FREDDIE O'CONNELL
MAYOR

METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY

DEPARTMENT OF WATER AND SEWERAGE SERVICES
Stormwater, NPDES Section
1607 County Hospital Road
Nashville, TN 37218

December 1, 2023

Jennifer Dodd, Director
Tennessee Department of Environment & Conservation - Division of Water Resources
William R. Snodgrass Tennessee Tower
Attention: Compliance Review
312 Rosa L. Parks Avenue, 11th Floor
Nashville, Tennessee 37243

RE: **NPDES Permit No. TNS068047**
Metro Nashville/Davidson County
Signature Authorization Letter

Dear Director:

Per the provisions of Section 5.7 of the Metro Nashville/Davidson County MS4 NPDES permit (TNS068047), I hereby authorize Michael Hunt as my duly authorized representative to submit reports and other information as required per NPDES Permit TNS068047.

I do so by virtue of Mr. Hunt's position as the MS4 Permit Program Manager for Metro Nashville/Davidson County, Metro Water Services - Stormwater's NPDES Office, which oversees Metro's MS4 permit compliance activities.

Please let me know if you require any further information.

Sincerely,

Scott Potter, P.E.
Metro Water Services, Director

cc: Tim Jennette, TDEC Division of Water Resources Nashville Field Office Manager
Karina Bynum, Ph.D., P. E. TDEC Integrated Water Resources Engineer
Tom Palko, Assistant Director; Metro Water Services Stormwater Division
Michael Hunt, Metro Water Services Stormwater Division NPDES Office

Metro Nashville/Davidson County Municipal Separate Storm Sewer System Permit TNS068047 Annual Report

December 2023

Reporting Period:

July1, 2022 – June 30, 2023

METRO WATER SERVICES

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1.0 Introduction

The Metropolitan Government of Nashville Davidson County (Metro) was issued the third cycle of the Municipal Separate Storm Sewer System (MS4) permit effective February 1, 2012. Under this permit, the reporting period for each permit year coincides with Metro's Fiscal Year (FY) (July 1st through June 30th). The reporting period for this report will be referred to as Fiscal Year 2023 (FY23), which represents the period between July 1, 2022, through June 30, 2023.

Each year, there are numerous individuals within different Metro Departments that work toward achieving overall MS4 permit compliance. As a measure to ensure permit compliance within the various facets of Metro government, the National Pollutant Discharge Elimination System Section (NPDES) was created to oversee all MS4 permit compliance activities. NPDES is a section within the Metro Water Services (MWS) Stormwater Division and is responsible for performing specific MS4 permit requirements such as public education activities, illicit discharge investigations, runoff/discharge sampling, construction site inspections, field screening inspections, industrial inspections, etc. In addition, NPDES is responsible for coordinating with various Metro Departments to ensure permit compliance measures are being followed on a Metro-wide basis.

The following table is a list of certain individuals that have contributed directly to specific MS4 permit compliance activities/information during FY23. Any inquiries regarding information represented in this report should be directed to the MWS Stormwater NPDES Office (Attn: Josh Hayes) at 1607 County Hospital Rd, Building A, Nashville, Tennessee, 37218, Phone: 615-880-2420, Email: Joshua.Hayes@Nashville.gov.

The following list is a description of commonly used acronyms throughout the document:

303(d)	State's List of Non-attainment Waterways (Water Quality Criteria for Use Classifications)
CCTV	Closed Circuit Televising
CSS	Combined Sewer System
CWN	Clean Water Nashville Program
EMC	Event Mean Concentration
EPA	Environmental Protection Agency
EPSC	Erosion Prevention and Sediment Control
ERP	Enforcement Response Plan
FY23	Fiscal Year 2023
FEMA	Federal Emergency Management Agency
GIS	Geographic Information System software
LA	Load Allocations for Streams with Approved TMDLs
LID	Low Impact Development
MEP	Maximum Extent Practicable
MDPW	Metro Department of Public Works
Metro	Metro Nashville Davidson County Government
MNPR	Metro Nashville Parks and Recreation
MNPS	Metro Nashville Public Schools
MS4	Municipal Separate Storm Sewer System
MWS	Metro Water Services
NOV	Notice of Violation
NON	Notice of Noncompliance
NPDES	National Pollutant Discharge Elimination System Section within MWS Stormwater Division
O&M	Operations and Maintenance
OEM	Mayor's Office of Emergency Management
PIE	Public Information/Education Plan
RMCP	Ready Mix Concrete Plant
RMP	Runoff Management Plan
SCM	Stormwater Control Measure (Post-Construction Stormwater Treatment)
SOP	Standard Operating Procedure
SSD	System Services Division
SWMC	Stormwater Management Committee
SWMM	Stormwater Management Manual
SWMP	Stormwater Management Plan
SWO	Stop Work Order
TDEC	Tennessee Department of Environment and Conservation
TMDL	Total Maximum Daily Load of Pollutants Allowed within Streams
TMSP	Tennessee Multi-Sector Permit for Industrial Stormwater Discharges
TMI	Tennessee Macroinvertebrate Index
TSS	Total Suspended Solids
WIES	Watershed Improvement Evaluation System
WLA	Waste Load Allocation

Table 1 - Contact List

Name	Agency	Position/Responsibility
Scott Potter	MWS	Director
David Tucker	MWS	Assistant Director, Operations
Tom Palko	MWS	Assistant Director, Stormwater Division
Amanda Deaton-Moyer	MWS	Assistant Director, Business & Finance
Sonia Allman	MWS	Manager of Strategic Communications
Julie Berbiglia	MWS	Public Education Specialist, Stormwater NPDES Section
Ricky Swift	MWS	Program Manager, Stormwater Maintenance Section
Casey Cooper	MWS	Project Manager, Stormwater Maintenance Section
Kimberly Hayes	MWS	Engineer, Development Services Division, Single Family
Tony Neumaier	MWS	Assistant Director, Development Services Division
Michael Hunt	MWS	Program Manager, Stormwater NPDES Section
Bonnye Holt	MWS	Office Support Specialist, Stormwater NPDES Section
Howard Jackson	MWS	Office Support Specialist, Stormwater NPDES Permit Group
Dale Binder	MWS	Construction Inspection Manager, Stormwater NPDES Section
Shawn Herman	MWS	Construction Inspection Assistant Manager, Stormwater NPDES Section
Katherine O'Hara	MWS	Construction Site Inspector, Stormwater NPDES Section
Denice Johns	MWS	Construction Site Inspector, Stormwater NPDES Section
Donald Erves	MWS	Construction Site Inspector, Stormwater NPDES Section
Ken Tranter	MWS	Construction Site Inspector, Stormwater NPDES Section
Leigh Nelson	MWS	Construction Site Inspector, Stormwater NPDES Section
Lynda Kelly	MWS	Construction Site Inspector, Stormwater NPDES Section
Anthony Scarbrough	MWS	Construction Site Inspector, Stormwater NPDES Section
Tommy Biggerstaff	MWS	Construction Site Inspector, Stormwater NPDES Section
Rebecca Dohn	MWS	Urban Forestry Manager, Stormwater NPDES Section
Eric Kuehler	MWS	ISA Certified Arborist Stormwater NPDES Section
Jennifer Smith	MWS	Horticulturist, Stormwater NPDES Section
Sarah Welz	MWS	Urban Forestry Project Manager, Stormwater NPDES Section
Charles Griffith	MWS	Urban Forestry Arborist, NPDES Section
Josh Hayes	MWS	Permit Group Manager, Stormwater NPDES Section
Kevin Turner	MWS	Permit Group Inspector, Stormwater NPDES Section
Aujuah Jackson	MWS	Permit Group Inspector, Stormwater NPDES Section
Rob Topolski	MWS	Permit Group Inspector, Stormwater NPDES Section
Gretchen Judkins	MWS	Permit Group Inspector, Stormwater NPDES Section
Joseph Brown	MWS	Permit Group Inspector, Stormwater NPDES Section
Matthew Lockhart	MWS	Permit Group Inspector, Stormwater NPDES Section
Mary Bruce	MWS	Watershed Group Manager, Stormwater NPDES Section
Veronica Logue	MWS	Watershed Group Inspector, Stormwater NPDES Section
Larry Brown	MWS	Watershed Group Inspector, Stormwater NPDES Section
Carol Edwards	MWS	Soil Conservationist, Stormwater NPDES Section
Sharon Smith	MWS	Waste Services, Nashville Zero Waste Coordinator
Phillip Jones	NDOT	Assistant Director of the Street Services Division
Ernie Kurgan	NDOT	Street Services Division
Steve Mishu/Brady Rich	Codes Department	Chief Plans Reviewer
Anita McCaig	Metro Planning Department	Planner
Christopher Michie	Metro Health Department	Septic System Oversight
Pamela Wilson	Metro Health Department	Restaurant Inspection
Ron Taylor	MWS	Program Manager, Overflow Abatement
Matt Lott	MWS	Program Manager, System Services Overflow Response
Tim Netsch	Metro Parks Department	Assistant Director
Ted Taylor	MWS	Laboratory Superintendent
Andy Welch	MWS	Program Manager, Pre-treatment/FOG
Anna Kuoppamaki	MWS	GIS Analyst, Stormwater Master Planning Section

Note: There are many other personnel that contribute to the overall MS4 compliance program not listed on this table (i.e., Engineers in MWS Development Services, Various Maintenance Workers, etc.).

1.1 Objective of the Program

The objective of the Stormwater Management Program is to implement specific pollution prevention programs designed to improve the quality of Metro's water resources to the Maximum Extent Practicable (MEP), particularly as it relates to improving the quality of discharges from Metro's MS4. This leads to an overall goal of maintaining MS4 permit compliance, while simultaneously achieving water quality improvements in every Metro stream reach, including those listed on the Tennessee Department of Environment and Conservation's (TDEC's) 303(d) list of streams with unavailable parameters. It is Metro's long-term goal to reduce pollutant loadings from the MS4 to remove a majority of the streams from the 303(d) list that are indicated as being impaired by MS4 runoff. As Metro maintains compliance with the current MS4 permit requirements, it is important to evaluate the success of the major pollution prevention programs that have been implemented in the first 3 permit cycles. Over those permit cycles, Metro has made great strides to improve stormwater runoff from construction sites, industrial sites, commercial sites, residential sites, and Metro roadways/properties. Overall, the implementation of these control programs has worked to significantly reduce and minimize pollutants from entering the MS4 drainage system and the receiving streams.

1.2 Major Stormwater Pollution Findings

Each year there are generally fewer major discoveries of pollution to the MS4 drainage system. This can be largely attributed to the long-term implementation of core pollution prevention programs such as Metro's public education efforts, proactive inspections of commercial and industrial properties, increased oversight and permitting requirements on development/construction activities, and continual monitoring of Metro's vast watersheds. The paragraphs below describe some of the more notable investigations and compliance actions performed by Metro that have directly benefited the water quality of the MS4 and Davidson County streams during FY23.

1.2.1 Dry Weather Field Screening Findings

While performing proactive dry weather field screening of commercial/industrial properties, an NPDES inspector found heavy staining in the parking lot of an industrial food processing plant. There was evidence that Fats, Oil, and Grease (FOG) material exposed on their parking lot eventually discharged during a storm event to the MS4. NDPES issued a Notice of Violation (NOV) and an associated $300 administrative penalty to the site, requiring them to clean up all exposed FOG materials and take appropriate actions to prevent future FOG exposures. As a result, the facility remediated all FOG material from their parking lot and replaced their leaking dumpster with a sealed dumpster.

Photos of the Exposed FOG Material on the Parking Lot

During a separate field screening inspection of a local brewery, the NPDES inspector noticed that a large amount of spent grain had just been spilled on their lot. NPDES coordinated with site management and confirmed that they were actively working on cleaning it up. In the previous complaints received by NPDES due to exposed product on their lot, NPDES worked with management to develop a better spent grain storage system to prevent the material from being exposed to stormwater runoff. While the facility had implemented better site management practices, it appeared that the spill just happened right before NPDES performed their field screening inspection. NPDES continued to coordinate with the facility until all spilled material was properly cleaned up. NPDES is planning on expanding educational outreach to local breweries over future years, as the exposure of spent grain has been found to be a common issue at these facilities.

Photos of Spent Grain Spilled at Local Brewery

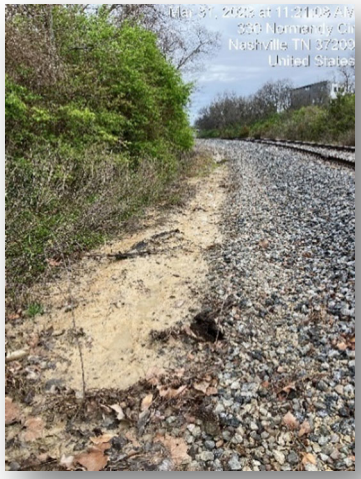
1.2.2 NPDES Water Quality Investigations

Sewer Issue Found During Routine SCM Inspections:

While inspecting a Stormwater Control Measure (SCM) at an apartment complex, the inspector found what appeared to be sewage draining into an old dry detention pond. The NPDES water quality inspector was notified and met with SCM inspector at the site to sample the discharge, confirming the material was sanitary sewer. The NPDES water quality inspector tracked the sewage discharge to a failed, privately-owned grinder pump. NPDES worked with management at the apartment complex to immediately address the issue. A follow up inspection was performed two days later. The pump was repaired, and the exposed sewage sludge was cleaned up properly.

Photos of the Exposed Sewage Material Draining into an Old Dry Detention Pond

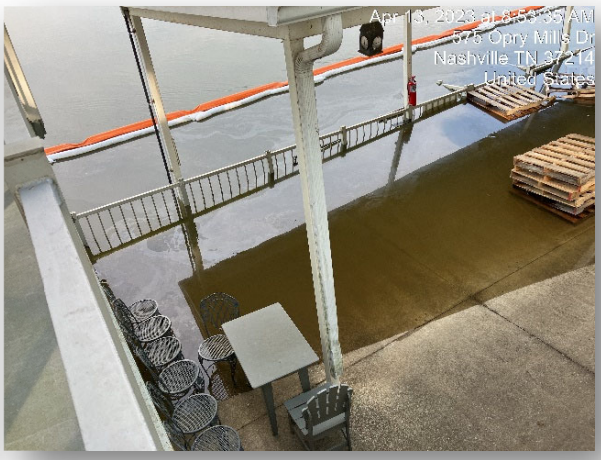
Sediment Discharge from an Industrial Facility:
NPDES received a citizen complaint that Murphy Branch, a tributary to Richland Creek, was running milky white after a recent heavy rain. This same complaint has been received by NPDES for several years, but due to the large area of watershed, NPDES has not been able to pinpoint where the discharge was originating. This section of MS4 drainage has an extensive area that flows through underground pipes, eventually becoming visible at the McCabe Golf Course before discharging into Richland Creek. NPDES performed sampling that confirmed the discharge was not sewage-related. After performing detailed inspections of various properties in the watershed, an NDPES water quality inspector found a galvanizing industrial facility discharging large volumes of sediment from their outfalls. NPDES initiated a formal industrial inspection of the facility, which found that their settling ponds were overflowing, allowing sediment from their large gravel parking lot to route off site. NPDES notified TDEC of the inspection findings and required the facility to implement a Corrective Action Plan to prevent future discharges.



Photos of the Sediment Discharging from an Industrial Facility

1.2.3 NPDES Spill Response Activities

In April of 2023, NPDES received a report from the Tennessee Emergency Management Agency (TEMA) indicating the dock of the General Jackson had sunk into the Cumberland River. NDPES met TDEC at the site to assess the situation, as there were reports of fuel containers lost to the river as a result of the dock sinking. Containment booms had been put in place around the dock, but a sheen was noted escaping the containment booms during the inspection. NPDES and TDEC staff requested the additional deployment of absorbent booms to soak up the floating oil product trapped within the containment booms. After absorbent booms were deployed, the oil sheen was properly contained/did not route further downstream.



Photos of the Petroleum Containment/Absorbent Booms Deployed at Dock Sinking Fuel Spill

1.2.4 NPDES Construction Oversight Program

Any development or redevelopment activity involving the disturbance of more than 10,000 square feet requires a Metro grading permit. As part of the grading permit process, NPDES has 9 inspector positions dedicated to inspecting construction activity to ensure proper erosion prevention and sediment control (EPSC) measures are installed and maintained during the project to prevent the discharge of sediment to the MS4 and community waters. Throughout FY23, there was an average of over 900 active grading permit sites that NPDES staff were inspecting on a routine basis. After receiving a citizen complaint of cloudy water in Sugartree Creek, one of NPDES inspectors found a permitted construction site improperly pumping muddy pit water directly to the stormwater drainage system. As a result of the investigation, NPDES issued an NOV with an accompanying $600 administrative penalty to the site for failure to properly filter the pit pump water. The NOV required the site to stop all pumping operations until proper filtering controls were established.

Photos of the Pumped Muddy Pit Water and NOV

1.3 Major Stormwater Management Program Accomplishments and Highlights

1.3.1 MWS Stormwater Division

The MWS Stormwater Division has continued to facilitate major accomplishments in the development of the overall Stormwater Management Program. Accomplishments performed in recent years are listed below:

SWMP Implementation/Updates:

In FY23, NPDES continued to implement Metro's MS4 Storm Water Management Plan (SWMP) that was developed during previous permit reporting periods. The SWMP, as required by the current MS4 permit, is a formal document that provides a comprehensive description of Metro's overall Stormwater Management Program. The SWMP describes Metro's methods of achieving each MS4 permit-required activity. The SWMP is an internal program document that is reviewed routinely to determine if improvements or updates are needed. All SWMP updates from previous years are included in the previously submitted Annual Reports. In FY23, NPDES updated the Public Information/Education (PIE) plan, which is an appendix to the SWMP. A copy of the updated PIE Plan is contained within Section 4 of this document.

Please note that Metro's permit cycle ended on January 31, 2017, but is currently administratively extended until such time as the permit is reissued by TDEC. With the pending issuance of the 4th iteration of Metro's MS4 permit, Metro believes some changes can be made to improve the efficiency of certain pollution prevention programs. Attachment B includes several communications submitted to TDEC detailing proposed changes to the Stormwater Management Program, which NPDES is currently implementing during the "administrative extension" period between permits. NPDES met with TDEC on November 16, 2017, to discuss these changes, and TDEC approved the testing of certain, slight MS4 program modifications during the transition/"administrative extension" period. On March 30, 2018, NPDES submitted a follow-up letter to TDEC explaining how the modifications have been beneficial to

the program. During FY23, NPDES continued to implement the changes detailed in these communications to TDEC since these modifications continue to demonstrate increased pollution prevention effectiveness.

Industrial Inspection Program

At the beginning of the permit cycle, NPDES created a thorough industrial inspection database that contained all of the MS4 permit-required industrial sites, such as those subject to reporting requirements pursuant to SARA Title III, Section 313, In creating the database, NPDES also included sites not required to be inspected by the permit, such as industrial facilities holding Tennessee Multi Sector Permits (TMSP), Ready-Mix Concrete Permits (RMCP), and Individual permits for process water discharges. In January of 2023, NPDES began updating the database as required by the permit. However, during this update, NPDES also added all active Mining Permits, State Operating Permits pertaining to septic systems, and facilities holding No Exposure Certifications. While not required to be inspected by the MS4 Permit, NPDES added the facilities to the database for the following reasons:

- Mining Permits
  Mining facilities have great potential to track out onto the right-of-way and discharge large quantities of process water not properly treated to filter out sediments. In the past, mining facilities have been investigated by NPDES due to illicit discharge complaints. By having regular inspections for all quarries, illicit discharges and tracking out from improperly managed mining sites should diminish.

- State Operating Permits (SOP)
  Sites holding SOPs relating to septic tanks and drip irrigation fields have a risk of discharging untreated sewage material in the event of a system failure. By including these sites in the industrial database, NPDES is able to geolocate them in GIS and proactively inspect these facilities to determine if there are any compliance issues. 7 SOP sites were added and inspected in FY23 with no instances of illicit discharge noted.

- No Exposure Certifications (NEC)
  NEC facilities were included in this update because each site that applies for the certification is no longer inspected regularly by TDEC. Due to the lack of continued regulatory oversite of NECs, including these facilities in the industrial inspection database will allow NPDES to perform cursory windshield inspections of these facilities to ensure no exposure of industrial products or processes remain at the facilities.

Because NECs are treated like inactive TMSPs with the termination date of the permit often being the date of the NEC approval, TDEC's Data Viewer database listed over 400 NEC sites in Davidson County. NPDES utilized Google Earth and visited sites to determine what NEC facilities are still active, which resulted in an additional 29 businesses added to the NPDES industrial inspection database that were not currently inventoried. In FY23, NPDES inspected 37 NEC facilities of which 7 sites were required to renew their certifications due to expired certifications, and 19 sites were found with exposed materials/processes that had to be corrected to maintain compliance with the NEC. TDEC was also notified of any noncompliant issues found during inspections of NEC facilities. Going forward, NPDES plans to perform routine inspections of NEC sites to ensure compliance is maintained. Additionally, in FY24, NPDES plans to review TDEC's Data Viewer for sites listed as "TEMP", to determine if any of these facilities need to apply for a TMSP or NEC.

Photos of Exposure Issues Found During FY23 NEC Site Inspections

In FY23, NPDES focused on finding unpermitted sites to send to TDEC, usually for TMSP coverage. NPDES discovered sites from staff notifications, illicit discharge investigations, SCM inspections, and while updating the database. One of the sites was a bus terminal with maintenance facilities that had altered SCMs, was grading without a permit, and found to have exposed diesel fuel and other automotive fluids. NPDES worked quickly with the site and TDEC to ensure proper TMSP coverage was obtained, and exposed contaminants were eliminated. NPDES plans to continue routinely searching for unpermitted sites in future years.

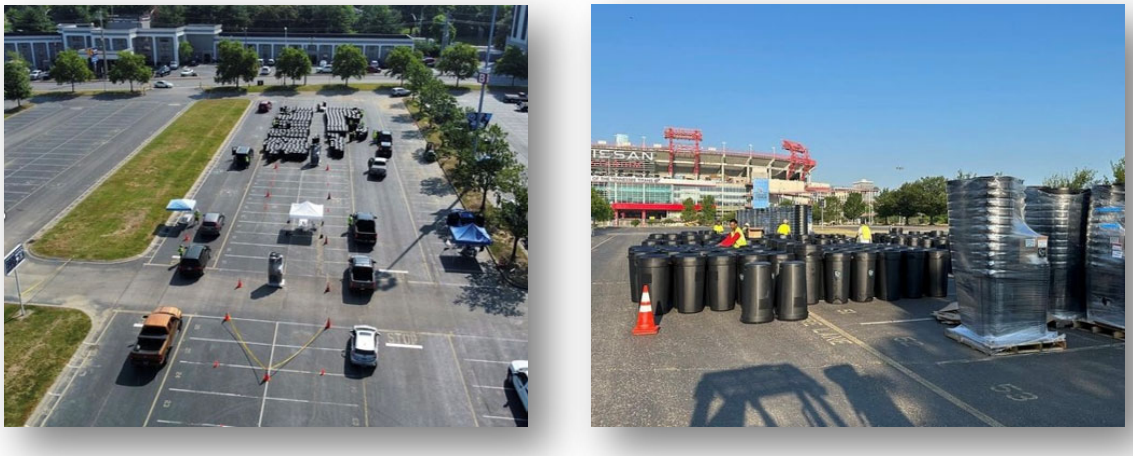
Photos of Unpermitted Grading/Filling and Exposed Automotive Fluids

In previous years, when NPDES found significant issues during industrial inspections, follow-up letters were issued to the facilities requiring them to submit a Correction Action Plan (CAP). The timeframe for NPDES reinspecting these sites to review the facility's corrective actions varied. In FY23, NPDES changed internal procedures to ensure these facilities are reinspected within 6 months from the due date of the CAP to verify all corrective actions were performed. This will further allow NPDES to determine if the controls put in place by the corrective action plans are being maintained and remain effective. The first site to be subjected to this new timeline was a waste transfer station that had long-term ponding in their detention pond as well as sludge discharging from the outfall. At the reinspection, the site's controls appeared well-maintained as the detention pond was no longer holding water, and the outfall appeared clean.

Before and After Photos of Outfall at the Waste Transfer Station

Public Education:
As Metro Nashville continues to grow at a record pace with new residents moving here from different parts of the country, NPDES believes public outreach is one of the most important actions of the MS4 program. In FY23, NPDES continued to expand its public outreach activities as opportunities presented themselves. The below paragraphs highlight some of the specific public education activities that were conducted during FY23:

- Rain Barrel Sale
  In FY23, NPDES contracted Rain Water Solutions to provide 945 subsidized rain barrels for Davidson County residents. The sale was open from March 25th to May 21st with the pickup event at Nissan Stadium on June 3rd. Residents came from all over the county to pick up their barrels. These residents will be able to reduce stormwater pollution and runoff as well as use the barrel to complete their Tennessee Smart Yard (TNSY) Certification. Those who purchased rain barrels were sent an email to follow up on their experience with the sale and pickup event while also encouraging them to certify their yard as a TNSY. The response was overwhelmingly positive and supportive with one customer stating, “The whole pickup took less than 5 minutes. It went so smoothly, we were stunned” while another wrote, “Thanks for all you do for our city and our environment”. NPDES also purchased 24 rain barrels to be used in a monthly rain barrel giveaway for Metro Nashville residents during FY24 and FY25.



Photos of the Rain Barrel Pickup Event on June 3, 2023

- Lawn and Garden Show
  During FY23, NPDES attended the last Lawn and Garden Show at the Nashville Fairgrounds. Urban Forestry staff partnered with the Metro Tree Advisory Committee and the Metro Beautification and Environmental Commission to give away 2,554 tree seedlings (Oak and Crabapple). Music City Gold (biosolid pellets) samples were given out along with brochures for the Emerald Ash Borer (EAB) Epidemic. NPDES' Jennifer Smith delivered three EAB presentations to discuss the impact of the epidemic on Nashville's urban canopy. NPDES also shared a community table with the Zero Waste department where approximately 300 Black-Eyed Susan seed packets were distributed with TNSY information. The Master Gardeners created a display garden featuring TNSY. Because the Lawn and Garden Show has been discontinued, NPDES has plans to find alternative events to reach Nashville residents in FY24.

Photos of the Tree Seedling Booth and the TN Smart Yards Display Garden

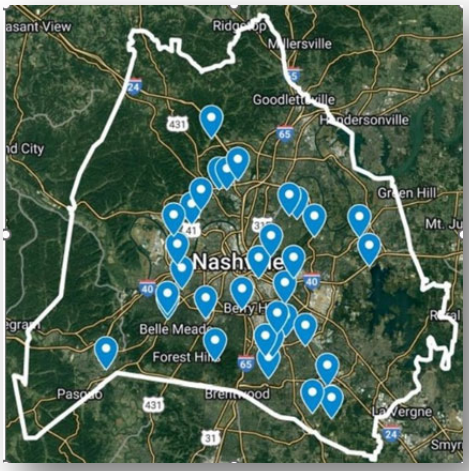
- Social Media Posts
  In FY23, NPDES expanded stormwater messaging on MWS social media platforms. MWS routinely updates Facebook, Twitter, Instagram and NextDoor posts, which has proven to be an effective method in reaching the growing number of our citizens and stakeholders who get most of their news from the various social media platforms. A benefit to using social media to distribute public education messages is that actual audience sizes can be calculated in terms of reach. NPDES has also begun tracking engagement rates (likes, comments, shares, etc.) to distinguish between reach due to passive scrolling versus active engagement, the latter being a better measurement of knowledge gained. Focusing on these trends will help NPDES staff create social media posts that will receive more engagement, which can also cultivate a better sense of community through social media. NPDES staff created posts highlighting the different programs within NPDES (SCM inspections, Urban Forestry, etc.) and multiple social media campaigns that informed the public about pollution prevention tips, events, or workshops offered by NPDES staff. During March 2023, NPDES posted an illicit discharge campaign aimed to teach residents what is considered an illicit discharge, how to avoid illicitly discharging, and how to report water pollution to NPDES. This campaign was chosen due to the large percentage of illicit discharges investigations that begin due to citizen reports. The campaign resulted in 5,383 impressions totaled from 16 posts across 3 platforms. In May 2023, NPDES created a new social media plan to be implemented in FY24 that will allow NPDES staff to reach the target audience more effectively while not inundating followers with posts. Inundation can lead to poor engagement as seen in the illicit discharge campaign that had reduced impressions and engagement compared to non-campaign posts that month. Refer to Section 4 of this document for more examples of stormwater-specific posts during FY23.

	Number of Posts	Reach	Total Engagements	Engagement Rate
Facebook	67	28,478	531	1.86%
Instagram	41	10,496	578	5.51%
Twitter	90	35,473	951	2.68%
NextDoor	7	32,914	77	0.23%
Total	**205**	**107,361**	**2137**	**1.99%**

Table of Metrics from Stormwater Social Media Posts for FY23

Example Social Media Posts

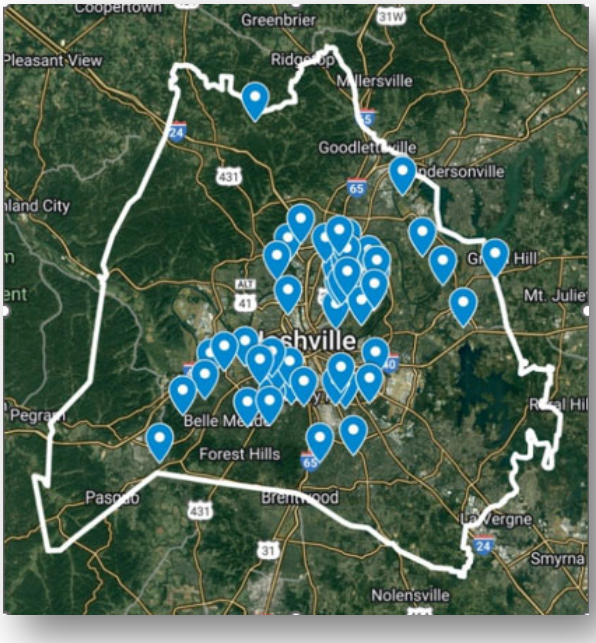
- Metro's Adopt-A-Stream Program
  For many years, MWS has been coordinating with the Cumberland River Compact (CRC) to facilitate the Adopt-A-Stream program. The program provides an opportunity for local businesses, civic groups, watershed associations, churches, schools, etc. to work together in protecting and enhancing the watershed in which they live or work. Stream adoptions last for a period of 2 years, and adopters are required to do at least one stream clean-up per year. During FY23, the CRC signed up or renewed contracts with 5 new and renewing adopters bringing the total number of stream segments adopted to 33 (29.2 adopted miles), and there were 23 stream cleanups or education events in which 329 volunteers collected 218 bags of trash.



Adopt-A-Stream Site Locations in Davidson County and a Photograph of One of the Clean-up Activities during FY23

- Tennessee Smart Yards Program

  In 2021, NPDES adopted/partnered with the community-driven TNSY Program that aims to educate and empower residents to create environmentally friendly landscapes that reduce stormwater runoff, prevent erosion, and enhance habitat for native wildlife. TNSY, a partnership between county stormwater agencies and Extension offices, is a free stormwater pollution prevention program that teaches residents specific actions that they can take at home while providing the MS4 with measurable results such as the number of yards certified or actions taken. NPDES staff presented at multiple workshops on non-point source pollution prevention methods and provided informational materials for residents to assist them in applying these practices to their own yards while also encouraging TNSY participation. Through an analysis of participant quotes, recurring themes relating to the impact of TNSY include increased native plantings, reduced stormwater runoff, improved yard management, awareness and education, and community engagement. A Smart Yard Actions Poll was utilized at several public education events from April 29th to June 27th, 2023, where polltakers indicated how many of the certifiable actions they already take in their yard. This poll was used to show residents how close they are to completing the TNSY certification and to inform NPDES on what barriers prevent certifications. Certified yards in Davidson County receive a free tree from Root Nashville, a free bag of Music City Gold fertilizer, and a free yard sign to raise awareness and inspire neighbors to follow suit. During FY23, 54 yards were certified as TN Smart Yards bringing the total number of certified yards in Davidson County to 132, nearly 25% of certified yards across the state. Refer to Section 4 for a list of the certified yards in FY23, the actions taken by these certified yards, and an analysis of the Smart Yard Actions Poll responses, which includes possible recommendations for FY24.



A Map of TN Smart Yard Certifications in Davidson County during FY23 and an Example Social Media Post Promoting TN Smart Yards.

- School and Youth Education Program

  The NPDES school and youth education program is aimed at exposing residents to stormwater best management practices while they are young to ensure they understand the importance of water quality and critical infrastructure maintained by MWS. NPDES school education programs allow students to experience the stormwater system firsthand. Students are actively engaged by having to explain the stormwater system and propose solutions to stormwater issues. Refer to Section 4 for details regarding summer camps, loaner programs, SCM experiences, recruitment efforts, and facility tours. Some of the highlights from the FY23 school and youth education program are listed below:

  - NPDES partnered with summer camps that include lake/creek activities (Owls Hill, TWIG, and Sail Summer Camps) to teach campers about non-point source pollution using the Enviroscape Models. At the end of the hands-on activity, campers were able to name common sources of pollution and provide recommendations on how residents can reduce pollutants.
  - NPDES implemented a pilot loaner program with the Watershed Game, a collaborative, decision-based activity that helps students understand the relationship between land uses in a watershed, water quality, and their community. Feedback from the pilot program will allow NPDES to expand the loaner program in FY24.
  - Urban Forestry partnered with Inglewood Elementary, Stanford Montessori Elementary, Two Rivers Middle, John Overton High, and McGavock High to host tree plantings that will contribute to the Root Nashville goal of 500,000 trees planted by 2050.
  - By increasing the partnership with the Shelby Bottoms Nature Center, NPDES is able to facilitate hands-on learning via a loaner program with the Enviroscape model in addition to research projects. For example, students from John Overton High's engineering class designed improvements to the Nature Play which included information about the wetlands at Shelby Park.
  - NPDES has increased tours of MWS' facilities including the Whites Creek Wastewater Treatment Plant, the K.R. Harrington Water Treatment Plant, and the Biosolids Facility. These tours allow students to have a better understanding of critical infrastructure as well

as give insight to potential careers with MWS. NPDES also facilitates job shadowing and classroom career programs to aid in recruitment of future MWS employees.

Photos of a Hydrant-Flushing Demonstration for Job Shadow Students and Tree Planting at Inglewood Elementary

NPDES Watershed Group Accomplishments.

Watershed StoryMap Website:
In previous years, a watershed management website (StoryMap) was created to inform the public of the many MWS programs that are in place to protect Metro's watersheds as well as data that is specific to each watershed. During FY23, the website was accessed 549 times.

Urban Waters Report Card Development:
MWS has been working in conjunction with other Tennessee MS4s and the Tennessee Water Resources Research Center (TNWRRC) on the development of the Urban Waters Report Card. The Urban Waters Report Card will have a scoring system that evaluates streams in four categories: Water Quality, Hydrology, Stream Corridor and Community Values. This grading system will enable improved prioritization of stream restoration projects as well as better illustrating improvements in water quality over time. Collaborators are currently in the beta-testing phase of the project and are working to finalize the SOPs for each score in FY24.

Macroinvertebrate Field QC with TDEC Staff
On October 19th, 2022. Watershed Group members Mary Bruce and Veronica Logue met with Joel Worsham (TDEC field biologist) in Manskers Creek for the purpose of reviewing quality assurance/quality control (QA/QC) measures of NPDES field sampling procedures. He observed a habitat assessment and chemical sample collection and, ultimately, approved of NPDES sampling protocols.

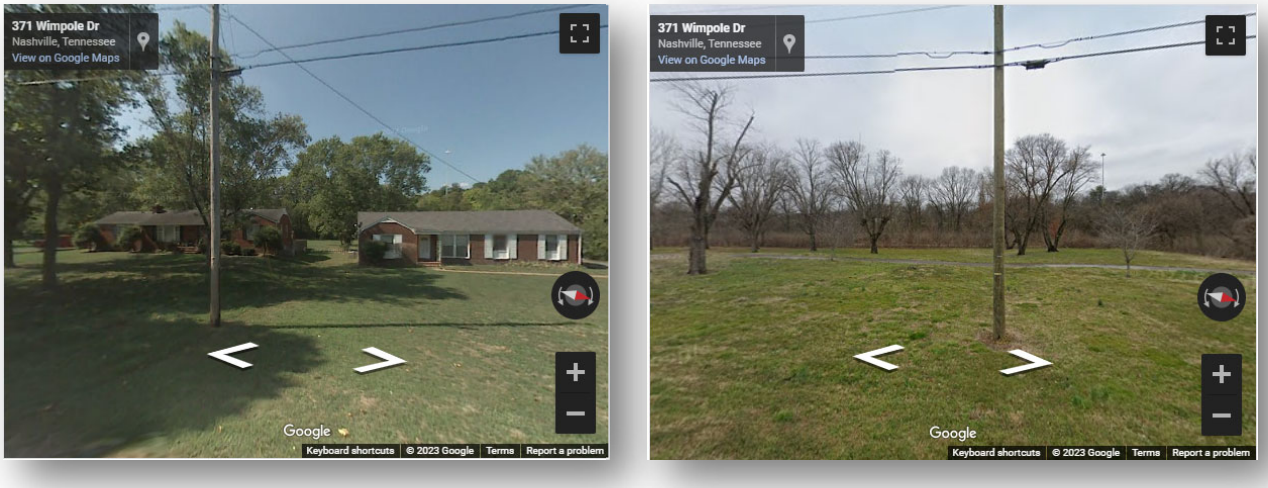
Trash trap on Sevenmile Creek

The NPDES Watershed Group worked in partnership with the CRC to install a trash trap in Sevenmile Creek on a MWS FEMA floodplain buyout property. As a result, CRC staff were able to remove approximately 64 bags of trash and recycling from the trap in FY23. In future years, NPDES anticipates deployment of an additional trash trap in North Fork Ewing Creek segment. .

Photos of the Trash Trap Located on Sevenmile Creek

Floodplain Buyout Properties

The MWS Stormwater Division has been participating in the Federal Emergency Management Agency (FEMA) home buyout program for more than 24 years to restore floodplain storage and riparian habitat in various watersheds within Metro. Since MWS began participating in the home buyout program, Metro has purchased over 494 floodplain properties (over 230 acres) in which structures and other impervious surfaces such as driveways have been removed. In FY23, MWS staff coordinated the purchasing and/or home removal of 9 floodplain properties. For most of the restored floodplain parcels, Metro has ceased mowing areas directly adjacent to streams, allowing riparian buffers to naturally reestablish. MWS Stormwater has also coordinated the plantings of hundreds of native trees and shrubs within many of these floodplain properties. Many of the buyout sites are adjoining parcels within the same floodplain, resulting in the restoration of large continuous tracks of riparian floodplain. Some of these floodplain properties also provide recreational value to local neighborhoods as they are now managed and protected by the Metro's Parks Department.



Google Streetview Photos of a Floodplain Buyout Property from 2008 and Current Day

Watershed Improvement Fund

One of the most proactive elements of Nashville's MS4 permit compliance programs is the implementation of the Watershed Improvement Fund (WIF), which is a dedication of certain stormwater user fee funds to implement projects that are specifically designed to improve the quality of stormwater runoff in various watersheds.

In previous permit years, Metro Nashville completed the following large-scale water quality projects:

- Pitts Dog Park Bioretention Basin - This basin is specifically designed to capture as much runoff as possible to reduce the elevated levels of *E. coli* and nutrients discharging into nearby Sorghum Branch, which is listed as being impaired for pathogens on the Tennessee 303(d) list. After construction was completed, NPDES purchased ADS ECHO flow monitoring devices and placed them in upstream and downstream junction boxes to measure the success of runoff captured/contained. NPDES will include a summary of the monitoring data in FY24.

Photographs of the Pitts Park Bioretention Basin During and After Construction

- Whites Creek Bank Stabilization – NPDES worked with a local landowner and the National Resources Conservation Services (NRCS) Emergency Watershed Protection program (EWP) to receive partial reimbursement grant funding to stabilize approximately 100 linear feet of Whites Creek that was suffering from severe erosion that threatened a MWS Sanitary Sewer main.

Photographs of the Whites Creek Bank Stabilization Project Before and After Construction

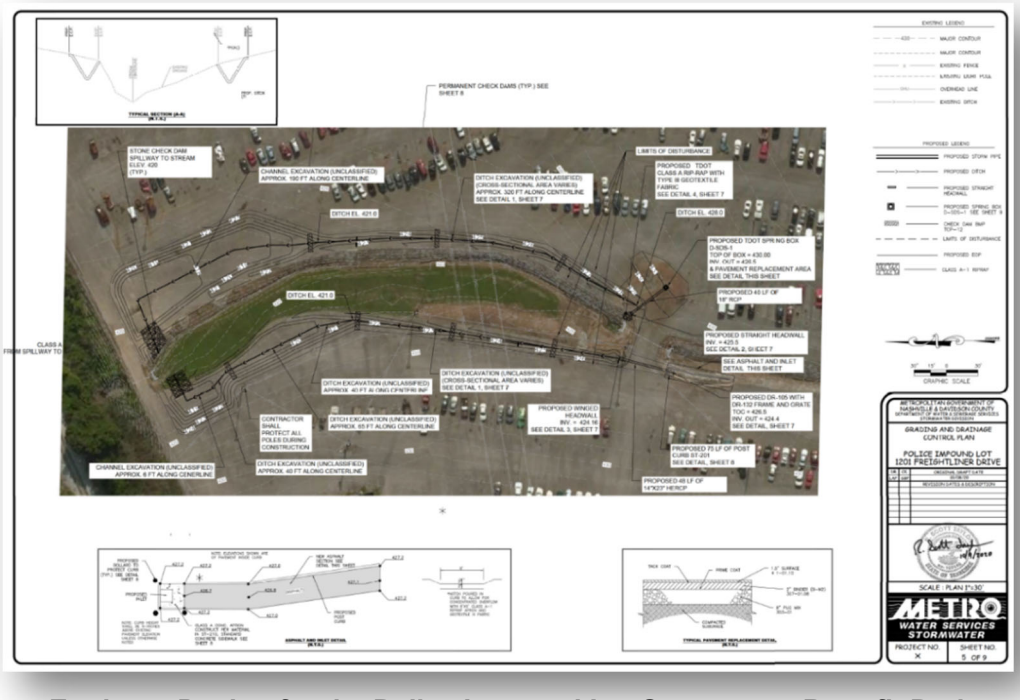
- Manskers Creek Bank Stabilization – NPDES also completed a bank stabilization project on approximately 320 linear feet of Manskers Creek along the northern boundary of Davidson County. The project also involved partial reimbursement through the NRCS EWP and Tennessee Department of Agriculture (TDA) 319 program. The project involved the utilization of an innovative engineering articulated concrete project that provided hard armoring, while allowing vegetation to establish along the bank.

Photographs of the Manskers Creek Bank Stabilization Project Before and After Construction

- Edwin Warner Riparian Buffer Restoration – NPDES coordinated with the Metro Nashville Parks and Recreation Department (MNPR) to remove several thousand square feet of impervious surfaces (picnic pavilions and associated parking areas) situated in the floodway for the Little Harpeth River. NPDES funded the removal of the impervious structures in FY22, which was the first phase of a larger project. The second phase of restoring the riparian buffer to the Little Harpeth River was completed in FY23 by MNPR, through a collaborative effort with the Friends of Warner Park and the Cumberland River Compact.

Photographs of the Tree Plantings in the Riparian Buffer Restoration Project at Edwin Warner

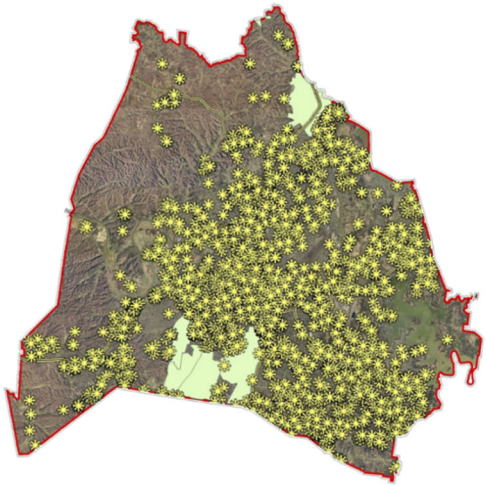
In FY23, NPDES performed necessary pre-project coordination for the large Police Impound Lot Stormwater Retrofit Project. In the previous year (FY22), NPDES was notified that the project may qualify for Environmental Protection Agency (EPA) 66.447 Sewer Overflow and Stormwater Reuse Municipal Grant Program. In FY23, MWS continued coordination with TDEC and formally applied for funding reimbursement through this grant program. MWS worked closely with TDEC to get an approved contract during FY23, which involved updating contractor bid requirements to grant standards and passing the approved contract through Metro Council. At the time this report was prepared, MWS was working to finalize all accounting approvals per the TDEC grant contract. The project is expected to be fully constructed by the end of FY24.



Engineer Design for the Police Impound Lot Stormwater Retrofit Project

<u>Stormwater Control Measure Inspection and Maintenance Compliance Program:</u>

At the time this report was compiled, Nashville had inventoried 7,229 post-construction stormwater control measure structures (SCMs) that have been built to treat stormwater runoff from the developed environment as required by grading permit regulations. These structures include older dry detention ponds, wet retention ponds, water quality vaults, and the relatively new "green features", such as bioretention basins, infiltration trenches, and pervious pavement. NPDES began expanding its program personnel to devote more resources to SCM inspection services in 2017. NPDES's current work plan includes three personnel dedicated to inspecting SCMs and coordinating with property owners to ensure these structures are being properly maintained in addition to one supervisor that oversees the work done by the inspectors and coordinates with Metro/Non-Metro entities to advance the SCM oversight program. NPDES also has one administrative staffer receiving and documenting owner-submitted annual maintenance reports. In FY23, NPDES began the second cycle of proactive SCM inspections under the expanded program. This second cycle focuses first on priority sites that have not been inspected since the project has been completely constructed or have not been inspected by Metro within the last 5 years. After the priority sites are inspected, NPDES plans to reinspect all other sites that were inspected during the first cycle.



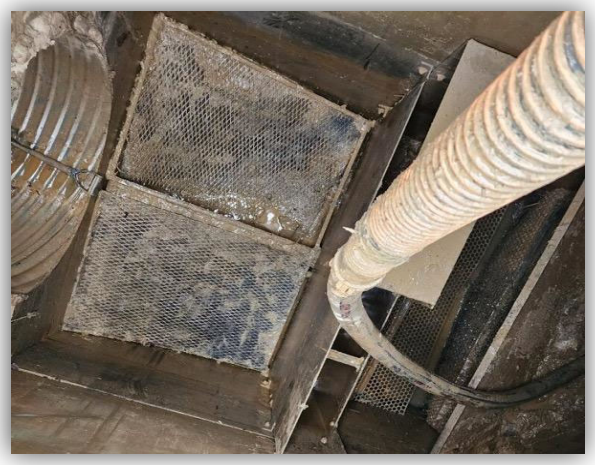
Map of the 7,229 Regulated SCMs within Davidson County

During the first year of the second cycle of the expanded NPDES SCM oversight program, NPDES performed inspections and/or re-inspections of nearly 2,109 SCM structures. NPDES received an additional 136 owner-submitted annual inspection reports, which has dramatically increased from previous years. As a result of the inspection findings, NPDES issued 596 notices to property owners informing them of neglected maintenance needs. While some notices are in verbal or email form, the majority of the 596 notices issued were detailed letters that include inspection findings, a copy of the engineering plans/maintenance agreements, and photographs of the compliance issues. During FY23, four enforcement notices were issued when SCMs were discovered to have been intentionally altered or when SCMs were found to be non-functional with property owners failing to respond to the initial notification letters. In addition to inspecting all the privately-owned SCMs, NPDES continues to inspect all the Metro-owned SCMs once a year between January and March. NPDES used to rely on other Metro Departments to inspect their own SCMs for maintenance needs, which was determined to be an inconsistent and inefficient process. NPDES now inspects over 309 grading permit-installed SCMs on Metro properties once a year and coordinates with each department on the maintenance needs with a focus on getting the major listed SCMs on Metro properties into compliance. Since NPDES expanded the SCM oversight program in 2017, the list of private companies that specialize in SCM inspection and maintenance in the Metro area has grown from 18 to over 30, which has allowed our increased notifications to properties requiring SCM maintenance actions to be more easily resolved.

NPDES continues to grow the expanded SCM oversight program to ensure SCMs are maintained and operating efficiently to sustain/improve water quality within Davidson County. Some of measures being undertaken in FY24 include the following:

- Improvements to the Notice of Inspection report that should hold sites more accountable for performing maintenance on their SCMs.
- Development of an inspection/enforcement policy for buffer zone regulations.
- Coordination with Development Services staff to ensure sites are able to maintain SCM compliance and are aware of the structures on their properties.
- Research how to inspect and maintain filter/media water quality units correctly and efficiently.

Each year, NPDES coordination with property owners on SCM inspection and maintenance requirements results in hundreds of previously un-maintained SCMs being restored to functional structures. Some of the successful SCM rehabilitations in FY23 are shown in the photos below:



Photographs of SCMs Before and After Maintenance as a Result of NPDES Coordination

Urban Forestry Program and Soil and Water Conservation Programs within Stormwater

In 2018, Metro Nashville launched Root Nashville, a campaign to plant 500,000 trees by 2050. Root Nashville is a public-private partnership between the City of Nashville and the Cumberland River Compact, a local water quality-based non-profit that manages the daily operations of the campaign. To date, over 36,000 trees have been planted and counted towards the campaign. In order to help meet Root Nashville's goals and improve the management of Nashville's urban forest, the mayor placed the responsibility for the coordination of urban forestry efforts within the Metro Water Services, Stormwater NPDES Section. The responsibilities of this program involve overseeing a street tree inventory and interdepartmental tree meetings, managing the Emerald Ash Borer response, assisting Metro Council with tree legislation, and helping Metro lead by example in tree planting and management on their own properties.

Metro Water's urban forestry staff added an arborist in 2020, a horticulturalist in 2021, and two additional arborists in 2022. They planted over 1,500 trees in FY23 and are planning plantings in the right-of-way (ROW) and at Metro schools this fiscal year. The cyclical maintenance cycle that began last year for ROW trees was expanded this year. Over 850 trees were pruned and/or fertilized in FY23. Metro's Water's urban forestry group is concentrating on street trees to help mitigate stormwater runoff from Nashville's streets and sidewalks. NPDES is planning to expand their urban forestry efforts and capacity over the next few years to increase the benefits provided by Nashville's trees.

Davidson County Soil and Water Conservation

The Davidson County Soil and Water Conservation District was established in 1946 as a subdivision of the state government. The mission of the Davidson County Soil and Water Conservation District has been to provide conservation planning, education, information, and technical assistance to landowners, groups, and units of government, so they can enhance and benefit from the proper management of our natural resources. In 2018, this program was moved to the MWS Stormwater NPDES Office due to the common goals of the programs and operational efficiencies.

The Soil and Water Conservation Program is complimentary to the NPDES program as they perform various functions such as educating local landowners on soil and water conservation practices including livestock management processes that reduce impacts to water resources and local watersheds from certain landowner farming activities. In addition, the program also provides technical assistance to landowners on conservation techniques, specifically by offering cost share funds allocated from Tennessee Department of Agriculture and USDA/NRCS for best management practices for Davidson County Watersheds. The Conservation programs reduce soil erosion, enhance water supply, improve water quality, increase wildlife habitat, and reduce damages caused by floods and other natural disasters. This program is unique in that it promotes the installation of best management practices that can directly benefit water quality runoff from private property.

This realignment of departments paid dividends, as the Soil and Water Conservation Program identified the potential for the NPDES program to qualify some of the WIF projects for NRCS EWP funding when critical infrastructure is being protected. As mentioned earlier, NPDES utilized this new knowledge to implement the design and construction coordination on two streambank stabilization projects on Whites Creek and Manskers Creek. By seeking partial reimbursement of funds, NPDES will be able to leverage more of the WIF funds toward other water quality improvement projects.

Water Quality Improvement Project (WQIP) Cooperation with the Cumberland River Compact:

In 2020, MWS entered into a new cooperative agreement with the non-profit organization Cumberland River Compact (CRC) to perform a variety of water quality improvement projects throughout various Metro sub-watersheds. This relationship with CRC started ten years ago when MWS entered into an agreement with them to assist in performing Supplemental Environmental Projects as required from the EPA Consent Decree for MWS' sanitary sewer collections system. MWS has extended this agreement even after the consent decree SEP as it has been identified as having a huge benefit for water quality.

The WQIP agreement gives MWS the ability to leverage work being performed on private land to improve water quality and provides for even more engagement and education opportunities for Nashville citizens in water stewardship activities. With MWS' commitment of $375,000 in funding, the following bullets include just some of the deliverables that will be accomplished each year of the 5-year agreement:

- 1,500 trees planted on floodplain buyout properties.
- Converting approximately 4,000 square feet of turf to stormwater infiltration zones
- Planting 500 trees in Davidson County in support of the Root Nashville Program
- Conducting one neighborhood de-paving project to promote stormwater infiltration.
- Constructing 10 rain garden builds
- Stabilize 50 linear feet of stream banks per year.
- Reach over 2,000 citizens with direct education on water quality and green infrastructure.

Specific WQIP accomplishments to-date can be found in Section 4 of this document.

1.3.2 Other Metro Department Activities:

In addition to MWS Stormwater Division activities, many other Metro Departments perform critical roles in promoting improved stormwater quality runoff throughout Metro government.

Metro Parks and Recreation Department

Metro Nashville Parks and Recreation Department (MNPR) has been a key player in improving stormwater runoff and riparian habitat on Metro properties. Below are some of the major MNPR activities that have either been performed or are planned that serve to improve the quality of stormwater runoff:

Environmental Education Programs - Metro Parks Nature Centers have a direct and valuable positive impact on water quality and conservation through its environmental education programs, interpretive exhibits, green facilities, and watershed protection. It is estimated that as many as 600 visitors participated in water-themed volunteer projects, field trips, etc. at the Nature Centers. In addition, more than an estimated 200,000 park visitors were exposed to water resources education through educational exhibits at the four Metro Parks nature centers. Each of these nature centers also feature amenities that conserve water resources and provide passive education opportunities to visitors. These include green roofs, water chains, rain barrels, teaching ponds, stream bank restoration areas, pervious paving materials, rain gardens and cisterns.

Parks Land Conservation - The majority of Parks and Recreation Department's 14,000 plus acres and over 60 miles of greenway corridor have continued to be maintained in a natural condition, providing vitally important protections to our watersheds, including many critical headwater streams. Each year MNPR plants many trees on a variety of parks properties. In FY23, Parks worked to convert many previously-mowed areas to no-mow zones that will allow increased stormwater treatment on many acres of Parks-owned lands.

Nashville Planning Department:

Nashville's Planning Department focuses on sustainable development as described in the Community Character Manual, which encourages sustainable development and preservation in Nashville/Davidson County's fourteen community plans that guide future land use entitlements and infrastructure decisions. A foundational principle of the Community Character Manual is the commitment to create sustainable communities through sustainable development. Key strategies include actions to address each property's unique location and geographic features, while avoiding sensitive environmental features. This benefits the community by protecting water quality as well as reducing the impact of development on surrounding infrastructure and the community through the use of best practices in stormwater and wastewater management. In addition, the Community Character Manual includes objectives of the EPA and Metro Nashville's Stormwater Management Program, such as incorporating green infrastructure, protecting steep slopes and headwater areas, minimizing and/or recovering floodplain loss, and

retaining or re-creating natural stream buffers. The Community Character Manual also includes a section of general principles which highlights the importance of minimizing the impact of development on the natural environment, especially air and water quality, and of integrating green space in developments for preservation, recreation, and healthy lifestyles.

In 2015, the Planning Department completed the city's update to Nashville's General Plan, which was created with city-wide community involvement and input. The process is referred to as NashvilleNext and is the vision and priorities for Nashville/Davidson County for the next 25 years. NashvilleNext includes a Growth & Preservation Concept Map that encourages additional development along the city's corridors and in mixed use centers, while preserving rural areas and areas of sensitive natural features.

One of the four foundations of the plan is a healthy environment. In addition, one of the seven principles in NashvilleNext is to champion the environment. NashvilleNext discusses the importance of how we as a city:

- Build a community founded on land and water conservation, preservation of sensitive environmental conditions, and sustainable development practices.
- Promote efficient transportation and well-designed neighborhoods to achieve healthy living, preserve the natural environment, and encourage resiliency and safety in the face of natural and manmade disasters.
- Sustain the ecological function, resource value, and character of sensitive environmental and rural lands.
- Bring nature into the city through parks, greenways, a healthy urban forest, and clean streams, creeks, and rivers.
- Leave future generations an environment that is healthier than today's.

On a day-to-day basis, having quality natural areas betters the quality of life for people, plants, and animals. Nashville's current and projected population growth could degrade the current quality of life and jeopardize Nashville's natural and built environment. In addition to the pressure of sheer growth, demographic changes—such as the growth of Baby Boomer and Millennials seeking more compact, walkable communities and the increase of single-person households and different household composition—will also drive new locations and forms of development in our communities. A renewed emphasis on public outreach, education, and personal responsibility will activate new stewardship to conserve energy, eliminate and reduce waste, preserve land, build high-performance buildings, and create a culture of sustainability. Meanwhile, public policies, incentives, and private decision-making must provide a clear direction on what to preserve and how to build and grow our city in a more sustainable fashion than we do today. This will enable us to secure the best Nashville for current and future generations.

NashvilleNext contains seven plan elements. Nashville/Davidson County's natural resources area discussed in three elements—Natural Resources & Hazard Adaptation; Health, Livability & the Built Environment; and Land Use, Transportation & Infrastructure. Each element discusses goals, policies, and actions that guide Nashville's future. Relevant element goals, policies, and actions include to:

- Conserve natural resources in order to mitigate floods and other natural hazards, ensure clean air and water, raise food locally, provide outdoor recreation, and preserve Nashville's culture and character.
- Invest in and increase Nashville's natural environment for beauty, biodiversity, recreation, food production, resiliency, and response to climate change through mitigation and adaptation strategies.
- Preserve Nashville's existing tree canopy, including urban trees, street trees, groves of mature trees, and larger tracts of forested lands.
- Enjoy (all communities) equally high levels of environmental protection, equitable access to nature, and opportunities to improve their health and quality of life.

- Conserve and efficiently use land, energy, water, and resources while reducing waste and pollution.
- Establish a wide-ranging green education campaign that focuses on the "why" and "how" for water conservation, energy efficiency and reductions, recycling and waste reduction, natural resources preservation, and outdoor activity.
- Ensure all communities have access to parks, green areas, cultural amenities, and recreation opportunities that support mental and physical well-being.
- Optimize sewer, water, stormwater, and other infrastructure within Nashville's centers and corridors to prepare for or coordinate with redevelopment. Use green infrastructure to reduce the need for upgrades and to improve streetscapes.
- Reduce the impact of construction on surrounding infrastructure and community through use of best practices in stormwater management, wastewater management, and reducing heat island effect and light pollution.
- Expand programs and institute more complete regulations to protect Nashville's sensitive environmental resources.

In 2021, the Planning Department began work on revisioning Second Avenue after the Christmas Day 2020 bombing as well as a visioning plan for the East Bank. Both areas are adjacent to the Cumberland River as it flows through Downtown Nashville. In previous decades, the Cumberland River has not been activated and incorporated into the city's vitality as it should be. Central to both these studies is activating our riverfront and highlighting the river, not only for the water functions it provides but also as an important component of our city's fabric and cultural resource, including stormwater absorption, green space, parks, greenways, and mobility options in crossing. In 2023, both Second Avenue and East Bank are in the implementation phase of coordinated development to bring the community visions to life.

The Planning Department continues its collaboration with Metro Parks and Greenways and the Land Trust for Tennessee by identifying properties that would be good additions to Nashville's open space network. This includes properties that are important to preserve for headwater areas, wildlife habitat, and water management in flood-prone areas.

The Planning Department meets on a daily basis with property owners and development professionals to discuss property ideas and projects. Potential projects affect watersheds, drainage and absorption patterns, and our city's numerous waterways. Planning staff discuss the importance of preserving sensitive environmental features and working within the natural features of each site and regarding them as community amenities, including features such as waterways, wet weather conveyances, drainage patterns, steep slopes, woodlands, riparian habitat, and mature trees. Where appropriate, Planning staff direct property owners and development professionals to continue those discussions with Metro Water Services and the Stormwater Division for additional guidance and ideas.

MWS Engineering Division (Clean Water Nashville)

The MWS Engineering Division and the Clean Water Nashville (CWN) program oversees the overall functionality of the sanitary sewer systems and have worked diligently to minimize the volume of unintentional discharges of sanitary sewer overflow material to the MS4 and community waterways. MWS has dramatically increased its involvement on projects to reduce overflows from both the Combined Sewer System (CSS) and the Separate Sewer System (SSS) over the last 14 years. In previous years, the Mayor and Council approved a sewer fee rate increase, which increased the funding to implement future large projects to keep up with the unprecedented population growth, while reducing the potential for sanitary sewer overflows. Table 3 lists the major projects completed by the MWS Overflow Abatement Program (OAP), which serves to greatly reduce discharges of sanitary waste to the MS4 or area streams. Table 4 provides a list of future projects that are planned to be completed in future reporting years depending on funding availability. There were many projects planned and designed in FY23, and construction is expected to begin on many of those projects in FY24.

Table 3 – MWS Engineering Projects Constructed to Reduce Sanitary Overflows

Type of Projects	# of Projects	Miles of Sanitary Lines	Money Spent	Watersheds Where Work was Performed
Sewer Rehabilitation Projects in FY 2023	12	31.47	$34,700,000	Browns Creek, Cooper Creek, Cumberland River, Davidson Branch, Dry Creek, Ewin Branch, Mill Creek, Percy Priest, Richland Creek, Sevenmile Creek, Stoner Creek, Stones River, Sugartree Creek, Vaughn's Gap Branch
Pump Station and Equalization Projects in FY 2023	2	N/A	$19,500,000	Cumberland River, Davidson Branch, Gibson Creek
Sewer Line Replacements in FY 2023	3	1.72	$10,000,000	Cumberland River, Hurricane Creek
Total Other Sanitary Sewer Upgrade Projects Completed in FY2023	5	13.37	$9,200,000	Cooper Creek, Cumberland River, Dry Creek, Gibson Creek

Table 4 – Future MWS Engineering Projects to Reduce Sanitary Overflows

Type of Projects	Miles of Sanitary Lines	Money Spent	Watersheds Where Work was Performed
Central Wastewater Treatment Plant - Capacity Improvements and CSO Reduction: The design process for improvements to the CWWTP for Optimization, CSO reduction, and other improvements began with the selection of two teams for Planning and Design and engagement of a Construction Manager at Risk. Design began in June 2017 and concluded in FY 2020. Construction began in July 2020 and will conclude in late FY2024.	N/A	$360M	Cumberland River
Annual Rehabilitation - Bordeaux and Metro Center: This project was developed to renew aging sewer infrastructure and address overflows by reducing the amount of rainfall that can enter the system through defects. Construction is anticipated to begin in FY2024.	4 miles	$8.4M	Cumberland River
Dry Creek Area Pump Station Improvements: This project was developed to upgrade five pump stations in the Dry Creek system to address overflows by increasing system capacity. Design will continue through FY2024, with staggered construction start dates.	N/A	$55.5M	Cumberland River, Loves Branch
Henry Ford Rehabilitation: This project was developed to renew aging sewer infrastructure and address overflows by reducing the amount of rainfall that can enter the system through defects. Construction is anticipated to begin in FY2024.	9.3 miles	$15.0M	Sandy Creek
Mill Creek - Collins Creek Rehabilitation - Area 1: This project was developed to renew aging sewer infrastructure and address downstream overflows by reducing the amount of rainfall that can enter the system through defects. Construction is anticipated to begin in FY2024.	3.6 miles	$7.4M	Collins Creek, Mill Creek
Mill Creek - Collins Creek Rehabilitation - Area 2: This project was developed to renew aging sewer infrastructure and address downstream overflows by reducing the amount of rainfall that can enter the system through defects. Construction is anticipated to begin in FY2024.	1.5 miles	$8.8M	Collins Creek, Mill Creek
Rowan Cravath Rehabilitation: This project was developed to renew aging sewer infrastructure and address downstream overflows by reducing the amount of rainfall that can enter the system through defects. Construction is anticipated to begin in FY2024.	8.5 miles	$11M	Whites Creek
Rowan Cravath Gravity Sewer Upsizing: This project was developed to increase the capacity of undersized aging sewer infrastructure that currently contributes a nearby overflow. Construction is anticipated to begin in FY2024.	0.6 miles	$4.7M	Whites Creek
Town Village Pump Station Upgrades: This project was developed to upgrade the Town Village pump station to address overflows by increasing system capacity. Design will continue through FY2024 with construction being following easement acquisition.	N/A	$5.5M	Percy Priest
Wallace Lane Rehabilitation: This project was developed to renew aging sewer infrastructure and address downstream overflows by reducing the amount of rainfall that can enter the system through defects. Construction is anticipated to begin in FY2024.	10 miles	$8.9M	Sugartree Creek

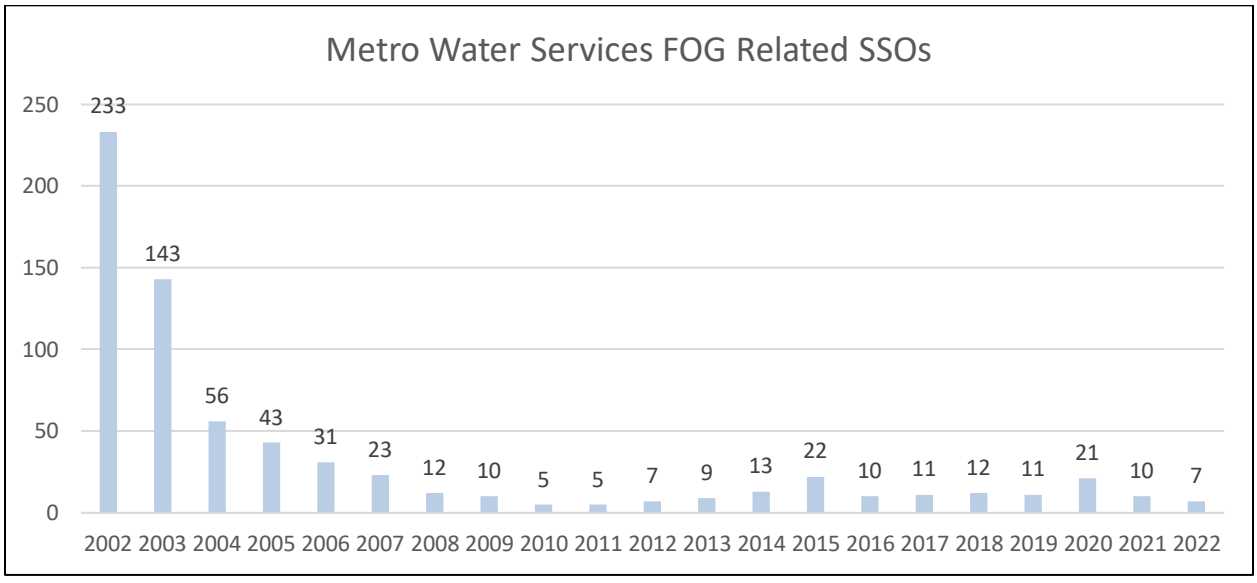
MWS System Services Division

The Metro Water Services System Services Division (SSD) and its contractors continue to inspect and clean sewers to assess conditions and prevent potential overflows. In FY23, SSD and contractors inspected with Closed Circuit TV (CCTV) approximately 821,467 linear feet and cleaned approximately 396,934 linear feet of Metro sewer line. During FY23, SSD continuously reviewed information from CCTV sewer inspection reports that indicated sewer problems with grease or roots. In some instances, letters were sent out to notify customers of roots or grease in their private service lines or main lines and recommend corrective actions to prevent private sewer overflows. The estimated/reported MWS sewer overflows for FY23 are depicted in Table 7H.5 within Section 3 of this report.

MWS Environmental Compliance Section

The MWS Environmental Compliance Section proactively inspects grease control equipment at food service establishments to ensure they are being maintained appropriately and functioning to prevent Fats, Oils, and Grease (FOG) from discharging to the sanitary sewer system. In the calendar year of 2022, MWS issued 129 Noncompliance Notifications (NCNs), to food service establishments for a variety of discovered failures in the grease control equipment that, if left uncorrected, could cause Sanitary Sewer Overflows (SSOs) to the MS4.

When FOG is identified as the primary cause of an SSO, Metro Water Services responds by investigating the possible FOG sources and issuing enforcement action notifications as necessary to prevent any future SSO events. For the year 2022, there were 23 SSOs identified as FOG related in which MWS Environmental Compliance performed follow-up coordination and education with the facilities or residences that could have been possible contributors. From the follow-up investigations, only 7 of the SSOs were confirmed to be caused by FOG. In 2022, there were 1,103 FOG educational handouts distributed. Metro Water Services Environmental Compliance personnel, or their FOG program contractor, meet with apartment, condominium, or duplex managers or owners regarding any FOG blockages and SSO problems that occur downstream from their facilities. In addition, MWS Environmental Compliance alerts MWS NPDES staff when issues are found during inspections that may be resulting in impacts to stormwater runoff. As a result of MWS Environmental Compliance efforts, FOG caused SSOs have been dramatically reduced over the years.



2.0 MS4 Program Annual Report Form Required By TDEC

Tennessee Department of Environment and Conservation
Division of Water Pollution Control
Enforcement and Compliance Section
L&C Annex, 6th Floor, 401 Church Street
Nashville, TN 37243
TNS068047
Municipal Separate Storm Sewer System (MS4) Annual Report

1. MS4 Information

Nashville/Davidson County Municipal Separate Storm Sewer System (No. TNS068047)
Name of MS4

Michael Hunt/Josh Hayes
Name of Contact Person

615-880-2420
Telephone (including area code)

1607 County Hospital Rd
Mailing Address

Nashville	TN	37218
City	**State**	**ZIP code**

What is the current population of your MS4? *Approximately 700,000*

What is the reporting period for this annual report? *The reporting period for this Annual report is from 07/01/2022 to 06/30/2023, which is the 12th reporting period under the current permit. This Annual Report coincides with Metro's Fiscal Year 2023 (FY23) activities. This annual report period took place after the permit's expiration date, which has been administratively extended for Metro to continue to perform all MS4 Permit activities detailed within the permit.*

2. Protection of State or Federally Listed Species

A. Do any of the MS4 discharges or discharge-related activities likely jeopardize state or federally listed species ☐ Yes **X** No

B. Please attach the determination of the effect of the MS4 discharges on state or federally listed species per subpart *Endangered Species Assessment included in Attachment A.*

3. Water Quality Priorities

A. Does your MS4 discharge to waters listed as impaired on your state 303(d) list? **X** Yes ☐ No

B. If yes, identify each impaired water, the impairment(s), whether a TMDL has been approved by EPA for each, and whether the TMDL identifies your MS4 as a source of the impairment *(See below Checklist). The below list represents the approved 2023 list.*

Impaired Water	Impairment	Approved TMDL	MS4 Assigned to WLA
East Fork Hamilton Creek (TN05130203-539-1000)	Habitat Alteration, Alteration in stream-side or littoral veg. cover, Siltation	Yes X No	Yes X No
West Fork Hamilton Creek (TN05130203-539-1000)	Habitat Alteration, Siltation	Yes X No	Yes X No
Suggs Creek (TN05130203-232-1000)	Siltation, Nutrients	Yes X No	Yes X No
McCrory Creek (TN05130203-001-0150)	Alteration in stream-side or littoral veg. cover, Nitrite+Nitrate	X Yes No	X Yes No
McCrory Creek (TN05130203-001-0100)	*E. coli*, Alteration in stream-side or littoral veg. cover, Nitrite+Nitrate, Siltation	X Yes No	X Yes No
Unnamed Trib. to Stoners Creek (TN05130203-035-0400)	Siltation	X Yes No	X Yes No
Stoners Creek (TN05130203-035-1000)	*E. coli*, Siltation	X Yes No	X Yes No
Stoners Creek (TN05130203-035-2000)	*E. coli*	Yes X No	Yes X No
Stones River (TN05130203001-1000)	Low DO, Odor, Sulfides, Flow Alteration	X Yes No	X Yes No
Scotts Creek (TN051302 03-035-0100)	E.coli, Total Phosphorus, Nitrate+Nitrite, Siltation	Yes X No	Yes X No
Dry Fork Creek (TN05130203-035-0300)	Siltation	Yes X No	Yes X No
West Branch Hurricane Creek (TN05130203-036-0200)	Nutrients, Siltation	X Yes No	X Yes No
Hurricane Creek (TN05130203-036-0100)	*E. coli*, Siltation, Nutrients,	X Yes No	X Yes No
Mill Creek (TN05130202-007-5000)	Siltation, Total Phosphorus, Low DO	Yes X No	Yes X No
Pavillion Branch (TN05130202007-1500)	*E. coli*	X Yes No	X Yes No
Holt Creek (TN05130202-007-1100)	*E. coli*, Nitrate+Nitrite, Total Phosphorus	Yes X No	Yes X No

Impaired Water	Impairment	Approved TMDL	MS4 Assigned to WLA
Owl Creek (TN05130202-007-0900)	Alteration in stream-side or littoral veg. cover, Total Phosphorus	Yes X No	Yes X No
Indian Creek (TN05130202-007-0800)	*E. coli*, Total Phosphorus, Siltation	Yes X No	Yes X No
Turkey Creek (TN05130202-007-0700)	*E.coli*	Yes X No	Yes X No
Collins Creek (TN05130202-007-0600)	Alteration in stream-side or littoral veg. cover, Siltation	Yes X No	Yes X No
Whittemore Branch (TN05130202-007-1200)	*E. coli*, Habitat Alteration	Yes X No	Yes X No
Mill Creek (TN05130202-007-3000)	Siltation, Total Phosphorus, Low DO, *E. coli*	Yes X No	Yes X No
Sorghum Branch (TN05130202-007-1300)	Habitat Alteration, Siltation, *E. coli*	Yes X No	Yes X No
Cathy Jo (TN05130202-007-1490)	*E. coli*, Nitrate+Nitrite, Total Phosphorus, Other Anthropogenic substrate alterations, Siltation	Yes X No	Yes X No
Shasta Branch (TN05130202-007-1410)	*E. coli*	X Yes No	X Yes No
Sevenmile Creek (TN05130202-007-1450)	*E. coli*, Total Phosphorus, Nitrite+Nitrate	X Yes No	X Yes No
Sevenmile Creek (TN05130202-007-1400)	*E. coli*, Other Anthropogenic Habitat Alteration, Total Phosphorus, Nitrite+Nitrate, Low DO	X Yes No	X Yes No
Finley Branch (TN05130202-007-0300)	*E. coli*, Other Anthropogenic Habitat Alteration, Total Phosphorus	X Yes No	X Yes No

Impaired Water	Impairment	Approved TMDL	MS4 Assigned to WLA
Mill Creek (TN05130202-007-2000)	Siltation, Total Phosphorus, Low DO, *E. coli*	Yes X No	Yes X No
Sims Branch (TN05130202-007-0150)	Other Anthropogenic Habitat Alteration, Low DO, Propylene Glycol	Yes X No	Yes X No
Sims Branch (TN05130202-007-0100)	*E. coli*, Other Anthropogenic Habitat Alteration, Total Phosphorus, Low DO	X Yes No	X Yes No
Mill Creek (TN05130202-007-1000)	*E. coli*, Siltation, Total Phosphorus, Low DO	Yes X No	Yes X No
Manskers Creek (TN05130202-220-2000)	*E. coli*, Siltation, Low DO	X Yes No	X Yes No
Lumsley Fork (TN05130202-220-0100)	*E. coli*	X Yes No	X Yes No
Manskers Creek (TN05130202-220-1000)	*E. coli*, Siltation	X Yes No	X Yes No
Unnamed Trib. to Walkers Creek (TN05130202-220-1000)	Flow Alteration	X Yes No	X Yes No
West Fork Browns Creek (TN05130202-023-0300)	*E. coli*, Total Phosphorus, Nitrite+Nitrate, Other Anthropogenic Habitat Alterations	X Yes No	X Yes No
Middle Fork Browns Creek (TN05130202-023-0200)	*E. coli*, Other Anthropogenic Habitat Alterations, Total Phosphorus, Nitrite+Nitrate	X Yes No	X Yes No
East Fork Browns Creek (TN05130202-023-0100)	*E. coli*, Other Anthropogenic Habitat Alterations, Total Phosphorus, Nitrite+Nitrate, Oil & Grease	X Yes No	X Yes No

Impaired Water	Impairment	Approved TMDL		MS4 Assigned to WLA	
Browns Creek (TN05130202-023-1000)	*E. coli*, Other Anthropogenic Habitat Alterations, Total Phosphorus, Nitrite+Nitrate, Oil & Grease	X Yes	No	X Yes	No
Browns Creek (TN05130202-023-2000)	*E. coli*, Other Anthropogenic Habitat Alterations, Total Phosphorus, Nitrite+Nitrate, Oil & Grease	X Yes	No	X Yes	No
Richland Creek (TN05130202-314-3000)	Other Anthropogenic Habitat Alterations, Total Phosphorus, Nitrite+Nitrate, *E. Coli*	X Yes	No	X Yes	No
Vaughns Gap Branch (TN05130202-314-0750)	*E. coli*, Other Anthropogenic Habitat Alterations	X Yes	No	X Yes	No
Vaughns Gap Branch (TN05130202-314-0700)	*E. coli*, Other Anthropogenic Habitat Alterations, Total Phosphorus, Nitrite+Nitrate	X Yes	No	X Yes	No
Jocelyn Hollow Branch (TN05130202-314-0800)	*E. coli*, Total Phosphorus, Nitrite+Nitrate	X Yes	No	X Yes	No
Richland Creek (TN05130202-314-2000)	Other Anthropogenic Habitat Alterations, Total Phosphorus, Nitrite+Nitrate, *E. Coli*	X Yes	No	X Yes	No
Sugartree Creek (TN05130202-314-0400)	*E. coli*, Other Anthropogenic Habitat Alterations, Total Phosphorus, Nitrite+Nitrate, Low DO	X Yes	No	X Yes	No
Bosley Springs Branch (TN05130202-314-0300)	*E. coli*, Other Anthropogenic Habitat Alterations, Total Phosphorus, Nitrite+Nitrate	X Yes	No	X Yes	No
Richland Creek (TN05130202-314-1000)	Other Anthropogenic Habitat Alterations, Total Phosphorus, Nitrite+Nitrate, *E. coli,* Siltation	X Yes	No	X Yes	No
Cooper Creek (TN05130202-209-1000)	*E. coli*, Other Anthropogenic Habitat Alterations	X Yes	No	X Yes	No

Impaired Water	Impairment	Approved TMDL	MS4 Assigned to WLA
Ewing Creek (TN05130202-010-0900)	*E. coli*, Other Anthropogenic Habitat Alterations, Siltation, Total Phosphorus	X Yes No	X Yes No
Drakes Branch (TN05130202-010-0200)	*E. coli*, siltation	X Yes No	X Yes No
Whites Creek (TN05130202-010-1000)	Nutrients	Yes X No	Yes X No
Gibson Creek (TN05130202-212-1000)	Other Anthropogenic Habitat Alterations	Yes X No	Yes X No
Neelys Branch (TN05130202-212-0100)	*E. coli*	X Yes No	X Yes No
Dry Creek (TN05130202-027-2000)	Other Anthropogenic Habitat Alterations, *E.coli*	Yes X No	Yes X No
Dry Creek (TN05130202-027-1000)	*E. coli*	X Yes No	X Yes No
Loves Branch (TN05130202-211-1000)	Other Anthropogenic Habitat Alterations	Yes X No	Yes X No
Pages Branch (TN05130202-202-1000)	*E. coli*	X Yes No	X Yes No
Davidson Branch (TN05130202-001T-0700)	*E. coli*, Other Habitat Alteration	Yes X No	Yes X No
Unnamed Trib. to Cheatham Reservoir (TN05130202-001T-0700)	Iron, TDS	Yes X No	Yes X No
Cheatham Reservoir (TN05130202-001-3000)	*E. coli*	Yes X No	Yes X No
Overall Creek (TN05130202-001T-0900)	*E. coli, S*iltation, Flow Alteration	X Yes No	X Yes No
Otter Creek (TN05130204-021-0100)	Total Phosphorus, Alteration in stream-side or littoral vegetative cover, Siltation, Flow Alteration	X Yes No	X Yes No

Impaired Water	Impairment	Approved TMDL	MS4 Assigned to WLA
Little Harpeth River (TN05130204-021-1000)	Alteration in stream-side or littoral vegetative cover, Siltation, *E. coli*	X Yes No	X Yes No
Harpeth River (TN05130204-009-2000)	Total Phosphorus, Low DO	Yes X No	X Yes No
Trace Creek (TN05130204-009-0900)	Physical Substrate Habitat Alteration, Siltation	X Yes No	X Yes No
Flat Creek (TN05130204-009-0400)	Alteration in stream-side or littoral vegetative cover, Siltation	Yes X No	Yes X No
Unnamed Trib. to South Harpeth (TN05130204-010-0200)	Flow Alteration	Yes X No	Yes X No
Unnamed Trib. to South Harpeth (TN05130204-010-0300)	Alteration in stream-side or littoral vegetative cover	Yes X No	Yes X No
Harpeth River (TN05130204-009-3000)	Total Phosphorus, Low DO	Yes X No	Yes X No
Beech Creek (TN05130204-009-1100)	Alteration in stream-side or littoral vegetative cover, Siltation	X Yes No	X Yes No

C. What specific sources of these pollutants of concern are you targeting?

Pathogens (pet waste, sanitary sewer leaks), siltation (construction sites), oil & grease (industries/commercial sites), and nutrients (pet waste, sanitary sewer leaks, fertilizer application)

D. Do you have discharges to any Exceptional TN Waters (ETWs) or Outstanding National Resource Waters (ONRWs)?

X Yes ☐ No

A large portion of Metro drains to Mill Creek, which is listed as an ETW due to the presence of the federally endangered Nashville Crayfish (Faxonius shoupi). A portion of the Harpeth River in Davidson County is listed as a State Scenic Riverway.

E. Are you implementing additional specific provisions to ensure the continued integrity of ETWs or ONRWS located within your jurisdiction?

X Yes ☐ No ☐ N/A

Specific public education activities have been implemented in the past for certain residential areas that drain to the Harpeth River and commercial/industrial areas that drain to Mill Creek. Nutrient and pathogen reduction education has been and will be focused on that area. The Stormwater Maintenance Sections and the MWS Sanitary Sewer Division have been trained on limiting in-creek excavation work within the Mill Creek watershed. Metro also implements a robust construction oversight program to prevent excess sediment from draining to these high valued waterways.

4. Public Education and Public Participation

A. Is your public education program targeting specific pollutants and sources of those pollutants? X Yes ☐ No

B. If yes, what are the specific causes, sources and/or pollutants addressed by your public education program?

Pathogens (pet waste), siltation (construction sites), nutrients (residential lawn maintenance & pet waste), and oil & grease (commercial/industrial facilities).

C. Note specific successful outcome(s) (NOT tasks, events, publications) fully or partially attributable to your public education program during this reporting period.

During the reporting period of FY23, NPDES performed many activities to increase public education and awareness for many diverse stormwater issues, all of which are detailed in Section 4 of this document. In particular, NPDES expanded utilization of social media platforms to educate a growing number of citizens and stakeholders about stormwater issues and pollution. Four main social media platforms (Facebook, Twitter, NextDoor, and Instagram) were utilized to reach local citizens. Typical content of the posts focused on drawing the connection of storm drains to our local water resources to encourage the general public to work towards reducing pollution. Various types of visual media were used to depict the kinds of pollutants that can end up in our streams and how Metro residents can do their part to reduce it. Pollutants that were specifically targeted included lawn chemicals, lawn wastes, pet waste, and general trash. In particular, during FY23, MWS issued a total of 205 stormwater-related posts that reached 107,361 viewers. NPDES also continued to perform specific stormwater educational events, such as participating in citywide events with educational booths, presenting on stormwater topics at various venues, distributing neighborhood-specific door hangers, sending out email notices, etc. During FY23, NPDES reached an estimated audience size of 7,474 with these direct educational techniques.

D. Do you have an advisory committee or other body comprised of the public and other stakeholders that provides regular input on your stormwater program?

Metro has a Stormwater Management Commission (SWMC) that reviews cases where development/redevelopment activities are unable to meet specific provisions of the stormwater regulations and hears appeals of violation decisions by the Director's office. The members of the commission are appointed by the Mayor's office. The SWMC monthly meetings are televised on Metro's Local Channel 3 which provides visibility of Metro stormwater matters as well as public education.

X Yes ☐ No

E. Provide a summary of all public meetings required by the permit.

Metro has various agencies that perform projects involving public meetings. For example, the MWS Stormwater Remedial Maintenance Section holds meetings for certain large-scale maintenance projects on an as-needed basis. MWS maintains a webpage for all large Metro construction projects. The Metro General Services Department holds various public meetings for large Metro Development activities. In addition, the Metro Planning Commission provides numerous opportunities designed to receive feedback from the general public or other stakeholders on a routine basis. Information on public meeting opportunities can be found at the following website link:

https://www.nashville.gov/departments/water/news

https://www.nashville.gov/departments/water/projects

https://www.nashville.gov/departments/planning/boards/planning-commission/meetings

MWS Stormwater also specifically facilitates monthly meetings with the Stormwater Management Commission for sites appealing specific stormwater regulations. These meetings are available for the public to view and/or attend and comment and are advertised on the internet and at the property in question with a standard public notification sign. During the reporting period, Metro Stormwater facilitated 8 separate SWMC meetings. More information about the SWMC process as well as meeting minutes from each meeting is available at the following website:

https://www.nashville.gov/departments/water/boards/stormwater-management-commission/meetings

5. Codes and Ordinances Review and Update

A. Is a completed copy of the EPA Water Quality Scorecard submitted with this report? *A copy of the scorecard was submitted in the FY12 annual report (First Year of this current permit cycle)*. ☐ Yes X No

B. Include status of implementation of code, ordinance and/or policy revisions associated with permanent Stormwater management.

MWS Stormwater has already developed and revised a new volume of the Stormwater Management Manual (SWMM) (Volume 5) dedicated to promoting/incentivizing the use of Low Impact Development (LID) techniques for post development stormwater management. In 2007, Metro was promoting/incentivizing the use of runoff reduction/100% pollution reduction practices, but still allowed development sites to utilize standard stormwater quality treatment practices of 80% total suspended solids (TSS) removal. In February of 2016, Metro revised the SWMM to require all development activities to pursue runoff reduction practices for stormwater quality treatment, unless certain site constraints were demonstrated to be present (i.e. high ground water table, clay soils, karst areas, brown fields, etc.). MWS Stormwater has developed a waiver process for sites that due to site limitations are requesting to revert to the standard water quality treatment practices. At the end of FY23, MWS had received 529 LID Waiver requests. As a result, a total of 403 of the requests were eventually approved (some with conditions). During previous years, MWS began revising the entire SWMM to improve the overall stormwater regulations of development, including updating some of the LID controls and requirements. The update to the SWMM became effective in November 2021, which is still in effect.

6. Construction

A. Do you have an ordinance or adopted policies stipulating:

Erosion and sediment control requirements?	X Yes ☐ No
Other construction waste control requirements?	X Yes ☐ No
Requirement to submit construction plans for review?	X Yes ☐ No
MS4 enforcement authority?	X Yes ☐ No
Have you developed written procedures for site plan review and approval?	X Yes ☐ No
Do the written procedures for site plan review and approval include an evaluation of plan completeness and overall BMP effectiveness?	X Yes ☐ No

Have you developed written procedures for managing public input on projects?

Metro Nashville manages public input in a variety of different ways throughout various departments. There are no written procedures for managing the public feedback as there are numerous departments involved with various projects. Please refer to the above section on public engagement on stormwater development projects. MWS also publishes a list of Metro construction projects that have received coverage under a TDEC Construction General Permit once a month, which is posted on the following Metro web page:

☐ Yes X No

(See Notes)

https://www.nashville.gov/departments/water/news/public-notice-metro-construction-projects-within-davidson-county-10 .

Over previous years, Metro Nashville has also implemented an online forum called hubNashville for citizens to provide feedback or submit complaints, which can also be utilized to comment on Metro construction projects. Below is a link to hubNashville: https://hub.nashville.gov/s/?language=en_US

Have you developed written procedures for site inspection and enforcement? X Yes ☐ No

Have all MS4 Inspectors maintained certification under the Tennessee Fundamentals of Erosion Prevention and Sediment Control, Level 1? X Yes ☐ No

Have all MS4 site plan reviewers maintained certification under the Tennessee Fundamentals of Erosion Prevention and Sediment Control, Level 2? X Yes ☐ No

Most of the engineers have taken the Level 2 training, however, a few of the newer engineers who have not taken the training have a Professional Engineer's (P.E) license, which also satisfies the MS4 permit requirement.

B. How many active construction sites disturbing at least one acre were there in your jurisdiction this reporting period?

Refer to attached Table 6B.1. In FY23, there were 255 grading permits issued, while 214 grading permit sites were completed (signed-off). Not all of the Grading Permits were for sites disturbing over an acre (requiring a TDEC General Construction Stormwater Permit). All sites that disturb over an acre are required to also obtain a grading permit and must have coverage under the State's General Construction Stormwater Permit prior to receiving a Metro Grading Permit. At the end of FY23, there were 943 active grading permits as Metro requires permits for grading over 10,000 square feet (and certain other criteria per Chapter 3 of Volume 1 of the Metro SWMM).

C. How many of these active sites did you inspect this reporting period?

NPDES Section performed 9,597 construction-related inspections in FY23. The inspections were performed on Grading Permit sites under construction and complaint inspections of construction activity without permits. In addition, MWS Stormwater also provides oversight and guidance to small residential construction activities usually with total disturbed area of less than 10,000 square feet (not requiring a standard Metro grading permit). Refer to the attached Table 6C.1 for small construction project oversight numbers.

D. On average, how many times each, or with what frequency, were these sites inspected (e.g., weekly, monthly, etc.)?

Monthly

NPDES inspects all active construction sites at least once per month. Some sites become inactive and have no exposed soils. These sites are inspected on a less frequent basis (until the site reaches final closure).

E. Do you prioritize certain construction sites for more frequent inspections? X Yes ☐ No

If Yes, based on what criteria?

*All **active** permit sites with active grading are prioritized to receive inspections at least once per month. This meets and exceeds the permit requirement to perform monthly inspections of 303(d) listed siltation-impaired streams. Some sites may be awaiting final as-built reviews but are relatively stable. These sites do not receive the same level of priority inspections.*

7. Illicit Discharge Elimination

A. Have you completed a map of all known outfalls and receiving waters of your storm sewer system? X Yes ☐ No

B. Have you completed a map of all known storm drain pipes of storm sewer system? X Yes ☐ No

C. How many outfalls have you identified in your system?

Metro has migrated several iterations of mapping updates of Stormwater infrastructure into our Metro Geographic Information System (GIS). During previous reporting periods, MWS Stormwater's contractor completed a project to re-delineate the outfall layer (grid by grid) with the focus of verifying "actual" MS4 permitted outfalls. While the focus was mapping MS4-permitted outfalls, NPDES also had the contractor create the following two outfall layers: 1) Sub-MS4 Outfalls – Outfalls within the MS4 system upstream of the discharge point to Waters of the State, but usually where two large systems combine; and 2) Private Outfalls – Point at which Stormwater from private properties drain to either Waters of the State or MS4. Currently there are 12,036 MS4-permitted Outfalls, 414 Sub-MS4 Outfalls, and 2,447 Private Outfalls mapped within Metro's GIS database. Please note that in determining the point at which MS4 outfalls drain to Waters of the State, NPDES had to assume the streams layer in GIS was an accurate representation of actual streams, even though the coverage is more of an estimate and has not been field-verified. Also, MWS Stormwater hired a contractor in FY23 to begin collecting more-detailed information on storm drains in certain watersheds as part of the overall Master Planning efforts. As part of the project, the contractor is field inventorying all stormwater drains that includes collecting invert elevations so future flood modelling can be performed. The field inventory work for the Master Planning efforts commenced in FY23.

D. How many of these outfalls have been screened for dry weather discharges?

In previous permit years, NPDES received approval from TDEC to implement a new form of field screening, where up to three commercial and industrial properties are screened within ½ mile grids for potential stormwater runoff issues such as exposed grease, waste materials, sediment, etc. Prior to this change, NPDES inspectors were required to look only at infrastructure points for potential illicit discharges, which was very time consuming and produced very few pollution reduction results. Refer to Attachment B for complete coordination on modifications to the field screening program.

During FY23, NPDES screened 213 separate ½ mile grids for potential stormwater runoff issues, which included looking at 395 separate business practices and/or infrastructure points.

E. How many of these have been screened more than once?

None are required to be screened twice per our new permit. However, if a non-stormwater/"illicit" flow is suspected, NPDES initiates an IDDE investigation that is documented within the Cityworks database until the illicit discharge is eliminated. When NPDES inspectors find site management issues, they initiate education actions with site management and usually return within a few days to determine if corrective actions have taken place. At the end of FY23, all of the commercial/industrial ½ mile grids were screened once. In FY24, NPDES will be re-screening the grids, prioritizing the hot areas first.

F. What is your frequency for screening outfalls for illicit discharges?

All 2,047 ¼ mile commercial and industrial-zoned grids were screened by the end of Year 5 of the MS4 permit (January 31, 2017). This requirement is no longer in effect with the approved modification to this program element per the administrative extension agreement. Despite this, NPDES is committed to continuing regular routine dry weather field screening practices, as the newly defined process has yielded very positive results. After year five of the permit, the field screening grid database was updated and NPDES began re-screening all the grids. NPDES completed a first screening of all these grids at the end of FY23.

G. Do you have an ordinance that effectively prohibits illicit discharges? X Yes ☐ No

H. During this reporting period, how many illicit discharges/illegal connections have you discovered (or been reported to you)?

In FY23, there were 3 confirmed significant illicit discharges in which NPDES issued a Notice of Violation and associated administrative penalty to the property owner. In addition to the confirmed illicit discharges, NPDES initiated 124 separate (non-construction) new water quality investigations during FY23, most of which, originated from citizen complaints. Refer to Table 7H.1 for a complete listing of the 124 IDDE investigations initiated during FY23. There were also 5 separate spill response-specific investigations and 5 sanitary sewer-specific discharge investigations initiated by NPDES during the reporting period (refer to Tables 7H.2 and 7H.3 respectively.) Please note that some spills and sanitary sewer overflow response activities are logged as general water quality investigations. In addition to NPDES water quality-related investigations, the Metro Health Department investigates reports of failing septic sewer systems and coordinates with property owners to abate any confirmed failures. In FY23, there were 30 failing septic systems with sewage on the ground that were abated/repaired due to the Health Department's coordination efforts. A listing of failing septic system investigations can be found in Table 7H.4.

Of those illicit discharges/illegal connections that have been discovered or reported, how many have been eliminated?

All illicit connections found during the reporting period were rectified swiftly and eliminated.

J. Do you have the authority to recover cost for addressing illicit discharges? X Yes ☐ No

We have appropriate language in our Code but have never pursued the option.

8. Stormwater Management for Municipal Operations

A. Have Stormwater pollution prevention plans (or an equivalent plan) been developed for Municipal operations:

NPDES developed a comprehensive Stormwater Management Plan (SWMP) in 2012, which was submitted in a previous annual report. The SWMP included site-specific Runoff Management Plans (RMPs) for key municipal Operations and Maintenance (O&M) facilities, which are plans equivalent to SWPPPs. Since the time the original SWMP and associated RMPs were developed, NPDES has developed additional RMPs for newly identified O&M facilities. Below is a list of current Metro operated O&M sites in which a SWPPP or RMP has been developed:

- *MWS Stormwater Maintenance Facility (County Hospital Road)*
- *Metro Transit Authority (Nestor Street) Bus Maintenance Shop*
- *Metro Nashville Public Schools Bus Maintenance Shop*
- *Shelby Park Golf Course Maintenance Shop*
- *Ted Rhodes Golf Course Maintenance Shop*
- *Two Rivers Golf Course Maintenance Shop*
- *Harpeth Hills Golf Course Maintenance Shop*
- *Percy Warner Golf Course Maintenance Shop*
- *McCabe Golf Course Maintenance Shop*
- *Cedar Hill Park Maintenance Shop*
- *Warner Park Golf Course*
- *NDOT Maintenance Facility (5th Street)*
- *NDOT West Maintenance Facility (Charlotte Avenue)*

In FY23, NPDES continued to perform random audit inspections on some of the RMP facilities. Minor exposure issues were note at some of the facilities, and NPDES coordinated with each of the site managers to ensure any necessary corrective actions were completed. Also, in FY23, NPDES updated each RMP to account for site/personnel changes since the original plans were developed.

All municipal parks, ball fields and other recreational facilities X Yes ☐ No

RMPs were developed for O&M facilities such as golf course and park maintenance facilities. RMPs were not developed for every ball field location.

All municipal turf grass/landscape management activities (*See Note Above*) X Yes ☐ No

All municipal vehicle fueling, operation and maintenance activities. X Yes ☐ No

As per the MS4 Permit, RMPs were created for Municipal O&M facilities, some of which include fueling stations. Some fueling sites are stand-alone with no other maintenance operations present, and RMPs were not necessary (although spill kits are at those locations).

All municipal maintenance yards. All O&M facilities located within the MS4. X Yes ☐ No

All municipal waste handling and disposal areas X Yes ☐ No

SWPPPs were created for the Central Wastewater Treatment Plant and the Dry Creek Wastewater Treatment Plant as they retained a Tennessee Multi-Sector Permit for Industrial Stormwater runoff. In previous permit years, MWS applied for and received non-exposure certification for the Central Wastewater Treatment Plant, due to some changing processes that have occurred over the years. As it currently stands, Dry Creek is the only wastewater treatment plant that is currently required to have TMSP coverage. Metro Nashville does not operate any large waste transfer facilities or transfer stations, as it contracts those services out to private companies. Metro does operate some recycling/waste collection facilities where residents can bring their waste to put in large compactor dumpsters, and NPDES has worked with Waste Services in the previous years to correct runoff issues.

B. Are Stormwater inspections conducted at these facilities? X Yes ☐ No

Each O&M facility where the RMPs were implemented requires on-site personnel to perform monthly grounds inspections. In FY23, NPDES personnel performed audit inspections of all the O&M facilities.

If Yes, at what frequency are inspections conducted? *See above answer*

C. Have standard operating procedures or BMPs been developed for all MS4 field activities? (e.g., road repairs, catch basin cleaning, landscape management, etc.) X Yes ☐ No

SOPs have been developed for most of the major O&M field activities. MWS posted all of the RMPs, individual water quality SOPs, and a general MS4 educational video to an internal Metro intranet/SharePoint web page for each O&M Department to train their own field staff.

D. Do you have a prioritization system for storm sewer system and permanent BMP inspections? X Yes ☐ No

In the first year of this permit cycle, NPDES submitted a BMP Maintenance Verification Plan to TDEC that outlined a multipronged strategy to ensure permanent Stormwater Control Measures (SCMs) are being properly maintained. The strategy varies according to which set of Metro's regulations the SCMs were constructed under. The plan includes some inspections by NPDES personnel as well as requiring owner/operators to perform

their own inspections/maintenance annually. Since the original SCM maintenance verification plan was submitted to TDEC, NPDES has re-evaluated this process and has decided to dedicate a greater number of resources to ensuring the proper maintenance of these structures. NPDES found that there was very low participation in the owner self-inspection/reporting requirements for newly installed SCMs. In addition, NPDES discovered that some of the inspection and maintenance reports that were submitted were not accurate and lacking in content.

During previous permit years, NPDES expanded resources dedicated to SCM inspection and maintenance oversight. In FY23, NPDES maintained a total staff level dedicated to SCM inspection and maintenance oversight of 5 staff members (1 manager, 4 inspectors and 1 administrative support staff). Current organization of the SCM inspection and maintenance program is further explained in Section 1.3.1 of this document.

E. On average, how frequently are catch basins and other inline treatment systems inspected?

Varies depending on numbers of complaints or other maintenance tasks.

F. On average, how frequently are catch basins and other inline treatment systems cleaned out/maintained?

Frequency of cleanings depends on conditions. The Stormwater Maintenance Section has developed a rain route list of common stormwater infrastructure sites that clog with debris, leaves, gravel, and sediment on a frequent basis. Maintenance crews visit and clean out these sites and perform maintenance prior to many large rain events. Depicted within Table 8F.1 is a summary of some of the major routine maintenance activities performed on MS4 Stormwater infrastructure during FY23. It is estimated that approximately 248,976 cubic yards of material was removed from the MS4 ditches and culverts, approximately 192,960 pounds of material was removed from 21,440 inlets, and approximately 284,855 square feet of erosion control matting was deployed during the FY23 reporting period. In addition to performing routine maintenance and cleaning of stormwater infrastructure, the Nashville Department of Transportation (NDOT) also operates a preventative maintenance program by aggressively sweeping public "curb and gutter" streets. NDOT prioritizes certain streets for sweeping activities based on the accumulation of material on the street. Refer to Table 8F.2 for street sweeping collection numbers in FY23. Please note that, while MWS has operated the street sweeping program for the previous ten years, the program was moved back to NDOT in FY23.

In addition to the routine maintenance activities such as inlet and pipe cleaning, MWS Stormwater also performs various large projects to correct neighborhood flooding issues. In previous reporting periods, NPDES coordinated with the MWS Stormwater Remedial Maintenance group to complete a water quality evaluation form for each large flood control project. As a result, engineers are being asked to consider use of green infrastructure or other low impact design techniques. Based on the water quality evaluation sheets submitted, NPDES was able to estimate that the large flood control projects designed during FY22 would provide the following benefits to water quality.

- *Redefining and stabilization of approximately 4,005 linear feet of open storm channel, and*
- *Removal of approximately 148 linear feet of concrete-lined ditches.*

G. Have all applicable municipal employees received training, as identified in each of the following permit sections:

Illicit discharge detection and elimination X Yes ☐ No

If *Yes*, identify the number of municipal employees trained.

Throughout the majority of FY23, the Permit Group section within NPDES had 6 - 7 people that were primarily dedicated to investigating and enforcing on illicit discharge issues. Training includes internal training from senior staff and the National Stormwater Center Certified Stormwater Inspector training program. In addition to the primary on-call personnel, there were 13 additional staff members within the

NPDES office that could respond to complaints of illicit discharges. Note: NPDES has also worked with various MWS O&M sections to properly identify and report illicit discharges. Also, please note that staff levels can fluctuate each year due to staff attrition.

Construction site stormwater runoff control X Yes ☐ No

If *Yes*, identify the number of municipal employees trained:

At the time this report was completed, there were 20 NPDES staff members that had adequate training (TDEC Level 1 EPSC Workshop) to respond to and inspect Stormwater runoff from construction activities. Eight of the employees are dedicated fulltime to inspecting development sites under construction. Note that staff levels can fluctuate each year based on staff attrition.

Permanent stormwater management in new development and redevelopment X Yes ☐ No

If *Yes*, identify the number of municipal employees trained

During FY23, there was an average of 8 engineers employed within the MWS Development Services Section that perform some form of review and approval of the design of permanent stormwater management controls for grading permits. The current internal policy for the MWS Development Services is to require all review engineers to take the TDEC Level II Design Principles for Erosion Prevention and Sediment Control for Construction Sites at least once. In addition to the TDEC Level II training, all inspectors within the NPDES Section that perform inspections on SCMs go through the UT Water Research Center Stormwater Control Measures Inspection and Maintenance training and certification program.

Pollution prevention/good housekeeping for municipal operations X Yes ☐ No

If *Yes*, identify the number of municipal employees trained:

In a previous permit year of FY20, NPDES coordinated with all Metro Departments to remind them of stormwater issues that may occur from normal maintenance activities. NPDES hosted a virtual training workshop with all major Metro Departments in which 39 separate staff/managers attended. Also, during FY23, NPDES performed audit inspections of the O&M sites with Runoff Management Plans for municipal maintenance facilities and updated all the RMPs. This process involved coordination with on-site personnel at the facility. In FY23, NPDES continued the new process of inspecting all Metro-owned SCMs for maintenance compliance. Each department was sent a report on maintenance conditions of their department's SCMs.

9. Permanent Stormwater Controls

A. Do you have an ordinance or other mechanism to require:

Site plan reviews of all new and re-development projects?	X Yes ☐ No
Maintenance of Stormwater management controls?	X Yes ☐ No
Retrofitting of existing BMPs with green infrastructure BMPs?	X Yes ☐ No

MWS Stormwater compiled a new volume to the Stormwater Management Manual (SWMM). Volume 5 (also referred to as the LID Manual) provides specifications for development or redevelopment sites to follow in installing "green" stormwater control measures. The requirements with this manual became mandatory in February 2016 for new development or significant redevelopment. Please note that some of the specifications with Volume 5 were updated in the latest updates to the overall SWMM, which went into effect in November 2021.

B What is the threshold for new/redevelopment Stormwater plan review? (e.g., all projects, projects disturbing greater than one acre, etc.)

Metro actually has more stringent requirements for development than TDEC's Construction General Permit. All development of redevelopment sites grading more than 10,000 square feet must obtain a Metro grading permit. In order to obtain a grading permit, engineered plans must be submitted to the Stormwater Development Review Section for review and approval per Metro's stormwater regulations. All developments increasing the impervious footprint are required to install permanent stormwater treatment measures for water quality and quantity per Metro SWMM criteria.

C. Have you implemented and enforced performance standards for permanent Stormwater controls? X Yes ☐ No

D. Do these performance standards go beyond the requirements found in paragraph and require that pre-development hydrology be met for:

Flow volumes (New LID Manual deals with reductions in site runoff volumes)	X Yes ☐ No
Peak discharge rates	X Yes ☐ No
Discharge frequency	☐ Yes X No
Flow duration	☐ Yes X No

E. Please provide the URL/reference where all permanent Stormwater management standards can be found.

https://www.nashville.gov/Water-Services/Developers/Stormwater-Review/Stormwater-Management-Manual.aspx

F. How many development and redevelopment project plans were reviewed for this reporting period?

According to queries of Metro permit tracking database Cityworks, there were 1,121 plans submitted to the MWS Development Review Section during FY23. This number includes initial grading permit plans, re-submitted plans, as-built final submittals, etc. Refer to attached Table 9F.1 for the total number of plans reviewed by Stormwater Development Review staff in FY23.

G. How many development and redevelopment project plans were approved?

According to queries of Metro permit tracking database Cityworks, there were 1,109 plans approved during FY23. This number includes initial grading permit submittals, final as-built signoffs, etc. Refer to Table 9F.1 for a complete listing. A better reflection of actual new development projects approved for construction would be the number of grading permits issued. In FY23, there were 255 grading permits issued.

H. How many permanent Stormwater management practices/facilities were inspected?

There were an estimated 2,109 SCM structures inspected/reinspected by NPDES staff during FY23. This is an estimate based on the number of closed grading permit properties inspected as we track our inspections within the database based on site grading permit. This number of inspections also includes re-inspections of grading permit properties to verify that the necessary maintenance was performed after initial coordination with the site. Most properties have multiple SCMs, therefore, when a property is inspected or re-inspected, several SCM structures often get inspected.

How many were found to have inadequate maintenance?

Of the 2,109 SCM structures inspected by NPDES in FY23, inspectors issued 596 notices to properties that were found to have issues requiring moderate to major maintenance needs. These notices include verbal notices in person or over the phone, formal letters, and/or emails.

J. Of those, how many were notified and remedied within 30 days? (If window is different than 30 days, please specify)

While NPDES has numerous informal conversations with SCM owners about the maintenance status of their SCM(s), performing the necessary maintenance on SCM takes time and not all of the SCMs in need of maintenance were remedied within 30 days. A rough estimate would be around 50% of them were maintained within 30 days of the notice. NPDES performs follow-up compliance inspections when no response is received after an average of 90 days of the notices sent. There are many nuances involved in identifying responsible parties associated with residential "open space" SCMs. Some of these residential-owned structures can take several months to bring into compliance.

K. How many enforcement actions were taken that address inadequate maintenance?

In FY23, 4 Notices of Noncompliance (NONs) were issued to property owners for SCM maintenance issues, mostly involving sites that have made unauthorized alterations to the structures (i.e. modification of a small bioretention basin into a level, turfed back yard area).

L. Do you use an electronic tool (e.g., GIS, database, spreadsheet) to track post-construction BMPs, inspections and maintenance? X Yes ☐ No

NPDES uses the Cityworks permitting database to track inspections, follow-up notifications, etc. The Cityworks database is a city-wide database that is used by all Metro departments to track permits ranging from plumbing permits to grading permits. The database tracks compliance by the property/parcel that the permit is tied to. MWS Stormwater NPDES also tracks each SCM structure within a GIS database, which is used to coordinate and plan inspections. All documentation notes involving inspection and maintenance records are recorded within the Cityworks database and is associated with the site's original grading permit.

M. Do all municipal departments and/or staff (as relevant) have access to this tracking system? X Yes ☐ No *All departments and general public can access the locations of SCMs on the parcel viewer program on Nashville's Planning Department website.*

N. Has the MS4 developed a program to allow for incentive standards for redeveloped sites? X Yes ☐ No

O. How many maintenance agreements has the MS4 approved during the reporting period?

Approximately 255, which is an assumed number based on the number of grading permits issued during FY23.

10. Industrial and High-Risk Runoff

A. Has the MS4 developed and implemented a program to monitor and control pollutants in runoff from the following types of industrial and high-risk facilities and activities:

Municipal landfills *All municipally operated landfills in Metro were closed years ago. The Metro Water Services Waste Services Division oversees all closed landfills' associated groundwater monitoring*.	X Yes ☐ No
Hazardous waste treatment, storage, and disposal facilities	X Yes ☐ No
Industries subject to reporting requirements pursuant to SARA Title III section 313	X Yes ☐ No
Industrial facilities that the MS4 determines are contributing a substantial loading of pollutants to the municipal separate storm sewer system	X Yes ☐ No

B. Has the MS4 maintained a database of industrial and high-risk facilities and activities in the City which includes the following types of industries:

- municipal landfills;
- hazardous waste treatment, storage, and disposal facilities;
- industries subject to reporting requirements pursuant to SARA Title III, Section 313; and
- industrial and commercial facilities that the permittee determines are contributing a substantial loading of pollutants to the municipal separate storm sewer system.

During the first permit year of this permit cycle, NPDES built a robust industrial inspection database that comprises the above categories of industrial properties. In addition to the above category of industrial sites (Metro is required to inspect), NPDES has also included within the database all of the industrial facilities with active Tennessee Multi-Sector Permits (TMSPs) for industrial Stormwater runoff, all facilities with active Ready Mix Concrete Permits (RMCPs), and all facilities with active individual NPDES permits to discharge process water. The database is a Microsoft Access database that is interactive with GIS. Please note that most TMSP or RMCP sites do not qualify as industrial facilities subject to SARA Title III, Section 313 reporting requirements and are not required to be inspected by Metro per the current MS4 permit.

Those listed in 10 (A) above	X Yes ☐ No
Facilities covered by individual NPDES permits	X Yes ☐ No
Facilities covered under the TMSP	X Yes ☐ No
Facilities regulated by the pretreatment program; *The MWS Pre-treatment Program inventories all sites with industrial user waste water discharge permits and would provide them to NPDES upon request. The Pre-treatment Program notifies NPDES when they become aware of stormwater issues on these sites.*	X Yes ☐ No

C. Has the MS4 updated the database of industrial and high risk facilities and activities at least yearly? X Yes ☐ No

If yes, provide a listing of any additionally identified industrial and high-risk facilities and activities which discharge stormwater into the MS4:

Facility/Activity

Refer to the attached Table 10.C.1 for a listing of all the industrial facilities NPDES has inventoried into the database. Metro also inventoried other industrial facilities such as TMSP and RMCP facilities, which are not required to be inventoried. NPDES routinely adds facilities to the database based on reviews of the TDEC permitting database. In FY23, NPDES also downloaded a list of sites that submitted No Exposure Certifications to TDEC and began a process of performing cursory field inspections to verify whether or not the facilities had exposed industrial processes/products.

D. Has the MS4 developed and implemented procedures, including an inspector manual and checklist, for routine inspections of industrial and high-risk facilities and activities*?*

NPDES has created a Standard Operating Procedure (SOP) for performing inspections of industrial facilities. NPDES has also performed numerous co-inspections with TDEC Nashville Field Office staff to ensure the industrial inspection process reviews site controls and paperwork similarly to TDEC inspection staff.

X Yes ☐ No

E. Is the MS4 performing these inspections at such a rate that all required industries will be inspected at least once every three years?

As per the MS4 permit, NPDES is required to inspect all SARA Title III, Section 313 industrial facilities once every 3 years. NPDES completed all of the inspections of facilities designated as having the SARA Title III, Section 313 and Treatment, Storage and Disposal (TSD) facilities by the end of the permit term (January 31, 2017). Following completion of these inspections, NPDES sent a letter to TDEC that addressed the planned modifications to inspections of industrial facilities during the transition/"administrative extension" period before the new permit is reissued. A copy of this letter can be found in Attachment B of this document. The new inspection focus during the transition/"administrative extension" period between permits will be based on the types of industrial facilities that typically have the most exposed materials that can pose a risk to stormwater runoff. TDEC approved the new approach and, in FY23, NPDES vastly increased the number of inspections on facilities that typically have more pollutant exposure issues, which has resulted in an overall reduction of exposed industrial product draining to the MS4.

X Yes ☐ No

F. Provide a listing of inspections performed during this reporting year:

During FY23, NPDES performed 101 formal industrial inspections, some of which include re-inspections. . Refer to Table 10.F.1 for a list of Industrial Facilities that were inspected during FY23.

11. Enforcement

A. Identify which of the following types of enforcement actions you used during the reporting period, indicate the number of actions, the minimum measure (e.g., construction, illicit discharge, permanent stormwater control) or note those for which you do not have authority: *Please note that Stop Work Orders are included as part of the same Notice of Violation for construction sites. The enforcement data below are for grading permit sites involving the grading of more than 10.000 square feet. MWS Development Services also issues enforcements for Single Family Residential (SFR) developments. In FY23, MWS Development Services issued 36 NOVs that included an assessment of $12,300 in administrative penalties.*

Action	Construction	Permanent Stormwater Controls	Illicit Discharge	Authority?
Notice of violation	47	0	3	X Yes ☐ No
Administrative Penalties	$20,098	$0	$1,150	X Yes ☐ No
Stop Work Orders	31	#	#	X Yes ☐ No
Civil penalties	#	#	#	☐ Yes X No
Criminal actions	#	#	#	☐ Yes X No
Administrative orders	#	#	#	X Yes ☐ No
Other:		4 Notices of Non Compliance	5 Notices off Non Compliance	X Yes ☐ No

B. Do you use an electronic tool (e.g., GIS, data base, spreadsheet) to track the locations, inspection results, and enforcement actions in your jurisdiction? X Yes ☐ No

C. What are the 3 most common types of violations documented during this reporting period?

Failure to maintain erosion prevention and sediment control measures, illicit discharges from construction and non-construction sites, and grading without applying for or receiving a Metro Grading Permit.

12. Program Resources

A. What was your annual expenditure to implement the requirements of your MS4 NPDES permit and SWMP this past fiscal year?

In FY23, NPDES, which oversees various MS4 compliance activities, operated under a budget of $4,463,100 (including the separate budget for the Urban Forestry Program). NPDES also operated the additional capital budget of $300,000 for the Watershed Improvement Fund. The overall MWS Stormwater Division's budget, which includes NPDES, Development Services Review engineers, Stormwater Planning and Stormwater Maintenance, was $30,895,400. Please note that various other Metro Departments, while not included in this budget analysis, perform activities that contribute to MS4 permit compliance.

B. What is next fiscal year budget for implementing the requirements of your MS4 NPDES permit and SWMP?

The FY24 budget includes $4,796,600 dedicated to the Stormwater NPDES Section (with a $425,000 budget for the Watershed Improvement Fund. The overall Stormwater Department is operating under a budget of $33,188,600.

C. Do you have an independent financing mechanism for your Stormwater program? X Yes ☐ No

D. If so, what is it/are they (e.g., Stormwater fees), and what is the annual revenue derived from this mechanism?

Source: Stormwater User Fee; Estimated Amount $36,240,000 (estimated for FY24)

E. How many full-time employees does your municipality devote to the Stormwater program (specifically for implementing the Stormwater program vs. municipal employees with other primary responsibilities that dovetail with Stormwater issues)?

The anticipated FY23 budgeted Stormwater staff includes 108 employees with 23 current vacancies.

F. Do you share program implementation responsibilities with any other entities? ☐ Yes X No

Entity	Activity/Task/Responsibility	Your Oversight/Accountability Mechanism

13. Evaluating/Measuring Progress

A. What indicators do you use to evaluate the overall effectiveness of your Stormwater Management Program, how long have you been tracking them, and at what frequency? Note that these are not measurable goals for individual BMPs or tasks, but large-scale or long-term metrics for the overall program, such as in-stream macroinvertebrate community indices, measures of effective impervious cover in the watershed, indicators of in-stream hydrologic stability, etc.?

For over 14 years, the NPDES Watershed Group has been performing detailed sampling for TMDL streams throughout Metro, some of which is proactive and not required per the MS4 permit. The data collection has proven beneficial in identifying segments of streams where pollutants are elevated or within water quality standard criteria. Please refer to the attached Table 13A.1 (TMDL Sampling Data) for the complete quarterly sampling results for the FY23 reporting period. Please note that previous Annual Reports contained additional data for monitoring conducted during those reporting periods. NPDES performs various monitoring activities as prescribed by the MS4 Permit. The MS4 permit-required sampling (i.e., Wet Weather Monitoring, Ambient Sampling, and Benthic Sampling) was changed in the current iteration of the permit (See Attachment B). The NPDES Watershed Group routinely analyzes the sampling data to determine if negative trends are observed within any of the sampled tributaries. When negative trends are found, NPDES performs source tracking investigations. Whenever identifiable sources are not found, NPDES considers initiating targeted public education campaigns in those watersheds to address other potential impacts, such as pet waste or overfertilization. The MS4 Permit-prescribed Ambient Sampling and Benthic Sampling data is summarized in Table 13A.3 and Table 13A.4 respectively. NPDES's Watershed Group collected approximately 270 water quality samples and performed visual stream assessments on approximately 135,562 linear feet of 303(d)-listed streams within FY23.

Over the years, NPDES has also looked at other non-analytical data to evaluate the program's effectiveness. Refer to Table 13A.2 (SWMP Quantifiable Statistics). Many of the functions such as IDDE efforts, public education, etc. that NPDES performs do not easily translate into quantifiable loading reduction numbers. As an attempt to quantify pollutant loading reduction numbers from various sources, NPDES hired a contractor in previous years to develop a database that will track loading reductions of structural and non-structural controls implemented as part of Metro's SWMP. This database is known as the Watershed Improvement Evaluation System (WIES) and is cloud/web-based, which will allow NPDES to track pollutant reduction efforts of current SWMP elements as well as potential benefits through program modifications. Specific tables and graphs of FY23 estimated pollutant loading runoff numbers and pollutant loading reduction efforts by SWMP structural and non-structural controls are presented in Attachment C.

In addition to pursuing development of a database that can actively track and analyze pollution reduction efforts of the SWMP, NPDES also conducted an internal review of the SCM Inspection and Maintenance Oversight Program once the 1st cycle of county-wide inspections was completed. NPDES put together a list of many of the lessons learned in the first cycle and has already started changing some processes to make the next cycle of inspections and coordination with property owners to be more effective and efficient.

B. Provide a summary of data (e.g., water quality information, performance data, modeling) collected in order to evaluate the performance of permanent Stormwater controls installed throughout the system. This evaluation may include a comparison of current and past permanent Stormwater control practices.

Please refer to the answer above and Section 3 of this document for a summary of various water quality data collected by NPDES during this reporting period. As mentioned above, a more comprehensive evaluation of pollutant reduction estimates of major SWMP program elements is included in Attachment C.

C. What environmental quality trends have you documented over the duration of your Stormwater program? (If you have reports or summaries, you can either attach them electronically, or provide the URL to where they may be found on the Web.) *As mentioned above, NPDES has actually found fewer illicit discharges to the MS4 over the years. This reduction in actual confirmed illicit discharges to the MS4 can be contributed to a robust IDDE program and increased public awareness. In addition, there have been fewer notices of violations issued for construction site infractions. Middle Tennessee contractors have become acutely aware of Metro's construction site requirements and enforcement program and, therefore, have increasingly complied with our regulations. It has also been noted that many of the concerns from citizens usually involve relatively minor issues as compared to concerns reported in the beginning of the NPDES program many years ago.*

14. Stormwater Management Program Update

A. Describe any changes to the MS4 program, per Section 3.5 of the permit, during the reporting period including but not limited to:

Changes adding (but not subtracting or replacing) components, controls, or other requirements.

At the end of year 5 of the current MS4 permit, NPDES submitted a request to change the dry weather field screening, industrial monitoring, and wet weather sampling elements for the transition/"administrative extension" *period between permit expiration and reissuance. (Refer to Attachment B) NPDES also requested these items to be adjusted in the reissued permit as well. NPDES analyzed work hours per each task verses the benefit to the program in hopes of developing the most efficient and effective program possible. A summary of the proposed changes can be found in Attachment B. NPDES made some adjustments to the IDDE enforcement policies and IDDE SWMP narrative from recommendations of the TDEC CEI conducted in the previous permit year. Those amendments to the SWMP are included in Attachment B of this document. Overall, NPDES has been pleased with the increased efficiency and effectiveness of the adjusted SWMP programs. In FY23, NPDES updated the Public Information/Education (PIE) plan. The updated copy can be found in Section 4 of this document.*

Changes to replace an ineffective or unfeasible BMP.

Refer to above answer

Information (e.g., additional acreage, outfalls, BMPs) on program area expansion based on annexation or newly urbanized areas.

Just prior to the issuance of this cycle of the MS4 permit, the former satellite city of Lakewood voted to dissolve and become part of Metro Nashville and Davidson County. Upon that transition becoming official, NPDES field screened the commercial areas for potential illicit discharge connections, inventoried and added all of the Stormwater infrastructure into the GIS database, and began performing stormwater maintenance services for the newly annexed area.

Changes to the program as required by the division.

Please refer to the explained SWMP narrative changes and enforcement policy changes that resulted from the TDEC CEI.

15. Certification

This report must be signed by a ranking elected official or by a duly authorized representative of that person. See signatory requirements in subpart 5.7 of the permit.

"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 that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Michael Hunt WATER SERVICES MANAGER
Printed Name and Title

Signature

11/30/23
Date

3.0 Required MS4 Reporting Tables

List of Tables

Table 6B.1 – Grading Permit Projects Initiated/Completed within FY23

Year	Preconstruction Meetings	Grading Permits Issued	Permits Completed
Total FY03	257	198	102
Total FY04	305	270	159
Total FY05	284	271	220
Total FY06	296	252	196
Total FY07	251	239	188
Total FY08	222	165	205
Total FY09	148	109	238
Total FY10	146	121	117
Total FY11	130	135	131
Total FY12	152	142	153
Total FY13	167	138	133
Total FY14	249	318	159
Total FY15	292	276	259
Total FY16	268	254	217
Total FY17	297	262	203
Total FY18	331	311	264
Total FY19	345	327	250
Total FY20	312	283	285
Total FY21	351	308	237
Total FY22	291	290	206
Total FY23	258	255	214
Total	**5,352**	**4,924**	**4,136**

Table 6C.1 – Small Construction Site Oversight in FY23

New Infill Permits Issued	1,048
Follow up site visits for Infill Developments	6,372
NOVs Issued to Single Family Residential Development	68
NOV Administrative Penalties issued for Single Family Residential Stormwater Violations	$23,150

Note: Midway through FY15, Metro passed new legislation establishing the new Infill Development Permits. Projects that create 800 to 15,000 square feet of additional net impervious area though new development, redevelopment, or rehabilitation of a residential structure in existing neighborhoods are required to obtain Infill Development Permits. As such, MWS Stormwater staff provides oversight to require stormwater controls to be installed to treat stormwater runoff during and after construction, which is above and beyond MS4 permit requirements.

Table 7H.1 – Illicit Discharge (Non-Construction-Related) Investigations Initiated during FY23

Case Name	Location	Initiated Date	Initiated By Name
Car Wash Water Private Dr	101 Abbeywood Dr 37215	6/29/23	Gretchen Judkins
Oil In Driveway	2325 Willesden Grn 37076	6/28/23	Kevin Turner
Mobile Car Wash	3754 Nolensville Pike 37211	6/23/23	Gretchen Judkins
Private Sewer Issue	201 Neelys Bend Rd 37115	6/22/23	Kevin Turner
Sediment In Storm Drain	201 Shelby Ave 37213	6/22/23	Kevin Turner
Dumpster Leakage	118 8th Ave S 37203	6/14/23	Kevin Turner
Sheen On Cumberland	601 Mainstream Dr 37228	6/8/23	Kevin Turner
Outdoor Sink	409 Harwell Dr 37076	6/8/23	Kevin Turner
White Substance In Creek	2209 Abbott Martin Rd 37215	6/8/23	Kevin Turner
DIY Landfill	4837 Clarksville Pike 37189	6/8/23	Kevin Turner
Apt Sewer Overflow	914 Winthorne Dr 37217	6/6/23	Kevin Turner
Dirt Stock Pile Near St	5707 Ohio Ave 37209	6/5/23	Gretchen Judkins
Sediment From Playground	656 Colice Jeanne Rd 37221	6/2/23	Gretchen Judkins
Oil Dumping In Storm Drain	100 Ellsworth Pl 37013	5/30/23	Kevin Turner
RV Parked On Road	4221 Hurricane Creek Blvd 37013	5/30/23	Kevin Turner
Toxic Dumping	420 Vailview Dr 37207	5/23/23	Kevin Turner
Seep	1024 Stone Ridge Dr 37211	5/23/23	Kevin Turner
Possible Grease Dumping	4732 Nolensville Pike 37211	5/19/23	Kevin Turner
Dumping Antifreeze	0 Summercrest Blvd 37013	5/19/23	Kevin Turner
Material Mishandling	2040 Lucas Ln 37207	5/16/23	Kevin Turner
Sewer Odor	5031 Suter Dr 37211	5/15/23	Kevin Turner
Tailgate Sewer	7300 Charlotte Pike 37209	5/12/23	Kevin Turner
Barrel In Creek	7159 Old Harding Pike 37221	5/12/23	Kevin Turner
Car Wash Discharge	4020 Nolensville Pike 37211	5/12/23	Kevin Turner
United Rentals Track Out 2	4326 Hurricane Creek Blvd 37013	5/11/23	Gretchen Judkins
Oily Outfall At Servitech	550 Brick Church Park Dr 37207	5/11/23	Gretchen Judkins
Pet Waste Bags In Storm Drain	2524 Oak Forest Dr 37013	5/5/23	Gretchen Judkins
Sewer Issue	1225 Lebanon Pike 37210	5/5/23	Kevin Turner
Discharge Into Street	3001 A Simmons Ave 37211	5/2/23	Kevin Turner
RV Staining	Hurricane Creek Blvd	4/25/23	Gretchen Judkins
Paint/Concrete Dumping	1650 54th Ave N 37209	4/21/23	Kevin Turner
	581 TULIP GROVE RD 37076	4/21/23	Kevin Turner
Staining In Dumpster Area	6900 Lenox Village Dr 37211	4/18/23	Kevin Turner
Broken Cleanout	1821 Cedar Ln 37212	4/18/23	Kevin Turner
Sewer Issue	192 37th Ave N 37209	4/18/23	Kevin Turner
Sewer Issue Near Omo	1130 Visco Dr 37210	4/17/23	Kevin Turner
Kroger Clarksville Hwy Oil Spill	3930 Clarksville Pike 37218	4/13/23	Joshua Hayes
Sewer Issue	6065 Mt View Rd 37013	4/13/23	Kevin Turner
General Jackson Sinking Dock	2802 Opryland Dr 37214	4/13/23	Kevin Turner
Sediment And White Plume Richland Creek	30 White Bridge Pike 37205	4/7/23	Gretchen Judkins
Algae Growth In Creek	0 Sawyer Brown Rd 37221	4/5/23	Kevin Turner
Loose Soil In Ditch	509 Lovell St 37209	3/31/23	Kevin Turner
Black Liquid Running Into Road	3000 Nolensville Pike 37211	3/31/23	Kevin Turner

Table 7H.1 – Illicit Discharge (Non-Construction-Related) Investigations Initiated during FY23 (Continued)

Case Name	Location	Initiated Date	Initiated By Name
Lenox Village Ponding	7729 Porter House Dr 37211	3/31/23	Kevin Turner
Private Sewer Issue	2920 B Lebanon Pike 37214	3/31/23	Kevin Turner
Marathon Diesel Spill	1409 51st Ave N 37209	3/29/23	Kevin Turner
Discharge Into Richland Creek	200 33rd Ave N 37209	3/29/23	Kevin Turner
SRM Spill	4001 Nevada Ave 37209	3/24/23	Kevin Turner
Fuel Spill On Road	3837 Bryce Rd 37211	3/22/23	Kevin Turner
Motor Oil Spill	6955 Highland Park Dr 37205	3/20/23	Kevin Turner
SRM Truck Dumping	0 Lebanon Pike 37214	3/17/23	Gretchen Judkins
Fedex Oil Spill	3301 Knight Dr 37207	3/10/23	Kevin Turner
Sewer Issue	1208 Barkhill Pl 37013	3/10/23	Kevin Turner
Sewer Issue	5780 Crossings Blvd 37013	3/10/23	Kevin Turner
Consistent Sewer Overflow	1501 Baptist World Center Dr 37207	3/9/23	Kevin Turner
Dumping Near Creek	7700 Scenic River Ln 37221	3/7/23	Kevin Turner
Hydraulic Oil Spill	3701 Lakeridge Pass 37214	3/3/23	Kevin Turner
Transformer Oil Spill	2620 Una Antioch Pike 37013	2/28/23	Kevin Turner
Jamaican Enz	825 Murfreesboro Pike 37217	2/14/23	Kevin Turner
Sewer Overflow 550 McCrory Creek Rd	0 McCrory Creek Rd 37214	2/14/23	Kevin Turner
Buckeye Seep/Spring	1609 63rd Ave N 37209	2/14/23	Kevin Turner
Trash Dumping Twice Daily	5272 Cane Ridge Rd 37013	2/10/23	Kevin Turner
Paint Dumping In Storm Drain	302 Pitts Ave 37138	2/10/23	Kevin Turner
Auto Fluid And Parts In Street	197 Connare Dr 37115	2/10/23	Kevin Turner
Concrete Pump Partners Bioretention	3950 Dickerson Pike 37207	2/10/23	Kevin Turner
United Rentals Tracking Out	4326 Hurricane Creek Blvd 37013	2/6/23	Gretchen Judkins
Trinidad/Benham Tracking Out	4357 Hurricane Creek Blvd 37013	2/6/23	Gretchen Judkins
BWW Sewer Overflow	5215 Old Hickory Blvd 37076	2/2/23	Kevin Turner
Vale Apts. Sewage Leak	570 McMurray Dr 37211	2/1/23	Gretchen Judkins
SSO Force Main	585 Stewarts Ferry Pike 37214	1/30/23	Kevin Turner
Oil Dumping In Ditch	4763 Bowfield Dr 37013	1/30/23	Kevin Turner
Sewer Odor In Creek	3351 Stoners Bend Dr 37076	1/30/23	Kevin Turner
Parkwood Villa Apts. Sewer	3258 Brick Church Pike 37207	1/27/23	Kevin Turner
Rhythm In The Village Dumping	1053 Donelson Ave 37138	1/26/23	Kevin Turner
Maple Creek Apt Sewage	2706 Glenrose Ave 37210	1/20/23	Gretchen Judkins
Brentwood Apt Sewage	765 McMurray Dr 37211	1/20/23	Gretchen Judkins
Airsoft Pellets	406 Davidson St 37213	1/6/23	Gretchen Judkins
Hilltop Auto Compliant	2408 Dickerson Pike 37207	1/4/23	Gretchen Judkins
615 Chutney Fog	7045 Highway 70 S 37221	12/30/22	Kevin Turner
Pressure Washing Discharge	805 President Ronald Reagan Way 37210	12/16/22	Kevin Turner
Pine Bluff Hydraulic Spill	1030 Visco Dr 37210	12/13/22	Joshua Hayes
Sewer Odor	5517 Edmondson Pike 37211	12/8/22	Kevin Turner
Private Sewer Issue	220 Main St 37213	12/7/22	Kevin Turner
Paint In Street	4932 Jonquil Dr 37211	12/7/22	Kevin Turner
Popeyes Fog Container	735 Myatt Dr 37115	12/6/22	Kevin Turner
Chemical Containers Storm Ditch	1314 Newman Ave 37216	12/6/22	Kevin Turner

Table 7H.1 – Illicit Discharge (Non-Construction-Related) Investigations Initiated during FY23 (Continued)

Case Name	Location	Initiated Date	Initiated By Name
Mosaic Apartments Sewer Overflow	1019 Patricia Dr 37217	12/2/22	Kevin Turner
Sinkhole Possible Dumping	100 Jackson Downs Blvd 37214	11/30/22	Kevin Turner
Concrete Dumping In Storm Drain	1005 Shawnee Trace 37115	11/30/22	Kevin Turner
Grease Dumping Storm Drain	1095 Lischey Pl 37207	11/30/22	Kevin Turner
Music City Auto MCMW	2135 Antioch Pike 37013	11/22/22	Kevin Turner
Used Oil Spill	710 Calhoun Ave 37210	11/18/22	Robert Topolski
Hydraulic Oil Spill On Road	1000 Hawkins St 37203	11/15/22	Kevin Turner
Concrete Water Dumping	750 Old Hickory Blvd 37027	10/25/22	Kevin Turner
Sewage Leak	701 Longhunter Ct 37217	10/25/22	Kevin Turner
YMCA Construction Dumping	4041 Hillsboro Cir 37215	10/25/22	Kevin Turner
Self Serv Carwash Discharge	2008 Murfreesboro Pike 37217	10/12/22	Kevin Turner
Product Spill On Road	332 Cedarcreek Dr 37211	9/30/22	Kevin Turner
Binfresh Discharge	201 Donelson Pike 37214	9/29/22	Kevin Turner
Sewer Overflow	3319 B Old Hickory Blvd 37138	9/23/22	Kevin Turner
Fusion Site Services Discharge	2818 Whites Creek Pike 37207	9/21/22	Kevin Turner
Culbertson Rd - Drill Slurry Dumping	6552 Nolensville Pike 37027	9/14/22	Allison Davis
Cryogenic Processors Fog Spill	723 Cowan St 37207	9/7/22	Kevin Turner
Semi Truck Fire	401 Space Park South Dr 37211	8/31/22	Kevin Turner
Sewer Issue	3111 Clarksville Pike 37218	8/31/22	Kevin Turner
Sewer Overflow	0 Tisdall Dr 37189	8/31/22	Kevin Turner
Wreck From I24	107 Maury St 37210	8/30/22	Kevin Turner
SH Chrome Fire	817 Madison Industrial Rd 37115	8/26/22	Kevin Turner
Overspray And Lot Washing	2607 Winford Ave 37211	8/26/22	Kevin Turner
Sewage Smell In Ditch	3351 Stoners Bend Dr 37076	8/26/22	Kevin Turner
Southpaws Discharge	1317 8th Ave S 37203	8/25/22	Kevin Turner
Er Collision And Auto Repair - Oil Discharge	2712 Grandview Ave 37211	8/25/22	Allison Davis
Fuel Spill Briley PWKY	0 Conway St 37209	8/23/22	Kevin Turner
Motor Oil Dumped	207 Gallatin Pike S 37115	8/15/22	Robert Topolski
Diesel Spill	130 W Trinity Ln 37207	8/15/22	Robert Topolski
Construction Material	319 Tamworth Dr 37214	8/11/22	Kevin Turner
Cm Auto Heavy Staining	1915 Murfreesboro Pike 37217	8/5/22	Kevin Turner
Flats Water Edge SSO	3940 Bell Rd 37076	8/5/22	Kevin Turner
Paint Dumping In Storm Drain	116 Northcrest Commons Cir 37211	8/1/22	Kevin Turner
Brown Discharge Akzo Nobel	20 Culvert St 37210	7/29/22	Kevin Turner
Geyser In Mill Creek	6552 Nolensville Pike 37027	7/22/22	Kevin Turner
Oil Dumping In Ditch	7948 Stallion Dr 37221	7/22/22	Kevin Turner
Apt Pump Station	100 Chimneytop Dr 37013	7/22/22	Kevin Turner
Sewer/Const Complaint	4919 Buena Vista Pike 37218	7/12/22	Kevin Turner

Note: Some of these investigations were proactive water quality investigations of Metro's O&M facilities.

Table 7H.2 – Spill Response Investigations Initiated by NPDES during FY23

Case Name	Location	Initiated Date	Initiated By Name
Fuel Spill	2802 Nolensville Pike 37211	2/8/2023	Dale Binder
Pit Pumping Illicit Discharge	4100 Hillsboro Pike 37215	1/18/2023	Dale Binder
Fuel Spill - CSS	0 Rosa L Parks Blvd 37208	1/13/2023	Dale Binder
Emergency Spill Response	20 Culvert St 37210	9/28/2022	Kenneth Tranter
Truck Wreck - I40 W At I24	195 Old Hermitage Ave 37210	8/11/2022	Dale Binder

Table 7H.3 – MWS Sewer Discharge Investigations Initiated by NPDES during FY23

Case Name	Location	Initiated Date	Initiated By Name
Sewage Seep In Creek	4300 Hillsboro Pike 37215	6/29/2023	Gretchen Judkins
Sewer Discharge From Bypass	4041 Hillsboro Cir 37215	6/22/2023	Kevin Turner
Sewer Overflow Near Servitech	554 Brick Church Park Dr 37207	5/11/2023	Gretchen Judkins
Grease Sewer Main Break	130 Spence Ln 37210	4/7/2023	Gretchen Judkins
Sanitary Overflow MWS	4416 Eatons Creek Rd 37218	11/30/2022	Kevin Turner

Table 7H.4 – Metro Health Department Failing Septic Tank Investigations during FY23

Date Received	Street Name	Health Department Personnel	Date Investigated	Sewage on the Ground	Date Abated
7/5/2022	2376 Baker Road	Alexander	7/6/2022	N	n/a
7/7/2022	8330 Riley Adcock Rd	Kenney	7/12/2022	N	8/10/2022
7/13/2022	8282 Collins Rd	Alexander	7/14/2022	Y	8/1/2022
6/1/2022	8400 Rolling Hills Drive	Alexander	7/27/2022	N	n/a
8/18/2022	2297 Tinnin Road	Alexander	8/19/2022	N	n/a
8/29/2022	8435 Hwy. 70	Alexander	8/31/2022	N	n/a
8/30/2022	4684 Bull Run Road	Alexander	9/1/2022	N	n/a
8/31/2022	8467 Whites Creek Pike	Alexander	9/1/2022	Y	9/26/2022
9/6/2022	4288 Burton Hollow Road	Alexander	9/9/2022	N	n/a
9/9/2022	224 Pitts Ave	Kenney	9/13/2022	Y	10/12/2022
9/13/2022	3406 Hydes Ferry Rd	Kenney	9/16/2022	Y	n/a
9/15/2022	8384 Merrymount Rd	Kenney	9/16/2022	Y	9/28/2022
9/22/2022	1520 Chickering Rd.	Kenney	9/23/2022	N	10/5/2022
9/22/2022	4861 Brick Church Pike	Alexander	9/26/2022	N	n/a
9/22/2022	12015 Old Hickory Blvd.	Kenney	9/28/2022	N	11/3/2022
9/27/2022	3075 Elm Hill Pike	Kenney	9/28/2022	Y	10/20/2022
9/22/2022	858 Preston Rd	Kenney	9/29/2022	N	n/a
10/14/2022	8612 Old Charlotte Pk	Alexander	10/17/2022	N	n/a
10/13/2022	3845 Couchville Pike	Kenney	10/18/2022	Y	11/8/2022
10/17/2022	1839 Neelys Bend	Kenney	10/18/2022	N	n/a
5/5/2022	2464 Couchville Pike	Alexander	10/25/2022	N	n/a
10/25/2022	2297 Tinnin Road	Kenney	10/27/2022	Y	11/18/2022
10/27/2022	5041 Brick Church Pike	Kenney	10/28/2022	Y	12/29/2022
11/9/2022	7154 Harper	Kenney	11/9/2022	N	n/a
11/9/2022	3840 Bear Hollow Road	Alexander	11/10/2022	N	n/a
11/9/2022	4834 Old Hikcory Blvd.	Kenney	11/15/2022	N	n/a
11/15/2022	4878 Lickton Pike	Kenney	11/16/2022	N	n/a
11/15/2022	7754 Buffalo Road	Alexander	11/16/2022	N	n/a
11/16/2022	3850 Bear Hollow Road	Alexander	11/17/2022	N	n/a
11/29/2022	5040 Chappin Drive	Alexander	11/29/2022	Y	12/1/2022
11/29/2022	3526 Couchville Pike	Alexander	12/1/2022	N	n/a
12/2/2022	1041 Redmond Ct	Kenney	12/2/2022	Y	1/24/2023
12/12/2022	3384 Freeman Hollow Rd	Kenney	12/12/2022	N	n/a
11/9/2022	4834 Old Hikcory Blvd.	Alexander	12/15/2022	N	n/a
12/13/2022	2976 Greer Road	Alexander	12/15/2022	N	n/a
12/28/2022	7136 Harper Rd.	Kenney	12/28/2022	N	n/a
12/28/2022	3850 Bear Hollow Road	Kenney	12/28/2022	N	1/6/2023
1/3/2023	8776 Griffith Road	Alexander	1/6/2023	N	n/a
1/10/2023	5236 Lickton Pike	Kenney	1/11/2023	N	n/a
1/11/2023	6137 Little Marrowbone Lake Rd	Kenney	1/11/2023	Y	1/29/2023
1/9/2023	4540 Brick Church Pike	Alexander	1/11/2023	N	n/a
1/30/2023	6436 Clarksville Pike	Alexander	2/6/2023	N	3/15/2023
2/9/2023	6024 Cane Ridge Rd.	Kenney	2/9/2023	N	n/a
2/10/2023	313 Dry Creek Road	Alexander	2/13/2023	N	3/17/2023
2/21/2023	1229 Springfield Hwy.	Alexander	2/13/2023	N	4/5/2023

Table 7H.4 – Metro Health Department Failing Septic Tank Investigations during FY23 (Continued)

Date Received	Street Name	Health Department Personnel	Date Investigated	Sewage on the Ground	Date Abated
2/15/2023	9097 Old Charlotte Pike	Kenney	2/16/2023	Y	
2/17/2023	2650 Morgan Road	Alexander	2/21/2023	Y	5/23/2023
2/17/2023	5942 Lickton Pike	Alexander	2/21/2023	N	n/a
2/27/2023	8188 Whites Creek Pike	Alexander	3/1/2023	N	n/a
3/2/2023	7125 Bidwell Road	Alexander	3/6/2023	N	n/a
3/6/2023	3153 Ivy Point Road	Alexander	3/6/2023	N	n/a
3/20/2023	Hamilton Church Rd.	Kenney	3/21/2023	Y	4/5/2023
3/23/2023	7898 Greenbrier Rd.	Kenney	2/24/2023	Y	4/20/2023
3/23/2023	7200 Appleview	Kenney	3/23/2023	N	n/a
3/27/2023	8282 Collins Rd.	Kenney	3/23/2023	Y	5/23/2023
3/28/2023	7144 Bidwell Road	Alexander	3/30/2023	N	n/a
4/3/2023	6982 Clarksville Pike	Kenney	4/4/2023	N	4/13/2023
4/3/2023	2117 Tinnin Rd.	Kenney	4/4/2023	Y	5/25/2023
4/5/2023	4693 Bull Run Road	Alexander	4/7/2023	Y	4/14/2023
4/5/2023	5010 Pine Hill Road	Alexander	4/10/2023	Y	4/21/2023
4/7/2023	2403 Buena Vista Pike	Kenney	4/11/2023	Y	n/a
4/12/2023	5757 Craft Rd	Alexander	4/14/2023	N	n/a
4/17/2023	5961 Higdon Rd.	Alexander	4/18/2023	Y	6/12/2023
4/17/2023	3059 Morgan Rd.	Alexander	4/18/2023	N	n/a
4/20/2023	3012 Greer Rd.	Kenney	4/19/2023	Y	6/28/2023
5/4/2023	456 Deer Ridge Lane	Alexander	5/4/2023	N	n/a
5/9/2023	8630 McCrory Ln	Kenney	5/10/2023	N	n/a
5/19/2023	4362 Waller Rd.	Kenney	5/15/2023	Y	n/a
5/15/2023	8512 Newsom Station Rd.	Kenney	5/16/2023	Y	5/31/2023
5/16/2023	4111 Gourley Rd.	Kenney	5/16/2023	Y	8/25/2023
5/17/2023	7809 Aslan Ct.	Kenney	5/17/2023	Y	n/a
5/30/2023	7981 Old Springfield Pike	Kenney	5/31/2023	Y	7/12/2023
6/1/2023	8143 Charlotte Pike	Alexander	6/5/2023	N	n/a
6/2/2023	7987 Old Charlotte Pike	Kenney	6/6/2023	N	n/a
6/12/2023	8437 Rolling Hills Dr.	Kenney	6/12/2023	Y	
6/13/2023	1872 Union Hill Rd.	Kenney	6/15/2023	Y	7/6/2023
6/20/2023	7204 Appleview Ct.	Kenney	6/21/2023	N	n/a
6/16/2023	8972 Hwy. 100	Kenney	6/22/2023	N	n/a
6/20/2023	852 Tulip Grove Rd.	Kenney	6/23/2023	N	n/a

Table 7H.5 – MWS Estimated/Reported Sewage Overflows in FY23

	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	**TOT**
Wet Weather Overflows - CSO Permitted	22	8	1	9	11	13	23	7	21	14	14	0	**143**
Wet Weather Overflows - sewer (non-pumps)	6	2	4	1	9	5	22	14	6	9	3	4	**85**
Wet Weather Overflows - Pump Stations	0	0	2	1	6	9	11	1	4	6	0	0	**40**
Wet Weather Overflows SSO- TOTAL	6	2	6	2	15	14	33	15	10	15	3	4	**125**
Dry Weather Overflows - sewer (non-pumps)	3	9	6	7	6	6	2	3	7	3	4	3	**59**
Dry Weather Overflows - Pump Stations	0	0	0	0	0	1	1	0	0	1	0	1	**4**
Dry Weather Overflows - TOTAL	3	9	6	7	6	7	3	3	7	4	4	4	**63**
# of Overflows that Reached Creeks - Sewer (non-pumps)	2	3	3	4	6	1	15	8	5	6	0	1	**54**
# of Overflows that Reached Creeks - Pump Stations (All)	0	0	1	1	6	10	12	1	4	7	0	0	**42**
# of Overflow Response Staff per sewer event	2	2	2	2	2	2	2	2	2	2	2	2	**2**
# of Sewer Vac Trucks per sewer event	1	1	1	1	1	1	1	1	1	1	1	1	**1**

*Note: Most of the dry-weather overflows involve a small level of clean-up performed by Department personnel. Most of the overflows that reach creeks occur during wet weather conditions.

Table 8F.1 - MWS Stormwater Maintenance Work Order Numbers for FY23

Item	Total
Ditch Excavated/Repaired (Linear Feet)	131,384
Debris Removed - Ditch Exc. & Repair (cubic yards)	6,368
Debris Removed - General (cubic yards)	221,129
Inlets Cleaned	21,440
Inlets Repaired	20
Material Removed (lbs.)	192,960
Walls/Headwalls Built	358
Walls/Headwalls Repaired	81
Cross Drains Cleaned	270
Cross Drains Replaced	3
Matting Used (square feet)	284,855
Driveway Pipes Cleaned	1,353
Driveway Pipes Replaced	179
Preventative Maintenance Hours	4,178
Rain Routes Hours	4,415

Note: (Some assumptions are used in the quantity estimates)
*All statistics are reported based on the actual finish date of the task(s), not the work order(s).
*All cubic yardage is computed from the loads reported for each truck size.
*Debris Removed' under Ditch Exc. & Repair is the total of all cubic yardage reported under work orders that had a *Redefine Ditch' task. 'Debris Removed' under Debris Removal (misc.) is the total of cubic yardage reported under all other work orders not counted in the first Debris Removal figure.
*Inlets Repaired number includes those that were replaced with "bike-friendly" grates.

Table 8F.2 - MWS Stormwater Contracted Street Sweeping Collection Numbers for FY23

	July	August	September	October	November	December	January	February	March	April	May	June	Total
Debris Collected (tons)	209.24	230.11	266.43	208.40	391.50	289.29	246.75	218.72	330.06	164.41	335.14	251.37	**3,141.42**
Miles of Streets Swept	1,881.22	1,881.22	1,881.22	1,881.22	1,881.22	1,886.90	1,886.90	1,886.90	1,886.90	1,886.90	1,886.90	1,886.90	**22,614.44**

Table 9F.1 - Development and Review Section Plan Review Numbers for FY23

	July	August	September	October	November	December	January	February	March	April	May	June	Total
Number of Plan Submittals	89	139	93	60	102	81	109	85	98	84	105	76	**1,121**
Number of Plan Approvals	87	139	92	61	99	81	108	82	97	84	103	76	**1,109**

Note: This spreadsheet represents all plan submittals, re-submittals, including grading permit plans, plat reviews/approvals, as-built drawings, including Single Family Stormwater plan reviews, etc.

Table 10C.1 - Industrial Sites Inventoried within Metro's Database

Site Name	Site Location	TMSP Site	RMCP Site	TDEC Permit Number
Buckeye Nashville I Terminal (fka Magellan)	1609 63rd Ave N	Yes	No	TNR056545
Buckeye Nashville II Terminal (fka Magellan)	1441 51st Ave N	Yes	No	TNR056486
Loves Travel Stops Store 429	130 West Trinity Lane	No	No	TN0065536
Jones Bros. Contractors Asphalt Plant #1 (Danley)	820 Old Ezell Road	Yes	No	TNR050885
Mid-South Wire	1040 VISCO DR	Yes	No	TNR050712
Mid-South Wire (formerly AJAX Turner Co.)	1045 Visco Drive	Yes	No	TNR058898
Home City Ice fka Reddy Ice	7261 Centennial Blvd	Yes	No	TNR058772
Pull-A-Part, LLC	7114 Centennial Boulevard	Yes	No	TNR056537
Waste Management	7320 Centennial Blvd	No	No	None
YRC Freight	7300 Centennial Blvd	Yes	No	TNR059164
Southeastern Freight Lines, Inc.	4141 Murfreesboro Park	Yes	No	TNR053861
Living Earth - East Nashville	1511 Elm Hill Pike	Yes	No	TNR059260
Besway Systems Inc	305 Williams Ave	Yes	No	TNR050298
MPLX Terminals-Bordeaux Terminal (fka Marathon Petroleum)	2920 Hydes Ferry Rd	Yes	No	TNR056512
(BFI Waste) Republic Services dba Nashville Hauling	621 Hill Avenue	Yes	No	TNR058626
Metro Salvage, Inc.	1975 Springfield Hwy	Yes	No	TNR056220
Amazon.com Services DTN6	710 Myatt Drive	Yes	No	TNR056369
BHT Resources	1216 South Dickerson Road	No	No	None
Exxon Mobil Pipeline Corp Nashville Terminal	1741 Ed Temple Blvd	No	No	TN0022462
West Nashville Auto Recycling Inc.	5604 Centennial Blvd	Yes	No	TNR051899
Superior Sandblasting and Powder Coating	71 Fessler's Lane	No	No	None
Tennessee Commercial Warehouse - Nashville	700 Visco Drive	Yes	No	TNR053626
Motiva Nashville Terminal	1717 61st Ave N	No	No	None
Nashville Wilbert Burial Vault Co.	432 Woodycrest Ave	Yes	No	TNR053618
Nashville Ready Mix West Nashville	5853 River Rd	No	Yes	TNG110308
Nashville Wire Products	295 Driftwood St	No	No	None
Quality Plating	71 Fesslers Ln	Yes	No	TNR056370
Nashville VMF	707 Chestnut St	Yes	No	TNR053104
Vintage Millworks Inc	525 Merritt Ave	Yes	No	TNR054564
American Farms	2132 Smith Springs Road	No	No	None

Table 10C.1 - Industrial Sites Inventoried within Metro's Database (Continued)

Site Name	Site Location	TMSP Site	RMCP Site	TDEC Permit Number
American Farms	2132 Smith Springs Road	No	No	None
Wonton Food	1045 Firestone Parkway	Yes	No	TNR059509
Vulcan Construction Materials - Hermitage Asphalt (Lojac)	3552 Hermitage Industrial Dr	Yes	No	TNR055996
Vulcan Construction Materials - Hermitage Sign Shop	3552 Hermitage Industrial Drive	Yes	No	TNR058118
Vulcan Equipment Repair and Wash	3552 Hermitage Industrial Drive	No	No	TN0060119
Blanchard Terminal Company, LLC (Marathon Terminal)	1409 51st Ave N	Yes	No	TNR053661
Nitetrain Coach Co	7454 Old Hickory Blvd	No	No	None
Four Corners Yacht Club	4027 Lavergne Couchville	No	No	SOP-19022
Metro Nashville - Arbor Crest	Arbor Pointe Way	No	No	SOP-00032
Rebound Care Corp- Burkitt Rd	6850 Burkitt Road	No	No	SOP-97009
St. Kyrillos the Sixth Coptic Orthodox Church	5988 Cane Ridge Road	No	No	SOP-00035
WWO AL DP, LLC - Cane Ridge Rd Facility	5825 Cane Ridge Road	No	No	SOP-96032
Hearthside Food Solutions	715 Massman Drive	Yes	No	TNR050230
Anchor Transportation	3108 Blevins Road	Yes	No	TNR050588
Anchor Transportation	7435 Old Hickory Blvd	Yes	No	TNR050589
Amazon.com Services DNA2	2960 Armory Dr	Yes	No	TNR058768
Vulcan Construction - River Road Asphalt Plant	5853 River Road	No	No	SOP-96025
Vulcan Construction Materials - River Road Quarry	5853 River Road	No	No	TN0003549
Vulcan Nashville- River Road Asphalt Plant	5853 River Road	Yes	No	TNR050735
Pine Bluff Materials (formerly Hunter Marine)	6615 Robertson Ave	Yes	No	TNR059211
Quikrete - Nashville	6614 Robertson Ave	Yes	No	TNR053497
Berry Film Products	428 Harding Industrial Drive	Yes	No	TNR059649
Feintool Tennessee	2930 Old Franklin Road	Yes	No	TNR058955
Lee Building Products (Southland Brick and Block)	3201 Franklin Limestone Rd	Yes	No	TNR053089
Smyrna Ready Mix Concrete, 2nd Ave	1136 2nd Ave N	No	Yes	TNG110268
New Image Auto Dealer	1656 Antioch Pike	Yes	No	TNR059906
Amazon.com dedc UTN1	410 Harding Industrial Drive	Yes	No	TNR059098
Southerland Inc	6050 Dana Way Suite 100	Yes	No	TNR050106
Waste Management C&D Recycle Center	3211 Franklin Limestone Rd	Yes	No	TNR058154
Wise Coaches Inc	540 Collins Park Drive	Yes	No	TNR059948
Nashville Ready Mix - Visco	1120 Visco Drive	No	Yes	TNG110470

Table 10C.1 - Industrial Sites Inventoried within Metro's Database (Continued)

Site Name	Site Location	TMSP Site	RMCP Site	TDEC Permit Number
USA COE J P Priest Anderson Rd Picnic Area	4060 Anderson Road	No	No	SOP-16015
Vulcan Quarry - Hermitage	5301 Old Hickory Blvd	No	No	TN0003115
ABT Power Management (Concentric)	221 Blanton Avenue	Yes	No	TNR059350
August Bioservices (Radiant Technologies)	1845 Elm Hill Park	No	No	TNR059955
CSM Paul Huff US Army Reserve Center	3598 Bell Road	Yes	No	TNR058762
Federal Express - BNAA	1931 Air Lane Dr	Yes	No	TNR053436
Stericycle (Shred-it)	800 Airpark Commerce Drive Suite 801	Yes	No	TNR059987
U S SMOKELESS TOBACCO MANUFACTURING CO	800 Harrison St	Yes	No	TNR058868
USPS Nashville	525 Royal Pkwy	Yes	No	TNR059239
North American Galvanizing Co.(AZZ Galvanizing)	3201 Elkins Avenue	Yes	No	TNR053495
Firstexpress Inc.	1135 Freightliner Dr	Yes	No	TNR053075
Smyrna Ready Mix Concrete INC. - Visco Drive	1020 Visco Dr	No	Yes	TNG110138
Foley Products (Sherman-Dixie Concrete Industries, Inc.)	3641 Central Pike	No	Yes	TNG110408
Gibson USA	641 Massman Drive	Yes	No	TNR058870
Hearthside Food Solutions	660 Massman Drive	Yes	No	TNR050229
Waste Management dba Nashville High Grades	1740 Riverhills Drive	Yes	No	TNR059650
AllWaste fka Onsite Environmental fka Greentree Processing	1421 Baptist World Center Drive	Yes	No	TNR053609
Alternative Energy Products	1821 Seminary Street	No	No	None
Nashville Ready Mix, Inc. Baptist World	1326 Baptist World Center Dr	No	Yes	TNG110237
Smyrna Ready Mix	3040 Brandau Rd	No	Yes	TNG110270
IMI Nashville Freightliner	1281 Freightliner Drive	No	Yes	TNG110488
FedEx Freight East Inc	3960 Logistics Way	Yes	No	TNR056445
United States Cold Storage	1727 JP Hennessy Drive	Yes	No	TNR058897
Vulcan Construction Materials, LLC - Danley Asphalt (Lojac)	3185 Franklin Limestone Rd	Yes	No	TNR053269
Vulcan Materials - Danley Quarry	3187 Franklin Limestone Rd	No	No	TN0003026
Tradebe Treatment and Recycling of Nashville LLC.	450 Edenwold Road	Yes	No	TNR050450
Smyrna Mix Concrete	6677 River Road Pike	No	Yes	TNG110044
Techno-Aide	7532 Hickory Hills Ct	Yes	No	TNR059784
Amazon, LLC Sort Center / BNA5	50 Airways Blvd	Yes	No	TNR058257

Table 10C.1 - Industrial Sites Inventoried within Metro's Database (Continued)

Site Name	Site Location	TMSP Site	RMCP Site	TDEC Permit Number
IMI Nashville Airport	141 Bush Rd	No	Yes	TNG110189
Nashville Ready Mix - Cowan Ct.	1436 Cowan Ct	No	Yes	TNG110236
Averitt Express Nashville Service Center	1 Averitt Express Drive	Yes	No	TNR053592
Hayward Pool Products	2935 Sidco Drive	Yes	No	TNR053355
NASHVILLE CHEMICAL & EQUIPMENT CO INC	7340 Cockrill Bend Blvd	Yes	No	TNR059929
Purity Dairies	360 Murfreesboro Pike	Yes	No	TNR053516
XPO Logistics fka Con-Way Freight	401 Enos Reed Drive	Yes	No	TNR051466
81st RD CPL William F. Lyell AFRC	160 White Bridge Road	Yes	No	TNR053805
Amazon.com Services HBN2	1701 Lebanon Pike Circle	Yes	No	TNR059918
Amazon.com Services STN1	2 Dell Parkway	Yes	No	TNR059496
Animax Designs Inc	101 Fernco Drive	Yes	No	TNR059705
Federal Express - MQYA	127 Athens Way	Yes	No	TNR053437
KYZEN Corporation	430 Harding Industrial Drive	Yes	No	TNR050396
Southern Aluminum Finishing	1417 Poplar Lane	Yes	No	TNR059771
Jones Brothers Truck Shop	129 Bush Rd	Yes	No	TNR051878
American Fabricators Inc	570 Metroplex Drive	Yes	No	TNR050340
Smyrna Ready Mix Concrete Plant	3730 Amy Lynn Drive	No	Yes	TNG110422
IMI Ready Mix- Robertson Road	6616 Robertson Ave	No	Yes	TNG110100
BFI Waste Services of TN (BFI of Nashville)	1160 Freightliner Dr	Yes	No	TNR058639
Hilltop Auto Salvage	2408 Dickerson Pike	Yes	No	TNR056159
Waste Connections (Music City Pick A Part, LLC)	922 Lebanon Pike	Yes	No	TNR058703
ProTrition Feed LLC (LAND O'LAKES PURINA FEED LLC)	3601 Trousdale Dr	Yes	No	TNR053398
PlastiCycle	5801 Centennial Blvd	Yes	No	TNR059682
Southern Services (Waste Management of Tennessee-Nashville)	4651 Amy Lynn Dr	Yes	No	TNR051258
Rogers Manufacturing Company	110 Transit Avenue	Yes	No	TNR050478
Amazon.com Services LLC	3818 Logistics Way	Yes	No	TNR059700
Dicaperl Minerals Corp.	2601 Osage St	Yes	No	TNR056770
Palm Commodities International, Inc Sales	1717 J P Hennessy Dr	Yes	No	TNR056856
Messer LLC	4301 Hurricane Creek Rd	Yes	No	TNR059999
XPO Logistics	3737 Stewarts Lane	Yes	No	TNR058754
United Parcel Service - Nashville Whites Creek Pike	3205 Whites Creek Park	Yes	No	TNR053554

Table 10C.1 - Industrial Sites Inventoried within Metro's Database (Continued)

Site Name	Site Location	TMSP Site	RMCP Site	TDEC Permit Number
Akzo Nobel Coatings Inc.	20 Culvert St	Yes	No	TNR050546
SA Recycling (Southern Recycling)	1840 Linder Industrial Dr	Yes	No	TNR056650
Pepsi Bottling Group	715 Thompson Ln	Yes	No	TNR051157
Vietti Foods Company, Inc.	636 Southgate Ave	Yes	No	TNR053850
GAF Materials Corp.	970 Fiber Glass Rd	Yes	No	TNR050872
Wikoff Color Corporation	214 Omonhundro Place	Yes	No	TNR059474
Living Earth - Jennie Brown Yard Processing	4783 Jennie Brown Lane	Yes	No	TNR059310
Cargill (Five Star Foods)	2621 Eugenia Ave	Yes	No	TNR059257
Superior Trim	511 Bridgeway Ave	Yes	No	TNR058370
S&H Plating	817 Madison Industrial Road	Yes	No	TNR059463
Music City Environmental	1629 Elm Hill Pike	No	No	None
Precision Fabrics Group, Inc	538 Myatt Drive	Yes	No	TEMP5883
Warren Paint & Color Co	700 Wedgewood Ave	Yes	No	TNR051129
AAA Industries Inc.	3141 Ambrose Ave	Yes	No	TNR050753
All Star Recycling	460a Craighead Street	Yes	No	TNR056304
Delek Logistics LLC	90 Van Buren St	Yes	No	TNR056587
Rogers Group - Nashville Resale Yard	711 Lebanon Road	Yes	No	TNR058110
Cumberland Scrap Processor	3730 Amy Lynn Drive	Yes	No	TNR050017
Liquid Environmental Solutions	501 Cave Road	Yes	No	TNR058465
Electronic Responsible Recyclers	7515 Hickory Hills Ct	Yes	No	TNR059742
United Parcel Service - Nashville Massman Dr.	705 Massman Dr	Yes	No	TNR053562
Hogan Truck Leasing (Howard Baer)	1301 Foster Ave	Yes	No	TNR053385
N & S Inc.	361 Herron Dr	Yes	No	TNR050716
McRedmond Farms	919 Massman Dr	Yes	No	TNR059956
Metro Nashville District Energy System	90 Peabody St	Yes	No	TNR056643
Mid TN Recycling	3533 Hermitage Industrial Drive	Yes	No	TNR059390
R + L Carriers	3240 Franklin Limestone Rd	Yes	No	TNR052096
A & C Auto Parts	4701 Ashland City Highway	Yes	No	TNR050702
Auto Central	12761 Old Hickory Blvd	Yes	No	TNR059790
Frontier Logistical Services (CONE SOLVENTS INC NASHVILLE)	1830 Linder Industrial Dr	Yes	No	TNRX50273
SA Recycling fka PSC Metals	710 S 1st St	Yes	No	TNR051488
Clemons Concrete Coatings	505 Cave Road	Yes	No	TNRX50249
TREW Industrial Wheels Inc.	310 Wilhagan Rd	Yes	No	TNR053987
M & W Transportation Co., Inc.	101 Terminal Ct	Yes	No	TNR053706
River Cement Sales Co dba Buzzi Unicem	1818 Cement Plant Rd	Yes	No	TNR054581

Table 10C.1 - Industrial Sites Inventoried within Metro's Database (Continued)

Site Name	Site Location	TMSP Site	RMCP Site	TDEC Permit Number
Kano Laboratories LLC	1000 E Thompson Lane	Yes	No	TNR059830
Pine Bluff Materials- Visco	1030 Visco Dr	Yes	No	TNR053697
Flexsol Packaging Corp.	1105 Visco Drive	Yes	No	TNR055073
Civil Constrcutors - Staging	4551 Jennie Brown Lane	Yes	No	TNR059724
Hamilton Machine Co Inc	464 Woodycrest Ave	Yes	No	TNR054334
Rogers Group (Whites Creek Asphalt Plant)	2819 Whites Creek Pike	Yes	No	TNR050886
Darling Ingredients Inc.	31 Edenwald Rd	Yes	No	TNR056700
Smyrna Ready Mix - Hailey's Harbor, Inc.	3730 Amy Lynn Dr	Yes	No	TNR053535
Alternative Energy Products	501 Crutcher St	Yes	No	TNR056334
Ergon Terminaling, Inc. - Nashville	1114 Visco Dr	Yes	No	TNR056603
Lone Star Industries, Inc. d/b/a Buzzi Unicem USA - Nashville	1702 2nd Ave N	Yes	No	TNR050218
Fed Ex Ground - Nashville Knight Rd	3301 Knight Dr	Yes	No	TNR053369
Berry Global Group (Clopay Plastics Products)	463/555 Harding Industrial Dr	Yes	No	TNR056368
Greyhound Lines	709 Representative John Lewis Way South	Yes	No	TNR058664
Glatfelter Sontara Old Hickory (Jacob Holm Inc.)	326 Swinging Bridge Rd	Yes	No	TNR058900
Sinomax East, Inc.	1740 Jp Hennessey Drive	Yes	No	TNR059275
Innophos, Inc.	4600 Centennial Blvd	Yes	No	TNR050060
Fiberweb, Inc. (Berry Global)	70 Old Hickory Blvd	Yes	No	TNR056004
Quad Graphics Nashville	2947 Brick Church Pike	Yes	No	TNR058368
Supreme Oil Central, Inc. (Stratas Foods)	189 Spence Ln	Yes	No	TNR053774
Summit Constructors	1516 Ft. Negley Blvd	Yes	No	TNR059632
Superior Solvents & Chemicals	518 Swinging Bridge Rd	No	No	None
Waste Management - North Nashville (Rivergate MRF)	630 Myatt Dr	Yes	No	TNR058691
Waste Mangement Truck Maintenance Facility/Garbage Transfer St	1428 Antioch Pike	Yes	No	TNR051258
TWB Antioch	6050 Dana Way	Yes	No	TNR059269
The Mulch Company	665 & 667 Vernon Ave	Yes	No	TNR053751
Smitty's Auto Parts	1609 Bell Rd	Yes	No	TNR053717
Four Lane Auto Salvage Inc.	400 W Trinity Ln	Yes	No	TNR050223
Hennessy Industries	1601 J P Hennessy Dr	Yes	No	TNR050446
American Appliance Products - Madison	1129 Myatt Blvd	Yes	No	TNR050823
Siskin Steel	4040 Jordonia Station Road	Yes	No	TNR058950
ABF Freight System, Inc. - Nashville	890 Visco Dr	Yes	No	TNR051577
3M Company	400 Swinging Bridge Rd	Yes	No	TNR058417

Table 10C.1 - Industrial Sites Inventoried within Metro's Database (Continued)

Site Name	Site Location	TMSP Site	RMCP Site	TDEC Permit Number
Servitech Industries, Inc.	550 Brick Church Park Dr	Yes	No	TNR053500
Sessions Paving	6535 Robertson Ave	Yes	No	TNR055987
Titan Logistics LLC (BNE Properties, Inc).	317 Arlington Ave	Yes	No	TNR051617
Safety-Kleen Systems, Inc.	215 Whitsett Rd	Yes	No	TNR053225
Rivergate Auto Parts, Inc. (Nashville Truck Parts)	1471 Gallatin Pike	Yes	No	TNR056268
Nashville Wire Products	1604 County Hospital Rd	Yes	No	TNR050806
Living Earth - West Nashville	6401 Centennial Blvd	Yes	No	TNR059259
Parman Energy	7101 Cockrill Bend Bvld	Yes	No	TNR059092
Harcros Chemicals Inc	1418 Poplar Ln	Yes	No	TNR058747
Sysco Nashville	1 Hermitage Plaza	Yes	No	TNR058838
Nashville Machine Company	530 Woodycrest Ave	Yes	No	TNR050889
Reading Midwest Distribution (FTEC, Inc. (Palfleet Truck))	1801 Lebanon Park	Yes	No	TNR056769
Greer Stop Nut	481 Mcnally Dr	Yes	No	TNR050038
Rock Harbor Marine/Marina	525 Basswood Ave	Yes	No	TNR058737
Nashville Central STP	1600 2nd Ave N	Yes	No	TNR053258
Whites Creek Wastewater Treatment Plant	1360 County Hospital Rd	Yes	No	TN0024970
Dry Creek Wastewater Treatment Plant	61 Edenwold Rd	Yes	No	TNR053255
Tennessee Imports Auto Salvage	326 Oriel Ave	Yes	No	TNR055923
Paulo Products Company	3206 Ambrose Ave	Yes	No	TNR050762
Dynamic Lifecycle Innovations TN LLC	3520 Ambrose Ave	Yes	No	TNR058723
Precision Design and Machine Inc	6124 Cockrill Bend Circle	Yes	No	TNR054425
Kennametal Inc (ATI Metal Working Products)	1 Teledyne Place	Yes	No	TNR053523
Industrial Machine and Tool Co.	88 Polk Avenue	No	No	None
WestRock (Smurfit-Stone Container)	707 19th Ave N	Yes	No	TNR053040
Advanced Composites (TN)	3050 Sidco Dr	Yes	No	TNR050238
48Forty Solutions (CHEP Recycled Pallet Solutions, LLC)	601 Space Park S	Yes	No	TNR059311
United Parcel Service - TCI	7525 Hickory Hills Ct	Yes	No	TNR053556
Neely's Bend Inc.	1327 Neelys Bend Rd	Yes	No	TNR051976
LKQ Pick Your Part Southeast LLC	2030 Lucas Lane	Yes	No	TNR058938
Shrum Auto Salvage	1050 Old Buck Hill Road	Yes	No	TNR055907
All State Auto Parts, Inc.	515 Nawakwa Trl	Yes	No	TNR056026
River Hills MRF	208 River Hills Drive	Yes	No	TNR053058
Carlex Glass America	7200 Centennial Blvd	No	No	TN0003573
RelaDyne (J B Weimar)	7281 Centennial Blvd	Yes	No	TNR058304

Table 10C.1 - Industrial Sites Inventoried within Metro's Database (Continued)

Site Name	Site Location	TMSP Site	RMCP Site	TDEC Permit Number
Cumberland Terminals, Inc.	7260 Centennial Blvd	Yes	No	TNR056673
Marathon Petroleum Company LLC	930 Youngs Ln	Yes	No	TNR056654
TDSI- Auto Distribution Center	600 Veritas St	Yes	No	TNR053065
John W. McDougall Co., Inc.	3731 Amy Lynn Dr	Yes	No	TNR056432
CSX Intermodal, Inc - Nashville Terminal	3086 Sidco Dr	Yes	No	TNR058111
TRANSFLO Terminal Services, Inc. (Nashville)	426 Chestnut St	Yes	No	TNR053444
MPLX Terminals LLC-Nashville (Marathon)	5 Main St	Yes	No	TNR058168
Airgas USA LLC	7236 Centennial	No	No	none
Rogers Group, Inc. (Reostone Quarry)	6514 Robertson Avenue	No	No	TN0057657
CMC Rebar Nashville	852 Visco Dr	Yes	No	TNR058335
Peterbilt Motors Company	430 Myatt Dr	Yes	No	TNR050562
Amazon.com Services HBN1	2 Dell Pkwy	Yes	No	TNR059710
Antioch Travel Center	13011 Old Hickory Blvd	No	No	TN0028797
Borrow Site - Jones Brothers Contractors	Franklin Limestone Road	Yes	No	TNR059959
Central Pike Class IV Landfill	3530 Central Park	Yes	No	TNR054259
CMC Steel US, LLC	4280 Sidco Drive	Yes	No	TNR054524
CSX Transportation (Radnor Yard)	3661 Seaboard Drive	No	No	TN0064955
Cumberland Heights Rehabilitation Center	8283 River Road	No	No	TN0067270
Embraer Aircraft Maintenance Services, Inc	10 Airways Blvd	Yes	No	TNR058982
Ford Nashville Property (Automotive Components)	7228 Centennial Blvd	Yes	No	TN0080675
Harpeth Valley Utility District	5910 River Road	No	No	TN0074748
Harpeth Valley Utility District STP	4063 Old Hickory Blvd	Yes	No	TN0074748
Industrial Land Developers - Nashville Quarry	771 Burnett Road	No	No	TN0069922
J.P. Priest Hydro Power Plant	3737 Bell Road	No	No	TN0068152
J.P. Priest Lake Hamilton Creek Recreation	2901 Bell Road	No	No	TN0028550
John C. Tune Airport	110 Tune Airport Dr	Yes	No	TNR053942
Metro Nashville Airport Authority	1 Terminal Drive	No	No	TN0064041
Nashville Zoo aka Grassmere	3777 Nolensville Road	No	No	TN0080630
Nelson Green Brier Distillery	1414 Clinton Street	Yes	No	TNR059687
NWI Nashville	1431 Vultee Blvd	No	No	TN0001597
Opryland Resort and Entertainment Complex	2802 Opryland Drive	No	No	TN0068713
Rogers Group- Whites Creek Pike Quarry	2819 Whites Creek Pike	No	No	TN0057452
Rolling Frito-Lay Sales, LP - Nashville DC	130 Spence Ln	Yes	No	TNR056640

Table 10C.1 - Industrial Sites Inventoried within Metro's Database (Continued)

Site Name	Site Location	TMSP Site	RMCP Site	TDEC Permit Number
Sadler Bros Trucking & Leasing Company, Inc.	436 Enos Reed Dr	Yes	No	TNR050326
Steel Summit Tennessee	1718 J P Hennessy Dr	Yes	No	TNR055890
Tennessee Air National Guard	240 Knapp Blvd	Yes	No	TNR051762
Tennessee Army National Guard- Joint Base Berry Field	240 Knapp Boulevard	Yes	No	TNR058958
Triune Residuals- Centennial	7133 Centennial Blvd	Yes	No	TNR050428
Triune Residuals- Hermitage	3516 Central Pike	Yes	No	TNR054259
United Cabinet Corporation	3650 Trousdale Dr	Yes	No	TNR054500
USA COE Old Hickory Dam, Left Bank	Cinder Road	No	No	TN0021491
USF Holland, Inc.	500 Oakbluff Ln	Yes	No	TNR058068
VF Imagewear, Inc.	554 Hickory Hills Blvd	Yes	No	TNR051734
Wright Industries	707 Spence Lane	Yes	No	TNR054344

Table 10F.1 - Industrial Sites Inspected during FY23

Site Name	Site Location	Date Inspected	TDEC Permit Number	Overall Inspection Findings
Nashville Wilbert Burial Vault Co.	432 Woodycrest Ave	06/27/23	TNR053618	Minor-No Follow-up Performed
Nashville Ready Mix West Nashville	5853 River Rd	06/20/23	TNG110308	Major Exposure-NON/Letter Issued
NASHVILLE WIRE PRODUCTS	295 Driftwood St	06/15/23	None	Moderate Exposure-Verbal/Email Follow-up
Quality Plating	71 Fesslers Ln	06/15/23	TNR056370	Minor-No Follow-up Performed
Nashville VMF	707 Chestnut St	06/13/23	TNR053104	Minor-No Follow-up Performed
Vintage Millworks Inc	525 Merritt Ave	06/13/23	TNR054564	Minor-No Follow-up Performed
American Farms	2132 Smith Springs Road	06/07/23	None	Major Exposure-NON/Letter Issued
Wonton Food	1045 Firestone Parkway	06/07/23	TNR059509	Moderate Exposure-Verbal/Email Follow-up
Vulcan Construction Materials - Hermitage Asphalt (Lojac)	3552 Hermitage Industrial Dr	05/31/23	TNR055996	Moderate Exposure-Verbal/Email Follow-up
Vulcan Construction Materials - Hermitage Sign Shop	3552 Hermitage Industrial Drive	05/31/23	TNR058118	Moderate Exposure-Verbal/Email Follow-up
Vulcan Equipment Repair and Wash	3552 Hermitage Industrial Drive	05/31/23	TN0060119	Minor-No Follow-up Performed
Blanchard Terminal Company, LLC (Marathon Terminal)	1409 51st Ave N	05/25/23	TNR053661	Minor-No Follow-up Performed
Nitetrain Coach Co	7454 Old Hickory Blvd	05/23/23	None	Minor-No Follow-up Performed
Four Corners Yacht Club	4027 Lavergne Couchville	05/19/23	SOP-19022	Minor-No Follow-up Performed
Metro Nashville - Arbor Crest	Arbor Pointe Way	05/19/23	SOP-00032	Minor-No Follow-up Performed
Rebound Care Corp- Burkitt Rd	6850 Burkitt Road	05/19/23	SOP-97009	Minor-No Follow-up Performed
St. Kyrillos the Sixth Coptic Orthodox Church	5988 Cane Ridge Road	05/19/23	SOP-00035	Minor-No Follow-up Performed
WWO AL DP, LLC - Cane Ridge Rd Facility	5825 Cane Ridge Road	05/19/23	SOP-96032	Minor-No Follow-up Performed
Hearthside Food Solutions	715 Massman Drive	05/17/23	TNR050230	Moderate Exposure-Verbal/Email Follow-up
Anchor Transportation	3108 Blevins Road	05/11/23	TNR050588	Major Exposure-NON/Letter Issued
Anchor Transportation	7435 Old Hickory Blvd	05/11/23	TNR050589	Major Exposure-NON/Letter Issued
Amazon.com Services DNA2	2960 Armory Dr	05/05/23	TNR058768	Minor-No Follow-up Performed
Vulcan Construction - River Road Asphalt Plant	5853 River Road	05/03/23	SOP-96025	Minor-No Follow-up Performed
Vulcan Construction Materials - River Road Quarry	5853 River Road	05/03/23	TN0003549	Minor-No Follow-up Performed
Vulcan Nashville- River Road Asphalt Plant	5853 River Road	05/03/23	TNR050735	Minor-No Follow-up Performed

Table 10F.1 - Industrial Sites Inspected during FY23 (Continued)

Site Name	Site Location	Date Inspected	TDEC Permit Number	Overall Inspection Findings
Pine Bluff Materials (formerly Hunter Marine)	6615 Robertson Ave	05/02/23	TNR059211	Major Exposure-NON/Letter Issued
Quikrete - Nashville	6614 Robertson Ave	05/02/23	TNR053497	Major Exposure-NON/Letter Issued
Berry Film Products	428 Harding Industrial Drive	04/27/23	TNR059649	Minor-No Follow-up Performed
Feintool Tennessee	2930 Old Franklin Road	04/27/23	TNR058955	Moderate Exposure-Verbal/Email Follow-up
Lee Building Products (Southland Brick and Block)	3201 Franklin Limestone Rd	04/27/23	TNR053089	Moderate Exposure-Verbal/Email Follow-up
Smyrna Ready Mix Concrete, 2nd Ave	1136 2nd Ave N	04/20/23	TNG110268	Moderate Exposure-Verbal/Email Follow-up
New Image Auto Dealer	1656 Antioch Pike	04/19/23	TNR059906	Moderate Exposure-Verbal/Email Follow-up
Amazon.com dedc UTN1	410 Harding Industrial Drive	04/18/23	TNR059098	Minor-No Follow-up Performed
Southerland Inc	6050 Dana Way Suite 100	04/18/23	TNR050106	Minor-No Follow-up Performed
Waste Management C&D Recycle Center	3211 Franklin Limestone Rd	04/18/23	TNR058154	Minor-No Follow-up Performed
Wise Coaches Inc	540 Collins Park Drive	04/18/23	TNR059948	Minor-No Follow-up Performed
Nashville Ready Mix - Visco	1120 Visco Drive	04/12/23	TNG110470	Major Exposure-NON/Letter Issued
USA COE J P Priest Anderson Rd Picnic Area	4060 Anderson Road	04/11/23	SOP-16015	Minor-No Follow-up Performed
Vulcan Quarry - Hermitage	5301 Old Hickory Blvd	04/11/23	TN0003115	Minor-No Follow-up Performed
ABT Power Management (Concentric)	221 Blanton Avenue	04/07/23	TNR059350	Minor-No Follow-up Performed
August Bioservices (Radiant Technologies)	1845 Elm Hill Park	04/07/23	TNR059955	Minor-No Follow-up Performed
CSM Paul Huff US Army Reserve Center	3598 Bell Road	04/07/23	TNR058762	Minor-No Follow-up Performed
Federal Express - BNAA	1931 Air Lane Dr	04/07/23	TNR053436	Minor-No Follow-up Performed
Stericycle (Shred-it)	800 Airpark Commerce Drive Suite 801	04/07/23	TNR059987	Minor-No Follow-up Performed
U S SMOKELESS TOBACCO MANUFACTURING CO	800 Harrison St	04/07/23	TNR058868	Minor-No Follow-up Performed
USPS Nashville	525 Royal Pkwy	04/07/23	TNR059239	Minor-No Follow-up Performed
North American Galvanizing Co.(AZZ Galvanizing)	3201 Elkins Avenue	04/04/23	TNR053495	Major Exposure-NON/Letter Issued
Firstexpress Inc.	1135 Freightliner Dr	03/30/23	TNR053075	Minor-No Follow-up Performed
Smyrna Ready Mix Concrete INC. - Visco Drive	1020 Visco Dr	03/30/23	TNG110138	Major Exposure-NON/Letter Issued
Foley Products (Sherman-Dixie Concrete Industries, Inc.)	3641 Central Pike	03/29/23	TNG110408	Minor-No Follow-up Performed

Table 10F.1 - Industrial Sites Inspected during FY23 (Continued)

Site Name	Site Location	Date Inspected	TDEC Permit Number	Overall Inspection Findings
Gibson USA	641 Massman Drive	03/29/23	TNR058870	Minor-No Follow-up Performed
Hearthside Food Solutions	660 Massman Drive	03/29/23	TNR050229	Minor-No Follow-up Performed
Waste Management dba Nashville High Grades	1740 Riverhills Drive	03/29/23	TNR059650	Moderate Exposure-Verbal/Email Follow-up
AllWaste fka Onsite Environmental fka Greentree Processing	1421 Baptist World Center Drive	03/22/23	TNR053609	Moderate Exposure-Verbal/Email Follow-up
Alternative Energy Products	1821 Seminary Street	03/22/23	None	Major Exposure-NON/Letter Issued
Nashville Ready Mix, Inc. Baptist World	1326 Baptist World Center Dr	03/15/23	TNG110237	Major Exposure-NON/Letter Issued
Smyrna Ready Mix	3040 Brandau Rd	03/15/23	TNG110270	Minor-No Follow-up Performed
IMI Nashville Freightliner	1281 Freightliner Drive	03/13/23	TNG110488	Minor-No Follow-up Performed
FedEx Freight East Inc	3960 Logistics Way	03/06/23	TNR056445	Moderate Exposure-Verbal/Email Follow-up
United States Cold Storage	1727 Jp Hennessy Drive	03/06/23	TNR058897	Minor-No Follow-up Performed
Vulcan Construction Materials, LLC - Danley Asphalt (Lojac)	3185 Franklin Limestone Rd	03/06/23	TNR053269	Moderate Exposure-Verbal/Email Follow-up
Vulcan Materials - Danley Quarry	3187 Franklin Limestone Rd	03/06/23	TN0003026	Major Exposure-NON/Letter Issued
Tradebe Treatment and Recycling of Nashville LLC.	450 Edenwold Road	03/01/23	TNR050450	Minor-No Follow-up Performed
Smyrna Mix Concrete	6677 River Road Pike	02/28/23	TNG110044	Minor-No Follow-up Performed
Techno-Aide	7532 Hickory Hills Ct	02/28/23	TNR059784	Minor-No Follow-up Performed
Amazon, LLC Sort Center / BNA5	50 Airways Blvd	02/24/23	TNR058257	Minor-No Follow-up Performed
IMI Nashville Airport	141 Bush Rd	02/24/23	TNG110189	Minor-No Follow-up Performed
Nashville Ready Mix - Cowan Ct.	1436 Cowan Ct	02/17/23	TNG110236	Major Exposure-NON/Letter Issued
Averitt Express Nashville Service Center	1 Averitt Express Drive	02/16/23	TNR053592	Moderate Exposure-Verbal/Email Follow-up
Hayward Pool Products	2935 Sidco Drive	02/16/23	TNR053355	Minor-No Follow-up Performed
NASHVILLE CHEMICAL & EQUIPMENT CO INC	7340 Cockrill Bend Blvd	02/16/23	TNR059929	Minor-No Follow-up Performed
Purity Dairies	360 Murfreesboro Pike	02/16/23	TNR053516	Major Exposure-NON/Letter Issued
XPO Logistics fka Con-Way Freight	401 Enos Reed Drive	02/16/23	TNR051466	Moderate Exposure-Verbal/Email Follow-up
81st RD CPL William F. Lyell AFRC	160 White Bridge Road	02/13/23	TNR053805	Minor-No Follow-up Performed
Amazon.com Services HBN2	1701 Lebanon Pike Circle	02/13/23	TNR059918	Minor-No Follow-up Performed
Amazon.com Services STN1	2 Dell Parkway	02/13/23	TNR059496	Minor-No Follow-up Performed

Table 10F.1 - Industrial Sites Inspected during FY23 (Continued)

Site Name	Site Location	Date Inspected	TDEC Permit Number	Overall Inspection Findings
Animax Designs Inc	101 Fernco Drive	02/13/23	TNR059705	Moderate Exposure-Verbal/Email Follow-up
Federal Express - MQYA	127 Athens Way	02/13/23	TNR053437	Minor-No Follow-up Performed
KYZEN Corporation	430 Harding Industrial Drive	02/13/23	TNR050396	Minor-No Follow-up Performed
Southern Aluminum Finishing	1417 Poplar Lane	02/13/23	TNR059771	Moderate Exposure-Verbal/Email Follow-up
Jones Brothers Truck Shop	129 Bush Rd	02/09/23	TNR051878	Major Exposure-NON/Letter Issued
American Fabricators Inc	570 Metroplex Drive	01/26/23	TNR050340	Minor-No Follow-up Performed
Smyrna Ready Mix Concrete Plant	3730 Amy Lynn Drive	01/25/23	TNG110422	Major Exposure-NON/Letter Issued
IMI Ready Mix- Robertson Road	6616 Robertson Ave	01/20/23	TNG110100	Minor-No Follow-up Performed
BFI Waste Services of TN (BFI of Nashville)	1160 Freightliner Dr	01/11/23	TNR058639	Major Exposure-NON/Letter Issued
Hilltop Auto Salvage	2408 Dickerson Pike	01/04/23	TNR056159	Major Exposure-NON/Letter Issued
Waste Connections (Music City Pick A Part, LLC)	922 Lebanon Pike	12/30/22	TNR058703	Minor-No Follow-up Performed
ProTrition Feed LLC (LAND O'LAKES PURINA FEED LLC)	3601 Trousdale Dr	12/13/22	TNR053398	Minor-No Follow-up Performed
PlastiCycle	5801 Centennial Blvd	12/06/22	TNR059682	Major Exposure-NON/Letter Issued
Alternative Energy	1807 Cross St	11/30/22	none	Moderate Exposure-Verbal/Email Follow-up
Southern Services (Waste Management of Tennessee-Nashville)	4651 Amy Lynn Dr	10/20/22	TNR051258	Moderate Exposure-Verbal/Email Follow-up
Rogers Manufacturing Company	110 Transit Avenue	09/29/22	TNR050478	Minor-No Follow-up Performed
Amazon.com Services LLC	3818 Logistics Way	09/23/22	TNR059700	Minor-No Follow-up Performed
Dicaperl Minerals Corp.	2601 Osage St	09/21/22	TNR056770	Major Exposure-NON/Letter Issued
Palm Commodities International, Inc Sales	1717 J P Hennessy Dr	09/16/22	TNR056856	Minor-No Follow-up Performed
Messer LLC	4301 Hurricane Creek Rd	09/08/22	TNR059999	Minor-No Follow-up Performed
XPO Logistics	3737 Stewarts Lane	08/30/22	TNR058754	Minor-No Follow-up Performed
United Parcel Service - Nashville Whites Creek Pike	3205 Whites Creek Park	08/19/22	TNR053554	Minor-No Follow-up Performed
Akzo Nobel Coatings Inc.	20 Culvert St	08/08/22	TNR050546	Minor-No Follow-up Performed
SA Recycling (Southern Recycling)	1840 Linder Industrial Dr	07/14/22	TNR056650	Moderate Exposure-Verbal/Email Follow-up
Pepsi Bottling Group	715 Thompson Ln	07/06/22	TNR051157	Minor-No Follow-up Performed

Table 13A.1 – TMDL Monitoring Data for FY23

Date	Time	Site Name	Sampl. (init.)	DO mg/L	Cond. µS	Temp. °C	pH	Flow cfs	E. coli MPN/100mL	PCR huback	DWR ST. ID
7/12/2022	816	Overall	VL/MB	4.51	550	25.7	7.42		866.4	ND	OVERA000.2DA
7/12/2022	847	Drakes	VL/MB	6.73	613	22.9	7.98	0.15	307.6	ND	DRAKE000.2DA
7/12/2022	908	Ewing	VL/MB	7.08	816	24.8	8.04	0.2	290.9	ND	EWING000.8DA
7/12/2022	933	Pages	VL/MB	8.47	732	20	7.94	0.9	190.4	ND	PAGES001.1DA
7/12/2022	957	Cooper	VL/MB	8.64	443.1	18.8	7.79	0.4	178.5	ND	COOPE001.5DA
7/12/2022	1029	Neeley's	VL/MB	8.19	561	24.6	8.21	0.2	272.3	ND	NEELE00.4DA
7/12/2022	1102	Dry 2	VL/MB	8.36	655	24	7.99		304.4	ND	DRY001.1DA
7/12/2022	1122	Dry 1	VL/MB	8.8	651	23.8	7.78	0.5	184.2	ND	"DRY000.3DA
7/12/2022	1122	Dry 1	VL/MB						178	ND	DRY000.3DA
7/12/2022	1157	Manskers 1	VL/MB	7.72	495	26.9	8.24		154.1	ND	MANSK002.8SR
7/12/2022	1226	Manskers 2	VL/MB	7.58	401	26	8.08		191.8	ND	MANSK006.5DA
7/12/2022	1210	Lumsley	VL/MB	9.01	334.5	26.8	8.84	0.2	547.5	ND	LUMSL000.23DA
7/25/2022	725	Overall	MB	2.82	1033	25.9	7.57		261.3	0.1	OVERA000.2DA
7/25/2022	820	Manskers 2	VL	4.89	467	26.1	7.57		24.1	2.7	MANSK006.5DA
7/25/2022	832	Lumsley	VL	7.36	390.6	25.6	8.17	0.2	648.8	4.5	LUMSL000.23DA
7/25/2022	852	Manskers 1	VL	4.65	490	24.5	7.86		198.9	ND	MANSK002.8SR
7/25/2022	918	Dry 1	MG/VL	7	597	24.5	7.79	0.35	238.2	0.5	DRY000.3DA
7/25/2022	937	Dry 2	MB/VL	6.74	603	25.4	7.99		261.3	3	DRY001.1DA
7/25/2022	952	Neeley's	MB/VL	7.7	494	25.7	8.11	0.2	123.6	0.4	NEELE00.4DA
7/25/2022	1013	Cooper	MB/VL	8.33	477	19.1		0.3	325.5	2.1	COOPE001.5DA
7/25/2022	1047	Pages	MB/VL	7.86	713	22.5		0.55	48	ND	PAGES001.1DA
7/25/2022	1109	Ewing	MB/VL	8.25	782	27.3			72.3	ND	EWING000.8DA
7/25/2022	1126	Drakes	MB/VL	4.88	614	25.4			120.1	ND	DRAKE000.2DA
7/26/2022	839	Manskers 2	MB	5.39	434.9	25	7.98		387.3	0.1	MANSK006.5DA
7/26/2022	754	Manskers 1	MB	5.84	485	26.1	8		275.5	0.3	MANSK002.8SR
7/26/2022	814	Lumsley	MB	8.05	381.9	25	8.4	0.1	387.3	0.1	LUMSL000.23DA
7/26/2022	907	Dry 1	MB	6.95	593	24.2	7.89	0.4	307.6	0.1	DRY000.3DA
7/26/2022	925	Dry 2	MB	6.6	589	25	8.13		344.8	0.3	DRY001.1DA
7/26/2022	948	Neeley's	MB	7.54	483	25.8	8.25	0.2	387.3	0.1	NEELE00.4DA
7/26/2022	1009	Cooper	MB	8.6	476	19.4	8.15		387.3	0.1	COOPE001.5DA
7/26/2022	1036	Pages	MB	8.09	707	22.3	8.27	0.55	39.9	8.5	PAGES001.1DA

Table 13A.1 – TMDL Monitoring Data for FY23 (Continued)

Date	Time	Site Name	Sampl. (init.)	DO mg/L	Cond. µS	Temp. °C	pH	Flow cfs	E. coli MPN/100mL	PCR huback	DWR ST. ID
7/26/2022	1103	Ewing	MB	8.86	1408	28.1	8.3	0.1	24.9	0.4	EWING000.8DA
7/26/2022	1123	Drakes	MB	5	578	25.4	8.14		517.2	0.1	DRAKE000.2DA
8/2/2022	749	Overall	VL/MB	4.97	911	24.9	7.56		275.5	0.1	OVERA000.2DA
8/2/2022	812	Drakes	VL/MB								DRAKE000.2DA
8/2/2022	835	Ewing	VL/MB	8.44	1447	25.2	8.04	0.25	67	ND	EWING000.8DA
8/2/2022	857	Pages	VL/MB	7.86	690	21.8	8.09	0.6	461.1	ND	PAGES001.1DA
8/2/2022	924	Cooper	VL/MB	9.2	459	19.1	7.98	0.3	387.3	ND	COOPE001.5DA
8/2/2022	943	Neeley's	VL/MB						290.9	1.3	NEELE00.4DA
8/2/2022	1000	Dry 2	VL/MB	6.43	509	24.6	7.95		613.1	ND	DRY001.1DA
8/2/2022	1017	Dry 1	VL/MB	7.82	528	23.6	8.18	0.4	129.6	ND	DRY000.3DA
8/2/2022	1051	Manskers 1	VL/MB	7.65	27	8.13	8.13		143	ND	MANSK002.8SR
8/2/2022	1108	Lumsley	VL/MB	11.28	324.9	28.1	8.72	0.2	2419.6	ND	LUMSL000.23DA
8/2/2022		Manskers 2	VL/MB	6.76	24.7	24.7	7.93		547.5	ND	MANSK006.5DA
8/3/2022	800	E Fork Browns	MB						1732.9	ND	EFBRO000.2DA
8/3/2022	827	Overall	MB	5.35	971	25.7	7.93		387.3	ND	OVERA000.2DA
8/3/2022	847	Drakes	MB							ND	DRAKE000.2DA
8/3/2022	909	Ewing	MB	7.44	846	25.6	8.07	0.1	108.1	ND	EWING000.8DA
8/3/2022	938	Pages	VL	6.98	694	22.3	8.04	0.5	157.6	ND	PAGES001.1DA
8/3/2022	915	Cooper	VL	8.48	458	19.2	8.14		435.2	ND	COOPE001.5DA
8/3/2022	1003	Neeley's	VL	8.15	455	25.9	8.36	0.2	387.3	ND	NEELE00.4DA
8/3/2022	1022	Dry 2	VL	8.14	476	23.8	8.26		275.5	ND	DRY001.1DA
8/3/2022	1040	Dry 1	VL	7.84	488	24.6	8.23	0.2	206.4	ND	DRY000.3DA
8/3/2022	1059	Manskers 1	VL	5.41	453.3	28.4	8.29		72.8	ND	MANSK002.8SR
8/3/2022	1121	Lumsley	VL	11.49	346.2	29	8.88	0.1	1119.9	ND	LUMSL000.23DA
8/3/2022	1138	Manskers 2	VL						95.9	ND	MANSK006.5DA
8/4/2022	1050	Overall	MB	5.29	979	25.8	7.63		129.6	ND	OVERA000.2DA
8/4/2022	1226	Lumsley	MB	10.6	327.4	27.5	8.94	0	920.8	0.1	LUMSL000.23DA
8/2/2022	835	Ewing dup	VL/MB						83.6		EWING000.8DA
8/25/2022	812	Lumsley	VL	8.38	378.7	21.3	8.24	0	416	0.7	LUMSL000.23DA
8/25/2022	830	Manskers 2	VL	6.28	431.2	21.7	8		517.2	0.6	MANSK006.5DA
8/25/2022	847	Manskers 1	VL	5.31	493	22.4	7.78	0	214.2	0.5	MANSK002.8SR
8/25/2022	908	Dry 1	VL	8.46	642	23	7.78		69.7	1.1	DRY000.3DA

Table 13A.1 – TMDL Monitoring Data for FY23 (Continued)

Date	Time	Site Name	Sampl. (init.)	DO mg/L	Cond. µS	Temp. °C	pH	Flow cfs	E. coli MPN/100mL	PCR huback	DWR ST. ID
8/25/2022	917	Dry 2	VL	8.86	649	24	7.96		111.2	0.5	DRY001.1DA
8/25/2022	932	Neeleys	VL	8.52	443.9	23.4	8.35		260.3	0.4	NEELE00.4DA
8/25/2022	1012	Cooper	VL	8.46	490	19.3	8.21		>2419.6	0.1	COOPE001.5DA
8/25/2022	809	Overall	VL	3.63	734	24.3	7.42		146.7	ND	OVERA000.2DA
8/25/2022	855	Drakes	MB								DRAKE000.2DA
8/25/2022	905	Ewing	MB	7.71	753	23.2	8.09		461.1	ND	EWING000.8DA
8/25/2022	923	Pages	MB	7.04	704	21.1	8.07		325.5	ND	PAGES001.1DA
8/25/2022	905	Ewing Dup							686.7		EWING000.8DA
9/19/2022	757	Overall	MB						108.1	26	
9/19/2022	801	Manskers 1	VL	7.74	495	19.4	8.29		61.32	ND	
9/19/2022	834	Lumsley	VL	9.6	399	19.2	8.36		920.8	2	
9/19/2022	916	Pages Branch	MB	7.91	647	19.7	8.13		160.7	1.9	
9/19/2022	853	Manskers 2	VL	6.82	421.1	19.5	7.48		280.9	1.1	
9/19/2022	852	Cooper	MB	7.9	462	18.2	8.11		613.1	1.7	COOPE001.5DA
9/19/2022	912	Dry 1	VL	8.55	629	19.2	7.8		920.8	ND	"DRY000.3DA
9/19/2022	926	Dry 2	VL	7.7	537	20.7	8		410.6	ND	DRY001.1DA
9/19/2022	932	Ewing	MB	7.53	709	20.9	8.12		547.5	1	EWING000.8DA
9/19/2022		Drakes	VL								DRAKE000.2DA
9/19/2022	932	Neeley's	VL	8.65	426	21.6	8.18		920.8	ND	
10/24/2022	936	Manskers 1	VL	7.06	484	13.4	7.59		387.3	ND	MANSK002.8SR
10/24/2022	953	Lumsley	VL	11.04	383.4	11	7.8		435.2	4.2	LUMSL000.23DA
10/24/2022	953	Lumsley Dup	VL						275.5		LUMSL000.23DA
10/24/2022	1007	Manskers 2	VL	5.73	534	13	7.46		34.5	ND	MANSK006.5DA
10/24/2022	1037	Dry 1	VL	7.64	464	12.8	7.76		93.3	ND	DRY000.3DA
10/24/2022	1049	Dry 2	VL	8.02	459	13.1	7.89		86.2	ND	DRY001.1DA
10/24/2022	1053	Neeleys	VL	9.18	394.2	15.4	8.04		648.8	ND	NEELE00.4DA
10/24/2022	1114	Cooper	VL	8.1	442.8	7.72	15.3		272.3	ND	COOPE001.5DA
10/24/2022	1124	Pages Branch	VL	7.13	696	14.6	8.06		137.4	1.5	PAGES001.1DA
10/24/2022	1138	Ewing	VL	7.64	1243	15.2	8.01		113.7	ND	EWING000.8DA
10/25/2022	814	Overall	MB						307.6	ND	OVERA000.2DA
11/21/2022	901	Manskers 1	VL	5.94	462	6.4	8.3		133.3	ND	MANSK002.8SR
11/21/2022	927	Lumsley	VL	15.46	488	0.4	7.98		178.5		LUMSL00.23DA

Table 13A.1 – TMDL Monitoring Data for FY23 (Continued)

Date	Time	Site Name	Sampl. (init.)	DO mg/L	Cond. µS	Temp. °C	pH	Flow cfs	E. coli MPN/100mL	PCR huback	DWR ST. ID
11/21/2022	942	Manskers 2	VL	11.36	512	3.8	7.78		27.2	2.7	MANSK006.5DA
11/21/2022	954	Dry 1	VL	7.88	501	5.3	8.1		62	ND	DRY000.3DA
11/21/2022	1006	Dry 2	VL	13.1	639	4.4	7.95		71.2	ND	DRY001.1DA
11/21/2022	1006	Dry 2	VL						60.5		DRY001.1DA
11/21/2022	1018	Neeleys	VL	12.4	485	7	8.11		191.8	ND	NEELE000.4DA
11/21/2022	1037	Cooper	VL	9.49	461	11.3	7.91		325.5	ND	COOPE001.5DA
11/21/2022	836	Field Blank	MB						0		
11/21/2022	857	Ewing	MB	13.4	841	3			150	ND	EWING000.8DA
11/21/2022	915	Drakes	VL/MB	11.26	619	3.9	7.81		51.2	2.1	DRAKE000.2DA
11/21/2022	941	Overall	MB	8.58	730	5.3	7.98		119.8	ND	
12/19/2022	926	Manskers 1	VL	14.58	465	5.4	7.03		325.5	6.2	
12/19/2022	942	Lumsley	VL	14.17	384.6	4.9	7.99		118.7	ND	
12/19/2022	956	Manskers 2	VL	12.48	374.6	5.5	7.41		75.9	ND	
12/19/2022	1007	Dry 1	VL	11.43	528	9.7	7.62		240	15.3	"DRY000.3DA
12/19/2022	1016	Dry 2	VL	11.96	486	6.4	7.84		275.5	ND	DRY001.1DA
12/19/2022	1024	Neeleys	VL	11.59	528	7.2	8.11		261.3	ND	
12/19/2022	1038	Cooper	VL	10.42	448	6.4	7.96		290.9	ND	COOPE001.5DA
12/19/2022	930	Overall	MB	9.8	662	6.9	7.67		90.8	17.6	
12/19/2022	925	Field Blank	MB						-99		
12/19/2022		Drakes	MB	11.45	565	9.1	7.84		101.4	9.7	DRAKE000.2DA
12/19/2022	1001	Ewing	MB	15.66	670	6.1	8.19		125	ND	EWING000.8DA
12/19/2022	1033	Pages	MB	11.43	543	12.2	8.06		2419.6	20.4	
12/19/2022	1016	Ewing Dup							98.7		EWING000.8DA
1/23/2023	926	Manskers 2	LB/VL	12.73	283.6	8.9	8.25		191.8	0.9	
1/23/2023	955	Dry 1	LB/VL	12.8	374.3	9.9	8.31		33.2	7.2	"DRY000.3DA
1/23/2023	1016	Dry 2	LB/VL	13.48	496	9.8	8.51		178.9	ND	DRY001.1DA
1/23/2023	841	Manskers 1	LB/VL	11.55	386.4	8.2	8.24		191.8	5.6	
1/23/2023	907	Lumsley	LB/VL	13.54	367.3	8	8.43		137.6	2.4	
1/24/2023	847	Overall	LB/VL	10.53	746	7.2	7.9		36.9	ND	
1/24/2023	926	Drakes	LB/VL	11.86	509	8.3	8.03		35.5	ND	DRAKE000.2DA
1/24/2023	949	Ewing	LB/VL	13.01	655	6.5	8.23		101.2	ND	EWING000.8DA
1/24/2023	1031	Cooper	LB/VL	10.19	455	14.7	7.82		228.2	ND	COOPE001.5DA

Table 13A.1 – TMDL Monitoring Data for FY23 (Continued)

Date	Time	Site Name	Sampl. (init.)	DO mg/L	Cond. µS	Temp. °C	pH	Flow cfs	E. coli MPN/100mL	PCR huback	DWR ST. ID
1/24/2023	1050	Neeleys	LB/VL	11.5	518	10.7	8.35		2419.6	10.6	
1/24/2023	1117	Pages	LB/VL	11	694	12.9	8.15		83.3	ND	
11/21/2022	836	Pages	MB/VL	11.54	778	7.1	8.52		45	3.1	
2/14/2023	833	Overall	MB/LB	10.12	770	8.7	8.16		32.7	ND	
2/14/2023	922	Drakes	MB/LB	12.92	523	9.4	8.2		95.9	ND	DRAKE000.2DA
2/14/2023	942	Ewing	MB/LB	13.14	762	8.2	8.25		160.7	ND	EWING000.8DA
2/14/2023	1001	Pages	MB/LB	10.84	706	12.8	8.26		71.2	ND	
2/14/2023	1017	Cooper	MB/LB	10.73	452.7	14.7	8.05		275.5	1.4	COOPE001.5DA
2/14/2023	1035	Neeleys	MB/LB	13.28	528	10.9	8.56		727	ND	
2/14/2023	1050	Dry 2	MB/LB	15.04	500	10	8.71		275.5	7.5	DRY001.1DA
2/14/2023	1105	Dry 1	MB/LB	13.71	519	9.8	8.4		25.6	ND	"DRY000.3DA
2/14/2023	1131	Manskers	MB/LB	17.54	386.3	8.6	8.92		96	ND	
2/14/2023	1145	Lumsley	MB/LB	16.59	355.5	9.5	8.91		88.2	1.6	
2/14/2023	1202	Manskers 2	MB/LB	15.91	300.7	9.9	8.95		53.8	ND	
3/7/2023	900	Manskers 1	VL	10.59	372.7	12.5	8.42		178.5	1.7	
3/7/2023	903	Pages	MB/LB	11.71	673	14.5	8.03		125	4.1	
3/7/2023	918	Lumsley	VL	12.1	346	12.3			110.6	ND	
3/7/2023	926	Cooper	MB/LB	11.24	443.8	15.5	7.74		79.4	4.9	COOPE001.5DA
3/7/2023	931	Manskers 2	VL	11.46	303.2	12.3			178	2.4	
3/7/2023	946	Dry 1	VL	11.81	370.2	13.6			217.8	5	"DRY000.3DA
3/7/2023	950	Ewing	MB/LB	12.75	649	13.3	8.19		186	6.1	EWING000.8DA
3/7/2023	956	Dry 2	VL	11.77	471	13.7			198.9	5	DRY001.1DA
3/7/2023	1017	Neeleys	VL	12.04	486	15.1			613.1	5	
3/7/2023	1044	Overall	LB	10.16	616	13.1	7.84		60.9	3.5	
3/7/2023	1111	Drakes	LB	12.72	466	14.7	8.17		125.9	2.4	DRAKE000.2DA
4/17/2023	850	Pages	LB	9.99	652	13	8.21		195.1	26	
4/17/2023	917	Ewing	LB	97.7	613	12.7	8.38		67	ND	EWING000.8DA
4/17/2023	947	Drakes	LB	10.78	510	12.2	8.34		172.6	41.3	DRAKE000.2DA
4/17/2023	1022	Overall	LB	10.05	571	13	8.04		67.6	2.3	
4/17/2023	1004	Dry 1	VL	11.03	394.3	11.2	8.04		2419.6	24.3	"DRY000.3DA
4/17/2023	952	Manskers 2	VL	10.69	357.6	11.6	8.19		47.3	ND	

Table 13A.1 – TMDL Monitoring Data for FY23 (Continued)

Date	Time	Site Name	Sampl. (init.)	DO mg/L	Cond. µS	Temp. °C	pH	Flow cfs	E. coli MPN/100mL	PCR huback	DWR ST. ID
4/17/2023	916	Manskers 1	VL	11.98	399.7	11.9	8.1		93.3	ND	
4/17/2023	935	Lumsley	VL	12.46	358.1	10.9	8.32		435.2	6.9	
5/24/2023	747	Manskers 1	VL	7.08	449.3	19.2	8.07		365.4		
5/24/2023	753	Lumsley	VL	9.49	402.4	18.4	8.34	0	387.3		
5/24/2023	809	Manskers 2	VL	6.88	540	17.9	8.09		43.9		
5/24/2023	821	Dry 1	VL	8.88	540	17.9	8.09		122.2		DRY000.3DA
5/24/2023	832	Dry 2	VL	8.71	567	17.9	8.12		185		DRY001.1DA
5/24/2023	753	Overall	LB/GJ	6.64	636	18.2	11.65		224.7		
5/24/2023	832	Drakes	LB/GJ	9.14	554	17.7	10.71		224.7		DRAKE000.2DA
5/24/2023	851	Ewing	LB/GJ	8.52	706	19.2	10.13		161.6		EWING000.8DA
5/24/2023	913	Neeleys	LB/GJ	9.63	551	19.4	11.37		365.4		
5/24/2023	931	Cooper	LB/GJ	9.75	469	16.9	10.83		107.1		COOPE001.5DA
5/24/2023	1004	Pages	LB/GJ	9.34	695	17.8	10.12		98.8		
6/15/2023	907	Lumsley	VL	10.7	343.8	19.9	9.09		248.9	5.9	
6/15/2023	922	Manskers 2	VL	5.69	483	20.1	8.39		90.6	8.5	
6/15/2023	846	Overall	LB	5.81	755	20	7.69		249.5	ND	
6/15/2023	925	Drakes	LB	8.15	546	19	8.14		686.7		DRAKE000.2DA
6/15/2023	1014	Pages	LB	8.11	650	19.3	8.26	0	313	ND	
6/15/2023	1044	Ewing	LB	8.7	399.4	21.2	8.1		139.6	ND	EWING000.8DA
6/15/2023	1113	Cooper	LB	8.96	482	18.5	8.2	0	410.6	ND	COOPE001.5DA
6/15/2023	1134	Neeley's	LB	7.55	499	21.3	8.26	0	1553.1	ND	
6/15/2023	1222	Dry 2	LB	7.36	500	20.8	8.26		1732.9	ND	DRY001.1DA
6/15/2023	1201	Dry	LB	7.63	544	20.5	8.05	0	143.9	ND	"DRY000.3DA

Table 13A.2 - SWMP Quantifiable Statistics

Categories	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23
Total Waste Collected (tons)	150,972.54	152,430.24	153,266.01	149,474.79	151,425.06	151,501.17	148,297.40	151,131.01	153,795.70	155,738.78	163,340.77	162,884.18	165,720.90	175,580.57	179,135.55	178,483.99	169,782.47	161,684.58
# of Water Quality Complaints (non-construction) Investigations Initiated in Database	287	156	135	133	139	138	122	131	114	99	100	107	120	123	130	112	94	124
# of Construction Stormwater-Related Inspections (Grading Permit Sites or Grading without Permit)	5,721	6,552	6,327	6,160	5,079	5,457	5,843	5,170	6,064	6,082	6,684	6,787	7,277	8,342	8,590	8,606	9,528	9,597
# of Grading Permits Issued	252	239	165	109	121	135	142	138	318	276	254	262	311	327	283	308	290	255
# of Engineered Plans Submitted to Stormwater Development and Review	1,427	1,505	1,970	1,600	1,367	1,319	1,525	1,791	1,813	2,572	3,034	3,636	3,293	2,911	1,646	1,340	1,168	1,121
# of Construction Plans Approved or Declared No Permit Needed by Stormwater Development and Review	507	619	871	687	506	559	1,174	1,411	1,360	1,998	1,450	1,419	1,415	1,205	1,537	1,286	1,144	1,109
# of Stormwater Enforcements (Construction-Related) (NOVs and SWOs)	283	190	342	188	123	148	94	96	168	128	116	159	112	125	87	76	77	78

Table 13A.3 – Ambient Monitoring Data for the FY23 Reporting Period

Date	Time	Site Name	TDEC Station ID	Samplers (initials)	DO %	DO mg/L	Cond. uS	Temp C	pH	Flow ft^3/sec	E. coli MPN	BOD5 mg/L	COD mg/L	NH3 mg/L	TKN mg/L	Nitrate-Nitrite mg/L	Total N mg/L	Diss. P mg/L	Total P mg/L	Pb ug/L	Zn ug/L	Cr ug/L	Cu ug/L	Ni ug/L	Oil and Grease mg/L	TSS mg/L	TDS mg/L
9/21/2022	950	Manskers 2	MANSK005.8SR	MB/VL	61.7	5.35	430.70	22.40	7.77	---	47.3	<2	<15	<0.1	0.18	0.24	0.42	0.04	<0.1	0.117	1.238	<1	<1	0.635	<5	<5	254
9/21/2022	815	Trip Blank	TRIPBLANKCONSULTANT	MB	---	---	---	---	---	---	<1	<2	<15	<0.1	<0.1	ND	ND	<0.1	<0.1	<0.1	<1	<1	<1	<0.1	<5	<5	<1
9/21/2022	1050	Whites 2	WHITE007.5DA	VL/MB	86.9	7.33	522.0	23.9	7.73	---	172.5*	<2	<15	<0.1	0.12	ND	0.12	0.13	<0.1	0.124	<1	<1	<1	0.571	<5	9	0.13
2/22/2023	1005	Whites 2	WHITE007.5DA	VL/LB	130.0	13.43	432.8	13.8	8.42	88.13	101.4	<2	<15	<0.1	0.22	0.54	0.76	<0.1	<0.1	<0.1	<1	<1	<1	0.278	<5	9	275
2/22/2023	1127	Manskers 2	MANSK005.8SR	VL/LB	137.1	13.92	301.80	14.90	8.73	7.97	73.3	<2	<15	<0.1	<0.1	0.38	0.38	<0.1	<0.1	<0.1	<1	<1	<1	0.368	<5	8	188
2/22/2023	1002	Field Blank	FIELDBLANKCONSULTANT	VL/LB	---	---	---	---	---	---	<1	<2	<15	<0.1	<0.1	ND	ND	0.12	<0.1	<0.1	<1	<1	<1	<0.1	<5	<5	1
4/20/2023	930	Manskers 2	MANSK005.8SR	MB/VL	98.0	9.95	365.7	14.5	8.21	---	111.0	<2	<15	<0.1	0.19	0.28	0.47	0.03	<0.1	<0.1	<1	<1	<1	0.453	<5	<5	207
4/20/2023	930	Manskers 2 Dup	MANSK005.8SR	MB/VL	---	---	---	---	---	---	111.0	<2	<15	<0.1	0.19	0.26	0.45	0.04	<0.1	<0.1	<1	<1	<1	0.394	<5	<5	197
4/20/2023	1010	Whites 2	WHITE007.5DA	MB/VL	121.5	11.73	396.9	16.8	8.55	---	99.0	<2	<15	<0.1	0.20	0.12	0.32	0.06	<0.1	<0.1	<1	<1	<1	0.347	<5	<5	203
6/15/2023	844	Manskers 1	MANSK002.8SR	VL	74.5	6.50	452.6	21.2	8.73	---	186.0	<2	<15	<0.1	<0.1	0.20	<0.3	0.06	0.12	0.210	2.651	<1	2.718	0.895	<5	21	265
6/15/2023	813	Whites 2	WHITE007.5DA	VL	71.6	6.29	468.0	21.3	8.55	---	167.0	<2	<15	<0.1	0.36	0.14	0.50	0.12	0.13	0.302	11.080	<1	1.703	0.948	<5	16	274

ND = Non-detect

* E. coli value from 9/26/2023

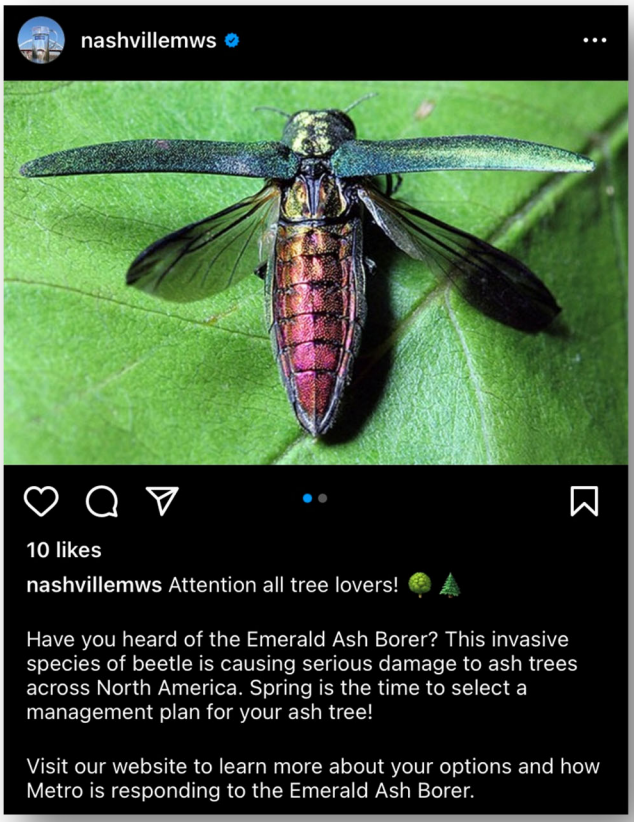
Table 13A.4 – Benthic Monitoring Data for TMDL Streams during FY23 Reporting Period

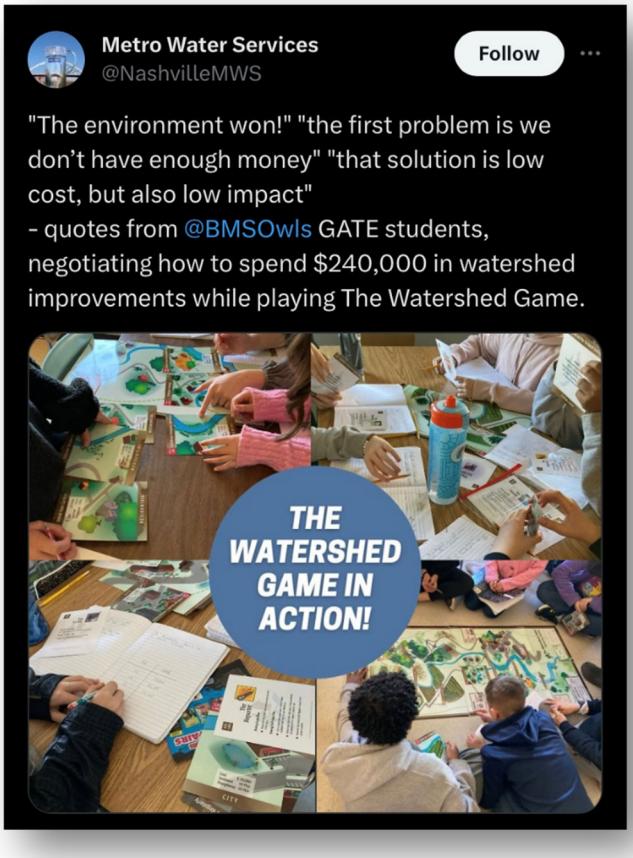
Station ID	Site Name	Date	Ecoregion	QC	Habitat Score	Collection Method	TMI	HUC
EWING000.8DA	Ewing Creek	9/1/2022	71h		95	SQKICK	32	TN05130202010_0900
LOVES000.4DA	Loves Branch	9/8/2022	71h		116	SQKICK	28	TN05130202211_1000
DRY001.1DA	Dry Creek 2	9/14/2022	71h		103	SQKICK	18	TN05130202027_2000
MANSK005.8SR	Manskers Creek 2	9/26/2022	71h		107	SQKICK	26	TN05130202220_2000
MANSK005.8SR	Manskers Creek 2	9/26/2022	71h	Duplicate	110	SQKICK	---	TN05130202220_2000
WHITE005.7DA	Whites Creek 2	9/26/2022	71h		142	SQKICK	30	TN05130202010_2000
WHITE005.7DA	Whites Creek 2	9/26/2022	71h	Duplicate	---	SQKICK	30	TN05130202010_2000
CJO000.1DA	Cathy Jo Branch	9/29/2022	71h		136	SQKICK	16	TN05130202007_1490
GIBSO001.3DA	Gibson Creek	10/18/2022	71h		122	SQKICK	36	TN05130202212_1000
MANSK002.8DA	Manskers Creek 1	10/19/2022	71h		138	SQKICK	24	TN05130202220_1000
MANSK005.8SR	Manskers Creek 2	3/1/2023	71h		112	SQKICK	30	TN05130202220_2000
DRAKE000.2DA	Drakes Creek	3/15/2023	71h		128	SQKICK	12	TN05130202010_0200
EWING000.8DA	Ewing Creek	3/27/2023	71h		130	SQKICK	12	TN05130202010_0900
LOVES000.4DA	Loves Branch	3/29/2023	71h		154	SQKICK	20	TN05130202211_1000
DRY001.1DA	Dry Creek 2	4/4/2023	71h		122	SQKICK	10	TN05130202027_2000
WHITE005.7DA	Whites Creek 2	4/18/2023	71h		141	SQKICK	18	TN05130202010_2000
GIBSO001.3DA	Gibson Creek	4/26/2023	71h		137	SQKICK	12	TN05130202212_1000
MANSK002.8SR	Manskers Creek 1	5/1/2023	71h		138	SQKICK	24	TN05130202222_1000
MANSK002.8SR	Manskers Creek 1	5/1/2023	71h		141	SQKICK	22	TN05130202222_1000
OVERA000.2DA	Overall Creek	5/3/2023	71h		104	SQKICK	20	TN05130202001T_0900
WBHUR000.5DA	W Branch Hurricane	5/17/2023	71h		124	SQKICK	30	TN05130203036_0200
STONE000.9DA	Stoners Creek	5/22/2023	71i		142	SQKICK	28	TN05130203035_1000
HURRI002.6DA	Hurricane Creek	6/1/2023	71h		152	SQKICK	16	TN05130203036_1000
MILL009.6DA	Mill Creek 3	6/6/2023	71h		157	SQKICK	20	TN05130202007_3000
MILL021.2DA	Mill Creek 5	6/8/2023	71h		133	SQKICK	22	TN05130202007_5000
INDIA000.4DA	Indian Creek	6/14/2023	71h		117	SQKICK	22	TN05130202007_0800

4.0 Supporting Program Data

The following is supplemental data that supports Metro Nashville's MS4 Permit Compliance:

Examples of MWS Stormwater Social Media Posts in FY23





Examples of MWS Stormwater Social Media Posts in FY23 (Continued)

Nashville Metro Water Services
Nov 3, 2022 ·

"I want to work here when I'm older, if it's still here," remarked one of our homeschool visitors at the K.R. Harrington drinking water treatment plant. We will be here, and we will be hiring!

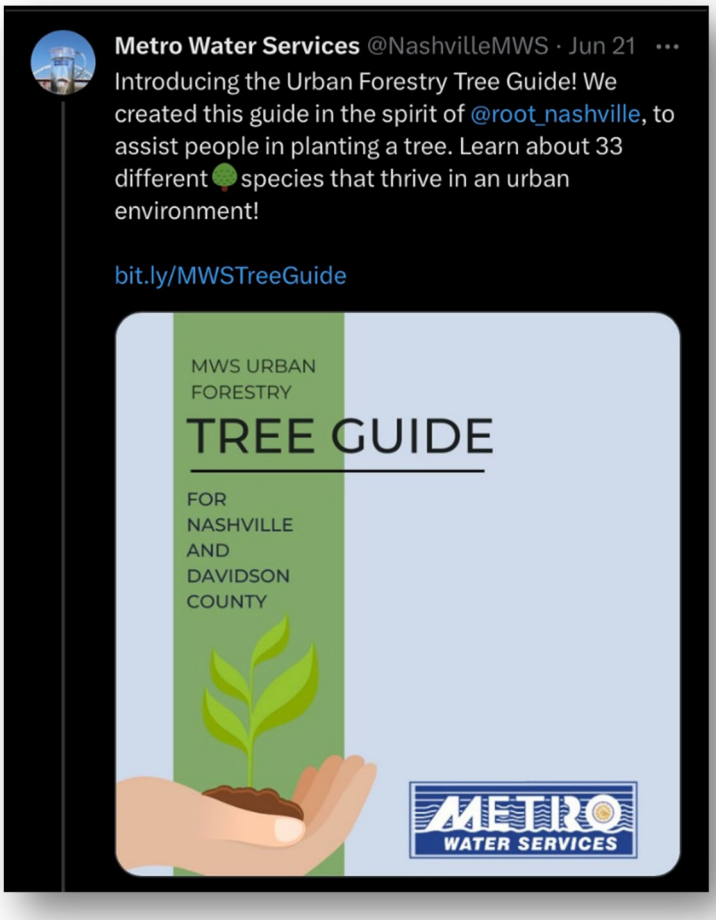
Learn how you can schedule a group tour at **www.nashville.gov/departments/water/community-education/school-programs**

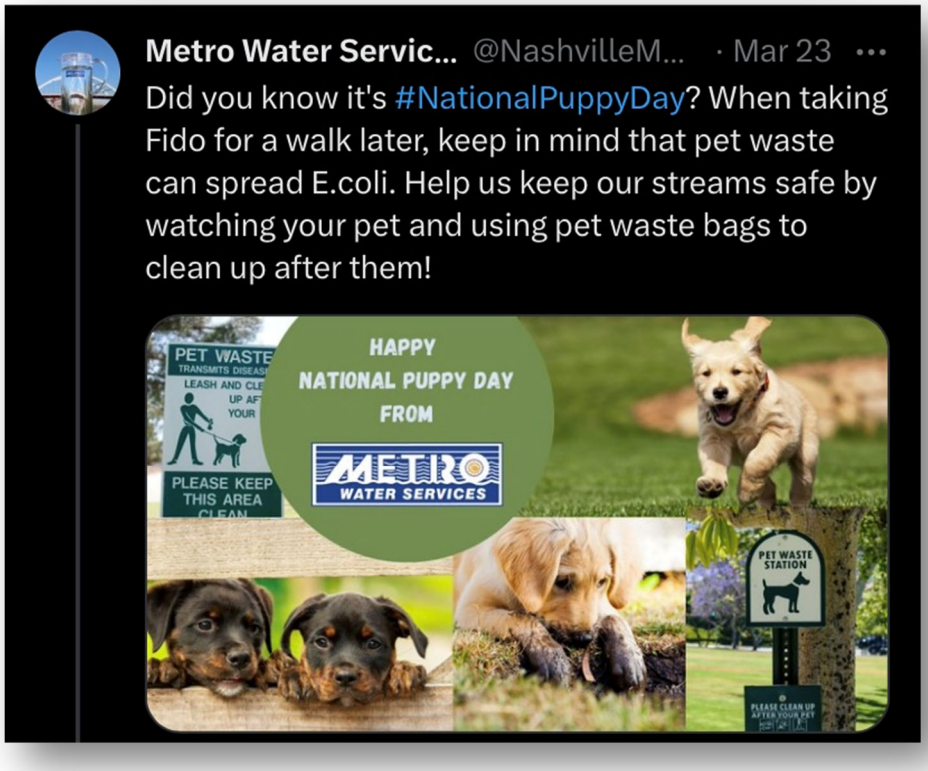
Nashville Metro Water Services
Oct 3, 2022 ·

Did you see us this weekend? MWS was out and about at Cumberland Park, talking Stormwater at the Dragon Boat Festival! Thank you **Cumberland River Compact** for having us, we are already looking forward to next year!

p.s. if you weren't able to stop by, make sure to check out our website for tips!
https://www.nashville.gov/departments/water/stormwater/pollution-prevention/community-guidance

Examples of MWS Stormwater Social Media Posts in FY23 (Continued)





Photos of Rain Garden installed at the Richland Park Library as a Proactive Stormwater Retrofit in FY23

Various Stats Tracked for the Current Water Quality Improvement Project Contract with the Cumberland River Compact as of the Date the Annual Report was Compiled.

End Date	Rain Garden Consultations	Rain Garden Classes	Rain Gardens Constructed	Native Infiltration Landscaping (sq ft)	# of Trees Planted	Depave Projects	Bank Stabilization (linear ft)	Riparian Buffer Plantings/ Maintenance (linear ft)	Residents Educated on Bank Stabilization	Streams Adopted	Stream Cleanups	Residents Educated	Students Educated (Stream Ecosystems/ Creek Critters)	Residents Provided Recreation Opportunities
8/5/2020	3	0	6	0	534	0	105	0	3	2	19	4913	533	0
11/5/2020	7	0	11	0	385	1	0	0	0	0	6	1232	19	59
2/5/2021	2	0	0	0	940	0	0	0	0	3	2	702	187	0
5/5/2021	9	0	0	0	652	0	50	0	2	2	8	1301	54	0
8/5/2021	8	0	20	0	0	1	350	550	26	2	5	498	86	34
11/5/2021	5	0	4	0	444	0	0	9500	0	15	7	1481	403	16
2/5/2022	6	1	7	0	801	0	0	0	98	7	6	717884	260	0
5/5/2022	10	2	17	0	819	0	175	100	40	5	15	10597	1670	0
8/5/2022	4	0	0	0	0	0	0	21310	0	0	22	66140816	113	54
11/5/2022	5	0	3	0	523	0	0	21730	0	1	23	318759	1086	959
2/5/2023	6	1	0	2500	2301	1	0	0	0	2	18	852231	1483	0
5/5/2023	28	2	1	800	1794	0	0	5975	3	2	22	6680318	313	9
8/5/2023	0	1	1	0	0	0	0	7295	14	1	14	2830033	21	60

Example Meeting Minutes from the Stormwater Management Committee during FY23

JOHN COOPER
MAYOR

METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY

DEPARTMENT OF WATER AND SEWERAGE SERVICES
Development Services
800 Second Avenue South
P.O. Box 196300
Nashville, Tennessee 37219-6300

Minutes
of the
Stormwater Management Committee (SWMC)
February 3, 2022
* * * * * * * * * * * *
8:15 AM
700 Second Avenue South
Howard Office Building, Sonny West Conference Center

STORMWATER MANAGEMENT COMMITTEE
(Quorum Required: Four Members)
Committee Members Present:
Mr. Dodd Galbreath –Chair
Dr. Janey Camp, P. E.
Mr. Trey Lewis
Ms. Carrie Stokes, P.E. – V. Chair
Mr. Jay Fulmer, P.E.

Committee Members Absent:
Mr. Kabir Sandhu, P. E.
Ms. Ronette Adams-Taylor

I. CALL TO ORDER

Mr. Dodd Galbreath, (chair) called meeting to order at 8:18 a.m.

II. APPROVAL OF DECEMBER 2, 2021 MEETING MINUTES & DECISION LETTERS

A motion was made by Mr. Trey Lewis and seconded by Ms. Carrie Stokes on approval of the December 2, 2021 minutes & decisions letters. Mr. Dodd Galbreath, Ms. Carrie Stokes, Mr. Trey Lewis, and Mr. Jay Fulmer voted in favor of the motion. The motion carried.

If you need assistance or an accommodation, please contact Metro Water Services, at 615-862-4862, 1600 Second Avenue North, Nashville, Tennessee 37208.

Example Meeting Minutes from the Stormwater Management Committee during FY23 (Continued)

III. STORMWATER MANAGEMENT COMMITTEE AGENDA

Comments were solicited from the Planning, Metro Parks, and Codes Departments for the following Agenda items.

1. 202100017 Century Farms Development (Parcel 12)
0 Cane Ridge Pkwy — APN 17400026400, 17400026500
Inspector: (Shawn Herman) — CD-32(Joy Styles)

APPLICANT'S REQUEST:

1. Disturbance of wetland buffers.
2. Wetland removal.

APPELLANT: Century Farms, LLC
REPRESENTATIVE: Michael Pigg (Barge Design Solutions)
COMMENTS:
SW STAFF: No comment provided.
CODES: No comment provided.
PLANNING: No comment provided.
GREENWAYS: No comment provided.

Ms. Carrie Stokes recused herself from the vote.

The case was previously deferred at the December 02, 2021 meeting.

Mr. Michael Pigg (Barge Design Solutions) and Ms. Sara Samoray (BDY Environmental) gave an updated presentation about the proposal and the mitigation associated with it.

Mr. Dodd Galbreath opened the public hearing. No parties were present to speak in favor or in opposition to the request. No emails or letters were sent for this case. Mr. Dodd Galbreath closed the public hearing.

Mr. Dodd Galbreath began the committee discussion by talking about the wetland and if it was man-made or naturally made. Ms. Sara Samoray stated that it was previously a farm pond (man-made).

Mr. Dodd Galbreath asked about Federal and State permitting. Ms. Sara Samoray stated that the TDEC ARAP permit had been received, but the USACE Section 404 permit was still in process of review and public comment.

Dr. Janey Camp asked about the existing wetland buffer for the wetland being disturbed. Ms. Sara Samoray stated that the buffer was previously protected, and is proposed to be enhanced with this project.

Mr. Dodd Galbreath discussed the proposed mitigation with MWS staff and Ms. Sara Samoray.

Example Meeting Minutes from the Stormwater Management Committee during FY23 (Continued)

Mr. Jay Fulmer discussed signage requirements for delieating the wetland buffers with the applicant and MWS staff.

After discussion during the Executive Session of the Committee on February 3, 2022 and review of the information Mr. Jay Fulmer presented a motion to conditionally approve as presented. Mr. Trey Lewis seconded the motion. Mr. Dodd Galbreath, Mr. Trey Lewis, Dr. Janey Camp, and Mr. Jay Fulmer voted in favor of the motion.

NOW THEREFORE, it is the decision of the Committee that the request in Variance Request No. 202100017 as set out above and further described in the case record, be and is hereby **GRANTED."**

2. 202100018 721 Brook Hollow Road
721 Brook Hollow Road — APN 11503009100
Inspector: (Kimberly Hayes) — CD-23(Thom Druffel)

APPLICANT'S REQUEST:

1. Floodway buffer disturbance.
2. Continuous mowing and maintenance of the floodway buffer.

APPELLANT: Larence Ritter Properties LLC
REPRESENTATIVE: Josh Ritter (Larence Ritter Properties LLC)
COMMENTS:
SW STAFF: Staff requests an undisturbed buffer adjacent to the stream.
CODES: No comment provided.
PLANNING: No comment provided.
GREENWAYS: No comment provided.

Mr. Josh Ritter (Larence Ritter Homes), Mr. Eric Larence (Larence Ritter Homes), Mr. Alex Hollman (Larence Ritter Homes), and Mr. Matthew Skelton (Civil and Environment Consultants) gave a presentation about the proposal and mitigation.

Mr. Dodd Galbreath opened the public hearing. No parties were present to speak in favor or in opposition to the request. No emails or letters were sent for this case. Mr. Dodd Galbreath closed the public hearing.

Mr. Dodd Galbreath discussed the existing onsite buffer condition with the applicant and MWS staff.

Mr. Dodd Galbreath asked the applicant about alternative plans to eliminate disturbance in the Zone floodway buffer. Mr. Josh Ritter talked about the plans that had been proposed and clarified that no zoning setback variance was applied for through the Board of Zoning Appeals.

Ms. Carrie Stokes asked for clarification on amount of disturbance within the buffer area. Mr. Josh Ritter clarified the square footage of disturbance for the existing and proposed home.

Mr. Dodd Galbreath discussed the hydrologic determination performed to identify streams and wet weather conveyances onsite with Mr. Josh Ritter.

Example Meeting Minutes from the Stormwater Management Committee during FY23 (Continued)

Mr. Dodd Galbreath and Ms. Rebecca Dohn (MWS NPDES) asked Mr. Josh Ritter about proposing a no-mow area closer to the stream.

Dr. Janey Camp asked about requesting plantings at a nearby park or other public area, since full restoration of the buffer might not be possible onsite. Ms. Rebecca Dohn stated that typically sites are required to keep mitigation onsite and provide plantings at the edge of the area that is to become a no-mow area.

After discussion during the Executive Session of the Committee on February 3, 2022 and review of the information Mr. Trey Lewis presented a motion to conditionally approve as presented. Dr. Janey Camp seconded the motion. Mr. Dodd Galbreath, Mr. Trey Lewis, Ms. Carrie Stokes, Dr. Janey Camp, and Mr. Jay Fulmer voted in favor of the motion.

NOW THEREFORE, it is the decision of the Committee that the request in Variance Request No. 202100018 as set out above and further described in the case record, be and is hereby **GRANTED."**

3. 202200001 River North Landings Lot C
0 Waterside Drive — APN 08206009800
Inspector: (Denice Johns) — CD-05(Sean Parker)

APPLICANT'S REQUEST:

1. Floodway buffer disturbance for a fire access road.

APPELLANT: NRN Parcel C Owner, LLC
REPRESENTATIVE: Kevin Gangaware (CSDG)
COMMENTS:
SW STAFF: No comment provided.
CODES: No comment provided.
PLANNING: No comment provided.
GREENWAYS: No comment provided

Mr. Kevin Gangaware (CSDG) gave a presentation about the proposal and mitigation.

Mr. Dodd Galbreath opened the public hearing. No parties were present to speak in favor or in opposition to the request. No emails or letters were sent for this case. Mr. Dodd Galbreath closed the public hearing.

Mr. Dodd Galbreath and Mr. Kevin Gangaware discussed the proposed future pedestrian bridge being built at a later time.

Mr. Dodd Galbreath and Mr. Michael Hunt (MWS NPDES) discussed the usage of pervious pavement in the floodplain.

The committee members discussed Fire Marshal requirements and use of signage to delineate the fire access road with Mr. Gangaware.

Example Meeting Minutes from the Stormwater Management Committee during FY23 (Continued)

The committee members discussed the proposed retaining wall and proposed grading on the neighboring property.

After discussion during the Executive Session of the Committee on February 3, 2022 and review of the information Mr. Jay Fulmer presented a motion to conditionally approve as presented. Ms. Carrie Stokes seconded the motion. Dr. Janey Camp made an amendment to the motion to add signage requirements. Mr. Trey Lewis seconded the amendment to the motion. Mr. Trey Lewis, Ms. Carrie Stokes, Dr. Janey Camp, Mr. Jay Fulmer, and Mr. Dodd Galbreath voted in favor of the amendment to the motion. Mr. Dodd Galbreath, Ms. Carrie Stokes, Mr, Jay Fulmer, Mr. Trey Lewis, and Dr. Janey Camp voted in favor the motion.

NOW THEREFORE, it is the decision of the Committee that the request in Variance Request No. 202200001 as set out above and further described in the case record, be and is hereby **GRANTED."**

V. ITEMS OF BUSINESS

Mr. Jay Fulmer was introduced a new member of the committee.

VI. ADJOURNMENT

The meeting adjourned at 10:14 a.m.

Metropolitan Stormwater Management Committee
Approved:
By: Logan Bowman Digitally signed by Logan Bowman DN: C=US, E=logan.bowman@nashville.gov, OU=MWS, CN=Logan Bowman Date: 2022.03.07 09:03:34-06'00'

Date: 03/07/2022

MWS Classroom/Youth-Based Public Education Program Activities during FY23

SUMMER CAMP PROGRAMS			
Target Audience	**Program Description**	**Outcomes/ Measures of Success**	**Recommendations for Improvement**
Summer Camps that include creek/lake activities	*The Water Cycle & Me:* Hands-on Enviroscape model activity. Campers participate in a story about adults making common mistakes that cause non-point source pollution. The story is personalized to the camp and water activity the campers will experience.	At the end of the program, campers named residential sources of pollution and made pretend recommendations to neighbors of best practices. These camps have made the program a regular part of the curriculum.	These programs are successful in building awareness of non-point source pollution and should continue.

Date	Camp	Programs	Campers	Ages
	TOTALS	**46**	**674**	
07-Jul-22	Owls Hill Summer Camp	1	20	elementary
11-Jul-22	Metro Parks and Community Centers	2	30	middle school
12-Jul-22	TWIG Summer Camp	3	60	elementary - middle school
14-Jul-22	Owls Hill Summer Camp	3	60	elementary - middle
21-Jul-22	Owls Hill Summer Camp	2	40	elementary - middle
25-Jul-22	Metro Parks and Community Centers	2	30	middle school
26-Jul-22	TWIG summer camp	3	60	elementary - middle
28-Jul-22	Owls Hill Summer Camp	1	30	elementary - middle
02-Aug-22	TWIG summer camp	3	60	Elementary - middle
01-Jun-23	Owl's Hill Nature Sanctuary	2	24	elementary - middle
05-Jun-23	Metro Parks and Community Centers	1	12	elementary - middle school
06-Jun-23	TWIG Camp	3	24	elementary - middle school
07-Jun-23	Sail Camp	2	40	elementary - high school
12-Jun-23	Metro Parks and Community Centers	2	22	middle school
13-Jun-23	TWIG camp	4	24	elementary - middle
14-Jun-23	Sail camp	2	20	elementary - high
15-Jun-23	Owls Hill Nature Sanctuary	1	24	elementary - middle
22-Jun-23	Owls Hill nature sanctuary	1	22	elementary -middle
27-Jun-23	TWIG camp	4	24	elementary - middle
28-Jun-23	Sail Camp	3	24	middle - high school
29-Jun-23	Owls Hill Nature Sanctuary	1	24	elementary - middle

MWS Classroom/Youth-Based Public Education Program Activities during FY23 (Continued)

LOANER PROGRAM: The Watershed Game			
Target Audience	**Program Description**	**Outcomes/ Measures of Success**	**Recommendations for Improvement**
The Gifted and Talented Education (GATE) program at MNPS requested loan of these program materials to incorporate into a water unit. Teachers were trained on the use of the Game.	The Watershed Game helps students understand the relationship between land uses within a watershed, water quality, and their community. The Game emphasizes collaboration and cooperative decision-making, persuasive argument, teamwork, and leadership skills along with science and math.	Teacher feedback on concepts students learned: - Watershed and related problem-solving - Understanding how much goes into managing water in urban and rural environments. - Water, sediment - The impact and importance of the local watershed	Teachers requested more time to use the game. For 2023/24 school year, the Game will be offered as a loaner program with teacher training.

Date	**Teacher Professional Development Training on The Watershed Game**	**Programs**	**Teachers**
	TOTALS	**6**	**114**
04-Aug-22	Science Teacher In-Service, Sustainability resources	3	60
01-Sep-22	GATE teachers, flooding PBL and Watershed Game	1	25
14-Dec-22	Watershed Game Training for GATE teachers	1	25
20-Mar-23	Enviroscape flooding activity training for loaner	1	4

Date	**Loaner Programs**	**Students**	**Grade level**
TOTALS	**29**	**275**	
08-Jan-23	8	90	6-8th grades
01-Feb-23	3	25	middle school
01-Feb-23	3	23	6-8th grades
09-Feb-23	5	50	8th grade
01-Mar-23	5	67	5th - 8th grades
05-Mar-23	5	20	5-8th grades

The Watershed Game, led by MWS staff.				
Date	**School**	**Programs**	**Students**	**Grade level**
	TOTALS	**6**	**70**	
09-Jan-23	Bellevue Middle	1	12	6th grade
13-Jan-23	Bellevue Middle	1	12	7th grade
06-Feb-23	Oliver Middle School	1	16	7th grade
23-Mar-23	McKissack Middle Prof. Dev. Design Ctr.	3	30	6, 7, 8th grades

MWS Classroom/Youth-Based Public Education Program Activities during FY23 (Continued)

LOANER PROGRAM: The Enviroscape				
Target Audience	**Program Description**		**Outcomes/ Measures of Success**	**Recommendations for Improvement**
The Shelby Bottoms Nature Center and 3rd Grade classes at Glengarry ES requested the Enviroscape as a loaner resource.	The Enviroscape watershed model was used to demonstrate non-point source pollution and the impact of green infrastructure on flooding.		Teacher feedback: The kids really enjoyed understanding how the environment affected housing developments. Students could see how grass and trees absorb rainfall. The students loved the experience! They learned so much from using it about flooding, population, and geography.	Teachers and Nature Center staff requested the materials be made available in the future. MWS developed a training and loaner program for these materials for the 23/24 school year and created additional student/teacher materials
Date	**Programs**	**Students**	**Grade level**	**Loaned to:**
TOTALS	**11**	**191**		
14-Feb-23	1	5	College	Nature Center
15-Feb-23	1	5	College	Nature Center
27-Mar-23	3	66	3rd	Glengarry ES
28-Mar-23	3	62	3rd	Glengarry ES
31-Mar-23	3	63	3rd	Glengarry ES

Locations of MWS - Facilitated Tennessee Smart Yards in Davidson County during FY23

Submitted	Street Address	City	Zip Code
7/14/2022 13:17:45	607 Iron Gate Court	Nashville	37221
9/3/2022 12:21:42	3611 Saratoga Dr	Nashville	37205
9/7/2022 17:29:15	97 Jay St	Nashville	37210
9/8/2022 21:22:15	69 Ravenwood Hills Cir	Nashville	37215
9/13/2022 18:17:36	519 Timmons Street	Nashville	37211
9/21/2022 16:08:06	1012 Shadow Ln	Nashville	37206
9/27/2022 15:30:18	912 Drummond Drive	Nashville	37211
9/28/2022 13:53:24	1715A 6th Avenue N	Nashville	37208
10/14/2022 10:21:34	586 Joyce Lane	Nashville	37216
10/26/2022 11:55:14	912 Drummond Drive	Nashville	37211
12/8/2022 19:06:57	1627 Chase St	Nashville	37216
12/12/2022 14:36:49	6522 Rolling Fork Dr.	Nashville	37221
1/11/2023 15:15:10	1341 Busiris Drive	Hermitage	37076
1/30/2023 11:14:37	804 Oak Street	Nashville	37216
2/5/2023 22:04:27	2545 Blair Blvd	Nashville	37212
2/6/2023 9:05:10	2659 Barclay Dr	Nashville	37206
2/14/2023 23:32:04	3128 Lake Drive	Hermitage	37076
2/15/2023 13:32:17	14 Northumberland	Nashville	37215
2/15/2023 13:58:43	214 Apple View Court	Goodlettsville	37072
2/15/2023 22:17:53	2912 Shadow Lane	Nashville	37216
2/19/2023 16:40:58	3611 Rainbow Place	Nashville	37204
2/22/2023 12:15:48	1508 Dallas Ave	Nashville	37212
2/26/2023 21:27:05	998 Shadow Ln	Nashville	37206
2/28/2023 21:59:47	712 Branch Creek Rd.	Nashville	37209
2/28/2023 23:13:43	1627 Pawnee Trl	Madison	37115
3/1/2023 12:56:13	1422 McKennie Ave	Nashville	37206
3/4/2023 6:43:09	509 Leeanne Drive	Nashville	37211
3/4/2023 13:25:53	5130 Overton Road	Nashville	37220
3/5/2023 11:01:09	7025 Bonnamere Drive	Hermitage	37076
3/15/2023 9:11:41	205 Ben Allen Road	Nashville	37207
3/19/2023 20:55:16	1410 Cardinal Avenue	Nashville	37216
3/20/2023 16:27:14	516 Gun Club Road	Nashville	37205
3/20/2023 18:27:04	125 43rd Avenue North	Nashville	37209
3/21/2023 9:23:51	1410 Cardinal Ave.	Nashville	37216
3/22/2023 23:15:15	182 Radnor Street	Nashville	37211
3/31/2023 11:45:52	1803 Willow Springs Dr	Nashville	37216
4/9/2023 12:03:37	2600 Carter Avenue	Nashville	37206
4/23/2023 9:19:01	631 Keeton Ave	Old Hickory	37138
4/25/2023 10:05:49	2495 Walker Lane	Nashville	37207
4/27/2023 15:14:37	703 Summerly Dr	Nashville	37209
5/2/2023 23:26:01	1036B Iverson Ave	Nashville	37216
5/3/2023 17:14:06	1119 Stratford Avenue	Nashville	37216
5/4/2023 12:09:03	1503 Harwood Drive	Nashville	37206
5/16/2023 12:53:41	2501 Vista Lane	Nashville	37207

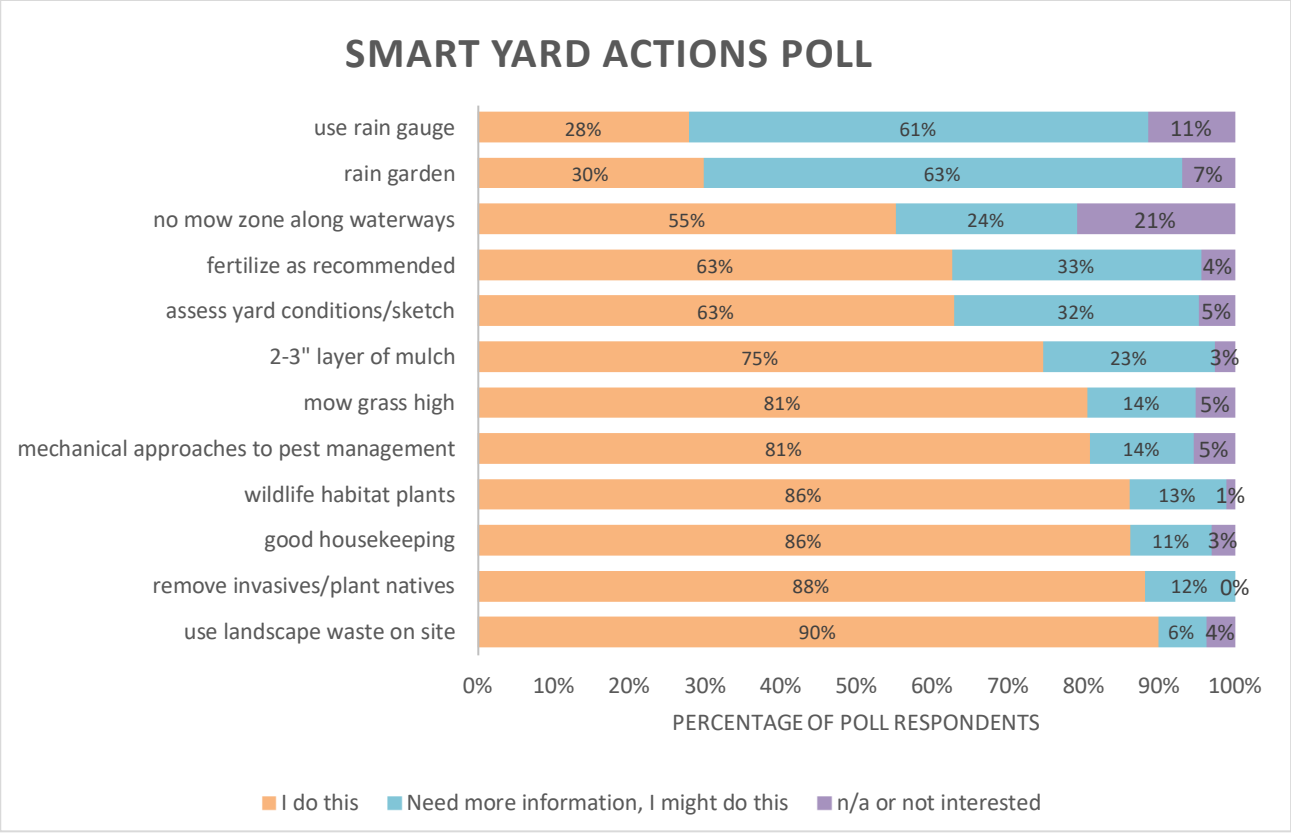
Locations of MWS - Facilitated Tennessee Smart Yards in Davidson County during FY23 (Continued)

5/16/2023 22:13:54	7 Belle Forrest Ave	Nashville	37206
6/5/2023 13:21:43	1133 Harold Drive	Nashville	37217
6/9/2023 13:54:06	917A Spain Ave	Nashville	37216
6/12/2023 14:29:43	1907 Lombardy Ave	Nashville	37215
6/13/2023 12:44:12	2410 Milton Dr	Nashville	37216
6/14/2023 14:38:09	1919A Overhill Drive	Nashville	37215
6/17/2023 21:57:20	1306 Greenwood Ave	Nashville	37206
6/20/2023 13:55:50	600 Broadmoor Dr	Nashville	37216
6/24/2023 23:39:20	3703 Ackerman Court	Nashville	37204
6/26/2023 15:07:35	1412 Shelby Ave	Nashville	37206

Summary of MWS-Facilitated Tennessee Smart Yard Actions Taken During FY23

Total Yard Certifications in Davidson County, July 1, 2022 - June 30, 2023	54
Actions Taken by Certified Yard Owners	**Reported**
Determine your landscape objectives.	52
Leave grass clippings on lawn.	52
Use landscape waste (tree trimmings/ fallen leaves/ pine needles etc.) on site.	51
Protect beneficial insects that control pests and support pollination.	51
Remove or avoid using invasive/exotic plants and incorporate native plants.	50
Assess yard conditions such as light availability/soil characteristics etc.	49
Group plants according to site conditions.	48
Incorporate plants that support habitat needs of desirable wildlife.	48
Mow grass high.	47
Check for pests regularly.	47
Spot treat only affected areas	47
Avoiding routine applications of pesticides.	47
Preserve existing vegetation (especially trees) during land disturbance activities.	46
Use composted grass clippings/ leaves/ pruned plant parts/ kitchen scraps to improve soils.	46
Protect all soil surfaces with vegetation to minimize erosion by rainfall and runoff.	45
Use environmentally-friendly pesticides such as horticultural oils and insecticidal soaps.	45
Incorporate salvaged materials into landscaping.	43
Use mechanical approach to control pests such as pruning and hand removal.	43
Install bat houses, bird houses, and bird feeders.	43
Use organic pine straw/ pine bark/ leaves/ or hardwood mulch.	42
Sketch your yard including long-term goals.	41
Practice good housekeeping.	41
Locate plants to increase home energy efficiency.	34
Provide a wildlife water source.	32
Use rain gauge to monitor plant water needs.	31
Assess and address soil compaction.	29
Maintain a 2–3-inch mulch layer in plant beds and over tree roots.	27
Disconnect downspouts from the stormwater drainage system or from impervious surfaces.	26
Maintain soil pH in the recommended value.	25
Adjust sprinkler heads to avoid hitting paved surfaces.	23
Fertilize as recommended by soil test and not in wet weather.	23
Use rain barrels to catch rooftop runoff	21
Maintain a mix of native trees, shrubs, grasses, and wildflowers along water's edge.	19
Use permeable surfaces for hardscapes.	18
Build a rain garden to catch and filter runoff.	13
Create a "no mow, no fertilizer, no pesticide" zone along waterways.	13

Analysis of the Smart Yard Actions Poll Utilized During FY23



Using a prompt generator, NPDES developed a detailed prompt and provided the data to ChatGPT to provide an analysis of the level of effort for each Smart Yard Action and a recommendation for increasing the adoption of each action.

<u>Low Effort Actions:</u>

1. *Use rain gauge (28% of respondents answering 'I do this'):*
    - Level of Effort Explanation: This action is generally considered low effort, involving setting up and periodically checking a rain gauge.
    - Recommendation: Create a short video tutorial or infographic that demonstrates how to install and use a rain gauge effectively. Share this resource through community social media platforms and local gardening clubs to raise awareness and provide practical guidance.
2. *Good housekeeping (86% of respondents answering 'I do this'):*
    - Level of Effort Explanation: Good housekeeping practices, involving routine tasks like cleaning and organizing outdoor spaces, are typically low effort.
    - Recommendation: Organize community workshops or webinars focused on the importance of good housekeeping practices. Share success stories from community members who have benefited from organized outdoor spaces to inspire others.
3. *2-3" layer of mulch (75% of respondents answering 'I do this'):*
    - Level of Effort Explanation: Applying a 2-3" layer of mulch is a straightforward gardening task that is generally low effort.

Analysis of the Smart Yard Actions Poll Utilized During FY23 (Continued)

- Recommendation: Develop a step-by-step guide on mulch application and its benefits. Distribute printed copies at community events and make digital versions available on the community website for easy access.

Moderate Effort Actions:

1. *Fertilize as recommended (63% of respondents answering 'I do this'):*
    - Level of Effort Explanation: Properly fertilizing a yard according to recommendations can be moderately effortful.
    - Recommendation: Collaborate with local agricultural experts to offer seasonal workshops on fertilization best practices. Provide soil testing resources and guidance to help residents determine their yard's specific fertilizer needs.
2. *Mechanical approaches to pest management (81% of respondents answering 'I do this'):*
    - Level of Effort Explanation: Implementing mechanical approaches to pest management, which may involve setting traps, maintaining barriers, or physically removing pests, can be moderately effortful.
    - Recommendation: Host interactive sessions where community members can learn about various mechanical pest management methods. Encourage participants to share their experiences and insights on what works best in the local context.
3. *Mow grass high (81% of respondents answering 'I do this'):*
    - Level of Effort Explanation: Adjusting the mowing height to a higher setting is moderately effortful.
    - Recommendation: Develop a seasonal lawn care calendar that includes guidance on adjusting mowing heights. Distribute this calendar through local gardening stores and collaborate with lawn care professionals to provide workshops on proper mowing techniques.
4. *No mow zone along waterways (55% of respondents answering 'I do this'):*
    - Level of Effort Explanation: Creating a "no mow zone" along waterways is moderately effortful.
    - Recommendation: Launch a public awareness campaign highlighting the benefits of no mow zones along waterways. Provide resources, such as templates for creating signage, to make it easier for residents to establish and maintain these areas.

High Effort Actions:

1. *Remove invasives/plant natives (88% of respondents answering 'I do this'):*
    - Level of Effort Explanation: Removing invasive species and planting native plants is a high-effort undertaking.
    - Recommendation: Organize community volunteer events for invasive species removal and native plantings. Promote these events through local environmental organizations and offer educational sessions on identifying invasive species.
2. *Use landscape waste on site (90% of respondents answering 'I do this'):*
    - Level of Effort Explanation: Managing landscape waste on-site is considered high effort.
    - Recommendation: Establish a community composting program with designated composting bins and regular pickups. Provide workshops on proper composting techniques and the benefits of using compost in gardening.

Analysis of the Smart Yard Actions Poll Utilized During FY23 (Continued)

3. *Wildlife habitat plants (86% of respondents answering 'I do this'):*
    - Level of Effort Explanation: Establishing a wildlife habitat with specific plantings is high effort.
    - Recommendation: Create a community wildlife habitat certification program that recognizes participants' efforts. Organize tours of established wildlife habitats and encourage participants to share their knowledge and experiences with native plantings.

In conclusion, the data indicates that the level of effort for eco-friendly actions varies, but there is a willingness within the community to engage in practices that range from low to high effort, depending on the perceived benefits and ecological impact of the action. Effort, along with awareness and education, plays a significant role in shaping community engagement in sustainable practices.

NPDES Public Education Activities during FY23

Date	Event	Education Type	Audience #	Audience	Target Audience/ Pollutant	Notes
6/27/2023	Farmers Market: 12 South	Educational Booth	32	12 South Market Attendees	General Stormwater Pollution	Gretchen and Simone (Zero Waste) had a shared booth at the market with Zero Waste information along with TNSY banner, yard sign, Smart Actions poll, pet waste bags (18), Music City gold samples (7), seed packets, seed paper, and TNSY rack cards. Overall, the majority of visitors lived around Sevier Park with lots of environmentally conscious people
6/15/2023	Farmers Market: Crieve Hall	Educational Booth	36	Crieve Hall Farmers Market Attendees	General Stormwater Pollution	Julie, Gretchen, and Simone (Zero Waste) hosted a split booth with TNSY and Zero Waste. TNSY had the TNSY banner, retractable banner, TNSY yard sign, seed packets, TNSY rack cards, and QRs to a Google form to take visitor contact information and to the HUB. 10 MCG samples and 10 pet waste dispensers were given out
6/13/2023	TDEC Level 1 Certification	Presentation	145	Proposed Level 1 EPSC Professionals	Construction/ Development Education	Shawn Herman presented Metro Grading Permit information to people seeking Level 1 TDEC Certification.
6/10/2023	Farmers Market: Richland Park	Educational Booth	55	Richland Park Farmers Market Attendees	General Stormwater Pollution	Julie, Gretchen, and Jen (Zero Waste) had a shared booth at the market with Zero Waste information along with TNSY banner, yard sign, Smart Actions poll, pet waste bags (7), Music City gold samples (14), seed packets, seed paper, and TNSY rack cards. Overall, the majority of visitors lived in Sylvan Park or the Nations with only a few out of county.
6/5/2023	Stream walk Follow Up	Brochure/ Door Hanger Distribution	2	Homeowners	Oil and Grease	Gretchen received the site from Larry who found a concrete trough with an oil sheen and unknown plastic bottle in it.
6/5/2023	Stream walk Follow Up	Brochure/ Door Hanger Distribution	6	Homeowners	Fertilizer/ Pesticides	Gretchen received this site from Larry who found an herbicide container left sitting on the stream bank.
6/5/2023	Stream walk Follow Up	Brochure/ Door Hanger Distribution	2	Homeowner and Greenwood Cemetery	Sediment Runoff from Non-Construction	Gretchen received site from Larry who found disturbed soil and loose soil placed along the stream bank.
6/3/2023	Rain Barrel Pick-up Event	Citywide Event	946	Davidson County Residents that Purchased Rain Barrels	General Stormwater Pollution	Metro Nashville's Rain Barrel Subsidy Program sold 946 rain barrels to interested Davidson County Residents at a discounted rate.
6/1/2023	Farmers	Educational	18	Bellevue	General	Julie, Gretchen, and Simone (Zero Waste) attended the

NPDES Public Education Activities during FY23

Date	Event	Education Type	Audience #	Audience	Target Audience/ Pollutant	Notes
	Market: Bellevue	Booth		Farmers Market Attendees	Stormwater Pollution	market with TNSY info, pet waste bags, MCG samples, Smart Yard Actions Poll, Win a Composter, recycle t-shirts, zero waste info. MWS was labeled as a market sponsor, so we were at the front where everyone walked by. No QR clicks
5/13/2023	World Migratory Bird Day	Educational Booth	53	Attendees of WMBD festival and Shelby Bottoms visitors	General Stormwater Pollution	2023 Theme of WMBD was "Water: Sustaining Bird Life" with a focus on water quality and conservation. The Urban Bird Treaty was signed by Mayor John Cooper at the event along with guided migratory bird hikes and story times. MWS booth had TNSY seeded bookmarks, TNSY rack cards, Black Eyed Susan seed packets, the Smart Yard Actions poll, Watershed map banner, and common TN bird fact sheets with pictures.
5/9/2023	Farmers Market: East Nashville	Educational Booth	25	East Nashville Market attendees	General Stormwater Pollution	Julie and Gretchen attended the East Nashville Farmers Market with Simone and Allie from Zero Waste. There were Music City Gold Samples, TNSY rack cards, and TNSY Black Eyed Susan seed papers. We also had the Smart Yard Action poll along with the rain barrel for the rain barrel sale. 1 rain barrel QR click and 2 TNSY rack card clicks
5/3/2023	Farmers Market: Wedgewood Houston	Educational Booth	15	Farmer's Market attendees, mostly apartment renters	General Stormwater Pollution	Julie, Simone (Waste), and Gretchen staffed a combined TNSY and Zero Waste booth. There were TNSY seeded bookmarks, TNSY handouts, TNSY poll for Smart Yard Actions, Music City Gold samples with TNSY info, and rain barrel sale QR. There was 1 click on MCG samples, 2 clicks on TNSY rack card, 5 bags of MCG distributed.
5/2/2023	Farm Field Day	Public/Group Meeting	145	Registered attendees, students and adults	Soil and Water Conservation	The event showcased Best Management Practices that improve water quality, soil health, bees, tree information, and livestock production. Presentations/information provided to attendees by representatives from NRCS/USDA, TDA, local farms, UT/TSU Extension, Metro Water and Urban Forestry. Julie and Gretchen had the pollution Enviroscape as a station for the students to learn about how pollutants on land eventually end up in the streams and rivers.
5/2/2023	Municipal Wet Weather Stormwater	Presentation	25	Conference Attendees	General Stormwater Pollution	Michael Hunt gave a 30-minute presentation at IECA Chattanooga to share the goals of MWS's Urban Forestry program, some of the challenges facing the program,

NPDES Public Education Activities during FY23

Date	Event	Education Type	Audience #	Audience	Target Audience/ Pollutant	Notes
	Conference 2023					preliminary results, and future projects to help efficiently manage the forest in Metro Nashville to better control stormwater runoff
4/29/2023	Spring Plant Swap	Citywide Event	18	gardeners/ new gardeners	General Stormwater Pollution	Julie staffed a TNSY/rain barrel booth for two hours at plant swap that had approximately 60 people attend (with 18 interactions). There were 22 Music City Gold samples distributed, Julie had a Smart Yards Actions Poll requested by TNSY director, Andrea Ludwig (see hyperlink for results)
4/27/2023	Water Citizens Academy	Presentation	6	Citizens Attending Academy	General Stormwater Pollution	Josh Hayes presented an overview of the entire Stormwater Program to the attendees of the academy.
4/25/2023	Earth Day at Waverly Belmont Elementary	School	140	Students at Waverly Belmont Elementary	Soil and Water Conservation	Carol attended an earth day program for the elementary students where they gave out activity books and bookmarks. The soil tunnel was used as well.
4/22/2023	Earth Day Festival Booth	Citywide Event	243	Earth Day attendees	General Stormwater Pollution	gave out 155 pet waste bag dispensers, stormwater stretch, rain barrel display, all TNSY info, Music City Gold samples, stormwater pollution poll (16.8% engagement)
4/18/2023	Rain Barrel Presentation	Presentation	10	those interested in rain barrels	Soil and Water Conservation	Julie did a presentation on rain barrels
4/4/2023	Watershed Story map 1/1/23-4/4/23	Citywide Event	164	story map viewers	General Stormwater Pollution	164 story map clicks from 1/1/23 until 4/4/23.
3/25/2023	Shelby Bottoms Open House	Citywide Event	65	Attendees of the Recreation Open House	General Stormwater Pollution	Booth had TNSY info, QR code for rain barrel sale, QR code for Hub Nashville. Also was the first booth with the stormwater pollution poll that will help us narrow down booth topics.
3/15/2023	TDEC Level 1 Certification	Presentation	150	Proposed Level 1 EPSC Professionals	Construction/ Development Education	Shawn Herman presented the Metro Grading Permit information to people seeking Level 1 EPSC Certification
3/5/2023	Lawn and Garden Show: TNSY	Citywide Event	300	Lawn and Garden show attendees	General Stormwater Pollution	approximately 300 Black Eyed Susan seed packets were taken from the MWS booth. There were also seeds at the Wild Ones booth as well. Each packet had information about TNSY. Show lasted from March 2nd to the 5th
3/5/2023	Lawn and Garden Show: MTAC Booth	Citywide Event	3405	Lawn and Garden Show attendees	General Stormwater Pollution	Metro Tree Advisory Committee booth staffed by Jennifer, Sarah, and Chaz. Jennifer gave 3 presentations (attendees not included in audience #) on the Emerald Ash Borer.

NPDES Public Education Activities during FY23

Date	Event	Education Type	Audience #	Audience	Target Audience/ Pollutant	Notes
						2,554 seedlings given away with 279 county contacts captured for Root Nashville to check on seedlings growth throughout the year. Estimated 2000 packets of Music City Gold handed out with TNSY info. Audience # is approximated based on assumption that 2/3 of booth visitors took a tree.
2/1/2023	FOG Program SW Response	Presentation	7	Multiple Restaurants in East Nashville	Oil and Grease	Spoke to management at restaurants about proper housekeeping of used oil and grease due to being on list of establishments with FOG impacts to the sewer system.
12/8/2022	TN Smart Yard Signs at Nursery	Flyer Display	500	Nursery Customers	Fertilizer/ Pesticides	NPDES worked with Bates Nursery to post Tennessee Smart Yard 9 educational signs at various locations within the garden center.
12/1/2022	TN Smart Yards Workshop- Winter Sowing	Presentation	15	TN Smart Yard Workshop Attendees	Fertilizer/ Pesticides	Julie Berbiglia presented on Winter Sowing Techniques for participants in the Tennessee Smart Yards program.
11/30/2022	TDEC Level 1 Certification	Presentation	158	Proposed Level 1 EPSC Professionals	Construction/ Development Education	Shawn Herman presented Metro Grading Permit info. to people seeking Level 1 EPSC Certification.
11/17/2022	Warner Park Buffer Restoration Tree Planting	Public/Group Meeting	40	Volunteers/ Friends of Warner Park	General Stormwater Pollution	MWS NPDES Stormwater Urban Forestry Section organized a volunteer tree planting event at the site of the pavilion/pavement removal in the floodway of the Little Harpeth River located within Edwin Warner Park.
10/19/2022	TNSA WIES Pollutant Loading Database Presentation	Presentation	50	TNSA Annual Conference Attendees	MS4 Permit Compliance	Presentation on the summary of the WIES Pollutant Loading Calculation Database.
10/19/2022	TNSA SCM Cycle 1 Summary Presentation	Presentation	50	TNSA Annual Conference Attendees	SCM Inspection/ Maintenance	Presentation on the summary of the SCM Cycle 1 inspection program
10/15/2022	TN STEAM Festival	Educational Booth	113	Cheekwood Attendees	Construction/ Development Education	MWS NPDES staff, Julie Berbiglia, Allison Davis, and Carol Edwards, hosted an interactive booth exhibit at Cheekwood for the statewide TN STEAM Festival that promotes educational opportunities in science for kids. Enviroscapes were used to explain how sediment control measures work and are necessary in keeping our waterways clean both at

NPDES Public Education Activities during FY23

Date	Event	Education Type	Audience #	Audience	Target Audience/ Pollutant	Notes
						construction sites and other businesses. A soil tunnel was also available to walk through.
10/6/2022	SESWA Annual Conference	Presentation	25	SESWA members	SCM Inspection/ Maintenance	Julie Berbiglia presents at the conference on real-world activities that support student academics and sparks interest in future stormwater careers.
10/1/2022	CRC Dragon Boat Festival	Educational Booth	40	Nashville residents	General Stormwater Pollution	Allison Davis and Julie Berbiglia hosted an MWS Stormwater booth at the annual Dragon Boat Festival and spoke with Nashville residents about general stormwater pollution issues. The issues focused on common pollutants found during the fall and winter seasons as well as promoted the TN Smart Yards program. A survey was also implemented at the booth with 5 questions to better understand the publics thoughts on stormwater in Nashville and the best way to reach people.
9/17/2022	Nashville Urban Fair	Educational Booth	8	General public	General Stormwater Pollution	MWS Booth @ Urban Fair to educate public about urban forestry, TN Smart Yards, Metro Gold, recycling, etc.
9/14/2022	Mill Creek Watershed Association Meeting	Public/Group Meeting	20	Mill Creek Watershed Association	General Stormwater Pollution	Julie Berbiglia spoke with the Mill Creek Watershed Association on partnering on the TN Smart Yards program as a community yard. The presentation focused on how residents can use smart gardening practices to minimize stormwater runoff and improve water quality.
9/13/2022	Metro Beautification Meeting	Public/Group Meeting	25	Metro Beautification members	General Stormwater Pollution	MWS spoke with the Metro Beautification Commission on how to incorporate the TN Smart Yards program into the community as it helps educate residents on and improve water quality.
9/9/2022	St Henry Kindergarten	School	26	Students/ teachers	General Stormwater Pollution	Mary Bruce presented an overview of Metro's Stormwater Program to the classroom.
9/1/2022	Inglewood Neighborhood Association Meeting	Public/Group Meeting	15	Inglewood residents	General Stormwater Pollution	MWS spoke with the neighborhood association about residential stormwater pollutants and how applying TN Smart Yards information to their yard can help improve water quality.
8/25/2022	Breakfast Club of Nashville Presentation	Presentation	20	Breakfast Club of Nashville members	Fertilizer/ Pesticides	Julie Berbiglia spoke to the Breakfast Club of Nashville about stormwater issues in Nashville and how the TN Smart Yards program allows for residents to improve water quality one certified yard at a time.

NPDES Public Education Activities during FY23

Date	Event	Education Type	Audience #	Audience	Target Audience/ Pollutant	Notes
8/7/2022	Amqui Farmers Market	Educational Booth	27	Nashville/ Community residents	General Stormwater Pollution	Julie Berbiglia co-hosted an educational booth with MWS' Zero Waste, Jenn Harrman and focused on promoting the TN Smart Yards Program for residents to improve and minimize their stormwater runoff from their yards.
8/6/2022	Ninth Urban Runoff 5K and Water Quality Festival	Citywide Event	223	Nashville residents and visitors	General Stormwater Pollution	MWS worked with TNSA, City of Gallatin, Rutherford County, and TDA Division of Forestry to put on the 9th annual race showcasing innovative green stormwater management practices. The water quality festival hosted up to 25 agencies and companies that focus on sustainability including an MWS educational booth.
7/19/2022	Reduce, Reuse, Recycle in the garden	Presentation	30	Donelson Branch Library	Fertilizer/ Pesticides	MWS presents on ways you can reuse items to make plant labels, containers, etc. and on TN Smart Yards program.
7/14/2022	12 South Farmers Market	Educational Booth	50	farmers market attendees	Fertilizer/ Pesticides	MWS Stormwater and Waste Services co-hosted a booth focusing on TN Smart Yards program, Music City Gold, food waste prevention, and composting.
7/9/2022	Nature Hikes at Glen Leven Farm	Educational Booth	26	Hikers at Glen Leven Farm	General Stormwater Pollution	MWS Stormwater hosted a booth at Glen Leven Farm's water-themed monthly open day for nature hikes. The booth focused on TN Smart Yards program and how individuals can approach lawn care and gardening practices from an environmental perspective to minimize landscape pollution in stormwater.
Total NPDES Event Audience			**7,474**			

Note: Social Media Posts, TN Smart Yard Newsletters (monthly), and MWS External (quarterly) and Internal (monthly) Newsletters were not included in this report. NPDES can provide metrics for each of these activities upon request.

Metro Water Services Waste Services Division – Material Management Report (FY23)

Recycling Tons	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total
Metro Curbside	799.71	501.96	766.07	1,119.66	809.39	853.93	1,014.58	1,015.61	1,078.82	995.06	1,072.95	995.63	11,023.37
Drop-offs	480.57	484.53	439.90	482.86	474.48	489.76	536.35	418.71	472.41	458.38	482.99	538.95	5,759.89
Centers	208.71	173.61	200.39	190.06	178.45	166.02	208.50	154.80	189.58	187.98	178.79	206.77	2,243.66
Front Loader	21.57	19.00	19.44	16.92	-	3.54	11.98	19.61	3.24	-	4.34	-	119.64
Metro Buildings	1.32	-	0.70	-	-	-	0.22	0.74	-	1.58	2.50	0.67	7.73
Hazardous	-	-	-	-	-	23.29	-	-	-	-	-	7.44	30.73
Electronics	-	3.17	6.64	3.21	3.71	2.85	2.29	-	2.97	-	-	10.90	35.74
Food Waste	4.18	5.23	5.23	4.31	6.41	6.30	6.30	5.30	5.52	6.15	6.65	4.49	66.07
Special Events	-	-	-	-	-	-	-	-	-	-	-	-	-
Tires	492.87	567.60	591.56	481.10	482.33	492.46	457.30	441.58	556.10	480.86	671.43	554.04	6,269.23
Total Recycling	**2,008.93**	**1,755.10**	**2,029.93**	**2,298.12**	**1,954.77**	**2,038.15**	**2,237.52**	**2,056.35**	**2,308.64**	**2,130.01**	**2,419.65**	**2,318.89**	**25,556.06**
Landfill Tons	**July**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Total**
Contract Curbside	6,702.86	8,379.98	7,857.83	6,942.12	10,333.71	10,317.45	10,911.06	9,400.30	10,674.18	10,044.07	11,067.87	11,276.10	113,907.53
Metro Curbside	2,045.75	2,096.97	1,128.30	1,083.86	497.95	529.85	340.94	146.43	130.29	70.31	87.22	152.56	8,310.43
Centers	1,651.41	1,517.33	1,421.93	1,330.11	1,125.19	1,178.95	1,325.09	1,273.57	1,556.53	1,536.75	1,587.97	1,627.42	17,132.25
Front Loader	1,206.61	1,015.31	1,443.16	1,251.44	1,417.24	1,420.53	1,422.07	1,243.38	1,553.51	931.17	1,291.43	1,208.70	15,404.55
Downtown	672.36	636.45	572.61	627.69	428.65	432.04	415.01	424.79	589.42	598.36	581.49	548.16	6,527.03
Metro Buildings	23.31	25.45	20.93	31.19	33.91	31.74	36.26	28.55	29.50	26.57	-	4.69	292.10
Special Events	19.32	35.02	8.60	2.99	6.33	3.85	9.73	1.11	-	16.30	4.11	3.33	110.69
Total Waste	**12,321.62**	**13,706.51**	**12,453.36**	**11,269.40**	**13,842.98**	**13,914.41**	**14,460.16**	**12,518.13**	**14,533.43**	**13,223.53**	**14,620.09**	**14,820.96**	**161,684.58**
Other Programs	**July**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Total**
Mattress	531	1,463	1,596	1,317	1,254	1,045	1,163	1,291	1,605	1,293	1,385	841	14,784
Carpet Pad (CY)													-
Dead Animals	164	139	156	309	231	55	-	-	-	-	-	-	1,054

WasteServices.nashville.gov

Metro Nashville Department of Transportation Hazardous Spills Responses to Large Spills on Metro Roadways During FY23

ID	Date	Notified	Location	Situation	Arrived	Actions	Departed	Agencies
2046	06/22/2023	8:31	3254 Ezell Pk	Hydraulic Spill On Road At Convenience Center	8:45	Put Down 2,200 Lbs. Absorbent (Spill Gone)	10:00	NDOT RIR
2041	03/29/2023	7:55	4001 Nevada Ave	Oil Spill	8:30	Investigated Spill	8:45	NDOT RIR
2039	03/01/2023	14:00	Lakeridge Pass & Bell Rd.	Hydraulic Spill On Road	16:20	Applied 50 Lbs. Of Absorbent On Road	16:45	NDOT RIR
2037	01/05/2023	14:02	Trinity Ln In Front Of East Center Entrance	Oil Spill On Road 25 Gallons	14:10	Applied 400 Lbs. Of Absorbent	14:30	NDOT RIR
2032	10/25/2022	7:18	503 Achievement Dr	Oil Spill On Road	7:46	Put Down 100 Lbs. Absorbent	9:15	NDOT RIR
2021	09/06/2022	7:39	3679 Tampa Dr	Oil Spill On Road From School Bus Catching On Fire	7:46	Put Down 500 Lbs. Absorbent	10:30	NDOR RIR
2020	08/23/2022	8:15	Wedgewood Ave & I-65	Oil Spill On Road	8:49	Put 50 Lbs. Absorbent On Spill	9:00	NDOT RIR
2018	08/17/2022	20:30	Riverside Dr & Greenwood Dr	Oil Spill On Road	21:15	Put Down 200 Lbs. Of Absorbent On Spill	22:00	NDOT RIR

Note: NDOT RIR (Nashville Department of Transportation Roadway Incident Response),

Metro Nashville Municipal Separate Storm Sewer System Permit
Public Information & Education Plan
Created: August 2012
Updated: May 2023 – (New Outreach Strategies)

1.0 INTRODUCTION:

With issuance of the third cycle of Metro Nashville's Municipal Separate Storm Sewer System (MS4) permit, there is an increased emphasis on the amount of public education and outreach Metro Water Services (MWS) will be responsible for overseeing. The first major undertaking will involve developing a public information and education (PIE) plan. The PIE plan will outline the stormwater educational strategies, identify targeted educational approaches, and list yearly goals and accomplishments. A majority of MS4 permit items are coordinated and overseen by the MWS Stormwater NPDES Section, however, development and implementation of the PIE plan will be a joint effort between NPDES and MWS Communications Section.

The main goals of stormwater education activities will be to increase public awareness for purposes of eliminating illicit discharges and improper disposals, reducing nonpoint source pollutants through better land management practices (i.e. fertilizer, sediment, oil, etc.), reducing overall runoff quantities through innovative development strategies, and ultimately improving water quality of receiving streams. In the new permit, Stormwater is required to target specific "hot areas", which are defined in the permit as: "*an area where land use or activities generate highly contaminated runoff, with concentrations of pollutants in excess of those typically found in stormwater. Examples might include operations producing concrete or asphalt, auto repair shops, auto supply shops, large commercial parking areas and restaurants.* " In some of Nashville's sub-watersheds, public education will be the primary Best Management Practice (BMP) implemented for improving stormwater runoff quality, therefore, improving receiving water quality. For example, if NPDES staff finds that a stream segment or sub-watershed is impacted by a specific pollutant, targeted public education will be distributed to the surrounding community aimed at reducing non-point source runoff from that specific pollutant (i.e. pet waste, fertilizer).

1.1 RESPONSIBLE PERSONNEL:

While the entire NPDES Section and MWS Public Relations Section will be contributing to implementing PIE plan objectives, specific personnel within each department have been identified to oversee certain aspects of the plan. Table 1 depicts general PIE plan objectives and responsible personnel.

Table 1 – PIE Plan Responsible Party

Personnel	PIE Plan Responsibility	Contact Information
Communications Team	Reviews/Approves all distribution of public information/education materials. Promotion of education and outreach events on social media outlets Assists in the updating of NPDES web pages	615-862-4494
NPDES Education Coordinator	Coordinates MS4 permit specific educational activities (industrial, commercial, construction education) Assists with coordinating and participating in major public education events. Documents public education events and activities for Annual Report submittals. Coordinates targeted mail-outs, outbound calling, and/or public education activities. Develops public education materials. Coordinates with Communications Team on making updates to the NPDES web pages	615-880-2420
NPDES Education Specialist	Oversees school-specific education programs. Oversees/coordinates the MWS implementation of the Tennessee Smart Yards Program. Assists, as needed in the development of public educational materials or attendance of public education events.	615-880-2420
NPDES Permit Group Supervisor	Reviews/Oversees PIE Plan objectives to be consistent MS4 permit requirements. Assists with Public Education coordination as needed.	615-880-2420

1.2 PIE PLAN GOALS AND TIMEFRAMES:

Goals for the PIE plan will be broken up into the following three main categories:

Goal 1: Meet and/or exceed MS4 permit requirements.

Goal 2: Increase the fundamental understanding of water pollution for Nashville students, residents, businesses, and municipal employees.

Goal 3: Encourage use of better management practices that result in improved water quality of runoff from MS4 and private facilities within Metro's MS4 jurisdiction.

Measuring the success of each goal will involve different evaluation procedures. Goal 1 will be, perhaps, the easiest objective to measure. While some of the MS4 permit language is vague, there are some identified milestones and deadlines that can be assessed in each MS4 annual report for completeness. Assessing the effectiveness of the PIE plan in accomplishing Goals 2 and 3 will be more difficult and are discussed in greater detail in Section 5 of this document.

2.0 Targeted Audience Groups:

In order to accomplish the PIE plan objectives, the first step is to identify targeted audiences for which education delivery methods will be tailored towards. The targeted audience will be determined based on a variety of factors, some of which will include general land use, business/community types, geographical areas, previous complaints, and perceived educational needs.

2.1 School Groups/Youth Camps

School children and youth are perhaps one of the most important demographics to target for stormwater education, as they will shape the future of water quality within Metro. MWS will engage school classes in projects and programs that connect students to the social, economic, and environmental impacts of stormwater issues and solutions, and to related careers.

2.2 "Hot Areas" within Metro

As discussed in Section 1, the new MS4 permit requires Metro to target "hot areas" as we designate. MWS NPDES will utilize its vast monitoring data, general knowledge from field investigations, and citizen complaints to aid in determining "hot areas". The determined "hot areas" can often be classified into three main categories based on overall land use associated pollutants of concern. Table 2 refers to the typical pollutants expected in runoff from each major urban land use category. For purposes of public education, the three major urban land use categories have been identified to target specific messages: Residential, Commercial, and Industrial. These targeted educational messages will be included in the educational material (i.e. mailouts, brochures, door hangers) developed specifically for each category.

Table 2 – Typical Pollutant Runoff from Major Land Use Categories

Major Land Use	Typical Pollutants	Typical Source	Resulting Water Quality Degradation to Target in Educational Messages
Residential	1. Nutrients 2. Sediment 3. Pathogens 4. Organics	1. Over-fertilization, Pet Waste, Human Waste and Detergents from failing septic systems. 2. Grading areas without maintained controls. Removing stream bank vegetation. 3. Failing septic systems, illegal cross-connections of sanitary and stormwater, and pet waste. 4. Dumping of leaves/grass clippings in conveyances	1. Increased algal blooms, depleted dissolved oxygen levels from decaying algae. 2. Reduced water clarity for aquatic plants, smothers aquatic life, transports other pollutants. 3. Potentially harmful to human health. 4. Decomposition depletes dissolved oxygen levels within streams.
Light Commercial	1. Hydrocarbons (Oil & Grease) 2. Trash 3. Nutrients 4. Sediment	1. High-traffic parking lot areas, leaking storage tanks, etc. 2. Poor grounds upkeep, especially in parking areas and around dumpsters. 3. Landscaping/golf courses. 4. Grading/developing without maintained controls. Removing stream bank vegetation.	1. Toxic to aquatic life and impact drinking water supplies. 2. Aesthetically displeasing, can block drainage pipes causing erosion, can be harmful to wildlife. 3. Increased algal blooms, depleted dissolved oxygen levels from decaying algae. 4. Reduced water clarity for aquatic plants, smothers aquatic life, transports other pollutants.
Industrial/ Heavy Commercial	1. Metals 2. Sediment 3. Hydrocarbons (Oil & Grease)	1. Exposed industrial processes/improper disposal. 2. Exposed industrial processes/improper disposal. Gravel parking lots with heavy truck traffic. 3. Equipment leakage, leaking storage containers, high-traffic pervious areas.	1. Acute or chronic toxic impacts to aquatic wildlife. 2. Reduced water clarity for aquatic plants, smothers aquatic life, transports other pollutants. 3. Toxic to aquatic life and impact drinking water supplies.

2.3 Business Type/Community "Hot Areas"

There are certain types of businesses scattered throughout the county in which MWS NPDES have found to have a high potential for polluted runoff. MWS will conduct targeted educational campaigns towards theses respective businesses. Business types that will be recipients of targeted education will include:

- Ready Mix Concrete Plants – focus on sediment runoff;
- Asphalt Mixing Plants – focus on sediment and oil & grease runoff;
- Recycling Centers – focus on sediment, metals, and trash runoff;
- Automotive Salvage Yards – focus on sediment and automotive fluid runoff;
- Large Automotive Repair Shops – focus on automotive fluid runoff; and
- Landscaping companies – focus on sediment runoff and application of pesticides, herbicides, fertilizers, and fungicides.

2.4 High Citizen Complaint Zones

MWS receives numerous complaints about a variety of issues throughout the county. Complaints range from people dumping materials in storm ditches (leaves, limbs, trash, etc.) to people discharging illegal substances to the storm system. Upon analysis of complaints, MWS may choose to target certain areas for localized education. Depending on the magnitude and type of pollutant found in the waterway, MS4, or adjacent areas, NPDES will determine the necessary extent of the public education campaign. For example, if multiple residents on multiple streets are found to be dumping yard waste into a stormwater ditch, the whole community may receive educational material on proper disposal requirements and harmful impacts the waste can contribute to waterways. This type of education will be performed on a case by case basis and may be performed using social media apps such as NextDoor.

2.5 Large Civic Educational Events

As prescribed in the MS4 permit, Metro is required to perform stormwater education at a minimum of six large public events per calendar year. MWS Stormwater will satisfy this requirement by participating in large community events that relate to environmental awareness. The following large civic events have been preliminarily identified for Metro to participate with a stormwater education component. Please note that these events may fluctuate year to year, as MWS Stormwater usually participates in more than 6 events a year.

1. Nashville Lawn and Garden Show
2. Nashville Earth Day Festival
3. Urban Runoff 5K and Water Quality Festival
4. Tomato Art Fest
5. TN STEAM
6. Cumberland River Compact's Dragon Boat Festival

2.6 Post Construction Treatment Devices (SCM) Owners

Developing sites that meet certain thresholds within the county are required to install permanent stormwater treatment devices, otherwise referred to as Stormwater Control Measures(SCMs), that are usually designed to treat stormwater runoff for water quality and quantity purposes. Once the site is completely developed, the property owner becomes responsible for permanent maintenance of SCMs. Metro will specifically target owners of BMPs to achieve proper maintenance.

2.7 Grading Contractors/Development Community

The development community, including land developers and grading contractors, will be the target of specific educational outreach. Education geared toward the development community will be focused on the impacts of sediment runoff during construction and general pollutant runoff from pervious surfaces after construction is completed.

2.8 Municipal Maintenance Employees

All Metro departments with field maintenance staff will be a key target audience for distributing stormwater education materials. As prescribed in the MS4 permit, municipal maintenance employees shall be trained on potential stormwater impacts

that could result from maintenance activities. In addition, municipal field staff shall be trained on identifying and reporting occurrences of illicit discharges.

2.9 General Metro Residency

Perhaps the most important constituency within Metro to educate for stormwater quality purposes is the general residents within Metro. While there may exist overlap within the above-described target areas, Metro will also implement techniques to try to reach the masses on more general terms. MWS Stormwater's participation in the Tennessee Smart Yard (TNSY) program, for instance, is geared toward trying to promote more water quality practices for Davidson County residents.

2.10 Social Media Community

Stormwater focused posts are developed to reach a broad audience on MWS Facebook, Instagram, Twitter, and NextDoor to address both general pollution concerns and promote NPDES's educational opportunities and materials. MWS Stormwater works with the MWS Communications section to ensure posts are effective and easily understood. NextDoor can also be used to target specific neighborhood water quality concerns via posting in a specified geographic location. Promotion of workshops, events where MWS will participate or host, and other presentations is completed using the social media platforms.

3.0 Education Techniques for Targeted Audiences:

MWS will utilize a variety of tools to perform stormwater education. Education delivery methods will be designed to achieve maximum distribution to the targeted audiences. For example, educational efforts for the above-described "hot areas" may include mail-outs, outbound calling, coordinating with local non-profit watershed groups, and possibly holding community meetings. Table 3 matches the potential educational technique to the specific targeted audiences. As the MS4 public information plan proceeds, new techniques may be utilized for specific targeted audiences and the PIE Plan will be updated accordingly.

Table 3 – Educational Delivery Methods For Each Targeted Audience Group

Targeted Audience Group	Public Education/Outreach Technique
School Groups/Youth Camps	In-person or virtual presentations/demonstrations Distribution of educational materials designed for youth. (i.e., games, puzzles, tests, etc.)
General "Hot Areas"	Mail-outs (area-specific) Social Media (NextDoor used for specific neighborhoods) Outbound calling (area-specific) Soliciting help from local non-profit watershed groups in distributing educational materials Co-host community meetings with local non-profit watershed groups
Community/Business Type "Hot Areas"	Mail-outs (business-specific) Handing out materials (Dry-Weather Field Screening and Industrial Inspection Program) Hosting workshops
High Citizen Complaint Zones	Mail-outs (problem/complaint-specific) Outbound calling (problem/complaint specific) Social Media Posts
Large Community Events	Staffing stormwater educational booths Performing stormwater demonstrations Handing out educational materials
Post Construction BMP Owners	Social Media Posts Website Information Handing out materials/Drop in visits by NPDES
Grading Contractors/Development Community	Face to face during Grading Permit process Participate in TDEC's Level 1 EPSC Workshop
Municipal Maintenance Employees	In-person presentations/video Handing out materials
General Metro Residency (General Stormwater Education)	Hosting TNSY workshops and promoting the number of certified yards. Channel 3 Public Service Announcements (PSAs) Public signage (vehicle decals, billboards, etc.) Website and social media
Social Media Audience	Develop stormwater specific posts for MWS's Facebook, Instagram, Twitter, and NextDoor

4.0 Education Implementation Schedule:

PIE Plan implementation will be based, first and foremost, on MS4 Permit deadlines. In order to keep track of stormwater education deadlines and responsibilities, a Public Education Implementation Table has been developed that will be the blueprint for yearly public education activities. The Public Education Implementation Table incorporates at least one type of education activity geared toward each Targeted Audience Group.

Table 4 – Public Education Implementation Examples

Task	Activity	Frequency
1.	Give out stormwater educational materials at every pre-construction meeting for Grading Permits.	Annually
2.	Present at all TDEC Level 1 EPSC workshops in Nashville.	As Scheduled by TDEC
3.	Perform in-person training or provide maintenance personnel with stormwater educational materials.	As Deemed Necessary
4.	Send mail-outs, perform outbound calling, or post to NextDoor in high complaint zones as determined necessary.	As Deemed Necessary
5.	Perform dry-weather field screening on businesses with increased potential for stormwater pollution runoff.	Routinely
6.	Send Notice of Inspections to property owners after moderate to major maintenance issues are found during MWS Stormwater inspections.	As Deemed Necessary
7.	Make updates to MWS stormwater website pages to reflect latest regulations, program updates, new material, etc.	As Deemed Necessary
8.	Host TN Smart Yards Workshops in-person or virtually.	Monthly/Quarterly
9.	Participate in or host at least 6 large community/civic events.	Annually
10.	Provide public notice for all large Metro construction projects (website postings).	Annually
11.	Host an industrial stormwater workshop for all current TMSP sites and provide recording when necessary.	Every Permit Cycle
12.	Provide opportunity for public participation/involvement for stormwater awareness projects (i.e., adopt a stream program, tree plantings)	Annually
13.	Post to social media routinely about stormwater pollutant concerns, public education opportunities, and any other updates on the program.	Routinely
14.	Presentation and demonstrations focusing on stormwater education at Metro Nashville Public Schools.	Annually
15.	Distribute stormwater educational materials to building permit applicants for single family homes.	Annually
16.	Present each Annual Report to a public forum (Website Posting).	Annually

5.0 PIE Plan Effectiveness Assessment:

Throughout implementation of the PIE Plan, MWS will attempt to assess the effectiveness of the educational messages. Some potential assessment methods may include performing surveys to certain target audiences during presentations and analyzing monitoring data collected from social media postings.

5.1 PIE Database

A Microsoft Access Database has been developed to track and maintain records for each public education opportunity. The database includes the event name, date of event, type and focus of stormwater education, staff involved, and the audience number. The audience number will be based on the number of people who interacted with MWS staff and/or received educational materials rather than the total number of people attending the event. The database will also link to any documentation connected to the event (i.e. presentation, pictures). This tracking will give MWS Stormwater an estimate on audience size for each event and for the public involvement and education effectiveness.

Website Public Notice Posting for the FY23 Draft Annual Report

ATTACHMENT A – Protected Species Report

Metro Nashville Municipal Separate Storm Sewer System Permit
Federal or State-Protected Species Impact assessment

(Reporting Period 07/01/2022 – 06/30/2023)

Reviewed and Updated:
October 2023

Introduction:
As per the Municipal Separate Storm Sewer System (MS4) permit, Metro Nashville is required to perform an annual assessment of potential Stormwater impacts to federal and state-protected aquatic species known to exist within Metro Nashville Davidson County (Metro). In order to perform the assessment, the Metro Water Services (MWS) Stormwater NPDES Section downloaded a list of aquatic species located within Davidson County. In order to assess potential impacts to rare species, the list of rare aquatic species was analyzed and broken into specific habitat categories. Table 1 details the list of rare aquatic species that have been known to occur within Davidson County. According to the Tennessee Department of Conservation (TDEC) Natural Heritage Program (NHP), Rare Species Inventory Program there are 18 aquatic species rare or protected aquatic species that occur or have historically occurred within Davidson County.

Only five of the 18 rare aquatic species have a federal protection status, all of which are listed as "Endangered", while remaining 13 of the rare aquatic species have been listed by the state of Tennessee with one of the following legal protection status:
"D" Deemed in Need of Management,
"E" Endangered,
"T" Threatened,
"S" Special Concern species, and
Rare, Not State Listed

Typical Habitat Requirements:
While the 18 species may require specific aquatic habitat conditions, the general type of aquatic habitat can be broken into three main categories:

- Large River/Lake – The Cumberland River is the only large river system within Davidson County. The Cumberland River has portions of two impoundments (Cheatham Lake and Old Hickory Lake) within Davidson County. Due to the dilution factor, Nashville's Stormwater runoff would have negligible effects of the water quality/habitat of the Cumberland River.
- Small Streams to Small/Medium Rivers – This particular habitat represents all of the smaller headwater streams, creeks, and small rivers that drain into the Cumberland River. The small streams/rivers are more susceptible to impacts from Stormwater runoff from the MS4.
- Ponds/Wetlands/Springs – This particular habitat describes floodplain wetlands, farm ponds, and springheads located throughout the county, which would have the potential of being impacted by MS4 runoff.

Table 1 – List of Rare Aquatic Species for Davidson County Tennessee – FY22

General Aquatic Resource	Type	Scientific Name	Common Name	Global Rank	Fed. Status	St. Status	Habitat	State Rank
Small Headwater Streams to Small/ Medium Rivers	Invertebrate Animal	*Sphalloplana buchanani*	A Cave Obligate Planarian	G1G2	No Status	Rare, Not State Listed	Aquatic cave obligate; northern Central Basin; Davidson County; taxonomy poorly understood.	S1
	Vertebrate Animal	*Ambystoma barbouri*	Streamside Salamander	G4	No Status	D	Seasonally ephemeral karst streams; middle Tennessee.	S2
	Vertebrate Animal	*Cryptobranchus alleganiensis*	Hellbender	G3G4	No Status	E	Rocky, clear creeks and rivers with large shelter rocks.	S3
	Vertebrate Animal	*Etheostoma luteovinctum*	Redband Darter	G4	No Status	D	Limestone streams; Nashville Basin & portions of Highland Rim.	S4
	Vertebrate Animal	*Etheostoma microlepidum*	Smallscale Darter	G2G3	No Status	D	Small rivers, in deep, strongly flowing riffles with gravel, boulder, and coarse rubble substrates; Cumberland River drainage.	S2
	Vertebrate Animal	*Percina phoxocephala*	Slenderhead Darter	G5	No Status	D	Small-large rivers with moderate gradient in shoal areas with moderate-swift currents; portions of Tenn. & Cumb. river watersheds.	S3
	Invertebrate Animal	*Faxonius shoupi*	Nashville Crayfish	G1G2	LE	E	1st-order & larger streams, generally with bedrock bottom, under slab rock; endemic to Mill Creek watershed; Davidson & William. cos.	S1S2
	Invertebrate Animal	*Epioblasma florentina walkeri*	Tan Riffleshell	G1T1	LE	E	Found in river headwaters, in riffles and shoals in sand and gravel substrates; Tennessee & Cumberland river systems.	S1
	Invertebrate Animal	*Simpsonaias ambigua*	Salamander Mussel	G3	No Status	Rare, Not State Listed	In sand or silt under large, flat stones in areas of swift current; occurred historically in E Fk Stones R; 2005 obs in lower Duck R.	S1
	Invertebrate Animal	*Lithasia duttoniana*	Helmet Rocksnail	G2Q	No Status	Rare, Not State Listed	Rocky substrates in riffle systems; bedrock in flowing water below main section of riffles; Duck River (TN River system).	S2
	Vertebrate Animal	*Acipenser fulvescens*	Lake Sturgeon	G3G4	No Status	E	Bottoms of large, clean rivers and lakes.	S1
	Vertebrate Animal	*Carpiodes velifer*	Highfin Carpsucker	G4G5	No Status	D	Large rivers, mostly in Tennessee River drainage.	S2S3
	Vertebrate Animal	*Cycleptus elongatus*	Blue Sucker	G3G4	No Status	T	Swift waters over firm substrates in big rivers.	S2
	Vertebrate Animal	*Macrochelys temminckii*	Alligator Snapping Turtle	G3G4	No Status	D	Slow moving, deep water of rivers, sloughs, oxbows, swamps, and lakes; middle and west Tennessee; obscure.	S2S3
	Invertebrate Animal	*Epioblasma brevidens*	Cumberlandian Combshell	G1	LE	E	Large creeks to large rivers, in coarse sand or mixtures of gravel, cobble, or rocks; Tennessee & Cumberland river systems.	S1
	Invertebrate Animal	*Lampsilis abrupta*	Pink Mucket	G2	LE	E	Generally a large river species, preferring sand-gravel or rocky substrates with mod-strong currents; Tennessee & Cumberland river systems.	S2
	Invertebrate Animal	*Plethobasus cooperianus*	Orangefoot Pimpleback	G1	LE	E	Large rivers in sand-gravel-cobble substrates in riffles and shoals in deep flowing water; Cumberland & Tennessee river systems.	S1
Ponds/ Wetlands/ Springs	Vascular Plant	*Ranunculus aquatilis var. diffusus*	White Water-buttercup	G5T5	No Status	E	Ponds and Streams	S1

Potential Impacts from MS4 Runoff:
Rare species that inhabit smaller streams and rivers, ponds, wetlands, and springs would be the most vulnerable to potential impacts from MS4 runoff. Impacts from MS4 runoff includes:

- Increased sediment loads smothering natural stream substrate;
- Increased nutrient runoff that cause sporadic algal blooms and accompanying reductions in available oxygen;
- Increased levels of toxic chemicals such as pesticides, oils, etc.;
- General loss of habitat from development activities.

Metro Nashville's Measures to Prevent Impacts to Aquatic Rare Species:
Metro Nashville's MS4 program employs a simple technique to protect against impacts to rare aquatic species: "*Protect all of Nashville's Aquatic Habitat*". In order to protect Nashville's aquatic habitat, a multi-prong approach is in place:

- Control Future Development – Establish local regulations that prevent future development from destroying aquatic habitat. Monitor runoff during construction to prevent the destruction of aquatic habitat
- Enforce on developments that violate local construction regulations that could lead to the further destruction of aquatic resources.
- Control the quality of Stormwater runoff from existing properties
- Establish local regulations that prevent the discharging of pollutants to MS4 and/or waterways
- Monitor existing properties to ensure pollutants are not being discharged to the MS4 and/or waterways.
- Enforce on properties/individuals that violate local water pollution laws that could potentially impact aquatic habitat.
- Monitor the overall water quality and health of Nashville's streams
- Analytical sampling of certain water quality parameters
- Rotating biological surveys of Davidson County streams.

Controlling Future Development
Metro Nashville has established strict regulations protecting aquatic resources from impacts associated with development activities. All development or redevelopment activities that are over 10,000 square feet in overall footprint or involve more than 100 cubic yards of fill are required to obtain grading permits from the Metro Water Services (MWS) Stormwater Division. In order to obtain a grading permit from MWS, engineered plans have to be developed that illustrate how Stormwater runoff will be managed during and after development. Strict erosion and sediment control measures are required at all grading permit properties during construction. In order to ensure that erosion and sediment controls are maintained throughout construction, NPDES has eleven inspectors that inspect grading permit site construction control measures.

Metro Nashville also requires protection from impacts to aquatic resources after the construction phase of projects by requiring grading permit properties to install permanent Stormwater treatment measures that are designed to treat/address both the volume and quality of runoff from the property.

In addition to requiring development or redevelopment activities to obtain permits and treat Stormwater runoff, Metro Nashville was also one of the first municipalities in the state to establish no-disturb buffers along streams and other water resources within Metro Nashville, Davidson County. Development activities that demonstrate a hardship requiring some impacts to the no-disturb riparian buffer (i.e., for a bridge crossing, etc.) are required to go through a strict variance appeal process via the Metro Stormwater Management Committee. Variance requests for stream crossings or other direct impacts to water resources are not granted unless

any necessary TDEC Aquatic Resource Alteration Permits (ARAPs) or Section 404 permits from the U.S. Army Corps of Engineers (USACOE) are obtained, which cannot be issued if protected species are impacted.

Controlling the Quality of Stormwater Runoff from Existing Properties

Metro Nashville has the following specific ordinance in place that prevents the discharge of pollutants to storm drains or community waters:

15.64.205 - Non-Stormwater discharges.

A. Definitions.

"Community waters" means any and all rivers, streams, creeks, branches, lakes, reservoirs, ponds, drainage systems, springs, wetland, wells and other bodies of surface or subsurface water, natural or artificial, lying within or forming a part of the boundaries of the Metropolitan Government of Nashville and Davidson County.

"Contaminant" means any physical, chemical, biological or radiological substance or matter.

"Director" means the Director of the Metropolitan Government of Nashville and Davidson County's Department of Water and Sewerage Services, or his designee.

"Discharge" means any substance disposed, deposited, spilled, poured, injected, seeped, dumped, leaked, or placed by any means, intentionally or unintentionally, into community waters, the waters of the state, or any area draining directly or indirectly into the municipal Stormwater system of the metropolitan government.

"Metropolitan government" means the Metropolitan Government of Nashville and Davidson County.

"Municipal separate storm sewer system of the metropolitan government" means a conveyance, or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, and storm drains) designed or used for collecting or conveying Stormwater; provided, however, that sanitary and combined sewers are not included in the definition of the municipal separate storm sewer system.

"Non-Stormwater discharge" means any discharge to the municipal separate storm sewer system except as permitted by subsection C of this section.

"Waters of the state" means any water, surface or underground, lying within or forming a part of the boundaries of the Metropolitan Government of Nashville and Davidson County, over which the Tennessee Department of Environment and Conservation exercises primary control with respect to Stormwater permits.

B. Except as hereinafter provided, all non-Stormwater discharges into community waters, into the waters of the state, or into the municipal separate storm sewer system of the metropolitan government are prohibited and are declared to be unlawful.

C. Unless the director has identified them as a source of contaminants to community waters, the waters of the state, or the municipal separate storm sewer system of the metropolitan government, the following discharges are permitted:

1. Stormwater as defined in TCA Section 68-221-1102(5);
2. Water line flushing;
3. Landscape irrigation;
4. Diverted stream flows;

5. Rising ground waters;
6. Uncontaminated groundwater infiltration (as defined at 40 CFR 35.2005(20)) to separate storm sewers;
7. Uncontaminated pumped groundwater;
8. Discharges from potable water sources;
9. Foundation drains;
10. Air conditioning condensate;
11. Irrigation water;
12. Springs;
13. Water from crawl space pumps;
14. Footing drains;
15. Lawn watering;
16. Individual residential car washing;
17. Flows from riparian habitats and wetlands;
18. Dechlorinated swimming pool discharges;
19. Street wash waters resulting from normal street cleaning operations;
20. Discharges or flows from emergency firefighting activities.

D. The director, with the approval of the mayor, shall have authority to implement this section by appropriate regulations. Such regulations may include but are not limited to provisions for inspection of points of origin of known or suspected non-permitted discharges by appropriate personnel of the metropolitan government.

E. Discharges pursuant to a valid and effective NPDES permit issued by the State of Tennessee are not prohibited by this section.

F. The provisions of this section, including subsection C of this section, shall not apply to sanitary or combined sewers, which are governed by Chapter 15.40 of the Metropolitan Code of Laws.

G. Violation of this section shall subject the violator to a civil penalty of not less than fifty dollars nor more than five thousand dollars per day for each day of violation. Each day of violation may constitute a separate violation.

NPDES issues enforcement notices and administrative penalties to existing facilities found to be in violation of the above non-Stormwater discharge code.

In addition to controlling polluted runoff from construction activity, NPDES implements various other pollution prevention programs:

- Industrial Inspection/Monitoring Program
- Proactive Field Screening/Illicit Discharge Detection Elimination Program
- Pollution Reporting Hotline
- Sewer Leak Detection Program (Using Thermography Technology)
- Post-Construction Stormwater Treatment BMP inspection/maintenance verification program
- Public Involvement/Education

<u>Monitoring the Overall Water Quality and Health of Nashville's Streams</u>
NPDES performs intense monitoring of Metro Nashville, Davidson County streams. Veronica Logue of the NPDES Division retained a permit/certification from the USFWS/TWRA to perform surveys within the Mill Creek watershed (home to the endangered Nashville Crayfish). The following programs involve field assessments of streams:

- Ambient Sampling - Seasonal water quality samples are taken and analyzed for potential pollutants. Various streams are sampled each year on a rotating basis.
- TMDL Monitoring – Quarterly flow weighted samples are collected and analyzed for bacterial and TSS of various/rotating stream segments in which TMDLs have been developed.
- Visual Stream Assessments – All State-listed 303(d) stream segments with MS4 outfalls are visually inspected on a 5-year cycle.
- Benthic Surveys – Seasonal benthic surveys are performed on various streams each year. The benthic sampling coincides with the same stream rotation schedule as the ambient sampling.

If abnormalities are found in any of the above monitoring results, individual investigations are initiated to find and eliminate potential sources of pollution.

Conclusion:
Metro Nashville's MS4 program has taken substantial steps to protect aquatic resources within Metro Nashville, Davidson County. By virtue of protecting the Nashville's water resources, critical habitat required for aquatic species has also been preserved/ protected. During this permit year, there have not been any known discharges from the MS4 that have caused the destruction of a rare species or their critical habitat.

ATTACHMENT B – Coordination with TDEC on MS4 Compliance During Administrative Extension Period of MS4 Permit

MEGAN BARRY
MAYOR

METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY

DEPARTMENT OF WATER AND SEWERAGE SERVICES
STORMWATER DIVISION
NPDES OFFICE
1607 COUNTY HOSPITAL ROAD
Nashville, Tennessee 37218

January 31, 2017

Re: Nashville Phase 1 MS4 Permit Reissuance – TNS068047

Vojin Janjic | Manager, Water-Based Systems
Division of Water Resources
William R. Snodgrass Tennessee Tower, 11th Floor
312 Rosa L. Parks Ave, Nashville, TN 37243

Dear Mr. Janjic,

We are writing you to request specific clarification on the permit reissuance process for the Metropolitan Government of Nashville, Davidson County (Metro) Municipal Separate Storm Sewer System, which expires as of today, January 31, 2017. As we approach this reissuance process and period between expired permit and reissued permit, it is our intentions to propose the following path going forward to ensure MS4 Permit compliance is maintained throughout the transition period and to ensure coordination occurs between the Division and key Metro staff to incorporate changes to specific terms and conditions of the MS4 permit.

Transition Period:
As you are aware, most of the specific requirements of the MS4 permit are ongoing and do not have certain deadlines by which to be completed. Among these, include programs such as administering stormwater management regulations requirements for post-construction stormwater controls, overseeing a vigorous inspection and oversight program for construction activities, performing public education/public involvement activities, ensuring municipal maintenance operations are not impacting stormwater runoff, and implementation of various Illicit Discharged Detection and Elimination (IDDE) programs. Metro proposes to continue these ongoing programs as prescribed in the existing active permit until the new permit becomes effective.

There are some MS4 permit requirements, however, that list specific target dates or timeframes for the activities to be completed per Metro's active permit. Specific requirements within the MS4 permit that have declared deadlines are listed below:

- ***Dry Weather Outfall Screening***
  - *Screen one outfall within every ¼ mile commercial/industrial grid once per permit term.*
- ***Industrial Inspection/Monitoring Program***
  - *Inspect industrial high risk sites as identified by the MS4 permit (i.e. SARA Title 3, TSD sites, etc.) once every 3 years.*
- ***Post Construction Stormwater Control Measure (SCM) Inspection and Maintenance Oversight Program***
  - *Implement permittee-defined program by the end of year 5.*
- ***Various MS4 Permit-Prescribed Monitoring Activities.***
  - *Sampling programs (i.e. wet weather, ambient, visual stream assessments, etc.) prescribed in the permit to be completed on a 5 year permit term.*

It is our understanding through conversations with TDEC staff, that it may be late 2017 or possibly even next year, before our MS4 permit is reissued. With that said, we would like to propose the following compliance activities to be performed in the transition period.

- ***Dry Weather Outfall Screening***
  - *Test our newly proposed field screening protocol (i.e. screen 3 business/industrial sites for site management/housekeeping procedures in each ¼ commercial/industrial-zoned grid.) Transition period goal would be to screen at least 50 grids each year prior to the new permit being issued.*
- ***Industrial Inspection/Monitoring Program***
  - *Re-inspect only industrial sites in which issues were noted during the original inspections and/or those involved with compliant investigations. Identify and perform inspections on industrial facilities (not required to be inspected by the original MS4 permit (i.e. auto salvage lots, ready-mix facilities, etc. not identified as SARA Title 3 or TSD facilities)). A list of industrial facilities to be inspected would be sent to the TDEC Nashville Field Office. Goal would be to inspect 10 industrial facilities each year.*
- ***Post Construction Stormwater Control Measure (SCM) Inspection and Maintenance Oversight Program***
  - *Continue to respond to citizen complaints of SCM structures not being maintained properly. In addition, would inspect and enforce (if necessary) on at least 50 SCM structures per year. Currently and during the transition period, Metro will continue to build its SCM Inspection & Maintenance oversight process.*
- ***Various MS4 Permit-Prescribed Monitoring Activities.***
  - *Discontinue the following sampling activities until the new MS4 permit is issued:*
    - *Wet Weather Homogenous Land Use Sampling*
    - *Wet Weather SCM Discharge Grab Sampling*
    - *Wet Weather Industrial Sampling (1 TMSP/RMCP site per year).*

- *Continue routine ambient monitoring/sampling programs (ambient chemical/bacteriological sampling and visual stream assessments) as well as any site-specific sampling as required in the course of routine investigations. The MWS Stormwater NPDES Watershed Group would coordinate with TDEC Nashville Field Office staff on monitoring schedules (which watersheds they will be monitoring during the transition period).*

New Permit Coordination

As stated above, Metro is requesting coordination on developing specific terms and conditions of the reissued MS4 permit in an ongoing effort to improve our permit compliance activities. In particular there are several program activities that Metro is interested in modifying to make more efficient and effective. Some of these proposed changes would involve changes to MS4 permit requirements as well, if implemented. Specific changes Metro are requesting to individually listed permit requirements were included in Metro's most recent Annual Report submittal (see attachment). Metro is requesting specific meetings to be arranged between appropriate TDEC permit writer staff and MWS Stormwater NPDES personnel so that these proposed changes can be explored and discussed.

Sincerely,

Michael Hunt
Metro Water Services, Stormwater, NPDES
Program Manager

Encl. - Nashville Phase 1 MS4 Permit Application Section of MS4 Annual Report

CC:

April Grippo – TDEC Nashville Field Office
Jennifer Dodd – TDEC Central Office
John Leffew – TDEC Nashville Field Office

DAVID BRILEY
MAYOR

METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY

DEPARTMENT OF WATER AND SEWERAGE SERVICES
STORMWATER DIVISION
NPDES OFFICE
1607 COUNTY HOSPITAL ROAD
Nashville, Tennessee 37218

March 30, 2018

Re: Nashville Phase 1 MS4 Permit Reissuance – TNS068047

Vojin Janjic | Manager, Water-Based Systems
Division of Water Resources
William R. Snodgrass Tennessee Tower, 11th Floor
312 Rosa L. Parks Ave, Nashville, TN 37243

Dear Mr. Janjic,

We are writing you to provide an update to the Metropolitan Government of Nashville, Davidson County (Metro) Municipal Separate Storm Sewer System (MS4) permit compliance activities. As you are aware, Metro's MS4 permit expired on January 31, 2017 and prior to the expiration, Metro submitted several requests to alter specific permit compliance activities (See Attached letter dated January 31, 2017. As a follow-up to proposed MS4 permit compliance activities, Metro hosted a meeting with Jennifer Dodd and Karina Bynum from the Tennessee Department of Environment and Conservation to discuss the proposed changes. As a result of the meeting, TDEC provided positive feedback to the changes and requested Metro to provide an update on the proposed changes in the first quarter of 2018. The following paragraphs describe some of the already observed benefits to changes to MS4 permit compliance activities that were implemented during this transition period between permits. .

Summary Transition Period MS4 Compliance Changes:
The majority of the MS4 permit compliance programs have continued without adjustment as these activities are considered as ongoing within the MS4 permit. There are a few activities that were required to be completed by year 5 of the permit, which were completed, but Metro found to be very beneficial in identifying and eliminating stormwater pollution. As such, Metro proposed changes to the following programs:

If you need assistance or an accommodation, please contact Metro Water Services, at 615-862-4862, 1600 Second Avenue North, Nashville, Tennessee 37208.

- ***Dry Weather Outfall Screening***

  Previous MS4 Permit Requirements

  - *Screen one outfall within every 1/4 mile commercial/industrial grid once per permit term.*

  New More Efficient Proposed Field Screening Program

  - *Screen 3 business/industrial sites for site management/housekeeping procedures in each ¼ commercial/industrial-zoned grid.) Transition period goal would be to screen at least 50 grids each year prior to the new permit being issued.*

  Initial Findings:

  - *This process has proven to be much more effective than looking specifically at outfalls. In the few months of testing, several poor site management practices have been found such as improper management of dumpster pads and grease recycling bins. This has allowed Metro to be more effective and proactive in talking with these businesses to educate them on proper site management issues to prevent these exposed materials from washing off to the MS4 during a rain event. It is important to note that while we are looking at business practices within grids, we still spot check stormwater infrastructure to see if there is any suspicious dry weather, potentially "illicit discharge" flow.*

  Adjustments Made to New Approach

  - *The only adjustment made was going from screening 3 businesses within a ¼ mile grid to screening 3 businesses within a ½ mile grid. Upon implementing, we quickly realized that ¼ mile grids were too limiting and in many cases did not encompass multiple parcels that could be screened.*

- ***Industrial Inspection/Monitoring Program***

  Previous MS4 Permit Requirements

  - *Inspect industrial high risk sites as identified by the MS4 permit (i.e. SARA Title 3, TSD sites, etc.) once every 3 years.*

  New More Efficient Proposed Industrial Inspectino Program

  - *Re-inspect only industrial sites in which issues were noted during the original inspections and/or those involved with compliant investigations. Identify and perform inspections on industrial facilities (not required to be inspected by the original MS4 permit (i.e. auto salvage lots, ready-mix facilities, etc. not identified as SARA Title 3 or TSD facilities)). A list of industrial facilities to be inspected would be sent to the TDEC Nashville Field Office. Goal would be to inspect 10 industrial facilities each year.*

  Initial Findings:

  - *This process has proven to be much more effective as we have been able, during this transition period, to focus resources on industrial activities that have the highest potential for stormwater pollution such as Ready Mix Concrete facilities, chrome-plating facilities, etc. This new approach has allowed us to prioritize inspections and coordinate with TDEC field office staff as needed to perform co-inspections.*

Adjustments Made to New Approach
- *There are no proposed refinements to the new approach.*

- ***Post Construction Stormwater Control Measure (SCM) Inspection and Maintenance Oversight Program***

Previous MS4 Permit Requirements
- *Implement permittee-defined program by the end of year 5.*

New More Efficient Proposed SCM Inspection and Maintenance Oversight Program
- *Continue to respond to citizen complaints of SCM structures not being maintained properly. In addition, would inspect and enforce (if necessary) on at least 50 SCM structures per year. Currently and during the transition period, Metro will continue to build its SCM Inspection & Maintenance oversight process.*

Initial Findings:
- *Metros NPDES program has vastly expanded resources dedicated to ensuring post construction SCMs are being properly inspected and maintained. As it currently stands, Metro inspects an average of 75 SCM structures each month, which is well above the pace that we originally proposed. This new approach of focusing on NPDES program inspection findings and following-up with property owners on the proper maintenance has proven very beneficial to achieving maintenance on Post-Construction SCMs.*

Adjustments Made to New Approach
- *Metro is constantly evaluating the inspection and report documentation process and will continue to adjust the program, as necessary, to achieve the highest efficiency to ensure post-construction SCM structures are maintained properly.*

- ***Various MS4 Permit-Prescribed Monitoring Activities***.

Previous MS4 Permit Monitoring Requirements
- *Sampling programs (i.e. wet weather, ambient, visual stream assessments, etc.) prescribed in the permit to be completed on a 5 year permit term.*

New More Efficient Proposed MS4 Permit Monitoring Program
- *Discontinue the following sampling activities until the new MS4 permit is issued:*
  - *Wet Weather Homogenous Land Use Sampling*
  - *Wet Weather SCM Discharge Grab Sampling*
  - *Wet Weather Industrial Sampling (1 TMSP/RMCP site per year).*
- *Continue routine ambient monitoring/sampling programs (ambient chemical/bacteriological sampling and visual stream assessments) as well as any site-specific sampling as required in the course of routine investigations. The MWS Stormwater NPDES Watershed Group would coordinate with TDEC Nashville Field Office staff on monitoring schedules (which watersheds they will be monitoring during the transition period).*

Initial Findings:
- *Elimination of the wet weather monitoring has allowed for more resources to be spent on assessing streams for various impairments. Eight biological assessments have been performed on streams that Metro hadn't previously assessed. This provides a more comprehensive and up to date watershed assessment countywide and will additionally provide TDEC with more data than they would otherwise be able to collect. In addition to the biological assessment, nutrient samples are collected at the same time.*

- *Monitoring of 2 projects has been initiated and a total of 8 samples have been collected. Both of the projects are located on Cathy Jo Branch. One of the projects is a dam removal and the other is a retrofit to a stormwater outfall that reduced sheer flow during storm events. Samples were collected before work began and will continue in order to show the effectiveness of the projects.*
- *There have been 2 investigations within the past year as a result of our regular monitoring. Both of these investigations concluded that repairs needed to be made to sewers and thus we are preventing long term discharges to nearby streams.*

Adjustments Made to New Approach

- *There have not been adjustments made to the new approach. Projects are continually being considered for monitoring in order to show project effectiveness.*

Metro is requesting specific meetings to be arranged between appropriate TDEC permit writer staff and MWS Stormwater NPDES personnel so that these proposed changes can be explored and discussed.

Sincerely,

Michael Hunt
Metro Water Services, Stormwater, NPDES
Program Manager

Encl. - January 31, 2018 Letter to TDEC of Proposed Changes to MS4 Permit Compliance Activities. Attachment C of Year 5 MS4 Annual Report

CC:

April Grippo – TDEC Nashville Field Office
Jennifer Dodd – TDEC Central Office
Karina Bynum - TDEC Central Office
John Leffew – TDEC Nashville Field Office

Hayes, Joshua (WS)

From: Hunt, Michael (WS)
Sent: Friday, March 30, 2018 2:02 PM
To: 'Karina Bynum'
Cc: 'Jennifer Dodd'; 'Ann Morbitt'; 'Wade Murphy'; 'Robert Karesh'; 'Jimmy R. Smith'; 'April Grippo'; 'Bill Murph'; 'John Leffew'; Hayes, Joshua (WS); Dohn, Rebecca (WS); Bruce, Mary (WS); Binder, Dale (WS)
Subject: RE: 16NOV17 Meeting Follow-up
Attachments: Permit Re-issuance and Transition Period_TDEC_Update_Final.pdf

Good afternoon Karina:

Per your email below, find the requested info attached (red text on pages 2-4 of attached pdf). If you have any questions, don't hesitate to let us know.

Thanks, Michael

From: Karina Bynum [mailto:Karina.Bynum@tn.gov] **Sent:** Friday, November 17, 2017 9:44 AM **To:** Hunt, Michael (WS); Hayes, Joshua (WS); Dohn, Rebecca (WS); Bruce, Mary (WS); Binder, Dale (WS) **Cc:** Jennifer Dodd; Ann Morbitt; Wade Murphy; Robert Karesh; Jimmy R. Smith; April Grippo; Bill Murph; John Leffew **Subject:** 16NOV17 Meeting Follow up

Hello Michael,

Thank you for the invitation to meet and discuss the program update you send us on January 31, 2017, regarding the Transition Period for Metro's Stormwater Program. It was very helpful to hear from your staff about the program adjustments specified in the letter and to discuss the monitoring your program is undertaking. As you conclude the year of gathering information during the transition period, please compile your findings and send them to us in the first quarter of the year 2018. Please give us about a month to review and then reach out to us to schedule a meeting to discuss your findings.

Thank you,

TN Department of Environment & Conservation

Karina Bynum, Ph.D., P. E. |Integrated Water Resources Engineer

Division of Water Resources

1221 South Willow Avenue, Cookeville, TN 38506

p. 931 - 520 - 6688

karina.bynum@tn.gov

tn.gov/environment

From: Hunt, Michael (WS) <Michael.Hunt@nashville.gov>
Sent: Tuesday, November 14, 2017 3:06 PM
To: Karina Bynum
Subject: letter....

***** This is an EXTERNAL email. Please exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email. - STS-Security*****

Michael Hunt CSM, CPMSM, CPSWQ, CFM
Program Manager
Metro Water Services - Storm Water Div.- NPDES Office
1607A County Hospital Road
Nashville, TN 37218
Phone: (615) 880-2420
http://www.nashville.gov/stormwater/
If you see water pollution in Metro Nashville, call (615) 313-PURE or (615) 880-2420 or email stormwaterquality@nashville.gov

STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER RESOURCES
Nashville Environmental Field Office
711 R.S. Gass Boulevard
Nashville, TN 37216
Phone 615-687-7000 Statewide 1-888-891-8332 Fax 615-687-7078

May 31, 2018

Mr. Scott Potter
Director of Metro Water Services
1600 2nd Avenue North
Nashville, TN 37208

Certified Mail Receipt
7014 2870 0001 3600 2906

RE: Compliance Evaluation Inspection
Nashville/Davidson County Municipal Separate Storm Sewer System (MS4)
NPDES Permit Tracking Number TNS068047, Davidson County

Dear Mr. Potter:

On May 16, 2018, Karina Bynum, John Leffew and Ann Morbitt with the Division of Water Resources (division) met with Michael Hunt, Rebecca Dohn, Joshua Hayes, Dale Binder, Steve Mishu and Shawn Herman with Metro Water Services to perform a routine Compliance Evaluation Inspection. The inspection included a review of regulatory mechanisms, records, procedures and other documents related to the construction site stormwater runoff control program required under the NPDES Permit TNS068047 for Discharges from the MS4 owned and operated by the Metropolitan Government of Nashville (Metro).

The construction site stormwater runoff control program is well established, the staff is trained and certified, and the program implementation is compliant with the requirements of the NPDES Permit TNS068047. The division greatly appreciates the time and commitment from your staff in their preparation before and participation during the inspection. Their availability and knowledge of the program ensured it was conducted in an efficient manner.

Permit Review
The NPDES Permit TNS068047 for stormwater discharges from Metro MS4 was issued and became effective on February 1, 2012. The permit expired on January 31, 2018, and has been administratively extended until a new permit is issued.

Records Review
The MS4 permit requires Metro to continue to implement and enforce its existing construction site stormwater runoff control program. The implementation of the following required elements was reviewed:

- Regulatory mechanisms requiring erosion prevention and sediment control for land disturbance greater than one (1) acre or less than one (1) acre if part of a larger common plan

of development are published in the Volume 1 of the *Metro's Stormwater Management Manual.*

- An inventory of all construction sites is provided in the City Works tracking system. All active sites are identified as priority sites and pre-construction meetings for all priority sites are held.
- Education of construction site operators is provided during certification classes for Erosion Protection Sediment Control (EPSC) professionals that are held in the Nashville region. Pre-construction meetings for all priority sites assure EPSC Level 1 is held by on-site operators.
- Control of waste materials is addressed in the stormwater management plan and is required in Volume 1 of the *Metro's Stormwater Management Manual* (section 6.10.8).
- Site plan review and approval procedures are coordinated with the plans review group. Qualified staff reviews plans. The review includes approval of the EPSC design and water quality buffers.
- Site inspections are conducted monthly for all priority sites. Enforcement procedures and all required sanctions are identified in the Enforcement Response Plan (Appendix D of the Stormwater Management Plan) and are outlined in the regulatory mechanisms published in the Volume 1 of the *Metro's Stormwater Management Manual.*
- Public input may be provided by phone, web page or public notice announcements.

Construction Site Visit
Site inspection procedures were evaluated by performing a site visit at the Magnolia Farms Subdivision construction site (TNR241924 and TNR242096). The stormwater program inspector, Shawn Herman, demonstrated a good working knowledge of erosion prevention and sediment control practices, and performed a comprehensive inspection with appropriate documentation and on-site communication.

Again, we would like to thank Mr. Hunt and his staff for the assistance and courtesy extended to us during our inspection. If you have any questions or need additional information, please contact John Leffew at the Nashville Environmental Field Office by email at john.leffew@tn.gov or by telephone at (615) 687-7106, or you may contact me by email at april.grippo@tn.gov or by telephone at 615-687- 7018.

Sincerely,

April Grippo
Environmental Manager
Division of Water Resources
Nashville Environmental Field Office

e-cc: Mr. Michael Hunt, Michael.Hunt@nashville.gov - Metro Water Services
Mr. John Leffew, john.leffew@tn.gov- DWR Nashville EFO
Ms. Ann Morbitt, ann.morbitt@tn.gov – DWR statewide
Ms. Karina Bynum, karina.bynum@tn.gov – DWR statewide
Ms. Jessica Murphy, jessica.murphy@tn.gov – DWR Compliance and Enforcement

STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER RESOURCES
Nashville Environmental Field Office
711 R.S. Gass Blvd., Nashville, TN 37216
Phone 615-687-7000 Statewide 1-888-891-8332 Fax 615-687-7078

September 15, 2020

Mr. Scott Potter
Director of Metro Water Services
1600 2nd Avenue North
Nashville, TN 37208

Certified Mail Receipt
7014 2120 0004 1565 6563

RE: Compliance Evaluation Inspection
Nashville/Davidson County Municipal Separate Storm Sewer System (MS4)
NPDES Permit Tracking Number TNS068047, Davidson County

Dear Mr. Potter:

On July 16, 2020, Ann Morbitt and Karina Bynum with the Division of Water Resources (division) met virtually with Michael Hunt, Joshua Hayes, Kevin Turner, and Alicia Davis with Nashville Davidson County Metro Water Services to perform a routine Compliance Evaluation Inspection. The inspection was performed using WebEx and included a review of regulatory mechanisms, records, procedures and other documents related to the illicit discharge detection and elimination program required under the NPDES Permit TNS068047 for discharges from the MS4 owned and operated by the Metropolitan Government of Nashville (Metro). Following the inspection additional requested program documentation was provided to the division on July 24, 2020.

Overall, the illicit discharge detection and elimination program is well established, the staff is trained, and the program implementation is compliant with the requirements of the NPDES Permit TNS068047. Some updates to the program's Stormwater Management Plan and Enforcement Response Plan are required, specifically timeframes for complaint investigations and responses to public inquiries. The division greatly appreciates the time and commitment from your staff in their preparation before and participation during the inspection. Their availability and knowledge of the program ensured it was conducted in an efficient manner.

Permit Review
The NPDES Permit TNS068047 for stormwater discharges from Metro's MS4 was issued and became effective on February 1, 2012. The permit expired on January 31, 2017 and has been administratively extended until a new permit is issued. The Compliance Evaluation Inspection (CEI) for Metro's IDDE program covered compliance from the permit effect date, February 1, 2012, to the date of this CEI.

Records Review
The MS4 permit requires Metro to continue to implement and enforce its illicit discharge detection and elimination program. The implementation of the following required elements was reviewed:

- How Metro informs public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste specifically related to illicit discharges.
- How Metro processes are used to identify, prioritize and select opportunities for public involvement. Specifically related to illicit discharge identification and elimination.
- Ordinances, or other regulatory mechanisms, related to non-stormwater discharges

- Enforcement response plan and implementation procedures.
- Interagency coordination of hazardous waste or material spills response and cleanup.
- Mechanism for the public to report suspected illicit discharges.
- Summary of illicit discharge education and training.
- Updates to the illicit discharge identification and elimination procedures.
- Updates to the MS4 mapping and field screening plans.
- Identification of sanitary sewer overflows.
- Metro's mapping specific to priority areas with older infrastructure that are more likely to have illicit connections and areas with past illicit discharges.
- Metro's contacts and procedures for reporting an illicit discharge.
- Metro's education program for municipal field staff that identify illicit discharge or connection and reports/responses to the illicit discharge or connection.
- Implementation and improvements of the Stormwater Management Plan that determine whether non-stormwater entries are present in the storm drainage system and identification of locations and sources.
- Prioritization of areas for inspection and monitoring based on watershed or land uses or on previous field screening results, spills, complaints, illicit discharges, etc.
- Updates to illicit discharge identification procedures.
- Illicit discharges observed and samples necessary for source tracking.

Again, we would like to thank Mr. Hunt and his staff for the assistance and courtesy extended to us during our inspection. If you have any questions or need additional information, please contact Ann Morbitt by email at Ann.Morbitt@tn.gov or by telephone at (615) 687-7119, or you may contact me by email at Tim.Jennette@tn.gov or by telephone at 615-687- 7060.

Sincerely,

Timmy Jennette
Environmental Manager
Division of Water Resources
Nashville Environmental Field Office

e-cc: Mr. Michael Hunt, michael.hunt@nashville.gov - Metro Water Services
Mr. Josh Hayes, joshua.hayes@nashville.gov – Metro Water Services
Mr. John Leffew, john.leffew@tn.gov- DWR Nashville EFO
Mr. Bill Murph, bill.murph@tn.gov – DWR Nashville EFO
Ms. Ann Morbitt, ann.morbitt@tn.gov – DWR statewide
Ms. Karina Bynum, karina.bynum@tn.gov – DWR statewide
Ms. Jessica Murphy, jessica.murphy@tn.gov – DWR Compliance and Enforcement

ATTACHMENT C – WIES Database Pollutant Loading Reduction Estimates of SWMP

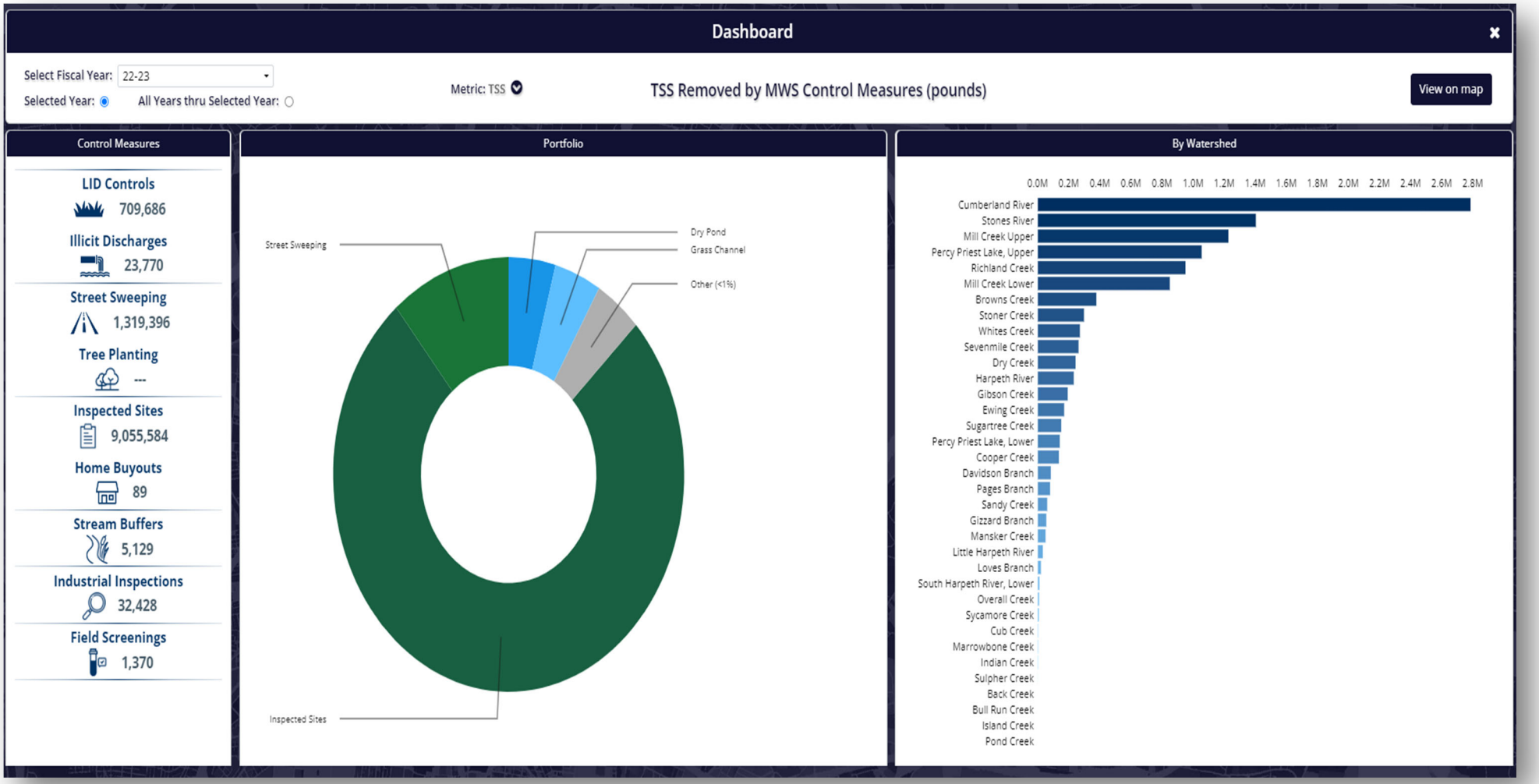
As required in Section 3.3.2 of the MS4 Permit, Metro is required to develop Event Mean Concentrations (EMC's) for all parameters listed in Table 2 of the MS4 Permit. In year 5 of the MS4 permit, Metro was required to report Seasonal Pollutant Loadings (SPL) from the MS4. The methodology for performing this calculation can be found in the year 5 annual report. In performing this calculation, Metro hired a contractor (Paradigm Environmental) to not only develop the EMC and SPL calculations, but to generate a database that would allow Metro to produce reports on estimated SPLs for each sub-watershed within Metro's jurisdiction on an annual basis. As such, the web-based Davidson County Watershed Improvement Evaluation System (WIES) database was developed which also gives Metro the ability to track stormwater loading reductions achieved through the implementation of Metro Nashville's SWMP. These calculations/estimations are based on structural and non-structural stormwater controls that Metro implements as prescribed by the MS4 permit.

While these calculations are considered to be estimates, our contractor utilized all available documentation from Metro's tracking databases as well as the latest hydrologic modeling programs to refine the estimates as much as possible. For example, stormwater pollutant and volume reduction numbers for structural SCMs were calculated utilizing Loading Simulation Program – C+ (LPSC) and System for Urban Stormwater Treatment Analysis and Integration (SUSTAIN) modelling programs, which take into account varying land uses and mapped soil types for each watershed and the pollutant and performance efficiencies of each type of SCMs. The modeling for SCMs even considers the effects underdrains have on bioretention basins as far as how much runoff reduction is accomplished.

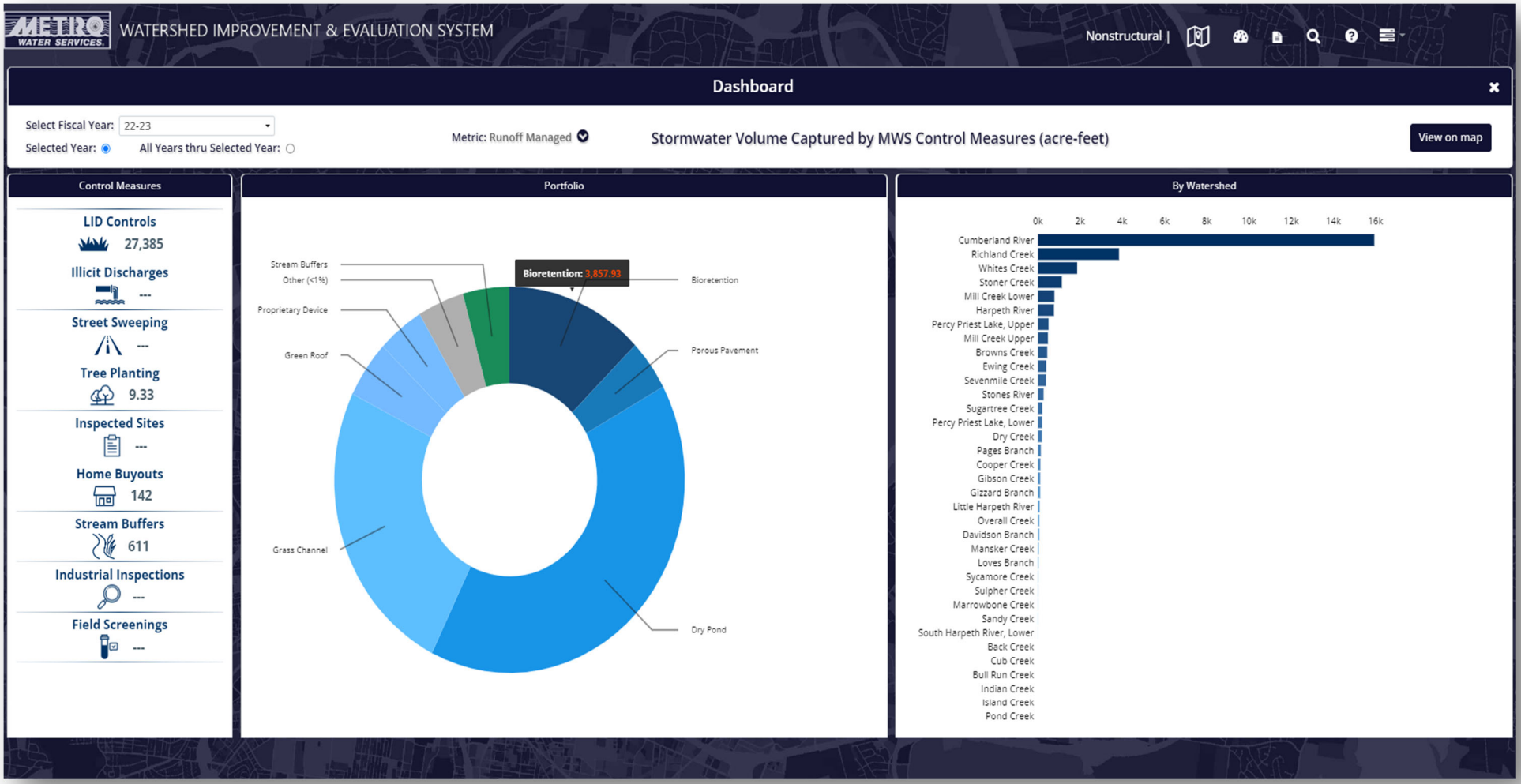
Metro expends many resources implementing non-structural stormwater control measures of the SWMP, such as the IDDE complaint response program, construction inspections and oversight, FEMA home buyout program, street sweeping program, etc. While we know these non-structural programs have been extremely beneficial in improving the quality of water resources within Metro Nashville/Davidson County over time, it has proven difficult to quantify the loading reductions of these non-structural controls. WIES tracks pollution reduction efforts of these non-structural programs by importing data from various Metro databases that track items such as number of construction sites inspected, number of water quality/construction complaint investigations, number of FEMA floodplain buyout properties, etc. In some of these programs, assumptions are applied so loading reduction can best be effectively calculated. The tables within this section depict the calculated SPLs per each sub-watershed and the estimated loading reduction efforts of the SWMP over the last permit reporting period (fiscal year). Please note that importing data into WIES is somewhat dependent on geo-location information available within Metro's databases, which is the source of the data. Due to this, there may be a small discrepancy in numbers between WIES and the actual Metro documentation databases when some data is unable to be imported into WIES. For example, not all of the tree planting numbers could be imported into WIES due to lack of some geolocation data available from the Metro database. Also, the illicit discharge calculations take into account all water quality complaint responses involving either general pollution concerns, grading without permit

concerns, or spill responses in which NPDES controlled/prevented material from draining to the MS4 such as sediment from non-permitted construction activities, spill response coordination, and general water quality complaint responses.

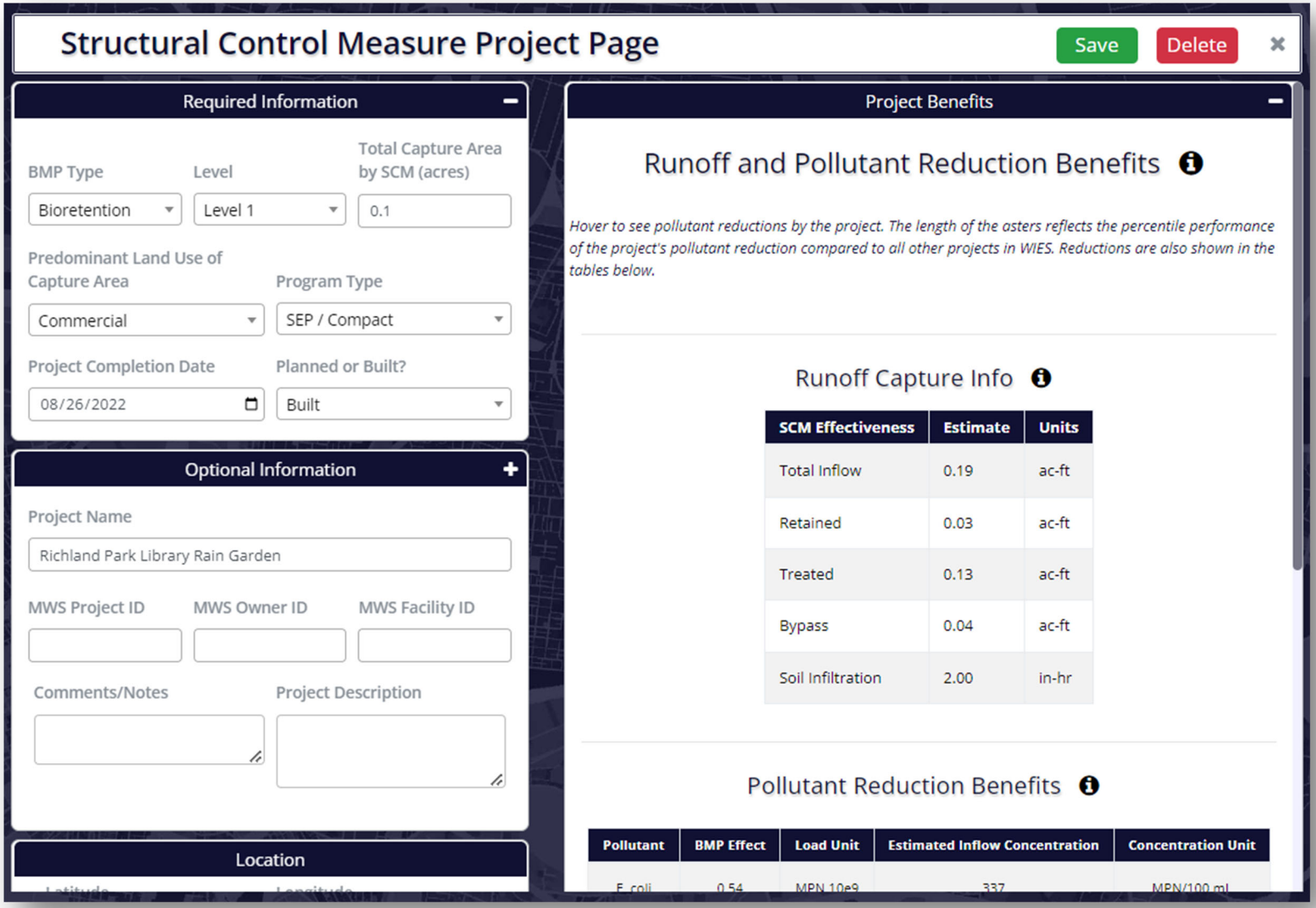
In addition to the annual reporting tables, Metro is able to generate dashboard views on various SWMP loading reductions, WIES also gives stormwater managers the ability to review the pollution and runoff reduction effects of individual structural SCMs through a dashboard view of a variety of different parameters (depicted in the following pages).



As Depicted Above - Inspection Oversight of Construction Projects and Operation of the Street Sweeping Program Result in the Largest Benefit to TSS Reduction.



As Depicted Above – SCMs such as Dry Ponds, Grass Channels, and Bioretention Basins Provide the Greatest Benefit to Managing the Quantity of Stormwater Runoff.



WIES Calculated/Estimated Runoff Captured for FY23 Rain Garden Installed at the Richland Park Library

WIES Calculated MS4 Program Pollutant Loading Reductions in FY23

The below tables represent the FY22 MS4 Program Elements implemented per watershed and the calculated Pollutant Loading Reductions in each watershed from implementation of the MS4 Program Elements.

Watershed	New SCMs	Total SCMs	Tons Swept from Streets	Floodplain Homes/ Properties Bought	Permitted Construction Sites Inspected	Complaint Investigations (Illicit Discharge/ Unpermitted Construction/ Spill Response)	Trees Planted (FY22)	Industrial Inspections	Field Screenings	Total Floodplain Homes/ Properties Bought	Total Trees Planted	Total Stream Buffers Preserved
Back Creek	-	-	-	-	-	-	-	-	-	-	8	-
Browns Creek	30	405	129	-	94	4	513	11	14	37	1,845	8
Bull Run Creek	-	-	-	-	-	-	-	-	1	-	-	-
Cooper Creek	1	92	38	-	46	1	150	-	18	5	615	3
Cub Creek	-	-	-	-	2	-	-	-	-	-	2	-
Cumberland River	194	2,504	719	-	462	32	2,348	20	108	71	14,261	71
Davidson Branch	-	60	9	-	23	-	79	-	10	-	269	2
Dry Creek	7	76	41	-	5	1	76	1	-	4	376	8
Ewing Creek	14	227	110	-	15	7	262	1	17	30	684	28
Gibson Creek	-	80	41	-	7	3	141	-	-	57	1,013	4
Gizzard Branch	1	51	9	-	2	1	2	-	-	-	97	7
Harpeth River	8	283	204	-	9	7	191	-	52	3	713	30
Indian Creek	-	-	-	-	4	-	-	-	-	-	-	-
Island Creek	-	-	-	-	-	-	-	-	-	-	-	-
Little Harpeth River	-	73	13	-	6	-	94	-	8	-	318	12
Loves Branch	12	38	13	-	5	1	211	-	-	1	482	-
Mansker Creek	-	39	-	-	6	1	137	-	-	-	207	3
Marrowbone Creek	-	9	-	-	-	3	3	-	3	-	19	-
Mill Creek Lower	31	603	399	4	42	17	409	25	9	56	1,330	43
Mill Creek Upper	64	513	119	-	21	12	1,626	6	4	2	2,309	63
Overall Creek	-	71	6	-	2	1	41	5	24	1	151	13
Pages Branch	4	95	47	-	19	5	67	5	6	7	302	5
Percy Priest Lake, Lower	5	202	254	-	4	1	149	1	-	6	425	9
Percy Priest Lake, Upper	12	293	35	-	13	14	94	7	-	-	264	43
Pond Creek	-	-	-	-	-	-	-	-	1	-	-	1
Richland Creek	58	617	220	-	180	8	556	6	22	69	2,523	21
Sevenmile Creek	21	360	236	5	43	13	394	1	9	59	1,563	26
South Harpeth River, Lower	-	15	9	-	4	-	15	-	3	-	53	4
Stoner Creek	10	227	188	-	11	7	139	4	2	13	733	13
Stones River	9	194	123	-	10	12	145	4	-	2	1,440	18
Sugartree Creek	7	220	53	-	36	8	86	-	8	1	327	6
Sulpher Creek	-	14	-	-	-	-	17	-	10	-	59	-
Sycamore Creek	-	15	-	-	5	-	16	-	5	-	27	9
Whites Creek	15	203	113	-	38	8	302	4	61	70	1,004	32
Sandy Creek	6	29	13	-	29	-	18	-	-	-	74	-
All Watersheds	509	7,608	3,141	9	1,143	167	8,281	101	395	494	33,493	482

Note: SCMs include regulatory SCMS installed per grading permit and proactive SCMs installed or facilitated by MWS.
Not all MS4 Program Elements transferred to the WIES database for pollutant loading calculations, as program elements with invalid X,Y coordinates could not be imported into WIES for calculation purposes.
Construction sites inspected includes Grading Permits and Single Family Infill permits.
While stream buffers have been protected since the late 1990s, MWS only started mapping the Buffers for WIES calculations in FY21

Watershed	Pollutant: Runoff Removal by MWS Control Measure Implementation during FY22 (Acre-foot) SCMs Removal [1]	Construction Inspection Removal [2]	Illicit Discharge Removal [2]	Street Sweeping Removal [2]	Home Buyout Removal [1]	Tree Planting Removal [1]	Stream Buffer Removal [1]	Industrial Inspection Removal [2]	Field Screening Removal [2]	Total Pollutant Load Removed from Watershed
Back Creek	-	-	-	-	-	0.00	-	-	-	0.00
Browns Creek	422.92	-	-	-	8.97	0.72	7.75	-	-	440.36
Bull Run Creek	-	-	-	-	-	-	-	-	-	-
Cooper Creek	109.84	-	-	-	4.11	0.14	0.72	-	-	114.81
Cub Creek	-	-	-	-	-	0.00	-	-	-	0.00
Cumberland River	15,790.47	-	-	-	24.27	4.81	116.02	-	-	15,935.56
Davidson Branch	64.61	-	-	-	-	0.07	0.49	-	-	65.17
Dry Creek	175.38	-	-	-	1.04	0.11	12.94	-	-	189.47
Ewing Creek	341.66	-	-	-	7.20	0.19	46.40	-	-	395.45
Gibson Creek	87.52	-	-	-	14.83	0.24	5.31	-	-	107.91
Gizzard Branch	87.92	-	-	-	-	0.02	18.03	-	-	105.97
Harpeth River	718.54	-	-	-	0.74	0.14	35.52	-	-	754.94
Indian Creek	-	-	-	-	-	-	-	-	-	-
Island Creek	-	-	-	-	-	-	-	-	-	-
Little Harpeth River	68.05	-	-	-	-	0.08	11.34	-	-	79.48
Loves Branch	28.77	-	-	-	0.24	0.11	-	-	-	29.12
Mansker Creek	38.39	-	-	-	-	0.05	-	-	-	38.45
Marrowbone Creek	12.35	-	-	-	-	0.01	-	-	-	12.36
Mill Creek Lower	687.95	-	-	-	19.78	0.31	70.35	-	-	778.39
Mill Creek Upper	395.63	-	-	-	1.94	0.36	74.86	-	-	472.79
Overall Creek	57.89	-	-	-	0.25	0.05	7.10	-	-	65.29
Pages Branch	130.50	-	-	-	1.69	0.11	7.10	-	-	139.40
Percy Priest Lake, Lower	187.93	-	-	-	1.33	0.11	6.37	-	-	195.74
Percy Priest Lake, Upper	452.08	-	-	-	-	0.06	47.35	-	-	499.49
Pond Creek	-	-	-	-	-	-	-	-	-	-
Richland Creek	3,803.40	-	-	-	16.68	0.67	18.95	-	-	3,839.70
Sevenmile Creek	341.55	-	-	-	14.23	0.26	26.20	-	-	382.24
South Harpeth River, Lower	4.56	-	-	-	-	0.01	0.98	-	-	5.55
Stoner Creek	1,097.92	-	-	-	2.67	0.14	27.20	-	-	1,127.93
Stones River	242.73	-	-	-	0.48	0.23	22.23	-	-	265.67
Sugartree Creek	201.92	-	-	-	0.25	0.07	3.68	-	-	205.92
Sulpher Creek	14.41	-	-	-	-	0.01	-	-	-	14.42
Sycamore Creek	14.11	-	-	-	-	0.01	2.58	-	-	16.69
Whites Creek	1,793.85	-	-	-	21.74	0.26	41.06	-	-	1,856.91
Sandy Creek	11.51	-	-	-	-	0.01	-	-	-	11.52
All Watersheds	27,384.37	-	-	-	142.44	9.33	610.54	-	-	28,146.69

Based on average annual rainfall conditions: (1) – Accounts for all control measures implemented in watershed thru end of FY (2) – Based on control measures implemented during the fiscal year

Watershed	Pollutant: BOD5 — Removal by MWS Control Measure Implementation during FY23 (pounds)									Total Pollutant Load Removed from Watershed
	SCMs Removal [1]	Construction Inspection Removal [2]	Illicit Discharge Removal [2]	Street Sweeping Removal [2]	Home Buyout Removal [1]	Tree Planting Removal [1]	Stream Buffer Removal [1]	Industrial Inspection Removal [2]	Field Screening Removal [2]	
Back Creek	-	-	-	-	-	-	-	-	-	-
Browns Creek	4,535.23	-	0.02	1,571.34	12.02	-	-	31.63	1.05	6,151.29
Bull Run Creek	-	-	-	-	-	-	-	-	-	-
Cooper Creek	1,289.41	-	0.01	459.90	9.48	-	-	-	3.16	1,761.97
Cub Creek	-	-	-	-	-	-	-	-	-	-
Cumberland River	107,970.30	-	8.36	8,776.50	53.38	-	-	490.59	17.40	117,316.53
Davidson Branch	552.20	-	-	114.98	-	-	-	-	-	667.18
Dry Creek	1,315.71	-	0.01	498.23	2.06	-	-	-	-	1,816.00
Ewing Creek	4,287.71	-	4.70	1,341.39	9.56	-	-	-	4.50	5,647.86
Gibson Creek	583.15	-	0.02	498.23	18.17	-	-	-	-	1,099.57
Gizzard Branch	628.03	-	0.01	114.98	-	-	-	-	-	743.01
Harpeth River	7,019.02	-	1.96	2,491.15	5.22	-	-	-	-	9,517.34
Indian Creek	-	-	-	-	-	-	-	-	-	-
Island Creek	-	-	-	-	-	-	-	-	-	-
Little Harpeth River	409.25	-	-	153.30	-	-	-	-	-	562.55
Loves Branch	245.76	-	-	153.30	0.86	-	-	-	-	399.93
Mansker Creek	425.55	-	-	-	-	-	-	-	-	425.55
Marrowbone Creek	58.78	-	-	-	-	-	-	-	-	58.78
Mill Creek Lower	6,253.58	-	3.09	4,867.32	43.50	-	-	184.50	3.39	11,355.38
Mill Creek Upper	2,907.64	-	2.33	1,456.36	44.21	-	-	259.40	-	4,669.95
Overall Creek	433.62	-	0.09	76.65	0.85	-	-	23.88	2.39	537.47
Pages Branch	1,180.24	-	0.18	574.88	2.33	-	-	66.06	2.39	1,826.08
Percy Priest Lake, Lower	1,377.22	-	0.01	3,104.35	0.75	-	-	-	-	4,482.33
Percy Priest Lake, Upper	4,362.77	-	0.39	421.58	-	-	-	33.89	-	4,818.63
Pond Creek	-	-	-	-	-	-	-	-	-	-
Richland Creek	22,569.64	-	0.30	2,682.77	12.16	-	-	34.42	3.44	25,302.74
Sevenmile Creek	2,258.50	-	2.90	2,874.40	28.60	-	-	-	-	5,164.40
South Harpeth River, Lower	47.61	-	-	114.98	-	-	-	-	-	162.59
Stoner Creek	9,868.74	-	2.05	2,299.52	2.87	-	-	46.69	-	12,219.87
Stones River	2,509.47	-	2.24	1,494.69	0.57	-	-	10.54	-	4,017.52
Sugartree Creek	1,268.85	-	3.88	651.53	0.35	-	-	-	2.39	1,927.00
Sulpher Creek	132.07	-	-	-	-	-	-	-	2.39	134.46
Sycamore Creek	73.92	-	-	-	-	-	-	-	-	73.92
Whites Creek	10,241.53	-	1.03	1,379.71	82.90	-	-	90.06	11.23	11,806.46
Sandy Creek	143.53	-	-	153.30	-	-	-	-	-	296.83
All Watersheds	194,949.05	-	33.60	38,325.32	329.83	-	-	1,271.68	53.73	234,963.21

Based on average annual rainfall conditions: (1) – Accounts for all control measures implemented in watershed thru end of FY (2) – Based on control measures implemented during the fiscal year

Watershed	Pollutant: COD Removal by MWS Control Measure Implementation during FY23 (pounds) SCMs Removal [1]	Construction Inspection Removal [2]	Illicit Discharge Removal [2]	Street Sweeping Removal [2]	Home Buyout Removal [1]	Tree Planting Removal [1]	Stream Buffer Removal [1]	Industrial Inspection Removal [2]	Field Screening Removal [2]	Total Pollutant Load Removed from Watershed
Back Creek	-	-	-	-	-	-	-	-	-	-
Browns Creek	37,925.87	-	0.05	3,142.68	-	-	87.91	317.66	10.59	41,484.75
Bull Run Creek	-	-	-	-	-	-	-	-	-	-
Cooper Creek	9,522.23	-	0.02	919.81	36.84	-	0.51	-	31.77	10,511.18
Cub Creek	-	-	-	-	-	-	-	-	-	-
Cumberland River	894,224.03	-	22.00	17,553.00	156.61	-	826.35	4,926.37	174.68	917,883.04
Davidson Branch	4,523.44	-	-	229.95	-	-	2.06	-	-	4,755.46
Dry Creek	9,956.19	-	0.02	996.46	-	-	56.78	-	-	11,009.45
Ewing Creek	34,074.49	-	12.37	2,682.77	-	-	428.56	-	45.22	37,243.41
Gibson Creek	4,427.37	-	0.05	996.46	18.37	-	25.30	-	-	5,467.54
Gizzard Branch	5,286.30	-	0.02	229.95	-	-	134.76	-	-	5,651.04
Harpeth River	50,572.60	-	5.14	4,982.29	-	-	121.37	-	-	55,681.41
Indian Creek	-	-	-	-	-	-	-	-	-	-
Island Creek	-	-	-	-	-	-	-	-	-	-
Little Harpeth River	3,529.01	-	-	306.60	-	-	69.97	-	-	3,905.58
Loves Branch	2,139.84	-	-	306.60	-	-	-	-	-	2,446.44
Mansker Creek	3,338.76	-	-	-	-	-	-	-	-	3,338.76
Marrowbone Creek	444.66	-	-	-	-	-	-	-	-	444.66
Mill Creek Lower	52,396.90	-	8.14	9,734.63	38.75	-	732.43	1,852.68	34.03	64,797.57
Mill Creek Upper	24,205.45	-	6.13	2,912.72	178.80	-	924.03	2,604.86	-	30,831.99
Overall Creek	3,341.96	-	0.24	153.30	-	-	47.49	239.77	23.98	3,806.73
Pages Branch	11,030.00	-	0.48	1,149.76	-	-	60.78	663.33	23.98	12,928.34
Percy Priest Lake, Lower	16,572.13	-	0.02	6,208.70	-	-	62.30	-	-	22,843.16
Percy Priest Lake, Upper	34,038.25	-	1.04	843.16	-	-	379.62	340.30	-	35,602.36
Pond Creek	-	-	-	-	-	-	-	-	-	-
Richland Creek	151,198.11	-	0.80	5,365.55	-	-	275.18	345.66	34.57	157,219.87
Sevenmile Creek	21,694.63	-	7.63	5,748.80	-	-	519.94	-	-	27,971.00
South Harpeth River, Lower	324.87	-	-	229.95	-	-	8.55	-	-	563.37
Stoner Creek	68,227.88	-	5.39	4,599.04	-	-	371.08	468.83	-	73,672.21
Stones River	21,034.54	-	5.89	2,989.38	-	-	432.82	105.89	-	24,568.51
Sugartree Creek	10,135.01	-	10.22	1,303.06	-	-	55.68	-	23.98	11,527.95
Sulpher Creek	1,011.85	-	-	-	-	-	-	-	23.98	1,035.82
Sycamore Creek	626.91	-	-	-	-	-	30.62	-	-	657.54
Whites Creek	67,550.74	-	2.70	2,759.42	141.25	-	513.80	904.40	112.81	71,985.12
Sandy Creek	1,153.07	-	-	306.60	-	-	-	-	-	1,459.68
All Watersheds	1,544,507.09	-	88.37	76,650.65	570.62	-	6,167.89	12,769.75	539.57	1,641,293.94

Based on average annual rainfall conditions: (1) – Accounts for all control measures implemented in watershed thru end of FY (2) – Based on control measures implemented during the fiscal year

Watershed	Pollutant: NH3 — Removal by MWS Control Measure Implementation during FY23 (pounds)									Total Pollutant Load Removed from Watershed
	SCMs Removal [1]	Construction Inspection Removal [2]	Illicit Discharge Removal [2]	Street Sweeping Removal [2]	Home Buyout Removal [1]	Tree Planting Removal [1]	Stream Buffer Removal [1]	Industrial Inspection Removal [2]	Field Screening Removal [2]	
Back Creek	-	-	-	-	-	-	-	-	-	-
Browns Creek	129.02	-	0.00	-	0.00	-	-	0.53	0.02	129.57
Bull Run Creek	-	-	-	-	-	-	-	-	-	-
Cooper Creek	24.85	-	0.00	-	0.22	-	-	-	0.05	25.12
Cub Creek	-	-	-	-	-	-	-	-	-	-
Cumberland River	3,281.25	-	0.32	-	0.93	-	-	8.18	0.29	3,290.97
Davidson Branch	15.69	-	-	-	-	-	-	-	-	15.69
Dry Creek	36.00	-	0.00	-	0.00	-	-	-	-	36.00
Ewing Creek	115.99	-	0.18	-	0.00	-	-	-	0.08	116.25
Gibson Creek	17.47	-	0.00	-	0.11	-	-	-	-	17.58
Gizzard Branch	21.66	-	0.00	-	-	-	-	-	-	21.66
Harpeth River	137.57	-	0.08	-	0.00	-	-	-	-	137.64
Indian Creek	-	-	-	-	-	-	-	-	-	-
Island Creek	-	-	-	-	-	-	-	-	-	-
Little Harpeth River	14.90	-	-	-	-	-	-	-	-	14.90
Loves Branch	7.44	-	-	-	0.00	-	-	-	-	7.44
Mansker Creek	12.27	-	-	-	-	-	-	-	-	12.27
Marrowbone Creek	2.03	-	-	-	-	-	-	-	-	2.03
Mill Creek Lower	201.70	-	0.12	-	0.24	-	-	3.07	0.06	205.19
Mill Creek Upper	89.51	-	0.09	-	1.06	-	-	4.32	-	94.98
Overall Creek	10.67	-	0.00	-	0.00	-	-	0.40	0.04	11.12
Pages Branch	46.47	-	0.01	-	0.00	-	-	1.10	0.04	47.62
Percy Priest Lake, Lower	37.74	-	0.00	-	0.00	-	-	-	-	37.74
Percy Priest Lake, Upper	108.24	-	0.02	-	-	-	-	0.56	-	108.82
Pond Creek	-	-	-	-	-	-	-	-	-	-
Richland Creek	516.16	-	0.01	-	0.00	-	-	0.57	0.06	516.80
Sevenmile Creek	69.67	-	0.11	-	0.00	-	-	-	-	69.79
South Harpeth River, Lower	1.04	-	-	-	-	-	-	-	-	1.04
Stoner Creek	261.89	-	0.08	-	0.00	-	-	0.78	-	262.75
Stones River	77.89	-	0.09	-	0.00	-	-	0.18	-	78.15
Sugartree Creek	38.23	-	0.15	-	0.00	-	-	-	0.04	38.42
Sulpher Creek	3.67	-	-	-	-	-	-	-	0.04	3.71
Sycamore Creek	1.86	-	-	-	-	-	-	-	-	1.86
Whites Creek	224.10	-	0.04	-	0.85	-	-	1.50	0.19	226.67
Sandy Creek	4.08	-	-	-	-	-	-	-	-	4.08
All Watersheds	5,509.07	-	1.30	-	3.42	-	-	21.19	0.90	5,535.88

Based on average annual rainfall conditions: (1) – Accounts for all control measures implemented in watershed thru end of FY (2) – Based on control measures implemented during the fiscal year

Watershed	Pollutant: TKN Removal by MWS Control Measure Implementation during FY23 (pounds) SCMs Removal [1]	Construction Inspection Removal [2]	Illicit Discharge Removal [2]	Street Sweeping Removal [2]	Home Buyout Removal [1]	Tree Planting Removal [1]	Stream Buffer Removal [1]	Industrial Inspection Removal [2]	Field Screening Removal [2]	Total Pollutant Load Removed from Watershed
Back Creek	-	-	-	-	-	-	-	-	-	-
Browns Creek	676.85	-	0.01	-	0.93	-	0.55	-	-	678.34
Bull Run Creek	-	-	-	-	-	-	-	-	-	-
Cooper Creek	202.29	-	0.00	-	0.37	-	-	-	-	202.66
Cub Creek	-	-	-	-	-	-	-	-	-	-
Cumberland River	16,046.37	-	2.65	-	2.58	-	5.62	-	-	16,057.22
Davidson Branch	68.41	-	-	-	-	-	-	-	-	68.41
Dry Creek	182.14	-	0.00	-	0.16	-	0.35	-	-	182.66
Ewing Creek	474.78	-	1.49	-	0.74	-	2.62	-	-	479.63
Gibson Creek	104.26	-	0.01	-	1.23	-	0.16	-	-	105.66
Gizzard Branch	94.59	-	0.00	-	-	-	0.86	-	-	95.45
Harpeth River	1,093.26	-	0.62	-	0.41	-	2.74	-	-	1,097.03
Indian Creek	-	-	-	-	-	-	-	-	-	-
Island Creek	-	-	-	-	-	-	-	-	-	-
Little Harpeth River	82.14	-	-	-	-	-	0.42	-	-	82.56
Loves Branch	26.03	-	-	-	0.07	-	-	-	-	26.10
Mansker Creek	56.37	-	-	-	-	-	-	-	-	56.37
Marrowbone Creek	11.20	-	-	-	-	-	-	-	-	11.20
Mill Creek Lower	906.49	-	0.98	-	2.94	-	15.22	-	-	925.62
Mill Creek Upper	529.32	-	0.74	-	1.64	-	11.67	-	-	543.37
Overall Creek	54.32	-	0.03	-	0.07	-	0.23	-	-	54.64
Pages Branch	189.14	-	0.06	-	0.18	-	0.37	-	-	189.76
Percy Priest Lake, Lower	266.59	-	0.00	-	0.06	-	0.28	-	-	266.93
Percy Priest Lake, Upper	499.59	-	0.12	-	-	-	2.22	-	-	501.94
Pond Creek	-	-	-	-	-	-	-	-	-	-
Richland Creek	2,456.09	-	0.10	-	0.95	-	2.39	-	-	2,459.52
Sevenmile Creek	418.86	-	0.92	-	2.22	-	3.29	-	-	425.28
South Harpeth River, Lower	7.22	-	-	-	-	-	-	-	-	7.22
Stoner Creek	1,465.52	-	0.65	-	0.22	-	2.37	-	-	1,468.77
Stones River	313.86	-	0.71	-	0.04	-	2.68	-	-	317.29
Sugartree Creek	197.54	-	1.23	-	0.03	-	0.35	-	-	199.15
Sulpher Creek	15.66	-	-	-	-	-	-	-	-	15.66
Sycamore Creek	12.09	-	-	-	-	-	0.20	-	-	12.29
Whites Creek	1,035.71	-	0.33	-	5.03	-	2.53	-	-	1,043.59
Sandy Creek	19.40	-	-	-	-	-	-	-	-	19.40
All Watersheds	27,506.08	-	10.63	-	19.87	-	57.11	-	-	27,593.70

Based on average annual rainfall conditions: (1) – Accounts for all control measures implemented in watershed thru end of FY (2) – Based on control measures implemented during the fiscal year

Watershed	Pollutant: NO2+NO3									Total Pollutant Load Removed from Watershed
	Removal by MWS Control Measure Implementation during F23 (pounds)									
	SCMs Removal [1]	Construction Inspection Removal [2]	Illicit Discharge Removal [2]	Street Sweeping Removal [2]	Home Buyout Removal [1]	Tree Planting Removal [1]	Stream Buffer Removal [1]	Industrial Inspection Removal [2]	Field Screening Removal [2]	
Back Creek	-	-	-	-	-	-	-	-	-	-
Browns Creek	217.21	-	0.00	-	-	-	0.04	1.25	0.04	218.55
Bull Run Creek	-	-	-	-	-	-	-	-	-	-
Cooper Creek	64.79	-	0.00	-	0.08	-	0.00	-	0.13	65.00
Cub Creek	-	-	-	-	-	-	-	-	-	-
Cumberland River	7,934.08	-	0.04	-	0.34	-	0.52	19.42	0.69	7,955.08
Davidson Branch	36.21	-	-	-	-	-	0.01	-	-	36.22
Dry Creek	83.18	-	0.00	-	-	-	0.03	-	-	83.21
Ewing Creek	199.70	-	0.02	-	-	-	0.23	-	0.18	200.13
Gibson Creek	38.79	-	0.00	-	0.04	-	0.01	-	-	38.84
Gizzard Branch	41.27	-	0.00	-	-	-	0.05	-	-	41.33
Harpeth River	398.94	-	0.01	-	-	-	0.62	-	-	399.57
Indian Creek	-	-	-	-	-	-	-	-	-	-
Island Creek	-	-	-	-	-	-	-	-	-	-
Little Harpeth River	28.19	-	-	-	-	-	0.04	-	-	28.23
Loves Branch	14.19	-	-	-	-	-	-	-	-	14.19
Mansker Creek	23.98	-	-	-	-	-	-	-	-	23.98
Marrowbone Creek	4.48	-	-	-	-	-	-	-	-	4.48
Mill Creek Lower	325.59	-	0.01	-	0.08	-	2.91	7.30	0.13	336.04
Mill Creek Upper	172.63	-	0.01	-	0.39	-	1.97	10.27	-	185.27
Overall Creek	30.21	-	0.00	-	-	-	0.05	0.95	0.09	31.30
Pages Branch	52.40	-	0.00	-	-	-	0.03	2.61	0.09	55.14
Percy Priest Lake, Lower	113.60	-	0.00	-	-	-	0.07	-	-	113.67
Percy Priest Lake, Upper	230.88	-	0.00	-	-	-	0.24	1.34	-	232.46
Pond Creek	-	-	-	-	-	-	-	-	-	-
Richland Creek	2,045.76	-	0.00	-	-	-	0.29	1.36	0.14	2,047.54
Sevenmile Creek	173.61	-	0.01	-	-	-	0.23	-	-	173.85
South Harpeth River, Lower	3.26	-	-	-	-	-	0.02	-	-	3.29
Stoner Creek	780.93	-	0.01	-	-	-	0.15	1.85	-	782.94
Stones River	122.84	-	0.01	-	-	-	0.21	0.42	-	123.48
Sugartree Creek	97.11	-	0.02	-	-	-	0.03	-	0.09	97.25
Sulpher Creek	6.87	-	-	-	-	-	-	-	0.09	6.96
Sycamore Creek	6.59	-	-	-	-	-	0.01	-	-	6.60
Whites Creek	949.22	-	0.00	-	0.31	-	0.50	3.57	0.44	954.05
Sandy Creek	6.93	-	-	-	-	-	-	-	-	6.93
All Watersheds	14,203.47	-	0.15	-	1.25	-	8.26	50.34	2.13	14,265.59

Based on average annual rainfall conditions: (1) – Accounts for all control measures implemented in watershed thru end of FY (2) – Based on control measures implemented during the fiscal year

Watershed	Pollutant: TN Removal by MWS Control Measure Implementation during FY23 (pounds) SCMs Removal [1]	Construction Inspection Removal [2]	Illicit Discharge Removal [2]	Street Sweeping Removal [2]	Home Buyout Removal [1]	Tree Planting Removal [1]	Stream Buffer Removal [1]	Industrial Inspection Removal [2]	Field Screening Removal [2]	Total Pollutant Load Removed from Watershed
Back Creek	-	-	-	-	-	-	-	-	-	-
Browns Creek	759.11	-	0.00	450.79	1.10	-	0.52	-	-	1,211.53
Bull Run Creek	-	-	-	-	-	-	-	-	-	-
Cooper Creek	247.05	-	0.00	131.94	0.56	-	-	-	-	379.55
Cub Creek	-	-	-	-	-	-	-	-	-	-
Cumberland River	20,281.11	-	1.92	2,517.85	3.59	-	5.45	-	-	22,809.91
Davidson Branch	89.06	-	-	32.98	-	-	-	-	-	122.04
Dry Creek	201.79	-	0.00	142.93	0.19	-	0.34	-	-	345.26
Ewing Creek	566.56	-	1.08	384.82	0.88	-	2.50	-	-	955.83
Gibson Creek	112.74	-	0.00	142.93	1.51	-	0.15	-	-	257.35
Gizzard Branch	110.17	-	0.00	32.98	-	-	0.82	-	-	143.98
Harpeth River	1,331.64	-	0.45	714.67	0.48	-	2.89	-	-	2,050.13
Indian Creek	-	-	-	-	-	-	-	-	-	-
Island Creek	-	-	-	-	-	-	-	-	-	-
Little Harpeth River	84.66	-	-	43.98	-	-	0.40	-	-	129.04
Loves Branch	32.23	-	-	43.98	0.08	-	-	-	-	76.29
Mansker Creek	68.13	-	-	-	-	-	-	-	-	68.13
Marrowbone Creek	12.32	-	-	-	-	-	-	-	-	12.32
Mill Creek Lower	965.36	-	0.71	1,396.36	3.60	-	16.03	-	-	2,382.06
Mill Creek Upper	536.09	-	0.53	417.81	2.56	-	11.93	-	-	968.93
Overall Creek	69.04	-	0.02	21.99	0.08	-	0.22	-	-	91.34
Pages Branch	177.90	-	0.04	164.92	0.21	-	0.36	-	-	343.44
Percy Priest Lake, Lower	327.70	-	0.00	890.59	0.07	-	0.27	-	-	1,218.63
Percy Priest Lake, Upper	563.21	-	0.09	120.94	-	-	2.13	-	-	686.37
Pond Creek	-	-	-	-	-	-	-	-	-	-
Richland Creek	3,483.01	-	0.07	769.65	1.11	-	2.36	-	-	4,256.20
Sevenmile Creek	475.48	-	0.66	824.62	2.62	-	3.12	-	-	1,306.50
South Harpeth River, Lower	9.63	-	-	32.98	-	-	-	-	-	42.61
Stoner Creek	2,025.23	-	0.47	659.70	0.26	-	2.25	-	-	2,687.91
Stones River	362.74	-	0.51	428.80	0.05	-	2.54	-	-	794.65
Sugartree Creek	231.51	-	0.89	186.91	0.03	-	0.33	-	-	419.68
Sulpher Creek	18.45	-	-	-	-	-	-	-	-	18.45
Sycamore Creek	13.61	-	-	-	-	-	0.19	-	-	13.79
Whites Creek	1,495.70	-	0.24	395.82	6.42	-	2.41	-	-	1,900.59
Sandy Creek	22.20	-	-	43.98	-	-	-	-	-	66.18
All Watersheds	34,673.44	-	7.69	10,994.97	25.42	-	57.20	-	-	45,758.72

Based on average annual rainfall conditions: (1) – Accounts for all control measures implemented in watershed thru end of FY (2) – Based on control measures implemented during the fiscal year

Watershed	Pollutant: Diss. P Removal by MWS Control Measure Implementation during FY23 (pounds) SCMs Removal [1]	Construction Inspection Removal [2]	Illicit Discharge Removal [2]	Street Sweeping Removal [2]	Home Buyout Removal [1]	Tree Planting Removal [1]	Stream Buffer Removal [1]	Industrial Inspection Removal [2]	Field Screening Removal [2]	Total Pollutant Load Removed from Watershed
Back Creek	-	-	-	-	-	-	-	-	-	-
Browns Creek	247.97	-	-	-	1.18	-	1.26	-	-	250.40
Bull Run Creek	-	-	-	-	-	-	-	-	-	-
Cooper Creek	134.67	-	-	-	0.07	-	-	-	-	134.75
Cub Creek	-	-	-	-	-	-	-	-	-	-
Cumberland River	4,918.11	-	-	-	1.60	-	15.02	-	-	4,934.72
Davidson Branch	23.74	-	-	-	-	-	-	-	-	23.74
Dry Creek	38.62	-	-	-	0.20	-	1.93	-	-	40.75
Ewing Creek	75.50	-	-	-	0.94	-	13.28	-	-	89.72
Gibson Creek	26.50	-	-	-	1.36	-	0.33	-	-	28.19
Gizzard Branch	18.04	-	-	-	-	-	1.80	-	-	19.84
Harpeth River	689.48	-	-	-	0.51	-	2.77	-	-	692.76
Indian Creek	-	-	-	-	-	-	-	-	-	-
Island Creek	-	-	-	-	-	-	-	-	-	-
Little Harpeth River	15.03	-	-	-	-	-	0.87	-	-	15.90
Loves Branch	5.67	-	-	-	0.09	-	-	-	-	5.76
Mansker Creek	10.15	-	-	-	-	-	-	-	-	10.15
Marrowbone Creek	1.51	-	-	-	-	-	-	-	-	1.51
Mill Creek Lower	143.00	-	-	-	3.32	-	20.56	-	-	166.88
Mill Creek Upper	142.37	-	-	-	0.17	-	17.63	-	-	160.18
Overall Creek	23.69	-	-	-	0.08	-	0.47	-	-	24.25
Pages Branch	19.80	-	-	-	0.23	-	1.16	-	-	21.19
Percy Priest Lake, Lower	159.34	-	-	-	0.07	-	0.58	-	-	159.99
Percy Priest Lake, Upper	120.01	-	-	-	-	-	14.93	-	-	134.93
Pond Creek	-	-	-	-	-	-	-	-	-	-
Richland Creek	844.82	-	-	-	1.19	-	4.05	-	-	850.06
Sevenmile Creek	143.22	-	-	-	2.82	-	6.75	-	-	152.79
South Harpeth River, Lower	3.21	-	-	-	-	-	-	-	-	3.21
Stoner Creek	349.44	-	-	-	0.28	-	4.87	-	-	354.60
Stones River	55.28	-	-	-	0.06	-	6.55	-	-	61.88
Sugartree Creek	54.37	-	-	-	0.03	-	0.73	-	-	55.13
Sulpher Creek	2.15	-	-	-	-	-	-	-	-	2.15
Sycamore Creek	4.61	-	-	-	-	-	0.41	-	-	5.02
Whites Creek	374.00	-	-	-	4.84	-	8.11	-	-	386.95
Sandy Creek	3.69	-	-	-	-	-	-	-	-	3.69
All Watersheds	8,648.00	-	-	-	19.05	-	124.04	-	-	8,791.10

Based on average annual rainfall conditions: (1) – Accounts for all control measures implemented in watershed thru end of FY (2) – Based on control measures implemented during the fiscal year

Watershed	Pollutant: TP Removal by MWS Control Measure Implementation during FY23 (pounds) SCMs Removal [1]	Construction Inspection Removal [2]	Illicit Discharge Removal [2]	Street Sweeping Removal [2]	Home Buyout Removal [1]	Tree Planting Removal [1]	Stream Buffer Removal [1]	Industrial Inspection Removal [2]	Field Screening Removal [2]	Total Pollutant Load Removed from Watershed
Back Creek	-	-	-	-	-	-	-	-	-	-
Browns Creek	411.98	-	0.00	180.32	1.20	-	2.11	-	-	595.61
Bull Run Creek	-	-	-	-	-	-	-	-	-	-
Cooper Creek	192.88	-	0.00	52.78	0.07	-	-	-	-	245.73
Cub Creek	-	-	-	-	-	-	-	-	-	-
Cumberland River	8,181.45	-	0.34	1,007.14	1.63	-	23.73	-	-	9,214.29
Davidson Branch	41.07	-	-	13.19	-	-	-	-	-	54.26
Dry Creek	73.69	-	0.00	57.17	0.21	-	2.66	-	-	133.72
Ewing Creek	192.99	-	0.19	153.93	0.95	-	18.52	-	-	366.59
Gibson Creek	42.93	-	0.00	57.17	1.38	-	0.58	-	-	102.07
Gizzard Branch	33.39	-	0.00	13.19	-	-	3.12	-	-	49.70
Harpeth River	983.42	-	0.08	285.87	0.52	-	4.44	-	-	1,274.33
Indian Creek	-	-	-	-	-	-	-	-	-	-
Island Creek	-	-	-	-	-	-	-	-	-	-
Little Harpeth River	27.58	-	-	17.59	-	-	1.51	-	-	46.68
Loves Branch	13.17	-	-	17.59	0.09	-	-	-	-	30.85
Mansker Creek	20.26	-	-	-	-	-	-	-	-	20.26
Marrowbone Creek	2.93	-	-	-	-	-	-	-	-	2.93
Mill Creek Lower	314.74	-	0.13	558.54	3.38	-	31.77	-	-	908.56
Mill Creek Upper	252.25	-	0.10	167.12	0.18	-	28.58	-	-	448.23
Overall Creek	38.08	-	0.00	8.80	0.08	-	0.82	-	-	47.78
Pages Branch	53.28	-	0.01	65.97	0.23	-	1.79	-	-	121.29
Percy Priest Lake, Lower	260.14	-	0.00	356.24	0.07	-	1.00	-	-	617.45
Percy Priest Lake, Upper	264.32	-	0.02	48.38	-	-	19.94	-	-	332.65
Pond Creek	-	-	-	-	-	-	-	-	-	-
Richland Creek	1,300.83	-	0.01	307.86	1.21	-	6.92	-	-	1,616.83
Sevenmile Creek	238.39	-	0.12	329.85	2.87	-	11.75	-	-	582.99
South Harpeth River, Lower	4.62	-	-	13.19	-	-	-	-	-	17.81
Stoner Creek	517.80	-	0.08	263.88	0.29	-	8.49	-	-	790.54
Stones River	127.51	-	0.09	171.52	0.06	-	10.79	-	-	309.97
Sugartree Creek	90.51	-	0.16	74.77	0.03	-	1.27	-	-	166.74
Sulpher Creek	5.57	-	-	-	-	-	-	-	-	5.57
Sycamore Creek	7.97	-	-	-	-	-	0.71	-	-	8.68
Whites Creek	575.16	-	0.04	158.33	4.92	-	12.43	-	-	750.88
Sandy Creek	8.11	-	-	17.59	-	-	-	-	-	25.70
All Watersheds	14,277.00	-	1.37	4,397.99	19.37	-	192.95	-	-	18,888.68

Based on average annual rainfall conditions: (1) – Accounts for all control measures implemented in watershed thru end of FY (2) – Based on control measures implemented during the fiscal year

Watershed	Pollutant: Pb — Removal by MWS Control Measure Implementation during FY23 (pounds)									Total Pollutant Load Removed from Watershed
	SCMs Removal [1]	Construction Inspection Removal [2]	Illicit Discharge Removal [2]	Street Sweeping Removal [2]	Home Buyout Removal [1]	Tree Planting Removal [1]	Stream Buffer Removal [1]	Industrial Inspection Removal [2]	Field Screening Removal [2]	
Back Creek	-	-	-	-	-	-	-	-	-	-
Browns Creek	1.71	-	0.00	13.05	-	-	0.78	0.13	-	15.68
Bull Run Creek	-	-	-	-	-	-	-	-	-	-
Cooper Creek	0.35	-	0.00	3.82	1.84	-	0.03	-	-	6.04
Cub Creek	-	-	-	-	-	-	-	-	-	-
Cumberland River	50.89	-	0.00	72.89	7.83	-	7.27	2.04	-	140.92
Davidson Branch	0.23	-	-	0.95	-	-	0.12	-	-	1.30
Dry Creek	0.60	-	0.00	4.14	-	-	0.52	-	-	5.26
Ewing Creek	1.72	-	0.00	11.14	-	-	4.24	-	-	17.10
Gibson Creek	0.27	-	0.00	4.14	0.92	-	0.20	-	-	5.52
Gizzard Branch	0.31	-	0.00	0.95	-	-	1.01	-	-	2.27
Harpeth River	2.13	-	0.00	20.69	-	-	1.82	-	-	24.64
Indian Creek	-	-	-	-	-	-	-	-	-	-
Island Creek	-	-	-	-	-	-	-	-	-	-
Little Harpeth River	0.21	-	-	1.27	-	-	0.75	-	-	2.23
Loves Branch	0.11	-	-	1.27	-	-	-	-	-	1.39
Mansker Creek	0.17	-	-	-	-	-	-	-	-	0.17
Marrowbone Creek	0.04	-	-	-	-	-	-	-	-	0.04
Mill Creek Lower	2.85	-	0.00	40.42	1.94	-	4.32	0.77	-	50.29
Mill Creek Upper	1.33	-	0.00	12.09	8.94	-	8.46	1.08	-	31.90
Overall Creek	0.19	-	0.00	0.64	-	-	0.97	0.10	-	1.89
Pages Branch	0.60	-	0.00	4.77	-	-	0.59	0.28	-	6.24
Percy Priest Lake, Lower	0.65	-	0.00	25.78	-	-	1.39	-	-	27.82
Percy Priest Lake, Upper	1.91	-	0.00	3.50	-	-	4.46	0.14	-	10.02
Pond Creek	-	-	-	-	-	-	-	-	-	-
Richland Creek	10.75	-	0.00	22.28	-	-	2.29	0.14	-	35.47
Sevenmile Creek	1.11	-	0.00	23.87	-	-	4.34	-	-	29.32
South Harpeth River, Lower	0.02	-	-	0.95	-	-	0.49	-	-	1.46
Stoner Creek	3.84	-	0.00	19.10	-	-	2.88	0.19	-	26.00
Stones River	1.07	-	0.00	12.41	-	-	4.04	0.04	-	17.56
Sugartree Creek	0.60	-	0.00	5.41	-	-	0.47	-	-	6.49
Sulpher Creek	0.06	-	-	-	-	-	-	-	-	0.06
Sycamore Creek	0.04	-	-	-	-	-	0.23	-	-	0.27
Whites Creek	5.00	-	0.00	11.46	7.06	-	9.79	0.38	-	33.69
Sandy Creek	0.05	-	-	1.27	-	-	-	-	-	1.33
All Watersheds	88.80	-	0.00	318.29	28.53	-	61.45	5.30	-	502.37

Based on average annual rainfall conditions: (1) – Accounts for all control measures implemented in watershed thru end of FY (2) – Based on control measures implemented during the fiscal year

Watershed	Pollutant: Ni Removal by MWS Control Measure Implementation during FY23 (pounds) SCMs Removal [1]	Construction Inspection Removal [2]	Illicit Discharge Removal [2]	Street Sweeping Removal [2]	Home Buyout Removal [1]	Tree Planting Removal [1]	Stream Buffer Removal [1]	Industrial Inspection Removal [2]	Field Screening Removal [2]	Total Pollutant Load Removed from Watershed
Back Creek	-	-	-	-	-	-	-	-	-	-
Browns Creek	2.03	-	0.00	8.33	-	-	7.02	-	-	17.39
Bull Run Creek	-	-	-	-	-	-	-	-	-	-
Cooper Creek	0.28	-	0.00	2.44	-	-	0.38	-	-	3.10
Cub Creek	-	-	-	-	-	-	-	-	-	-
Cumberland River	88.31	-	0.00	46.55	-	-	83.99	-	-	218.86
Davidson Branch	0.39	-	-	0.61	-	-	1.53	-	-	2.54
Dry Creek	1.08	-	0.00	2.64	-	-	8.94	-	-	12.66
Ewing Creek	2.35	-	0.00	7.11	-	-	67.96	-	-	77.43
Gibson Creek	0.54	-	0.00	2.64	-	-	1.52	-	-	4.71
Gizzard Branch	0.56	-	0.00	0.61	-	-	7.70	-	-	8.87
Harpeth River	2.56	-	0.00	13.21	-	-	43.76	-	-	59.53
Indian Creek	-	-	-	-	-	-	-	-	-	-
Island Creek	-	-	-	-	-	-	-	-	-	-
Little Harpeth River	0.42	-	-	0.81	-	-	7.09	-	-	8.33
Loves Branch	0.14	-	-	0.81	-	-	-	-	-	0.96
Mansker Creek	0.31	-	-	-	-	-	-	-	-	0.31
Marrowbone Creek	0.08	-	-	-	-	-	-	-	-	0.08
Mill Creek Lower	4.31	-	0.00	25.82	-	-	163.18	-	-	193.31
Mill Creek Upper	2.17	-	0.00	7.72	-	-	150.64	-	-	160.54
Overall Creek	0.32	-	0.00	0.41	-	-	11.20	-	-	11.92
Pages Branch	0.75	-	0.00	3.05	-	-	6.76	-	-	10.56
Percy Priest Lake, Lower	1.56	-	0.00	16.47	-	-	16.27	-	-	34.29
Percy Priest Lake, Upper	2.65	-	0.00	2.24	-	-	83.26	-	-	88.15
Pond Creek	-	-	-	-	-	-	-	-	-	-
Richland Creek	24.35	-	0.00	14.23	-	-	26.40	-	-	64.98
Sevenmile Creek	2.50	-	0.00	15.25	-	-	34.40	-	-	52.15
South Harpeth River, Lower	0.03	-	-	0.61	-	-	6.35	-	-	7.00
Stoner Creek	10.61	-	0.00	12.20	-	-	21.48	-	-	44.29
Stones River	1.47	-	0.00	7.93	-	-	38.58	-	-	47.97
Sugartree Creek	1.23	-	0.00	3.46	-	-	3.94	-	-	8.63
Sulpher Creek	0.09	-	-	-	-	-	-	-	-	0.09
Sycamore Creek	0.09	-	-	-	-	-	1.75	-	-	1.84
Whites Creek	11.21	-	0.00	7.32	-	-	121.75	-	-	140.27
Sandy Creek	0.08	-	-	0.81	-	-	-	-	-	0.89
All Watersheds	162.48	-	0.00	203.28	-	-	915.87	-	-	1,281.63

Based on average annual rainfall conditions: (1) – Accounts for all control measures implemented in watershed thru end of FY (2) – Based on control measures implemented during the fiscal year

Watershed	Pollutant: Zn Removal by MWS Control Measure Implementation during FY22 (pounds) SCMs Removal [1]	Construction Inspection Removal [2]	Illicit Discharge Removal [2]	Street Sweeping Removal [2]	Home Buyout Removal [1]	Tree Planting Removal [1]	Stream Buffer Removal [1]	Industrial Inspection Removal [2]	Field Screening Removal [2]	Total Pollutant Load Removed from Watershed
Back Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Browns Creek	45.87	0.00	0.00	42.91	82.26	0.00	0.00	1.64	0.00	172.67
Bull Run Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cooper Creek	10.53	0.00	0.00	12.56	120.07	0.00	0.00	0.00	0.00	143.15
Cub Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cumberland River	1,101.18	0.00	0.00	239.64	598.70	0.00	0.00	7.27	0.00	1,946.80
Davidson Branch	5.70	0.00	0.00	3.14	0.00	0.00	0.00	0.00	0.00	8.84
Dry Creek	14.00	0.00	0.00	13.60	14.02	0.00	0.00	0.00	0.00	41.62
Ewing Creek	55.23	0.00	0.00	36.63	66.00	0.00	0.00	1.13	0.00	158.98
Gibson Creek	6.73	0.00	0.00	13.60	151.22	0.00	0.00	0.00	0.00	171.56
Gizzard Branch	6.89	0.00	0.00	3.14	0.00	0.00	0.00	0.00	0.00	10.03
Harpeth River	58.99	0.00	0.00	68.02	35.91	0.00	0.00	0.00	0.00	162.92
Indian Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Island Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Little Harpeth River	4.90	0.00	0.00	4.19	0.00	0.00	0.00	0.00	0.00	9.09
Loves Branch	2.59	0.00	0.00	4.19	5.82	0.00	0.00	0.00	0.00	12.59
Mansker Creek	5.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.43
Marrowbone Creek	0.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.97
Mill Creek Lower	88.20	0.00	0.00	132.90	343.71	0.00	0.00	2.01	0.00	566.82
Mill Creek Upper	32.06	0.00	0.00	39.77	570.50	0.00	0.00	0.00	0.00	642.33
Overall Creek	4.33	0.00	0.00	2.09	5.85	0.00	0.00	0.00	0.00	12.27
Pages Branch	20.25	0.00	0.00	15.70	15.82	0.00	0.00	0.00	0.00	51.77
Percy Priest Lake, Lower	12.01	0.00	0.00	84.76	5.88	0.00	0.00	0.00	0.00	102.66
Percy Priest Lake, Upper	54.12	0.00	0.00	11.51	0.00	0.00	0.00	0.00	0.00	65.64
Pond Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Richland Creek	217.18	0.00	0.00	73.25	84.02	0.00	0.00	0.00	0.00	374.45
Sevenmile Creek	24.61	0.00	0.00	78.49	181.31	0.00	0.00	0.26	0.00	284.67
South Harpeth River, Lower	0.38	0.00	0.00	3.14	0.00	0.00	0.00	0.00	0.00	3.52
Stoner Creek	85.48	0.00	0.00	62.79	19.34	0.00	0.00	0.58	0.00	168.19
Stones River	23.85	0.00	0.00	40.81	3.87	0.00	0.00	0.00	0.00	68.53
Sugartree Creek	13.31	0.00	0.00	17.79	2.38	0.00	0.00	0.00	0.00	33.47
Sulpher Creek	1.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.93
Sycamore Creek	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.83
Whites Creek	103.96	0.00	0.00	37.67	781.56	0.00	0.00	0.00	0.00	923.19
Sandy Creek	1.79	0.00	0.00	4.19	0.00	0.00	0.00	0.60	0.00	6.57
All Watersheds	2,003.27	0.00	0.00	1,046.48	3,088.23	0.00	0.00	13.49	0.00	6,151.48

Based on average annual rainfall conditions: (1) – Accounts for all control measures implemented in watershed thru end of FY (2) – Based on control measures implemented during the fiscal year

Watershed	Pollutant: Cr									Total Pollutant Load Removed from Watershed
	Removal by MWS Control Measure Implementation during FY22 (pounds)									
	SCMs Removal [1]	Construction Inspection Removal [2]	Illicit Discharge Removal [2]	Street Sweeping Removal [2]	Home Buyout Removal [1]	Tree Planting Removal [1]	Stream Buffer Removal [1]	Industrial Inspection Removal [2]	Field Screening Removal [2]	
Back Creek	-	-	-	-	-	-	-	-	-	-
Browns Creek	1.33	-	0.00	9.27	-	-	7.52	-	-	18.13
Bull Run Creek	-	-	-	-	-	-	-	-	-	-
Cooper Creek	0.39	-	0.00	2.71	-	-	0.08	-	-	3.19
Cub Creek	-	-	-	-	-	-	-	-	-	-
Cumberland River	41.15	-	0.00	51.80	-	-	75.42	-	-	168.36
Davidson Branch	0.18	-	-	0.68	-	-	0.32	-	-	1.18
Dry Creek	0.35	-	0.00	2.94	-	-	6.50	-	-	9.79
Ewing Creek	1.14	-	0.00	7.92	-	-	47.98	-	-	57.03
Gibson Creek	0.15	-	0.00	2.94	-	-	2.07	-	-	5.17
Gizzard Branch	0.21	-	0.00	0.68	-	-	11.05	-	-	11.94
Harpeth River	2.08	-	0.00	14.70	-	-	10.95	-	-	27.73
Indian Creek	-	-	-	-	-	-	-	-	-	-
Island Creek	-	-	-	-	-	-	-	-	-	-
Little Harpeth River	0.12	-	-	0.90	-	-	6.07	-	-	7.10
Loves Branch	0.09	-	-	0.90	-	-	-	-	-	1.00
Mansker Creek	0.11	-	-	-	-	-	-	-	-	0.11
Marrowbone Creek	0.02	-	-	-	-	-	-	-	-	0.02
Mill Creek Lower	1.71	-	0.00	28.73	-	-	61.95	-	-	92.39
Mill Creek Upper	0.87	-	0.00	8.59	-	-	79.70	-	-	89.17
Overall Creek	0.15	-	0.00	0.45	-	-	4.83	-	-	5.43
Pages Branch	0.33	-	0.00	3.39	-	-	5.74	-	-	9.46
Percy Priest Lake, Lower	0.85	-	0.00	18.32	-	-	6.48	-	-	25.66
Percy Priest Lake, Upper	1.30	-	0.00	2.49	-	-	48.62	-	-	52.41
Pond Creek	-	-	-	-	-	-	-	-	-	-
Richland Creek	6.45	-	0.00	15.83	-	-	22.78	-	-	45.06
Sevenmile Creek	0.92	-	0.00	16.96	-	-	42.89	-	-	60.78
South Harpeth River, Lower	0.01	-	-	0.68	-	-	1.34	-	-	2.03
Stoner Creek	2.30	-	0.00	13.57	-	-	30.27	-	-	46.14
Stones River	0.72	-	0.00	8.82	-	-	37.91	-	-	47.45
Sugartree Creek	0.40	-	0.00	3.85	-	-	4.65	-	-	8.90
Sulpher Creek	0.04	-	-	-	-	-	-	-	-	0.04
Sycamore Creek	0.03	-	-	-	-	-	2.51	-	-	2.54
Whites Creek	2.95	-	0.00	8.14	-	-	55.15	-	-	66.25
Sandy Creek	0.04	-	-	0.90	-	-	-	-	-	0.94
All Watersheds	66.40	-	0.00	226.18	-	-	572.82	-	-	865.40

Based on average annual rainfall conditions: (1) – Accounts for all control measures implemented in watershed thru end of FY (2) – Based on control measures implemented during the fiscal year

Watershed	Pollutant: Cu									Total Pollutant Load Removed from Watershed
	Removal by MWS Control Measure Implementation during FY22 (pounds)									
	SCMs Removal [1]	Construction Inspection Removal [2]	Illicit Discharge Removal [2]	Street Sweeping Removal [2]	Home Buyout Removal [1]	Tree Planting Removal [1]	Stream Buffer Removal [1]	Industrial Inspection Removal [2]	Field Screening Removal [2]	
Back Creek	-	-	-	-	-	-	-	-	-	-
Browns Creek	5.57	-	0.00	9.61	1.67	-	6.77	0.13	-	23.75
Bull Run Creek	-	-	-	-	-	-	-	-	-	-
Cooper Creek	1.12	-	0.00	2.81	12.77	-	-	-	-	16.70
Cub Creek	-	-	-	-	-	-	-	-	-	-
Cumberland River	115.95	-	0.00	53.65	56.08	-	61.88	2.04	-	289.61
Davidson Branch	0.60	-	-	0.70	-	-	-	-	-	1.30
Dry Creek	1.43	-	0.00	3.05	0.29	-	4.34	-	-	9.11
Ewing Creek	6.16	-	0.00	8.20	1.33	-	32.12	-	-	47.81
Gibson Creek	0.48	-	0.00	3.05	8.23	-	1.99	-	-	13.75
Gizzard Branch	0.69	-	0.00	0.70	-	-	10.60	-	-	11.99
Harpeth River	5.67	-	0.00	15.23	0.73	-	4.06	-	-	25.69
Indian Creek	-	-	-	-	-	-	-	-	-	-
Island Creek	-	-	-	-	-	-	-	-	-	-
Little Harpeth River	0.36	-	-	0.94	-	-	5.15	-	-	6.45
Loves Branch	0.36	-	-	0.94	0.12	-	-	-	-	1.42
Mansker Creek	0.51	-	-	-	-	-	-	-	-	0.51
Marrowbone Creek	0.07	-	-	-	-	-	-	-	-	0.07
Mill Creek Lower	8.22	-	0.00	29.75	17.99	-	37.75	0.77	-	94.48
Mill Creek Upper	3.08	-	0.00	8.90	61.70	-	58.47	1.08	-	133.24
Overall Creek	0.44	-	0.00	0.47	0.12	-	2.76	0.10	-	3.89
Pages Branch	1.79	-	0.00	3.51	0.32	-	4.58	0.28	-	10.48
Percy Priest Lake, Lower	1.67	-	0.00	18.98	0.10	-	3.46	-	-	24.22
Percy Priest Lake, Upper	6.13	-	0.00	2.58	-	-	27.17	0.14	-	36.01
Pond Creek	-	-	-	-	-	-	-	-	-	-
Richland Creek	17.12	-	0.00	16.40	1.69	-	20.05	0.14	-	55.41
Sevenmile Creek	2.26	-	0.00	17.57	3.97	-	40.58	-	-	64.38
South Harpeth River, Lower	0.03	-	-	0.70	-	-	-	-	-	0.73
Stoner Creek	6.26	-	0.00	14.06	0.40	-	29.32	0.19	-	50.23
Stones River	3.51	-	0.00	9.14	0.08	-	33.06	0.04	-	45.83
Sugartree Creek	1.10	-	0.00	3.98	0.05	-	4.29	-	-	9.42
Sulpher Creek	0.20	-	-	-	-	-	-	-	-	0.20
Sycamore Creek	0.06	-	-	-	-	-	2.41	-	-	2.47

Based on average annual rainfall conditions: (1) – Accounts for all control measures implemented in watershed thru end of FY (2) – Based on control measures implemented during the fiscal year

Watershed	Pollutant: O&G									Total Pollutant Load Removed from Watershed
	Removal by MWS Control Measure Implementation during FY22 (pounds)									
	SCMs Removal [1]	Construction Inspection Removal [2]	Illicit Discharge Removal [2]	Street Sweeping Removal [2]	Home Buyout Removal [1]	Tree Planting Removal [1]	Stream Buffer Removal [1]	Industrial Inspection Removal [2]	Field Screening Removal [2]	
Back Creek	-	-	-	-	-	-	-	-	-	-
Browns Creek	1,024.62	-	0.01	212.57	-	-	9.17	6.46	0.22	1,253.04
Bull Run Creek	-	-	-	-	-	-	-	-	-	-
Cooper Creek	192.65	-	0.00	62.22	-	-	0.22	-	0.65	255.73
Cub Creek	-	-	-	-	-	-	-	-	-	-
Cumberland River	37,390.81	-	3.32	1,187.30	-	-	93.64	100.16	3.55	38,778.78
Davidson Branch	172.87	-	-	15.55	-	-	0.87	-	-	189.30
Dry Creek	357.67	-	0.00	67.40	-	-	7.96	-	-	433.04
Ewing Creek	1,204.90	-	1.87	181.46	-	-	60.52	-	0.92	1,449.68
Gibson Creek	144.67	-	0.01	67.40	-	-	2.40	-	-	214.47
Gizzard Branch	211.48	-	0.00	15.55	-	-	12.65	-	-	239.69
Harpeth River	1,142.64	-	0.78	337.01	-	-	22.11	-	-	1,502.53
Indian Creek	-	-	-	-	-	-	-	-	-	-
Island Creek	-	-	-	-	-	-	-	-	-	-
Little Harpeth River	123.50	-	-	20.74	-	-	8.05	-	-	152.28
Loves Branch	92.14	-	-	20.74	-	-	-	-	-	112.88
Mansker Creek	120.44	-	-	-	-	-	-	-	-	120.44
Marrowbone Creek	18.67	-	-	-	-	-	-	-	-	18.67
Mill Creek Lower	1,712.09	-	1.23	658.46	-	-	92.23	37.67	0.69	2,502.37
Mill Creek Upper	736.58	-	0.93	197.02	-	-	113.83	52.96	-	1,101.32
Overall Creek	130.99	-	0.04	10.37	-	-	8.53	4.88	0.49	155.29
Pages Branch	297.10	-	0.07	77.77	-	-	7.25	13.49	0.49	396.17
Percy Priest Lake, Lower	896.41	-	0.00	419.96	-	-	11.93	-	-	1,328.30
Percy Priest Lake, Upper	1,253.21	-	0.16	57.03	-	-	64.55	6.92	-	1,381.86
Pond Creek	-	-	-	-	-	-	-	-	-	-
Richland Creek	7,383.47	-	0.12	362.93	-	-	28.76	7.03	0.70	7,783.01
Sevenmile Creek	985.00	-	1.15	388.85	-	-	50.82	-	-	1,425.82
South Harpeth River, Lower	11.09	-	-	15.55	-	-	3.62	-	-	30.26
Stoner Creek	3,073.16	-	0.81	311.08	-	-	34.79	9.53	-	3,429.38
Stones River	716.30	-	0.89	202.20	-	-	47.03	2.15	-	968.58
Sugartree Creek	405.88	-	1.54	88.14	-	-	5.60	-	0.49	501.65
Sulpher Creek	38.89	-	-	-	-	-	-	-	0.49	39.38
Sycamore Creek	30.90	-	-	-	-	-	2.87	-	-	33.77
Whites Creek	3,389.52	-	0.41	186.65	-	-	92.30	18.39	2.29	3,689.56
Sandy Creek	36.84	-	-	20.74	-	-	-	-	-	57.58
All Watersheds	63,294.48	-	13.33	5,184.70	-	-	781.70	259.63	10.97	69,544.83

Based on average annual rainfall conditions: (1) – Accounts for all control measures implemented in watershed thru end of FY (2) – Based on control measures implemented during the fiscal year

Watershed	Pollutant: TSS Removal by MWS Control Measure Implementation during FY22 (pounds) SCMs Removal [1]	Construction Inspection Removal [2]	Illicit Discharge Removal [2]	Street Sweeping Removal [2]	Home Buyout Removal [1]	Tree Planting Removal [1]	Stream Buffer Removal [1]	Industrial Inspection Removal [2]	Field Screening Removal [2]	Total Pollutant Load Removed from Watershed
Back Creek	-	-	-	-	-	-	-	-	-	-
Browns Creek	17,910.29	302,877.11	741.69	54,095.25	-	-	73.68	806.66	26.89	376,531.57
Bull Run Creek	-	-	-	-	-	-	-	-	-	-
Cooper Creek	3,907.22	115,384.01	0.01	15,832.76	5.76	-	0.88	-	80.67	135,211.30
Cub Creek	-	2,592.55	-	-	-	-	-	-	-	2,592.55
Cumberland River	432,974.33	2,034,234.59	2,234.20	302,141.78	24.47	-	692.67	12,510.13	443.59	2,785,255.74
Davidson Branch	1,993.70	77,229.65	-	3,958.19	-	-	3.54	-	-	83,185.07
Dry Creek	4,334.42	220,874.53	0.01	17,152.15	-	-	47.87	-	-	242,408.99
Ewing Creek	15,597.08	107,048.57	5.17	46,178.87	-	-	368.23	-	114.83	169,312.76
Gibson Creek	1,876.48	172,503.79	741.69	17,152.15	2.87	-	20.73	-	-	192,297.71
Gizzard Branch	2,548.98	47,874.18	0.01	3,958.19	-	-	110.01	-	-	54,491.37
Harpeth River	20,491.95	123,980.76	743.82	85,760.77	-	-	96.27	-	-	231,073.57
Indian Creek	-	2,162.35	-	-	-	-	-	-	-	2,162.35
Island Creek	-	-	-	-	-	-	-	-	-	-
Little Harpeth River	1,636.75	25,095.18	-	5,277.59	-	-	61.16	-	-	32,070.68
Loves Branch	1,088.52	12,565.83	741.67	5,277.59	-	-	-	-	-	19,673.60
Mansker Creek	1,443.57	47,345.59	741.67	-	-	-	-	-	-	49,530.83
Marrowbone Creek	222.77	-	2,225.00	-	-	-	-	-	-	2,447.77
Mill Creek Lower	25,335.60	649,754.94	1,486.74	167,563.34	6.06	-	481.19	4,704.74	86.42	849,419.02
Mill Creek Upper	11,542.71	1,155,647.39	1,485.90	50,137.06	27.94	-	728.98	6,614.82	-	1,226,184.79
Overall Creek	1,573.64	3,326.29	0.10	2,638.79	-	-	49.89	608.88	60.89	8,258.48
Pages Branch	6,256.03	50,347.89	741.87	19,790.95	-	-	52.00	1,684.47	60.89	78,934.09
Percy Priest Lake, Lower	8,653.19	25,656.17	0.01	106,871.11	-	-	67.47	-	-	141,247.95
Percy Priest Lake, Upper	16,770.27	1,017,464.89	4,450.43	14,513.36	-	-	340.02	864.17	-	1,054,403.14
Pond Creek	-	-	-	-	-	-	-	-	-	-
Richland Creek	59,454.49	796,418.46	742.00	92,357.75	-	-	222.66	877.78	87.78	950,160.92
Sevenmile Creek	10,088.16	150,184.00	2,228.19	98,954.73	-	-	430.09	-	-	261,885.17
South Harpeth River, Lower	108.46	6,135.81	-	3,958.19	-	-	14.66	-	-	10,217.11
Stoner Creek	21,221.36	194,974.72	2.25	79,163.78	-	-	302.93	1,190.56	-	296,855.61
Stones River	10,334.46	1,338,485.04	2,227.46	51,456.46	-	-	366.00	268.89	-	1,403,138.31
Sugartree Creek	4,391.96	123,545.52	4.27	22,429.74	-	-	46.46	-	60.89	150,478.85
Sulpher Creek	490.24	-	-	-	-	-	-	-	60.89	551.13
Sycamore Creek	302.45	6,420.22	-	-	-	-	25.00	-	-	6,747.67
Whites Creek	26,609.52	191,034.76	2,226.13	47,498.27	22.07	-	526.27	2,296.65	286.47	270,500.15
Sandy Creek	516.16	54,418.92	-	5,277.59	-	-	-	-	-	60,212.66
All Watersheds	709,674.77	9,055,583.69	23,770.28	1,319,396.40	89.16	-	5,128.64	32,427.76	1,370.19	11,147,440.89

Based on average annual rainfall conditions: (1) – Accounts for all control measures implemented in watershed thru end of FY (2) – Based on control measures implemented during the fiscal year

Watershed	Pollutant: TDS Removal by MWS Control Measure Implementation during FY22 (pounds) SCMs Removal [1]	Construction Inspection Removal [2]	Illicit Discharge Removal [2]	Street Sweeping Removal [2]	Home Buyout Removal [1]	Tree Planting Removal [1]	Stream Buffer Removal [1]	Industrial Inspection Removal [2]	Field Screening Removal [2]	Total Pollutant Load Removed from Watershed
Back Creek	-	-	-	-	-	-	-	-	-	-
Browns Creek	53,155.75	-	-	-	-	-	531.53	-	-	53,687.29
Bull Run Creek	-	-	-	-	-	-	-	-	-	-
Cooper Creek	19,586.75	-	-	-	-	-	7.10	-	-	19,593.85
Cub Creek	-	-	-	-	-	-	-	-	-	-
Cumberland River	1,593,131.50	-	-	-	-	-	5,962.64	-	-	1,599,094.14
Davidson Branch	7,001.09	-	-	-	-	-	28.59	-	-	7,029.69
Dry Creek	10,477.63	-	-	-	-	-	678.94	-	-	11,156.56
Ewing Creek	33,143.45	-	-	-	-	-	4,827.37	-	-	37,970.83
Gibson Creek	7,117.71	-	-	-	-	-	137.51	-	-	7,255.22
Gizzard Branch	8,429.69	-	-	-	-	-	731.29	-	-	9,160.98
Harpeth River	99,638.14	-	-	-	-	-	1,267.88	-	-	100,906.02
Indian Creek	-	-	-	-	-	-	-	-	-	-
Island Creek	-	-	-	-	-	-	-	-	-	-
Little Harpeth River	6,117.00	-	-	-	-	-	417.43	-	-	6,534.42
Loves Branch	2,347.65	-	-	-	-	-	-	-	-	2,347.65
Mansker Creek	4,690.35	-	-	-	-	-	-	-	-	4,690.35
Marrowbone Creek	646.81	-	-	-	-	-	-	-	-	646.81
Mill Creek Lower	56,573.01	-	-	-	-	-	7,140.16	-	-	63,713.17
Mill Creek Upper	34,158.07	-	-	-	-	-	7,090.75	-	-	41,248.81
Overall Creek	4,757.67	-	-	-	-	-	362.23	-	-	5,119.91
Pages Branch	9,273.21	-	-	-	-	-	468.14	-	-	9,741.35
Percy Priest Lake, Lower	49,522.17	-	-	-	-	-	493.16	-	-	50,015.33
Percy Priest Lake, Upper	26,869.15	-	-	-	-	-	5,414.39	-	-	32,283.54
Pond Creek	-	-	-	-	-	-	-	-	-	-
Richland Creek	200,685.98	-	-	-	-	-	1,674.02	-	-	202,360.00
Sevenmile Creek	49,054.09	-	-	-	-	-	2,863.01	-	-	51,917.09
South Harpeth River, Lower	787.96	-	-	-	-	-	118.47	-	-	906.43
Stoner Creek	168,907.45	-	-	-	-	-	2,005.38	-	-	170,912.83
Stones River	22,859.32	-	-	-	-	-	2,769.16	-	-	25,628.48
Sugartree Creek	16,729.16	-	-	-	-	-	311.84	-	-	17,041.00
Sulpher Creek	920.59	-	-	-	-	-	-	-	-	920.59
Sycamore Creek	910.68	-	-	-	-	-	166.18	-	-	1,076.86
Whites Creek	77,457.66	-	-	-	-	-	4,637.99	-	-	82,095.65
Sandy Creek	1,422.39	-	-	-	-	-	-	-	-	1,422.39
All Watersheds	2,566,372.07	-	-	-	-	-	50,105.16	-	-	2,616,477.23

Based on average annual rainfall conditions: (1) – Accounts for all control measures implemented in watershed thru end of FY (2) – Based on control measures implemented during the fiscal year

Watershed	Pollutant: E. coli Removal by MWS Control Measure Implementation during FY22 (MPN e9) SCMs Removal [1]	Construction Inspection Removal [2]	Illicit Discharge Removal [2]	Street Sweeping Removal [2]	Home Buyout Removal [1]	Tree Planting Removal [1]	Stream Buffer Removal [1]	Industrial Inspection Removal [2]	Field Screening Removal [2]	Total Pollutant Load Removed from Watershed
Back Creek	-	-	-	-	-	-	-	-	-	-
Browns Creek	15,614.99	-	3.79	3,293.84	0.00	-	0.00	-	-	18,912.61
Bull Run Creek	-	-	-	-	-	-	-	-	-	-
Cooper Creek	8,960.12	-	1.89	964.05	0.00	-	-	-	-	9,926.06
Cub Creek	-	-	-	-	-	-	-	-	-	-
Cumberland River	210,809.85	-	1,724.26	18,397.28	0.00	-	0.00	-	-	230,931.39
Davidson Branch	1,373.74	-	-	241.01	-	-	-	-	-	1,614.75
Dry Creek	1,995.00	-	1.89	1,044.39	0.00	-	0.00	-	-	3,041.28
Ewing Creek	3,432.06	-	969.07	2,811.81	0.00	-	0.00	-	-	7,212.93
Gibson Creek	1,512.09	-	3.79	1,044.39	0.00	-	0.00	-	-	2,560.27
Gizzard Branch	613.32	-	1.89	241.01	-	-	0.00	-	-	856.22
Harpeth River	44,492.17	-	403.15	5,221.94	0.00	-	0.00	-	-	50,117.25
Indian Creek	-	-	-	-	-	-	-	-	-	-
Island Creek	-	-	-	-	-	-	-	-	-	-
Little Harpeth River	897.86	-	-	321.35	-	-	0.00	-	-	1,219.21
Loves Branch	318.21	-	-	321.35	0.00	-	-	-	-	639.56
Mansker Creek	323.04	-	-	-	-	-	-	-	-	323.04
Marrowbone Creek	56.61	-	-	-	-	-	-	-	-	56.61
Mill Creek Lower	7,211.06	-	637.84	10,202.86	0.00	-	0.00	-	-	18,051.77
Mill Creek Upper	11,700.35	-	480.75	3,052.82	0.00	-	0.00	-	-	15,233.92
Overall Creek	1,530.07	-	18.93	160.67	0.00	-	0.00	-	-	1,709.68
Pages Branch	781.07	-	37.85	1,205.06	0.00	-	0.00	-	-	2,023.99
Percy Priest Lake, Lower	7,817.46	-	1.89	6,507.34	0.00	-	0.00	-	-	14,326.69
Percy Priest Lake, Upper	8,138.18	-	81.39	883.71	-	-	0.00	-	-	9,103.28
Pond Creek	-	-	-	-	-	-	-	-	-	-
Richland Creek	26,685.92	-	62.46	5,623.62	0.00	-	0.00	-	-	32,372.00
Sevenmile Creek	6,544.53	-	598.10	6,025.31	0.00	-	0.00	-	-	13,167.94
South Harpeth River, Lower	189.96	-	-	241.01	-	-	-	-	-	430.97
Stoner Creek	8,339.11	-	422.07	4,820.25	0.00	-	0.00	-	-	13,581.43
Stones River	3,140.08	-	461.82	3,133.16	0.00	-	0.00	-	-	6,735.06
Sugartree Creek	2,894.71	-	800.61	1,365.74	0.00	-	0.00	-	-	5,061.06
Sulpher Creek	73.99	-	-	-	-	-	-	-	-	73.99
Sycamore Creek	260.93	-	-	-	-	-	0.00	-	-	260.93
Whites Creek	10,698.54	-	211.98	2,892.15	0.00	-	0.00	-	-	13,802.67
Sandy Creek	291.80	-	-	321.35	-	-	-	-	-	613.15
All Watersheds	386,696.80	-	6,925.41	80,337.49	0.00	-	0.00	-	-	473,959.70

Based on average annual rainfall conditions: (1) – Accounts for all control measures implemented in watershed thru end of FY (2) – Based on control measures implemented during the fiscal year

WIES Calculated Net Pollutant Loadings During FY23

The below tables represent the actual Net Pollutant Loading Calculations after considering the Pollutant Loading Reductions from Metro Nashville MS4 Program.

Watershed	Baseline	SCM Load [1]	Pollutant: Runoff — Removal by MWS Control Measure Implementation during FY22 (Acre-foot)								Net Pollutant Load from Watershed (ac-ft)
			Construction Inspection Load [2]	Illicit Discharge Load [2]	Street Sweeping Load [2]	Home Buyout Load [1]	Tree Planting Load [1]	Stream Buffer Load [1]	Industrial Inspection Load [2]	Field Screening Load [2]	
Back Creek	130.62	-	-	-	-	-	0.00	-	-	-	130.62
Browns Creek	13,606.56	422.92	-	-	-	8.97	0.72	7.75	-	-	13,166.19
Bull Run Creek	505.19	-	-	-	-	-	-	-	-	-	505.19
Cooper Creek	3,282.61	109.84	-	-	-	4.11	0.14	0.72	-	-	3,167.80
Cub Creek	140.09	-	-	-	-	-	0.00	-	-	-	140.09
Cumberland River	53,387.96	15,790.47	-	-	-	24.27	4.81	116.02	-	-	37,452.41
Davidson Branch	2,181.71	64.61	-	-	-	-	0.07	0.49	-	-	2,116.54
Dry Creek	5,197.24	175.38	-	-	-	1.04	0.11	12.94	-	-	5,007.77
Ewing Creek	11,412.46	341.66	-	-	-	7.20	0.19	46.40	-	-	11,017.01
Gibson Creek	5,570.30	87.52	-	-	-	14.83	0.24	5.31	-	-	5,462.39
Gizzard Branch	2,043.25	87.92	-	-	-	-	0.02	18.03	-	-	1,937.28
Harpeth River	12,781.63	718.54	-	-	-	0.74	0.14	35.52	-	-	12,026.69
Indian Creek	336.96	-	-	-	-	-	-	-	-	-	336.96
Island Creek	187.70	-	-	-	-	-	-	-	-	-	187.70
Little Harpeth River	2,263.74	68.05	-	-	-	-	0.08	11.34	-	-	2,184.26
Loves Branch	2,458.55	28.77	-	-	-	0.24	0.11	-	-	-	2,429.42
Mansker Creek	3,931.31	38.39	-	-	-	-	0.05	-	-	-	3,892.86
Marrowbone Creek	2,623.01	12.35	-	-	-	-	0.01	-	-	-	2,610.66
Mill Creek Lower	38,375.24	687.95	-	-	-	19.78	0.31	70.35	-	-	37,596.85
Mill Creek Upper	12,760.18	395.63	-	-	-	1.94	0.36	74.86	-	-	12,287.40
Overall Creek	2,842.05	57.89	-	-	-	0.25	0.05	7.10	-	-	2,776.76
Pages Branch	4,325.57	130.50	-	-	-	1.69	0.11	7.10	-	-	4,186.17
Percy Priest Lake, Lower	12,747.66	187.93	-	-	-	1.33	0.11	6.37	-	-	12,551.92
Percy Priest Lake, Upper	11,038.76	452.08	-	-	-	-	0.06	47.35	-	-	10,539.27
Pond Creek	230.06	-	-	-	-	-	-	-	-	-	230.06
Richland Creek	16,033.90	3,803.40	-	-	-	16.68	0.67	18.95	-	-	12,194.20
Sevenmile Creek	15,696.75	341.55	-	-	-	14.23	0.26	26.20	-	-	15,314.50
South Harpeth River, Lower	1,380.55	4.56	-	-	-	-	0.01	0.98	-	-	1,375.00
Stoner Creek	10,164.60	1,097.92	-	-	-	2.67	0.14	27.20	-	-	9,036.67
Stones River	11,744.15	242.73	-	-	-	0.48	0.23	22.23	-	-	11,478.47
Sugartree Creek	3,795.06	201.92	-	-	-	0.25	0.07	3.68	-	-	3,589.14
Sulpher Creek	818.25	14.41	-	-	-	-	0.01	-	-	-	803.83
Sycamore Creek	4,704.43	14.11	-	-	-	-	0.01	2.58	-	-	4,687.74
Whites Creek	15,000.64	1,793.85	-	-	-	21.74	0.26	41.06	-	-	13,143.73
Sandy Creek	1,007.45	11.51	-	-	-	-	0.01	-	-	-	995.93
All Watersheds	284,706.15	27,384.37	-	-	-	142.44	9.33	610.54	-	-	256,559.46

Based on average annual rainfall conditions: (1) – Accounts for all control measures implemented in watershed thru end of FY (2) – Based on control measures implemented during the fiscal year

Watershed	Baseline	SCM Load [1]	Pollutant: BOD5 — Removal by MWS Control Measure Implementation during FY22 (pounds)								Net Pollutant Load from Watershed (ac-ft)
			Construction Inspection Load [2]	Illicit Discharge Load [2]	Street Sweeping Load [2]	Home Buyout Load [1]	Tree Planting Load [1]	Stream Buffer Load [1]	Industrial Inspection Load [2]	Field Screening Load [2]	
Back Creek	1,293.01	-	-	-	-	-	-	-	-	-	1,293.01
Browns Creek	142,017.71	4,535.23	-	0.02	1,571.34	12.02	-	-	31.63	1.05	135,866.42
Bull Run Creek	4,407.71	-	-	-	-	-	-	-	-	-	4,407.71
Cooper Creek	38,869.91	1,289.41	-	0.01	459.90	9.48	-	-	-	3.16	37,107.94
Cub Creek	1,491.06	-	-	-	-	-	-	-	-	-	1,491.06
Cumberland River	648,401.78	107,970.30	-	8.36	8,776.50	53.38	-	-	490.59	17.40	531,085.25
Davidson Branch	25,262.76	552.20	-	-	114.98	-	-	-	-	-	24,595.58
Dry Creek	59,940.12	1,315.71	-	0.01	498.23	2.06	-	-	-	-	58,124.12
Ewing Creek	130,238.74	4,287.71	-	4.70	1,341.39	9.56	-	-	-	4.50	124,590.89
Gibson Creek	76,193.62	583.15	-	0.02	498.23	18.17	-	-	-	-	75,094.05
Gizzard Branch	32,375.27	628.03	-	0.01	114.98	-	-	-	-	-	31,632.26
Harpeth River	149,620.21	7,019.02	-	1.96	2,491.15	5.22	-	-	-	-	140,102.86
Indian Creek	3,604.83	-	-	-	-	-	-	-	-	-	3,604.83
Island Creek	1,343.18	-	-	-	-	-	-	-	-	-	1,343.18
Little Harpeth River	26,776.13	409.25	-	-	153.30	-	-	-	-	-	26,213.57
Loves Branch	26,393.82	245.76	-	-	153.30	0.86	-	-	-	-	25,993.89
Mansker Creek	39,542.70	425.55	-	-	-	-	-	-	-	-	39,117.15
Marrowbone Creek	27,603.78	58.78	-	-	-	-	-	-	-	-	27,544.99
Mill Creek Lower	445,750.36	6,253.58	-	3.09	4,867.32	43.50	-	-	184.50	3.39	434,394.98
Mill Creek Upper	156,868.37	2,907.64	-	2.33	1,456.36	44.21	-	-	259.40	-	152,198.42
Overall Creek	33,875.59	433.62	-	0.09	76.65	0.85	-	-	23.88	2.39	33,338.11
Pages Branch	54,950.82	1,180.24	-	0.18	574.88	2.33	-	-	66.06	2.39	53,124.74
Percy Priest Lake, Lower	136,515.50	1,377.22	-	0.01	3,104.35	0.75	-	-	-	-	132,033.17
Percy Priest Lake, Upper	111,931.25	4,362.77	-	0.39	421.58	-	-	-	33.89	-	107,112.62
Pond Creek	2,378.13	-	-	-	-	-	-	-	-	-	2,378.13
Richland Creek	194,514.33	22,569.64	-	0.30	2,682.77	12.16	-	-	34.42	3.44	169,211.59
Sevenmile Creek	192,769.77	2,258.50	-	2.90	2,874.40	28.60	-	-	-	-	187,605.37
South Harpeth River, Lower	12,596.38	47.61	-	-	114.98	-	-	-	-	-	12,433.79
Stoner Creek	129,936.91	9,868.74	-	2.05	2,299.52	2.87	-	-	46.69	-	117,717.04
Stones River	154,190.24	2,509.47	-	2.24	1,494.69	0.57	-	-	10.54	-	150,172.72
Sugartree Creek	54,848.06	1,268.85	-	3.88	651.53	0.35	-	-	-	2.39	52,921.07
Sulpher Creek	7,580.23	132.07	-	-	-	-	-	-	-	2.39	7,445.77
Sycamore Creek	49,394.36	73.92	-	-	-	-	-	-	-	-	49,320.43
Whites Creek	166,624.41	10,241.53	-	1.03	1,379.71	82.90	-	-	90.06	11.23	154,817.95
Sandy Creek	11,778.19	143.53	-	-	153.30	-	-	-	-	-	11,481.36
All Watersheds	3,351,879.23	194,949.05	-	33.60	38,325.32	329.83	-	-	1,271.68	53.73	3,116,916.02

Based on average annual rainfall conditions: (1) – Accounts for all control measures implemented in watershed thru end of FY (2) – Based on control measures implemented during the fiscal year

Watershed	Baseline	SCM Load [1]	Pollutant: COD — Removal by MWS Control Measure Implementation during FY22 (pounds)								Net Pollutant Load from Watershed (ac-ft)
			Construction Inspection Load [2]	Illicit Discharge Load [2]	Street Sweeping Load [2]	Home Buyout Load [1]	Tree Planting Load [1]	Stream Buffer Load [1]	Industrial Inspection Load [2]	Field Screening Load [2]	
Back Creek	12,694.49	-	-	-	-	-	-	-	-	-	12,694.49
Browns Creek	1,289,210.80	37,925.87	-	0.05	3,142.68	-	-	87.91	317.66	10.59	1,247,726.05
Bull Run Creek	47,296.06	-	-	-	-	-	-	-	-	-	47,296.06
Cooper Creek	338,443.46	9,522.23	-	0.02	919.81	36.84	-	0.51	-	31.77	327,932.28
Cub Creek	14,515.56	-	-	-	-	-	-	-	-	-	14,515.56
Cumberland River	5,544,654.54	894,224.03	-	22.00	17,553.00	156.61	-	826.35	4,926.37	174.68	4,626,771.50
Davidson Branch	236,154.24	4,523.44	-	-	229.95	-	-	2.06	-	-	231,398.78
Dry Creek	511,944.13	9,956.19	-	0.02	996.46	-	-	56.78	-	-	500,934.68
Ewing Creek	1,151,784.60	34,074.49	-	12.37	2,682.77	-	-	428.56	-	45.22	1,114,541.18
Gibson Creek	631,142.18	4,427.37	-	0.05	996.46	18.37	-	25.30	-	-	625,674.65
Gizzard Branch	263,188.16	5,286.30	-	0.02	229.95	-	-	134.76	-	-	257,537.12
Harpeth River	1,315,780.02	50,572.60	-	5.14	4,982.29	-	-	121.37	-	-	1,260,098.61
Indian Creek	34,868.54	-	-	-	-	-	-	-	-	-	34,868.54
Island Creek	17,096.19	-	-	-	-	-	-	-	-	-	17,096.19
Little Harpeth River	259,787.62	3,529.01	-	-	306.60	-	-	69.97	-	-	255,882.04
Loves Branch	255,699.61	2,139.84	-	-	306.60	-	-	-	-	-	253,253.17
Mansker Creek	383,340.24	3,338.76	-	-	-	-	-	-	-	-	380,001.48
Marrowbone Creek	273,490.39	444.66	-	-	-	-	-	-	-	-	273,045.72
Mill Creek Lower	3,681,070.97	52,396.90	-	8.14	9,734.63	38.75	-	732.43	1,852.68	34.03	3,616,273.40
Mill Creek Upper	1,331,760.52	24,205.45	-	6.13	2,912.72	178.80	-	924.03	2,604.86	-	1,300,928.52
Overall Creek	291,748.10	3,341.96	-	0.24	153.30	-	-	47.49	239.77	23.98	287,941.37
Pages Branch	456,476.77	11,030.00	-	0.48	1,149.76	-	-	60.78	663.33	23.98	443,548.44
Percy Priest Lake, Lower	1,318,061.46	16,572.13	-	0.02	6,208.70	-	-	62.30	-	-	1,295,218.30
Percy Priest Lake, Upper	1,023,849.18	34,038.25	-	1.04	843.16	-	-	379.62	340.30	-	988,246.82
Pond Creek	22,268.31	-	-	-	-	-	-	-	-	-	22,268.31
Richland Creek	1,697,300.31	151,198.11	-	0.80	5,365.55	-	-	275.18	345.66	34.57	1,540,080.44
Sevenmile Creek	1,634,408.64	21,694.63	-	7.63	5,748.80	-	-	519.94	-	-	1,606,437.64
South Harpeth River, Lower	136,367.49	324.87	-	-	229.95	-	-	8.55	-	-	135,804.13
Stoner Creek	1,081,731.42	68,227.88	-	5.39	4,599.04	-	-	371.08	468.83	-	1,008,059.21
Stones River	1,317,081.87	21,034.54	-	5.89	2,989.38	-	-	432.82	105.89	-	1,292,513.37
Sugartree Creek	455,118.79	10,135.01	-	10.22	1,303.06	-	-	55.68	-	23.98	443,590.84
Sulpher Creek	79,588.52	1,011.85	-	-	-	-	-	-	-	23.98	78,552.70
Sycamore Creek	480,374.24	626.91	-	-	-	-	-	30.62	-	-	479,716.70
Whites Creek	1,541,852.19	67,550.74	-	2.70	2,759.42	141.25	-	513.80	904.40	112.81	1,469,867.07
Sandy Creek	100,228.75	1,153.07	-	-	306.60	-	-	-	-	-	98,769.07
All Watersheds	29,230,378.36	1,544,507.09	-	88.37	76,650.65	570.62	-	6,167.89	12,769.75	539.57	27,589,084.42

Based on average annual rainfall conditions: (1) – Accounts for all control measures implemented in watershed thru end of FY (2) – Based on control measures implemented during the fiscal year

Watershed	Baseline	SCM Load [1]	Pollutant: NH3 — Removal by MWS Control Measure Implementation during FY22 (pounds)								Net Pollutant Load from Watershed (ac-ft)
			Construction Inspection Load [2]	Illicit Discharge Load [2]	Street Sweeping Load [2]	Home Buyout Load [1]	Tree Planting Load [1]	Stream Buffer Load [1]	Industrial Inspection Load [2]	Field Screening Load [2]	
Back Creek	40.66	-	-	-	-	-	-	-	-	-	40.66
Browns Creek	4,576.18	129.02	-	0.00	-	0.00	-	-	0.53	0.02	4,446.61
Bull Run Creek	163.76	-	-	-	-	-	-	-	-	-	163.76
Cooper Creek	1,115.56	24.85	-	0.00	-	0.22	-	-	-	0.05	1,090.44
Cub Creek	44.75	-	-	-	-	-	-	-	-	-	44.75
Cumberland River	18,221.89	3,281.25	-	0.32	-	0.93	-	-	8.18	0.29	14,930.92
Davidson Branch	824.87	15.69	-	-	-	-	-	-	-	-	809.18
Dry Creek	1,687.87	36.00	-	0.00	-	0.00	-	-	-	-	1,651.87
Ewing Creek	3,857.04	115.99	-	0.18	-	0.00	-	-	-	0.08	3,740.79
Gibson Creek	2,003.65	17.47	-	0.00	-	0.11	-	-	-	-	1,986.07
Gizzard Branch	876.92	21.66	-	0.00	-	-	-	-	-	-	855.26
Harpeth River	4,136.93	137.57	-	0.08	-	0.00	-	-	-	-	3,999.29
Indian Creek	96.52	-	-	-	-	-	-	-	-	-	96.52
Island Creek	69.64	-	-	-	-	-	-	-	-	-	69.64
Little Harpeth River	780.37	14.90	-	-	-	-	-	-	-	-	765.47
Loves Branch	831.37	7.44	-	-	-	0.00	-	-	-	-	823.92
Mansker Creek	1,234.73	12.27	-	-	-	-	-	-	-	-	1,222.46
Marrowbone Creek	750.55	2.03	-	-	-	-	-	-	-	-	748.52
Mill Creek Lower	12,479.13	201.70	-	0.12	-	0.24	-	-	3.07	0.06	12,273.94
Mill Creek Upper	4,076.77	89.51	-	0.09	-	1.06	-	-	4.32	-	3,981.79
Overall Creek	926.96	10.67	-	0.00	-	0.00	-	-	0.40	0.04	915.85
Pages Branch	1,521.81	46.47	-	0.01	-	0.00	-	-	1.10	0.04	1,474.19
Percy Priest Lake, Lower	3,690.09	37.74	-	0.00	-	0.00	-	-	-	-	3,652.35
Percy Priest Lake, Upper	3,127.23	108.24	-	0.02	-	-	-	-	0.56	-	3,018.41
Pond Creek	63.30	-	-	-	-	-	-	-	-	-	63.30
Richland Creek	5,708.68	516.16	-	0.01	-	0.00	-	-	0.57	0.06	5,191.88
Sevenmile Creek	5,159.17	69.67	-	0.11	-	0.00	-	-	-	-	5,089.39
South Harpeth River, Lower	398.54	1.04	-	-	-	-	-	-	-	-	397.50
Stoner Creek	3,433.40	261.89	-	0.08	-	0.00	-	-	0.78	-	3,170.65
Stones River	4,481.13	77.89	-	0.09	-	0.00	-	-	0.18	-	4,402.98
Sugartree Creek	1,461.46	38.23	-	0.15	-	0.00	-	-	-	0.04	1,423.05
Sulpher Creek	264.16	3.67	-	-	-	-	-	-	-	0.04	260.45
Sycamore Creek	1,404.62	1.86	-	-	-	-	-	-	-	-	1,402.76
Whites Creek	4,937.90	224.10	-	0.04	-	0.85	-	-	1.50	0.19	4,711.22
Sandy Creek	324.26	4.08	-	-	-	-	-	-	-	-	320.18
All Watersheds	94,771.87	5,509.07	-	1.30	-	3.42	-	-	21.19	0.90	89,235.99

Based on average annual rainfall conditions: (1) – Accounts for all control measures implemented in watershed thru end of FY (2) – Based on control measures implemented during the fiscal year

Watershed	Baseline	SCM Load [1]	Pollutant: TKN Removal by MWS Control Measure Implementation during FY22 (pounds) Construction Inspection Load [2]	Illicit Discharge Load [2]	Street Sweeping Load [2]	Home Buyout Load [1]	Tree Planting Load [1]	Stream Buffer Load [1]	Industrial Inspection Load [2]	Field Screening Load [2]	Net Pollutant Load from Watershed (ac-ft)
Back Creek	163.14	-	-	-	-	-	-	-	-	-	163.14
Browns Creek	15,797.76	676.85	-	0.01	-	0.93	-	0.55	-	-	15,119.42
Bull Run Creek	512.80	-	-	-	-	-	-	-	-	-	512.80
Cooper Creek	4,404.04	202.29	-	0.00	-	0.37	-	-	-	-	4,201.38
Cub Creek	191.16	-	-	-	-	-	-	-	-	-	191.16
Cumberland River	74,571.82	16,046.37	-	2.65	-	2.58	-	5.62	-	-	58,514.60
Davidson Branch	2,648.48	68.41	-	-	-	-	-	-	-	-	2,580.07
Dry Creek	7,080.21	182.14	-	0.00	-	0.16	-	0.35	-	-	6,897.55
Ewing Creek	14,853.77	474.78	-	1.49	-	0.74	-	2.62	-	-	14,374.14
Gibson Creek	8,690.90	104.26	-	0.01	-	1.23	-	0.16	-	-	8,585.24
Gizzard Branch	3,384.36	94.59	-	0.00	-	-	-	0.86	-	-	3,288.91
Harpeth River	17,782.29	1,093.26	-	0.62	-	0.41	-	2.74	-	-	16,685.26
Indian Creek	511.80	-	-	-	-	-	-	-	-	-	511.80
Island Creek	114.80	-	-	-	-	-	-	-	-	-	114.80
Little Harpeth River	3,310.84	82.14	-	-	-	-	-	0.42	-	-	3,228.28
Loves Branch	3,090.39	26.03	-	-	-	0.07	-	-	-	-	3,064.29
Mansker Creek	4,933.72	56.37	-	-	-	-	-	-	-	-	4,877.35
Marrowbone Creek	3,949.81	11.20	-	-	-	-	-	-	-	-	3,938.61
Mill Creek Lower	51,585.48	906.49	-	0.98	-	2.94	-	15.22	-	-	50,659.85
Mill Creek Upper	19,201.00	529.32	-	0.74	-	1.64	-	11.67	-	-	18,657.62
Overall Creek	4,079.84	54.32	-	0.03	-	0.07	-	0.23	-	-	4,025.20
Pages Branch	6,181.59	189.14	-	0.06	-	0.18	-	0.37	-	-	5,991.83
Percy Priest Lake, Lower	18,477.43	266.59	-	0.00	-	0.06	-	0.28	-	-	18,210.50
Percy Priest Lake, Upper	15,056.55	499.59	-	0.12	-	-	-	2.22	-	-	14,554.61
Pond Creek	330.93	-	-	-	-	-	-	-	-	-	330.93
Richland Creek	21,497.53	2,456.09	-	0.10	-	0.95	-	2.39	-	-	19,038.01
Sevenmile Creek	22,689.35	418.86	-	0.92	-	2.22	-	3.29	-	-	22,264.07
South Harpeth River, Lower	1,753.18	7.22	-	-	-	-	-	-	-	-	1,745.97
Stoner Creek	14,988.15	1,465.52	-	0.65	-	0.22	-	2.37	-	-	13,519.38
Stones River	16,536.90	313.86	-	0.71	-	0.04	-	2.68	-	-	16,219.61
Sugartree Creek	6,011.02	197.54	-	1.23	-	0.03	-	0.35	-	-	5,811.88
Sulpher Creek	919.07	15.66	-	-	-	-	-	-	-	-	903.41
Sycamore Creek	6,646.61	12.09	-	-	-	-	-	0.20	-	-	6,634.32
Whites Creek	19,984.25	1,035.71	-	0.33	-	5.03	-	2.53	-	-	18,940.66
Sandy Creek	1,384.06	19.40	-	-	-	-	-	-	-	-	1,364.67
All Watersheds	393,315.05	27,506.08	-	10.63	-	19.87	-	57.11	-	-	365,721.35

Based on average annual rainfall conditions: (1) – Accounts for all control measures implemented in watershed thru end of FY (2) – Based on control measures implemented during the fiscal year

Watershed	Baseline	SCM Load [1]	Pollutant: NO2+NO3 — Removal by MWS Control Measure Implementation during FY22 (pounds)								Net Pollutant Load from Watershed (ac-ft)
			Construction Inspection Load [2]	Illicit Discharge Load [2]	Street Sweeping Load [2]	Home Buyout Load [1]	Tree Planting Load [1]	Stream Buffer Load [1]	Industrial Inspection Load [2]	Field Screening Load [2]	
Back Creek	71.39	-	-	-	-	-	-	-	-	-	71.39
Browns Creek	7,881.00	217.21	-	0.00	-	-	-	0.04	1.25	0.04	7,662.45
Bull Run Creek	256.67	-	-	-	-	-	-	-	-	-	256.67
Cooper Creek	1,848.11	64.79	-	0.00	-	0.08	-	0.00	-	0.13	1,783.11
Cub Creek	80.98	-	-	-	-	-	-	-	-	-	80.98
Cumberland River	32,394.57	7,934.08	-	0.04	-	0.34	-	0.52	19.42	0.69	24,439.49
Davidson Branch	1,221.06	36.21	-	-	-	-	-	0.01	-	-	1,184.85
Dry Creek	3,097.32	83.18	-	0.00	-	-	-	0.03	-	-	3,014.11
Ewing Creek	6,576.80	199.70	-	0.02	-	-	-	0.23	-	0.18	6,376.67
Gibson Creek	3,404.39	38.79	-	0.00	-	0.04	-	0.01	-	-	3,365.55
Gizzard Branch	1,373.61	41.27	-	0.00	-	-	-	0.05	-	-	1,332.28
Harpeth River	7,195.04	398.94	-	0.01	-	-	-	0.62	-	-	6,795.47
Indian Creek	201.75	-	-	-	-	-	-	-	-	-	201.75
Island Creek	85.81	-	-	-	-	-	-	-	-	-	85.81
Little Harpeth River	1,389.10	28.19	-	-	-	-	-	0.04	-	-	1,360.87
Loves Branch	1,383.63	14.19	-	-	-	-	-	-	-	-	1,369.44
Mansker Creek	2,230.56	23.98	-	-	-	-	-	-	-	-	2,206.58
Marrowbone Creek	1,581.80	4.48	-	-	-	-	-	-	-	-	1,577.32
Mill Creek Lower	23,052.00	325.59	-	0.01	-	0.08	-	2.91	7.30	0.13	22,715.96
Mill Creek Upper	7,540.00	172.63	-	0.01	-	0.39	-	1.97	10.27	-	7,354.74
Overall Creek	1,671.80	30.21	-	0.00	-	-	-	0.05	0.95	0.09	1,640.50
Pages Branch	2,638.70	52.40	-	0.00	-	-	-	0.03	2.61	0.09	2,583.56
Percy Priest Lake, Lower	7,448.72	113.60	-	0.00	-	-	-	0.07	-	-	7,335.05
Percy Priest Lake, Upper	6,646.78	230.88	-	0.00	-	-	-	0.24	1.34	-	6,414.32
Pond Creek	129.72	-	-	-	-	-	-	-	-	-	129.72
Richland Creek	9,429.31	2,045.76	-	0.00	-	-	-	0.29	1.36	0.14	7,381.77
Sevenmile Creek	9,129.52	173.61	-	0.01	-	-	-	0.23	-	-	8,955.67
South Harpeth River, Lower	773.10	3.26	-	-	-	-	-	0.02	-	-	769.81
Stoner Creek	5,947.45	780.93	-	0.01	-	-	-	0.15	1.85	-	5,164.52
Stones River	7,266.97	122.84	-	0.01	-	-	-	0.21	0.42	-	7,143.49
Sugartree Creek	2,346.45	97.11	-	0.02	-	-	-	0.03	-	0.09	2,249.20
Sulpher Creek	440.79	6.87	-	-	-	-	-	-	-	0.09	433.83
Sycamore Creek	2,717.13	6.59	-	-	-	-	-	0.01	-	-	2,710.53
Whites Creek	8,633.78	949.22	-	0.00	-	0.31	-	0.50	3.57	0.44	7,679.73
Sandy Creek	571.28	6.93	-	-	-	-	-	-	-	-	564.35
All Watersheds	168,657.11	14,203.47	-	0.15	-	1.25	-	8.26	50.34	2.13	154,391.52

Based on average annual rainfall conditions: (1) – Accounts for all control measures implemented in watershed thru end of FY (2) – Based on control measures implemented during the fiscal year

Watershed	Baseline	SCM Load [1]	Pollutant: TN — Removal by MWS Control Measure Implementation during FY22 (pounds)								Net Pollutant Load from Watershed (ac-ft)
			Construction Inspection Load [2]	Illicit Discharge Load [2]	Street Sweeping Load [2]	Home Buyout Load [1]	Tree Planting Load [1]	Stream Buffer Load [1]	Industrial Inspection Load [2]	Field Screening Load [2]	
Back Creek	228.28	-	-	-	-	-	-	-	-	-	228.28
Browns Creek	23,270.64	759.11	-	0.00	450.79	1.10	-	0.52	-	-	22,059.11
Bull Run Creek	743.87	-	-	-	-	-	-	-	-	-	743.87
Cooper Creek	6,282.28	247.05	-	0.00	131.94	0.56	-	-	-	-	5,902.72
Cub Creek	265.00	-	-	-	-	-	-	-	-	-	265.00
Cumberland River	106,873.25	20,281.11	-	1.92	2,517.85	3.59	-	5.45	-	-	84,063.34
Davidson Branch	3,833.52	89.06	-	-	32.98	-	-	-	-	-	3,711.48
Dry Creek	10,048.45	201.79	-	0.00	142.93	0.19	-	0.34	-	-	9,703.19
Ewing Creek	21,306.65	566.56	-	1.08	384.82	0.88	-	2.50	-	-	20,350.81
Gibson Creek	12,104.05	112.74	-	0.00	142.93	1.51	-	0.15	-	-	11,846.70
Gizzard Branch	4,751.99	110.17	-	0.00	32.98	-	-	0.82	-	-	4,608.00
Harpeth River	25,265.98	1,331.64	-	0.45	714.67	0.48	-	2.89	-	-	23,215.85
Indian Creek	693.12	-	-	-	-	-	-	-	-	-	693.12
Island Creek	190.94	-	-	-	-	-	-	-	-	-	190.94
Little Harpeth River	4,620.01	84.66	-	-	43.98	-	-	0.40	-	-	4,490.97
Loves Branch	4,400.06	32.23	-	-	43.98	0.08	-	-	-	-	4,323.77
Mansker Creek	6,931.56	68.13	-	-	-	-	-	-	-	-	6,863.42
Marrowbone Creek	5,355.38	12.32	-	-	-	-	-	-	-	-	5,343.06
Mill Creek Lower	73,943.09	965.36	-	0.71	1,396.36	3.60	-	16.03	-	-	71,561.04
Mill Creek Upper	26,693.70	536.09	-	0.53	417.81	2.56	-	11.93	-	-	25,724.77
Overall Creek	5,660.28	69.04	-	0.02	21.99	0.08	-	0.22	-	-	5,568.94
Pages Branch	8,810.00	177.90	-	0.04	164.92	0.21	-	0.36	-	-	8,466.57
Percy Priest Lake, Lower	26,040.60	327.70	-	0.00	890.59	0.07	-	0.27	-	-	24,821.98
Percy Priest Lake, Upper	20,975.37	563.21	-	0.09	120.94	-	-	2.13	-	-	20,289.00
Pond Creek	448.91	-	-	-	-	-	-	-	-	-	448.91
Richland Creek	31,065.24	3,483.01	-	0.07	769.65	1.11	-	2.36	-	-	26,809.04
Sevenmile Creek	32,111.56	475.48	-	0.66	824.62	2.62	-	3.12	-	-	30,805.06
South Harpeth River, Lower	2,461.19	9.63	-	-	32.98	-	-	-	-	-	2,418.57
Stoner Creek	21,312.33	2,025.23	-	0.47	659.70	0.26	-	2.25	-	-	18,624.42
Stones River	23,785.32	362.74	-	0.51	428.80	0.05	-	2.54	-	-	22,990.67
Sugartree Creek	8,484.57	231.51	-	0.89	186.91	0.03	-	0.33	-	-	8,064.88
Sulpher Creek	1,312.97	18.45	-	-	-	-	-	-	-	-	1,294.52
Sycamore Creek	9,102.14	13.61	-	-	-	-	-	0.19	-	-	9,088.34
Whites Creek	28,299.56	1,495.70	-	0.24	395.82	6.42	-	2.41	-	-	26,398.97
Sandy Creek	1,963.67	22.20	-	-	43.98	-	-	-	-	-	1,897.49
All Watersheds	559,635.55	34,673.44	-	7.69	10,994.97	25.42	-	57.20	-	-	513,876.82

Based on average annual rainfall conditions: (1) – Accounts for all control measures implemented in watershed thru end of FY (2) – Based on control measures implemented during the fiscal year

Watershed	Baseline	SCM Load [1]	Pollutant: Diss. P Removal by MWS Control Measure Implementation during FY22 (pounds) Construction Inspection Load [2]	Illicit Discharge Load [2]	Street Sweeping Load [2]	Home Buyout Load [1]	Tree Planting Load [1]	Stream Buffer Load [1]	Industrial Inspection Load [2]	Field Screening Load [2]	Net Pollutant Load from Watershed (ac-ft)
Back Creek	116.71	-	-	-	-	-	-	-	-	-	116.71
Browns Creek	5,775.78	247.97	-	-	-	1.18	-	1.26	-	-	5,525.37
Bull Run Creek	337.00	-	-	-	-	-	-	-	-	-	337.00
Cooper Creek	2,449.00	134.67	-	-	-	0.07	-	-	-	-	2,314.26
Cub Creek	128.30	-	-	-	-	-	-	-	-	-	128.30
Cumberland River	33,030.28	4,918.11	-	-	-	1.60	-	15.02	-	-	28,095.55
Davidson Branch	1,237.08	23.74	-	-	-	-	-	-	-	-	1,213.35
Dry Creek	3,358.39	38.62	-	-	-	0.20	-	1.93	-	-	3,317.64
Ewing Creek	7,326.14	75.50	-	-	-	0.94	-	13.28	-	-	7,236.42
Gibson Creek	4,379.77	26.50	-	-	-	1.36	-	0.33	-	-	4,351.58
Gizzard Branch	1,068.80	18.04	-	-	-	-	-	1.80	-	-	1,048.96
Harpeth River	11,061.01	689.48	-	-	-	0.51	-	2.77	-	-	10,368.24
Indian Creek	366.94	-	-	-	-	-	-	-	-	-	366.94
Island Creek	51.79	-	-	-	-	-	-	-	-	-	51.79
Little Harpeth River	1,681.75	15.03	-	-	-	-	-	0.87	-	-	1,665.85
Loves Branch	1,629.86	5.67	-	-	-	0.09	-	-	-	-	1,624.10
Mansker Creek	2,818.29	10.15	-	-	-	-	-	-	-	-	2,808.14
Marrowbone Creek	2,678.99	1.51	-	-	-	-	-	-	-	-	2,677.48
Mill Creek Lower	22,105.01	143.00	-	-	-	3.32	-	20.56	-	-	21,938.13
Mill Creek Upper	11,392.47	142.37	-	-	-	0.17	-	17.63	-	-	11,232.29
Overall Creek	2,283.63	23.69	-	-	-	0.08	-	0.47	-	-	2,259.38
Pages Branch	2,725.07	19.80	-	-	-	0.23	-	1.16	-	-	2,703.88
Percy Priest Lake, Lower	12,104.99	159.34	-	-	-	0.07	-	0.58	-	-	11,945.00
Percy Priest Lake, Upper	8,004.94	120.01	-	-	-	-	-	14.93	-	-	7,870.01
Pond Creek	246.55	-	-	-	-	-	-	-	-	-	246.55
Richland Creek	9,873.34	844.82	-	-	-	1.19	-	4.05	-	-	9,023.28
Sevenmile Creek	12,804.10	143.22	-	-	-	2.82	-	6.75	-	-	12,651.32
South Harpeth River, Lower	1,202.11	3.21	-	-	-	-	-	-	-	-	1,198.90
Stoner Creek	8,403.50	349.44	-	-	-	0.28	-	4.87	-	-	8,048.90
Stones River	6,077.08	55.28	-	-	-	0.06	-	6.55	-	-	6,015.20
Sugartree Creek	2,894.83	54.37	-	-	-	0.03	-	0.73	-	-	2,839.70
Sulpher Creek	556.82	2.15	-	-	-	-	-	-	-	-	554.67
Sycamore Creek	4,481.02	4.61	-	-	-	-	-	0.41	-	-	4,476.00
Whites Creek	11,216.07	374.00	-	-	-	4.84	-	8.11	-	-	10,829.12
Sandy Creek	809.70	3.69	-	-	-	-	-	-	-	-	806.00
All Watersheds	196,677.10	8,648.00	-	-	-	19.05	-	124.04	-	-	187,886.01

Based on average annual rainfall conditions: (1) – Accounts for all control measures implemented in watershed thru end of FY (2) – Based on control measures implemented during the fiscal year

Watershed	Baseline	SCM Load [1]	Pollutant: Total P Removal by MWS Control Measure Implementation during FY22 (pounds) Construction Inspection Load [2]	Illicit Discharge Load [2]	Street Sweeping Load [2]	Home Buyout Load [1]	Tree Planting Load [1]	Stream Buffer Load [1]	Industrial Inspection Load [2]	Field Screening Load [2]	Net Pollutant Load from Watershed (ac-ft)
Back Creek	172.80	-	-	-	-	-	-	-	-	-	172.80
Browns Creek	10,040.14	411.98	-	0.00	180.32	1.20	-	2.11	-	-	9,444.53
Bull Run Creek	517.70	-	-	-	-	-	-	-	-	-	517.70
Cooper Creek	3,845.52	192.88	-	0.00	52.78	0.07	-	-	-	-	3,599.79
Cub Creek	193.47	-	-	-	-	-	-	-	-	-	193.47
Cumberland River	54,640.49	8,181.45	-	0.34	1,007.14	1.63	-	23.73	-	-	45,426.20
Davidson Branch	2,071.87	41.07	-	-	13.19	-	-	-	-	-	2,017.61
Dry Creek	5,355.60	73.69	-	0.00	57.17	0.21	-	2.66	-	-	5,221.88
Ewing Creek	11,790.42	192.99	-	0.19	153.93	0.95	-	18.52	-	-	11,423.83
Gibson Creek	6,998.63	42.93	-	0.00	57.17	1.38	-	0.58	-	-	6,896.56
Gizzard Branch	1,984.91	33.39	-	0.00	13.19	-	-	3.12	-	-	1,935.21
Harpeth River	17,033.50	983.42	-	0.08	285.87	0.52	-	4.44	-	-	15,759.17
Indian Creek	544.00	-	-	-	-	-	-	-	-	-	544.00
Island Creek	95.37	-	-	-	-	-	-	-	-	-	95.37
Little Harpeth River	2,787.38	27.58	-	-	17.59	-	-	1.51	-	-	2,740.70
Loves Branch	2,644.83	13.17	-	-	17.59	0.09	-	-	-	-	2,613.99
Mansker Creek	4,373.63	20.26	-	-	-	-	-	-	-	-	4,353.37
Marrowbone Creek	4,041.25	2.93	-	-	-	-	-	-	-	-	4,038.32
Mill Creek Lower	35,782.06	314.74	-	0.13	558.54	3.38	-	31.77	-	-	34,873.50
Mill Creek Upper	17,443.92	252.25	-	0.10	167.12	0.18	-	28.58	-	-	16,995.70
Overall Creek	3,511.26	38.08	-	0.00	8.80	0.08	-	0.82	-	-	3,463.48
Pages Branch	4,468.94	53.28	-	0.01	65.97	0.23	-	1.79	-	-	4,347.65
Percy Priest Lake, Lower	18,789.75	260.14	-	0.00	356.24	0.07	-	1.00	-	-	18,172.29
Percy Priest Lake, Upper	12,376.31	264.32	-	0.02	48.38	-	-	19.94	-	-	12,043.66
Pond Creek	359.78	-	-	-	-	-	-	-	-	-	359.78
Richland Creek	16,370.45	1,300.83	-	0.01	307.86	1.21	-	6.92	-	-	14,753.62
Sevenmile Creek	19,991.97	238.39	-	0.12	329.85	2.87	-	11.75	-	-	19,408.98
South Harpeth River, Lower	1,847.84	4.62	-	-	13.19	-	-	-	-	-	1,830.03
Stoner Creek	13,178.01	517.80	-	0.08	263.88	0.29	-	8.49	-	-	12,387.47
Stones River	10,740.74	127.51	-	0.09	171.52	0.06	-	10.79	-	-	10,430.77
Sugartree Creek	4,763.92	90.51	-	0.16	74.77	0.03	-	1.27	-	-	4,597.18
Sulpher Creek	870.03	5.57	-	-	-	-	-	-	-	-	864.46
Sycamore Creek	6,750.52	7.97	-	-	-	-	-	0.71	-	-	6,741.84
Whites Creek	17,653.99	575.16	-	0.04	158.33	4.92	-	12.43	-	-	16,903.12
Sandy Creek	1,242.69	8.11	-	-	17.59	-	-	-	-	-	1,216.99
All Watersheds	315,273.69	14,277.00	-	1.37	4,397.99	19.37	-	192.95	-	-	296,385.01

Based on average annual rainfall conditions: (1) – Accounts for all control measures implemented in watershed thru end of FY (2) – Based on control measures implemented during the fiscal year

Watershed	Baseline	SCM Load [1]	Pollutant: Pb — Removal by MWS Control Measure Implementation during FY22 (pounds)								Net Pollutant Load from Watershed (ac-ft)
			Construction Inspection Load [2]	Illicit Discharge Load [2]	Street Sweeping Load [2]	Home Buyout Load [1]	Tree Planting Load [1]	Stream Buffer Load [1]	Industrial Inspection Load [2]	Field Screening Load [2]	
Back Creek	7.38	-	-	-	-	-	-	-	-	-	7.38
Browns Creek	70.12	1.71	-	0.00	13.05	-	-	0.78	0.13	-	54.45
Bull Run Creek	8.72	-	-	-	-	-	-	-	-	-	8.72
Cooper Creek	20.10	0.35	-	0.00	3.82	1.84	-	0.03	-	-	14.06
Cub Creek	7.44	-	-	-	-	-	-	-	-	-	7.44
Cumberland River	291.46	50.89	-	0.00	72.89	7.83	-	7.27	2.04	-	150.54
Davidson Branch	16.97	0.23	-	-	0.95	-	-	0.12	-	-	15.68
Dry Creek	27.90	0.60	-	0.00	4.14	-	-	0.52	-	-	22.64
Ewing Creek	59.29	1.72	-	0.00	11.14	-	-	4.24	-	-	42.20
Gibson Creek	31.10	0.27	-	0.00	4.14	0.92	-	0.20	-	-	25.57
Gizzard Branch	14.94	0.31	-	0.00	0.95	-	-	1.01	-	-	12.67
Harpeth River	74.76	2.13	-	0.00	20.69	-	-	1.82	-	-	50.12
Indian Creek	8.10	-	-	-	-	-	-	-	-	-	8.10
Island Creek	7.64	-	-	-	-	-	-	-	-	-	7.64
Little Harpeth River	17.61	0.21	-	-	1.27	-	-	0.75	-	-	15.38
Loves Branch	14.56	0.11	-	-	1.27	-	-	-	-	-	13.17
Mansker Creek	18.29	0.17	-	-	-	-	-	-	-	-	18.12
Marrowbone Creek	13.20	0.04	-	-	-	-	-	-	-	-	13.16
Mill Creek Lower	191.79	2.85	-	0.00	40.42	1.94	-	4.32	0.77	-	141.50
Mill Creek Upper	63.56	1.33	-	0.00	12.09	8.94	-	8.46	1.08	-	31.66
Overall Creek	18.34	0.19	-	0.00	0.64	-	-	0.97	0.10	-	16.45
Pages Branch	29.40	0.60	-	0.00	4.77	-	-	0.59	0.28	-	23.16
Percy Priest Lake, Lower	74.92	0.65	-	0.00	25.78	-	-	1.39	-	-	47.10
Percy Priest Lake, Upper	46.44	1.91	-	0.00	3.50	-	-	4.46	0.14	-	36.42
Pond Creek	7.68	-	-	-	-	-	-	-	-	-	7.68
Richland Creek	94.52	10.75	-	0.00	22.28	-	-	2.29	0.14	-	59.06
Sevenmile Creek	87.21	1.11	-	0.00	23.87	-	-	4.34	-	-	57.89
South Harpeth River, Lower	12.70	0.02	-	-	0.95	-	-	0.49	-	-	11.24
Stoner Creek	62.14	3.84	-	0.00	19.10	-	-	2.88	0.19	-	36.13
Stones River	67.84	1.07	-	0.00	12.41	-	-	4.04	0.04	-	50.28
Sugartree Creek	28.97	0.60	-	0.00	5.41	-	-	0.47	-	-	22.49
Sulpher Creek	9.92	0.06	-	-	-	-	-	-	-	-	9.86
Sycamore Creek	20.62	0.04	-	-	-	-	-	0.23	-	-	20.35
Whites Creek	72.53	5.00	-	0.00	11.46	7.06	-	9.79	0.38	-	38.84
Sandy Creek	11.90	0.05	-	-	1.27	-	-	-	-	-	10.57
All Watersheds	1,610.08	88.80	-	0.00	318.29	28.53	-	61.45	5.30	-	1,107.71

Based on average annual rainfall conditions: (1) – Accounts for all control measures implemented in watershed thru end of FY (2) – Based on control measures implemented during the fiscal year

Watershed	Baseline	SCM Load [1]	Pollutant: Ni Removal by MWS Control Measure Implementation during FY22 (pounds) Construction Inspection Load [2]	Illicit Discharge Load [2]	Street Sweeping Load [2]	Home Buyout Load [1]	Tree Planting Load [1]	Stream Buffer Load [1]	Industrial Inspection Load [2]	Field Screening Load [2]	Net Pollutant Load from Watershed (ac-ft)
Back Creek	8.88	-	-	-	-	-	-	-	-	-	8.88
Browns Creek	87.97	2.03	-	0.00	8.33	-	-	7.02	-	-	70.58
Bull Run Creek	9.99	-	-	-	-	-	-	-	-	-	9.99
Cooper Creek	17.13	0.28	-	0.00	2.44	-	-	0.38	-	-	14.03
Cub Creek	9.01	-	-	-	-	-	-	-	-	-	9.01
Cumberland River	318.95	88.31	-	0.00	46.55	-	-	83.99	-	-	100.09
Davidson Branch	17.17	0.39	-	-	0.61	-	-	1.53	-	-	14.63
Dry Creek	31.86	1.08	-	0.00	2.64	-	-	8.94	-	-	19.20
Ewing Creek	59.01	2.35	-	0.00	7.11	-	-	67.96	-	-	-
Gibson Creek	28.45	0.54	-	0.00	2.64	-	-	1.52	-	-	23.75
Gizzard Branch	17.28	0.56	-	0.00	0.61	-	-	7.70	-	-	8.41
Harpeth River	57.22	2.56	-	0.00	13.21	-	-	43.76	-	-	-
Indian Creek	9.76	-	-	-	-	-	-	-	-	-	9.76
Island Creek	9.15	-	-	-	-	-	-	-	-	-	9.15
Little Harpeth River	21.76	0.42	-	-	0.81	-	-	7.09	-	-	13.43
Loves Branch	15.78	0.14	-	-	0.81	-	-	-	-	-	14.83
Mansker Creek	21.36	0.31	-	-	-	-	-	-	-	-	21.04
Marrowbone Creek	16.20	0.08	-	-	-	-	-	-	-	-	16.11
Mill Creek Lower	223.03	4.31	-	0.00	25.82	-	-	163.18	-	-	29.72
Mill Creek Upper	54.91	2.17	-	0.00	7.72	-	-	150.64	-	-	-
Overall Creek	19.28	0.32	-	0.00	0.41	-	-	11.20	-	-	7.36
Pages Branch	31.67	0.75	-	0.00	3.05	-	-	6.76	-	-	21.12
Percy Priest Lake, Lower	75.05	1.56	-	0.00	16.47	-	-	16.27	-	-	40.76
Percy Priest Lake, Upper	67.63	2.65	-	0.00	2.24	-	-	83.26	-	-	-
Pond Creek	9.17	-	-	-	-	-	-	-	-	-	9.17
Richland Creek	91.87	24.35	-	0.00	14.23	-	-	26.40	-	-	26.90
Sevenmile Creek	72.68	2.50	-	0.00	15.25	-	-	34.40	-	-	20.53
South Harpeth River, Lower	15.03	0.03	-	-	0.61	-	-	6.35	-	-	8.03
Stoner Creek	48.76	10.61	-	0.00	12.20	-	-	21.48	-	-	4.48
Stones River	74.44	1.47	-	0.00	7.93	-	-	38.58	-	-	26.47
Sugartree Creek	26.23	1.23	-	0.00	3.46	-	-	3.94	-	-	17.61
Sulpher Creek	11.62	0.09	-	-	-	-	-	-	-	-	11.53
Sycamore Creek	21.74	0.09	-	-	-	-	-	1.75	-	-	19.90
Whites Creek	71.02	11.21	-	0.00	7.32	-	-	121.75	-	-	-
Sandy Creek	12.40	0.08	-	-	0.81	-	-	-	-	-	11.50
All Watersheds	1,683.47	162.48	-	0.00	203.28	-	-	915.87	-	-	617.96

Based on average annual rainfall conditions: (1) – Accounts for all control measures implemented in watershed thru end of FY (2) – Based on control measures implemented during the fiscal year

Watershed	Baseline	SCM Load [1]	Pollutant: Zn Removal by MWS Control Measure Implementation during FY22 (pounds) Construction Inspection Load [2]	Illicit Discharge Load [2]	Street Sweeping Load [2]	Home Buyout Load [1]	Tree Planting Load [1]	Stream Buffer Load [1]	Industrial Inspection Load [2]	Field Screening Load [2]	Net Pollutant Load from Watershed (ac-ft)
Back Creek	253.10	-	-	-	-	-	-	-	-	-	253.10
Browns Creek	1,470.56	55.41	-	0.00	35.87	82.26	-	-	0.79	-	1,296.23
Bull Run Creek	277.54	-	-	-	-	-	-	-	-	-	277.54
Cooper Creek	475.38	10.53	-	0.00	10.50	120.07	-	-	-	-	334.28
Cub Creek	255.18	-	-	-	-	-	-	-	-	-	255.18
Cumberland River	6,235.58	1,172.50	-	0.00	200.35	598.70	-	-	12.26	-	4,251.76
Davidson Branch	477.97	5.70	-	-	2.62	-	-	-	-	-	469.65
Dry Creek	676.85	16.84	-	0.00	11.37	14.02	-	-	-	-	634.61
Ewing Creek	1,313.83	56.48	-	0.00	30.62	66.00	-	-	-	-	1,160.73
Gibson Creek	842.92	6.73	-	0.00	11.37	151.22	-	-	-	-	673.59
Gizzard Branch	469.72	7.28	-	0.00	2.62	-	-	-	-	-	459.81
Harpeth River	1,525.44	60.25	-	0.00	56.87	35.91	-	-	-	-	1,372.42
Indian Creek	270.33	-	-	-	-	-	-	-	-	-	270.33
Island Creek	254.84	-	-	-	-	-	-	-	-	-	254.84
Little Harpeth River	490.77	4.90	-	-	3.50	-	-	-	-	-	482.37
Loves Branch	365.51	2.88	-	-	3.50	5.82	-	-	-	-	353.31
Mansker Creek	462.90	5.43	-	-	-	-	-	-	-	-	457.47
Marrowbone Creek	347.79	0.97	-	-	-	-	-	-	-	-	346.82
Mill Creek Lower	4,250.42	89.05	-	0.00	111.11	356.03	-	-	4.61	-	3,689.62
Mill Creek Upper	1,484.30	38.35	-	0.00	33.25	570.50	-	-	6.49	-	835.72
Overall Creek	536.69	4.33	-	0.00	1.75	5.85	-	-	0.60	-	524.17
Pages Branch	761.55	20.70	-	0.00	13.12	15.82	-	-	1.65	-	710.26
Percy Priest Lake, Lower	1,264.05	12.63	-	0.00	70.87	5.88	-	-	-	-	1,174.68
Percy Priest Lake, Upper	1,069.90	59.30	-	0.00	9.62	-	-	-	0.85	-	1,000.13
Pond Creek	260.69	-	-	-	-	-	-	-	-	-	260.69
Richland Creek	2,070.29	225.16	-	0.00	61.24	84.02	-	-	0.86	-	1,699.02
Sevenmile Creek	1,844.37	25.37	-	0.00	65.62	193.16	-	-	-	-	1,560.22
South Harpeth River, Lower	339.85	0.38	-	-	2.62	-	-	-	-	-	336.84
Stoner Creek	1,301.26	85.96	-	0.00	52.49	19.34	-	-	1.17	-	1,142.29
Stones River	1,655.97	32.86	-	0.00	34.12	3.87	-	-	0.26	-	1,584.85
Sugartree Creek	769.75	13.54	-	0.00	14.87	2.38	-	-	-	-	738.96
Sulpher Creek	304.76	1.93	-	-	-	-	-	-	-	-	302.83
Sycamore Creek	520.42	0.83	-	-	-	-	-	-	-	-	519.59
Whites Creek	1,582.25	105.08	-	0.00	31.50	781.56	-	-	2.25	-	661.86
Sandy Creek	345.09	1.84	-	-	3.50	-	-	-	-	-	339.76
All Watersheds	36,827.80	2,123.21	-	0.00	874.89	3,112.40	-	-	31.79	-	30,685.51

Based on average annual rainfall conditions: (1) – Accounts for all control measures implemented in watershed thru end of FY (2) – Based on control measures implemented during the fiscal year

Watershed	Baseline	SCM Load [1]	Pollutant: Cr Removal by MWS Control Measure Implementation during FY22 (pounds) Construction Inspection Load [2]	Illicit Discharge Load [2]	Street Sweeping Load [2]	Home Buyout Load [1]	Tree Planting Load [1]	Stream Buffer Load [1]	Industrial Inspection Load [2]	Field Screening Load [2]	Net Pollutant Load from Watershed (ac-ft)
Back Creek	6.66	-	-	-	-	-	-	-	-	-	6.66
Browns Creek	68.51	1.33	-	0.00	9.27	-	-	7.52	-	-	50.38
Bull Run Creek	8.56	-	-	-	-	-	-	-	-	-	8.56
Cooper Creek	20.88	0.39	-	0.00	2.71	-	-	0.08	-	-	17.69
Cub Creek	6.73	-	-	-	-	-	-	-	-	-	6.73
Cumberland River	282.24	41.15	-	0.00	51.80	-	-	75.42	-	-	113.87
Davidson Branch	17.34	0.18	-	-	0.68	-	-	0.32	-	-	16.16
Dry Creek	27.78	0.35	-	0.00	2.94	-	-	6.50	-	-	17.99
Ewing Creek	61.63	1.14	-	0.00	7.92	-	-	47.98	-	-	4.59
Gibson Creek	31.40	0.15	-	0.00	2.94	-	-	2.07	-	-	26.24
Gizzard Branch	13.16	0.21	-	0.00	0.68	-	-	11.05	-	-	1.22
Harpeth River	80.64	2.08	-	0.00	14.70	-	-	10.95	-	-	52.91
Indian Creek	7.74	-	-	-	-	-	-	-	-	-	7.74
Island Creek	6.99	-	-	-	-	-	-	-	-	-	6.99
Little Harpeth River	18.45	0.12	-	-	0.90	-	-	6.07	-	-	11.35
Loves Branch	16.03	0.09	-	-	0.90	-	-	-	-	-	15.03
Mansker Creek	21.76	0.11	-	-	-	-	-	-	-	-	21.65
Marrowbone Creek	16.73	0.02	-	-	-	-	-	-	-	-	16.71
Mill Creek Lower	180.71	1.71	-	0.00	28.73	-	-	61.95	-	-	88.31
Mill Creek Upper	69.30	0.87	-	0.00	8.59	-	-	79.70	-	-	-
Overall Creek	19.10	0.15	-	0.00	0.45	-	-	4.83	-	-	13.67
Pages Branch	27.63	0.33	-	0.00	3.39	-	-	5.74	-	-	18.16
Percy Priest Lake, Lower	84.86	0.85	-	0.00	18.32	-	-	6.48	-	-	59.20
Percy Priest Lake, Upper	51.97	1.30	-	0.00	2.49	-	-	48.62	-	-	-
Pond Creek	7.12	-	-	-	-	-	-	-	-	-	7.12
Richland Creek	93.68	6.45	-	0.00	15.83	-	-	22.78	-	-	48.62
Sevenmile Creek	90.22	0.92	-	0.00	16.96	-	-	42.89	-	-	29.44
South Harpeth River, Lower	13.86	0.01	-	-	0.68	-	-	1.34	-	-	11.82
Stoner Creek	62.33	2.30	-	0.00	13.57	-	-	30.27	-	-	16.18
Stones River	63.75	0.72	-	0.00	8.82	-	-	37.91	-	-	16.31
Sugartree Creek	27.74	0.40	-	0.00	3.85	-	-	4.65	-	-	18.84
Sulpher Creek	10.10	0.04	-	-	-	-	-	-	-	-	10.07
Sycamore Creek	26.89	0.03	-	-	-	-	-	2.51	-	-	24.35
Whites Creek	82.38	2.95	-	0.00	8.14	-	-	55.15	-	-	16.13
Sandy Creek	11.34	0.04	-	-	0.90	-	-	-	-	-	10.40
All Watersheds	1,636.19	66.40	-	0.00	226.18	-	-	572.82	-	-	791.11

Based on average annual rainfall conditions: (1) – Accounts for all control measures implemented in watershed thru end of FY (2) – Based on control measures implemented during the fiscal year

Watershed	Baseline	SCM Load [1]	Pollutant: Cu Removal by MWS Control Measure Implementation during FY22 (pounds) Construction Inspection Load [2]	Illicit Discharge Load [2]	Street Sweeping Load [2]	Home Buyout Load [1]	Tree Planting Load [1]	Stream Buffer Load [1]	Industrial Inspection Load [2]	Field Screening Load [2]	Net Pollutant Load from Watershed (ac-ft)
Back Creek	28.40	-	-	-	-	-	-	-	-	-	28.40
Browns Creek	212.23	5.57	-	0.00	9.61	1.67	-	6.77	0.13	-	188.48
Bull Run Creek	33.23	-	-	-	-	-	-	-	-	-	33.23
Cooper Creek	67.35	1.12	-	0.00	2.81	12.77	-	-	-	-	50.65
Cub Creek	28.66	-	-	-	-	-	-	-	-	-	28.66
Cumberland River	887.72	115.95	-	0.00	53.65	56.08	-	61.88	2.04	-	598.12
Davidson Branch	64.10	0.60	-	-	0.70	-	-	-	-	-	62.80
Dry Creek	91.51	1.43	-	0.00	3.05	0.29	-	4.34	-	-	82.40
Ewing Creek	192.13	6.16	-	0.00	8.20	1.33	-	32.12	-	-	144.32
Gibson Creek	114.84	0.48	-	0.00	3.05	8.23	-	1.99	-	-	101.09
Gizzard Branch	59.52	0.69	-	0.00	0.70	-	-	10.60	-	-	47.53
Harpeth River	229.69	5.67	-	0.00	15.23	0.73	-	4.06	-	-	204.00
Indian Creek	31.06	-	-	-	-	-	-	-	-	-	31.06
Island Creek	29.28	-	-	-	-	-	-	-	-	-	29.28
Little Harpeth River	64.91	0.36	-	-	0.94	-	-	5.15	-	-	58.46
Loves Branch	52.20	0.36	-	-	0.94	0.12	-	-	-	-	50.79
Mansker Creek	67.04	0.51	-	-	-	-	-	-	-	-	66.53
Marrowbone Creek	49.00	0.07	-	-	-	-	-	-	-	-	48.93
Mill Creek Lower	579.47	8.22	-	0.00	29.75	17.99	-	37.75	0.77	-	484.99
Mill Creek Upper	212.82	3.08	-	0.00	8.90	61.70	-	58.47	1.08	-	79.58
Overall Creek	69.19	0.44	-	0.00	0.47	0.12	-	2.76	0.10	-	65.31
Pages Branch	99.39	1.79	-	0.00	3.51	0.32	-	4.58	0.28	-	88.91
Percy Priest Lake, Lower	202.79	1.67	-	0.00	18.98	0.10	-	3.46	-	-	178.58
Percy Priest Lake, Upper	147.97	6.13	-	0.00	2.58	-	-	27.17	0.14	-	111.95
Pond Creek	29.50	-	-	-	-	-	-	-	-	-	29.50
Richland Creek	299.89	17.12	-	0.00	16.40	1.69	-	20.05	0.14	-	244.48
Sevenmile Creek	269.89	2.26	-	0.00	17.57	3.97	-	40.58	-	-	205.52
South Harpeth River, Lower	44.39	0.03	-	-	0.70	-	-	-	-	-	43.66
Stoner Creek	188.69	6.26	-	0.00	14.06	0.40	-	29.32	0.19	-	138.46
Stones River	230.96	3.51	-	0.00	9.14	0.08	-	33.06	0.04	-	185.13
Sugartree Creek	102.71	1.10	-	0.00	3.98	0.05	-	4.29	-	-	93.29
Sulpher Creek	37.61	0.20	-	-	-	-	-	-	-	-	37.41
Sycamore Creek	77.56	0.06	-	-	-	-	-	2.41	-	-	75.09
Whites Creek	241.88	7.97	-	0.00	8.43	55.41	-	31.10	0.38	-	138.59
Sandy Creek	42.06	0.18	-	-	0.94	-	-	-	-	-	40.94
All Watersheds	5,179.64	199.00	-	0.00	234.29	223.04	-	421.91	5.30	-	4,096.11

Based on average annual rainfall conditions: (1) – Accounts for all control measures implemented in watershed thru end of FY (2) – Based on control measures implemented during the fiscal year

Watershed	Baseline	SCM Load [1]	Pollutant: O&G Removal by MWS Control Measure Implementation during FY22 (pounds) Construction Inspection Load [2]	Illicit Discharge Load [2]	Street Sweeping Load [2]	Home Buyout Load [1]	Tree Planting Load [1]	Stream Buffer Load [1]	Industrial Inspection Load [2]	Field Screening Load [2]	Net Pollutant Load from Watershed (ac-ft)
Back Creek	504.49	-	-	-	-	-	-	-	-	-	504.49
Browns Creek	56,939.03	1,024.62	-	0.01	212.57	-	-	9.17	6.46	0.22	55,685.99
Bull Run Creek	2,151.74	-	-	-	-	-	-	-	-	-	2,151.74
Cooper Creek	12,199.31	192.65	-	0.00	62.22	-	-	0.22	-	0.65	11,943.58
Cub Creek	580.38	-	-	-	-	-	-	-	-	-	580.38
Cumberland River	213,650.81	37,390.81	-	3.32	1,187.30	-	-	93.64	100.16	3.55	174,872.03
Davidson Branch	9,596.34	172.87	-	-	15.55	-	-	0.87	-	-	9,407.04
Dry Creek	19,525.36	357.67	-	0.00	67.40	-	-	7.96	-	-	19,092.32
Ewing Creek	44,852.91	1,204.90	-	1.87	181.46	-	-	60.52	-	0.92	43,403.24
Gibson Creek	21,095.88	144.67	-	0.01	67.40	-	-	2.40	-	-	20,881.41
Gizzard Branch	9,251.48	211.48	-	0.00	15.55	-	-	12.65	-	-	9,011.79
Harpeth River	46,837.07	1,142.64	-	0.78	337.01	-	-	22.11	-	-	45,334.54
Indian Creek	1,359.31	-	-	-	-	-	-	-	-	-	1,359.31
Island Creek	942.39	-	-	-	-	-	-	-	-	-	942.39
Little Harpeth River	11,126.16	123.50	-	-	20.74	-	-	8.05	-	-	10,973.88
Loves Branch	10,867.42	92.14	-	-	20.74	-	-	-	-	-	10,754.54
Mansker Creek	16,329.30	120.44	-	-	-	-	-	-	-	-	16,208.86
Marrowbone Creek	11,297.05	18.67	-	-	-	-	-	-	-	-	11,278.38
Mill Creek Lower	138,978.97	1,712.09	-	1.23	658.46	-	-	92.23	37.67	0.69	136,476.60
Mill Creek Upper	45,353.72	736.58	-	0.93	197.02	-	-	113.83	52.96	-	44,252.40
Overall Creek	10,358.36	130.99	-	0.04	10.37	-	-	8.53	4.88	0.49	10,203.08
Pages Branch	16,580.88	297.10	-	0.07	77.77	-	-	7.25	13.49	0.49	16,184.71
Percy Priest Lake, Lower	54,391.09	896.41	-	0.00	419.96	-	-	11.93	-	-	53,062.79
Percy Priest Lake, Upper	43,294.96	1,253.21	-	0.16	57.03	-	-	64.55	6.92	-	41,913.10
Pond Creek	812.39	-	-	-	-	-	-	-	-	-	812.39
Richland Creek	65,347.00	7,383.47	-	0.12	362.93	-	-	28.76	7.03	0.70	57,563.99
Sevenmile Creek	56,788.89	985.00	-	1.15	388.85	-	-	50.82	-	-	55,363.07
South Harpeth River, Lower	6,312.51	11.09	-	-	15.55	-	-	3.62	-	-	6,282.24
Stoner Creek	36,288.37	3,073.16	-	0.81	311.08	-	-	34.79	9.53	-	32,858.99
Stones River	50,801.72	716.30	-	0.89	202.20	-	-	47.03	2.15	-	49,833.14
Sugartree Creek	15,281.84	405.88	-	1.54	88.14	-	-	5.60	-	0.49	14,780.19
Sulpher Creek	3,623.86	38.89	-	-	-	-	-	-	-	0.49	3,584.48
Sycamore Creek	19,245.69	30.90	-	-	-	-	-	2.87	-	-	19,211.92
Whites Creek	61,499.82	3,389.52	-	0.41	186.65	-	-	92.30	18.39	2.29	57,810.26
Sandy Creek	3,481.99	36.84	-	-	20.74	-	-	-	-	-	3,424.41
All Watersheds	1,117,548.50	63,294.48	-	13.33	5,184.70	-	-	781.70	259.63	10.97	1,048,003.67

Based on average annual rainfall conditions: (1) – Accounts for all control measures implemented in watershed thru end of FY (2) – Based on control measures implemented during the fiscal year

Watershed	Baseline	SCM Load [1]	Pollutant: TSS — Removal by MWS Control Measure Implementation during FY22 (pounds)								Net Pollutant Load from Watershed (ac-ft)
			Construction Inspection Load [2]	Illicit Discharge Load [2]	Street Sweeping Load [2]	Home Buyout Load [1]	Tree Planting Load [1]	Stream Buffer Load [1]	Industrial Inspection Load [2]	Field Screening Load [2]	
Back Creek	6,681.45	-	-	-	-	-	-	-	-	-	6,681.45
Browns Creek	665,752.17	17,910.29	302,877.11	741.69	54,095.25	-	-	73.68	806.66	26.89	289,220.60
Bull Run Creek	26,413.42	-	-	-	-	-	-	-	-	-	26,413.42
Cooper Creek	177,103.99	3,907.22	115,384.01	0.01	15,832.76	5.76	-	0.88	-	80.67	41,892.69
Cub Creek	7,409.73	-	2,592.55	-	-	-	-	-	-	-	4,817.18
Cumberland River	2,798,206.13	432,974.33	2,034,234.59	2,234.20	302,141.78	24.47	-	692.67	12,510.13	443.59	12,950.38
Davidson Branch	122,291.16	1,993.70	77,229.65	-	3,958.19	-	-	3.54	-	-	39,106.09
Dry Creek	248,691.73	4,334.42	220,874.53	0.01	17,152.15	-	-	47.87	-	-	6,282.74
Ewing Creek	591,528.26	15,597.08	107,048.57	5.17	46,178.87	-	-	368.23	-	114.83	422,215.50
Gibson Creek	297,190.51	1,876.48	172,503.79	741.69	17,152.15	2.87	-	20.73	-	-	104,892.80
Gizzard Branch	114,931.20	2,548.98	47,874.18	0.01	3,958.19	-	-	110.01	-	-	60,439.83
Harpeth River	718,130.56	20,491.95	123,980.76	743.82	85,760.77	-	-	96.27	-	-	487,056.99
Indian Creek	17,298.48	-	2,162.35	-	-	-	-	-	-	-	15,136.12
Island Creek	10,636.02	-	-	-	-	-	-	-	-	-	10,636.02
Little Harpeth River	130,827.48	1,636.75	25,095.18	-	5,277.59	-	-	61.16	-	-	98,756.80
Loves Branch	133,504.55	1,088.52	12,565.83	741.67	5,277.59	-	-	-	-	-	113,830.95
Mansker Creek	192,290.67	1,443.57	47,345.59	741.67	-	-	-	-	-	-	142,759.85
Marrowbone Creek	135,315.30	222.77	-	2,225.00	-	-	-	-	-	-	132,867.52
Mill Creek Lower	1,781,909.22	25,335.60	649,754.94	1,486.74	167,563.34	6.06	-	481.19	4,704.74	86.42	932,490.20
Mill Creek Upper	658,767.15	11,542.71	1,155,647.39	1,485.90	50,137.06	27.94	-	728.98	6,614.82	-	-
Overall Creek	137,412.77	1,573.64	3,326.29	0.10	2,638.79	-	-	49.89	608.88	60.89	129,154.29
Pages Branch	222,091.58	6,256.03	50,347.89	741.87	19,790.95	-	-	52.00	1,684.47	60.89	143,157.49
Percy Priest Lake, Lower	754,628.19	8,653.19	25,656.17	0.01	106,871.11	-	-	67.47	-	-	613,380.24
Percy Priest Lake, Upper	488,065.09	16,770.27	1,017,464.89	4,450.43	14,513.36	-	-	340.02	864.17	-	-
Pond Creek	11,046.59	-	-	-	-	-	-	-	-	-	11,046.59
Richland Creek	885,599.54	59,454.49	796,418.46	742.00	92,357.75	-	-	222.66	877.78	87.78	-
Sevenmile Creek	850,236.03	10,088.16	150,184.00	2,228.19	98,954.73	-	-	430.09	-	-	588,350.85
South Harpeth River, Lower	76,431.53	108.46	6,135.81	-	3,958.19	-	-	14.66	-	-	66,214.42
Stoner Creek	571,785.39	21,221.36	194,974.72	2.25	79,163.78	-	-	302.93	1,190.56	-	274,929.78
Stones River	643,778.74	10,334.46	1,338,485.04	2,227.46	51,456.46	-	-	366.00	268.89	-	-
Sugartree Creek	225,668.16	4,391.96	123,545.52	4.27	22,429.74	-	-	46.46	-	60.89	75,189.31
Sulpher Creek	42,711.40	490.24	-	-	-	-	-	-	-	60.89	42,160.27
Sycamore Creek	240,529.44	302.45	6,420.22	-	-	-	-	25.00	-	-	233,781.77
Whites Creek	800,453.66	26,609.52	191,034.76	2,226.13	47,498.27	22.07	-	526.27	2,296.65	286.47	529,953.52
Sandy Creek	52,177.05	516.16	54,418.92	-	5,277.59	-	-	-	-	-	-
All Watersheds	14,837,494.32	709,674.77	9,055,583.69	23,770.28	1,319,396.40	89.16	-	5,128.64	32,427.76	1,370.19	5,655,765.67

Based on average annual rainfall conditions: (1) – Accounts for all control measures implemented in watershed thru end of FY (2) – Based on control measures implemented during the fiscal year

Watershed	Baseline	SCM Load [1]	Pollutant: TDS — Removal by MWS Control Measure Implementation during FY22 (pounds)								Net Pollutant Load from Watershed (ac-ft)
			Construction Inspection Load [2]	Illicit Discharge Load [2]	Street Sweeping Load [2]	Home Buyout Load [1]	Tree Planting Load [1]	Stream Buffer Load [1]	Industrial Inspection Load [2]	Field Screening Load [2]	
Back Creek	29,440.47	-	-	-	-	-	-	-	-	-	29,440.47
Browns Creek	2,578,467.94	53,155.75	-	-	-	-	-	531.53	-	-	2,524,780.66
Bull Run Creek	108,798.52	-	-	-	-	-	-	-	-	-	108,798.52
Cooper Creek	645,916.26	19,586.75	-	-	-	-	-	7.10	-	-	626,322.41
Cub Creek	33,567.88	-	-	-	-	-	-	-	-	-	33,567.88
Cumberland River	10,657,265.93	1,593,131.50	-	-	-	-	-	5,962.64	-	-	9,058,171.79
Davidson Branch	437,537.22	7,001.09	-	-	-	-	-	28.59	-	-	430,507.54
Dry Creek	1,016,606.46	10,477.63	-	-	-	-	-	678.94	-	-	1,005,449.90
Ewing Creek	2,259,557.06	33,143.45	-	-	-	-	-	4,827.37	-	-	2,221,586.23
Gibson Creek	1,122,809.29	7,117.71	-	-	-	-	-	137.51	-	-	1,115,554.07
Gizzard Branch	398,930.16	8,429.69	-	-	-	-	-	731.29	-	-	389,769.18
Harpeth River	2,679,382.56	99,638.14	-	-	-	-	-	1,267.88	-	-	2,578,476.54
Indian Creek	87,863.24	-	-	-	-	-	-	-	-	-	87,863.24
Island Creek	36,963.23	-	-	-	-	-	-	-	-	-	36,963.23
Little Harpeth River	568,626.54	6,117.00	-	-	-	-	-	417.43	-	-	562,092.11
Loves Branch	542,511.47	2,347.65	-	-	-	-	-	-	-	-	540,163.83
Mansker Creek	870,717.19	4,690.35	-	-	-	-	-	-	-	-	866,026.84
Marrowbone Creek	698,636.77	646.81	-	-	-	-	-	-	-	-	697,989.96
Mill Creek Lower	7,026,841.09	56,573.01	-	-	-	-	-	7,140.16	-	-	6,963,127.92
Mill Creek Upper	2,687,782.27	34,158.07	-	-	-	-	-	7,090.75	-	-	2,646,533.46
Overall Creek	582,610.81	4,757.67	-	-	-	-	-	362.23	-	-	577,490.90
Pages Branch	826,310.60	9,273.21	-	-	-	-	-	468.14	-	-	816,569.25
Percy Priest Lake, Lower	3,234,871.48	49,522.17	-	-	-	-	-	493.16	-	-	3,184,856.15
Percy Priest Lake, Upper	2,449,509.31	26,869.15	-	-	-	-	-	5,414.39	-	-	2,417,225.76
Pond Creek	54,598.14	-	-	-	-	-	-	-	-	-	54,598.14
Richland Creek	3,168,810.71	200,685.98	-	-	-	-	-	1,674.02	-	-	2,966,450.70
Sevenmile Creek	3,181,362.02	49,054.09	-	-	-	-	-	2,863.01	-	-	3,129,444.92
South Harpeth River, Lower	358,823.60	787.96	-	-	-	-	-	118.47	-	-	357,917.16
Stoner Creek	2,025,248.70	168,907.45	-	-	-	-	-	2,005.38	-	-	1,854,335.88
Stones River	2,287,846.19	22,859.32	-	-	-	-	-	2,769.16	-	-	2,262,217.71
Sugartree Creek	771,452.82	16,729.16	-	-	-	-	-	311.84	-	-	754,411.82
Sulpher Creek	185,090.23	920.59	-	-	-	-	-	-	-	-	184,169.64
Sycamore Creek	1,154,902.68	910.68	-	-	-	-	-	166.18	-	-	1,153,825.82
Whites Creek	3,268,401.35	77,457.66	-	-	-	-	-	4,637.99	-	-	3,186,305.70
Sandy Creek	197,201.33	1,422.39	-	-	-	-	-	-	-	-	195,778.95
All Watersheds	58,235,261.52	2,566,372.07	-	-	-	-	-	50,105.16	-	-	55,618,784.29

Based on average annual rainfall conditions: (1) – Accounts for all control measures implemented in watershed thru end of FY (2) – Based on control measures implemented during the fiscal year

Watershed	Baseline	SCM Load [1]	Pollutant: E. coli — Removal by MWS Control Measure Implementation during FY22 (MPN e9)								Net Pollutant Load from Watershed (ac-ft)
			Construction Inspection Load [2]	Illicit Discharge Load [2]	Street Sweeping Load [2]	Home Buyout Load [1]	Tree Planting Load [1]	Stream Buffer Load [1]	Industrial Inspection Load [2]	Field Screening Load [2]	
Back Creek	6,484.66	-	-	-	-	-	-	-	-	-	6,484.66
Browns Creek	228,308.49	15,614.99	-	3.79	3,293.84	0.00	-	0.00	-	-	209,395.88
Bull Run Creek	17,104.88	-	-	-	-	-	-	-	-	-	17,104.88
Cooper Creek	139,037.71	8,960.12	-	1.89	964.05	0.00	-	-	-	-	129,111.65
Cub Creek	6,929.13	-	-	-	-	-	-	-	-	-	6,929.13
Cumberland River	1,656,552.27	210,809.85	-	1,724.26	18,397.28	0.00	-	0.00	-	-	1,425,620.88
Davidson Branch	62,498.46	1,373.74	-	-	241.01	-	-	-	-	-	60,883.71
Dry Creek	172,730.04	1,995.00	-	1.89	1,044.39	0.00	-	0.00	-	-	169,688.75
Ewing Creek	381,815.97	3,432.06	-	969.07	2,811.81	0.00	-	0.00	-	-	374,603.03
Gibson Creek	249,120.53	1,512.09	-	3.79	1,044.39	0.00	-	0.00	-	-	246,560.27
Gizzard Branch	51,963.99	613.32	-	1.89	241.01	-	-	0.00	-	-	51,107.76
Harpeth River	639,325.42	44,492.17	-	403.15	5,221.94	0.00	-	0.00	-	-	589,208.17
Indian Creek	20,068.40	-	-	-	-	-	-	-	-	-	20,068.40
Island Creek	1,283.05	-	-	-	-	-	-	-	-	-	1,283.05
Little Harpeth River	78,108.85	897.86	-	-	321.35	-	-	0.00	-	-	76,889.64
Loves Branch	79,792.42	318.21	-	-	321.35	0.00	-	-	-	-	79,152.87
Mansker Creek	140,672.42	323.04	-	-	-	-	-	-	-	-	140,349.39
Marrowbone Creek	139,981.31	56.61	-	-	-	-	-	-	-	-	139,924.70
Mill Creek Lower	1,116,009.25	7,211.06	-	637.84	10,202.86	0.00	-	0.00	-	-	1,097,957.48
Mill Creek Upper	654,575.47	11,700.35	-	480.75	3,052.82	0.00	-	0.00	-	-	639,341.55
Overall Creek	127,510.46	1,530.07	-	18.93	160.67	0.00	-	0.00	-	-	125,800.78
Pages Branch	143,828.35	781.07	-	37.85	1,205.06	0.00	-	0.00	-	-	141,804.37
Percy Priest Lake, Lower	636,522.72	7,817.46	-	1.89	6,507.34	0.00	-	0.00	-	-	622,196.02
Percy Priest Lake, Upper	383,650.34	8,138.18	-	81.39	883.71	-	-	0.00	-	-	374,547.06
Pond Creek	14,048.62	-	-	-	-	-	-	-	-	-	14,048.62
Richland Creek	511,558.46	26,685.92	-	62.46	5,623.62	0.00	-	0.00	-	-	479,186.45
Sevenmile Creek	731,906.25	6,544.53	-	598.10	6,025.31	0.00	-	0.00	-	-	718,738.31
South Harpeth River, Lower	59,260.23	189.96	-	-	241.01	-	-	-	-	-	58,829.26
Stoner Creek	490,923.66	8,339.11	-	422.07	4,820.25	0.00	-	0.00	-	-	477,342.23
Stones River	288,111.54	3,140.08	-	461.82	3,133.16	0.00	-	0.00	-	-	281,376.48
Sugartree Creek	165,284.61	2,894.71	-	800.61	1,365.74	0.00	-	0.00	-	-	160,223.56
Sulpher Creek	27,038.86	73.99	-	-	-	-	-	-	-	-	26,964.87
Sycamore Creek	240,938.05	260.93	-	-	-	-	-	0.00	-	-	240,677.13
Whites Creek	589,114.72	10,698.54	-	211.98	2,892.15	0.00	-	0.00	-	-	575,312.05
Sandy Creek	46,802.98	291.80	-	-	321.35	-	-	-	-	-	46,189.83
All Watersheds	10,298,862.59	386,696.80	-	6,925.41	80,337.49	0.00	-	0.00	-	-	9,824,902.88

Based on average annual rainfall conditions: (1) – Accounts for all control measures implemented in watershed thru end of FY (2) – Based on control measures implemented during the fiscal year