent with a link to watch the recording. The topics were: “Planting Veggies”, March 23; “Planning for Success”, April 6; “Herb Appeal”, April 20; “E-Waste”, May 4; “Azaleas and Boxwoods”, May 18; “Container Vegetables”, June 1; “Mature Tree Care”, June 15, “Gardening on a Slope”, June 29; “Managing Stormwater”, July 15; “Cultivating Garlic”, July 27; “Container Flower Bulbs”, August 10; “Cultivating Citrus”, August 24; “Yard Art for Curb Appeal”, September 7; and “Ask the Experts”, September 21, 2022.
- 3) **Rain Barrel Workshop.** A total of **34 people participated** in the 2022 Virtual Rain Barrel Workshop which took place on June 18, 2022. All participants were able to pick up their barrels at scheduled times after the event. Through a working Rain Barrel Workshop Committee, the Alabama Cooperative Extension System, Friends of Birmingham Botanical Gardens, City of Birmingham, City of Bessemer, City of Leeds, Jefferson County Department of Health, Jefferson County Soil and Water Conservation District, Jefferson County DDS, Keep Birmingham Beautiful, and Storm Water Management Authority hosted the event and provided instruction, materials, and rain barrel assembly assistance for participants.

Backpacks featuring the Litter Quitters logo and website were distributed to all workshop attendees. They contained information on watersheds, runoff and

how to report stormwater pollution, 2022 Stormwater Calendars along with information on Jefferson County's Household Oil and Grease Recycling Program, the Jefferson County Soil and Water Conservation District, and the Birmingham Botanical Gardens Library.

g. Public Input and Evaluation

Public input was continuously sought through post event surveys, discussions during community-based meetings, events and presentations scheduled throughout this reporting period. Input gathered will be considered during the revision of the SWMPP.

- i. **Evaluations.** Feedback from participants in workshops and seminars is viewed and all evaluation information received is taken into consideration when creating, updating and/or modifying various education materials and programs.
- ii. **SWMPP.** The SWMPP was made available for public comment on the County's website.
- iii. **Surveys. Two surveys** were launched on December 16, 2021, and remained open through September 30, 2022. The purpose of the ten question General Behavioral Survey was to assess the public's knowledge of and behavior regarding stormwater impacts. The purpose of the ten question Littering Behavior Survey was to assess the public's knowledge of the impacts of littering on stormwater quality and their behavior regarding littering. The surveys were promoted to County residents on Jefferson County's social media platforms, by Alabama Cooperative Extension System, Jefferson County Conservation District, Jefferson County 4-H, and Friends Birmingham Botanical Gardens. The surveys also are available to the public at the DDS webpage of Jefferson County's website and via the JeffCo H₂O newsletter. During the current reporting period, **128 residents responded** to the General Behavior Survey and **103 residents responded** to the Littering Behavior Survey.

h. Staff Development and Training

Opportunities are offered for County staff to earn certifications, join professional associations, attend conferences, classes, and webinars for them to acquire new knowledge, advance job skills, and meet permit requirements.

- i. Stormwater program staff participated in several various trainings, staff development, and networking opportunities. These events are in addition to the other events that have already been reported in other sections. A listing of these trainings is currently on file.
- ii. The Stormwater Program purchased Municipal Pollution Prevention training materials which were utilized to create Stormwater Pollution Prevention Training Modules for County staff in conjunction with the Jefferson County Human Resources Department (HRD) via the department's 360 Articulate training tool DevelopU. These training modules include the following topics: Stormwater Pollution Prevention-What We Can Do; Land Disturbances; Fleet Maintenance; Materials Storage and Spills Cleanup; Streets and Drainage Maintenance; Parks and Grounds Maintenance; and Solid Waste Management. During the current reporting period, **1,466 County staff completed** the Stormwater Pollution Prevention-What We Can Do training module. Plans are underway to assign the remaining 6 job specific training modules to applicable staff during the 2023

reporting year. Please refer to Major Accomplishments, Pollution Prevention and Good Housekeeping for County Operations (II.C.7) and see **Appendix H**.

3. **Illicit Discharge Detection and Elimination (IDDE)**

- a. The County determined eight of the previously identified 39 outfalls are no longer within Jefferson County's unincorporated area due to annexation, leaving a total of **31 outfalls**. The County observed no discharges in the **20 outfalls screened** during this reporting period. It is anticipated that the County will screen the remaining outfalls in FY2023. During FY2022, no priority areas requiring additional monitoring were identified. Please refer to **Appendix D** for a map and complete list of outfall locations and descriptions.
- b. Article 13 of Jefferson County's Subdivision and Construction Regulations prohibits non-stormwater discharges to the MS4 and includes escalating enforcement procedures as well. This document is located on Jefferson County's DDS web site, www.jccal.org/Sites/Jefferson_County/Documents/Land%20Development/Subdivision_Regs-100111.pdf. No updates or revisions took place to these Regulations during this reporting period.
- c. A phone hotline was established so that citizens can report suspected water pollution. The hotline number (205.325.5792) is publicized on all printed materials (Clean Water Awareness Campaign posters, calendar, backpacks, brochures, and flyers) and at the Stormwater Program website which is located at the County's website www.jccal.org/dsStormwater. The pollution reporting hotline contains a recorded message for residents calling after normal business hours. The message instructs the caller to leave enough detailed information so staff can investigate the complaint. The hotline received **59 calls** during this reporting period. A total of **17 potential illicit discharges** were investigated because of these calls of which **10 led to corrective actions** being taken while the remaining **42 calls** were transferred to other appropriate agencies or departments. Other mechanisms the public can report IDDE related issues are the office phone, staff emails and an online citizens' reporting and service request tool powered by Rock Solid Onelink™. Please see **Appendix D** for a complete list of calls.
- d. The County continued using a 24-hour hotline for the public to call and report illegal dumping and trash issues (205-582-6555) which was promoted in various written publications and at the Jefferson County Commission website. The hotline calls, along with calls from the Sheriff's Office deputies on patrol, initiated investigations into the source and subsequent removal of the dumped materials. During this Permit Year, **35 site investigations** took place resulting in **63 notices** being mailed out ensuing one conviction heard in court. A criminal littering case includes a written notice of violation being sent to individuals whose names were collected during the process. Please see **Appendix D**.
- e. The County's DDS staff enforced Zoning and Floodplain regulations. During this Permit Year, **100 zoning violations, 303 weed and litter violations, and one floodplain violation** were investigated. While these violations may pertain to Stormwater, they also include items such as overgrown vegetation and unpermitted structures and activities. Please see **Appendix D**.

- f. The Stormwater Program purchased Municipal Pollution Prevention training materials which were utilized to create Stormwater Pollution Prevention Training Modules for Jefferson County staff in conjunction with the Jefferson County Human Resources Department (HRD) via that department's 360 Articulate training tool, DevelopU. These training modules include the following topics: Stormwater Pollution Prevention-What We Can Do; Land Disturbances; Fleet Maintenance; Materials Storage and Spills Cleanup; Streets and Drainage Maintenance; Parks and Grounds Maintenance; and Solid Waste Management. During the current reporting period, **1,466 County staff completed** the Stormwater Pollution Prevention-What We Can Do training module. Plans are underway to assign the remaining six job specific training modules to applicable staff during the 2023 reporting year. Please refer to Major Accomplishments, Pollution Prevention and Good Housekeeping for County Operations (II.C.7) and see **Appendix H**.
- g. Information is distributed to individuals applying for and/or renewing business licenses in the Revenue Department (RD) at the main Jefferson County Courthouse as well as the Center Point, Gardendale, and Hoover satellites. The information, in the form of a brochure, informs businesses of their responsibility to implement good housekeeping practices to prevent pollutants from entering the storm drainage system. A supply of **175 Good Housekeeping brochures** per month were provided to the RD resulting in a total of **2,100 brochures** for distribution at the department's four locations during this reporting period. The brochure has been submitted in previous reports and is also on file. See **Appendix G**.
- h. The County's Environmental Services Department (ESD) continues administering a program to address sanitary sewer overflows. To assist in minimizing the occurrence of sanitary sewer overflows, the sewer pipes are cleaned on a routine maintenance schedule. Once the Department is aware of a sanitary sewer overflow, staff is dispatched to investigate and correct the problem as stipulated in the July 2012, Sanitary Sewer Overflow and Response and Reporting Program Standard Operating Procedure (SOP). A list of sanitary sewer overflow locations, including actions taken by the staff, is included in **Appendix D**.
- i. The ESD administers a county-wide household cooking oil and grease recycling program to reduce the amount of cooking oil that enters the sanitary sewer system, thereby reducing sanitary sewer overflows. This is a free service to all residents of Jefferson County. Collection bins are located at many sites around the county with free plastic containers for residents to take home. Once a container is filled, it can be returned to the collection bin and exchanged for a clean container. The containers are collected weekly by the Grease Control Program inspectors and the oil is picked up at the Shades Valley Wastewater Treatment Plant by a local rendering company. Grease and oil accumulate in the sewer system and require diligent maintenance to prevent sanitary sewer overflows. ESD developed this program in the ongoing effort to prevent overflows and protect water resources. The bins were constructed by the County's General Services Department (GSD) shop and are four feet wide by four feet tall and two feet deep and sit on legs six inches off the ground. The bins sit in a hard, durable plastic tray which provides a liquid retention barrier should a container leak or spill. There are currently **23 drop-off points** that accept filled containers for recycling. A total of **3,835 gallons** was collected this permit year.

The County's ESD distributed over **3,500 flyers** within apartment complexes and made **three presentations** on the issues of fats, oils and grease (FOG) entering the sanitary sewer system. In addition, a form letter for residents as a reminder of the Household Cooking Oil and Grease Recycling Program was made available to managers of apartment complexes. Apartment complexes that were visited due to multiple sanitary sewer overflows are targeted. These letters were posted in common areas of the complex as well as included in the Move-In Package for the apartments. Meetings were held with apartment complex managers and property management teams to discuss the ongoing grease issue in several complexes and what can be done to help. Please see **Appendix D**.

4. Construction Site Storm Water Runoff Control

- a. Jefferson County's Subdivision and Construction Regulations, Article 13 Erosion and Sedimentation Ordinance, requires all land disturbing activities to obtain permits or an exclusion as part of the zoning process. Article 13 explicitly requires effective practices from the most recent *Alabama Handbook for Erosion Control, Sediment Control and Stormwater Management on Construction Sites and Urban Areas* published by the Alabama Soil and Water Conservation Committee referred to as the Alabama Handbook. The site plans review process includes verification the Alabama Handbook was used and includes consideration of water quality impacts. The County's departments review plans, issues Land Disturbing Activity Permits (or exclusions), and inspects commercial, industrial, and residential sites for compliance. Once staff determines the site to be stable, as specified in the plans, a Certificate of Occupancy is issued, and the permit is closed. The public can report construction related issues on the 24-hour stormwater hotline, the office phone, staff emails and an online citizens' reporting and service request tool powered by Rock Solid Onelink™.
- b. Erosion and Sedimentation Control Workshops. Greater Birmingham Association of Home Builders hosted an Erosion and Sedimentation Control Workshop on June 21, 2022, in partnership with Jefferson County Commission and other local municipal partners. Reports indicate that **28 people attended**. Please refer to Major Accomplishments, Public Education and Public Involvement (II.C.2) and see **Appendix E**.
- c. During the Permit Year 2021-2022, the County's staff issued Land Disturbance Activity Permits for **416 residential single-family homes** as part of its zoning approval process. A total of **36 exclusions for single family homes**, which were exempt from Land Disturbance Permit requirements, were issued. In addition, a total of **24 commercial** and **three government** Land Disturbance Activity Permits were issued. A total of **2,151 construction site inspections** were made of which **83 sites failed inspections**. The sites that failed an inspection were sent a notice to correct the problem and re-inspected for compliance. The escalatory procedures include verbal warnings, email communications from the permitting software, Stop Work Orders, and Notices of Violation. Please see **Appendix E**.
- d. The County issued **53** formal enforcement actions to sites not in compliance with Article 13 of the Jefferson County Subdivision and Construction Regulations during this permit year which included **10** Stop Work Orders for permitted sites, **eight** Notice

of Violations for permitted sites and **35** Stop Work Orders for unpermitted sites. Description of violations are in **Appendix E**.

- e. The County's DDS has **five staff** with current Qualified Credentialed Inspector (QCI) training for erosion and sedimentation control offered by the Home Builders Association of Alabama (HBAA). The course is a collaborative effort between the HBAA and ADEM and is offered several times throughout the year. Staff completed QCI training which includes tools and strategies to help achieve and maintain compliance with the Stormwater Permit on all construction sites. The County's R&TD has **11 staff** with QCI certifications for erosion control, linear road improvements, roadway construction, and bridge replacements. R&TD also has **two staff** with current Certified Stormwater Inspector (CSI) certifications through the NPDES National Stormwater Center. The CSI Certifications have been submitted in previous reports. Please see **Appendices E and H**.
- f. The County's R&TD currently implements **eight construction NPDES Permits**. Please see **Appendix E**.

5. Post Construction Stormwater Management; New and Redevelopment

- a. Post-Construction is regulated in accordance with Article 14 of Jefferson County's Subdivision & Construction Regulations (Article 14) which is located on the County's website:
<https://www.jccal.org/Default.asp?ID=1804&pg=Stormwater+Management+Program>
During this reporting period, Jefferson County processed and approved qualifying sites for BMPs. Each site is at various intervals of phasing and construction. No revisions or updates were made to the Post-Construction Regulations during this reporting period. Examples of the Post-Construction As-Built certifications and associated annual inspection forms are included in **Appendix F**.
- b. The County had **20 qualifying sites** that are anticipated to be regulated under the County's Post-Construction's Article 14 of which **13 were approved** during this reporting period. Of the approved qualifying sites, **four sites** submitted their **annual inspection** information. Within these four projects, **two sites** have submitted certified **As-Builts** for their permanent stormwater control structures. **Please see Appendix F**.
- c. **Zero enforcement actions** pertaining to Post-Construction were performed during this reporting period despite the methods the public has to report related issues. Reporting methods include the 24-Hour Stormwater Hotline, the office phone, staff emails and an online citizens' reporting and service request tool powered by Rock Solid Onelink™.

6. Spill Prevention and Response

- a. For Permit Year 2021-2022, Jefferson County Emergency Management Agency (EMA) had the responsibility for spill prevention and response and responded to **38 events**. There are **six Hazmat Units** in Jefferson County that are within the fire departments of various jurisdictions. These units, along with EMA, respond to the various hazardous material incidents for all the jurisdictions within Jefferson County. Please see **Appendix G**.
- b. The Fire Departments within Jefferson County are notified when an industrial site receives a shipment of hazardous material. The Departments make site inspections at these sites to familiarize themselves with the location of the material in the event of a

spill or fire. The Departments will instruct the host facility if the material is not stored correctly and will continue with periodic site visits. Training on hazardous materials courses is required for the various staff members. For example, Hazardous Materials Awareness and Operations instructs first responders in the basics of hazardous materials including recognition, protection, safety, and contacts in the case of the presence of hazardous materials. Hazardous Materials Technicians provide further training, including managing and preventing hazardous materials incidents. Hazardous Materials Incident Commander provides training for those individuals responsible for overseeing hazardous materials incidents.

- c. On February 9, 2022, **73 Jefferson County employees** from various departments attended the **Chemical Spill Response Training**. Those in attendance include staff from GSD, ESD, DDS, and R&TD. The 8-hr course, conducted by Sigma Consulting and Training, Inc, meets OSHA, EPA, and DOT training standards. It is used for Continuing Education by ADEM for water and wastewater operators and is approved by the Department of Agriculture and Industries for pesticide applicators. It also satisfies the annual refresher requirement for other Hazmat Training. Please see **Appendix G**.

7. **Pollution Prevention and Good Housekeeping for County Operations**

- a. County owned facilities that have the potential to adversely impact the County's MS4 area, along with SOPs and inspections checklists, are listed in the current SWMPP. During this reporting period, no new County facilities were obtained. SOPs state that facilities are inspected monthly, and an example of an inspection form is included in **Appendices H and I**.
- b. County Departments followed their Standard Operation Procedures set by the various Departments. These SOPs and their reports are maintained at the respective departments. Please see **Appendices H and I**.
- c. The Stormwater Program purchased Municipal Pollution Prevention training materials which were utilized to create Stormwater Pollution Prevention Training Modules for Jefferson County staff in conjunction with the Jefferson County Human Resources Department (HRD) via that department's 360 Articulate training tool, DevelopU. These training modules include the following topics: Stormwater Pollution Prevention-What We Can Do; Land Disturbances; Fleet Maintenance; Materials Storage and Spills Cleanup; Streets and Drainage Maintenance; Parks and Grounds Maintenance; and Solid Waste Management. During the current reporting period, **1,466 Jefferson County staff** completed the Stormwater Pollution Prevention-What We Can Do training module. Plans are underway to assign the remaining 6 job specific training modules to applicable staff during the 2023 reporting year. Please see **Appendix H**.
- d. During the 2018-2019 Permit Year, **two Stormwater Program staff** completed the *Certified Stormwater Inspectors* (CSI) training course. This certification is good for five years. The CSI certifications have been submitted in previous reports and are also on file.
- e. The County's R&TD de-icing program was implemented by Camp Bessemer and Camp Ketona. A total of **45 tons of sand** were applied during this reporting period for ice control on County roadways. Please see **Appendix H**.

- f. Jefferson County R&TD has an established strategy and program for preventing and removing trash from the MS4 permitted area. The trash and debris collected are included in its annual tonnage report. Please see **Appendix H**.
- Camp Bessemer reported **6635.75 tons** and Camp Ketona reported **2,119.05 cubic yards** of material were removed from the storm sewer system.
 - Camp Bessemer reported collecting **611 bags**, as well as **253.19 tons** and Camp Ketona reported **189.07 tons** of trash were collected from along Jefferson County roadways.
 - **12 employees** in the County's R&TD were assigned to pick up litter from along roadways in unincorporated areas of Jefferson County.
- g. The Jefferson County Commission continued using a 24-hour hotline for the public to call and report illegal dumping and trash issues (205-582-6555) that was promoted by the news, social media, in various written publications, and on the County's website. These calls initiate an investigation into the source and subsequent removal of the dumped materials. Please refer to Major Accomplishments, Illicit Discharge Detection and Elimination (II.C.3) and see **Appendix D**.
- h. Freshwater Land Trust and partners were awarded a \$500,000 EPA Trash Free Waters Program Grant over a three-year period. The major goal of the funded project is to remove trash in or about to enter waterways, specifically local creeks, rivers, and major tributaries in the greater Birmingham area. This EPA grant, due to expire in FY 2023, also supplemented the existing Litter Quitters Anti-Litter Video Competition education program. A Litter Gitter device was installed as a pilot project on Valley Creek as well as at five other sites. One site location was changed during the fiscal year because of underperformance. Jefferson County is one of the 17 project partners and a member of the project Committee called Lit Git.

As part of the grant, a total of four educational videos would be created and promoted to the public to bring about awareness of the project and how litter on the ground ends up in the County's waterways. During this reporting period, taping for the third video, which discussed how to prevent the problem and highlighted Litter Quitters, began. The third video features staff from the Jefferson County Stormwater Program. The first video can be viewed at <https://vimeo.com/405205447> the second <https://vimeo.com/594688131> and the third video <https://vimeo.com/718330457/1457498644>.

During this reporting period, a total of **12 Litter Gitters** collected **2.04 tons** of material. Six were funded by the Trash Free Grant, three were sponsorships from local businesses, two were funded by the Jefferson County Department of Health and one was funded by the City of Homewood. Please see **Appendix H** for a listing of the sites and a breakdown of tonnage collected. These 12 Litter Gitter devices will assist in reducing the amount of litter in various creeks, four of which flow through the unincorporated areas of Jefferson County. This is not a routine project, there are no existing plans to continue post current grant cycle.

8. Application of Pesticide, Herbicide and Fertilizers

- a. During the 2011-2012 Permit Year, Jefferson County Commission formalized an ongoing Memorandum of Understanding with the Alabama Green Industry Training Center through the Alabama Cooperative Extension System. This year, Alabama Green Industry Training Center promoted or held **21 events** regarding proper use of pesticides, herbicides, and fertilizers as well as runoff reduction. The Alabama Green Industry Training Center is a local agency that has been recognized by the Alabama Department of Agriculture and Industries and the Alabama Cooperative Extension System as a provider of workshops, training, and testing to fulfill state regulations which identify individuals who are required to obtain state certification and permits. Please see **Appendix I**.
- b. The **Green Industry Web (GIW) Portal**, hosted by Auburn University at Montgomery (<http://www.giwportal.org>), is a free web-based service for the Green Industry to help improve the educational and credentialing efforts of the industry by supplying high quality archived videos, vignettes, PowerPoint presentations and hands-on training throughout the state. This fiscal year the GIW Portal promoted and/or held **50 events** regarding proper use of pesticides, herbicides, and fertilizers as well as runoff reduction. The GIW Portal is a partnership with funding from the Appalachian Regional Commission, Alabama State Department of Education, the Daniel Foundation of Alabama, the Alabama Nursery and Landscape Association, the Alabama Cooperative Extension System, the Alabama Department of Agriculture and Industries, the Alabama Green Industry Training Center and many more. During the 2011-2012 Permit Year, Jefferson County Commission formalized an ongoing Memorandum of Understanding with the Alabama Green Industry Training Center through the Alabama Cooperative Extension System, both partners of the GIW. Please see **Appendix I**.

Alabama Cooperative Extension System published the *Alabama IPM Communicator*, a comprehensive statewide pest management newsletter for farmers, foresters, retailers, gardeners, and homeowners. The newsletter contains articles from research and Extension personnel from all educational institutions in Alabama. Articles are published as a blog and in PDF formats. The main purpose of the newsletter is to provide readers information about critical crop production and pest management information as well as to promote upcoming workshops, events, and webinars that pertain to proper use and alternatives to chemicals, such as beneficial insects. All past issues of the newsletter are available for viewing at the [aces.edu website](http://www.aces.edu/blog/topics/ipm-farming/alabama-ipm-communicator-newsletter/) www.aces.edu/blog/topics/ipm-farming/alabama-ipm-communicator-newsletter/.

Stormwater Program staff promoted the free publication at events, community-based meetings and the Lunch and Learn seminars. During the 2011-2012 Permit Year, Jefferson County Commission formalized an ongoing MOU with Alabama Cooperative Extension System. Please see **Appendices C and I**.

- c. Stormwater Program staff continued an Integrated Pest Management (IPM) program to responsibly control mosquitos and other bugs called ***Step Away from The Spray!*** *Bacillus thuringiensis israelensis* (Bti) tablets, a handout with information about responsible pesticide use, and information on local resources that offer alternatives to yard chemicals, were provided to County departments for their management of these pests on publicly owned lands. A more expansive IPM program was initiated to address

- the proper use and application of pesticides on privately owned lands. Please see **Appendix C**.
- d. Jefferson County Personnel Board (JCPB) certifies lists of perspective employees for the County. The JCPB requires employees holding positions involving pesticides, herbicides, and fertilizers to obtain and maintain appropriate certifications as a condition of employment. The County has **16 staff** members who are certified PHF Applicators and hold a Certified Pesticide License. Please see **Appendix I**.
 - e. Camp Ketona of the County's R&TD followed SOPs for pesticides, herbicides, and fertilizers, including disposal, hygiene, symptoms of poisoning, mixing, and loading, and recognition and management. Camp Ketona has one secure location for the storage of pesticides, it is a 40 feet x 20 feet structure attached to the warehouse which has a concrete floor and walls, heating and air conditioning, a ventilation fan, and both a walk-in door and bay door that are always locked with a 24-hour guard. Visual inspections are done daily, documented inspections are done monthly and are kept on site. Camp Ketona retains information on where PHFs are applied along with the date and volume. This information is retained for three years on site. During this reporting year, Camp Ketona applied herbicides on **5,783 acres** of land using **830 gallons of Hard Ball, 3 gallons of Milestone, 1096 gallons of Target, 24 gallons of RoundUp, and 3 gallons of Trycera, 3 gallons of Rodeo Aquatic, 45 gallons of Inlet, and 45 Gallons of Ground Zero**. An inventory listing of onsite PHFs is included in the Appendix. Please see **Appendices H and I**.
 - f. The Bridge Division of the County's R&TD stores herbicides in the basement of the Bridge Warehouse in a key-locked storage room with a concrete floor. The storage area is 7 feet X 10 feet. The containers are stored off the ground on shelves. The area has material safety data sheets next to the keyed door entry as well as a five-pound fire extinguisher. Spill/cleanup material is stored inside the storage room to assist in containing leaks. The storage area is only accessible by approved employees. Storage inspections and inventories are done once a month. This Division uses a minimal amount of herbicides within their site to control weeds. They use a trailer mounted 1,200-gallon hydroseed sprayer that can spray up to 0.5 acres per load. The Division followed SOPs for herbicides and fertilizers, including hygiene, symptoms of poisoning, mixing, and loading, and recognition and management. In summary, the Bridge Division has applied **5,350 pounds of 13-13-13 fertilizer on 13.18 acres and 2.5 gallons of RoundUp Custom on 0.94 acres** during this permit year. An inventory listing on site PHFs is included in the Appendix. Please see Appendix I.
 - g. Camp Bessemer of the County's R&TD followed SOPs for pesticides, herbicides, and fertilizers, including disposal, hygiene, symptoms of poisoning, mixing, and loading, and recognition and management. Camp Bessemer stores herbicides in the Camp Bessemer Herbicide Warehouse. The storage area is 25 feet X 20 feet. The area has an emergency spillage kit, material safety data sheets, an eye wash station, a hand washing station and a self-contained drain for any accidental spillage. Documented inspections are done monthly and are kept on site. This information is retained on site. In summary, Camp Bessemer applied herbicides on **3, 328.17 acres of land by using 2.34 gallons of Hard Ball, 56.57 gallons of RoundUp, 22.5 gallons of Milestone, 511.5 gallons of MSMA, and 511.5 gallons of 2-4-D**. An inventory listing of onsite PHFs is included in the Appendix. Please see **Appendices H and I**

9. Oils, Toxics, and Household Hazardous Waste Control

- a. The Fleet Management Division (FMD) of the County's R&TD implements a recycling program. For the Permit Year 2021-2022, the FMD properly disposed of **501 batteries, 20.69 tons of scrap metal, 70.61 tons of tires,** and recycled **5,923 gallons of oil.** Please see **Appendix J.**
- b. Jefferson County ESD continued implementing a Grease Control Program to eliminate sanitary sewer overflows caused as a direct result of fats, oils, and grease from food service facilities. The purpose of this program is to decrease the amount of grease discharged into the sanitary sewer system and thereby reduce the number of dry weather sanitary sewer overflows.

A Grease Control Ordinance, adopted in 2006, requires every food service facility to obtain a Food Service Facility Grease Control Program Permit. Permits, which are not transferable, are written authorization to discharge to the County's wastewater collection system and are assigned to the owner of the food service facility. All facilities are subject to inspection and monitoring. Other Permit conditions include annual renewals, maintenance and compliance, retention of records, implementation of BMPs, training for employees, and proper disposal. Training DVDs and BMPs posters are provided to each permitted food service facility. The Grease Control Ordinance also requires all grease haulers to be licensed by the Jefferson County Department of Health and hold a Septic Tank Haulers Permit. Failure to comply with the Grease Control Ordinance will result in fines and/or termination of the right to discharge to the Jefferson County sanitary sewer system.

Information about the Grease Control Program, including how to apply for a permit, can be obtained from the County's ESD or downloaded from Jefferson County's website. Some of the materials are available in Spanish (www.jeffcoes.org/Default.asp?ID=26&pg=Customer+Care).

During this reporting period, **2,100 food service facilities** were permitted, and **1,586 annual site inspections** to food service facilities were made. The annual site inspection includes training food service facility employees on BMPs, supplying these employees with a training DVD, and ensuring the facility has the current BMPs poster displayed in the sink area. Replacement BMPs posters are made available if needed. A total of **31 food service facilities** were found to be non-compliant with their permits. The violations include expired or no permit, failure of the 25% rule (exceeding discharge limit), no paperwork on file for training or manifesting, failure to pay permits costs and/or fees, and failure to execute an action plan to address a non-compliant issue. Jefferson County trained **7 employees** (program staff and inspectors) and offers training classes for food service facility employees to attend on a quarterly basis. Please refer to Major Accomplishments, Illicit Discharge Detection Elimination (II.C.3) and see **Appendix D.**

- c. On April 9, 2022, **three concurrent Household Hazardous Waste Collections Events** were made available for the residents of Jefferson County to drop off their items for proper disposal at no charge. The event sites were strategically located in cities throughout Jefferson County, making them more accessible for all residents to attend. The events were funded by the Jefferson County Commission, Jefferson County Department of Health, Stormwater Management Authority, Inc. in partnership with the

cities of Bessemer, Gardendale, and Irondale. The partnering jurisdictions assisted with managing their sites logistics including coordinating the vendors and obtaining volunteers. Educational brochures on illicit discharges and proper vehicle maintenance along with other stormwater information was distributed to the vehicles that participated in these events at the Bessemer location. Intake surveys were administered at each site. The results not only aid in allocating resources next year; they also reveal areas where additional promotion should be focused to yield greater participation for future events.

Reports show **923 participants** collectively brought a total of **35.65 tons of paint and paint related items, 1.10 tons of aerosols, 2.70 tons of pesticides and 0.22 tons of used household cooking oil and grease**. While all partnering agencies promoted these events, Jefferson County's Public Information Office send press releases to the County Commissioners and to the local news media. Jefferson County had paid sponsor advertisements in Facebook, Twitter, and LinkedIn which promoted the event and the reasons to want to dispose of your household hazardous waste properly. A summary table of the last three years events has been included in the Appendix. Please see **Appendices C and J**.

- d. A combined total of **25.01 tons** of electronics were collected from **four Electronics Free Drop-off Day events** held for residents of Jefferson County. Reports show that **914 households** participated in these events which were sponsored by the Jefferson County Commission in partnership with Alabama Cooperative Extension System, City of Bessemer, City of Birmingham, City of Leeds, Jefferson County Soil and Water Conservation District, Jefferson County Department of Health, Keep Birmingham Beautiful, Nucor Steel Birmingham, Inc., Protec Recycling, and Storm Water Management Authority, Inc. Intake surveys were administered, and all participants received a reusable car trash bag, or a litter quitters backpack filled with educational materials from all the partners. Materials that were distributed included current Stormwater Calendars, Jefferson County's Household Oil and Grease Recycling Program site locations flyer and a program promotional item (can lid, gripper, sponge, or scraper), Fat Free Sewers brochure, flyers listing upcoming events and workshops (Electronic Drop-Off Days, HHW, Rain Barrel Workshop, Brown Bag Lunch and Learn Seminars, etc.), and items promoting the Litter Quitters Anti-Litter Campaign, and the hotline number for reporting suspected water pollution in the unincorporated areas of Jefferson County. Hardee's Corporation sponsored sausage biscuits for the volunteers at each event while Village Creek Society or Keep Birmingham Beautiful supplied the bottled water. These events were held in areas prone to illegal dumping to proactively circumvent the improper disposal of electronics. Events were promoted by all partners and other local agencies. Details from each event are listed below and a summary table of the last three years events has been included in the Appendix. Please see **Appendices C and J**.
- 1) On October 9, 2021, an event was held along short 20th Steet between Birmingham City Hall and Linn Park. Intake forms were collected from 120 vehicles representing 138 households located within 19 local jurisdictions from 32 unique zip codes. A total of 3.42 tons of electronics were collected. This event was funded by Nucor Steel Birmingham, Inc.

- 2) On February 19, 2022, an event was held at The Birmingham Zoo parking lot. Intake forms were collected from 399 vehicles representing 440 households located within 25 local jurisdictions from 50 unique zip codes. A total of 12.37 tons of electronics were collected. This event was funded by Nucor Steel Birmingham, Inc.
 - 3) On May 14, 2022, an event was held at the Jefferson County Center Point satellite courthouse parking lot. Intake form information was collected from 190 vehicles representing 226 households located within 19 jurisdictions in 35 unique zip codes. A total of 22 volunteers from partnering agencies along with the Village Creek Society assisted with the unloading of vehicles. A total of 5.64 tons of electronics were collected. This event was funded by Jefferson County Commission.
 - 4) On June 11, 2022, an event was held at the Jefferson County Valley Creek Water Reclamation Facility – Bessemer. Intake forms were collected from 99 vehicles representing 111 households located within 15 jurisdictions in 32 unique zip codes. A total of 25 volunteers from partnering agencies assisted with the unloading of vehicles. A total of 3.59 tons of electronics were collected. This event was funded by Jefferson County Commission.
- e. Stormwater Program staff promoted **two National Prescription Drug Take-Back Events** held in the Jefferson County area on October 23, 2021, and April 30, 2022. The Jefferson County Sheriff's Office offers two locations in Jefferson County for any resident to bring in items. In addition, prescription drugs were accepted at the Household Hazardous Waste Day event on April 9, 2022, at all three sites where reports show that **0.14 tons** were collected. These events are designed to promote safe and proper disposal of unwanted or expired medications and to prevent drugs from being flushed down toilets and ending up in waterways. Materials to promote this program were available in both English and Spanish and in various formats (posters, handouts, etc.) Jefferson County PIO and the Jefferson County Stormwater Program promote these events on social media outlets and the JeffCoH₂O newsletters. Please see **Appendix J**.
 - f. County staff attend an annual spill prevention and response training. Please refer to Major Accomplishments, Spill Prevention and Response (II.C.6).

10. Industrial Storm Water Runoff

- a. Jefferson County owns **two landfills** that are operated by Republic Services, Inc. During the 2012-2013 Permit Year, the Turkey Creek Landfill (ALG160139) closed the active cell, and the facility currently operates as a drop-off location, like the Johns Transfer Station. To date, there is only **one active** landfill site within unincorporated Jefferson County, located in Mount Olive at 101 Barber Boulevard, Gardendale, AL 35071 (NPDES Permit #37-43). Stormwater Program staff conducted inspections of the three facilities to identify and control pollutants from industrial and high-risk runoff sites. Johns Transfer station is not located in the County's MS4 area. All sites complied at the time of inspection, and the completed inspection forms are included in **Appendix K**.
- b. The County's R&TD implemented **two NPDES Industrial Permits** and one Underground Injection Control Permit issued by ADEM to the County. Please see **Appendix K**.

- c. County owned facilities with the potential to adversely impact the County's MS4 area were inspected, and all SOPs were followed during this reporting period. These include, two R&TD Camps and seven fueling stations. Please refer to Major Accomplishments, Pollution Prevention and Good Housekeeping (II.C.7), PHF (II.C.8) and see Appendices **H, I and K**.
- d. Please see **Appendix K** for an inventory of NPDES Permitted facilities and Toxic Release Inventory (TRI) sites that are within the County's MS4 area.

D. OVERALL PROGRAM STRENGTHS AND WEAKNESSES

- A strength of Jefferson County’s Stormwater Program is its public education program. Although the County’s Stormwater Program is responsible for unincorporated areas of the County, its educational efforts often extend into incorporated areas of the County, thereby educating people who reside in adjoining areas. The launch of the Clean Water Awareness Campaign and its poster series has provided a method to disseminate information to the public as well as serve as a catalyst for partnering with other entities.
- A particular strength of Jefferson County’s Stormwater Program public education efforts has been its volunteer roadside litter cleanup program. In 2011, the Jefferson County Commission implemented a series of cutbacks in personnel and services following the loss of a major source of funding which resulted in filing of Chapter 9 bankruptcy. One consequence of these reductions was the inability for the County to remove litter and trash from along roadways. In 2012, Jefferson County’s Stormwater Program staff identified an opportunity to help residents address littering in their communities by partnering with the Alabama Chapter of AL PALS. This partnership became the foundation of Jefferson County’s Volunteer Roadside Litter Cleanup Program which provides year-round support and resources for communities which choose to participate. The goals of the Jefferson County Volunteer Roadside Litter Cleanup Program are threefold: 1) Provide a way to reduce litter, trash and floatables by empowering and equipping residents to take ownership of their communities and affect change; 2) Increase program participation while decreasing the amount of litter removed from roadways due to increased resident awareness and behavioral change; 3) Provide the Stormwater Program staff a gateway into Jefferson County communities in order to provide educational programs and resources aimed at reducing other types of nonpoint source pollution.
- Another strength of Jefferson County’s Stormwater Program is its recent transition from the DDS into the R&TD. The County’s Stormwater Program has been under the DDS department since its inception in 2016, when several departments were merged into one. By the County’s Stormwater Program merging into the R&TD department, more funding, resources, and potentially, additional staff are available to ensure adequacy in performing the MS4 NPDES permit requirements. Additionally, communications and collaboration are streamlined across the right of way, traffic, utility, drainage, pre-construction, and construction divisions.
- The climate during the year was not conducive for collecting all planned samples, much like that of years past. Jefferson County experienced severe weather, tornados, and flooding for a significant period, all adverse events that created dangerous conditions for personnel. Jefferson County and much of Alabama experienced drought conditions for much of the previous Permit period; however, this reporting period experienced quite the opposite. Continuous wet weather inundated Jefferson County, setting records for rainfall. In fact, Birmingham had a 14.21” surplus of rainfall in the first month of the reporting period. For the remainder of the Permit reporting period, emergency water rescues were plentiful and flood waters were responsible for four deaths in the area. Meteorologists, statistics, and both national and local news reports documented weather extremes statewide. **Appendix L** includes supporting documentation of the adverse climatic conditions which prohibited the collection of all samples.

- An additional limitation of the Jefferson County Stormwater Program is how expenditures and resource allocation are directly dependent upon in which department the program is housed, and this previously has led to variation in services provided to the public. Many neighboring MS4 Phase 1 programs have a designated department for their Stormwater program and have not undergone as many departmental moves and departmental changes.

E. FUTURE DIRECTION

- The building-erosion control permit also known as “building combo”, went live for applicants on August 26, 2022. All residential new, residential addition, commercial new, and commercial addition permit applications have this feature enabled. Further development and refinement will take place to streamline the permit intake process and ensure applicants are informed of the new permit types and documents that are required for submission and to assess the effectiveness of the combo in reducing workflow tasks.
- Work was completed in partnership with the Alabama Cooperative Extension System, City of Birmingham, City of Bessemer, City of Leeds, Jefferson County Soil and Water Conservation District, Jefferson County Department of Health and the Stormwater Management Authority, Inc. on a 12-month 2023 Stormwater Calendar which will be printed and distributed during the 2022-2023 Permit Year. The calendar features both Stormwater program elements such as Non-point Source pollution, proper disposal of HHW, and illicit discharges as well as various Low Impact Development (LID)/Green Infrastructure (GI) practices that assist with the reduction of stormwater leaving a site during a rain event. Each month, an element or a practice has been highlighted which emphasizes the proper disposal of items as well as water conservation and the use of various features to collect, store and filter the rain into the ground to prevent runoff. Information on how to report sanitary sewer overflows, suspected water pollution, or illegal dumping along with the numbers to call are listed in prominent locations on each calendar month page, making this information easy to find. The centerfold page of the of the calendar includes a stormwater runoff infographic which shows how stormwater runoff ends up in the local creeks through the stormwater drainage system. On the bottom part of the page, a series of photos shows both good and bad behaviors that can cause or prevent non-point source pollution are displayed along with a reminder on how to reduce pollution and protect the County’s local water quality. The intent of this Stormwater Calendar is to educate people about stormwater runoff and how their everyday actions impact the County’s local waterways for the good or bad. It provides easy to understand solutions that people can readily put into practice to help protect the County’s local creeks and streams from pollution. Please see **Appendix M**.
- Work began to determine if a pilot program for utilizing and partnering with the County’s Sheriff department and a vendor to secure audiovisual documentation and subsequent enforcement of illegal dumping in high target areas within Unincorporated Jefferson County.
- Work was initiated to create, revise, and review the SOPs for all the programmatic functions and tasks of the Stormwater Program and to assess areas for process improvement and streamlining.
- Preliminary work is taking place to provide an anti-litter educational campaign program for students within the Jefferson County School System.
- Planning is underway to add additional household hazardous waste day collection opportunities during FY 2023.
- Additional planning is ongoing to require and implement mandatory residential trash pick-up services in Unincorporated Jefferson County.
- Updates to the County’s Subdivision & Construction Regulations are planned.

- Preliminary work began to enable a Stormwater program staff member to be trained and licensed as a drone pilot, and to secure a drone to assist with stormwater inspections.
- Application for new MS4 NPDES Phase I Permit is planned given the current Permit is due to expire in September 2023.
- Additional signage is planned to be installed at creek crossings to help prevent illegal dumping and littering.
- Census data may alter the County's current MS4 area.

F. EFFECTIVENESS OF SWMPP

- Public Education and Public Involvement
 - The educational campaign has resulted in more residents participating in the County's volunteer litter cleanup program; consequently, less litter has been observed along various roadways.
 - Participation in the County's HHW Day and Electronic Drop-Off Day events has increased.
 - Greater awareness has generated more requests of stormwater resource materials, such as the annual stormwater calendar and quarterly newsletter.
- Illicit Discharge Detection Elimination
 - New user-friendly software applications that were launched has aided the public in reporting a variety of concerns.
 - Outfall screening revealed no non-stormwater discharges.
- Construction Site Runoff
 - Since the onset of this program, the public has learned how to call and report sites that are out of compliance; they do so on a regular basis as shown in the hotline calls.
 - A reduction in total suspended solids within the County's MS4 has been noticed in water quality screening.
- Post-Construction Stormwater Management; New and Redevelopment
 - The County has started requiring operation and maintenance agreements between developers and the County to ensure inspections are done on at least a yearly basis.
 - This Program is too new to determine its effectiveness.
- Spill Prevention and Response
 - The County's Emergency Management Agency facilitates the quick response, clean-up, and mitigation of hazardous spills within the County. Additional spill prevention and response methods and techniques are provided in the annual training of various County staff by Sigma Consulting. Each year the number of participants has increased; consequently, there are more staff able to respond appropriately to spills.
- Pollution Prevention and Good Housekeeping
 - The County employees that have taken the mandatory stormwater training have stated that their knowledge of stormwater pollution prevention measures has increased. In fact, the training has received high ratings from employees.
 - The County's GSD continues to implement street sweeping and other measures to reduce potential pollutant runoff. The FMD facilitated the monthly inspection of the County's fuel facilities. Both preventive measures help to reduce the likelihood of pollutants being discharged into stormwater runoff.
- Oils, Toxics and Household Hazardous Waste Control

- R&TD staff have noticed a decrease in electronic devices found along the roadways since the electronic collection events have been offered at no charge to participants.
- Monitoring
 - By monitoring, the County has obtained historical data at each site, allowing comparison of water quality improvement or degradation.

III. Summary Table

<i>Element of Program</i>	<i>Requirement</i>	<i>Activities</i>	<i>Status: In Progress / Implemented</i>	<i>Status Results of Activities During Current Permit Year</i>	<i>Comments / Appendix</i>
Structural Controls	Operate the MS4 and structural controls to reduce pollutant discharge	Maintenance and inspection performed	Implemented	Four inspections performed by R&TD on structural controls	Appendix B
Pollution Prevention / Good Housekeeping	Operate the MS4 and structural controls to reduce pollutant discharge	Material removed from storm sewer system	Implemented	Camp Bessemer removed 6,635.75 tons and Camp Ketona removed 2,119.05 cubic yards from the MS4	Appendix H
	Operate and maintain to minimize MS4 to remove pollutants	Refuse, litter, and debris removal	Implemented	Camp Bessemer removed 611 bags and 253.19 tons of trash and Camp Ketona removed 189.07 tons of trash from Unincorporated Jefferson County roadways.	Appendix H
	Operate and maintain to minimize pollutants	De-icing activities	Implemented	Jefferson County applied 45 tons of sand on as-needed basis	Appendix H

<i>Element of Program</i>	<i>Requirement</i>	<i>Activities</i>	<i>Status: In Progress / Implemented</i>	<i>Status Results of Activities During Current Permit Year</i>	<i>Comments / Appendix</i>
Public Education / Public Involvement	Inform and involve groups with the Stormwater Program	Partners / formalized agreements	Implemented	Participation in 15 partnering organizations with five formalized Agreements in form of Memorandum of Understandings	Appendix C
	Communication mechanisms and advertisements	Printed and electronic materials	Implemented	2,100 brochures distributed; 458 flyer / brochure downloads; 5,000 stormwater calendars distributed; four quarterly newsletters; 28 posters displayed; one website	See Appendix C
	Structural controls to reduce pollutant discharge	Stormwater inlet covers and road sign placements	Implemented	46 stormwater inlet covers stamped; 10 road signs installed	See Appendices C and H
	Individual participation in litter removal activities	Litter, floatable and debris removal	Implemented	510 volunteers removed 48.78 tons of material in 81 roadside cleanups; 845 volunteers removed 9.56 tons in 20 waterway cleanups	See Appendix C

<i>Element of Program</i>	<i>Requirement</i>	<i>Activities</i>	<i>Status: In Progress / Implemented</i>	<i>Status Results of Activities During Current Permit Year</i>	<i>Comments / Appendix</i>
Public Education / Public Involvement Cont.	Inform and involve the public on litter reduction and removal	<i>Litter Quitters:</i> public high school anti-litter video competition with television and radio ads and billboards	Implemented	136 students from 10 schools viewed Litter Quitters PowerPoint Presentation, Litter Quitters website received more than 16,234 views during 12-day competition, seven live media interviews; three printed ads / article published; one 30-second radio ads were recorded in both English and Spanish; three digital billboards advertisements; 11 students from various schools were represented in one 30-second television message; 9,010,501 impressions	See Appendix C
	Inform and involve the public on stormwater pollution prevention	Complaint reporting, community events, presentations, workshops, and seminars	Implemented	Five events with approximately 1,1547 people; 7 presentations were given to 260 people; 17 workshops and seminars were held with 937 attendees	See Appendix C

<i>Element of Program</i>	<i>Requirement</i>	<i>Activities</i>	<i>Status: In Progress / Implemented</i>	<i>Status Results of Activities During Current Permit Year</i>	<i>Comments / Appendix</i>
Public Education / Public Involvement Cont.	Inform and involve staff on stormwater topics	Staff development and training	Implemented	staff participated in more than 33 various training opportunities to further knowledge	See Appendix C
Illicit Discharge Detection and Elimination	Detect and eliminate illicit discharges	Dry weather outfall monitoring	In Progress	20 outfalls screened, outfall inventory decreased by eight due to annexations, no priority areas identified for further screening	See Appendix D
	Detect and eliminate illicit discharges	Investigations and enforcement proceedings for IDDE	Implemented	59 hotline calls and email notifications were received; 17 illicit discharges investigated; three corrective actions taken	See Appendix D
	Detect and eliminate illicit discharges	Investigations and enforcement proceedings for illegal dumping, zoning and weed and litter violations	Implemented	36 site investigations; 63 notices mailed out; one conviction heard; 100 zoning violations, 303 weed and litter violations, and one floodplain violation	See Appendix D

<i>Element of Program</i>	<i>Requirement</i>	<i>Activities</i>	<i>Status: In Progress / Implemented</i>	<i>Status Results of Activities During Current Permit Year</i>	<i>Comments / Appendix</i>
Illicit Discharge Detection and Elimination cont.	Detect and eliminate illicit discharges	Good Housekeeping brochures distributed to businesses	Implemented	Approximately 2,100 brochures distributed to individuals applying for or renewing business licenses	See Appendix D
	Detect and eliminate illicit discharges	SSO reporting	Implemented	Complete listing of SSO and actions taken by staff	See Appendix D
	Detect and eliminate illicit discharges	Household used oil and grease recycling	Implemented	23 drop off points with 3,835 gallons of used cooking oil and grease were collected; distributed 3,500 flyers within apartment complexes and made three presentations about program	See Appendix D
Construction Site Storm Water Runoff Control	Reduce pollutant discharge from construction sites	Inspection of land disturbing activities and BMPs	Implemented	443 Land Disturbing Permits were issued: 24 Commercial permits, 416 Residential permits, three Government permit	See Appendix E

<i>Element of Program</i>	<i>Requirement</i>	<i>Activities</i>	<i>Status: In Progress / Implemented</i>	<i>Status Results of Activities During Current Permit Year</i>	<i>Comments / Appendix</i>
Construction Site Storm Water Runoff Control	Reduce pollutant discharge from construction sites	Inspection of land disturbing activities and BMPs	Implemented	36 Land Disturbing Exclusions were issued: zero Commercial exclusions and 36 Residential exclusions	See Appendix E
	Reduce pollutant discharge from construction sites	Inspection of land disturbing activities and BMPs	Implemented	2,151 construction inspections were performed: 83 failed inspections; 53 formal enforcement actions (10 Stop Work permitted sites, 8 NOV permitted sites, 35 unpermitted sites)	See Appendix E
	Reduce pollutant discharge from construction sites	Staff training as Qualified Credentialed Inspector (QCI)	Implemented	Five DDS staff certified; eleven R&TD staff certified	Appendix E
	Reduce pollutant discharge from construction sites	Inspection of Jefferson County NPDES construction sites	Implemented	Eight NPDES Permitted sites	Appendix E

<i>Element of Program</i>	<i>Requirement</i>	<i>Activities</i>	<i>Status: In Progress / Implemented</i>	<i>Status Results of Activities During Current Permit Year</i>	<i>Comments / Appendix</i>
Post Construction Stormwater Management; New and Redevelopment	Reduce pollutant discharge from developed sites	Minimize pollutants after construction is complete	Implemented	109 subdivision cases, 65 rezoning cases, and 53 variances were approved; 13 qualified sites permitted, four annual inspections; two As-Built; zero actions taken; no updates to post construction regulations	Appendix F
	Assess impacts on water quality	Land use plan	Implemented	Zero public hearing/open house held	N/A
Spill Prevention and Response	Prevent, contain, and respond to spills	Conduct spill response	Implemented	EMA responded to 38 spills	Appendix G
	Spill and response training	Conduct spill response	Implemented	73 staff trained on chemical response and containment	Appendix G

<i>Element of Program</i>	<i>Requirement</i>	<i>Activities</i>	<i>Status: In Progress / Implemented</i>	<i>Status Results of Activities During Current Permit Year</i>	<i>Comments / Appendix</i>
Pollution Prevention and Good Housekeeping	Prevent and reduce discharges from Country operations	Implement controls for trash and debris	Implemented	Trash and debris were collected and discarded in receptacles that included trash from other operations, so no exact tonnage is available to report.	N/A
	Prevent and reduce discharges from Country operations	Implement inspections at fueling facilities	Implemented	County facilities followed their SOPs with monthly inspections at seven locations; no new facilities were reported	Appendix K
	Prevent and reduce discharges from Country operations	BMPs pollution prevention training	Implemented	1,466 staff attended Stormwater Pollution Prevention video; seven staff attended FOG training; two staff are Certified Stormwater Inspectors	Appendix H
Pesticide, Herbicide, and Fertilizer	Reduce pollutant discharge related to storage and application	Training in safe use, storage, and disposal	Implemented	21 events promoted by AGITC; 50 events promoted by GIW; 16 staff hold a Certified Pesticide License	Appendices H and I

<i>Element of Program</i>	<i>Requirement</i>	<i>Activities</i>	<i>Status: In Progress / Implemented</i>	<i>Status Results of Activities During Current Permit Year</i>	<i>Comments / Appendix</i>
Pesticide, Herbicide, and Fertilizer	Reduce pollutant discharge related to storage and application	Implement controls for discharge and storage	Implemented	Chemicals are stored in secure, climate-controlled warehouses. Daily visual inspections took place, monthly documented inspections took place	Appendix I
	Reduce pollutant discharge related to storage and application	Implement controls for discharge and storage	Implemented	3,155.96 gallons of herbicides were applied along 9,112.11 acres (Camp Ketona applied 2,049 gallons; Camp Bessemer applied 1,104.46 gallons; Bridge Division applied 2.5 gallons)	Appendices H and I
	Reduce pollutant discharge related to storage and application	Implement controls for discharge and storage	Implemented	5,350 pounds of 13-13-13 fertilizer were applied on 13.18 acres	Appendix I
Oils, Toxics, and Household Hazardous Waste Control	Identify and control pollutants in stormwater discharges	Jefferson County Fleet Management in-house recycling program	Implemented	501 batteries were recycled; 5,923 gallons of motor oil were recycled; 20.69 tons of scrap metal were recycled	Appendix J

<i>Element of Program</i>	<i>Requirement</i>	<i>Activities</i>	<i>Status: In Progress / Implemented</i>	<i>Status Results of Activities During Current Permit Year</i>	<i>Comments / Appendix</i>
Oils, Toxics, and Household Hazardous Waste Control	Identify and control pollutants in stormwater discharges	Jefferson County Grease Control Program for food service facilities	Implemented	2,100 food service facilities were permitted, 1,586 annual site inspections, and 31 sites were non-compliant	Appendix D
	Detect and eliminate discharges to the MS4	Household Hazardous Waste collection event for public	Implemented	Three locations held; 923 households participated. See Appendix for quantities of items collected.	Appendix J
	Detect and eliminate discharges to the MS4	Electronic and reusable battery take-back collection event for public	Implemented	Four events held; 914 households participated; 25.01 tons of electronics were collected	Appendix J
	Detect and eliminate discharges to the MS4	National prescription drug take-back event	Implemented	Two national events held, over 1.78 tons collected statewide; 0.14 tons of prescription drugs were collected at the spring HHW events	Appendix J

<i>Element of Program</i>	<i>Requirement</i>	<i>Activities</i>	<i>Status: In Progress / Implemented</i>	<i>Status Results of Activities During Current Permit Year</i>	<i>Comments / Appendix</i>
Industrial Storm Water Runoff	Identify and control pollutants in stormwater discharges	Inspection of industrial and high-risk runoff sites	Implemented	One landfill and two transfer station inspections conducted; two NPDES Industrial Permitted sites; 12 NPDES and TRI Inventory facilities	Appendix K
Monitoring Program	Detect illicit connections and improper discharges to the MS4	Dry weather screening	Implemented	17 Instream sites sampled	Appendix L
	Detect illicit connections and improper discharges to the MS4	Wet weather screening	Implemented	Nine Instream sites sampled	Appendix L
	Detect and eliminate discharges to the MS4	Wet weather investigative monitoring	Implemented	Five Investigations sampled	Appendix L

<i>Element of Program</i>	<i>Requirement</i>	<i>Activities</i>	<i>Status: In Progress / Implemented</i>	<i>Status Results of Activities During Current Permit Year</i>	<i>Comments / Appendix</i>
Inspections and Enforcement	Weed, litter, criminal littering and zoning	Complaint reporting application was utilized	Implemented	48 site investigations; 63 cases were presented for citation; 1,395 zoning approvals issued, and 414 violations issued for zoning, weed and litter, floodplain	Appendix D
	Erosion Control Permits	Erosion and sediment control permits / exclusions issued	Implemented	479 Erosion Control Permits; 36 Exclusions	Appendix E
	Erosion Control inspections	Erosion and sediment control inspection activities	Implemented	2,151 construction inspections were performed; 193 failed inspections reported	Appendix E
	Subdivision and Construction	Subdivision and Construction Regulation	Implemented	109 subdivision cases, 65 rezoning cases, and 53 variances were approved	Appendix F

		Permit Requirements											
		Type of Public Education Public Involvement	Frequency	Structural Controls	Illicit Discharge Detection Elimination	Construction Site Runoff	Post Construction New & Redevelopment	Spill Prevention & Response	Pollution Prevention Good Housekeeping	PHF Storage & Application	Oils, Toxics, & HHW	Industrial/High Risk Runoff	Monitoring Program
Educational Initiatives	Complaint Reporting Hotline Phone and Email	Public Engagement / Public Involvement	Ongoing	X	X	X	X	X	X	X	X	X	X
	Events	Public Engagement / Public Involvement	Ongoing	X	X	X	X	X	X	X	X	X	X
	Friends of Birmingham Botanical Gardens	Partners	Ongoing	X	X	X	X	X		X		X	X
	Jefferson County Water Festival	Public Engagement / Public Involvement	Annually	X	X	X	X	X	X	X		X	X
	Litter, Floatables and Debris Removal: Volunteer Cleanups	Litter, Floatables, Debris Removal	Ongoing	X	X	X	X	X	X	X	X	X	
	Litter, Floatables and Debris Removal: Video Competition (Litter Quitters)	Litter, Floatables, Debris Removal	Annually	X	X	X	X	X	X	X	X		X
	Media	Communication Mechanism / Advertisement	Ongoing	X	X	X	X	X	X	X	X	X	

		Permit Requirements											
		Type of Public Education Public Involvement	Frequency	Structural Controls	Illicit Discharge Detection Elimination	Construction Site Runoff	Post Construction New & Redevelopment	Spill Prevention & Response	Pollution Prevention Good Housekeeping	PHF Storage & Application	Oils, Toxics, & HHW	Industrial/High Risk Runoff	Monitoring Program
Educational Initiatives	Monitor Slides	Communication Mechanism / Advertisement	Ongoing	X	X	X	X	X	X	X	X	X	
	Newsletters	Communication Mechanism / Advertisement	4 x year	X	X	X	X	X	X	X	X	X	
	Pesticide, Herbicide, Fertilizer/Landscape	PHF / Landscape	Ongoing		X		X	X	X	X	X	X	
	Posters: Floatables	Communication Mechanism / Advertisement	Ongoing	X	X			X	X		X		
	Posters: Oil & Grease / Vehicle Fluids	Communication Mechanism / Advertisement	Ongoing		X	X		X	X		X	X	
	Posters: Pesticides, Herbicides & Fertilizers	Communication Mechanism / Advertisement	Ongoing		X	X		X	X	X	X		
	Posters: Pet Waste / Nutrients	Communication Mechanism / Advertisement	Ongoing	X	X				X		X		

		Permit Requirements											
		Type of Public Education Public Involvement	Frequency	Structural Controls	Illicit Discharge Detection Elimination	Construction Site Runoff	Post Construction New & Redevelopment	Spill Prevention & Response	Pollution Prevention Good Housekeeping	PHF Storage & Application	Oils, Toxics, & HHW	Industrial/High Risk Runoff	Monitoring Program
Educational Initiatives	Posters: Runoff Reduction / Low Impact Development	Communication Mechanism / Advertisement	Ongoing	X		X	X	X	X	X	X		
	Posters: From Roof to Stream, Watersheds, Storm Drain Systems	Communication Mechanism / Advertisement	Ongoing	X	X	X	X	X	X	X	X		X
	Posters: Reporting Pollution, Actions Matter	Communication Mechanism / Advertisement	Ongoing	X	X	X	X	X	X	X	X	X	X
	Posters: Erosion Prevention	Communication Mechanism / Advertisement	Ongoing		X	X			X	X			
	Posters: Cooking Oil & Grease Recycling	Communication Mechanism / Advertisement	Ongoing		X			X	X		X	X	
	Presentations	Public Engagement / Public Involvement	Ongoing	X	X	X	X	X	X	X	X	X	X
	Staff Development and Training	Staff Development and Training	Ongoing	X	X	X	X	X	X	X	X	X	X

		Permit Requirements											
		Type of Public Education Public Involvement	Frequency	Structural Controls	Illicit Discharge Detection Elimination	Construction Site Runoff	Post Construction New & Redevelopment	Spill Prevention & Response	Pollution Prevention Good Housekeeping	PHF Storage & Application	Oils, Toxics, & HHW	Industrial/High Risk Runoff	Monitoring Program
Educational Initiatives	Surveys	Public Input and Evaluation	Result Dependent	X	X			X	X	X	X	X	
	Turkey Creek Nature Preserve	Partners	Ongoing	X	X	X	X	X		X		X	X
	Website	Communication Mechanism / Advertisement	Ongoing	X	X	X	X	X	X	X	X	X	X
	Workshops: Erosion and Sediment Control, Rain Barrel LID /GI	Public Engagement / Public Involvement	Annually	X	X	X	X	X	X	X	X		

IV. Monitoring Section

Monitoring and Reporting

Jefferson County began its own Stormwater Program at the beginning of Permit Year 2009-2010. Initially, staff reviewed the unincorporated area of Jefferson County to set up the monitoring plan. The staff established six instream monitoring locations to be sampled each season during wet and dry weather periods on the following waterbodies: Five Mile Creek, Shades Creek, Turkey Creek, Valley Creek, and Village Creek.

- The sampling location in Five Mile Creek is off Coalburg Rd (33.59806, -86.86801) and the land use is characterized by undeveloped and low density residential. The sampling location is within the Hydrologic Unit Code (HUC) 12 Upper Five Mile Creek watershed basin and is composed of 40,858 acres.
- The Shades Creek sampling site is off Dickey Springs Rd (33.32568, -86.94914) with land use characterized predominantly as undeveloped and agricultural, with a few light industrial areas. The HUC12 watershed basin size is 44,458 acres.
- Two sites on Turkey Creek are monitored and the combined watershed basins are 54,770 acres. One is within the Jefferson County Water Reclamation Facility property near Narrows Rd (33.70938, -86.69634) and the land use is largely characterized as undeveloped, agriculture, low density residential, and recreation. The second site is located near Doss Hollow Rd (33.75665, -86.8254) having similar land use characteristics as the first.
- The sampling site on Valley Creek was relocated February 2021 and is downstream of the tower at the Valley Creek Water Reclamation Facility (33.392889, -87.003089). The land use upstream of the site is characterized as undeveloped, low, and medium density residential, commercial, and heavy industry. The HUC12 watershed basin for this site is 26,746 acres.
- The location of the Village Creek site is near Minor Pkwy (33.5479, -86.92603) with the most diverse land use of all the sites. The basin consists of low-density residential, medium-density residential, high-density residential, light industrial, heavy industrial, with fewer undeveloped areas. The site is within the HUC12 Upper Village Creek watershed basin which is 44,319 acres in size. A map of the sampling locations has been provided in previous Annual Reports and is on file.

Jefferson County continued to implement the monitoring program established in the SWMPP as weather permitted. During Permit Year 2021-2022, Stormwater Program staff collected instream samples for wet weather, dry weather, and investigation sampling. This information is summarized and quantified in the Summary Tables. Narrative Field Data Sheets completed at the time of sample collection are available upon request. The laboratory analyses for the parameters were performed in accordance with 40 CFR Part 136 as required by Permit ALS000001. Establishment of trends in stormwater pollutant concentrations depends on a vast amount of water quality data. There were fewer wet weather samples collected compared to dry weather samples due to inclement weather as mentioned in the Program Strength and Weaknesses section of this report. Moreover, there were many instances where a graph could not be created due to the analyses being below measurability. The analytical results were graphed for each monitoring location and a trendline was formulated to interpret the data. Except for Turkey and Shades Creeks, total suspended solids during wet weather decreased in the other three monitored creeks indicating water quality improvement over

time. There were no instances in all the creeks where the pH exceeded water quality standards for the ADEM Limited Warmwater Fishery (LWF) and Fish and Wildlife (F&W) use classifications in wet weather. Analysis of all raw data over the years indicated there were three instances the pH slightly exceeded the water quality standards for the respective use classifications in dry weather. Nutrients, such as phosphate and potassium were slightly elevated in the wet weather samples for Shades Creek, which is indicative of agricultural operations, livestock, residential land use and gardens.

Jefferson County has two creeks with approved TMDLs. The Shades Creek TMDLs apply to pathogens, siltation, and habitat alteration, while the Village Creek TMDLs apply to metals, siltation, pathogens, and habitat alteration. Measured by E. coli colonies, analysis of pathogens in Shades Creek indicated there was one instance of elevated colonies during wet weather sample collection this reporting year. This is understandable as the sampling location is surrounded by agricultural land use with ample livestock. Siltation, measured in total suspended solids (TSS), declined during dry weather sample collections over a six-year period and indicates water quality improvement. There was one instance in the wet weather data for Shades Creek that had slightly elevated TSS levels. Except for barium, iron, and magnesium, Village Creek sustained a decrease in concentrations of other metals during dry weather. With slightly increased exceptions of barium, lead, calcium, and strontium in wet weather samples collected from Village Creek, other metals demonstrated water quality improvement. Levels of TSS in Village Creek during wet and dry weather showed consistent decreasing concentrations over time which indicates improvement. Pathogens in Village Creek slightly increased during dry weather over time. Only two E. coli samples were collected from Village Creek during wet weather. While the levels decreased, additional data is needed to determine water quality improvement or degradation at this time. The raw data analyses along with graphical charts, to include the current reporting period along with the past five years, are included in **Appendix L**.

V. Stormwater Management Plan/Program Modifications

Stormwater Management Program Plan Review

The County's SWMP Plan was reviewed and updated to reflect the current outfall screening list and to remove the listings that do not fall within unincorporated Jefferson County. The County plans to update the urbanized areas of the County sometime soon. There are no revisions or updates during this reporting period for any of the County's BMPs. Please see **Appendix A** for a current copy of the SWMPP.

VI. Program Budgets

Budget information from the Jefferson County Departments that have requirements that pertain to the MS4 NPDES Permit have been included. Please see **Appendix M**.