

JOHN COOPER  
MAYOR



## METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY

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

December 1, 2022

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,

DocuSigned by:

*Scott Potter*

994E7D0AE02B458...

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



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

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

**December 2022**

**Reporting Period:**

**July 1, 2021 – June 30, 2022**



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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 1<sup>st</sup> through June 30<sup>th</sup>). The reporting period for this report will be referred to as Fiscal Year 2022 (FY22), which represents the period between July 1, 2021 through June 30, 2022.

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 other 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 FY22. 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](mailto:Joshua.Hayes@Nashville.gov).



**Table 1 - Contact List**

<b>Name</b>	<b>Agency</b>	<b>Position/Responsibility</b>
Scott Potter	Metro Water Services	Director
David Tucker	Metro Water Services	Assistant Director, Operations
Tom Palko	Metro Water Services	Assistant Director, Stormwater Division
Amanda Deaton-Moyer	Metro Water Services	Assistant Director, Business & Finance
Sonia Allman	Metro Water Services	Manager of Strategic Communications
Julie Berbiglia	Metro Water Services	Public Education Specialist, Stormwater NPDES Section
Ricky Swift	Metro Water Services	Program Manager, Stormwater Maintenance Section
Casey Cooper	Metro Water Services	Project Manager, Stormwater Maintenance Section
Kimberly Hayes	Metro Water Services	Engineer, Development Services Division, Single Family
Michael Hunt	Metro Water Services	Program Manager, Stormwater NPDES Section
Bonnye Holt	Metro Water Services	Office Support Specialist, Stormwater NPDES Section
Howard Jackson	Metro Water Services	Office Support Specialist, Stormwater NPDES Permit Group
Dale Binder	Metro Water Services	Construction Inspection Manager, Stormwater NPDES Section
Shawn Herman	Metro Water Services	Construction Inspection Assistant Manager, Stormwater NPDES Section
Katherine O'Hara	Metro Water Services	Construction Site Inspector, Stormwater NPDES Section
Denice Johns	Metro Water Services	Construction Site Inspector, Stormwater NPDES Section
Donald Erves	Metro Water Services	Construction Site Inspector, Stormwater NPDES Section
Ken Tranter	Metro Water Services	Construction Site Inspector, Stormwater NPDES Section
Leigh Nelson	Metro Water Services	Construction Site Inspector, Stormwater NPDES Section
Lynda Kelly	Metro Water Services	Construction Site Inspector, Stormwater NPDES Section
Rebecca Dohn	Metro Water Services	Special Projects Manager, Stormwater NPDES Section
Eric Kuehler	Metro Water Services	Arborist, Stormwater NPDES Section
Josh Hayes	Metro Water Services	Permit Group Manager, Stormwater NPDES Section
Kevin Turner	Metro Water Services	Permit Group Inspector, Stormwater NPDES Section
Rob Topolski	Metro Water Services	Permit Group Inspector, Stormwater NPDES Section
Allison Davis	Metro Water Services	Permit Group Inspector, Stormwater NPDES Section
Matthew Lockhart	Metro Water Services	Permit Group Inspector, Stormwater NPDES Section
Mary Bruce	Metro Water Services	Watershed Group Manager, Stormwater NPDES Section
Veronica Logue	Metro Water Services	Watershed Group Inspector, Stormwater NPDES Section
Carol Edwards	Metro Water Services	Soil Conservationist, Stormwater NPDES Section
Sharon Smith	Metro Water Services, Waste Services	Nashville Zero Waste Coordinator
Phillip Jones	Nashville Department of Transportation	Assistant Director of the Street Services Division
Ernie Kurgan	Nashville Department of Transportation	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	Metro Water Services	Program Manager, Overflow Abatement
Matt Lott	Metro Water Services	Program Manager, System Services Overflow Response
Tim Netsch	Metro Parks Department	Assistant Director
Ted Taylor	Metro Water Services	Laboratory Superintendent
Andy Welch	Metro Water Services	Program Manager, Pre-treatment/FOG
Anna Kuoppamaki	Metro Water Services	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.).



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
FY22	Fiscal Year 2022
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



## **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 over time, 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 FY22.

### **1.2.1 Private Pumpstation Sanitary Sewer Discharges**

Metro NPDES discovered and required the elimination of several private sanitary sewer discharges during FY22, several of which, were the result of large private pump stations suffering mechanical failures. Most of these sanitary pumpstation issues were unreported and discovered by NPDES inspectors performing routine Stormwater Control Measure (SCM) inspections of residential apartment complexes. These sanitary sewer pump stations receive a lot of flow and, when they fail, create a large/long-lasting discharge that can negatively impact the MS4 and/or community waters. In the past year of coordinating with these sites, there was a common issue reported from property managers of parts being unavailable for repair due to the national supply chain crisis. In these cases, NPDES required sites to install bypass pumps for several months until the new parts could be received and permanent repairs made. NPDES issued two Notices of Violations (NOVs) with large administrative penalties to the complexes found to have failing sanitary pump stations that did not act expeditiously in abating large discharges of sanitary sewer to the MS4 and/or respective receiving stream. One facility, in particular, had received an NOV in previous years for the same issue and was found to be failing again, discharging large amounts of untreated sanitary sewer material. Since this issue was not reported and site management failed to act expeditiously to mitigate the discharge of sanitary sewer, NPDES issued a 2<sup>nd</sup> NOV with an increased administrative penalty. Over the past year, MWS has held multi-department meetings about the issues observed with private pump stations and is in the process of developing future policies that may provide added oversight and regulations for these privately-operated sanitary sewer pumpstations.







### **1.2.2 Dry Weather Field Screening Findings**

#### **Spent Grain from Breweries**

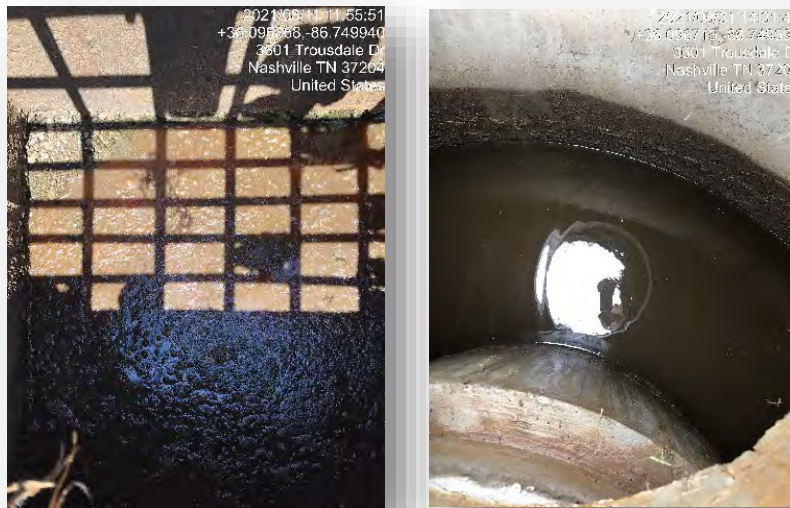
While performing dry weather field screening, an NPDES inspector discovered a brewery storing spent grain in an uncovered, unlined trailer. Around this same timeframe, NPDES responded to a complaint of a very similar issue at another brewery. The trailers with the spent grain are provided by local farmers, as they collect the grain for feeding livestock. NPDES coordinated with the breweries to install better containment measures at the sites. As a result of this coordination, one of the breweries installed a dedicated silo that keeps the spent grain contained and unexposed. The other brewery is working with the MWS Pretreatment Group on creating a plan to store the grain outside and pump off any residual water to the sanitary sewer. Due to this commonly-observed issue, MWS is considering developing educational campaigns with all the local breweries in the city to promote the use of best management practices for their grain byproduct.



**Photos of Improper Spent Grain Storage at local Breweries**

#### **Feed Manufacturing Plant Exposure**

During a dry weather field screening inspection of a feed manufacturing facility, an NPDES inspector noted a large amount of grain spilled on the lot and in some catch basins on the facility that lead to an underground water quality unit. The unit on this site was installed under a grading permit. As a result of the findings, a formal joint SCM inspection and industrial stormwater inspection was conducted on the entire grounds. The water quality unit was found to be full of material and was most likely bypassing without any treatment during rain events. The large volume of feed material in the water quality unit was found to be the result of material spilled on the ground when facility took samples of incoming product before entering the production line. NPDES required the facility to clean out the water quality unit and include regular inspections and maintenance of the unit within the Stormwater Pollution Prevention Plan (SWPPP). This issue has also been noted for future industrial stormwater inspections of this facility.



**Photos of inside the Water Quality Unit before and after Cleaning**

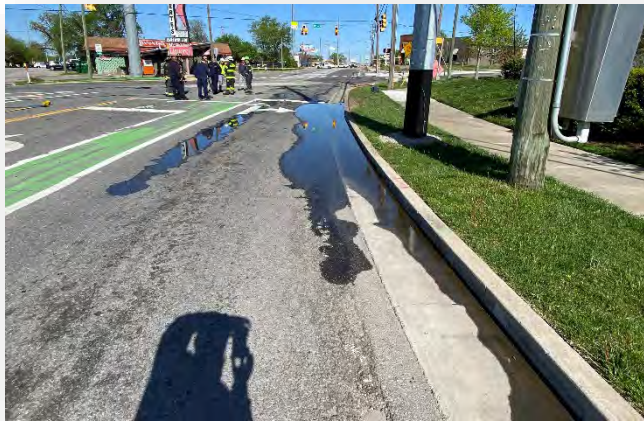


### **1.2.3 NPDES Spill Response Activities**

Over the past year NPDES has responded to several large fuel and product spills from tractor trailer accidents involving large tanker trucks and smaller saddle tanks. Some more notable spills during FY22 are described in the paragraphs below:

#### **Ethanol Tanker Truck Spill**

In the mixed residential/industrial area along Centennial Boulevard in West Nashville, a train collided with a tanker truck carrying thousands of gallons of ethanol, which ruptured and entered the area storm drains. In this area of town, the drainage routes through a large network of underground conduits that ultimately discharges to Richland Creek. Initially, two NPDES inspectors responded to the scene and provided maps to first responders of the large, piped network routing to Richland Creek. The maps were utilized by the responding team, consisting of the Nashville Department of Transportation (NDOT), Nashville Fire Department (NFD), and private environmental companies (hired by the responsible party), to locate the drainage path to Richland Creek. The team worked to isolate the drains impacted by the fuel product and implemented controls to stop the fuel product from entering Richland Creek. After the initial containment measures, NPDES worked with the private environmental cleanup company to monitor the small tributary to Richland Creek to determine when it was appropriate to remove controls.



**Photos of the Ethanol Tanker Wreck/Spill and Containment Measures**

#### **Saddle Tank Diesel Spill**

While the environmental cleanup company for the ethanol tanker spill were analyzing samples of the tributary to Richland Creek where the ethanol spilled occurred, they started to detect elevated levels of diesel fuel. After being alerted by the clean-up company, NPDES inspectors performed a thorough search of the area to find that an unknown truck had parked overnight at a local business approximately ½ mile upstream of the outfall to Richland Creek and spilled a large amount of diesel fuel on a parking lot that drained into a bioretention SCM. The fuel had routed through the bioretention basin underdrains through the ½ mile piped drainage system. NPDES inspectors coordinated with the business owner to remediate all diesel-contaminated soil and to re-establish the bioretention. Fortunately, containment booms from the ethanol tanker spill incident were already in place at the outfall to Richland Creek, capturing a lot of this newly spilled diesel product. NPDES required the business owner to maintain/replace the oil absorbent booms until all the diesel was flushed from the underground drainage system. NPDES coordinated with TDEC throughout the spill remediation process.





**Photos of the Diesel Saddle Tank Spill Impacting Bioretention**

Fuel Tanker Spill on I-24.

Another major incident involving a fuel tanker truck occurred on I-24 eastbound near the southeastern Davidson County line during FY22. When the vehicle overturned, all the 8,800 gallons of gasoline was lost into the interstate ditches. While the incident occurred on TDOT jurisdiction, NPDES coordinated with TDEC to inspect potential damage to Hurricane Creek and Percy Priest Lake, where the drainage would ultimately route to. TDEC and NPDES inspectors did not find any material in the creek or lake shortly after the accident. When the environmental remediation company responded to the incident, they determined that the debris clogging in the storm drains on the interstate contained the product and inhibited it from discharging. Booms were deployed in Hurricane Creek to catch any potential product that could escape before cleanup was finished.

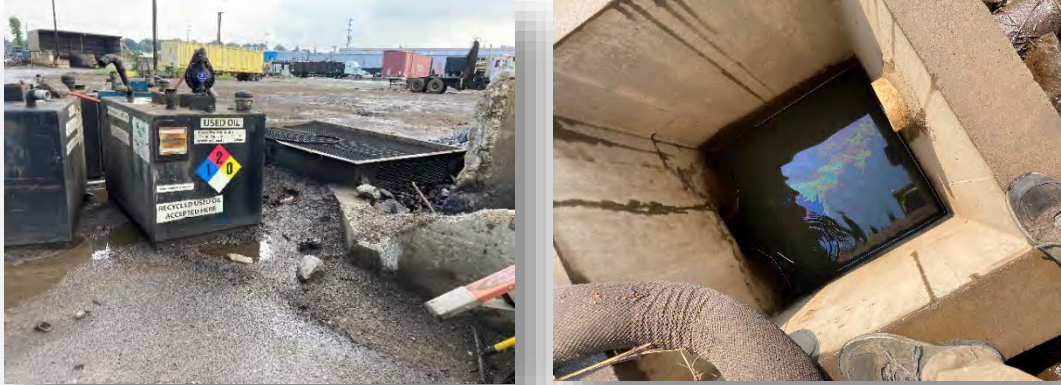


**Photos of the Gasoline Tanker Truck Spill on I-24**



**1.2.4 NPDES Water Quality Complaint Response**

During FY22, NPDES continued to received reports of an intermittently occurring oil sheen along the north bank of the Cumberland River. Upon investigating properties along the north bank of the Cumberland River, NPDES discovered an industrial facility along the river that contained large amounts of exposed oils that appeared to be draining to a large underground drainage conduit (i.e. pipe) that outlets to the Cumberland River below the water elevation of the normal river pool. It was determined that the exposed oils on the industrial facility grounds would drain into the large conduit and where the oil would collect until the river level dropped or a storm event was large enough to force the floatable product to the river. As a result of this finding, NPDES coordinated with the industrial facility and TDEC to perform a detailed co-inspection. After coordination from TDEC and NPDES, the industrial facility hired an environmental remediation company to clean up all the exposed oil product on the property and implement temporary control measures to prevent the oil from draining off in the immediate future, until a more permanent solution could be derived and funded. TDEC field office staff and NPDES continue to coordinate with the industrial facility to pursue a more-permanent solution to the exposed oil issues on the property.



**Photos of the Exposed Oil on the Industrial Property Draining into an Underground Conduit to the Cumberland River**

**1.2.5 NPDES Construction Oversight Program**

Any development or redevelopment activity involving the disturbance of more than 10,000 square feet requires a grading permit. As part of the grading permit process, NPDES has 9 inspectors dedicated to inspecting construction activity to ensure proper erosion prevention and sediment control (EPSC) measures are installed and maintained through the project to prevent the discharge of sediment to the MS4 and community waters. Throughout FY22, there was an average of over 900 active grading permit sites that NPDES staff were inspecting on a routine basis. During one of those routine inspections of the construction site, an NPDES inspector found a large amount of sediment tracking out of the site onto the roadway as the exit controls were not being maintained properly. In addition, other perimeter controls were not being maintained allowing sediment discharge offsite. The sediment tracked out onto the roadway was draining to Overall Creek during rain events. As a result, NPDES issued a NOV with an \$800 administrative penalty requiring the site to clean up tracked out sediment and implement better construction exit controls.



**Photo of the Sediment Tracking out 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 FY22, 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 narrative 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 updates over previous years to the SWMP are included in the previously submitted Annual Reports. There were no updates performed to the SWMP during FY22.

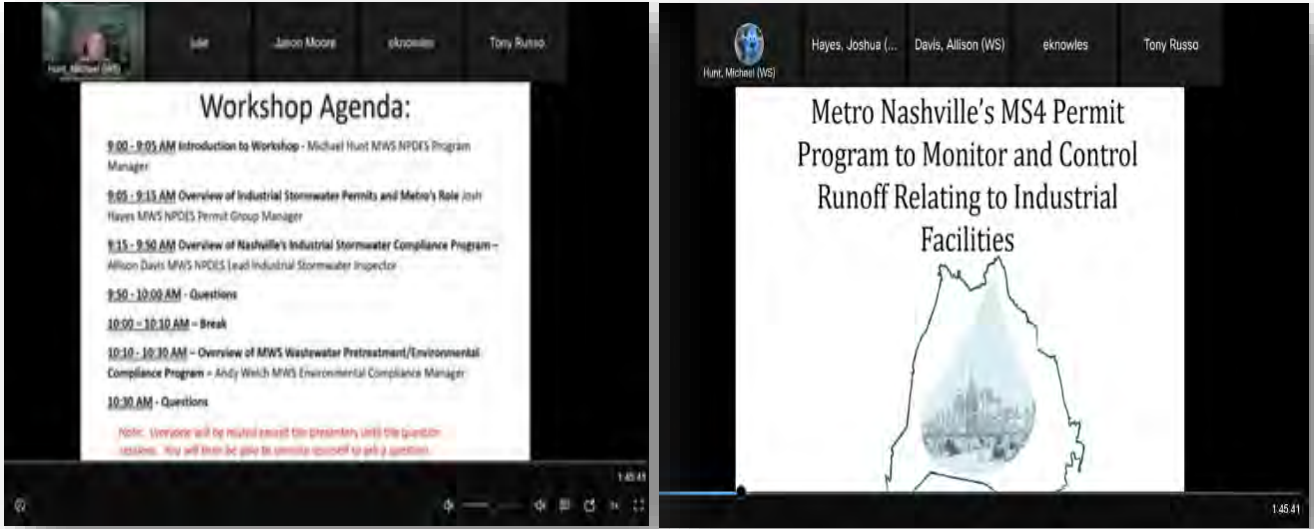
Please note that Metro's permit cycle ended on January 31, 2017 but is currently administratively extended until such time as the permit is reissued by TDEC. With the pending issuance of the 4<sup>th</sup> iteration of Metro's MS4 permit, Metro believes some changes can be made to improve the efficiency 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 transition/"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 FY22, NPDES continued to implement the changes detailed in these communications to TDEC, which continue to demonstrate increased pollution prevention effectiveness.

#### **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 FY22, NPDES continued to expand on public outreach activities as opportunities presented themselves, with a specific focus on educating Metro employees on proper management of Metro properties and maintenance activities. The below paragraphs highlight some of the specific public education activities that were conducted during FY22:

- **Industrial Stormwater/Wastewater Regulatory Workshop**  
In June of 2022, NPDES worked with the MWS Wastewaters' Environmental Compliance Group to host a large virtual workshop for industrial sites holding a stormwater or wastewater permit in Davidson County. The workshop provided the sites' environmental managers and operators an overview of regulations, guidance on proper site management and regulatory reporting compliance, and regulatory inspection information. There were 40 attendees who represented various types of industries found throughout the county. The workshop presentation was also sent out to industrial site representatives that were unable to attend as well as recorded for future viewing: <https://youtu.be/bobwT9mgGdk>.





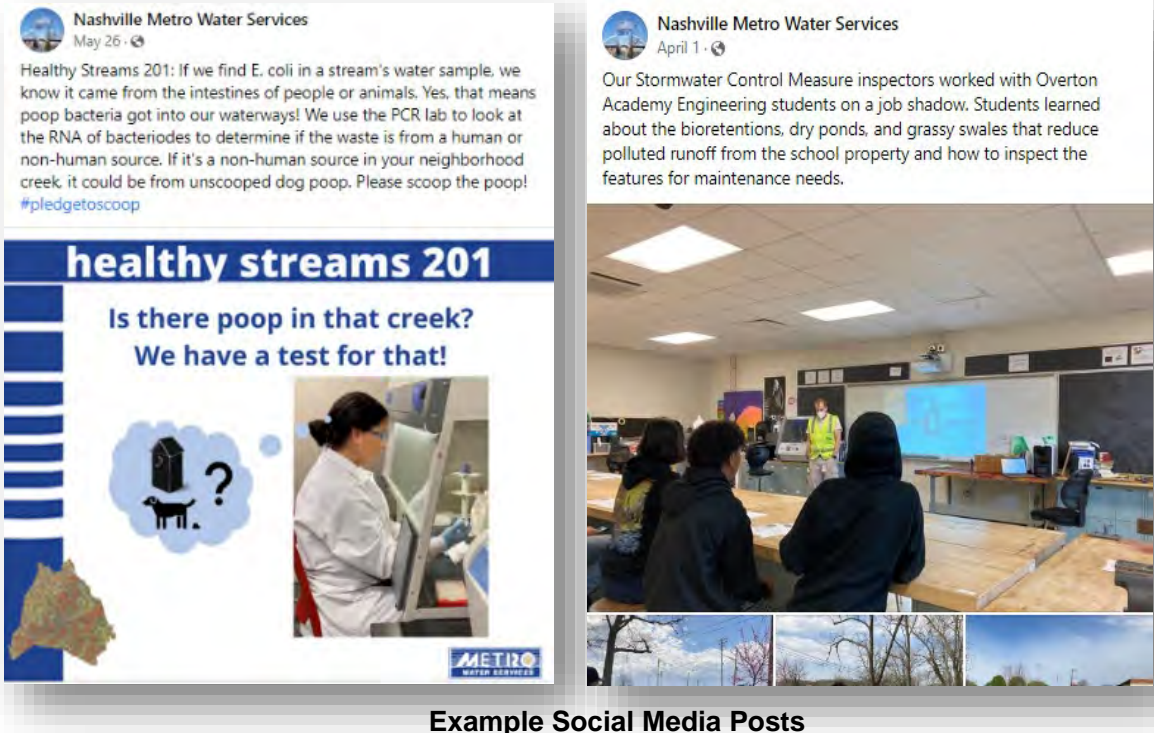
**Screenshots from the Virtual Industrial Stormwater/Wastewater Regulatory Workshop**

- **Social Media Post**

In FY22, MWS expanded stormwater messaging on its social media platforms. MWS routinely updates Facebook, Twitter, Instagram and NextDoor posts, which has proven to be an effective method in reaching a 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. For FY22, stormwater specific posts were tracked and reach metrics were calculated in the table below. NPDES staff created multiple social media campaigns that informed the public about pollution prevention tips, events or workshops offered by NPDES staff, and posts highlighting the different programs within NPDES (SCM inspections, urban forestry, etc.). One of the campaigns initiated was the monthly Healthy Streams 101 and 201, where the 101 posts contained calls to action or ways the public could help protect Nashville waterways and the 201 posts contained examples of NPDES’s role in keeping waterways clean. Refer to Section 4 of this document for some stormwater-specific posts during FY22.

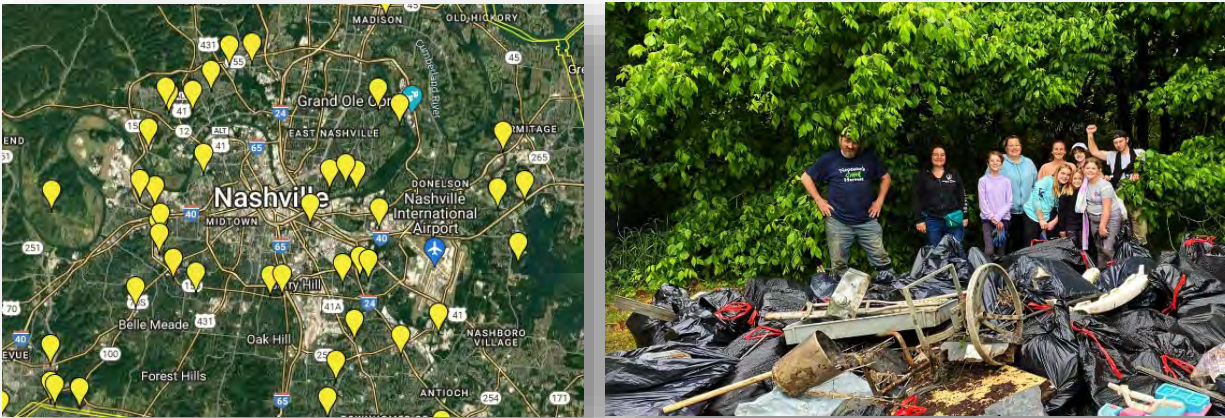
	Stormwater Posts	Stormwater Reach
<b>Facebook</b>	80	33,988
<b>Instagram</b>	65	9,756
<b>Twitter</b>	63	33,255
<b>NextDoor</b>	6	14,346
<b>Total</b>	<b>214</b>	<b>91,345</b>





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 FY22, the CRC signed up or renewed contracts with 28 new and renewing adopters bringing the total number of stream segments adopted to 34. There were 27 stream cleanups or education events in which 185 volunteers collected 325 bags of trash during the FY22 period.

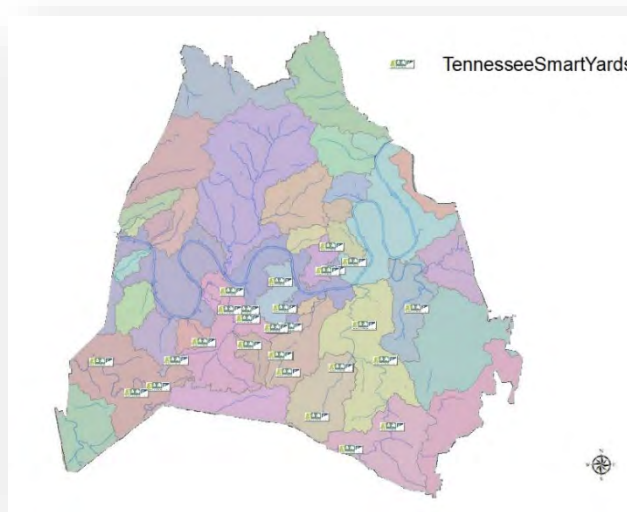


Adopt-A-Stream Site Locations and an Example Photograph of Clean-up Activities



- Tennessee Smart Yards Program

NPDES began participating in the Tennessee Smart Yards Program in 2021, which is a University of Tennessee Agricultural Extension/MS4 state-wide partnership education program on reducing runoff pollution from residential yards. This free, public education and yard certification program provides residents with specific actions that they can apply at home and provides the MS4 with measurable results such as 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 apply these practices to their own yards and encourage Smart Yard participation. During FY22, 45 yards have been certified through TN Smart Yards. Refer to Section 4 for the actions taken by these certified yards.



- School and Youth Education Program

MWS' school and youth education program is aimed at getting residents' attention while they are young by teaching Stormwater best management practices. During the pandemic MWS refocused the NPDES school education programs to emphasize real-life activities in which students experience the stormwater system firsthand. Students were being actively engaged in explaining the stormwater system and proposing solutions to a stormwater issue. Some of the highlights from the FY22 school/youth education program are listed below:

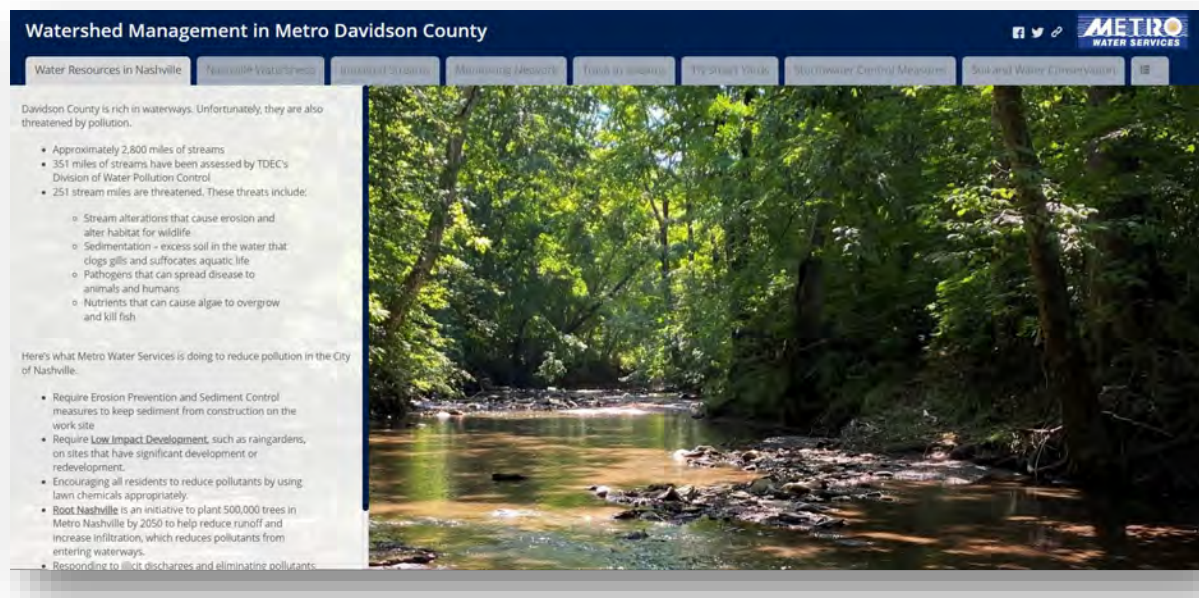
- A teacher externship to develop a stormwater control-themed unit. This unit became a semester-long partnership with high school students, American Society of Landscape Architects (ASLA), and Metro Parks to redesign a sediment-filled grassy swale as a teaching wetland.
- A semester-long partnership with high school students to plant trees on school property and install and maintain an outdoor hydroponic bed to grow bare root trees for future plantings.
- A 6-week project with middle school students to understand the causes of and propose solutions to flash flooding on the main road near the school.
- Pilot stormwater infrastructure project testing unit for elementary schools. Students used maps to locate and inspect stormwater control measures and storm drains on their campus.





- **Watershed Group StoryMap**

In FY22, the NPDES Watershed Group coordinated with MWS Strategic Communications to create a watershed management StoryMap website available to the general public. The StoryMap is published through the ESRI ArcGIS online application and highlights many of Metro's stormwater management programs. The StoryMap is an interactive map that allows users to search for specific addresses to identify what watershed they live in and what the nearest stream is with information on potential impairment status or sampling programs NPDES is implementing for the stream. Some of the information available on the StoryMap includes current stream impairment. Also included within the StoryMap is information on other programs implemented throughout Metro, such as the websites for Low Impact Development, Clean Water Nashville, Root Nashville, Soil Conservation and more. The link to this website is: <https://arcg.is/09Si5r>. To date, there have been 1,375 recorded site visits since going live in FY22.



### **Floodplain Buyout Properties**

Over the years, the MWS Stormwater floodplain buyout program has worked to restore floodplain storage and riparian habitat in various watersheds within Metro. The MWS Stormwater Division has been participating in the Federal Emergency Management Agency (FEMA) home buyout program for more than 23 years. Since MWS began participating in the home buyout program, Metro has purchased over 485 floodplain properties (over 229 acres) in which structures and other impervious surfaces such as driveways have been removed. In FY22, MWS staff coordinated the purchasing and/or home removal of 30 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.





**Aerial View of West Hamilton Avenue Property Buyouts Before (2010) and After (2020)**

**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.



**Photographs of the Pitts Park Bioretention Basin during and after Construction**



- Whites Creek Bank Stabilization – In FY21, 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 severe erosion and threatening a MWS Sanitary Sewer main.



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

- Manskers Creek Bank Stabilization – In FY21, 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 at the same time allowing vegetation to establish along the bank.

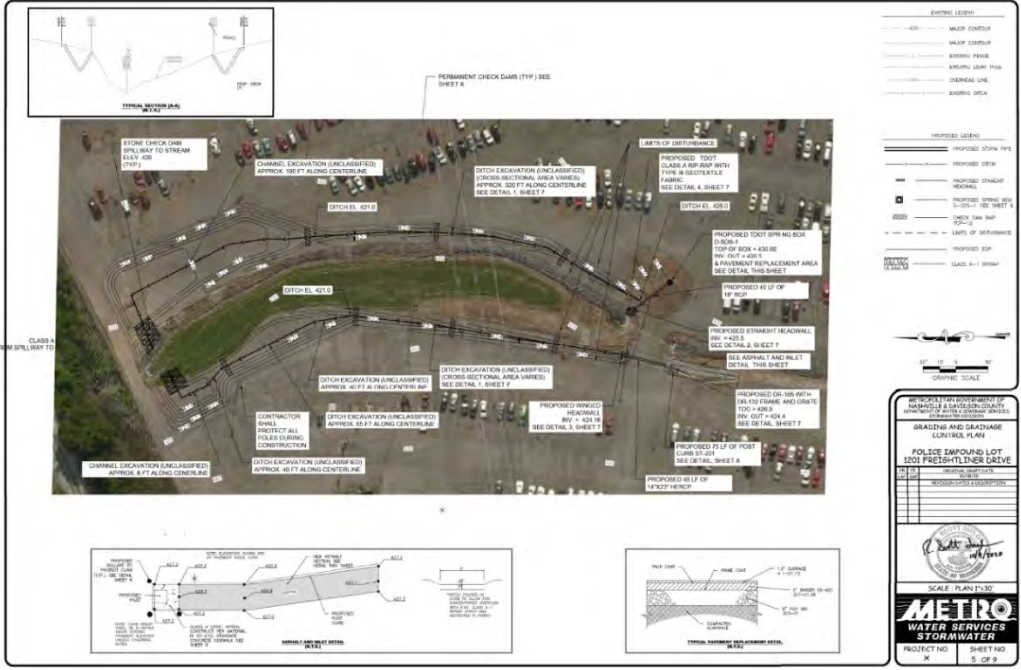


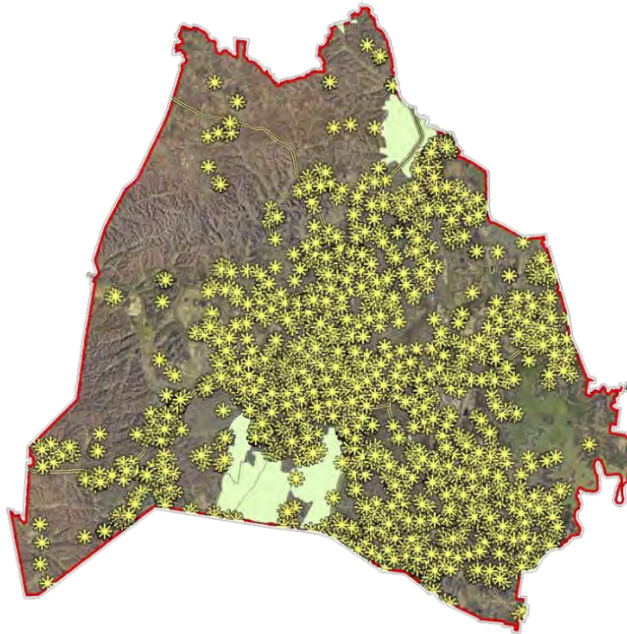
**Photographs of the Manskers Creek Bank Stabilization Project Before and After Construction**

During FY22, NPDES worked on two separate WIF projects. The first project was a collaborative effort with the Metro Parks and Recreation Department to remove several thousand square feet of impervious surfaces (picnic pavilions and associated parking areas) situated in the floodway for the Little Harpeth River. This project was part of a larger project in Edwin Warner Park that will involve the reestablishment of riparian forested buffer along the Little Harpeth River.



In addition to the impervious surface removal in Edwin Warner Park, NPDES performed pre-project coordination in FY22 on a large, stormwater retrofit project to be constructed at the Metro Police Impound Lot in FY23. In preparation for construction of the project, NPDES solicited bids for the construction and inspection, and worked internally to approve the necessary funds to construct the project. NPDES was notified in late FY22 that the project may qualify for Environmental Protection Agency (EPA) 66.447 Sewer Overflow and Stormwater Reuse Municipal Grant Program. Through coordination with TDEC, MWS applied for funding reimbursement through this grant program. MWS received notice that the construction of the police impound lot stormwater retrofit project was approved for grant funding in early FY23. NPDES intends to perform all the necessary coordination and procurement procedures to begin construction in early 2023.





**Map of the 6,717 Regulated SCMs within Davidson County**

During the first cycle of the expanded NPDES SCM oversight program, NPDES performed inspections and/or re-inspections of nearly 4,000 properties, many of which, contained numerous SCM structures. In addition, NPDES received nearly 900 owner-submitted annual inspection reports as cooperation with owner annual inspection reports has increased each year. As a result of the inspection findings, NPDES issued 1,673 notices to property owners informing them of neglected maintenance needs. While some notices are in verbal or email form, the majority of the 1,673 notices issued were detailed letters that include inspection findings, a copy of the engineering plans/maintenance agreements, and photographs of the compliance issues. In addition, 39 enforcement notices were issued during first cycle when SCMs were discovered to have been intentionally altered or when SCMs were found to be non-functional and property owners failed to respond to the initial notification letters. In addition to inspecting all the privately-owned SCMs, NPDES began inspecting all the Metro-owned SCMs once a year in 2019. Prior to this change, NPDES relied on other Metro Departments to inspect their own SCMs for maintenance needs, which was determined to be an inconsistent and inefficient process. With the new process, NPDES now inspects over 550 SCMs on Metro properties once a year and coordinates with each department on the maintenance needs. 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 directly contributed to our increased notifications to properties requiring maintenance actions.

Many lessons were learned during completion of the first cycle of the expanded SCM oversight program. NPDES recognized some common findings early into the inspection cycle and quickly coordinated with MWS Development Services to pursue changes to the regulations to counter these problems. In FY22, MWS revisions to the Stormwater Management Manual were finalized, which included many of the suggested changes based on SCM field inspection findings such as the following:

- Requiring signs to be posted at the location of SCMs, such as bioretention basins so future property owners don't make unapproved alterations.
- Revising the standard bioretention basin design specification to include a forebay that will settle out sediment and debris prior to impacting the entire basin; and
- Requiring large residential development SCMs to be placed in open space areas that would have an HOA or Owner in Common responsible for the maintenance.



Each year, NPDES coordination with property owners on SCM inspection and maintenance requirements results in hundreds of previously un-maintained SCMs being restored to a functional structure. Some of the FY22 successful SCM coordination actions are noted in the below photos:



**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 twenty-five thousand 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 1,000 trees in FY22 and are planning plantings in the right-of-way (ROW) and at Metro schools this fiscal year. A cyclical maintenance cycle began last year for ROW and is expanding this year. 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 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, livestock management processes that reduce impacts to water resources and local watersheds from certain landowner 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 bank stabilization projects on Whites Creek and Mankers 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 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.

#### **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 10,000 visitors to the Nature Centers received education and information directly related to water resources. 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.

Dog Waste Pick-up on MNPR Property – During the reporting year, approximately 428,000 dog waste bags were distributed at MNPR properties. Based on the amount of dog waste bags distributed, it is estimated that approximately 214,000 pounds (107 tons) of dog waste were collected for proper disposal.

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.

#### **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 using 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 better 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—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 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, 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.



During 2021 and 2022, the Planning Department has worked 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.

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, for wildlife habitat, and for water management in flood-prone areas.

On a daily basis, the Planning Department meets with property owners and development professionals to discuss property ideas and projects. 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 13 years. Due to financial delays of getting contracts awarded due to the COVID-19 Pandemic, the construction of large Capital Improvement Projects was less than in previous 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 undertaken by the MWS Overflow Abatement Program (OAP) that has been completed, 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 FY22 and construction is expected to begin on many of those projects in FY23.

**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
<b>Sewer Rehabilitation Projects in FY 2022</b>	8	11.40	\$8,300,000	Cooper Creek, Cumberland River, Dry Creek, Percy Priest, Sevenmile Creek
<b>Pump Station and Equalization Projects in FY 2022</b>	2	N/A	\$17,600,000	Cumberland River, Davidson Branch, Gibson Creek
<b>Sewer Line Replacements in FY 2022</b>	0	0.00	N/A	
<b>Total Completed Projects in FY 2022</b>	0	0.00	N/A	No overflow-reduction-related projects were completed construction in FY2022.



**Table 4 – Future MWS Engineering Projects to Reduce Sanitary Overflows**

Type of Projects	# of Projects	Miles of Sanitary Lines	Money Spent
<b>Central Wastewater Treatment Plant - Capacity Improvements and CSO Reduction:</b> 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 will concluded in FY 2020. Construction began in July 2020 and will continue into FY 2024.	N/A	\$360M	Cumberland River
<b>Hurricane Creek Pipe Improvements:</b> Design of this project, to increase capacity and eliminate I/I issues within the existing trunk sewer, began in April 2016 and was completed in January 2018. Following permitting and easement activities, construction began in June 2022 and will continue through FY 2024.	2.3 miles	\$19.1M	Hurricane Creek, Percy Priest Reservoir
<b>Annual Rehabilitation - Manhole Repairs:</b> 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 located at manholes. Construction is anticipated to begin in FY2023.	N/A - ~500 manholes	\$3.6M	Cumberland River, Browns Creek, Stoner Creek, Stones River, and other locations
<b>Cleeces Ferry Rehabilitation - Area 1 - Summerly Drive:</b> 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 FY2023.	10.0 miles	\$10.6M	Cumberland River
<b>Howse Avenue Force Main Replacement:</b> This project will replace approximately 3200 feet of aged force main. Construction is anticipated to beginning FY2023.	0.6 miles	\$2.5M	Cumberland River
<b>Annual Rehabilitation FY2020 - West Nashville:</b> This project was developed to renew aging sewer infrastructure and reduce the amount of rainfall that can enter the system through defects. Construction is anticipated to begin in FY2023.	6.4 miles	\$9.2M	Cumberland River, Richland Creek
<b>Mill Creek - Collins Creek Rehabilitation - Area 1:</b> 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 FY2023.	3.6 miles	\$6.0M	Collins Creek, Mill Creek
<b>Mill Creek - Collins Creek Rehabilitation - Area 2:</b> 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 FY2023.	1.5 miles	\$8.8M	Collins Creek, Mill Creek
<b>Rowan Cravath Rehabilitation:</b> 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 FY2023.	15.2 miles	\$7.6M	Whites Creek
<b>Foster Avenue Rehabilitation:</b> 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 FY2023.	9.1 miles	\$8.1M	Mill Creek



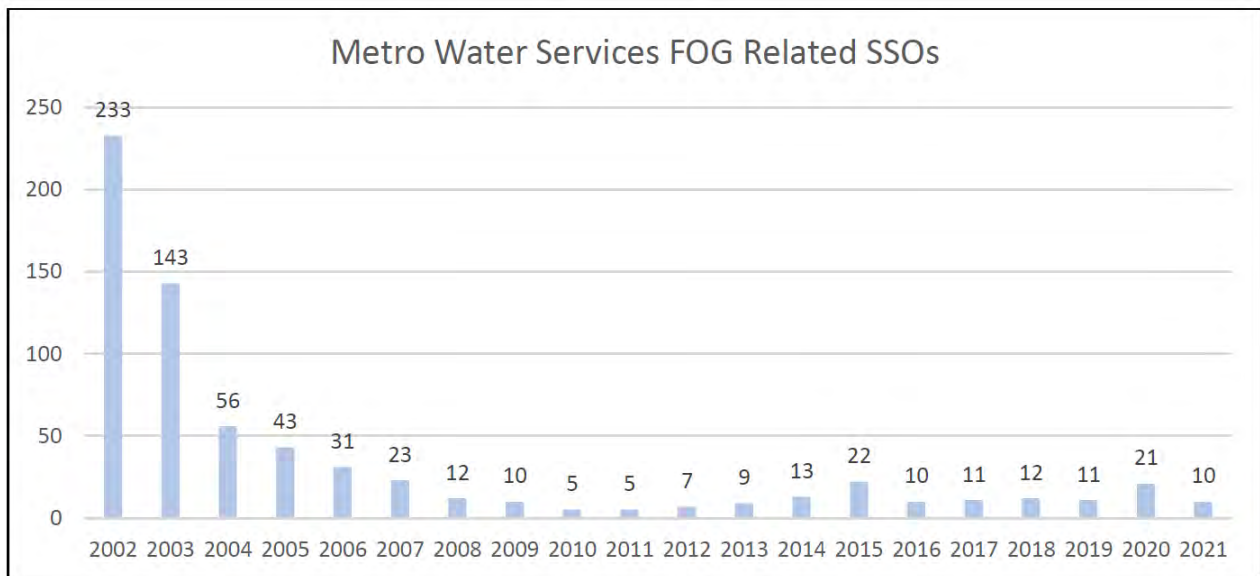
### MWS System Services Division

The Metro Water Services System Services Division (SSD) and its contractors continued to inspect and clean sewers to assess conditions and prevent potential overflows. In FY22, SSD and contractors inspected with Closed Circuit TV (CCTV) approximately 659,248 linear feet and cleaned approximately 239,818 linear feet of Metro sewer line. During FY22, 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 FY22 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 2021, MWS issued 182 Noncompliance Notifications (NCNs), 3 NOVs, and 2 Compliance Orders issued 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 2021, 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. 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 07/01/2021 to 06/30/2022, which is the 11th reporting period under the current permit. This Annual Report coincides with Metro's Fiscal Year 2022 (FY22) 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  Yes  No  
jeopardize state or federally listed species

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  Yes  No  
303(d) list?

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 2020 list.*

Impaired Water	Impairment	Approved TMDL	MS4 Assigned to WLA
East Fork Hamilton Creek (TN05130203-539-1000)	Habitat Alteration, 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
McCrary Creek (TN05130203-001-0150)	Alteration in stream-side or littoral veg. cover, Nitrite+Nitrate	X Yes No	X Yes No
McCrary Creek (TN05130203-001-0100)	<i>E. coli</i> , 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)	<i>E. coli</i> , Siltation	X Yes No	X Yes No
Stoners Creek (TN05130203-035-2000)	<i>E. coli</i>	Yes X No	Yes X No
Stones River (TN05130203001-1000)	Low DO, Odor, Sulfides, Flow Alteration	Yes X No	Yes X No
Scotts Creek (TN051302 03-035-0100)	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)	<i>E. coli</i> , Siltation, Nutrients,	X Yes No	X Yes No
Mill Creek (TN05130202-007-5000)	Siltation, Total Phosphorus, Low DO	X Yes No	X Yes No
Pavillion Branch (TN05130202007-1500)	<i>E. coli</i>	X Yes No	X Yes No
Holt Creek (TN05130202-007-1100)	<i>E. coli</i> , 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)	<i>E. coli</i> , Total Phosphorus, Siltation	Yes X No	Yes X No
Turkey Creek (TN05130202-007-0700)	<i>E. coli</i>	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)	<i>E. coli</i> , Habitat Alteration	Yes X No	Yes X No
Mill Creek (TN05130202-007-3000)	Siltation, Total Phosphorus, Low DO, <i>E. coli</i>	Yes X No	Yes X No
Sorghum Branch (TN05130202-007-1300)	Habitat Alteration, Siltation, <i>E. coli</i>	Yes X No	Yes X No
Cathy Jo (TN05130202-007-1490)	<i>E. coli</i> , Nitrate+Nitrite, Total Phosphorus, Other Anthropogenic substrate alterations, Siltation	Yes X No	Yes X No
Shasta Branch (TN05130202-007-1410)	<i>E. coli</i>	X Yes No	X Yes No
Sevenmile Creek (TN05130202-007-1450)	<i>E. coli</i> , Total Phosphorus, Nitrite+Nitrate	X Yes No	X Yes No
Sevenmile Creek (TN05130202-007-1400)	<i>E. coli</i> , Other Anthropogenic Habitat Alteration, Total Phosphorus, Nitrite+Nitrate, Low DO	X Yes No	X Yes No
Finley Branch (TN05130202-007-0300)	<i>E. coli</i> , 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, <i>E. coli</i>	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)	<i>E. coli</i> , Other Anthropogenic Habitat Alteration, Total Phosphorus, Low DO	X Yes No	X Yes No
Mill Creek (TN05130202-007-1000)	<i>E. coli</i> , Siltation, Total Phosphorus, Low DO	X Yes No	X Yes No
Manskers Creek (TN05130202-220-2000)	<i>E. coli</i> , Siltation, Low DO	X Yes No	X Yes No
Lumsley Fork (TN05130202-220-0100)	<i>E. coli</i>	X Yes No	X Yes No
Manskers Creek (TN05130202-220-1000)	<i>E. coli</i> , Siltation	X Yes No	X Yes No
Unnamed Trib. to Walkers Creek (TN05130202-220-1000)	Flow Alteration	Yes X No	Yes X No
West Fork Browns Creek (TN05130202-023-0300)	<i>E. coli</i> , Total Phosphorus, Nitrite+Nitrate, Other Anthropogenic Habitat Alterations	X Yes No	X Yes No
Middle Fork Browns Creek (TN05130202-023-0200)	<i>E. coli</i> , Other Anthropogenic Habitat Alterations, Total Phosphorus, Nitrite+Nitrate	X Yes No	X Yes No
East Fork Browns Creek (TN05130202-023-0100)	<i>E. coli</i> , 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)	<i>E. coli</i> , Other Anthropogenic Habitat Alterations, Total Phosphorus, Nitrite+Nitrate, Oil & Grease	X Yes No	X Yes No
Browns Creek (TN05130202-023-2000)	<i>E. coli</i> , 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, <i>E. Coli</i>	X Yes No	X Yes No
Vaughns Gap Branch (TN05130202-314-0750)	<i>E. coli</i> , Other Anthropogenic Habitat Alterations	X Yes No	X Yes No
Vaughns Gap Branch (TN05130202-314-0700)	<i>E. coli</i> , Other Anthropogenic Habitat Alterations, Total Phosphorus, Nitrite+Nitrate	X Yes No	X Yes No
Jocelyn Hollow Branch (TN05130202-314-0800)	<i>E. coli</i> , Total Phosphorus, Nitrite+Nitrate	X Yes No	X Yes No
Richland Creek (TN05130202-314-2000)	Other Anthropogenic Habitat Alterations, Total Phosphorus, Nitrite+Nitrate, <i>E. Coli</i>	X Yes No	X Yes No
Sugartree Creek (TN05130202-314-0400)	<i>E. coli</i> , Other Anthropogenic Habitat Alterations, Total Phosphorus, Nitrite+Nitrate, Low DO	X Yes No	X Yes No
Bosley Springs Branch (TN05130202-314-0300)	<i>E. coli</i> , 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, <i>E. coli</i> , Siltation	X Yes No	X Yes No
Cooper Creek (TN05130202-209-1000)	<i>E. coli</i> , Other Anthropogenic Habitat Alterations	X Yes No	X Yes No



Impaired Water	Impairment	Approved TMDL	MS4 Assigned to WLA
Ewing Creek (TN05130202-010-0900)	<i>E. coli</i> , Other Anthropogenic Habitat Alterations, Siltation, Total Phosphorus	X Yes No	X Yes No
Drakes Branch (TN05130202-010-0200)	<i>E. coli</i> , 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)	<i>E. coli</i>	X Yes No	X Yes No
Dry Creek (TN05130202-027-2000)	Other Anthropogenic Habitat Alterations, <i>E.coli</i>	Yes X No	Yes X No
Dry Creek (TN05130202-027-1000)	<i>E. coli</i>	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)	<i>E. coli</i>	X Yes No	X Yes No
Davidson Branch (TN05130202-001T-0700)	<i>E. coli</i> , 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)	<i>E. coli</i>	Yes X No	Yes X No
Overall Creek (TN05130202-001T-0900)	<i>E. coli</i> , Siltation, Flow Alteration	Yes X No	Yes X 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, <i>E. coli</i>	X Yes No	X Yes No
Harpeth River (TN05130204-009-2000)	Total Phosphorus, Low DO	X Yes 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	X Yes No	X Yes 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	X Yes No	X Yes 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)?

*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.*

X Yes  No

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

*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.*

X Yes  No  
 N/A



#### 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 FY22, 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 continued to utilize the social media presence to educate a growing number of our 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 FY22, MWS issued a total of 214 stormwater-related posts that reached 91,345 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 FY22, NPDES reached an estimated audience size of 6,270 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 Committee (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 committee 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. 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/planning/boards/planning-commission/meetings>

*MWS Stormwater also specifically facilitates monthly meetings with the Stormwater Management Committee 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 9 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-committee/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  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 time of this report, MWS has received 439 LID Waiver requests. As a result, a total of 326 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 process was slightly delayed by the COVID-19 pandemic. The update to the SWMM became effective during FY22, in November 2021.*

**6. Construction**

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

Erosion and sediment control requirements?  Yes  No

Other construction waste control requirements?  Yes  No

Requirement to submit construction plans for review?  Yes  No

MS4 enforcement authority?  Yes  No

Have you developed written procedures for site plan review and approval?  Yes  No

Do the written procedures for site plan review and approval include an evaluation of plan completeness and overall BMP effectiveness?  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. 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  No  
(See Notes)

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

*In addition, all Water, Sewer, and Stormwater maintenance and repair projects are posted on the following web page:*

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

*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](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 FY22, there were 290 grading permits issued, while 206 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 FY22, there were 893 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 9,528 construction-related inspections in FY22. 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 11,979 MS4-permitted Outfalls, 397 Sub-MS4 Outfalls, and 2,436 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.*

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 FY22, NPDES screened 187 separate ½ mile grids for potential stormwater runoff issues, which included looking at 409 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.*

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.*

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 FY22, there were 2 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 94 separate water quality investigations during FY22, most of which, originated from citizen complaints. Please note that some of these investigations include random water quality checks of Metro's O&M facilities. Refer to Table 7H.1 for a complete listing of the 94 IDDE investigations initiated during FY22. There were also 8 separate spill response-specific investigations and 8 sanitary sewer-specific discharge investigations initiated by NPDES during the reporting period (refer to Tables 7H.2 and 7H.3 respectively.) 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 FY22, there were 27 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*
- *Public Works Maintenance Facility (5<sup>th</sup> Street)*
- *Public Works West Maintenance Facility (Charlotte Avenue)*

*In FY22, 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.*

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)  Yes  No
- All municipal vehicle fueling, operation and maintenance activities  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.  Yes  No
- All municipal waste handling and disposal areas  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 Public Works in the previous years to correct runoff issues.*
- B. Are Stormwater inspections conducted at these facilities?  Yes  No  
*Each O&M facility where the RMPs were implemented requires on-site personnel to perform weekly grounds inspections. In FY22, 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.)  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 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?  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 FY22, NPDES maintained a total staff level dedicated to SCM inspection and maintenance oversight of 5 staff members (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 FY22. It is estimated that approximately 248,976 cubic yards of material was removed from the MS4 ditches and culverts, approximately 314,487 pounds of material was removed from 34,943 inlets, and approximately 183,496 square feet of erosion control matting was deployed during the FY22 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 FY22. 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 2,871 linear feet of open storm channel, and*
- *Removal of approximately 33 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 FY22, 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 O&M sections to properly identify and report illicit discharges. Also, please note that staff levels can fluctuate each year due to turnover.*



**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 turnover.*

**Permanent stormwater management in new development and redevelopment**

X Yes  No

If Yes, identify the number of municipal employees trained

*During FY22, 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 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 FY22, NPDES performed audit inspections of the O&M sites with Runoff Management Plans for municipal maintenance facilities. This process involved coordination with on-site personnel at the facility. In FY22, 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 1,168 plans submitted to the MWS Development Review Section during FY22. 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 FY22.*

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

*According to queries of Metro permit tracking database Cityworks, there were 1,144 plans approved during FY22. 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 FY22, there were 290 grading permits issued.*

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

*There were an estimated 1,688 SCM structures inspected by NPDES staff during FY22. 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 1,144 SCM structures inspected by NPDES in FY22, inspectors issued 381 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 60 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 FY22, 4 NONs were issued to property owners for SCM maintenance issues, mostly involving sites that have made unauthorized authorizations 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? All departments and general public can access the locations of SCMs on the parcel viewer program on Nashville's Planning Department website. X Yes  No

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 290, which is an assumed number based on the number of grading permits issued during FY22.*

## 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; X Yes  No  
*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.*

- 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.*

- 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? X Yes  No  
*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.*

- E. Is the MS4 performing these inspections at such a rate that all required industries will be inspected at least once every three years? X Yes  No  
*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 FY22, 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.*

- F. Provide a listing of inspections performed during this reporting year:  
*During FY22, NPDES performed 63 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 FY22.*



**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 FY22, 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	<u>49</u>	<u>0</u>	<u>2</u>	X Yes <input type="checkbox"/> No
Administrative Penalties	<u>\$21,835</u>	<u>\$0</u>	<u>\$3,750</u>	X Yes <input type="checkbox"/> No
Stop Work Orders	<u>26</u>	<u>#</u>	<u>#</u>	X Yes <input type="checkbox"/> No
Civil penalties	<u>#</u>	<u>#</u>	<u>#</u>	<input type="checkbox"/> Yes X No
Criminal actions	<u>#</u>	<u>#</u>	<u>#</u>	<input type="checkbox"/> Yes X No
Administrative orders	<u>#</u>	<u>#</u>	<u>#</u>	X Yes <input type="checkbox"/> No
Other:	<u>          </u>	<u>4 Notices of Non Compliance</u>	<u>3 Notices off Non Compliance</u>	X Yes <input type="checkbox"/> 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 FY22, NPDES, which oversees various MS4 compliance activities, operated under a budget of \$4,207,700 (with an additional \$250,000 devoted to Watershed Improvement Project work). The overall MWS Stormwater Division's budget, which includes NPDES, Development Services Review engineers, Stormwater Planning and Stormwater Maintenance, was \$28,688,800. 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 FY22 budget includes \$4,463,100 dedicated to the Stormwater NPDES Section, while the overall Stormwater Department is operating under a budget of \$30,895,400.*

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 FY23)*

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 100 employees (including 33 current vacancies).*

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

Entity	Activity/Task/Responsibility	Your Oversight/Accountability Mechanism
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### 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 13 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 FY22 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 152,925 linear feet of 303(d)-listed streams within FY22.*

*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 FY21 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 1<sup>st</sup> 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.*

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 <sup>Services</sup> WATER MANAGER  
Printed Name and Title

Michael Hunt  
Signature

11/30/22  
Date



### 3.0 Required MS4 Reporting Tables

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**Table 6B.1 – Grading Permit Projects Initiated/Completed within FY22**

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
<b>Total</b>	<b>5,094</b>	<b>4,669</b>	<b>3,922</b>



**Table 6C.1 – Small Construction Site Oversight in FY22**

<b>New Infill Permits Issued</b>	1,294
<b>Follow up site visits for Infill Developments</b>	3,718
<b>NOVs Issued to Single Family Residential Development</b>	36

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 through 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 FY22**

Case Name	Location	Date Initiated	Initiated By:
Hella Hot Chicken Fog	516 Bell Rd 37013	6/7/2022 15:28	Kevin Turner
Oil Dumping In Alley	3628 Richland Ave 37205	6/7/2022 15:21	Kevin Turner
Herbicide Use Near Stream	1070 Horseshoe Dr 37216	6/6/2022 16:24	Kevin Turner
Leaking Grease Containers	849 Briley Pkwy 37217	6/6/2022 16:21	Kevin Turner
Sick After Swimming	441 Harding Pl 37211	6/3/2022 11:57	Kevin Turner
Velocity Diesel Spill	710 Calhoun Ave 37210	5/31/2022 14:34	Kevin Turner
Mu Sewer Complaint	110 Lakewood Dr 37115	5/11/2022 15:03	Kevin Turner
Car Wash Discharge	4112 Nolensville Pike 37211	5/6/2022 15:48	Kevin Turner
Sewer Issue	0 Fitzgerald Dr 37214	5/6/2022 15:21	Kevin Turner
Concrete Dumping	401 Bowling Ave #96 37205	5/6/2022 14:44	Kevin Turner
Nolensville Pike - Car Washing	4126 Nolensville Pike 37211	5/2/2022 7:11	Allison Davis
Truck Leak - Diesel Robertson Ave	6601 Robertson Ave 37209	4/29/2022 15:29	Allison Davis
Phat Bites Grease Dumping	2730 Lebanon Pike 37214	4/26/2022 9:10	Kevin Turner
Paint Dumping	1419 Fulton St 37206	4/26/2022 8:54	Kevin Turner
Possible Sewage Overflow - Cascade Drive	4728 Cascade Dr 37138	4/26/2022 8:43	Allison Davis
Auto Zone Oil Dumping	1007 Murfreesboro Pike 37217	4/25/2022 18:12	Kevin Turner
Dollar General Diesel Spill	5100 Centennial Blvd 37209	4/25/2022 17:28	Kevin Turner
Vapor Cloud Storm Drain	1550 Gallatin Pike N 37115	4/15/2022 12:58	Kevin Turner
Sediment Discharge	12847 Old Hickory Blvd 37013	4/5/2022 10:26	Kevin Turner
Trash And Junk Cars 312 Philfre	306 Philfre Ct 37217	3/31/2022 12:23	Kevin Turner
Sheen And Odor In Creek	11 Vaughns Gap Rd 37205	3/31/2022 11:05	Kevin Turner
Jfk Middle Lift Station	2087 Hobson Pike 37013	3/31/2022 8:29	Kevin Turner
Fregoso Auto Repair - Oil Pollution	32 Industry St 37210	3/30/2022 13:56	Allison Davis
Volunteer Welding Complaint	815 Rep John Lewis Way S 37203	3/25/2022 14:16	Kevin Turner
Private Sewer Overflow	5555 Craftwood Dr 37013	3/21/2022 10:40	Kevin Turner
Spent Grain Storage	5901 California Ave 37209	3/21/2022 9:17	Kevin Turner
Apartment Sewer Overflow (550 Mc Rd)	0 Mccrory Creek Rd 37214	3/18/2022 14:25	Kevin Turner
I-24 Fuel Spill	0 J P Hennessy Dr 37086	3/18/2022 13:44	Kevin Turner
Fuel Discharge Mva	3201 Powell Ave 37204	3/15/2022 8:42	Kevin Turner
Greenhouse Complaint	4700 Eatons Creek Rd 37218	3/4/2022 14:42	Kevin Turner
Sudsy Water Alpine Window	5010 Indiana Ave 37209	3/1/2022 14:20	Kevin Turner
Sewer Solids From Overflow Water In Street	5971 Port Anadarko Trl 37076 1205 3rd Ave N 37208	2/28/2022 17:22 2/28/2022 17:07	Kevin Turner Kevin Turner
Fuel Spill Airport	701 Donelson Pike 37214	2/24/2022 13:49	Kevin Turner
Roadway Dumping	6036 Culbertson Rd 37013	2/16/2022 10:22	Kevin Turner
Rodgers Quarry Discharge	2827 Whites Creek Pike 37207	2/16/2022 9:22	Kevin Turner
Possible Sewer Overflow	246 Tulip Hill Dr 37210	2/8/2022 7:12	Kevin Turner



**Table 7H.1 – Illicit Discharge Investigations Initiated during FY22 (Continued)**

Case Name	Location	Date Initiated	Initiated By:
Thorntons Gas Spill	7102 Charlotte Pike 37209	1/31/2022 13:05	Kevin Turner
Grand View Lift Station	6900 Sonya Dr 37209	1/27/2022 10:30	Kevin Turner
Fast Lane Auto Dumping	3403 Gallatin Pike 37216	1/21/2022 15:01	Kevin Turner
Accident In Creek	418 Old Hickory Blvd 37027	1/20/2022 14:42	Kevin Turner
Waffle House Fog Container	2727 McGavock Pike 37214	1/20/2022 11:11	Kevin Turner
Santa Fe Grease Container	2520 Music Valley Dr 37214	1/20/2022 10:47	Kevin Turner
Sewer Overflow Into Creek	6608 Sussex Cir 37205	1/7/2022 12:09	Kevin Turner
Dog Waste In Storm Ditch	6205 Henry Ford Dr 37209	1/5/2022 14:14	Kevin Turner
Leaking Trash Trucks	412 Chadwell Dr 37115	1/5/2022 14:01	Kevin Turner
Creek Dumping - Strip Mall	127 Gallatin Pike N 37115	1/5/2022 9:24	Allison Davis
Possible Sewer Issue	251 Tulip Hill Dr 37210	12/16/2021 12:35	Kevin Turner
Wash Me Express Discharge	510 Donelson Pike 37214	12/15/2021 14:27	Kevin Turner
N/A	3366 Stoners Bend Dr 37076	12/10/2021 9:29	Allison Davis
On-Site Enviro Possible SSO	1501 Baptist World Center Dr 37207	12/8/2021 15:17	Kevin Turner
Possible Septic Issue	13306 Old Hickory Blvd 37013	12/2/2021 12:30	Kevin Turner
Broken Sewer Line	4637 Mountainview Dr 37215	11/29/2021 15:02	Kevin Turner
Possible SSO	131 W Express Dr 37210	11/22/2021 8:34	Kevin Turner
Grease Dumping	1314 Hickory Park Ct W 37013	11/19/2021 16:03	Kevin Turner
Possible Private SSO	5444 Edmondson Pike 37211	11/19/2021 14:21	Kevin Turner
Anderson Rd - Hose Discharging In Drain	3209 Anderson Rd 37013	11/19/2021 13:49	Allison Davis
Orange Sheen In Ditch	3753 Brickmont Dr 37207	11/10/2021 13:31	Kevin Turner
Martha Ave - Concrete Dumping	2109 Martha Ave 37216	11/10/2021 12:36	Allison Davis
Dumpster Leaking Oil	345 Burning Tree Dr 37076	11/5/2021 10:56	Kevin Turner
Private Cleanout Overflow	5833 Sterling Oaks Dr 37027	11/3/2021 11:05	Kevin Turner
Stockpile Near Storm Ditch	190 Graylynn Dr 37214	10/29/2021 14:29	Kevin Turner
	320 B Welch Rd 37211	10/29/2021 13:38	Kevin Turner
Taqueria El Altono	2580 Murfreesboro Pike 37217	10/29/2021 9:31	Kevin Turner
Suspicious Dumping In Manhole	226 Neelys Bend Rd 37115	10/27/2021 14:59	Kevin Turner
Paint Dumping - Tampa Dr	270 Tampa Dr #A-1 37211	10/20/2021 9:18	Allison Davis
Water Quality From Encampment	7002 Charlotte Pike 37209	10/18/2021 8:38	Kevin Turner
Broken Cleanout Cap	606 Jones St 37138	10/1/2021 13:40	Kevin Turner
Tailgate Brewery Spent Grain	7300 Charlotte Pike 37209	9/22/2021 15:15	Kevin Turner
Wyatt Ford Discharge	646 Thompson Ln 37204	9/22/2021 14:37	Kevin Turner
NWI Nashville - Soapy Discharge	1431 Vultee Blvd 37217	9/16/2021 8:36	Allison Davis
Exposed Fog	2209 Murfreesboro Pike 37217	9/15/2021 11:48	Kevin Turner
Bubbles In River	1360 County Hospital Rd 37218	9/3/2021 12:34	Kevin Turner
Purina Material Catch Basin	3601 Trousdale Dr 37204	9/2/2021 9:44	Kevin Turner
Eddie's Exposed Grease	8898 Highway 70 37221	9/1/2021 9:15	Kevin Turner
Super 8 Stormdrain	7518 Hickory Hills Ct 37189	8/31/2021 11:25	Elizabeth Stienstraw





**Table 7H.1 – Illicit Discharge Investigations Initiated during FY22 (Continued)**

Case Name	Location	Date Initiated	Initiated By:
Paint Dumping - Central Valley Dr	4305 Central Valley Dr 37076	8/31/2021 10:02	Allison Davis
Dumping Grease In Storm Drain	701 Union St 37219	8/26/2021 14:42	Kevin Turner
Jackson Grove Apt Trash	3417 Lebanon Pike 37076	8/26/2021 13:27	Kevin Turner
Airbnb Sewer	1300 Rural Hill Rd 37013	8/24/2021 10:05	Kevin Turner
Algae Growing In Alley	1608 Linden Ave 37212	8/20/2021 14:52	Kevin Turner
Antioch Pike - Wastewater	1013 Antioch Pike 37211	8/20/2021 13:17	Allison Davis
Discharge Into Sugartree Creek	2800 Valley Brook PI 37215	8/18/2021 12:37	Kevin Turner
Mid Tn Granite Sediment	116 Space Park South Dr 37211	8/5/2021 13:25	Kevin Turner
Discharge Into Storm Ditch	341 Wallace Rd 37211	7/27/2021 14:15	Kevin Turner
Pet Wash Water Dumping	802 Bryan St 37138	7/27/2021 12:22	Kevin Turner
Methane Smell From Catch Basin	201 8th Ave S 37203	7/21/2021 10:34	Kevin Turner
Wentworth Ave - Dog Waste In Drains	132 Wentworth Ave 37215	7/14/2021 11:50	Allison Davis
Oil Sheen On Cumberland Martin St - Paint Dumping	200 Davidson St 37213	7/14/2021 9:21	Kevin Turner
	1229 Martin St 37203	7/7/2021 7:06	Allison Davis
Big Bad Breakfast - Grease Bin Spill	5304 Charlotte Ave 37209	7/6/2021 13:18	Allison Davis
Oil/Gasoline In Storm Drain	102 22nd St 37138	7/1/2021 16:16	Kevin Turner
Ditch Holding Water When Dry	4248 Jamesborough PI 37215	7/1/2021 15:04	Kevin Turner
Oil Seeping From Ground	200 Rolling Fork Ct 37205	7/1/2021 14:25	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 FY22**

Case Name	Location	Initiated Date	Initiated By
Ethanol Spill - Train Vs. Truck	1410 51st Ave N 37209	4/22/2022 8:43	Allison Davis
Battery Spill - Nolensville Pike	5604 Nolensville Pike 37211	4/7/2022 14:14	Allison Davis
Spill On I 24	0 Douglas Rd 37080	3/1/2022 14:08	Kevin Turner
Oil Spill From CSX Radnor Yard	3038 Sidco Dr 37204	2/14/2022 14:13	Allison Davis
Fuel Spill - Thorntons	7102 Charlotte Pike 37209	1/31/2022 6:47	Dale Binder
Fuel Spill	1500 Bell Rd 37211	1/24/2022 6:46	Dale Binder
Fuel Spill	0 Brentwood Chase Dr 37027	12/13/2021 9:03	Dale Binder
Fuel Spill - Car Accident	2201 Smith Springs Rd 37217	11/19/2021 14:13	Allison Davis

**Table 7H.3 – MWS Sewer Discharge Investigations Initiated by NPDES during FY22**

Case Name	Location	Initiated Date	Initiated By Name
Thompson Lane Plaza - Sewage	204 Thompson Ln 37211	6/29/2022 15:39	Allison Davis
Saturn Dr Residence - Manhole Sewage Overflow	1245 Saturn Dr 37217	6/29/2022 12:47	Allison Davis
SSO Discharging Into And Out Of Dry Pond	3940 Bell Rd 37076	10/13/2021 11:21	Robert Topolski
Sewage From Cleanout Cap	5833 Sterling Oaks Dr 37027	10/13/2021 8:19	Veronica Logue
Overflow Into Sugartree	1510 Tyne Blvd 37215	9/14/2021 9:40	Kevin Turner
Lift Station Overflow	300 Hickory Hollow PI 37013	8/4/2021 15:02	Kevin Turner
Possible Sewer Overflow	5179 Ashley Dr 37211	7/19/2021 12:47	Kevin Turner
Cumberland View Sewer Overflow	2401 25th Ave N 37208	7/14/2021 13:53	Kevin Turner



**Table 7H.4 – Metro Health Department Failing Septic Tank Investigations during FY22**

Date Received	Street Name	Health Department Personnel	Date Investigated	Sewage on the Ground	Date Abated
7/13/2021	2540 Una Antioch Pike	Kenney	7/14/2021	N	NA
8/11/2021	2037 Shaw Rd	Kenney	8/17/2021	N	NA
8/11/2021	3103 Ivey Point Rd	Kenney	8/12/2021	Y	9/15/2021
8/19/2021	2577 Pennington Bend Rd	Kenney	8/31/2021	N	NA
9/22/2021	5218 Rawlings Rd	Kenney	9/27/2021	N	NA
10/7/2021	7436 Lakeview Dr	Kenney	10/15/2021	N	NA
10/13/2021	7436 Lakeview Dr	Kenney	10/14/2021	N	NA
10/13/2021	5229 Rawlings Rd	Kenney	10/25/2021	N	NA
10/18/2021	3813 Cantarutti Rd	Kenney	10/20/2021	N	NA
10/19/2021	8866 Hwy 100	Kenney	10/25/2021	N	NA
11/8/2021	7143 Bidwell Rd	Kenney	11/12/2021	N	NA
11/9/2021	2915 Browns Lake Rd	Kenney	11/10/2021	Y	5/12/2022
11/19/2021	13336 Old Hickory Blvd	Kenney	11/24/2021	N	NA
11/22/2021	4341 Bernard Rd	Kenney	11/30/2021	N	NA
11/23/2021	8439 McCrory Ln	Kenney	11/30/2021	Y	NA
11/30/2021	4944 Whites Creek Pike	Kenney	12/2/2021	N	NA
11/30/2021	8369 Merry Mount Dr	Kenney	12/2/2021	N	NA
12/7/2021	4772 Drakes Branch Rd	Kenney	12/7/2021	N	NA
12/8/2021	1235 Saxon Dr	Kenney	12/9/2021	N	NA
12/9/2021	7820 Whites Creek Pike	Kenney	12/13/2021	N	NA
12/13/2021	6832 Old Hickory Blvd	Kenney	12/14/2021	N	NA
12/16/2021	6639 Old Clarksville Pk	Alexander	12/20/2021	N	NA
12/16/2021	4970 Clarksville Pike	Michie	12/20/2021	Y	8/16/2021
12/29/2021	4784 Drakes Branch Road	Alexander	12/30/2021	Y	3/28/2022
1/5/2022	9074 Old Charlotte Pike	Alexander	1/13/2022	N	NA
1/6/2022	6025 Marrowbone Lake Road	Alexander	1/6/2022	N	NA
1/11/2022	1604 Bakers Grove Road	Alexander	1/18/2022	N	NA
1/12/2022	8888 Highway 100	Alexander	1/13/2022	N	NA
1/19/2022	5161 Ridge Hill Rd	Kenney	1/20/2022	N	NA
1/28/2022	5476 Drive Run Rd	Kenney	1/31/2022	N	NA
1/28/2022	371 Cumberland Hills Dr	Kenney	2/1/2022	N	NA
2/1/2022	5314 Old Hickory Blvd	Alexander	2/7/2022	Y	NA
2/1/2022	4210 Hermitage Rd.	Kenney	2/7/2022	Y	5/20/2022
2/1/2022	4214 Hermitage Rd.	Kenney	2/7/2022	Y	2/16/2022
2/8/2022	6917 Old Hickory Boulevard	Alexander	2/9/2022	N	NA
2/8/2022	6917 Old Hickory Boulevard	Alexander	2/9/2022	N	NA
2/22/2022	2746 Union Hill Rd	Kenney	2/28/2022	Y	5/3/2022
2/23/2022	4463 Heath Rd	Kenney	2/28/2022	N	NA
2/23/2022	2746 Union Hill Rd	Kenney	2/28/2022	N	NA
2/24/2022	031-00-0 104.00	Kenney	2/28/2022	Y	4/7/2022
3/8/2022	2821 Union Hill Road	Alexander	3/9/2022	N	NA
3/9/2022	3866 Knight Drive	Kenney	3/9/2022	Y	8/1/2022
3/10/2022	112 Creasy Ct.	Kenney	3/11/2022	Y	5/17/2022
3/14/2022	3608 Baxter Road	Kenney	3/18/2022	Y	8/1/2022
3/14/2022	4700 Cato Rd.	Kenney	3/14/2022	Y	6/17/2022
3/17/2022	2901 Union Hill Rd	Alexander	3/24/2022	Y	6/17/2022
3/22/2022	5012 Rawlings Road	Alexander	3/28/2022	N	NA
3/29/2022	5266 Ashland City Hwy.	Kenney	3/29/2022	N	NA



**Table 7H.4 – Metro Health Department Failing Septic Tank Investigations during FY22 (Continued)**

Date Received	Street Name	Health Department Personnel	Date Investigated	Sewage on the Ground	Date Abated
4/1/2022	6509 Lickton Pike	Alexander	4/7/2022	Y	6/3/2022
4/4/2022	760 Dry Creek Road	Alexander	4/7/2022	Y	6/8/2022
4/6/2022	1961 Tinnin Road	Alexander	4/7/2022	Y	6/3/2022
4/8/2022	8521 Old Harding Pike	Kenney	4/19/2022	N	NA
4/11/2022	9 Foxvale Lane	Alexander	4/11/2022	N	NA
4/11/2022	11 Foxvale Lane	Alexander	4/11/2022	Y	8/15/2022
4/12/2022	3519 St. Lawrence Dr.	Kenney	4/18/2022	N	NA
4/18/2022	7614 Wilkinson Rd	Kenney	4/19/2022	N	NA
4/18/2022	8731 Griffith Road	Kenney	5/19/2022	N	7/7/2022
4/20/2022	5973 Cane Ridge Rd	Kenney	4/22/2022	Y	6/15/2022
4/22/2022	3981 Baxter Road	Alexander	4/26/2022	Y	5/5/2022
4/22/2022	4124 Bernard Rd.	Alexander	4/26/2022	Y	6/8/2022
5/3/2022	3030 Greer Road	Alexander	5/5/2022	Y	6/9/2022
5/4/2022	1423 Pleasant Hill Road	Alexander	5/6/2022	Y	6/3/2022
5/5/2022	2464 Couchville Pike	Alexander	5/6/2022	N	NA
5/6/2022	301 View Ridge Dr	Alexander	5/10/2022	Y	6/3/2022
5/10/2022	2593 Crocker Springs Rd	Kenney	5/12/2022	N	NA
5/18/2022	4012 Murfreesboro Pike	Alexander	5/20/2022	Y	7/26/2022
6/1/2022	8400 Rolling Hills Drive	Alexander	6/2/2022	N	NA
6/3/2022	14075 Old Hickory Boulevard	Kenney	6/7/2022	N	NA
6/13/2022	3929 Baxter Rd.	Kenney	6/15/2022	Y	7/7/2022
6/13/2022	3935 Baxter Rd.	Kenney	6/15/2022	Y	7/7/2022



**Table 7H.5 – MWS Estimated/Reported Sewage Overflows in FY22**

	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOT
Wet Weather Overflows - CSO Permitted	24	23	15	21	8	15	13	19	16	25	13	7	199
Wet Weather Overflows - sewer (non pumps)	3	14	12	2	3	4	19	44	7	17	0	4	129
Wet Weather Overflows - Pump Stations	8	14	14	2	0	7	16	51	3	18	0	0	133
Wet Weather Overflows SSO- TOTAL	11	28	26	4	3	11	35	95	10	35	0	4	262
Dry Weather Overflows - sewer (non-pumps)	5	1	5	5	3	8	3	2	8	8	2	4	54
Dry Weather Overflows - Pump Stations	0	1	0	0	0	0	0	1	0	0	0	0	2
Dry Weather Overflows - TOTAL	5	2	5	5	3	8	3	3	8	8	2	4	56
# of Overflows that Reached Creeks - Sewer	3	11	10	3	2	6	10	24	6	10	1	2	88
# of Overflows that Reached Creeks - Pump Stations (All)	8	15	14	2	0	7	16	52	3	18	0	0	135
# 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 FY22**

Item	Total
Ditch Excavated/Repaired (Linear Feet)	150,212
Debris Removed - Ditch Exc. & Repair (cubic yards)	6,828
Debris Removed - General (cubic yards)	214,033
Inlets Cleaned	34,943
Inlets Repaired	16
Material Removed (lbs.)	314,487
Walls/Headwalls Built	385
Walls/Headwalls Repaired	81
Cross Drains Cleaned	311
Cross Drains Replaced	3
Matting Used (square feet)	183,496
Driveway Pipes Cleaned	1,245
Driveway Pipes Replaced	176
Preventative Maintenance Hours	7,294.55
Rain Routes Hours	3,705
<p>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. &amp; 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.</p>	



**Table 8F.2 - MWS Stormwater Contracted Street Sweeping Collection Numbers for FY22**

	July	August	September	October	November	December	January	February	March	April	May	June	Total
<b>Debris Collected (tons)</b>	323.46	266.02	308.71	467.43	399.84	412.15	247.46	266.81	322.29	262.64	246.25	234.51	3,757.56
<b>Miles of Streets Swept</b>	1,876.12	1,484.75	1,760.16	1,797.72	1,165.20	1,071.57	1,809.22	1,702.89	1,859.20	1,745.46	1,819.94	1,580.74	19,672.98



**Table 9F.1 - Development and Review Section Plan Review Numbers for FY22**

	July	August	September	October	November	December	January	February	March	April	May	June	Total
Number of Plan Submittals	134	86	94	102	90	119	68	83	104	99	99	90	<b>1,168</b>
Number of Plan Approvals	125	86	93	100	89	114	68	81	103	97	98	90	<b>1,144</b>

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
3M Company	400 Swinging Bridge Rd	Yes	No	TNR058417
48Forty Solutions (CHEP Recycled Pallet Solutions, LLC)	601 Space Park S	Yes	No	TNR059311
A & C Auto Parts	4701 Ashland City Highway	Yes	No	TNR050702
A. Schulman, Inc. (Out of Business)	481 Allied Dr	Yes	No	TNR050726
AAA Industries Inc.	3141 Ambrose Ave	Yes	No	TNR050753
Abernathy Truck Salvage, Inc.	865 W Trinity Ln	Yes	No	TNR055940
ABF Freight System, Inc. - Nashville	890 Visco Dr	Yes	No	TNR051577
Advanced Composites (TN)	3050 Sidco Dr	Yes	No	TNR050238
Airgas USA LLC	7236 Centennial	No	No	
Akzo Nobel Coatings Inc.	20 Culvert St	Yes	No	TNR050546
All Star Recycling	460a Craighead Street	Yes	No	TNR056304
All State Auto Parts, Inc.	515 Nawakwa Trl	Yes	No	TNR056026
Allied Waste (BFI of Nashville)	700 Murfreesboro Park	Yes	No	TNR053390
Alternative Energy	501 Crutcher St	Yes	No	TNR056334
Amazon, LLC Sort Center / BNA5	50 Airways Blvd	Yes	No	TNR058257
Amazon.com Services LLC	3818 Logistics Way	Yes	No	TNR059700
Amazon.com Services, Inc. - DNA1	2813 Brick Church Pike	Yes	No	TNR059540
American Airlines Fuel Storage Facility at BNA	929 Airport Service Road	No	No	TN0063908
American Appliance Products - Madison	1129 Myatt Blvd	Yes	No	TNR050823
American Fabricators Inc	570 Metroplex Drive	Yes	No	TNR050340
Ashland Distribution (Nexeo Solutions)	2315 Clifton Ave	Yes	No	TNR056863
August Bioservices (Radiant Technologies)	1845 Elm Hill Park	No	No	TNR059955
Auto Central	12761 Old Hickory Blvd	Yes	No	TNR059790
Bellar Auto Parts, Inc.	670 James Ave	Yes	No	TNR050770
Berry Global Group (Clopay Plastics Products)	463/555 Harding Industrial Dr	Yes	No	TNR056368
Besway Systems Inc	305 Williams Ave	Yes	No	TNR050298
BFI Waste Services of TN (BFI of Nashville)	1160 Freightliner Dr	Yes	No	TNR058639
Blanchard Terminal Company, LLC (Marathon Terminal)	1409 51st Ave N	Yes	No	TNR053661
Cargill (Five Star Foods)	2621 Eugenia Ave	Yes	No	TNR059257
Carlex Glass America	7200 Centennial Blvd	No	No	
Central Pike Class IV Landfill	3530 Central Park	Yes	No	TNR054259
Cherokee Marine Terminal	520 Cowan St	Yes	No	TNR050033



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

Site Name	Site Location	TMSP Site	RMCP Site	TDEC Permit Number
Circle Delivery Service, Inc.	125 Caden Dr	Yes	No	TNR053354
Civil Constructors - Staging	4551 Jennie Brown Lane	Yes	No	TNR059724
Clemons Concrete Coatings	505 Cave Road	No	No	
Clopay Advanced Printing	555 Harding Industrial Dr	Yes	No	TNR056671
CMC Rebar Nashville	851 Visco Dr	No	No	
CMC Steel US, LLC	4280 Sidco Drive	Yes	No	TNR054524
Coca-Cola Bottling Co. of Nashville	407 Craighead Street	Yes	No	TNR050373
COUNTRY DELITE FARMS LLC (Suiza)	1401 Church St	No	No	
CSX Intermodal, Inc - Nashville Terminal	3086 Sidco Dr	Yes	No	TNR058111
Cumberland Scrap Processor	3730 Amy Lynn Drive	Yes	No	TNR053535
Cumberland Terminals, Inc.	7260 Centennial Blvd	Yes	No	TNR056673
Cummings Signs Arch. and Banking Div. (Inactive)	4560 Trousdale Dr	Yes	No	TNR051909
D & R Motors & Recycling (Out of Business)	616 Durrett Dr	Yes	No	TNR054251
Darling Ingredients Inc.	31 Edenwald Rd	Yes	No	TNR056700
Delek Logistics LLC	90 Van Buren St	No	No	TNR056587
DHL Express (L&W Supply)	5270 Harding Place	No	No	
Dicaperl Minerals Corp.	2601 Osage St	Yes	No	TNR056770
Dixie Wire (Out of Business)	5901 California Avenue	Yes	No	TNR053684
Dry Creek Wastewater Treatment Plant	61 Edenwold Rd	Yes	No	TNR053255
Dynamic Lifecycle Innovations TN LLC	3520 Ambrose Ave	Yes	No	TNR058723
E. I. DuPont De Nemours & Co., Inc. - Old Hickory	1002 Industrial Dr	Yes	No	TNR053980
Earthgrains Banking Co., Inc (Sara Lee Bakery)	2407 Franklin Pike	No	No	TNR051900
Electronic Responsible Recyclers	7515 Hickory Hills Ct	Yes	No	TNR059742
Embraer Aircraft Maintenance Services, Inc	10 Airways Blvd	Yes	No	TNR058982
Ergon Terminals, Inc. - Nashville	1114 Visco Dr	Yes	No	TNR056603
EXXON MOBIL Pipeline CORP NASHVILLE TERMINAL	1741 Ed Temple Blvd	No	No	
Fed Ex Ground - Nashville Knight Rd	3301 Knight Dr	Yes	No	TNR053369
Federal Express - BNAA	1931 Air Lane Dr	No	No	TNR053436
Fiberweb, Inc. (Berry Global)	70 Old Hickory Blvd	Yes	No	TNR056004
First Response, Inc. (Out of Business)	1411 Dickerson Pike	Yes	No	TNR056591
Firstexpress Inc.	1135 Freightliner Dr	Yes	No	TNR053075



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

Site Name	Site Location	TMSP Site	RMCP Site	TDEC Permit Number
Flexsol Packaging Corp.	1105 Visco Drive	Yes	No	TNR055073
Florida Rock & Tank Lines (Different Business)	2921 Hydes Ferry Rd.	Yes	No	TNR059227
Foley Products (Sherman-Dixie Concrete Industries, Inc.)	3641 Central Pike	No	Yes	TNR053492
Ford Nashville Property (Automotive Components)	7228 Centennial Blvd	Yes	No	TN0080675
Four Lane Auto Salvage Inc.	400 W Trinity Ln	Yes	No	TNR050223
Frontier Logistical Services (CONE SOLVENTS INC NASHVILLE)	1830 Linder Industrial Dr	No	No	
GAF Materials Corp.	970 Fiber Glass Rd	Yes	No	TNR050872
Green tree Processing (Onsite Environmental)	1421 Baptist World Center Drive	Yes	No	TNR05309
Green Tree Processing (On-site Environmental)	1501 Baptist World Center Dr	Yes	No	TNR053609
Greer Stop Nut	481 McNally Dr	Yes	No	TNR050038
Greyhound Lines	709 Representative John Lewis Way South	Yes		TNR058664
Grooms Engines (Out of Business)	611 4th Ave S	Yes	No	TNR054498
Hamilton Machine Co Inc	464 Woodycrest Ave	Yes	No	TNR054334
Harcros Chemicals INC	1418 Poplar Ln	No	No	
Harpeth Valley Utility District	5910 River Road	No	No	TN0074748
Hennessy Industries	1601 J P Hennessy Dr	Yes	No	TNR050446
Hilltop Auto Salvage	2408 Dickerson Park	Yes	No	TNR056159
Hogan Truck Leasing (Howard Baer)	1301 Foster Ave	Yes	No	TNR053385
IMI Nashville Airport	141 Bush Rd	No	Yes	TNG110189
IMI Ready Mix - Cowan Street	1433 Cowan Ct	No	Yes	TNG110099
IMI Ready Mix- Robertson Road	6616 Robertson Ave	No	Yes	TNG110100
Industrial Machine and Tool Co.	88 Polk Avenue	No	No	
Innophos, Inc.	4600 Centennial Blvd	Yes	No	TNR050060
January Environmental Services, Inc. (Out of Business)	91 Van Buren St	Yes	No	TNR055999
John Bouchard & Sons Co	1024 Harrison St	No	No	TNR050185
John C. Tune Airport	110 Tune Airport Dr	Yes	No	TNR053942
John W. McDougall Co., Inc.	3731 Amy Lynn Dr	Yes	No	TNR056432
Jones Bros. Contractors Asphalt Plant #1 (Danley)	820 Old Ezell Road	Yes	No	TNR050885



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

Site Name	Site Location	TMSP Site	RMCP Site	TDEC Permit Number
Jones Brothers, LLC	129 Bush Rd	Yes	No	TNR051878
Kano Laboratories LLC	1000 E Thompson Lane	Yes	No	TNR059830
Kennametal Inc (ATI Metal Working Products)	1 Teledyne Place	Yes	No	TNR053523
Kohl & Madden Plant #1 (Out of Business)	404 Harding Ind Dr	Yes	No	TNR053583
KYZEN Corporation	430 Harding Industrial Drive	No	No	
Lawson Ready Mix	5915 River Rd	No	Yes	TNG110101
Lee Building Products (Southland Brick and Block)	3201 Franklin Limestone Rd	Yes	No	TNR056688
Liquid Environmental Solutions	501 Cave Road	No Exp	No	TNR058465
Living Earth - East Nashville	1511 Elm Hill Pike	Yes	No	TNR059260
Living Earth - Jennie Brown Yard Processing	4783 Jennie Brown Lane	Yes	No	TNR059310
Living Earth - West Nashville	6401 Centennial Blvd	Yes	No	TNR059259
LKQ Pick Your Part Southeast LLC	2030 Lucas Lane	Yes		TNR058938
Lojac Downtown Plant (Out of Business)	500 Cowan St	Yes	No	TNR053266
LoJac Nashville River Road Plant (Out of Business)	4404 River Rd	Yes	No	TNR050735
Lone Star Industries, Inc. d/b/a Buzzi Unicem USA - Nashville	1702 2nd Ave N	Yes	No	TNR050218
M & W Transportation Co., Inc.	101 Terminal Ct	Yes	No	TNR053706
Magellan Nashville I Terminal	1609 63rd Ave N	Yes	No	TNR056545
Magellan Nashville II Terminal - Holding, LP	1441 51st Ave N	Yes	No	TNR056486
Marathon Petroleum Company LLC	930 Youngs Ln	Yes	No	TNR056654
Marathon Petroleum Company, LLC - Bordeaux Terminal	2920 Hydes Ferry Rd	Yes	No	TNR056512
McRedmond Farms	919 Massman Dr	Yes	No	TNR059956
Messer LLC	4301 Hurricane Creek Rd	Yes	No	TNR059999
Metro Nashville Airport Authority	1 Terminal Drive	No	No	TN0064041
Metro Nashville District Energy System	90 Peabody St	Yes	No	TNR056643
Metro Salvage, Inc.	1975 Springfield Hwy	Yes	No	TNR056220
Mid TN Recycling	3533 Hermitage Industrial Drive	Yes	No	TNR059390
Mid-South Wire	1070 Visco Dr	Yes	No	TNR050712
Milan Express Co., Inc. - Nashville (Out of Business)	825 Visco Dr	Yes	No	TNR053247
Mondelez Global LLC	1740 Elm Hill Pike	Yes	No	TNR059299



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

Site Name	Site Location	TMSP Site	RMCP Site	TDEC Permit Number
Motiva Nashville Terminal	1717 61st Ave N	No	No	
MPLX Terminals LLC-Nashville (Marathon)	5 Main St	Yes	No	TNR058168
Music City Environmental	1629 Elm Hill Pike	No	No	
Music City Pick A Part, LLC	922 Lebanon Pike	Yes	No	TNR058703
N & S Inc.	361 Herron Dr	Yes	No	TNR050716
Nashville Central STP	1600 2nd Ave N	Yes	No	TNR053258
NASHVILLE CHEMICAL & EQUIPMENT CO INC	7340 Cockrill Bend Blvd	No	No	TNR059929
Nashville Machine Company	530 Woodycrest Ave	Yes	No	TNR050889
Nashville Machine Elevator Inc	510 Interstate Blvd S	Yes	No	TNR055927
Nashville Ready Mix	1120 Visco Drive	No	Yes	TNG110470
Nashville Ready Mix - Cowan Ct.	1436 Cowan Ct	Yes	Yes	TNG110236
Nashville Ready Mix West Nashville	5853 River Rd	No	Yes	TNG110308
Nashville Ready Mix, Inc. Baptist World	1326 Baptist World Center Dr	Yes	Yes	TNG110237
Nashville Recycling Co (Out of Business)	10 Van Buren St	Yes	No	TNR050515
Nashville VMF	707 Chestnut St	Yes	No	TNR053104
Nashville Wilbert Burial Vault Co.	432 Woodycrest Ave	Yes	No	TNR053618
Nashville Wire Products	1604 County Hospital Rd	Yes	No	TNR050806
NASHVILLE WIRE PRODUCTS	295 Driftwood St	No	No	
Neely's Bend Inc.	1327 Neelys Bend Rd	Yes	No	TNR051976
New Image Auto Dealer	1656 Antioch Pike	Yes	No	TNR059906
North American Galvanizing Co.(AZZ Galvanizing)	3201 Elkins Avenue	Yes	No	TNR053495
Palm Commodities International, Inc Sales	1717 J P Hennessy Dr	No	No	TNR056856
Parman Energy	7101 Cockrill Bend Blvd.	Yes	No	TNR059092
Paulo Products Company	3206 Ambrose Ave	Yes	No	TNR050762
Pepsi Bottling Group	715 Thompson Ln	Yes	No	TNR051157
Perfection Molders	213 Connell St	No	No	
Peterbilt Motors Company	430 Myatt Dr	Yes	No	TNR050562
Pine Bluff Materials (formerly Hunter Marine)	6615 Robertson Ave	Yes	No	TNR059211
Pine Bluff Materials- Visco	1030 Visco Dr	Yes	No	TNR053697



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

Site Name	Site Location	TMSP Site	RMCP Site	TDEC Permit Number
PlastiCycle	5801 Centennial Blvd	Yes	No	TNR059682
Polar Technology LLC (Hudson)	1360 Foster Ave	No	No	
Portland Express, Inc.	531 Woodycrest Ave	Yes	No	TNR051361
Precision Design and Machine Inc	6124 Cockrill Bend Circle	Yes	No	TNR054425
Precision Fabrics Group, Inc	530 Myatt Drive	No	No	
ProTriton Feed LLC (LAND O'LAKES PURINA FEED LLC)	3601 Trousdale Dr	Yes	No	TNR053398
PSC Metals, Inc.	710 S 1st St	Yes	No	TNR051488
Pull-A-Part, LLC	7114 Centennial Boulevard	Yes	No	TNR056537
Purity Dairies	360 Murfreesboro Pike	Yes	No	TNR053516
Quad Graphics Nashville	2947 Brick Church Pike	No	No	
Quality Plating	71 Fesslers Ln	Yes	No	TNR056370
Quikrete - Nashville	6614 Robertson Ave	Yes	No	TNR053497
R + L Carriers	3240 Franklin Limestone Rd	Yes		TNR052096
Reading Midwest Distribution (FTEC, Inc. (Palfleet Truck))	1801 Lebanon Park	Yes	No	TNR056769
REDDY ICE-NASHVILLE	7261 Centennial Blvd	No	No	
RelaDyne (J B Weimar)	7281 Centennial Blvd	Yes	No	TNR058304
Restone Quarry	711 Basswood Ave	No	Yes	TNG110167
River Cement Sales Co dba Buzzi Unicem USA	1818 Cement Plant Rd	Yes	No	TNR054581
River Hills MRF	208 River Hills Drive	Yes		TNR053058
Rivergate Auto Parts, Inc. (Nashville Truck Parts)	1471 Gallatin Pike	Yes	No	TNR056268
Rock Harbor Marine/Marina	525 Basswood Ave	Yes	No	TNR058737
Rogers Group - Nashville Resale Yard	711 Lebanon Road	Yes	No	TNR058110
Rogers Group (Whites Creek Asphalt Plant)	2819 Whites Creek Pike	Yes	No	TNR050886
Rogers Group, Inc. (Reostone Quarry)	6514 Robertson Avenue	Yes	No	TNR050886
Rogers Manufacturing Company	110 Transit Avenue	Yes	No	TNR050478
Rolling Frito-Lay Sales, LP - Nashville DC	130 Spence Ln	Yes	No	TNR056640
S&H Plating	817 Madison Industrial Road	No	No	TNR059463



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

Site Name	Site Location	TMSP Site	RMCP Site	TDEC Permit Number
SA Recycling (Southern Recycling)	1840 Linder Industrial Dr	Yes	No	TNR056650
Sadler Bros Trucking & Leasing Company, Inc.	436 Enos Reed Dr	Yes	No	TNR050326
Safety-Kleen Systems, Inc.	215 Whitsett Rd	Yes	No	TNR053225
Schreiber Foods, Inc. (Out of Business)	4350 Hurricane Creek Blvd	Yes	No	TNR055926
Sequatchie Concrete Service, Inc. (Out of Business)	306 Cowan St	Yes	No	TNR053083
Servitech Industries, Inc.	550 Brick Church Park Dr	Yes	No	TNR053500
Sessions Paving	6535 Robertson Ave	Yes	No	TNR055987
Shrum Auto Salvage	1050 Old Buck Hill Road	Yes	No	TNR055907
Sinomax East, Inc.	1740 JP Hennessey Drive	Yes	No	TNR059275
Siskin Steel	4040 Jordonia Station Road	Yes		TNR058950
Smitty's Auto Parts	1609 Bell Rd	Yes	No	TNR053717
Smyrna Mix Concrete	6677 River Road Pike	No	Yes	TNG110044
Smyrna Ready Mix	3040 Brandau Rd	No	Yes	TNG110270
Smyrna Ready Mix - Hailey's Harbor, Inc.	3730 Amy Lynn Dr	Yes	Yes	TNR053535
Smyrna Ready Mix Concrete INC. - Visco Drive	1020 Visco Dr	No	Yes	TNG110138
Smyrna Ready Mix Concrete Plant	3730 Amy Lynn Drive	No	Yes	TNG110422
Smyrna Ready Mix Concrete, 2nd Ave	1136 2nd Ave N	No	Yes	TNG110268
Sontara Old Hickory (Jacob Holm Inc.)	326 Swinging Bridge Rd	Yes	No	TNR058900
Southeastern Freight Lines, Inc.	4141 Murfreesboro Park	Yes	No	TNR053861
Southern Services (Waste Management of Tennessee-Nashville)	4651 Amy Lynn Dr	Yes	No	TNR051258
Southland Brick and Block	686 Franklin Limestone Rd	Yes	No	TNR053089
Springs Global US-Nashville Plant	7200 Cockrill Bend Blvd	Yes	No	TNR053690
Steel Summit Tennessee	1718 J P Hennessey Dr	Yes	No	TNR055890
Summit Constructors	1516 Ft. Negley Blvd	Yes	No	TNR059632
Superior Solvents & Chemicals	518 Swinging Bridge Rd	No	No	



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

Site Name	Site Location	TMSP Site	RMCP Site	TDEC Permit Number
Superior Trim	511 Bridgeway Ave	No	No	
Supreme Oil Central, Inc. (Stratas Foods)	189 Spence Ln	Yes	No	TNR053774
Sysco Nashville	1 Hermitage Plaza	Yes	No	TNR058838
TDSI- Auto Distribution Center	600 Veritas St	Yes	No	TNR053065
TDSI Nashville Auto Distribution Center (Allied Systems Ltd)	743 Harding Pl	Yes	No	TNR051727
Techno-Aide, Inc.	7117 Centennial Blvd	Yes	No	TNR054596
Tennessee Air National Guard	240 Knapp Blvd	Yes	No	TNR051762
Tennessee Commercial Warehouse - Nashville	22 Stanley St	Yes	No	TNR053626
Tennessee Imports Auto Salvage	326 Oriel Ave	Yes	No	TNR055923
The Mulch Company	665 Vernon Ave	Yes	No	TNR053751
Titan Logistics LLC (BNE Properties, Inc).	317 Arlington Ave	Yes	No	TNR051617
Tradebe Treatment and Recycling of Nashville LLC.	450 Edenwold Road	No	No	
TRANSFLO Terminal Services, Inc. (Nashville)	426 Chestnut St	Yes	No	TNR053444
TREW Industrial Wheels Inc.	310 Wilhagan Rd	Yes	No	TNR053987
Triumph (Vought) Aircraft Industries Inc (Triumph)	1432 Vultee Blvd	No	No	
Truck Center, Inc. (Business Moved)	518 Hagan St	Yes	No	TNR056457
Truck Shine	332 Wilhagan Rd	Yes	No	TNR056508
TWB Antioch	6050 Dana Way	Yes	No	TNR059269
U S Smokeless Tobacco Manufacturing Co	800 Harrison St	No	No	
United Parcel Service - Nashville Massman Dr.	705 Massman Dr	Yes	No	TNR053562
United Parcel Service - Nashville Whites Creek Pike	3205 Whites Creek Park	Yes	No	TNR053554
United Parcel Service - TCI	7525 Hickory Hills Ct	Yes	No	TNR053556
USF Holland, Inc.	500 Oakbluff Ln	Yes	No	TNR058068
Vaughn Manufacturing Co (Out of Business)	757 Douglas Ave	Yes	No	TNR054519
VF Imagewear, Inc.	554 Hickory Hills Blvd	Yes	No	TNR051734
Vietti Foods Company, Inc.	636 Southgate Ave	Yes	No	TNR053850





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

Site Name	Site Location	TMSP Site	RMCP Site	TDEC Permit Number
Vintage Millworks Inc	525 Merritt Ave	Yes	No	TNR054564
Volunteer Express (Star Transportation) (Out of Business)	1125 Foster Ave	Yes	No	TNR053957
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 Construction Materials, LLC - Danley Asphalt (Lojac)	3185 Franklin Limestone Rd	Yes	No	TNR053269
Vulcan Materials - Danley Quarry	3187 Franklin Limestone Rd	No	No	TN0003026
Vulcan Nashville- River Road Asphalt Plant	5853 River Road	Yes	No	TNR050735
Vulcan Quarry - Hermitage	5301 Old Hickory Blvd	No	No	
Warren Paint & Color Co	700 Wedgewood Ave	Yes	No	TNR051129
Waste Management - North Nashville (Rivergate MRF)	630 Myatt Dr	Yes	No	TNR058691
Waste Management C&D Recycle Center	3211 Franklin Limestone Rd	No	No	
Waste Management Truck Maintenance Facility/Garbage Transfer St	1428 Antioch Pike	Yes	No	TNR051258
West Nashville Auto Recycling Inc.	5604 Centennial Blvd	Yes	No	TNR051899
WestRock (Smurfit-Stone Container)	707 19th Ave N	Yes	No	TNR053040
WHIRLPOOL CORP (Out of business)	1714 Heil Quaker Blvd	No	No	
Whites Creek Wastewater Treatment Plant	1360 County Hospital Rd	No	No	
Wikoff Color Corporation	214 Omonhundro Place	Yes	No	TNR050089
XPO Logistics	3737 Stewarts Lane	Yes	No	TNR058754



**Table 10F.1 - Industrial Sites Inspected during FY22**

Site Name	Site Location	TMSP Site	RMCP Site	Date Inspected	TDEC Permit Number
Vietti Foods Company, Inc.	636 Southgate Ave	Yes	No	6/17/22	TNR053850
GAF Materials Corp.	970 Fiber Glass Rd	Yes	No	6/9/22	TNR050872
Wikoff Color Corporation	214 Ommohundro Place	Yes	No	6/8/22	TNR050089
Living Earth - Jennie Brown Yard Processing	4783 Jennie Brown Lane	Yes	No	6/3/22	TNR059310
Cargill (Five Star Foods)	2621 Eugenia Ave	Yes	No	5/16/22	TNR059257
Smyrna Ready Mix Concrete, 2nd Ave	1136 2nd Ave N	No	Yes	5/11/22	TNG110268
Superior Trim	511 Bridgeway Ave	No	No	5/10/22	
Tradebe Treatment and Recycling of Nashville LLC.	450 Edenwold Road	No	No	5/5/22	
S&H Plating	817 Madison Industrial Road	No	No	5/3/22	TNR059463
Music City Environmental	1629 Elm Hill Pike	No	No	4/27/22	
Precision Fabrics Group, Inc	530 Myatt Drive	No	No	4/27/22	
Warren Paint & Color Co	700 Wedgewood Ave	Yes	No	4/7/22	TNR051129
Smyrna Ready Mix	3040 Brandau Rd	No	Yes	3/24/22	TNG110270
Smyrna Ready Mix Concrete INC. - Visco Drive	1020 Visco Dr	No	Yes	3/24/22	TNG110138
AAA Industries Inc.	3141 Ambrose Ave	Yes	No	3/17/22	TNR050753
Jones Bros. Contractors Asphalt Plant #1 (Danley)	820 Old Ezell Road	Yes	No	3/4/22	TNR050885
Vulcan Materials - Danley Quarry	3187 Franklin Limestone Rd	No	No	2/28/22	TN0003026
All Star Recycling	460a Craighead Street	Yes	No	2/23/22	TNR056304
Delek Logistics LLC	90 Van Buren St	No	No	2/15/22	TNR056587
Rogers Group - Nashville Resale Yard	711 Lebanon Road	Yes	No	2/8/22	TNR058110
Cumberland Scrap Processor	3730 Amy Lynn Drive	Yes	No	2/3/22	TNR053535
Liquid Environmental Solutions	501 Cave Road	No Exp	No	2/1/22	TNR058465
DHL Express (L&W Supply)	5270 Harding Place	No	No	1/27/22	
Electronic Responsible Recyclers	7515 Hickory Hills Ct	Yes	No	1/27/22	TNR059742
United Parcel Service - Nashville Massman Dr.	705 Massman Dr	Yes	No	1/21/22	TNR053562
Hogan Truck Leasing (Howard Baer)	1301 Foster Ave	Yes	No	1/19/22	TNR053385
N & S Inc.	361 Herron Dr	Yes	No	1/19/22	TNR050716
McRedmond Farms	919 Massman Dr	Yes	No	12/21/21	TNR059956
Metro Nashville District Energy System	90 Peabody St	Yes	No	12/13/21	TNR056643



**Table 10F.1 - Industrial Sites Inspected during FY22 (Continued)**

Site Name	Site Location	TMSP Site	RMCP Site	Date Inspected	TDEC Permit Number
NASHVILLE CHEMICAL & EQUIPMENT CO INC	7340 Cockrill Bend Blvd	No	No	12/9/21	TNR059929
Nashville Ready Mix	1120 Visco Drive	No	Yes	12/1/21	TNG110470
Mid TN Recycling	3533 Hermitage Industrial Drive	Yes		11/19/21	TNR059390
R + L Carriers	3240 Franklin Limestone Rd	Yes		11/16/21	TNR052096
Pine Bluff Materials (formerly Hunter Marine)	6615 Robertson Ave	Yes	No	11/15/21	TNR059211
Mondelez Global LLC	1740 Elm Hill Pike	Yes	No	11/4/21	TNR059299
A & C Auto Parts	4701 Ashland City Highway	Yes	No	11/2/21	TNR050702
Auto Central	12761 Old Hickory Blvd	Yes	No	10/21/21	TNR059790
Frontier Logistical Services (CONE SOLVENTS INC NASHVILLE)	1830 Linder Industrial Dr	No	No	10/21/21	
PSC Metals, Inc.	710 S 1st St	Yes	No	10/19/21	TNR051488
Clemons Concrete Coatings	505 Cave Road	No	No	10/14/21	
TREW Industrial Wheels Inc.	310 Wilhagan Rd	Yes	No	10/14/21	TNR053987
M & W Transportation Co., Inc.	101 Terminal Ct	Yes	No	10/13/21	TNR053706
River Cement Sales Co dba Buzzi Unicem USA	1818 Cement Plant Rd	Yes	No	9/30/21	TNR054581
Kano Laboratories LLC	1000 E Thompson Lane	Yes	No	9/24/21	TNR059830
Pine Bluff Materials- Visco	1030 Visco Dr	Yes	No	9/23/21	TNR053697
Flexsol Packaging Corp.	1105 Visco Drive	Yes	No	9/14/21	TNR055073
Circle Delivery Service, Inc.	125 Caden Dr	Yes	No	9/7/21	TNR053354
Civil Constrcutors - Staging	4551 Jennie Brown Lane	Yes	No	9/1/21	TNR059724
IMI Nashville Airport	141 Bush Rd	No	Yes	8/25/21	TNG110189
Smyrna Ready Mix Concrete Plant	3730 Amy Lynn Drive	No	Yes	8/19/21	TNG110422
Hamilton Machine Co Inc	464 Woodycrest Ave	Yes	No	8/12/21	TNR054334
ProTriton Feed LLC (LAND O'LAKES PURINA FEED LLC)	3601 Trousdale Dr	Yes	No	8/12/21	TNR053398
New Image Auto Dealer	1656 Antioch Pike	Yes	No	8/10/21	TNR059906
Rogers Group (Whites Creek Asphalt Plant)	2819 Whites Creek Pike	Yes	No	7/29/21	TNR050886
Darling Ingredients Inc.	31 Edenwald Rd	Yes	No	7/28/21	TNR056700
Smyrna Ready Mix - Hailey's Harbor, Inc.	3730 Amy Lynn Dr	Yes	Yes	7/13/21	TNR053535
Alternative Energy	501 Crutcher St	Yes	No	7/9/21	TNR056334
Ergon Terminaling, Inc. - Nashville	1114 Visco Dr	Yes	No	7/1/21	TNR056603



**Table 13A.1 – TMDL Monitoring Data for FY22**

Date	Time	Site Name	Watershed	Sampl. (init.)	DO mg/L	Cond. µS	Temp. °C	pH	E. coli MPN/100mL	PCR huback	DWR ST. ID
7/7/2021	7:37:00 AM	Davidson	Davidson	VL	6.87	614	21.8	8.31	114.5	0.2	DAVID000.4DA
7/7/2021	9:24:00 AM	E Fork Browns	Browns	MB/MH	10.24	547	23	8.33	313		EFBRO000.2DA
7/7/2021	8:06:00 AM	Vaughns Gap 2	Richland	VL	10.09	22.4	22.4	8.37	387.3	0.9	VGAP001.2DA
7/7/2021	9:20:00 AM	Sugartree	Richland	VL	5.64	545	22.5		82		SUGAR000.1DA
7/7/2021	9:40:00 AM	Bosley	Richland	VL	9.32	473	21.3		2419.6		BSPRI000.4DA
7/7/2021	9:58:00 AM	M Fork Browns	Browns	MB/MH	5.54	435	22.9	7.92	648.8		MFBRO000.1DA
7/7/2021	9:47:00 AM	W Fork Browns	Browns	MB/MH	9.07	490	18.5	7.83	143.9		WFBRO000.1DA
7/7/2021	8:58:00 AM	Jocelyn Hollow	Richland	VL	6.15	561	23	8.25	344.8		JHOLL000.2DA
7/7/2021	10:37:00 AM	Richland 1	Richland	VL	9.65	502	24.3	8.29	290.9	ND	RICHL002.0DA
7/7/2021	9:03:00 AM	Browns 2	Browns	MB/MH	8.43	529	21.8	8.17	148.3		BROWN002.9DA
7/7/2021	8:21:00 AM	Richland 3	Richland	VL	3.94	474	25.6	7.91	42	1.9	RICHL008.9
7/7/2021	8:42:00 AM	Vaughns Gap 1	Richland	VL	5.47	580	22.3	8.23	83.3		VGAP000.2DA
7/7/2021	8:23:00 AM	Browns 1	Browns	MB/MH	4.65	592	22.7	7.43	290.9	1	BROWN000.4DA
7/7/2021	8:58:00 AM	Jocelyn Hollow Dup	Richland	VL	6.15	561	23	8.25	275.5		JHOLL000.2DA
7/7/2021	10:08:00 AM	Richland 2	Richland	VL	6.5	494	23.7		240		RICHL003.4DA
7/23/2021	8:38:00 AM	Davidson	Davidson	MB/MH	7.68	578	21.5	8.11	161.6	ND	DAVID000.4DA
7/23/2021	9:06:00 AM	Vaughns Gap 2	Richland	MB/MH	10.09	600	21.2	8.28	238.2	ND	VGAP001.2DA
7/23/2021	9:25:00 AM	Richland 3	Richland	MB/MH	7.82	609	22.3	8.36	727	0.1	RICHL008.9
7/23/2021	9:43:00 AM	E Fork Browns	Browns	VL/LS	10.07	551	21.8		344.8	0.6	EFBRO000.2DA
7/23/2021	10:10:00 AM	M Fork Browns	Browns	VL/LS	8.12	502	23.3		435.2	ND	MFBRO000.1DA
7/23/2021	9:56:00 AM	W Fork Browns	Browns	VL/LS	8.93	490	19.2		128.1	ND	WFBRO000.1DA
7/23/2021	10:04:00 AM	Jocelyn Hollow	Richland	MB/MH	9.3	532	22.6	8.31	161.6	0.2	JHOLL000.2DA
7/23/2021	10:23:00 AM	Sugartree	Richland	MB/MH	4.89	607	21.9	7.51	365.4	ND	SUGAR000.1DA
7/23/2021	10:35:00 AM	Bosley	Richland	MB/MH	10	538	21.4	8.26	1299.7	ND	BSPRI000.4DA
7/23/2021	9:42:00 AM	Vaughns Gap 1	Richland	MB/MH	6.67	601	20.9	8.27	165.8	ND	VGAP000.2DA
7/23/2021	9:08:00 AM	Browns 2	Browns	VL/LS	8.27	529	21.1		146.7	0.3	BROWN002.9DA
7/23/2021	10:40:00 AM	Richland 1	Richland	VL/LS	9.57	527	23.4		146.7	ND	RICHL002.0DA
7/23/2021	7:45:00 AM	Browns 1	Browns	VL/LS	5.81	542	21.7		105.9	ND	BROWN000.4DA
7/23/2021	10:59:00 AM	Richland 2	Richland	MB/MH	6.37	541	22.8	8.11	118.7	ND	RICHL003.4DA
7/30/2021	9:27:00 AM	Sugartree	Richland	VL/MB	5.2	595	24.1		172.5	ND	SUGAR000.1DA
7/30/2021	9:45:00 AM	Jocelyn Hollow	Richland	VL/MB	7.73	543	25.4		275.5	ND	JHOLL000.2DA
7/30/2021	10:43:00 AM	Davidson	Davidson	VL/MB	7.3	593	24.4		727	ND	DAVID000.4DA



**Table 13A.1 – TMDL Monitoring Data for FY22 (Continued)**

Date	Time	Site Name	Watershed	Samp. (init.)	DO mg/L	Cond. µS	Temp. °C	pH	E. coli MPN/100mL	PCR huback	DWR ST. ID
7/30/2021	8:21:00 AM	W Fork Browns	Browns	VL/MB	8.63	513	19.5	7.83	178.9	ND	WFBRO000.1DA
7/30/2021	8:30:00 AM	M Fork Browns	Browns	VL/MB	6.3	511	24.7	7.21	1119.9	ND	MFBRO000.1DA
7/30/2021	10:20:00 AM	Vaughns Gap 2	Richland	VL/MB	8.86	584	24.1		307.6	ND	VGAP001.2DA
7/30/2021	9:59:00 AM	Vaughns Gap 1	Richland	VL/MB	7.6	594	23.5		77.1	ND	VGAP000.2DA
7/30/2021	8:02:00 AM	E Fork Browns	Browns	VL/MB	8.85	572	23	8.1	81.3	ND	EFBRO000.2DA
7/30/2021	8:53:00 AM	Bosley	Richland	VL/MB	8.89	531	21.5	5.18	2419.6	ND	BSPRI000.4DA
7/30/2021	11:24:00 AM	Richland 1	Richland	VL/MB	9.41	528	27.4		547.5	ND	RICHL002.0DA
7/30/2021	7:48:00 AM	Browns 2	Browns	VL/MB	7.32	556	22.9	8.15	344.8	ND	BROWN002.9DA
7/30/2021	7:25:00 AM	Browns 1	Browns	VL/MB	5.39	585	23.8	7.55	435.2	ND	BROWN000.4DA
7/30/2021	8:21:00 AM	W Fork Browns	Browns	VL/MB	8.63	513	19.5	7.83	108.1	ND	WFBRO000.1DA
7/30/2021	10:14:00 AM	Richland 3	Richland	VL/MB	5.59	592	25.7		228.2	ND	RICHL008.9
7/30/2021	11:10:00 AM	Richland 2	Richland	VL/MB	5.6	532	25.9		228.2	ND	RICHL003.4DA
8/4/2021	8:26:00 AM	Davidson	Davidson	MB	8.02	511	19.9	7.93	214.3	ND	DAVID000.4DA
8/4/2021	8:49:00 AM	Vaughns Gap 2	Richland	MB	8.73	610	19.3	7.81	1553.1	ND	VGAP001.2DA
8/4/2021	9:09:00 AM	Richland 3	Richland	MB	8.63	592	19.7	8.15	579.4	0.1	RICHL008.9
8/4/2021	10:34:00 AM	Bosley	Richland	MB	9.06	550	20.3	7.75	461.1	0.1	BSPRI000.4DA
8/4/2021	9:52:00 AM	M Fork Browns Dup	Browns	VL/RT	8.42	562	19.8		387.3	ND	MFBRO000.1DA
8/4/2021	9:39:00 AM	W Fork Browns	Browns	VL/RT	8.67	525	19.1	7.83	325.5	0.1	WFBRO000.1DA
8/4/2021	9:44:00 AM	Jocelyn Hollow	Richland	MB	8.96	530	20.3	7.88	387.3	0.1	JHOLL000.2DA
8/4/2021	10:06:00 AM	Sugartree	Richland	MB	6.16	616	20.8	7.19	307.6	0.1	SUGAR000.1DA
8/4/2021	9:19:00 AM	E Fork Browns	Browns	VL/RT	9.52	614	20	8.18	124.6	ND	EFBRO000.2DA
8/4/2021	9:29:00 AM	Vaughns Gap 1	Richland	MB	8.42	607	18.4	7.79	920.8	ND	VGAP000.2DA
8/4/2021	10:33:00 AM	Richland 1	Richland	VL/RT	9.13	590	21.1		313	0.2	RICHL002.0DA
8/4/2021	8:56:00 AM	Browns 2	Browns	VL/RT	8.74	584	19.6	8.22	290.9	ND	BROWN002.9DA
8/4/2021	8:21:00 AM	Browns 1		VL/RT	7.11	600	19.9	7.79	2419.6	0.1	BROWN000.4DA
8/4/2021	10:54:00 AM	Richland 2	Richland	MB	8.37	584	20.8	7.79	344.8	0.1	RICHL003.4DA
8/5/2021	9:02:00 AM	M Fork Browns	Browns	MB/RT	8.51	556	19.4	8.06	727	0.1	MFBRO000.1DA
8/5/2021	9:39:00 AM	Davidson	Davidson	VL	7.53	521	20	7.9	137.6	0.1	DAVID000.4DA
8/5/2021	10:14:00 AM	Richland 3	Richland	VL	11.07	609	21.2	8.22	344.8	0.1	RICHL008.9
8/5/2021	10:47:00 AM	Jocelyn Hollow	Richland	VL	8.89	539	21.1	7.89	290.9	0.1	JHOLL000.2DA
8/5/2021	9:58:00 AM	Vaughns Gap 2	Richland	VL	8.97	603	20.1	7.91	727	0.1	VGAP001.2DA
8/5/2021	8:33:00 AM	E Fork Browns	Browns	MB/RT	9.36	606	19.6	8.06	313	0.1	EFBRO000.2DA



**Table 13A.1 – TMDL Monitoring Data for FY22 (Continued)**

Date	Time	Site Name	Watershed	SAMPL. (init.)	DO mg/L	Cond. µS	Temp. °C	pH	E. coli MPN/100mL	PCR huback	DWR ST. ID
8/5/2021	8:52:00 AM	W Fork Browns	Browns	MB/RT	8.54	527	18.8	7.67	261.3	0.1	WFBRO000.1DA
8/5/2021	11:10:00 AM	Bosley	Richland	VL	9.16	553	20.9	7.86	152.9	0.1	BSPRI000.4DA
8/5/2021	8:13:00 AM	Browns 2	Browns	MB/RT	8.96	576	19.4	8.1	344.8	0.1	BROWN002.9DA
8/5/2021	10:29:00 AM	Sugartree	Richland	MB/RT	5.37	617	20.9	7.25	325.5	0.1	SUGAR000.1DA
8/5/2021	10:31:00 AM	Vaughns Gap 1	Richland	VL	8.5	605	19	7.84	488.4	0.1	VGAP000.2DA
8/5/2021	9:53:00 AM	Richland 1	Richland	MB/RT	9.07	571	20.5	8.03	177.7	0.1	RICHL002.0DA
8/5/2021	7:49:00 AM	Browns 1	Browns	MB/RT	7.09	595	19.7	7.69	461.1	0.1	BROWN000.4DA
8/5/2021	10:11:00 AM	Richland 2	Richland	MB/RT	7.9	564	20.5	7.84	261.3	0.1	RICHL003.4DA
8/25/2021	8:01:00 AM	Davidson	Davidson	MB	7.39	590	22.3	7.97	57.3	ND	DAVID000.4DA
8/25/2021	8:15:00 AM	Vaughns Gap 2	Richland	MB	8.58	644	22	7.66	387.3	0.1	VGAP001.2DA
8/25/2021	8:34:00 AM	Richland 3	Richland	MB	6.12	657	23.5	7.83	435.2	ND	RICHL008.9
8/25/2021	8:51:00 AM	Vaughns Gap 1	Richland	MB	7.97	626	21	7.74	201.4	ND	VGAP000.2DA
8/25/2021	9:05:00 AM	Jocelyn Hollow	Davidson	MB	7.21	588	23	7.94	228.2	ND	JHOLL000.2DA
8/25/2021	9:21:00 AM	Sugartree	Richland	MB	5.41	663	22.3	7.21	146.7	ND	SUGAR000.1DA
8/25/2021	9:34:00 AM	Bosley	Richland	MB	8.98	539	20.9	7.71	191.8	0.1	BSPRI000.4DA
8/25/2021	10:04:00 AM	W Fork Browns	Browns	MB	8.16	541	20.4	7.46	307.6	ND	WFBRO000.1DA
8/25/2021	10:10:00 AM	M Fork Browns	Browns	MB	7.66	579	23	8.02	980.4	ND	MFBRO000.1DA
8/25/2021	10:25:00 AM	E Fork Browns	Browns	MB	9.44	610	22.7	8.13	75.9	0.1	EFBRO000.2DA
8/25/2021	10:42:00 AM	Browns 2	Browns	MB	8.6	580	22.3	7.94	151.5	0.1	BROWN002.9DA
8/25/2021	11:02:00 AM	Browns 1	Browns	MB	5.99	604	23.2	7.61	196.8	0.1	BROWN000.4DA
8/25/2021	11:40:00 AM	Richland 2	Richland	MB	7.4	574	23.7		209.8	0.1	RICHL003.4DA
8/25/2021	11:57:00 AM	Richland 1	Richland	MB	9.74	584	25.4		201.4	ND	RICHL002.0DA
9/28/2021	7:36:00 AM	Browns 1	Browns	VL/JB	7.39	597	18.7	7.66	198.9	ND	BROWN000.4DA
9/28/2021	8:15:00 AM	Browns 2	Browns	VL/JB	8.73	577	18.5	8.03	178.2	ND	BROWN002.9DA
9/28/2021	8:15:00 AM	Browns 2 Dup	Browns	VL/JB					178.5		BROWN002.9DA
9/28/2021	8:29:00 AM	E Fork Browns	Browns	VL/JB	8.17	602	19	8.09	110.6	ND	EFBRO000.2DA
9/28/2021	8:47:00 AM	W Fork Browns	Browns	VL/JB	8.06	544	18.5	7.71	290.9	ND	WFBRO000.1DA
9/28/2021	8:53:00 AM	M Fork Browns	Browns	VL/JB	9.12	547	18.1	7.97	261.3	ND	MFBRO000.1DA
9/28/2021	9:16:00 AM	Bosley	Richland	VL/JB	9.6	580	18.8	7.66	410.6	ND	BSPRI000.4DA
9/28/2021	9:27:00 AM	Sugartree	Richland	VL/JB	5.85	612	19.5	7.28	107.6	0.2	SUGAR000.1DA
9/28/2021	9:41:00 AM	Jocelyn Hollow	Richland	VL/JB	9.54	520	19.1	7.95	365.4	0.1	JHOLL000.2DA
9/28/2021	10:00:00 AM	Vaughns Gap 1	Richland	VL/JB	8.87	580	18.2	7.65	272.3	0.1	VGAP000.2DA
9/28/2021	10:14:00 AM	Richland 3	Richland	VL/JB	12.81	599	19.9	8.25	547.5	0.2	RICHL008.9



**Table 13A.1 – TMDL Monitoring Data for FY22 (Continued)**

Date	Time	Site Name	Watershed	Sampl. (init.)	DO mg/L	Cond. µS	Temp. °C	pH	E. coli MPN/100mL	PCR huback	DWR ST. ID
9/28/2021	10:32:00 AM	Vaughns Gap 2	Richland	VL/JB	10.13	580	19.5	7.91	145	0.1	VGAP001.2DA
9/28/2021	10:50:00 AM	Davidson	Davidson	VL/JB	9.02	555	19	7.95	161.6	0.1	DAVID000.4DA
9/28/2021	11:09:00 AM	Richland 2	Richland	VL/JB	9.3	585	19.4	7.87	387.3	0.2	RICHL003.4DA
9/28/2021	11:29:00 AM	Richland 1	Richland	VL/JB	10.07	616	20.5	8.07	290.9	0.1	RICHL002.0DA
10/19/2021	8:10:00 AM	Davidson	Davidson	VL	11.02	569	13.6		70.3	0.1	DAVID000.4DA
10/19/2021	8:12:00 AM	Browns 1	Richland	MB	7.87	582	15.7	7.59	123.6	0.2	BROWN000.4DA
10/19/2021	8:37:00 AM	Vaughns Gap 2	Richland	VL	10.31	610	14.1		770.1	0.4	VGAP001.2DA
10/19/2021	8:39:00 AM	Browns 2	Richland	MB	10.23	560	15.3	7.93	104.6	0.2	BROWN002.9DA
10/19/2021	8:50:00 AM	Richland 3	Richland	VL	10.37	614	12.5		298.7	0.2	RICHL008.9
10/19/2021	8:53:00 AM	E Fork Browns	Richland	MB	11.4	567	14.9	8.18	93.3	0.2	EFBRO000.2DA
10/19/2021	9:07:00 AM	W Fork Browns	Richland	MB	9.72	534	16.7	7.72	613.1	0.1	WFBRO000.1DA
10/19/2021	9:10:00 AM	Vaughns Gap 1	Richland	VL	9.56	589	13.8		275.5	0.2	VGAP000.2DA
10/19/2021	9:12:00 AM	M Fork Browns	Richland	MB	10.64	544	13.6	8.06	235.9	0.2	MFBRO000.1DA
10/19/2021	9:21:00 AM	Jocelyn Hollow	Richland	VL	8.9	495	13.1		98.2	0.1	JHOLL000.2DA
10/19/2021	9:33:00 AM	Bosley	Richland	MB	10.51	559	16.6	5.02	290.9	0.1	BSPRI000.4DA
10/19/2021	9:34:00 AM	Sugartree	Richland	VL	6.09	568	16.7		325.5	0.2	SUGAR000.1DA
10/19/2021	10:06:00 AM	Richland 2	Richland	VL/MB	9.16	549	14.7		344.8	ND	RICHL003.4DA
10/19/2021	10:20:00 AM	Richland 1	Richland	VL/MB	11.12	566	15.1		161.6	ND	RICHL002.0DA
11/16/2021	9:20:00 AM	Richland 2	Richland	mb	9.1	543	11.1	8.03	80.9	ND	RICHL003.4DA
11/16/2021	9:37:00 AM	Browns 1	Browns	MB	8.84	574	12.6	7.38	108.1	ND	BROWN000.4DA
11/16/2021	9:44:00 AM	Jocelyn Hollow	Richland	MB	10.63	540	11.2	0	95.9	ND	JHOLL000.2DA
11/16/2021	10:11:00 AM	E Fork Browns	Browns	VL	11.34	547	12.8	8.14	488.4	ND	EFBRO000.2DA
11/16/2021	10:13:00 AM	Vaughns Gap 1	Richland	MB	9.71	598	12.3		172	ND	VGAP000.2DA
11/16/2021	10:24:00 AM	W Fork Browns	Browns	VL	8.36	526	16	7.59	686.7	ND	WFBRO000.1DA
11/16/2021	10:24:00 AM	Richland 3	Richland	mb	13.41	609	11		461.1	ND	RICHL008.9
11/16/2021	10:30:00 AM	M Fork Browns	Browns	VL	8.65	517	16	7.53	344.8	ND	MFBRO000.1DA
11/16/2021	10:30:00 AM	M Fork Browns Dup	Browns	VL					410.6	ND	MFBRO000.1DA
11/16/2021	10:37:00 AM	Vaughns Gap 2	Richland		11.72	602	13.4		43.2	ND	VGAP001.2DA
11/16/2021	10:49:00 AM	Bosley	Richland	VL	9.54	536	15.4	7.42	115.3	0.1	BSPRI000.4DA
11/16/2021	10:52:00 AM	Sugartree	Richland	MB	6.44	570	13.6		48	0.1	SUGAR000.1DA
12/15/2021	10:12:00 AM	Browns 1	Browns	MB	9.72	549	13.2	7.3	101.2	0.1	BROWN000.4DA
12/15/2021	10:14:00 AM	Davidson	Davidson	VL	12.15	571	12.2	8.54	29.8	0.1	DAVID000.4DA
12/15/2021	10:33:00 AM	Jocelyn Hollow	Richland	VL	11.85	495	12.3	8.71	41	0.1	JHOLL000.2DA
12/15/2021	10:34:00 AM	Browns 2	Browns	MB	11.36	562	13.5	7.67	133.4	0.1	BROWN002.9DA



**Table 13A.1 – TMDL Monitoring Data for FY22 (Continued)**

Date	Time	Site Name	Watershed	Sampl. (init.)	DO mg/L	Cond. µS	Temp. °C	pH	E. coli MPN/100mL	PCR huback	DWR ST. ID
12/15/2021	10:42:00 AM	Vaughns Gap 1	Richland	VL	10.19	561	13.5		365.4	0.1	VGAP000.2DA
12/15/2021	10:44:00 AM	E Fork Browns	Browns	MB	11.9	553	13.6	8.15	133.3	0.1	EFBRO000.2DA
12/15/2021	10:57:00 AM	W Fork Browns	Browns	MB	10.2	548	14.6	7.6	290.9	0.1	WFBRO000.1DA
12/15/2021	11:01:00 AM	Richland 3	Richland	VL	14.1	580	12.3		261.3	0.1	RICHL008.9
12/15/2021	11:03:00 AM	M Fork Browns	Browns	MB	10.94	555	12.6	7.62	178.9	0.1	MFBRO000.1DA
12/15/2021	11:13:00 AM	Vaughns Gap 2	Richland	VL	11.89	545	13.8		81.3	0.1	VGAP001.2DA
12/15/2021	11:28:00 AM	Bosley	Richland	MB	10.45	522	15.9	7.73	139.6	0.2	BSPRI000.4DA
12/15/2021	11:33:00 AM	Sugartree	Richland	VL	10.68	552	13.4		121	0.1	SUGAR000.1DA
12/15/2021	11:46:00 AM	Richland 2	Richland	MB	12.37	575	13.3	7.78	165.8	0.1	RICHL003.4DA
12/15/2021	12:02:00 PM	Richland 1	Richland	MB/VL	14.43	568	13.7	8.16	206.4	0.1	RICHL002.0DA
1/26/2022	8:03:00 AM	Davidson	Davidson	MB	12.16	575	5.4	8.44	25.6	ND	DAVID000.4DA
1/26/2022	8:16:00 AM	Browns 1	Browns	VL	9.78	550	7.9	7.17	290.9	ND	BROWN000.4DA
1/26/2022	8:27:00 AM	Vaughns Gap 2	Richland	MB	12.85	527	6.8	8.51	34.1	ND	VGAP001.2DA
1/26/2022	8:38:00 AM	Browns 2	Browns	VL	10.92	532	7.3	7.66	65	ND	BROWN002.9DA
1/26/2022	8:42:00 AM	Richland 3	Richland	MB	14.11	557	3.5	8.93	235.9	ND	RICHL008.9
1/26/2022	8:52:00 AM	E Fork Browns	Browns	VL	12.02	593	7.1	8.37	6.3	ND	EFBRO000.2DA
1/26/2022	8:53:00 AM	Vaughns Gap 1	Richland	MB	11.11	537	7.7	8.14	47.1	ND	VGAP000.2DA
1/26/2022	8:53:00 AM	Vaughns Gap 1 Dup	Richland						41.4		VGAP000.2DA
1/26/2022	9:05:00 AM	Jocelyn Hollow	Richland	MB	13.6	480	4.5	8.7	41.4	ND	JHOLL000.2DA
1/26/2022	9:12:00 AM	W Fork Browns	Browns	VL	12.59	506	9.1	7.75	99	ND	WFBRO000.1DA
1/26/2022	9:19:00 AM	M Fork Browns	Browns	VL	11.71	506	9.1	7.63	85.7	ND	MFBRO000.1DA
1/26/2022	9:22:00 AM	Sugartree	Richland	MB	13.07	559	4.7	8.7	146.7	ND	SUGAR000.1DA
1/26/2022	9:42:00 AM	Bosley	Richland	VL	10.88	555	11.7	7.77	85.7	ND	BSPRI000.4DA
1/26/2022	9:43:00 AM	Richland 2	Richland	MB	12.7	557	7	8.19	104.6	ND	RICHL003.4DA
1/26/2022	10:06:00 AM	Richland 1	Richland	VL	14.39	558	6.6	8.09	127.4	ND	RICHL002.0DA
2/15/2022	9:28:00 AM	Davidson	Davidson	VL	13.95	576	6.4	8.26	14.6	ND	DAVID000.4DA
2/15/2022	9:32:00 AM	Browns 1	Browns	MB	11.11	544	9	7.66	59.8	ND	BROWN000.4DA
2/15/2022	9:43:00 AM	Vaughns Gap 2	Richland	VL	12.43	534	6.8	8.22	30.9	ND	VGAP001.2DA
2/15/2022	9:54:00 AM	Richland 3	Richland	VL	12.64	528	6.2	8.77	38.8	ND	RICHL008.9
2/15/2022	10:00:00 AM	Browns 2	Browns	MB	13.08	520	9.4	8.39	191.8	ND	BROWN002.9DA
2/15/2022	10:03:00 AM	Vaughns Gap 1	Richland	VL	12.08	546	8.6	8.01	54.8	ND	VGAP000.2DA
2/15/2022	10:09:00 AM	E Fork Browns	Browns	MB	13.08	548	9.2	8.39	15.6	ND	EFBRO000.2DA
2/15/2022	10:12:00 AM	Jocelyn Hollow	Richland	VL	14.05	487	6.9	8.39	25.9	ND	JHOLL000.2DA





**Table 13A.1 – TMDL Monitoring Data for FY22 (Continued)**

Date	Time	Site Name	Watershed	Sampl. (init.)	DO mg/L	Cond. µS	Temp. °C	pH	E. coli MPN/100mL	PCR huback	DWR ST. ID
2/15/2022	10:22:00 AM	W Fork Browns	Browns	MB	12.5	486	11.4	7.96	115.3	ND	WFBRO000.1DA
2/15/2022	10:25:00 AM	Sugartree	Richland	VL	13.04	510	8.5	7.91	193.5	ND	SUGAR000.1DA
2/15/2022	10:30:00 AM	M Fork Browns	Browns	MB	13.33	484	7.6	8.4	116.9	ND	MFBRO000.1DA
2/15/2022	10:39:00 AM	Richland 2	Richland	VL	13.28	533	8.4	8.15	68.3	ND	RICHL003.4DA
2/15/2022	10:55:00 AM	Bosley	Richland	VL	10.33	499	13.2	8.03	118.7	ND	BSPRI000.4DA
2/15/2022	10:57:00 AM	Richland 1	Richland	MB	15.28	525	9.2	8.5	38.4	ND	RICHL002.0DA
3/15/2022	6:46:00 AM	Vaughns Gap 2	Richland	MB	9.85	518	11.5	7.85	17.3	ND	VGAP001.2DA
3/15/2022	6:46:00 AM	Vaughns Gap 2	Richland	MB					20.3		VGAP001.2DA
3/15/2022	7:03:00 AM	Richland 3	Richland	MB	7.27	565	10.9	7.94	155.3	ND	RICHL008.9
3/15/2022	7:15:00 AM	Vaughns Gap 1	Richland	MB	9.14	538	12.2	7.87	95.8	ND	VGAP000.2DA
3/15/2022	7:26:00 AM	Jocelyn Hollow	Richland	MB	10.68	477	10.7	8.05	65	ND	JHOLL000.2DA
3/15/2022	7:48:00 AM	Sugartree	Richland	MB	8.79	508	11.7	7.62	224.2	ND	SUGAR000.1DA
3/15/2022	8:01:00 AM	Bosley	Richland	MB	9.4	570	14.1	7.89	365.4	ND	BSPRI000.4DA
3/15/2022	8:20:00 AM	Richland 1	Richland	MB	10.25	530	14.1	7.89	119.8	ND	RICHL002.0DA
3/15/2022	8:24:00 AM	Browns 1	Browns	VL	8.62	543	13.3	7.58	209.8	ND	BROWN000.4DA
3/15/2022	8:49:00 AM	E Fork Browns	Browns	VL	9.77	580	12.6	8.01	193.5	ND	EFBRO000.2DA
3/15/2022	9:06:00 AM	W Fork Browns	Browns	VL	9.69	479	13.2	7.69	108.1	ND	WFBRO000.1DA
3/15/2022	9:12:00 AM	M Fork Browns	Browns	VL	10.11	479	13.2	7.77	142.1	ND	MFBRO000.1DA
4/28/2022	7:35:00 AM	Davidson	Davidson	MB	9.61	555	13.3	7.95	93.4	ND	DAVID000.4DA
4/28/2022	7:42:00 AM	Browns 1	Browns	VL	8.25	522	14.4	7.67	307.6	ND	BROWN000.4DA
4/28/2022	7:53:00 AM	Vaughns Gap 2	Richland	MB	10.22	519	13.4	7.94	214.2	ND	VGAP001.2DA
4/28/2022	8:02:00 AM	Vaughns Gap 1	Richland	MB	9.38	528	13.4	7.97	121.1	ND	VGAP000.2DA
4/28/2022	8:08:00 AM	Browns 2	Browns	VL	9.98	507	14.1	7.96	159.7	ND	BROWN002.9DA
4/28/2022	8:16:00 AM	Richland 3	Richland	MB	10.78	536	13.6	8.31	488.4	ND	RICHL008.9
4/28/2022	8:29:00 AM	E Fork Browns	Browns	VL	8.74	544	14.7	7.94	275.5	ND	EFBRO000.2DA
4/28/2022	8:32:00 AM	Jocelyn Hollow	Richland	MB	11.34	479	12.5	8.21	488.4	ND	JHOLL000.2DA
4/28/2022	8:40:00 AM	W Fork Browns	Richland	VL	10.42	552	14.6	7.6	307.6	ND	WFBRO000.1DA
4/28/2022	8:47:00 AM	M Fork Browns	Browns	VL	10.99	554	14.1	7.6	261.3	ND	MFBRO000.1DA
4/28/2022	9:05:00 AM	Bosley	Richland	MB	10.2	478	15.8	7.78	727	0.2	BSPRI000.4DA
4/28/2022	9:05:00 AM	Richland 2	Richland	MB	9.18	508	14.7	8.02	143.9	ND	RICHL003.4DA
4/28/2022	9:19:00 AM	Richland 1	Richland	MB	11.07	510	14.6	8.2	160.7	ND	RICHL002.0DA
4/28/2022	9:23:00 AM	Sugartree	Sugartree	VL	8.68	510	14.2	7.58	201.4	ND	SUGAR000.1DA



**Table 13A.1 – TMDL Monitoring Data for FY22 (Continued)**

Date	Time	Site Name	Watershed	Sampl. (init.)	DO mg/L	Cond. µS	Temp. °C	pH	E. coli MPN/100mL	PCR huback	DWR ST. ID
5/11/2022	8:53:00 AM	Browns 1	Browns	MB	7.88	541	19.3	7.74	488.4	0.1	BROWN000.4DA
5/11/2022	8:58:00 AM	Davidson	Davidson	VL	7.99	581	18.3	7.99	14.6	ND	DAVID000.4DA
5/11/2022	9:24:00 AM	Browns 2	Browns	MB	8.4	515	18.6	8.08	290.9	ND	BROWN002.9DA
5/11/2022	9:24:00 AM	Vaughns Gap 2	Browns	MB	9.31	567	18.9	8.1	435.2	ND	VGAP001.2DA
5/11/2022	9:28:00 AM	Richland 3	Richland	VL	11.94	543	20.2	8.76	686.7	ND	RICHL008.9
5/11/2022	9:33:00 AM	E Fork Browns	Browns	MB	10	534	19.1	8.14	228.2	ND	EFBRO000.2DA
5/11/2022	9:41:00 AM	Vaughns Gap 1	Richland	VL	8.77	552	18.5	8.14	139.6	ND	VGAP000.2DA
5/11/2022	9:53:00 AM	Jocelyn Hollow	Richland	VL	9.36	503	19	8.28	920.8	ND	JHOLL000.2DA
5/11/2022	10:02:00 AM	W Fork Browns	Browns	MB	8.69	467	16.8	7.64	133.3	ND	WFBRO000.1DA
5/11/2022	10:10:00 AM	M Fork Browns	Browns	MB	7.75	481	19	7.9	579.4	ND	MFBRO000.1DA
5/11/2022	10:27:00 AM	Sugartree	Sugartree	VL	7.07	524	17.9	7.55	146.7	ND	SUGAR000.1DA
5/11/2022	10:33:00 AM	Bosley	Richland	MB	8.73	485	19.1	7.99	613.1	ND	BSPRI000.4DA
5/11/2022	10:35:00 AM	Richland 2	Richland	VL	8.64	562	18.4	7.84	275.5	ND	RICHL003.4DA
5/11/2022	10:50:00 AM	Richland 1	Richland	VL	9.23	520	18.5	8.11	980.4	ND	RICHL002.0DA
6/6/2022	9:02:00 AM	Browns 1	Browns	VL	6.39	487	20.7	7.76	248.1	ND	BROWN000.4DA
6/6/2022	9:07:00 AM	Richland 2	Dry	MB	6.01	533	20.9	7.98	325.5	ND	RICHL003.4DA
6/6/2022	9:31:00 AM	E Fork Browns	Browns	VL	7.36	515	20.1	8.08	1413.6	ND	EFBRO000.2DA
6/6/2022	9:32:00 AM	Jocelyn Hollow	Richland	MB	8.59	527	20	8.32	613.1	ND	JHOLL000.2DA
6/6/2022	9:45:00 AM	Vaughns Gap 1	Richland	MB	7.17	560	19.5	8.22	201.4	ND	VGAP000.2DA
6/6/2022	9:46:00 AM	W Fork Browns	Browns	VL	12.04	502	19.4	7.8	275.5	ND	WFBRO000.1DA
6/6/2022	10:00:00 AM	Richland 3	Richland	MB	4.48	633	20.5	7.74	2419.6	ND	RICHL008.9
6/6/2022	10:01:00 AM	M Fork Browns	Browns	VL	10.94	494	19	7.64	261.3	ND	MFBRO000.1DA
6/6/2022	10:14:00 AM	Vaughns Gap 2	Richland	MB	8.41	571	19.8	8.2	866.4	ND	VGAP001.2DA
6/6/2022	10:22:00 AM	Bosley	Richland	VL	8.69	482	19.1	7.94	727	ND	BSPRI000.4DA
6/6/2022	10:40:00 AM	Sugartree	Sugartree	MB	5.25	550	19.4	7.71	122.3	ND	SUGAR000.1DA



Table 13A.2 - SWMP Quantifiable Statistics

Categories	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
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
# 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
# of Construction Stormwater-Related Inspections	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
# of Grading Permits Issued	252	239	165	109	121	135	142	138	318	276	254	262	311	327	283	308	290
# 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
# 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
# of Stormwater Enforcements (NOVs and SWOs)	283	190	342	188	123—	148	94	96	168	128	116	159	112	125	87	76	77



Table 13A.3 – Ambient Monitoring Data for the FY22 Reporting Period

Date	Time	Watershed	Site Name	TDEC Station ID	Samplers (initials)	DO %	DO mg/L	Cond. uS	Temp C	pH	Flow ft <sup>3</sup> /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
9/8/2021	7:20:00 AM		Trip Blank		VL/MB		---	---	---	---	---	0.0	ND	ND	ND	ND	ND	ND	0.04	0.02	ND	ND	ND	ND	ND	ND	4
9/8/2021	8:11:00 AM	Davidson	Davidson	DAVID000.4DA	VL/MB	92.7	8.49	568.0	19.5	8.11	2.91	42.2	ND	ND	ND	ND	0.51	0.51	0.32	0.32	ND	ND	ND	ND	0.261	ND	12
9/8/2021	8:56:00 AM	Richland	Richland 1	RICHL002.0DA	VL/MB	101.2	9.16	599.0	20.2	8.09	43.97	248.9	ND	ND	ND	ND	1.75	1.75	0.23	0.23	ND	1.345	ND	ND	0.235	ND	8
9/8/2021	9:17:00 AM	Browns	Browns 2	BROWN002.9DA	VL/MB	97.9	8.95	566.0	19.9	8.17	26.20	214.2	ND	ND	ND	ND	2.33	2.33	0.29	0.30	0.132	1.896	ND	ND	0.228	ND	8
11/17/2021	9:13:00 AM		Field Blank		MB/VL		---	---	---	---	---	1.0	ND	ND	ND	ND	ND	ND	0.03	0.02	ND	ND	ND	ND	ND	ND	ND
11/17/2021	9:13:00 AM	Davidson	Davidson	DAVID000.4DA	VL/MB	86.3	9.05	611.0	13.3	7.62	4.11	46.4	ND	ND	ND	0.10	0.33	0.43	0.29	0.25	ND	ND	ND	ND	0.262	ND	ND
11/17/2021	9:49:00 AM	Richland	Richland 1	RICHL002.0DA	VL/MB	121.4	12.46	558.0	14.1	8.13	61.25	53.8	ND	ND	ND	0.15	1.03	1.18	0.25	0.24	ND	2.569	ND	ND	0.225	ND	ND
11/17/2021	10:27:00 AM	Browns	Browns 2	BROWN002.9DA	VL/MB	103.7	10.14	538.0	15.3	8.19	17.79	127.4	ND	ND	ND	ND	1.50	1.50	0.32	0.32	0.191	3.044	ND	ND	0.242	ND	ND
3/16/2022	8:50:00 AM	Browns	Browns 2	BROWN002.9DA	VL	87.2	9.08	550.0	13.4	7.91	30.76	140.1	ND	ND	ND	0.22	1.70	1.92	0.29	0.23	0.216	5.647	ND	1.067	0.255	ND	9
3/16/2022	9:28:00 AM	Richland	Richland 2	RICHL003.4DA	VL	86.8	9.05	524.0	13.3	7.92	17.79	135.4	ND	ND	ND	ND	1.06	1.06	0.19	0.18	ND	ND	ND	ND	0.195	ND	10
3/16/2022	10:07:00 AM	Davidson	Davidson	DAVID000.4DA	VL	111.0	11.70	535.0	12.8	8.24	10.42	33.1	ND	ND	ND	0.12	0.15	0.27	0.25	0.13	ND	ND	ND	ND	0.224	ND	6
3/16/2022	8:50:00 AM	Browns	Browns 2	BROWN002.9DA	VL	89.4	9.12	556.0	13.4	7.94	---	193.5	ND	ND	ND	0.22	1.70	1.92	0.24	0.22	0.213	5.243	ND	1.047	0.253	ND	8
6/14/2022	8:48:00 AM	Davidson	Davidson	DAVID000.4DA	VL/MB	73.2	6.33	611.0	22.4	7.98	1.51	224.7	ND	ND	ND	0.12	0.51	0.63	0.39	0.30	0.111	ND	ND	ND	0.315	ND	ND
6/14/2022	9:29:00 AM	Richland	Richland 1	RICHL002.0DA	VL/MB	80.7	6.65	492.0	25.3	8.01	13.49	378.4	ND	ND	ND	0.17	0.76	0.93	0.24	0.18	0.136	1.395	ND	1.103	0.334	ND	ND
6/14/2022	10:10:00 AM	Browns	Browns 2	BROWN002.9DA	VL/MB	87.3	7.49	520.0	22.7	8.11	12.20	866.4	ND	ND	ND	0.15	1.39	1.54	0.31	0.27	0.192	1.500	ND	ND	0.206	ND	6

ND = Nondetect



**Table 13A.4 – Benthic Monitoring Data for TMDL Streams during FY22 Reporting Period**

Station ID	Site Name	Date	Ecoregion	QC	Habitat Score	Collection	TMI	Comments	HUC	X	Y
CJO000.9DA	Cathy Jo Branch (zoo)	7/15/2021	71h		123	SQKICK	18	Special Project	TN05130202007_1490	-86.74350	36.08900
DAVID000.7DA	Davidson Branch	8/12/2021	71h		125	SQKICK	30	Ambient	TN05130202001_0800	-86.90270	36.12510
BROWN002.9DA	Browns Creek 2	9/10/2021	71h		106	SQKICK	18	Ambient	TN05130202023_200	-86.76740	36.12740
RICHL002.0DA	Richland Creek 1	9/10/2021	71h		141	SQKICK	28	Ambient	TN5130202214_1000	-86.86800	36.16430
RICHL002.0DA	Richland Creek 1	9/10/2021	71h	Duplicate SQSH Only	---	SQKICK	28		TN05130202314_1000	-86.86800	36.16430
BSPRI000.4DA	Bosley Springs	9/13/2021	71h		90	SQKICK	28		TN05130202314_0300	-86.84070	36.13020
RICHL003.4DA	Richland Creek 2	9/13/2021	71h		119	SQKICK	20		TN05130202314_2000	-86.85530	36.14990
MFBRO000.1DA	Middle Fork Browns Creek	9/14/2021	71h		116	SQKICK	24		TN05130202023_0200	-86.77670	36.11440
WFBRO000.1DA	West Fork Browns Creek	9/14/2021	71h		114	SQKICK	24		TN05130202023_0300	-86.77640	36.11450
VGAP000.2DA	Vaughns Gap 1	9/29/2021	71h		117	SQKICK	20		TN05130202314_0700	-86.86970	36.10150
JHOLL000.2DA	Jocelyn Hollow	9/30/2021	71h		104	SQKICK	20		TN05130202314_0800	-86.86970	36.10570
SUGAR000.1DA	Sugartree	10/5/2021	71h		106	SQKICK	20		TN05130202314_0400	-86.84990	36.12280
EFBRO000.2DA	East Fork Browns	10/11/2021	71h		74	SQKICK	20		TN05130202023_0100	-86.77130	36.11940
BROWN000.4DA	Browns Creek 1	10/21/2021	71h		84	SQKICK	12		TN05130202023_1000	-86.74290	36.15590
VGAP001.2DA	Vaughns Gap 2	10/26/2021	71h		117	SQKICK	18		TN5130202314_0700	-86.88130	36.09270
RICHL008.9DA	Richland 3	10/26/2021	71h		121	SQKICK	20		TN05130202304_3000	-86.86180	36.09060
RICHL008.9DA	Richland 3	10/26/2021	71h	Duplicate Habitat Only	119	SQKICK	---		TN05130202314_3000	-86.86180	36.09060
VGAP001.2DA	Vaughns Gap 2	10/26/2021	71h	Duplicate SQSH Only	---		26		TN05130202314_0750	-86.88139	36.09222
JHOLL000.2DA	Jocelyn Hollow	3/29/2022	71h		113	SQKICK	16		TN05130202314_0800	-86.86970	36.10570
SUGAR000.1DA	Sugartree	4/19/2022	71h		118	SQKICK	12		TN05130202314_0400	-86.84990	36.12280
EFBRO000.2DA	East Fork Browns	4/27/2022	71h		82	SQKICK	12		TN05130202023_0100	-86.77130	36.11940
RICHL002.2DA	Richland Creek 1	5/4/2022	71h		141	SQKICK	14		TN05130202314_1000	-86.86800	36.16430
BROWN000.4DA	Browns Creek 1	5/10/2022	71h		96	SQKICK	16		TN05130202023_1000	-86.74290	36.15590
WFBRO000.1DA	West Fork Browns Creek	5/12/2022	71h		116	SQKICK	22		TN05130202023_0300	-86.77640	36.11450
MFBRO000.1DA	Middle Fork Browns Creek	5/12/2022	71h		133	SQKICK	18		TN05130202023_0300	-86.77670	36.11440
VGAP000.2DA	Vaughns Gap 1	5/17/2022	71h		103	SQKICK	18		TN05130202314_0700	-86.86970	36.10150
VGAP001.2DA	Vaughns Gap 2	5/17/2022	71h		113	SQKICK	20		TN05130202314_0750	-86.88130	36.09270



**Table 13A.4 – Benthic Monitoring Data for TMDL Streams during FY22 Reporting Period (Continued)**

Station ID	Site Name	Date	Ecoregion	QC	Habitat Score	Collection	TMI	Comments	HUC	X	Y
BSPRI000.4DA	Bosley Springs	5/24/2022	71h		88	SQKICK	18		TN051302023314_0300	-86.84070	36.13020
BSPRI000.4DA	Bosley Springs	5/24/2022	71h	Duplicate Habitat and SQSH	92	SQKICK	18		TN051302023314_0300	-86.84070	36.13020
BROWN002.9DA	Browns Creek 2	6/15/2022	71h		99	SQKICK	24	Ambient	TN05130202023_2000	-86.76740	36.12740
DAVID000.4DA	Davidson Branch	6/15/2022	71h		118	SQKICK	24	Ambient	TN05130202001_0800	-86.90270	36.12510
RICHL003.4DA	Richland Creek 2	6/16/2022	71h		118	SQKICK	26	Ambient	TN05130202314_0200	-86.85530	36.14990
RICHL008.9DA	Richland Creek 3	6/22/2022	71h	Not enough flow for SQSH	118	SQKICK	---		TN05130202314_3000	-86.86180	36.09060



## **4.0 Supporting Program Data**

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

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Various Stats Tracked for the Water Quality Improvement Project with the Cumberland River Compact as of the Date the Annual Report was Compiled.....	88
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Metro Water Services Waste Services Division – Material Management Report (FY22) .....	107
Metro Nashville Department of Transportation Hazardous Spills Responses During FY22 .....	108
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MWS System Services Employee SOP Training Sign-in Sheet .....	110



### Examples of MWS Stormwater Social Media Posts in FY22

 **Metro Water Services** ✓  
@NashvilleMWS

Why do we do what we do? So kids like these at @leadershipacademyllc Camp Twigs can play in clean streams, find and release crawdads, and learn to love nature!



2:35 PM · Jun 27, 2022 · Twitter Web App

 **Metro Water Services** ✓  
@NashvilleMWS

The 9th annual Urban Runoff 5K and Water Quality Festival is coming up on August 6th and we have bird houses and squirrel feeders for raffle on the day of! For more information and to sign up, visit [tnstormwater.org/urban-runoff-5k](https://tnstormwater.org/urban-runoff-5k)



4:11 PM · Jun 23, 2022 · Twitter Web App





Examples of MWS Stormwater Social Media Posts in FY22 (Continued)

 Metro Water Services   
@NashvilleMWS

"This is amazing! I want to work for Metro Water!"  
Who knew stormdrains and SW controls were so exciting? Gateway ES 4th grade GATE students, that's who! They learned a lot about our work, following the path of the water from the school to a creek & filling out inspection forms.



11:11 AM · May 19, 2022 · Twitter Web App

 Metro Water Services   
@NashvilleMWS

Neely's Bend Elementary Gifted & Talented students inspected the stormwater control measures & stormdrains at their school. Finding the clean stream running through their campus, they determined that litter was kept away by the SW control measures!  
[#MNPS](#) [#stormwatereducation](#)



3:32 PM · May 11, 2022 · Twitter Web App



Examples of MWS Stormwater Social Media Posts in FY22 (Continued)

 Metro Water Services   
@NashvilleMWS

While you're there, swing by our Stormwater booth and also hydrate with the MWS water fountain!



12:32 PM · Apr 23, 2022 · Twitter for iPhone

 Metro Water Services   
@NashvilleMWS

Join Metro Water Services' Julie Berbiglia and the Zero Waste Nashville team next week at the East Nashville Farmers Market! On Tuesday, April 19 from 2 – 6pm, come learn about the TN Smart Yard Program and backyard [#composting!](#)

: [kauai.gov/composting](https://www.kauai.gov/composting)



11:10 AM · Apr 14, 2022 · Twitter Web App



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

<b>MWS/CRC Partnership Agreement</b>	<b>Current Project</b>		
<b>Data as of: 08/05/2022</b>	<b>05/06/20 - 08/05/25</b>		
<b>Partnership Progress Summary Table</b>	<b>W-QIP</b>		
<b>WQIP Goal Criteria</b>	<b>W-QIP Goal</b>	<b>Current # Done</b>	<b>% Done</b>
Facilitate rain garden builds	50	65	130%
Facilitate planting of trees 1" or greater	2500	4594	184%
Educate Davidson County residents about green infrastructure & reach Title 1 school students with stream ecosystem education	15000	65302182	435348%
Recreation Opportunities on the River (People engaged)	10000	163	2%
Facilitate the adoption of stream segments	25	36	144%
Remove impermeable pavement (reporting square footage removed)	NA	19000	NA
Stream Cleanup Requests Received	NA	18	NA
Stream Cleanup Events Held	160	81	51%
Stream Banks Stabilized (linear ft)	250	680	272%



**Example Meeting Minutes from the Stormwater Management Committee during FY22**

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)  
May 5, 2022  
\*\*\*\*\*  
8:15 AM  
1441 12<sup>th</sup> Ave South Nashville, TN 37203  
Midtown Hills Police Precinct**

**STORMWATER MANAGEMENT COMMITTEE**

**(Quorum Required: Four Members)**

**Committee Members Present:**

Mr. Dodd Galbreath –Chair  
Ms. Carrie Stokes, P.E. – V. Chair  
Mr. Jay Fulmer, P.E.  
Mr. Kabir Sandhu, P.E.  
Mr. Trey Lewis  
Dr. Janey Camp, P. E.

**Committee Members Absent:**  
Ms. Ronette Adams-Taylor

**I. CALL TO ORDER**

Mr. Dodd Galbreath, (chair) called meeting to order at 8:20 a.m.

**II. APPROVAL OF APRIL 7, 2022 MEETING MINUTES & DECISION LETTERS**

A motion was made by Ms. Carrie Stokes and seconded by Mr. Kabir Sandhu on approval of the April 7, 2022 minutes & decisions letters. Mr. Dodd Galbreath, Ms. Carrie Stokes, Mr. Kabir Sandhu, Mr. Trey Lewis, Mr. Jay Fulmer, and Dr. Janey Camp voted in favor of the motion. The motion carried.

**III. STORMWATER MANAGEMENT COMMITTEE AGENDA**



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 FY22 (Continued)

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

1. 202200005 Ben Allen Ridge (Final)  
301 Ben Allen Road APN 06100001700  
0 Ben Allen Road 06100008400  
Inspector: (Katherine O'Hara) CD-08 (Nancy VanReece)

### APPLICANT'S REQUEST:

1. Disturbance/removal of a manmade pond and associated buffers.
2. Disturbance/removal of two low quality wetlands and associated buffers.
3. Disturbance of the stream buffer to allow for the installation of a greenway trail.
4. Continuous mowing and maintenance of the buffer area.

**APPELLANT:** 301 Ben Allen, LLC

**REPRESENTATIVE:** Tripp Smith (Alfred Benesch & Company)

### COMMENTS:

**SW STAFF:** Staff is uncertain how project logistics create a hardship necessitating the elimination of the hydrologically connected resources.

**CODES:** No comment provided.

**PLANNING:** Layout is primarily consistent with the preliminary approved by Council.

**GREENWAYS:** No comment provided.

Mr. Tripp Smith (Benesch), Nathan Oliver (Hawkins Partners, Inc.), Tony Grow (Grow Environmental Solutions, LLC), and Matthew Nicholson (The Clear Blue Company) presented the proposal and associated mitigation.

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

Mr. Jay Fulmer began the discussion by clarifying the variance requests with MWS staff.

Mr. Kabir Sandhu clarified the variance requests from the previous preliminary variance approval with MWS staff also asked if the pond was jurisdictional or non-jurisdictional.

A letter from Mr. David Withers (National Heritage Inventory Program) was discussed. This letter was also included in the variance file.

Mr. Dodd Galbreath asked for clarification and discussed total acreage of buffer improvements with the applicant.

MWS Staff explained the process and rationale typically used for a Low Impact Development Waiver.



## Example Meeting Minutes from the Stormwater Management Committee during FY22 (Continued)

After discussion during the Executive Session of the Committee on May 5, 2022 and review of the information Mr. Jay Fulmer presented a motion to conditionally approve as presented. Dr. Janey Camp seconded the motion. Mr. Jay Fulmer, Ms. Carrie Stokes, Dr. Janey Camp, Mr. Dodd Galbreath, Mr. Kabir Sandhu, and Mr. Trey Lewis voted in favor of the motion.

**NOW THEREFORE**, it is the decision of the Committee that the request in Variance Request No. 202200005 as set out above and further described in the case record, be and is hereby **GRANTED**.”

2. 202200007 Ford Prologis  
7228 Centennial Blvd  
Inspector: (Leigh Nelson)  
Roberts)

APN 08000000200  
CD-20 (Mary Carolyn

### APPLICANT'S REQUEST:

1. Disturbance/encapsulation of streams and associated buffers.

**APPELLANT:** 7228 Centennial Blvd, LLC

**REPRESENTATIVE:** Roy Hasle (Barge Design Solutions)

### COMMENTS:

**SW STAFF:** Staff is uncertain how project logistics create a hardship necessitating the elimination of the resource.

**CODES:** No comment provided.

**PLANNING:** No comment provided.

**GREENWAYS:** No comment provided.

Ms. Carrie Stokes recused herself from the vote.

Mr. Jeff Cundiff (Barge Design Solutions, Inc.), David Bailey (Prologis), and Frank Amatucci (Barge Design Solutions, Inc) presented the proposal and associated mitigation.

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

Mr. Dodd Galbreath began the committee discussion by asking about acreage of disturbances to the stream.

Dr. Janey Camp asked for clarification about the definition of hardship.

Committee members discussed the onsite landfill remediation with the applicant.

After discussion during the Executive Session of the Committee on May 5, 2022 and review of the information Mr. Jay Fulmer presented a motion to defer as presented. Mr. Trey Lewis seconded the motion. Mr. Jay Fulmer, Dr. Janey Camp, Mr. Dodd Galbreath, Mr. Kabir Sandhu, and Mr. Trey Lewis voted in favor of the motion.



**Example Meeting Minutes from the Stormwater Management Committee during FY22  
(Continued)**

NOW THEREFORE, it is the decision of the Committee that the request in Variance Request No. 202200007 as set out above and further described in the case record, be and is hereby **DEFERRED.**”

**IV. ITEMS OF BUSINESS**

There was a discussion about proposed updates to the SWMC submittal checklist and application package.

**VI. ADJOURNMENT**

The meeting adjourned at 09:32 a.m.

Metropolitan Stormwater Management Committee

Approved:

By:

Logan Bowman

Digitally signed by Logan Bowman  
DN: cn=Logan Bowman, email=Logan.Bowman@metronashville.gov,  
ou=MS4, ou=Logan Bowman,  
serial=2022.06.13.09:32:45Z

Date: \_\_\_\_\_

06/13/2022



**MWS Classroom/Youth-Based Public Education Program Activities during FY22**

<b>SUMMER CAMP PROGRAMS</b>					
<b>Target Audience</b>	<b>Program Description</b>		<b>Outcomes/ Measures of Success</b>		<b>Recommendations for Improvement</b>
Summer Camps that include creek/lake activities  Ages 5-12	<i>The Water Cycle &amp; Me:</i> Hands-on Enviroscope 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 programs are successful in building awareness of non-point source pollution and should continue.
<b>Date</b>	<b>Location</b>	<b># Programs</b>	<b>Camper s</b>	<b>Ages</b>	<b>Notes</b>
01-Jul-21	Summer Camp	1	25	elementary - middle	Owls Hill Nature Sanctuary summer camp
08-Jul-21	Summer Camp	1	20	elementary and middle school	Owl's Hill Nature Sanctuary Summer Camp
12-Jul-21	Summer Camp	2	25	middle school	Community Center Outdoor Recreation
14-Jul-21	Summer Camp	3	60	elementary - middle school	Leadership Academy Camp Warner Park
15-Jul-21	Summer Camp	1	24	elementary - middle school	Owl's Hill Nature Sanctuary Summer Camp
28-Jul-21	Summer Camp	3	60	elementary - middle school	Leadership Academy Camp Warner Park
29-Jul-21	Summer Camp	1	20	elementary - middle school	Owl's Hill Nature Sanctuary Summer Camp
04-Aug-21	Summer Camp	3	60	elementary - middle school	Leadership Academy - Camp Warner park
17-Mar-22	Summer Camp	1	15	5-12 years	Owls Hill Spring Break Camp
09-Jun-22	Summer Camp	1	25	ages 5-12	Owls Hill Summer Camp
15-Jun-22	Summer Camp	3	24	Ages 5-12	TWIGS summer camp
16-Jun-22	Summer Camp	1	25	Ages 5-12	Owls Hill Summer Camp
22-Jun-22	Summer Camp	3	25	ages 5-12	TWIGS summer camp
28-Jun-22	Summer Camp	1	24	5-12 years	TWIGS summer camp
30-Jun-22	Summer Camp	1	25	5-12 years old	Owls Hill Summer Camp
	<b>TOTALS</b>	<b>26</b>	<b>457</b>		





**MWS Classroom/Youth-Based Public Education Program Activities during FY22 (Continued)**

ELEMENTARY SCHOOL PROGRAMS					
Target Audience	Program Description		Outcomes/ Measures of Success		Recommendations for Improvement
Elementary students (2 <sup>nd</sup> grade) studying force and motion, with Friends of Shelby Park, Nature Center,	<p><i>Stormwater Project (Experience)</i>            In the classroom students watched a MWS video showing how water flowed off their school building and into the stormwater control measures and stormwater system. On a field trip, students saw stormwater ditches and culverts as the bus followed the system to where it discharged into wetlands. At the neighborhood park, students followed the flow of water from a hillside to the river.</p>		<p>During the bus ride, students were able to accurately identify ditches and culverts. At the park, students were able to explain that rain runoff from their school traveled through the neighborhood and park and into the river.</p>		<p>This is a successful partnership. The students are from the neighborhood near the Cumberland River.</p>
Date	Location	# Programs	Students	Ages	Notes
17-Feb-22	Inglewood Elementary	3	40	2nd grade	Stormwater to river video
01-Mar-22	Inglewood Elementary	1	40	2nd grade	field trip following stormwater infrastructure to the park
	<b>TOTALS</b>	<b>4</b>	<b>80</b>		
Elementary students (3 <sup>rd</sup> -5 <sup>th</sup> grade) studying mapping and pollution prevention	<p><i>SCM and Stormwater (A)</i>            Students learned about contour elevations, non-point source pollution, and SCM; watched a video of MWS SCM inspectors on SCMs and the inspection process. Followed the flow of water from the school rooftop to the stormwater controls, and to the discharge point in a stream.</p>		<p>Students demonstrated an understanding of bioswales in a series by leading the adults from one bioswale to the next. Students accurately filled out SCM inspection forms, identifying cracked infrastructure, sediment buildup, and litter issues.</p>		<p>This program should continue with 4<sup>th</sup> and 5<sup>th</sup> grade students.             Include an action component – Adopt-A-SCM/ student litter pick up</p>
Date	Location	# Programs	Students	Ages	Notes
08-Dec-21	Robert Churchwell Museum Magnet	3	25	2nd, 3rd, 4th, 5th	Gifted & Talented Class
14-Dec-21	Neely's Bend ES	2	20	1st, 3rd, 4th	Gifted & Talented Class
05-May-22	Neely's Bend ES	2	20	1st, 3rd, 4th	Gifted & Talented Class
10-May-22	Gateway ES	1	9	4th grade	Gifted & Talented Class
	<b>TOTALS</b>	<b>8</b>	<b>74</b>		



**MWS Classroom/Youth-Based Public Education Program Activities during FY22 (Continued)**

Target Audience	Program Description		Outcomes/ Measures of Success		Recommendations for Improvement
Elementary students (3 <sup>rd</sup> , 4 <sup>th</sup> grades)	<i>Stormdrains and Stormwater</i> Students used a topographical map of school property and surrounding streets to locate storm drains. Students heard about the Stormwater Control Measure Inspector career.		Students demonstrated an understanding preventing non-point source pollution in storm drains by accurately completing an inspection form and identifying litter and debris issues.		Add Adopt-A-Storm Drain  This could become a teacher-led program if an introductory video is created
Date	Location	# Programs	Students	Ages	Notes
19-May-22	Park Avenue ES	2	21	3rd and 4th grades	Gifted & Talented Class
20-May-22	Park Avenue ES.	1	6	5th grade	Gifted & Talented Class
	<b>TOTALS</b>	<b>3</b>	<b>3</b>		
<b>MIDDLE SCHOOL PROGRAMS</b>					
Middle School students studying flooding	<i>Flooding Challenge:</i> Over a 6-week period, students learned about flash flooding, green infrastructure, and online mapping tools MWS employees use.		Students presented their designs to reduce flash flooding in the streets near the school to a community audience. Designs included rain gardens, tree plantings, and cisterns.		Develop the program as a Project-Based Learning unit.
Date	Location	# Programs	Students	Ages	Notes
25-Apr-22	Meigs Middle	1	12	6th grade	Project Introduction
03-May-22	Meigs Middle	1	12	6th grade	Mapping
10-May-22	Meigs Middle	1	12	6th grade	On site field trip for SCMs
17-May-22	Meigs Middle	1	12	6th grade	Project work
19-May-22	Meigs Middle	1	12	6th grade	Project Presentations
	<b>TOTALS</b>	<b>5</b>	<b>60</b>		
Target Audience	Program Description		Outcomes/ Measures of Success		Recommendations for Improvement
Middle & High School STEAM Events	<i>SCM and Stormwater</i> Students learned about EPSC controls and soil- hands on Enviroscope challenge to create a successful EPSC. STEAM Carnival included a visit to the soil tunnel.		Students demonstrated the ability to create and to identify successful EPSCs using the model.		This program will be available to schools in the future.  Include a career component
Date	Location	# Programs	Students	Ages	Notes
16-Jul-21	Head Middle Magnet	4	80	middle school	Sediment controls activity for new middle school students
05-Mar-22	Special Group	3	24	4th-8th grade	4H Fun Saturday, Enviroscope EPSC activity
11-Mar-22	Stratford Middle	6	60		STEAM Carnival
	<b>TOTALS</b>	<b>13</b>	<b>164</b>		



**MWS Classroom/Youth-Based Public Education Program Activities during FY22 (Continued)**

HIGH SCHOOL PROGRAMS					
Target Audience	Program Description		Outcomes/ Measures of Success		Recommendations for Improvement
High school stormwater control design project.	<i>Stormwater Project</i> (Design) Throughout the fall 2021 semester, students worked with our stormwater control inspectors and engineers and local landscape architects, to learn about stormwater control measures and Metro regulations. Students took a field trip to the project site to see a sediment-filled grassy swale.		Students designed solutions to correct a sediment-filled grassy swale at a Nature Center. Designs included rain gardens, a miniature teaching wetland site, and wildlife habitat and presented them to a community audience.		This program will be duplicated in fall semester 2023 with a new site on the Nature Center campus
Date	Location	# Programs	Students	Ages	Notes
20-Aug-21	Overton High	1	35	Juniors	SCM regulations, Shelby Nature Center engineering intro, SCM maintenance - for Engineering Academy
08-Sep-21	Overton High	1	45	high school	Field trip to Shelby Bottoms Nature Center project site
27-Oct-21	Overton High	1	20	high school	Virtual visit to follow up on progress, answer questions
07-Dec-21	Overton High	1	10	high school	Project presentations
	<b>TOTALS</b>	<b>3</b>	<b>75</b>		
Target Audience	Program Description		Outcomes/ Measures of Success		Recommendations for Improvement
High School Digital Design Class	<i>Stormwater Project</i> (Communications) MWS staff explained the purpose of SCMs to Digital design students and walked the campus to find SCMs and take photos		This project is on-going. Students will design signage and information materials about SCMs		Waiting on fall 2022 follow up to assess this program.
Date	Location	# Programs	Students	Ages	Notes
22-Apr-22	Cane Ridge High School	1	20	high school	digital design project



**MWS Classroom/Youth-Based Public Education Program Activities during FY22 (Continued)**

Target Audience	Program Description		Outcomes/ Measures of Success		Recommendations for Improvement
High School students in the Engineering Academy	<i>Job Shadow</i> MWS SCM inspectors explained their jobs, the function of SCMs, and took students on a tour of the SCMs on the campus.		Students were exposed to the career, met MWS employees in the career field, and asked career-related questions.		This is a valuable career connection and will be repeated.  Add background materials to prepare students
Date	Location	# Programs	Students	Ages	Notes
30-Mar-22	Overton High	1	10	Juniors/Seniors	SCM inspectors
Target Audience	Program Description		Outcomes/ Measures of Success		Recommendations for Improvement
High School Agriculture Class	<i>Tree Planting</i> MWS arborist worked with students to plant trees; install a gravel, hydroponic bed for bare root trees and plant the bare root trees		Students demonstrated proper tree planting techniques and were engaged with MWS staff.		During Fall 2022, students will plant the bare root trees.
Date	Location	# Programs	Students	Ages	Notes
26-Oct-21	Glenclyff High	1	20	high school	tree planting at the school
02-Nov-21	Glenclyff High	1	20	high school	install gravel bed for bare root trees
03-Mar-22	Glenclyff High	1	20	high school	Agriculture Class, Gravel bed installation
	<b>TOTALS</b>	<b>3</b>	<b>60</b>		



**MWS Classroom/Youth-Based Public Education Program Activities during FY22 (Continued)**

OTHER PROGRAMS					
Target Audience	Program Description		Outcomes/ Measures of Success		Recommendations for Improvement
K-12 Students	<i>Career Presentations</i> Presenting information about careers at MWS		Students ask appropriate questions about job tasks and career paths.		These will be continued
<b>Date</b>	<b>Location</b>	<b># Programs</b>	<b>Students</b>	<b>Ages</b>	<b>Notes</b>
19-Oct-21	Overton High	1	20	high School	Chase Block/chemistry careers
09-Nov-21	MNPS ALL SCHOOLS	2	130	9th grade	Engineer, Tech, etc. panel
28-Jan-22	Glenciff High	2	30	High School	Women in STEM Lunch and Learn
22-Feb-22	Whitsitt Elem.	1	50	K	Engineering Week Presentation
16-May-22	Whitsitt Elem.	2	40	Elementary	Power Monday program
14-Jun-22	Overton High	5	110	9-12th grades	Promising Scholars program
	<b>TOTALS</b>	<b>13</b>	<b>380</b>		
K-College	<i>Miscellaneous Programs</i> Special requests		Special request programs are used as ways to test out a program concept.		Limit or focus special requests on NPDES issues
<b>Date</b>	<b>Location</b>	<b># Programs</b>	<b>Students</b>	<b>Ages</b>	<b>Notes</b>
06-Jul-21	Overton High	1	4	Teachers	2 day teacher Externship to create SCM project
14-Jul-21	Summer Camp	1	60	K-middle school	AAOC Summer Camp - water treatment game
29-Sep-21	Stratford High	1	15	11/12 <sup>th</sup> grade	ISR class
23-Nov-21	Green, Julia Elementary	1	70	3rd grade	The Water Cycle and Me/ Virtual Program
11-May-22	Antioch Middle	7	160	7th graders	En Roads Climate Simulator
	<b>TOTALS</b>	<b>11</b>	<b>309</b>		
High School and College	<i>Facility Tours</i>		Students ask questions about the processes		Add job descriptions
<b>Date</b>	<b>Group</b>	<b># Programs</b>	<b>Students</b>	<b>Ages</b>	<b>Notes</b>
13-Jul-21	MWS Interns	1	6	high school, college	MWS interns - OWTP and Lab
27-Sep-21	Belmont University	1	25	College	WCWWTP
28-Sep-21	David Lipscomb University	1	20	College	Biosolids Facility -Virtual Tour
29-Sep-21	Belmont University	1	20	College	WCWWTP
04-May-22	Overton High	1	15	11th grade	WCWWTP
05-May-22	Overton High	1	15	11th grade	WCWWTP
	<b>TOTALS</b>	<b>6</b>	<b>101</b>		



**Locations of MWS - Facilitated Tennessee Smart Yards in Davidson County during FY22**

Submitted	County	Street Address	City	Zip Code
7/5/2021 17:59:06	Davidson	1705 Sweetbriar Avenue	Nashville	37212
7/21/2021 18:15:21	Davidson	911 Bradford Ave	Nashville	37204
7/29/2021 21:44:55	Davidson	4226 Hillcrest Avenue	Nashville	37204
7/31/2021 12:22:52	Davidson	1817 Beechwood Ave	Nashville	37212
8/8/2021 20:57:02	Davidson	3811 Central Ave	Nashville	37205
8/18/2021 18:23:45	Davidson	401 N 16th St	Nashville	37206
8/31/2021 22:46:30	Davidson	1808A Ashwood Avenue	Nashville	37212
9/10/2021 12:05:45	Davidson	2811 Barclay Dr.	Nashville	37206
9/14/2021 21:34:36	Davidson	1914 Linden Avenue	Nashville	37212
9/19/2021 13:15:56	Davidson	1910 Beechwood Avenue	Nashville	37212
9/20/2021 16:31:43	Davidson	5153 Ravens Glen	Nashville	37211
9/25/2021 15:41:08	Davidson	1500 Cedar Lane	Nashville	37212
9/29/2021 17:10:48	Davidson	412 Page Rd.	Nashville	37205
10/2/2021 16:04:59	Davidson	2611 Woodlawn Dr	Nashville	37212
10/25/2021 11:39:23	Davidson	912 Drummond Drive	Nashville	37211
11/3/2021 13:54:02	Davidson	2664 Barclay Drive	Nashville	37206
11/4/2021 12:04:31	Davidson	1027 15th Avenue South	Nashville	37212
11/29/2021 23:58:58	Davidson	1305 Belmont Park Court	Nashville	37215
12/3/2021 16:47:42	Davidson	1003 Halcyon Avenue	Nashville	37204
12/13/2021 13:02:03	Davidson	915 Gale Lane	Nashville	37204
12/16/2021 21:45:36	Davidson	1014 Horseshoe Drive	Nashville	37216
12/27/2021 19:36:05	Davidson	7204 Belle Chasse Drive	Nashville	37221
12/30/2021 17:43:32	Davidson	1210 Cedar Lane	Nashville	37212
12/31/2021 11:29:53	Davidson	2504 Blair Blvd.	Nashville	37212
1/6/2022 8:45:59	Davidson	1706 Primrose Ave.	Nashville	37212
1/12/2022 16:57:33	Davidson	3413 Richards Street	Nashville	37215
1/14/2022 14:48:19	Davidson	812 Percy Warner Blvd	Nashville	37205
1/30/2022 17:13:55	Davidson	1907 Beechwood Avenue	Nashville	37212
1/31/2022 10:28:53	Davidson	5156 Ashley	Nashville	37211
2/11/2022 23:44:08	Davidson	2536 Hibbits Rd	Nashville	37214
2/26/2022 16:09:18	Davidson	3216 Harbor Landing	ANTIOCH	37013
3/7/2022 14:44:02	Davidson	361 Flushing Drive	Nashville	37211
3/19/2022 8:24:39	Davidson	6341 Torrington Road	Nashville	37205
4/4/2022 13:14:54	Davidson	2536 Hibbits Rd	Nashville	37214
4/5/2022 10:00:19	Davidson	1411 Janie Ave.	Nashville	37216
4/13/2022 6:57:56	Davidson	1607 Golf Street	Nashville	37216
4/16/2022 20:33:22	Davidson	1310 Burton Valley Road	Nashville	37215
4/16/2022 21:52:42	Davidson	2701 Crestdale Drive	Nashville	37214
4/19/2022 11:58:35	Davidson	5027 Madeline Dr	Nashville	37211
4/21/2022 8:21:08	Davidson	3289 River Walk Dr	Nashville	37214
4/24/2022 21:51:26	Davidson	206 Beverly Drive	Madison	37115
5/4/2022 10:13:00	Davidson	112 Laird Road	Nashville	37205
5/6/2022 8:36:43	Davidson	1128 White Mountain Lane	Antioch	37013
5/7/2022 19:31:32	Davidson	3820 Moss Rose Dr.	Nashville	37216
5/13/2022 21:58:43	Davidson	1223 Harwood Drive	Nashville	37206



### Summary of MWS Facilitated Tennessee Smart Yard Actions Taken During FY22

<b>Total Yard Certifications in Davidson County, July 1, 2021 - June 30, 2022 =</b>	<b>45</b>
<b>Actions Taken by Certified Yard Owners</b>	<b>Reported</b>
Determine your family's landscape objectives and level of maintenance desired.	44
Leave grass clippings on lawn.	44
Use composted grass clippings, leaves, pruned plant parts, kitchen scraps to improve soils.	42
Assess yard site conditions and incorporate into sketch.	41
Use organic pine straw, pine bark leaves, or hardwood mulch.	41
Protect all soil surfaces with vegetation to minimize erosion by rainfall and runoff.	41
Mow grass high, creating deeper root systems and reducing water needs.	40
Use landscape waste on site.	40
Use mechanical approaches to pest control such as pruning and hand removal.	40
Sketch your yard including long-term goals.	39
Protect beneficial insects that control pests and support pollination.	39
Spot treat only affected areas, avoiding routine applications of pesticides.	39
Incorporate plants that support habitat needs of desired wildlife.	39
Maintain a 2–3-inch layer of mulch in plant beds and over tree and shrub roots, leaving at least 2 inches of space at the base of trunks.	38
Check for pests regularly to detect and determine problems that require intervention.	38
Provide a water source.	38
Practice good housekeeping (e.g., sweep impervious surface, “scoop the poop,” wash car on lawn instead of driveway).	37
Group plants according to site conditions and maintenance needs.	36
Remove or avoid using invasive/exotic plants and incorporate native plants.	36
Incorporate salvaged materials into landscaping.	36
Install bat houses, bird houses, bird feeders, etc.	36
Preserve existing vegetation, especially trees, during land disturbance activities.	35
Use environmentally friendly pesticides such as horticultural oils and insecticidal soaps.	33
Assess and address soil compaction.	27
Adjust sprinkler heads to avoid hitting paved surfaces and calibrate the output as directed by plant needs.	26
Use rain barrels to catch rooftop runoff.	25
Locate plants to increase home energy efficiency.	25
Disconnect downspouts, directing them onto a lawn or garden rather than into drainage channels or onto impervious surfaces.	23
Fertilize as recommended by soil test and not in wet weather; use low maintenance plans when available.	22
Use rain gauge to help monitor plant water needs; apply about one inch of water per week, taking into account rainfall.	19
Use permeable surfaces for hardscapes such as driveways, walkways or patios.	19
Maintain soil pH in the recommended range.	17
Build a rain garden to catch and filter stormwater runoff.	15
Maintain a mix of native trees, shrubs, grasses and wildflowers along water's edge, creating a vegetated width that is as wide as practical.	13
Create "no mow, no fertilizer, no pesticide" zones along waterways.	9



**NPDES Public Education Events/Presentations during FY22**

Date	Event	Education Type	Audience #	Audience	Target Audience/Pollutant	Notes
6/23/2022	Industrial Stormwater/Wastewater Regulatory Workshop	Presentation	40	Metro Nashville Industrial Sites	Industrial Runoff	NPDES group and Environmental Compliance Group presented on maintaining regulatory compliance for stormwater and wastewater discharges. Environmental managers and operators from industrial sites in Metro Nashville were invited to attend the online workshop
6/21/2022	East Nashville Farmers Market	Educational Booth	20	market attendees	General Stormwater Pollution	Julie Berbiglia cohosted a booth with Zero Waste Nashville and promoted the TNSY program.
6/18/2022	South Madison Neighborhood Association Meeting	Public/Group Meeting	10	South Madison Neighborhood Association	General Stormwater Pollution	Julie Berbiglia presented to the neighborhood association on TN smart yards and smart gardening tips to improve residents' yards and minimize pollutant runoff.
6/14/2022	TN Smart Yard Workshop: Let's Get Growing	Presentation	10	Nashville residents	General Stormwater Pollution	Julie Berbiglia hosted an open-house style program that provided some basic resources to get your very own garden and compost area going this summer! Teach participants how to turn their yard into a Tennessee Smart Yard that benefits the environment.
6/14/2022	12 South Farmers Market	Educational Booth	20	Market attendees	General Stormwater Pollution	Julie Berbiglia shared a booth with MWS Zero Waste and promoted TN Smart Yards focusing on environmentally friendly gardening practices.
6/11/2022	TN Smart Yards Workshop	Presentation	12	Nashville residents	General Stormwater Pollution	Julie Berbiglia presented on the TN smart yards program and environmentally friendly changes any resident can make to their yard to minimize pollutant runoff.
6/9/2022	Development Community Email	Mail-out	263	Grading permit pre-con meeting contacts	Construction/Development Education	Welcome email sent to new grading permit pre-con meeting contacts.
5/21/2022	Richland Park Farmers Market	Educational Booth	30	Nashville residents	General Stormwater Pollution	Julie Berbiglia spoke with residents about the TN Smart Yard program and the impact that one person's yard can have on water quality. Music City Gold samples were also given away.
5/7/2022	Stormwater Class: Bugs quit bugging my plants!	Presentation	2	Gardeners	General Stormwater Pollution	Julie Berbiglia, Metro Water Services Education Specialist will share her low-effort solutions that will benefit your plants and help improve water quality in our creeks and streams.



**NPDES Public Education Events/Presentations during FY22 (Continued)**

Date	Event	Education Type	Audience #	Audience	Target Audience/Pollutant	Notes
5/2/2022	IECA Presentation - Ashville NC	Presentation	50	IECA Conference Attendees	SCM Inspection/Maintenance	Michael Hunt Presented an overview of Nashville's SCM Inspection Program to the conference.
4/30/2022	Nashville Public Library Plant Swap	Educational Booth	40	Gardeners	General Stormwater Pollution	MWS hosted a booth focusing on TN Smart Yards and how smart gardening practices can improve water quality in our creeks and streams.
4/28/2022	Citizens Water Academy	Presentation	8	Concerned involved Citizens	General Stormwater Pollution	Josh Hayes presented an overview of the MWS Stormwater program to 8 participants in the Citizens Water Academy.
4/25/2022	The Wild Ones Middle TN Chapter Monthly Meeting	Presentation	27	The Wild Ones members	General Stormwater Pollution	Julie Berbiglia presents to The Wild Ones chapter meeting on the TN Smart Yards program and how residential yards can be used to improve stormwater quality.
4/23/2022	Earth Day Festival	Citywide Event	500	Earth Day Attendees	General Stormwater Pollution	Allison Davis and Julie Berbiglia hosted a MWS, Stormwater booth focusing on dog waste issues in Nashville and its impact in waterways. We also promoted the TN Smart Yards program and how residents can utilize their yards to eliminate pollutant runoff and
4/19/2022	East Nashville Farmers Market	Educational Booth	35	Nashville residents	General Stormwater Pollution	MWS Stormwater and Waste Services shared a booth focusing on smart yard practices to keep stormwater runoff clean and food waste prevention.
4/16/2022	Spring Plant Swap	Educational Booth	20	Gardeners	General Stormwater Pollution	MWS hosted a booth at the plant swap highlighting smart gardening and yard practices to keep residential stormwater runoff clean.
4/2/2022	TNSY Workshop: Early Eager Garden birds get the Compost Worm	Presentation	2	Gardeners	General Stormwater Pollution	Julie Berbiglia presents at the Shelby Bottom Nature Center on smart gardening and yard practices that benefit the environment and waterways.
3/31/2022	Asurion Employees Presentation	Presentation	150	Asurion Employees	General Stormwater Pollution	Julie Berbiglia presented to Asurion employees on gardening tips to help improve the environment and keep waterways clean. She discussed how yard and gardening practices impact the environment around us.
3/26/2022	Bell Garden: The Dirt on Composting	Presentation	15	Nashville residents	Fertilizer/Pesticides	Julie Berbiglia teamed up with Zero Waste Nashville's, Jenn Harrman, to discuss composting and the ways to reuse yard waste as a soil amendment to improve your yard/garden and keep this waste from polluting drains/waterways.

**NPDES Public Education Events/Presentations during FY22 (Continued)**

Date	Event	Education Type	Audience #	Audience	Target Audience/Pollutant	Notes
3/23/2022	Smart Watering Plans: How to Capture, Keep, and Use the Rain	Presentation	3	Nashville residents	Fertilizer/Pesticides	Julie Berbiglia presented on TN Smart Yards at Richland Park and hosted by Nashville Public Library Seed Exchange. Presentation focused on how to keep rainwater on your property and utilize your yard and garden as a sponge to decrease water usage and runoff
3/22/2022	TDEC Level 1 Certification	Presentation	145	Proposed Level 1 ESPC Professionals	Construction/Development Education	Shawn Herman presented Metro Grading Permit information to people seeking Level 1 ESPC Certification.
3/11/2022	Stratford STEAM Festival	Educational Booth	120	Stratford STEM Magnet School students	General Stormwater Pollution	Julie Berbiglia and Carol Edwards hosted a stormwater and soil conservation booth at the Stratford STEAM Festival for students to explore the importance of soil and how to keep sediment out of our waterways.
3/10/2022	Master Gardeners Membership Meeting: Stormwater Control Measures in our Community	Presentation	30	Master Gardeners of Davidson County	SCM Inspection/Maintenance	Julie Berbiglia was the speaker at the Master Gardeners of Davidson County monthly membership meeting and discussed stormwater control measures and their purpose in the community.
3/9/2022	Smart Gardening with Free Stuff	Presentation	6	Hermitage residents	General Stormwater Pollution	Julie Berbiglia discusses how to reduce, reuse, and recycle in the garden to minimize yard waste. This was hosted by the Nashville Seed Exchange and Hermitage Nashville Library.
3/5/2022	4-H Fun Saturday	Educational Booth	30	4th-8th graders	Soil and Water Conservation	Carol Edwards and Julie Berbiglia participated in 4-H Fun Saturday where kids were taught how to prevent soil erosion and protect our water resources. The activities included a soil tunnel, stormwater runoff simulation, and learning home energy efficiency
3/2/2022	System Services Crew Leader MS4 Permit Refresher Training	Presentation	12	Metro Water Services System Services crew leaders	General Stormwater Pollution	Kevin Turner and Josh Hayes presented to MWS's system services crew leaders on Sewer Overflow Response notification to the NPDES group and water quality SOP's for Maintenance Operations that relate to them.
3/1/2022	TN Smart Yards Flyer Distribution	Brochure/Door Hanger Distribution	500	Root Nashville tree recipients	General Stormwater Pollution	Root Nashville is including TN Smart Yard flyers in the tree care packets received by residents who are getting trees this planting season. The flyers include information on water efficiency, reduction of pollutants, and proper fertilizing methods.

**NPDES Public Education Events/Presentations during FY22 (Continued)**

Date	Event	Education Type	Audience #	Audience	Target Audience/Pollutant	Notes
2/17/2022	MWS' External Newsletter - NPDES Article	Mail-out	2280	Nashville residents	General Stormwater Pollution	An article was included in the new MWS external newsletter with an overview of the NPDES program and its main focuses on improving water quality in Nashville.
2/16/2022	Smart Gardening: How to reduce, reuse, and recycle in the garden	Presentation	14	Nashville residents	General Stormwater Pollution	Julie Berbiglia co-hosts a workshop with the Nashville Public Library Seed Exchange on how to reuse garden and yard waste to help improve your land and water resources.
2/11/2022	Smart Watering Plans: How to capture, keep, and use the rain	Presentation	9	Nashville residents	General Stormwater Pollution	Julie Berbiglia teaches how to capture stormwater on a property and use it for a garden and yard that will thrive. This event was co-hosted by the Nashville Public Library Seed Exchange.
2/5/2022	TN Smart Yard Class: Planning Your Vegetable Garden	Presentation	10	Nashville residents	General Stormwater Pollution	Julie Berbiglia co-hosts a workshop focusing on preparing your garden for the upcoming season in a way that can help improve the land and water surrounding it.
1/7/2022	Right Time to Start the Right Plant Workshop	Presentation	21	Nashville residents	General Stormwater Pollution	Julie Berbiglia co-hosts a TNSY workshop with the Nashville Library's Seed Exchange program to discuss tips and techniques for native planting season.
1/5/2022	Right Time to Start the Right Plant Workshop	Presentation	24	Nashville residents	General Stormwater Pollution	Julie Berbiglia co-hosts a TNSY workshop with the Nashville Library's Seed Exchange program to discuss tips and techniques for native planting season.
11/30/2021	TDEC LEVEL 1 Certification	Presentation	105	Proposed Level 1 EPSC Professionals	Construction/Development Education	Shawn Herman presents Metro Grading Permit information to people seeking Level 1 EPSC Certification
11/17/2021	Council District 34 Watershed Community Meeting	Presentation	37	Nichol Lane and Page Road Watershed Community	General Stormwater Pollution	Michael Hunt presented on NPDES's role in the community and the resources available to Council District 34's Watershed Community Meeting.
11/11/2021	SCM Inspection and Maintenance Certification	Presentation	20	SCM course registrants	SCM Inspection/Maintenance	MWS NPDES presents at the SCM certification course on an annual basis to review SCM requirements in Davidson County.
11/10/2021	Smart Gardening with TN Smart Yards	Presentation	9	Nashville residents	General Stormwater Pollution	NPDES, Julie Berbiglia, discusses smart gardening practices that residents can implement to improve stormwater quality.

**NPDES Public Education Events/Presentations during FY22 (Continued)**

Date	Event	Education Type	Audience #	Audience	Target Audience/Pollutant	Notes
11/10/2021	SCM Inspection and Maintenance Recertification	Presentation	52	SCM course registrants	SCM Inspection/Maintenance	MWS NPDES presents at this recertification course annually to discuss Davidson County SCM requirements.
10/21/2021	Citizen's Water Academy	Presentation	4	Davidson County Citizens	General Stormwater Pollution	Josh Hayes presented a summary of MWS's Stormwater Program.
10/20/2021	TNSA Conference	Presentation	60	TNSA Conference Attendees	General Stormwater Pollution	Josh Hayes and Michael Hunt presented on the Mansker Creek Bank Stabilization project as a project that should remove sediment from the creek.
10/20/2021	Smart Gardening with TN Smart Yards	Presentation	12	Nashville residents	General Stormwater Pollution	Julie Berbiglia hosted a virtual workshop on TN Smart Yards and how smart gardening can improve water quality.
10/19/2021	East Nashville Farmers Market	Educational Booth	60	East Nashville residents	General Stormwater Pollution	Julie Berbiglia hosted a MWS Booth at East Nashville Farmers Market focusing on residential pollution prevention tips and promoting TN Smart Yards. The booth was shared with MWS Waste Services.
10/15/2021	TN STEAM Dog Park Signage Campaign	Social Media Post	60	Dog owners	Pet Waste	NPDES set up dog park signage from 10/15 to 10/24 at each Metro Dog Park for a day as well as dog waste bag dispensers and then moved them to a different park the next day. The signage used encourages dog owners to scoop the poop.
10/13/2021	Urban Forest Connection Webinar	Tree/Urban Forestry	400	Professional	General Stormwater Pollution	Presentation on Nashville's Urban Forestry Program.
10/1/2021	TN Smart Yard Flyers	Brochure/Door Hanger Distribution	500	Tree Care Packet recipients	General Stormwater Pollution	Root Nashville is including TN Smart Yard flyers in the tree care packets received by residents who are getting trees this planting season. The flyers include information on water efficiency, reduction of pollutants, and proper fertilizing methods.
9/18/2021	TNSY Certify Program	Presentation	5	Nashville residents	General Stormwater Pollution	MWS Stormwater's Julie Berbiglia spoke with residents about the TN Smart Yards program as they walked through the library's garden and totaled the gardens certification tally. Participants will then start the certification process for their own yards and

**NPDES Public Education Events/Presentations during FY22 (Continued)**

Date	Event	Education Type	Audience #	Audience	Target Audience/Pollutant	Notes
9/17/2021	Park(ing) Day	Educational Booth	50	Nashville residents and tourists	General Stormwater Pollution	MWS Stormwater set up a parklet focusing on stormwater facts, services available to the public, and teamed up with Root Nashville to educate people on how important trees are to prevent flooding. Rain drops with this information could be found hanging throughout the area.
9/8/2021	Food Truck Education	Brochure/Door Hanger Distribution	2	Food Trucks		MWS Stormwater's Kevin Turner spoke with two food trucks located at Nolensville Rd and Northcrest Dr about stormwater issues related to restaurants, specifically mobile food units. He provided brochures in both English and Spanish.
8/26/2021	Yard Debris Dumping	Brochure/Door Hanger Distribution	1	Resident	Leaves/Brush/Trash Dumping	NPDES received a complaint about grass clipping and yard debris being dumped down a drain located at 3608 Dove Creek Rd. NPDES mailed a yard debris brochure and letter explaining proper yard debris disposal practices to this address.
8/7/2021	8th Annual Urban Runoff 5K and Water Quality Festival	Citywide Event	325	Race attendees and local park visitors	General Stormwater Pollution	MWS worked with TNSA, TDEC, City of Gallatin, and TDA Division of Forestry to put on the 8th annual race showcasing innovative green stormwater management practices. The water quality festival hosted up to 40 agencies and companies that focus on sustainability
7/14/2021	Nashville Sounds - Litter Prevention Campaign	Educational Booth	100	Nashville Sounds Game attendees	Leaves/Brush/Trash Dumping	MWS teamed up with TDOT's Nobody Trashes Tennessee and Metro Waste Services at the Nashville Sounds games on 7/13/2021 and 7/14/2021 to discuss the impacts of litter in TN and how all litter left on the ground will eventually discharge to a waterway.
7/13/2021	Dog Waste Door Hangers	Brochure/Door Hanger Distribution	10	Wentworth Avenue residents	Pet Waste	AD distributed door hangers focusing on pet waste and how to properly dispose of it along Wentworth Avenue in response to a complaint that a resident on the street was dumping bagged dog waste into storm drains.

Note: Each Social Media posts were not input into the NPDES Public Education database. NPDES can run reports from the social media sites to determine the number of views.



Metro Water Services Waste Services Division – Material Management Report (FY22)

Recycling Tons	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total
Metro Curbside	861.50	921.86	917.25	838.16	843.46	742.73	-	1,249.20	891.47	1,009.37	941.43	856.06	10,072.49
Drop-offs	602.61	650.05	602.67	536.88	568.80	647.38	560.77	506.65	567.64	518.88	505.90	546.50	6,814.73
Centers	189.62	145.69	156.58	142.04	203.42	209.05	186.30	204.46	191.09	181.91	199.54	247.54	2,257.24
Front Loader	20.03	12.56	14.04	61.65	8.62	-	-	23.74	30.00	27.49	21.33	7.84	227.30
Downtown	56.95	36.40	49.53	76.88	36.52	27.85	2.96	4.29	9.71	1.14	-	-	302.23
Metro Buildings	0.54	-	10.05	0.98	1.19	0.94	0.94	-	1.33	-	1.58	3.74	21.29
Hazardous	-	10.25	-	68.47	-	62.90	-	-	-	-	-	107.21	248.83
Electronics	5.68	-	7.38	6.90	1.94	6.78	5.34	12.11	7.56	9.30	6.02	6.96	75.97
Food Waste	4.66	4.66	4.50	4.50	4.58	6.54	4.07	3.97	4.98	3.97	4.63	5.72	56.78
Special Events	-	3.82	-	0.20	-	-	-	-	-	-	-	-	4.02
Tires	716.11	763.04	721.80	783.56	754.82	610.09	467.35	458.36	623.52	471.85	535.29	526.64	7,432.43
<b>Total Recycling</b>	<b>2,457.70</b>	<b>2,548.33</b>	<b>2,483.80</b>	<b>2,520.22</b>	<b>2,423.35</b>	<b>2,314.26</b>	<b>1,227.73</b>	<b>2,462.78</b>	<b>2,327.30</b>	<b>2,223.91</b>	<b>2,215.72</b>	<b>2,308.21</b>	<b>27,513.31</b>
Landfill Tons	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total
Contract Curbside	9,017.15	9,051.29	9,138.51	8,358.44	8,627.71	8,765.17	7,545.82	7,108.26	7,993.83	8,401.08	8,335.10	7,381.19	99,723.55
Metro Curbside	2,102.27	2,213.00	1,989.51	1,972.98	1,938.42	2,952.28	2,960.16	2,780.34	2,328.70	2,123.40	1,916.98	1,978.58	27,256.62
Centers	1,535.14	1,448.37	1,529.79	1,409.08	1,184.87	1,430.98	1,003.65	1,122.17	2,218.31	1,747.50	1,602.30	1,691.26	17,923.42
FrontLoader	1,651.07	1,750.35	1,444.35	1,435.08	1,542.25	1,674.07	1,103.07	758.43	1,013.59	1,546.65	1,469.93	1,559.26	16,948.10
Downtown	602.74	626.13	564.49	720.54	508.81	511.50	452.55	518.20	747.90	689.12	703.12	717.88	7,362.98
Metro Buildings	33.06	17.60	29.15	23.52	29.91	26.81	31.26	24.83	31.79	27.72	19.38	19.77	314.80
Special Events	21.19	28.69	16.49	13.93	56.27	6.60	30.00	18.98	17.77	19.29	12.47	11.32	253.00
<b>Total Waste</b>	<b>14,962.62</b>	<b>15,135.43</b>	<b>14,712.29</b>	<b>13,933.57</b>	<b>13,888.24</b>	<b>15,367.41</b>	<b>13,126.51</b>	<b>12,331.21</b>	<b>14,351.89</b>	<b>14,554.76</b>	<b>14,059.28</b>	<b>13,359.26</b>	<b>169,782.47</b>
Other Programs	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total
Mattress	352	354	236	422	219	210	81	212	226	216	218	332	3,078
Carpet Pad (CY)		50			30								80
Dead Animals	154	161	130	149	201	187	108	114	132	159	155	145	1,795

[WasteServices.nashville.gov](http://WasteServices.nashville.gov)

Note: March & April Contacted Trash was adjusted due to late disposal invoices from WM



**Metro Nashville Department of Transportation Hazardous Spills Responses During FY22**

ID	Date	Origin	Notified	Location	Situation	Arrived	Actions	Departed	Agencies
2018	08/17/2022	OEM	20:30	Riverside Drive & Greenwood Drive	oil spill on road	21:15	Placed 200 lbs. of absorbent on spill	22:00	RIR, NDOT
2006	09/21/2021	Josh Elliot	9:30	1245 Davison Dr.	hydraulic spill from paving crew NDOT	10:00	Placed 400 lbs. of absorbent after getting up three 5-gallon buckets of hydraulic fluid from equipment	12:30	RIR
2003	05/19/2021	Marcus Jackson	12:15	1018 Ferris Ave.	hydraulic spill on road	12:40	Placed 300 lbs. absorbent	13:50	RIR

Note: PW RIR (Public Works Roadway Incident Response), NDOT (Nashville Department of Transportation)  
 Midway through FY22, the old Public Works department split into two separate departments (Waste Services & NDOT). Once this split occurred, Waste Services performed all clean-up responses to trash truck-related spills.



**Industrial Stormwater Virtual Workshop Attendees**

<b>Presenters</b>	<b>Join/Leave Time</b>
Allison Davis	09:02/10:48
Josh Hayes	09:02/10:48
Michael Hunt	09:02/10:48
Andy Welch	09:02/10:48
<b>Participants</b>	<b>Join/Leave Time</b>
Brad Harris	09:02/09:57
Brittany Smith	09:02/10:48
McKenzie Rueger	09:02/10:48
Howard Jackson	09:02/10:48
Kristi	09:02/10:48
Tarus Powell	09:02/10:48
Angie Nickerson	09:02/10:48
Nicholas Recine	09:02/10:48
Alex Kradokus	09:02/10:44
Ken Webb	09:02/10:48
Erik Knowles	09:02/10:48
Jeremy Harris	09:02/10:45
Tony Russo	09:02/10:24
Julie Berbiglia	09:02/10:48
Susan Meador	09:02/10:48
Anthony Jacobs	09:02/10:04
Maddie Zellman	09:02/10:48
Jason Moore	09:02/10:48
Brett Pierce	09:02/10:26
Louis Hoyt	09:02/10:48
Robert Hargrove	09:02/10:48
Kelvin Davis	09:02/10:48
Holly Van Kirk	09:03/10:31
Greg Machuta	09:06/10:29
McKenzi Monsour	09:03/10:48
Theron Binford	09:05/10:48
Matthew Bailey	09:07/10:48
Tim Poteete	09:09/10:48
Angie Hollis	09:15/10:48
Brandon Myers	09:19/10:04
Sean Spillane	09:48/10:45
Art Fisher	09:49/10:48
Michael Wharton	09:05/09:08

**Note:** The workshop was also recorded and sent to many other Industrial Operators that were unable to attend.





MWS System Services Employee SOP Training Sign-in Sheet

Metro Nashville Stormwater (MS4)  
 Operations and Maintenance Employee Training Sign-in Sheet

Metro Department	
Supervisor Performing Training (Signature)	
Training Topic	MWS SSD Maintenance Crew Water Quality SOP and SORP Response/Notification

Employee Name	Employee Signature	Date Trained
Ricky Hoover	<i>Ricky Hoover</i>	3-2-2022
Carlyson Watson	<i>Carlyson Watson</i>	3-2-2022
Salesha Loya	<i>Salesha Loya</i>	3-2-2022
FRANK Newsom	<i>Frank Newsom</i>	3/2/22
Brian C. Savage	<i>Brian C. Savage</i>	3/2/22
Darryl Goins	<i>Darryl Goins</i>	3/2/22
Melvin Kimbrell	<i>Melvin Kimbrell</i>	3/2/22
Kevin BALL	<i>Kevin Ball Sr</i>	02 Mar 2022
Kristin Sanchez	<i>Kristin Sanchez</i>	3/2/2022
Charles Chambers	<i>Charles Chambers</i>	3/2/2022
Matt Lott	<i>Matt Lott</i>	3/2/2022
Ben Castrol	<i>Ben Castrol</i>	3/2/2022

Please scan in the completed form and email to [Josh.Hayes@Nashville.gov](mailto:Josh.Hayes@Nashville.gov) or Metro mail a copy of the completed form to Josh Hayes at the MWS Stormwater, NPDES Office, 1607 County Hospital Road.



## **ATTACHMENT A – Protected Species Report**



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

(Reporting Period 07/01/2021 – 06/30/2022)

Reviewed and Updated:  
November, 2022

### **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	<i>Sphalloplana buchanani</i>	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	<i>Ambystoma barbouri</i>	Streamside Salamander	G4	No Status	D	Seasonally ephemeral karst streams; middle Tennessee.	S2
	Vertebrate Animal	<i>Cryptobranchus alleganiensis</i>	Hellbender	G3G4	No Status	E	Rocky, clear creeks and rivers with large shelter rocks.	S3
	Vertebrate Animal	<i>Etheostoma luteovinctum</i>	Redband Darter	G4	No Status	D	Limestone streams; Nashville Basin & portions of Highland Rim.	S4
	Vertebrate Animal	<i>Etheostoma microlepidum</i>	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	<i>Percina phoxocephala</i>	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	<i>Faxonius shoupi</i>	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	<i>Epioblasma florentina walkeri</i>	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	<i>Simpsonaias ambigua</i>	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	<i>Lithasia duttoniana</i>	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	<i>Acipenser fulvescens</i>	Lake Sturgeon	G3G4	No Status	E	Bottoms of large, clean rivers and lakes.	S1
	Vertebrate Animal	<i>Carpionodes velifer</i>	Highfin Carpsucker	G4G5	No Status	D	Large rivers, mostly in Tennessee River drainage.	S2S3
	Vertebrate Animal	<i>Cycleptus elongatus</i>	Blue Sucker	G3G4	No Status	T	Swift waters over firm substrates in big rivers.	S2
	Vertebrate Animal	<i>Macrochelys temminckii</i>	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	<i>Epioblasma brevidens</i>	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	<i>Lampsilis abrupta</i>	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	<i>Plethobasus cooperianus</i>	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	<i>Ranunculus aquatilis var. diffusus</i>	White Water-buttercup	G5T5	No Status	E	Ponds and Streams



**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.

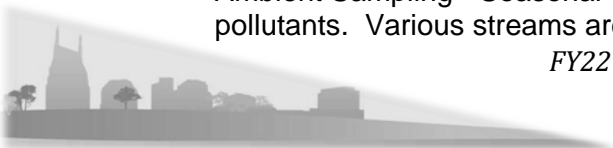
In addition to controlling polluted runoff from construction activity, NPDES implements various other pollution prevention programs:

- 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

#### Monitoring the Overall Water Quality and Health of Nashville's Streams

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.

If you need assistance or an accommodation, please contact Metro Water Services, 615-259-8622, 1600 Second Avenue North, Nashville, Tennessee 37208.

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 TMSR/RMCP site per year).

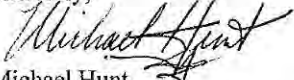


- Continue routine ambient monitoring/sampling programs (ambient chemical/bacteriological sampling and visual stream assessments) as well as any site-specific sampling as required in the course of routine investigations. The MWS Stormwater NPDES Watershed Group would coordinate with TDEC Nashville Field 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 1/4 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 1/4 mile grid to screening 3 businesses within a 1/2 mile grid. Upon implementing, we quickly realized that 1/4 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 Inspection 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:

- Metro's 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 TMSR/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,



**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](mailto:karina.bynum@tn.gov)

[tn.gov/environment](http://tn.gov/environment)

---

**From:** Hunt, Michael (WS) <[Michael.Hunt@nashville.gov](mailto: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  
[1607 A County Hospital Road](http://1607ACountyHospitalRoad)  
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](mailto: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 2<sup>nd</sup> 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



Mr. Scott Potter  
NPDES Permit Number TNS068047  
May 31, 2018  
Page 2 of 2

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](mailto:john.leffew@tn.gov) or by telephone at (615) 687-7106, or you may contact me by email at [april.grippo@tn.gov](mailto: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](mailto:Michael.Hunt@nashville.gov) - Metro Water Services  
Mr. John Leffew, [john.leffew@tn.gov](mailto:john.leffew@tn.gov)- DWR Nashville EFO  
Ms. Ann Morbitt, [ann.morbitt@tn.gov](mailto:ann.morbitt@tn.gov) - DWR statewide  
Ms. Karina Bynum, [karina.bynum@tn.gov](mailto:karina.bynum@tn.gov) - DWR statewide  
Ms. Jessica Murphy, [jessica.murphy@tn.gov](mailto: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



Mr. Scott Potter  
NPDES Permit Number TNS068047  
September 15, 2020 Page 2 of 2

- 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](mailto:Ann.Morbitt@tn.gov) or by telephone at (615) 687-7119, or you may contact me by email at [Tim.Jennette@tn.gov](mailto: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](mailto:michael.hunt@nashville.gov) - Metro Water Services  
Mr. Josh Hayes, [joshua.hayes@nashville.gov](mailto:joshua.hayes@nashville.gov) - Metro Water Services  
Mr. John Leffew, [john.leffew@tn.gov](mailto:john.leffew@tn.gov) - DWR Nashville EFO  
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Ms. Ann Morbitt, [ann.morbitt@tn.gov](mailto:ann.morbitt@tn.gov) - DWR statewide  
Ms. Karina Bynum, [karina.bynum@tn.gov](mailto:karina.bynum@tn.gov) - DWR statewide  
Ms. Jessica Murphy, [jessica.murphy@tn.gov](mailto: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 types of SCMs. The modeling for SCMs even considers the effects underdrains have on bioretention basins as far as how much runoff reduction is accomplished.

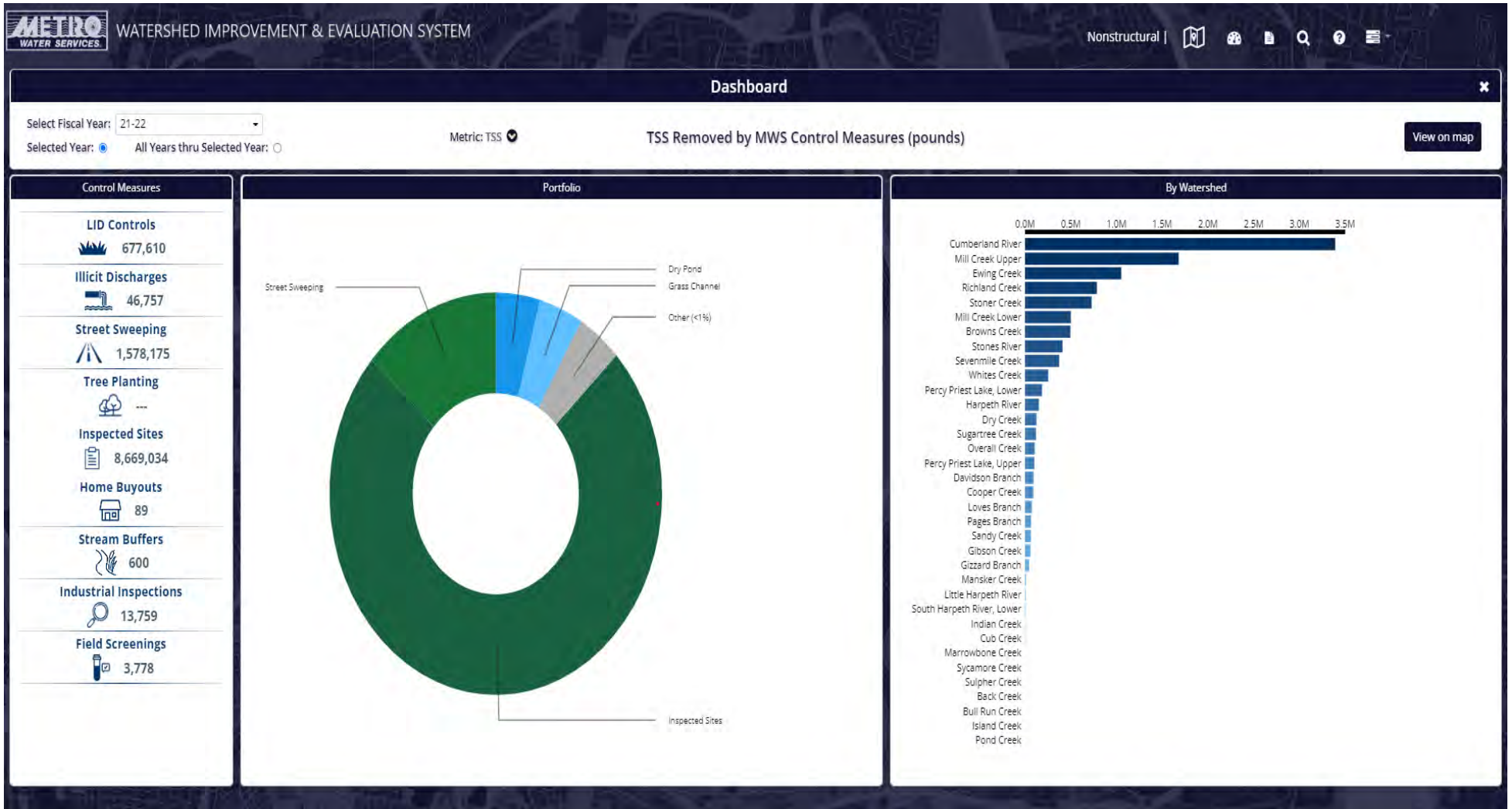
Metro expends many resources implementing non-structural stormwater control measures of the SWMP, such as the IDDE complaint response program, construction inspections and oversight, FEMA home buyout program, street sweeping program, etc. While we know these non-structural programs have been extremely 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 takes 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.

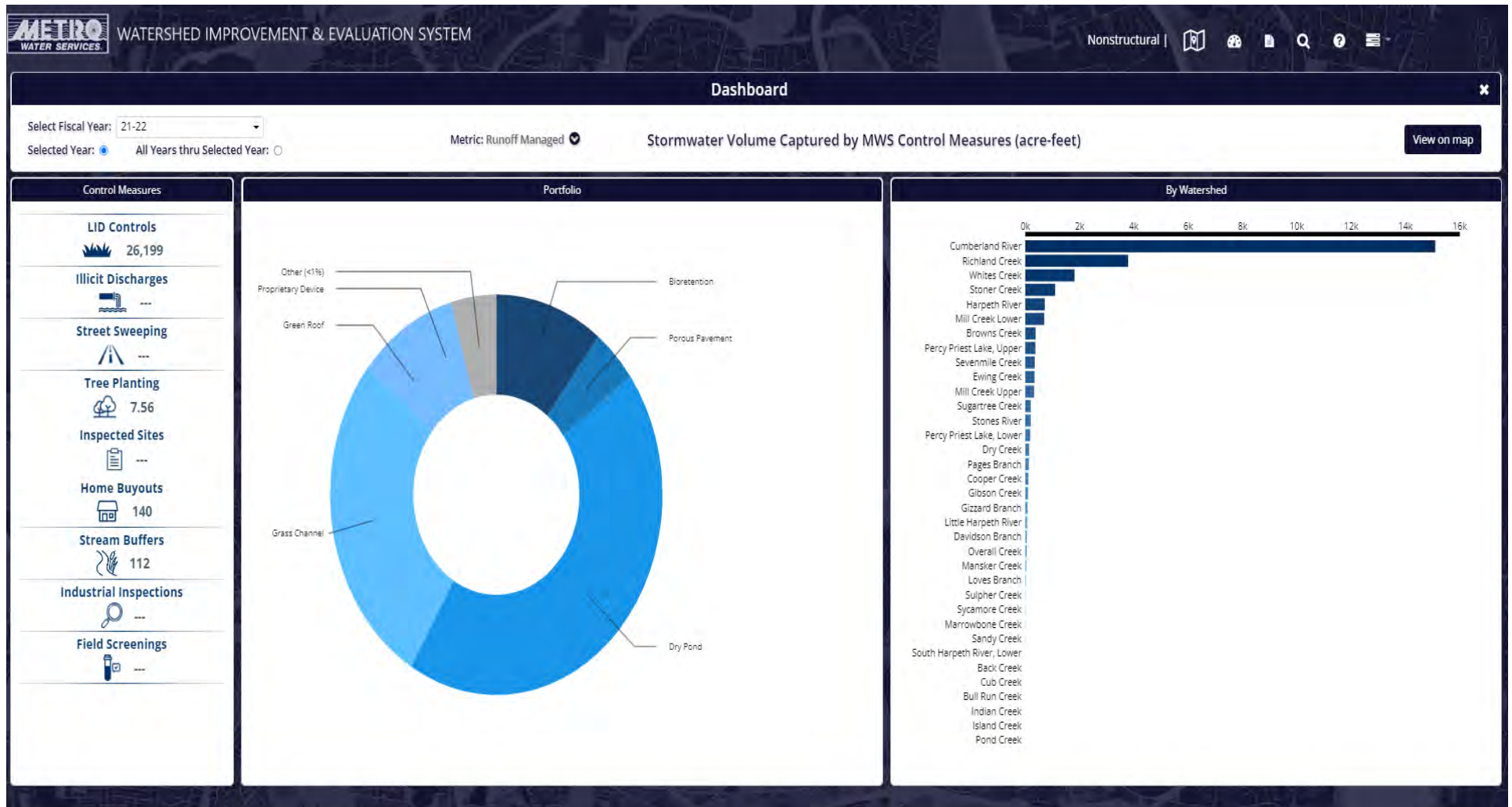
In addition to the annual reporting tables, Metro is able to generate dashboard views on various SWMP loading reductions, WIES also gives stormwater managers the ability to review the pollution and runoff reduction effects of individual structural SCMs through a dashboard view of a variety of different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

**WATERSHED IMPROVEMENT & EVALUATION SYSTEM**

Nonstructural | [Map Icon] [Home Icon] [Help Icon] [List Icon]

### Structural Control Measure Project Page

**Required Information**

BMP Type: Bioretention | Level: Level 1 | Total Capture Area by SCM (acres): 1.0

Predominant Land Use of Capture Area: Residential (Low) | Program Type: SEP / Compact

Project Completion Date: 10/21/2016 | Planned or Built?: Built

**Optional Information**

**Location**

Latitude: 36.216819 | Longitude: -86.806785

Precipitation Zone	Soil Type	Watershed
Belle Meade	C	Whites Creek

[Satellite Map View]

**Runoff Capture Info**

SCM Effectiveness	Estimate	Units
Total Inflow	0.25	ac-ft
Retained	0.03	ac-ft
Treated	0.17	ac-ft
Bypass	0.06	ac-ft
Soil Infiltration	2.00	in-hr

**Pollutant Reduction Benefits**

Pollutant	BMP Effect	Load Unit	Estimated Inflow Concentration	Concentration Unit
E. coli	23.17	MPN 10e9	11565	MPN/100 mL
BOD5	1.1	lbs	6	mg/L
COD	11.19	lbs	41	mg/L
NH3	0.03	lbs	0.08	mg/L
TKN	0.49	lbs	0.94	mg/L
NO2-NO3	0.02	lbs	0.27	mg/L

WIES allows Users to Identify Projects on a Map to View the Stormwater Benefits of Each Structure

# **WIES Calculated MS4 Program Pollutant Loading Reductions in FY22**

**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	0	0	0.00	0	0	0	8	0	0	0	8	0
Browns Creek	33	375	154.06	0	91	9	311	10	57	37	1,332	1
Bull Run Creek	0	0	0.00	0	0	0	0	0	0	0	0	0
Cooper Creek	1	91	45.09	0	44	4	309	0	20	5	465	2
Cub Creek	0	0	0.00	0	1	0	2	0	0	0	2	0
Cumberland River	179	2,311	860.48	1	571	25	3,461	24	61	71	11,913	15
Davidson Branch	11	60	11.27	0	10	4	20	0	5	0	190	0
Dry Creek	8	69	48.85	0	7	5	59	4	0	4	300	2
Ewing Creek	19	213	131.51	1	16	3	207	1	16	30	422	4
Gibson Creek	6	80	48.85	0	9	3	99	0	0	57	872	1
Gizzard Branch	3	50	11.27	0	2	0	63	0	0	0	95	0
Harpeth River	6	275	244.24	0	11	7	85	0	0	3	522	6
Indian Creek	0	0	0.00	0	1	0	0	0	0	0	0	0
Island Creek	0	0	0.00	0	0	0	0	0	0	0	0	0
Little Harpeth River	7	73	15.03	0	0	0	63	0	5	0	224	4
Loves Branch	0	26	15.03	0	3	2	114	0	8	1	271	0
Mansker Creek	0	39	0.00	0	7	0	4	0	0	0	70	1
Marrowbone Creek	0	9	0.00	0	4	2	2	0	0	0	16	0
Mill Creek Lower	45	581	477.21	5	41	16	257	14	49	52	921	7
Mill Creek Upper	10	449	142.79	0	13	7	84	0	0	2	683	8
Overall Creek	1	71	7.52	0	4	6	6	0	0	1	110	4
Pages Branch	5	91	56.36	0	24	5	99	0	34	7	235	0
Percy Priest Lake, Lower	18	199	304.36	0	6	7	83	0	0	6	276	1
Percy Priest Lake, Upper	29	281	41.33	0	5	7	58	1	0	0	170	9
Pond Creek	0	0	0.00	0	1	0	0	0	0	0	0	0
Richland Creek	46	560	263.03	0	216	13	650	1	60	69	1,967	3
Sevenmile Creek	26	342	281.82	18	36	14	420	1	75	54	1,169	5
South Harpeth River, Lower	0	15	11.27	0	1	2	1	0	0	0	38	1
Stoner Creek	9	218	225.45	3	5	8	377	1	0	13	594	4
Stones River	25	186	146.54	2	10	4	294	1	3	2	1,295	2
Sugartree Creek	14	213	63.88	0	30	4	75	0	9	1	241	1
Sulpher Creek	0	14	0.00	0	0	0	28	0	0	0	42	0
Sycamore Creek	0	15	0.00	0	5	1	6	0	0	0	11	0
Whites Creek	2	188	135.27	1	31	14	272	2	0	70	702	9
Sandy Creek	0	23	15.03	0	38	2	32	1	7	0	56	0
All Watersheds	503	7,117	3,757.56	31	1,243	174	7,549	61	409	485	25,212	90

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									Total Pollutant Load Removed from Watershed
	Removal by MWS Control Measure Implementation during FY22 (Acre-foot)									
	SCMs Removal <sup>1</sup>	Construction Inspection Removal <sup>2</sup>	Illicit Discharge Removal <sup>2</sup>	Street Sweeping Removal <sup>2</sup>	Home Buyout Removal <sup>1</sup>	Tree Planting Removal <sup>1</sup>	Stream Buffer Removal <sup>1</sup>	Industrial Inspection Removal <sup>2</sup>	Field Screening Removal <sup>2</sup>	
Back Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Browns Creek	372.36	0.00	0.00	0.00	8.97	0.58	0.25	0.00	0.00	382.16
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	109.80	0.00	0.00	0.00	4.11	0.10	0.48	0.00	0.00	114.49
Cub Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cumberland River	15,046.99	0.00	0.00	0.00	24.27	4.17	24.25	0.00	0.00	15,099.67
Davidson Branch	64.61	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	64.66
Dry Creek	134.98	0.00	0.00	0.00	1.04	0.10	4.42	0.00	0.00	140.53
Ewing Creek	327.32	0.00	0.00	0.00	7.20	0.12	6.25	0.00	0.00	340.88
Gibson Creek	87.52	0.00	0.00	0.00	14.83	0.21	2.42	0.00	0.00	104.98
Gizzard Branch	82.53	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	82.56
Harpeth River	711.47	0.00	0.00	0.00	0.74	0.09	4.94	0.00	0.00	717.24
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	68.05	0.00	0.00	0.00	0.00	0.06	2.96	0.00	0.00	71.08
Loves Branch	24.88	0.00	0.00	0.00	0.24	0.06	0.00	0.00	0.00	25.18
Mansker Creek	38.39	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	38.41
Marrowbone Creek	12.35	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	12.36
Mill Creek Lower	664.62	0.00	0.00	0.00	18.81	0.22	13.31	0.00	0.00	696.96
Mill Creek Upper	315.94	0.00	0.00	0.00	1.94	0.19	8.01	0.00	0.00	326.07
Overall Creek	57.89	0.00	0.00	0.00	0.25	0.04	0.73	0.00	0.00	58.91
Pages Branch	128.50	0.00	0.00	0.00	1.69	0.09	0.00	0.00	0.00	130.28
Percy Priest Lake, Lower	181.11	0.00	0.00	0.00	1.33	0.08	0.21	0.00	0.00	182.73
Percy Priest Lake, Upper	362.22	0.00	0.00	0.00	0.00	0.04	11.56	0.00	0.00	373.82
Pond Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Richland Creek	3,768.23	0.00	0.00	0.00	16.68	0.55	2.71	0.00	0.00	3,788.18
Sevenmile Creek	329.85	0.00	0.00	0.00	13.03	0.18	4.85	0.00	0.00	347.90
South Harpeth River, Lower	4.56	0.00	0.00	0.00	0.00	0.01	0.24	0.00	0.00	4.81
Stoner Creek	1,091.12	0.00	0.00	0.00	2.67	0.11	9.71	0.00	0.00	1,103.61
Stones River	195.30	0.00	0.00	0.00	0.48	0.19	2.42	0.00	0.00	198.40
Sugartree Creek	199.00	0.00	0.00	0.00	0.25	0.05	0.25	0.00	0.00	199.54
Sulpher Creek	14.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.42
Sycamore Creek	14.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.11
Whites Creek	1,780.10	0.00	0.00	0.00	21.74	0.20	11.76	0.00	0.00	1,813.80
Sandy Creek	10.89	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	10.90
All Watersheds	26,199.13	0.00	0.00	0.00	140.27	7.56	111.71	0.00	0.00	26,458.67

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	Pollutant: BOD5									Total Pollutant Load Removed from Watershed
	Removal by MWS Control Measure Implementation during FY22 (pounds)									
	SCMs Removal <sup>1</sup>	Construction Inspection Removal <sup>2</sup>	Illicit Discharge Removal <sup>2</sup>	Street Sweeping Removal <sup>2</sup>	Home Buyout Removal <sup>1</sup>	Tree Planting Removal <sup>1</sup>	Stream Buffer Removal <sup>1</sup>	Industrial Inspection Removal <sup>2</sup>	Field Screening Removal <sup>2</sup>	
Back Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Browns Creek	4,158.54	0.00	1.12	1,879.53	12.02	0.00	0.00	65.52	15.89	6,132.62
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	1,289.17	0.00	0.02	550.11	9.48	0.00	0.00	0.00	4.44	1,853.22
Cub Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cumberland River	104,673.26	0.00	3.03	10,497.87	53.38	0.00	0.00	290.68	56.32	115,574.54
Davidson Branch	552.20	0.00	0.19	137.53	0.00	0.00	0.00	0.00	0.00	689.92
Dry Creek	1,178.55	0.00	0.00	595.95	2.06	0.00	0.00	0.00	0.00	1,776.55
Ewing Creek	4,221.03	0.00	2.75	1,604.48	9.56	0.00	0.00	45.03	4.50	5,887.36
Gibson Creek	583.15	0.00	0.02	595.95	18.17	0.00	0.00	0.00	0.00	1,197.29
Gizzard Branch	582.45	0.00	0.00	137.53	0.00	0.00	0.00	0.00	0.00	719.98
Harpeth River	6,958.98	0.00	0.09	2,979.75	5.22	0.00	0.00	0.00	0.00	9,944.03
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	409.25	0.00	0.00	183.37	0.00	0.00	0.00	0.00	2.39	595.01
Loves Branch	231.68	0.00	0.00	183.37	0.86	0.00	0.00	0.00	0.00	415.92
Mansker Creek	425.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	425.55
Marrowbone Creek	58.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	58.78
Mill Creek Lower	6,288.49	0.00	1.33	5,821.96	41.68	0.00	0.00	80.58	11.22	12,245.26
Mill Creek Upper	2,543.19	0.00	0.94	1,742.00	44.21	0.00	0.00	0.00	0.00	4,330.34
Overall Creek	433.62	0.00	2.85	91.68	0.85	0.00	0.00	0.00	0.00	529.00
Pages Branch	1,144.26	0.00	0.09	687.63	2.33	0.00	0.00	0.00	31.57	1,865.88
Percy Priest Lake, Lower	1,318.53	0.00	0.10	3,713.22	0.75	0.00	0.00	0.00	0.00	5,032.60
Percy Priest Lake, Upper	3,980.49	0.00	3.87	504.26	0.00	0.00	0.00	0.00	0.00	4,488.62
Pond Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Richland Creek	22,149.38	0.00	3.07	3,208.96	12.16	0.00	0.00	0.00	12.44	25,386.00
Sevenmile Creek	2,208.24	0.00	4.08	3,438.17	26.84	0.00	0.00	10.54	7.00	5,694.87
South Harpeth River, Lower	47.61	0.00	0.00	137.53	0.00	0.00	0.00	0.00	0.00	185.14
Stoner Creek	9,829.69	0.00	2.87	2,750.53	2.87	0.00	0.00	23.34	0.00	12,609.31
Stones River	1,803.74	0.00	1.02	1,787.85	0.57	0.00	0.00	0.00	0.00	3,593.18
Sugartree Creek	1,256.75	0.00	1.02	779.32	0.35	0.00	0.00	0.00	0.00	2,037.44
Sulpher Creek	132.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	132.07
Sycamore Creek	73.92	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	74.02
Whites Creek	10,178.60	0.00	0.93	1,650.32	82.90	0.00	0.00	0.00	0.00	11,912.74
Sandy Creek	141.31	0.00	0.02	183.37	0.00	0.00	0.00	23.88	2.39	350.96
All Watersheds	188,852.48	0.00	29.49	45,842.23	326.25	0.00	0.00	539.58	148.16	235,738.19

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									Total Pollutant Load Removed from Watershed
	Removal by MWS Control Measure Implementation during FY22 (pounds)									
	SCMs Removal <sup>1</sup>	Construction Inspection Removal <sup>2</sup>	Illicit Discharge Removal <sup>2</sup>	Street Sweeping Removal <sup>2</sup>	Home Buyout Removal <sup>1</sup>	Tree Planting Removal <sup>1</sup>	Stream Buffer Removal <sup>1</sup>	Industrial Inspection Removal <sup>2</sup>	Field Screening Removal <sup>2</sup>	
Back Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Browns Creek	33,410.90	0.00	2.95	3,759.06	0.00	0.00	0.44	657.96	159.56	37,990.87
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	9,519.75	0.00	0.05	1,100.21	36.84	0.00	0.22	0.00	44.62	10,701.69
Cub Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cumberland River	859,673.20	0.00	7.97	20,995.74	156.61	0.00	152.36	2,918.88	565.59	884,470.36
Davidson Branch	4,523.44	0.00	0.51	275.05	0.00	0.00	0.00	0.00	0.00	4,799.00
Dry Creek	8,625.90	0.00	0.00	1,191.90	0.00	0.00	15.23	0.00	0.00	9,833.03
Ewing Creek	33,386.32	0.00	7.25	3,208.96	0.00	0.00	11.15	452.20	45.22	37,111.09
Gibson Creek	4,427.37	0.00	0.05	1,191.90	18.37	0.00	6.91	0.00	0.00	5,644.59
Gizzard Branch	4,700.82	0.00	0.00	275.05	0.00	0.00	0.00	0.00	0.00	4,975.88
Harpeth River	49,988.05	0.00	0.24	5,959.49	0.00	0.00	12.99	0.00	0.00	55,960.77
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	3,529.01	0.00	0.00	366.74	0.00	0.00	20.17	0.00	23.98	3,939.89
Loves Branch	1,979.04	0.00	0.00	366.74	0.00	0.00	0.00	0.00	0.00	2,345.78
Mansker Creek	3,338.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3,338.76
Marrowbone Creek	444.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	444.66
Mill Creek Lower	52,398.01	0.00	3.50	11,643.93	38.75	0.00	118.46	809.13	112.68	65,124.46
Mill Creek Upper	20,736.03	0.00	2.46	3,484.01	178.80	0.00	24.90	0.00	0.00	24,426.20
Overall Creek	3,341.96	0.00	7.49	183.37	0.00	0.00	2.40	0.00	0.00	3,535.21
Pages Branch	10,716.54	0.00	0.24	1,375.27	0.00	0.00	0.00	0.00	316.98	12,409.04
Percy Priest Lake, Lower	16,129.47	0.00	0.27	7,426.44	0.00	0.00	2.94	0.00	0.00	23,559.12
Percy Priest Lake, Upper	30,764.40	0.00	10.17	1,008.53	0.00	0.00	30.23	0.00	0.00	31,813.33
Pond Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Richland Creek	147,086.11	0.00	8.07	6,417.91	0.00	0.00	58.77	0.00	124.88	153,695.74
Sevenmile Creek	21,107.19	0.00	10.72	6,876.33	0.00	0.00	9.96	105.89	70.32	28,180.42
South Harpeth River, Lower	324.87	0.00	0.00	275.05	0.00	0.00	2.24	0.00	0.00	602.16
Stoner Creek	67,922.79	0.00	7.56	5,501.07	0.00	0.00	60.36	234.42	0.00	73,726.19
Stones River	15,459.12	0.00	2.68	3,575.69	0.00	0.00	112.70	0.00	0.00	19,150.20
Sugartree Creek	10,017.94	0.00	2.68	1,558.64	0.00	0.00	0.05	0.00	0.00	11,579.31
Sulpher Creek	1,011.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,011.85
Sycamore Creek	626.91	0.00	0.24	0.00	0.00	0.00	0.00	0.00	0.00	627.15
Whites Creek	66,988.76	0.00	2.44	3,300.64	141.25	0.00	110.76	0.00	0.00	70,543.85
Sandy Creek	1,116.97	0.00	0.05	366.74	0.00	0.00	0.00	239.77	23.98	1,747.51
All Watersheds	1,483,296.16	0.00	77.57	91,684.46	570.62	0.00	753.23	5,418.25	1,487.81	1,583,288.10

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: NH3									Total Pollutant Load Removed from Watershed
	Removal by MWS Control Measure Implementation during FY22 (pounds)									
	SCMs Removal <sup>1</sup>	Construction Inspection Removal <sup>2</sup>	Illicit Discharge Removal <sup>2</sup>	Street Sweeping Removal <sup>2</sup>	Home Buyout Removal <sup>1</sup>	Tree Planting Removal <sup>1</sup>	Stream Buffer Removal <sup>1</sup>	Industrial Inspection Removal <sup>2</sup>	Field Screening Removal <sup>2</sup>	
Back Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Browns Creek	108.64	0.00	0.04	0.00	0.00	0.00	0.00	1.09	0.26	110.04
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	24.84	0.00	0.00	0.00	0.22	0.00	0.00	0.00	0.07	25.13
Cub Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cumberland River	3,106.41	0.00	0.12	0.00	0.93	0.00	0.00	4.84	0.94	3,113.24
Davidson Branch	15.69	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	15.70
Dry Creek	28.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.67
Ewing Creek	113.00	0.00	0.11	0.00	0.00	0.00	0.00	0.75	0.08	113.93
Gibson Creek	17.47	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00	17.58
Gizzard Branch	19.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	19.17
Harpeth River	135.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	135.31
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	14.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	14.94
Loves Branch	6.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.74
Mansker Creek	12.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.27
Marrowbone Creek	2.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.03
Mill Creek Lower	199.64	0.00	0.05	0.00	0.24	0.00	0.00	1.34	0.19	201.47
Mill Creek Upper	76.27	0.00	0.04	0.00	1.06	0.00	0.00	0.00	0.00	77.37
Overall Creek	10.67	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	10.78
Pages Branch	45.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.53	46.00
Percy Priest Lake, Lower	36.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	36.64
Percy Priest Lake, Upper	95.96	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	96.11
Pond Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Richland Creek	499.25	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.21	499.58
Sevenmile Creek	67.47	0.00	0.16	0.00	0.00	0.00	0.00	0.18	0.12	67.92
South Harpeth River, Lower	1.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.04
Stoner Creek	260.64	0.00	0.11	0.00	0.00	0.00	0.00	0.39	0.00	261.14
Stones River	59.51	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	59.55
Sugartree Creek	37.70	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	37.74
Sulpher Creek	3.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.67
Sycamore Creek	1.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.87
Whites Creek	221.58	0.00	0.04	0.00	0.85	0.00	0.00	0.00	0.00	222.46
Sandy Creek	3.92	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.04	4.36
All Watersheds	5,226.42	0.00	1.14	0.00	3.42	0.00	0.00	8.99	2.47	5,242.45

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									Total Pollutant Load Removed from Watershed
	Removal by MWS Control Measure Implementation during FY22 (pounds)									
	SCMs Removal <sup>1</sup>	Construction Inspection Removal <sup>2</sup>	Illicit Discharge Removal <sup>2</sup>	Street Sweeping Removal <sup>2</sup>	Home Buyout Removal <sup>1</sup>	Tree Planting Removal <sup>1</sup>	Stream Buffer Removal <sup>1</sup>	Industrial Inspection Removal <sup>2</sup>	Field Screening Removal <sup>2</sup>	
Back Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Browns Creek	583.21	0.00	0.35	0.00	0.93	0.00	0.00	0.00	0.00	584.50
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	202.18	0.00	0.01	0.00	0.37	0.00	0.00	0.00	0.00	202.56
Cub Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cumberland River	14,970.11	0.00	0.96	0.00	2.58	0.00	1.15	0.00	0.00	14,974.80
Davidson Branch	68.41	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	68.47
Dry Creek	129.48	0.00	0.00	0.00	0.16	0.00	0.10	0.00	0.00	129.74
Ewing Creek	453.44	0.00	0.87	0.00	0.74	0.00	0.04	0.00	0.00	455.10
Gibson Creek	104.26	0.00	0.01	0.00	1.23	0.00	0.04	0.00	0.00	105.54
Gizzard Branch	91.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	91.27
Harpeth River	1,078.43	0.00	0.03	0.00	0.41	0.00	0.47	0.00	0.00	1,079.33
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	82.14	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.00	82.26
Loves Branch	19.98	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	20.05
Mansker Creek	56.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	56.37
Marrowbone Creek	11.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.20
Mill Creek Lower	879.83	0.00	0.42	0.00	2.80	0.00	4.30	0.00	0.00	887.35
Mill Creek Upper	408.67	0.00	0.30	0.00	1.64	0.00	0.14	0.00	0.00	410.75
Overall Creek	54.32	0.00	0.90	0.00	0.07	0.00	0.00	0.00	0.00	55.28
Pages Branch	184.44	0.00	0.03	0.00	0.18	0.00	0.00	0.00	0.00	184.65
Percy Priest Lake, Lower	253.98	0.00	0.03	0.00	0.06	0.00	0.00	0.00	0.00	254.07
Percy Priest Lake, Upper	419.09	0.00	1.22	0.00	0.00	0.00	0.17	0.00	0.00	420.48
Pond Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Richland Creek	2,378.69	0.00	0.97	0.00	0.95	0.00	0.38	0.00	0.00	2,380.98
Sevenmile Creek	405.34	0.00	1.29	0.00	2.09	0.00	0.06	0.00	0.00	408.78
South Harpeth River, Lower	7.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.22
Stoner Creek	1,456.75	0.00	0.91	0.00	0.22	0.00	0.39	0.00	0.00	1,458.27
Stones River	236.60	0.00	0.32	0.00	0.04	0.00	0.72	0.00	0.00	237.69
Sugartree Creek	192.82	0.00	0.32	0.00	0.03	0.00	0.00	0.00	0.00	193.17
Sulpher Creek	15.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.66
Sycamore Creek	12.09	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	12.12
Whites Creek	1,017.24	0.00	0.29	0.00	5.03	0.00	0.65	0.00	0.00	1,023.21
Sandy Creek	18.57	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	18.58
All Watersheds	25,791.78	0.00	9.34	0.00	19.60	0.00	8.73	0.00	0.00	25,829.44

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 FY22 (pounds)									
	SCMs Removal <sup>1</sup>	Construction Inspection Removal <sup>2</sup>	Illicit Discharge Removal <sup>2</sup>	Street Sweeping Removal <sup>2</sup>	Home Buyout Removal <sup>1</sup>	Tree Planting Removal <sup>1</sup>	Stream Buffer Removal <sup>1</sup>	Industrial Inspection Removal <sup>2</sup>	Field Screening Removal <sup>2</sup>	
Back Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Browns Creek	206.99	0.00	0.01	0.00	0.00	0.00	0.00	2.59	0.63	210.22
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	64.78	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.18	65.04
Cub Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cumberland River	7,805.08	0.00	0.01	0.00	0.34	0.00	0.12	11.51	2.23	7,819.29
Davidson Branch	36.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	36.21
Dry Creek	76.95	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	76.96
Ewing Creek	196.36	0.00	0.01	0.00	0.00	0.00	0.01	1.78	0.18	198.35
Gibson Creek	38.79	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	38.83
Gizzard Branch	38.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	38.42
Harpeth River	397.09	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.00	397.21
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	28.19	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.09	28.29
Loves Branch	13.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.67
Mansker Creek	23.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	23.98
Marrowbone Creek	4.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.48
Mill Creek Lower	326.55	0.00	0.01	0.00	0.08	0.00	0.92	3.19	0.44	331.19
Mill Creek Upper	156.23	0.00	0.00	0.00	0.39	0.00	0.02	0.00	0.00	156.64
Overall Creek	30.21	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	30.23
Pages Branch	51.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.25	52.39
Percy Priest Lake, Lower	110.82	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	110.83
Percy Priest Lake, Upper	198.79	0.00	0.02	0.00	0.00	0.00	0.02	0.00	0.00	198.83
Pond Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Richland Creek	2,033.15	0.00	0.01	0.00	0.00	0.00	0.02	0.00	0.49	2,033.68
Sevenmile Creek	170.59	0.00	0.02	0.00	0.00	0.00	0.00	0.42	0.28	171.31
South Harpeth River, Lower	3.26	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	3.27
Stoner Creek	778.30	0.00	0.01	0.00	0.00	0.00	0.02	0.92	0.00	779.26
Stones River	95.33	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	95.38
Sugartree Creek	96.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	96.67
Sulpher Creek	6.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.87
Sycamore Creek	6.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.59
Whites Creek	946.39	0.00	0.00	0.00	0.31	0.00	0.07	0.00	0.00	946.77
Sandy Creek	6.88	0.00	0.00	0.00	0.00	0.00	0.00	0.95	0.09	7.92
All Watersheds	13,948.77	0.00	0.13	0.00	1.25	0.00	1.42	21.36	5.86	13,978.79

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									Total Pollutant Load Removed from Watershed
	Removal by MWS Control Measure Implementation during FY22 (pounds)									
	SCMs Removal <sup>1</sup>	Construction Inspection Removal <sup>2</sup>	Illicit Discharge Removal <sup>2</sup>	Street Sweeping Removal <sup>2</sup>	Home Buyout Removal <sup>1</sup>	Tree Planting Removal <sup>1</sup>	Stream Buffer Removal <sup>1</sup>	Industrial Inspection Removal <sup>2</sup>	Field Screening Removal <sup>2</sup>	
Back Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Browns Creek	696.09	0.00	0.26	539.21	1.10	0.00	0.00	0.00	0.00	1,236.66
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	246.99	0.00	0.00	157.82	0.56	0.00	0.00	0.00	0.00	405.37
Cub Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cumberland River	19,542.11	0.00	0.69	3,011.68	3.59	0.00	1.13	0.00	0.00	22,559.20
Davidson Branch	89.06	0.00	0.04	39.45	0.00	0.00	0.00	0.00	0.00	128.55
Dry Creek	166.85	0.00	0.00	170.97	0.19	0.00	0.09	0.00	0.00	338.10
Ewing Creek	551.41	0.00	0.63	460.30	0.88	0.00	0.04	0.00	0.00	1,013.26
Gibson Creek	112.74	0.00	0.00	170.97	1.51	0.00	0.04	0.00	0.00	285.27
Gizzard Branch	104.21	0.00	0.00	39.45	0.00	0.00	0.00	0.00	0.00	143.66
Harpeth River	1,320.99	0.00	0.02	854.84	0.48	0.00	0.50	0.00	0.00	2,176.83
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	84.66	0.00	0.00	52.61	0.00	0.00	0.12	0.00	0.00	137.38
Loves Branch	28.59	0.00	0.00	52.61	0.08	0.00	0.00	0.00	0.00	81.27
Mansker Creek	68.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	68.13
Marrowbone Creek	12.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.32
Mill Creek Lower	959.19	0.00	0.30	1,670.24	3.43	0.00	4.59	0.00	0.00	2,637.75
Mill Creek Upper	453.70	0.00	0.21	499.76	2.56	0.00	0.13	0.00	0.00	956.36
Overall Creek	69.04	0.00	0.65	26.30	0.08	0.00	0.00	0.00	0.00	96.07
Pages Branch	172.83	0.00	0.02	197.27	0.21	0.00	0.00	0.00	0.00	370.33
Percy Priest Lake, Lower	316.37	0.00	0.02	1,065.27	0.07	0.00	0.00	0.00	0.00	1,381.73
Percy Priest Lake, Upper	489.31	0.00	0.89	144.67	0.00	0.00	0.16	0.00	0.00	635.03
Pond Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Richland Creek	3,417.75	0.00	0.70	920.60	1.11	0.00	0.36	0.00	0.00	4,340.53
Sevenmile Creek	465.23	0.00	0.93	986.36	2.46	0.00	0.06	0.00	0.00	1,455.05
South Harpeth River, Lower	9.63	0.00	0.00	39.45	0.00	0.00	0.00	0.00	0.00	49.08
Stoner Creek	2,016.96	0.00	0.66	789.09	0.26	0.00	0.37	0.00	0.00	2,807.33
Stones River	272.31	0.00	0.23	512.91	0.05	0.00	0.69	0.00	0.00	786.19
Sugartree Creek	228.48	0.00	0.23	223.57	0.03	0.00	0.00	0.00	0.00	452.32
Sulpher Creek	18.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.45
Sycamore Creek	13.61	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	13.63
Whites Creek	1,482.67	0.00	0.21	473.45	6.42	0.00	0.62	0.00	0.00	1,963.37
Sandy Creek	21.72	0.00	0.00	52.61	0.00	0.00	0.00	0.00	0.00	74.33
All Watersheds	33,431.38	0.00	6.75	13,151.46	25.09	0.00	8.89	0.00	0.00	46,623.58

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									Total Pollutant Load Removed from Watershed
	Removal by MWS Control Measure Implementation during FY22 (pounds)									
	SCMs Removal <sup>1</sup>	Construction Inspection Removal <sup>2</sup>	Illicit Discharge Removal <sup>2</sup>	Street Sweeping Removal <sup>2</sup>	Home Buyout Removal <sup>1</sup>	Tree Planting Removal <sup>1</sup>	Stream Buffer Removal <sup>1</sup>	Industrial Inspection Removal <sup>2</sup>	Field Screening Removal <sup>2</sup>	
Back Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Browns Creek	244.77	0.00	0.00	0.00	1.18	0.00	0.00	0.00	0.00	245.95
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	134.66	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	134.73
Cub Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cumberland River	4,861.81	0.00	0.00	0.00	1.60	0.00	3.44	0.00	0.00	4,866.85
Davidson Branch	23.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	23.74
Dry Creek	36.28	0.00	0.00	0.00	0.20	0.00	0.41	0.00	0.00	36.89
Ewing Creek	73.53	0.00	0.00	0.00	0.94	0.00	0.46	0.00	0.00	74.93
Gibson Creek	26.50	0.00	0.00	0.00	1.36	0.00	0.09	0.00	0.00	27.95
Gizzard Branch	17.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.02
Harpeth River	685.64	0.00	0.00	0.00	0.51	0.00	0.41	0.00	0.00	686.56
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	15.03	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00	15.28
Loves Branch	5.22	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	5.31
Mansker Creek	10.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.15
Marrowbone Creek	1.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.51
Mill Creek Lower	142.22	0.00	0.00	0.00	3.14	0.00	4.02	0.00	0.00	149.38
Mill Creek Upper	120.09	0.00	0.00	0.00	0.17	0.00	0.84	0.00	0.00	121.11
Overall Creek	23.69	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	23.78
Pages Branch	19.21	0.00	0.00	0.00	0.23	0.00	0.00	0.00	0.00	19.44
Percy Priest Lake, Lower	153.21	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	153.28
Percy Priest Lake, Upper	101.41	0.00	0.00	0.00	0.00	0.00	3.84	0.00	0.00	105.25
Pond Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Richland Creek	839.06	0.00	0.00	0.00	1.19	0.00	0.78	0.00	0.00	841.04
Sevenmile Creek	139.94	0.00	0.00	0.00	2.65	0.00	0.13	0.00	0.00	142.72
South Harpeth River, Lower	3.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.21
Stoner Creek	347.80	0.00	0.00	0.00	0.28	0.00	0.79	0.00	0.00	348.88
Stones River	42.56	0.00	0.00	0.00	0.06	0.00	1.49	0.00	0.00	44.10
Sugartree Creek	53.89	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	53.92
Sulpher Creek	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.15
Sycamore Creek	4.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.61
Whites Creek	372.26	0.00	0.00	0.00	4.84	0.00	2.07	0.00	0.00	379.17
Sandy Creek	3.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.60
All Watersheds	8,504.79	0.00	0.00	0.00	18.70	0.00	19.03	0.00	0.00	8,542.51

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	Pollutant: TP									Total Pollutant Load Removed from Watershed
	Removal by MWS Control Measure Implementation during FY22 (pounds)									
	SCMs Removal <sup>1</sup>	Construction Inspection Removal <sup>2</sup>	Illicit Discharge Removal <sup>2</sup>	Street Sweeping Removal <sup>2</sup>	Home Buyout Removal <sup>1</sup>	Tree Planting Removal <sup>1</sup>	Stream Buffer Removal <sup>1</sup>	Industrial Inspection Removal <sup>2</sup>	Field Screening Removal <sup>2</sup>	
Back Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Browns Creek	394.58	0.00	0.05	215.68	1.20	0.00	0.00	0.00	0.00	611.51
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	192.83	0.00	0.00	63.13	0.07	0.00	0.00	0.00	0.00	256.03
Cub Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cumberland River	8,001.85	0.00	0.12	1,204.67	1.63	0.00	5.18	0.00	0.00	9,213.45
Davidson Branch	41.07	0.00	0.01	15.78	0.00	0.00	0.00	0.00	0.00	56.86
Dry Creek	66.35	0.00	0.00	68.39	0.21	0.00	0.59	0.00	0.00	135.53
Ewing Creek	187.47	0.00	0.11	184.12	0.95	0.00	0.59	0.00	0.00	373.25
Gibson Creek	42.93	0.00	0.00	68.39	1.38	0.00	0.16	0.00	0.00	112.86
Gizzard Branch	31.11	0.00	0.00	15.78	0.00	0.00	0.00	0.00	0.00	46.89
Harpeth River	976.00	0.00	0.00	341.94	0.52	0.00	0.63	0.00	0.00	1,319.10
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	27.58	0.00	0.00	21.04	0.00	0.00	0.44	0.00	0.00	49.06
Loves Branch	11.52	0.00	0.00	21.04	0.09	0.00	0.00	0.00	0.00	32.65
Mansker Creek	20.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.26
Marrowbone Creek	2.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.93
Mill Creek Lower	312.90	0.00	0.05	668.09	3.20	0.00	6.35	0.00	0.00	990.59
Mill Creek Upper	202.40	0.00	0.04	199.90	0.18	0.00	1.15	0.00	0.00	403.66
Overall Creek	38.08	0.00	0.12	10.52	0.08	0.00	0.00	0.00	0.00	48.80
Pages Branch	51.16	0.00	0.00	78.91	0.23	0.00	0.00	0.00	0.00	130.31
Percy Priest Lake, Lower	249.66	0.00	0.00	426.11	0.07	0.00	0.00	0.00	0.00	675.84
Percy Priest Lake, Upper	230.36	0.00	0.16	57.87	0.00	0.00	4.64	0.00	0.00	293.02
Pond Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Richland Creek	1,280.91	0.00	0.13	368.24	1.21	0.00	1.36	0.00	0.00	1,651.85
Sevenmile Creek	231.91	0.00	0.17	394.54	2.70	0.00	0.23	0.00	0.00	629.54
South Harpeth River, Lower	4.62	0.00	0.00	15.78	0.00	0.00	0.00	0.00	0.00	20.40
Stoner Creek	514.79	0.00	0.12	315.64	0.29	0.00	1.38	0.00	0.00	832.21
Stones River	93.47	0.00	0.04	205.16	0.06	0.00	2.59	0.00	0.00	301.32
Sugartree Creek	89.17	0.00	0.04	89.43	0.03	0.00	0.00	0.00	0.00	178.68
Sulpher Creek	5.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.57
Sycamore Creek	7.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.97
Whites Creek	570.52	0.00	0.04	189.38	4.92	0.00	3.18	0.00	0.00	768.03
Sandy Creek	7.73	0.00	0.00	21.04	0.00	0.00	0.00	0.00	0.00	28.77
All Watersheds	13,887.69	0.00	1.20	5,260.58	19.01	0.00	28.45	0.00	0.00	19,196.95

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									Total Pollutant Load Removed from Watershed
	Removal by MWS Control Measure Implementation during FY22 (pounds)									
	SCMs Removal <sup>1</sup>	Construction Inspection Removal <sup>2</sup>	Illicit Discharge Removal <sup>2</sup>	Street Sweeping Removal <sup>2</sup>	Home Buyout Removal <sup>1</sup>	Tree Planting Removal <sup>1</sup>	Stream Buffer Removal <sup>1</sup>	Industrial Inspection Removal <sup>2</sup>	Field Screening Removal <sup>2</sup>	
Back Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Browns Creek	1.48	0.00	0.00	15.61	0.00	0.00	0.02	0.27	0.00	17.39
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	0.35	0.00	0.00	4.57	1.84	0.00	0.01	0.00	0.00	6.77
Cub Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cumberland River	48.60	0.00	0.00	87.18	7.83	0.00	1.30	1.21	0.00	146.13
Davidson Branch	0.23	0.00	0.00	1.14	0.00	0.00	0.00	0.00	0.00	1.37
Dry Creek	0.50	0.00	0.00	4.95	0.00	0.00	0.12	0.00	0.00	5.56
Ewing Creek	1.68	0.00	0.00	13.33	0.00	0.00	0.29	0.19	0.00	15.48
Gibson Creek	0.27	0.00	0.00	4.95	0.92	0.00	0.05	0.00	0.00	6.19
Gizzard Branch	0.28	0.00	0.00	1.14	0.00	0.00	0.00	0.00	0.00	1.43
Harpeth River	2.10	0.00	0.00	24.75	0.00	0.00	0.24	0.00	0.00	27.09
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	0.21	0.00	0.00	1.52	0.00	0.00	0.21	0.00	0.00	1.94
Loves Branch	0.10	0.00	0.00	1.52	0.00	0.00	0.00	0.00	0.00	1.63
Mansker Creek	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17
Marrowbone Creek	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
Mill Creek Lower	2.81	0.00	0.00	48.35	1.94	0.00	0.42	0.34	0.00	53.86
Mill Creek Upper	1.12	0.00	0.00	14.47	8.94	0.00	0.38	0.00	0.00	24.91
Overall Creek	0.19	0.00	0.00	0.76	0.00	0.00	0.14	0.00	0.00	1.08
Pages Branch	0.59	0.00	0.00	5.71	0.00	0.00	0.00	0.00	0.00	6.30
Percy Priest Lake, Lower	0.63	0.00	0.00	30.84	0.00	0.00	0.17	0.00	0.00	31.64
Percy Priest Lake, Upper	1.68	0.00	0.00	4.19	0.00	0.00	0.40	0.00	0.00	6.27
Pond Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Richland Creek	10.56	0.00	0.00	26.65	0.00	0.00	0.45	0.00	0.00	37.66
Sevenmile Creek	1.08	0.00	0.00	28.55	0.00	0.00	0.08	0.04	0.00	29.76
South Harpeth River, Lower	0.02	0.00	0.00	1.14	0.00	0.00	0.13	0.00	0.00	1.29
Stoner Creek	3.82	0.00	0.00	22.84	0.00	0.00	0.46	0.10	0.00	27.22
Stones River	0.81	0.00	0.00	14.85	0.00	0.00	0.86	0.00	0.00	16.52
Sugartree Creek	0.60	0.00	0.00	6.47	0.00	0.00	0.00	0.00	0.00	7.07
Sulpher Creek	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
Sycamore Creek	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
Whites Creek	4.96	0.00	0.00	13.71	7.06	0.00	1.32	0.00	0.00	27.05
Sandy Creek	0.05	0.00	0.00	1.52	0.00	0.00	0.00	0.10	0.00	1.67
All Watersheds	85.02	0.00	0.00	380.72	28.53	0.00	7.06	2.25	0.00	503.58

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									Total Pollutant Load Removed from Watershed
	Removal by MWS Control Measure Implementation during FY22 (pounds)									
	SCMs Removal <sup>1</sup>	Construction Inspection Removal <sup>2</sup>	Illicit Discharge Removal <sup>2</sup>	Street Sweeping Removal <sup>2</sup>	Home Buyout Removal <sup>1</sup>	Tree Planting Removal <sup>1</sup>	Stream Buffer Removal <sup>1</sup>	Industrial Inspection Removal <sup>2</sup>	Field Screening Removal <sup>2</sup>	
Back Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Browns Creek	1.77	0.00	0.00	9.97	0.00	0.00	0.32	0.00	0.00	12.06
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	0.28	0.00	0.00	2.92	0.00	0.00	0.16	0.00	0.00	3.36
Cub Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cumberland River	84.62	0.00	0.00	55.68	0.00	0.00	18.22	0.00	0.00	158.52
Davidson Branch	0.39	0.00	0.00	0.73	0.00	0.00	0.00	0.00	0.00	1.12
Dry Creek	0.88	0.00	0.00	3.16	0.00	0.00	1.63	0.00	0.00	5.67
Ewing Creek	2.28	0.00	0.00	8.51	0.00	0.00	4.93	0.00	0.00	15.73
Gibson Creek	0.54	0.00	0.00	3.16	0.00	0.00	0.39	0.00	0.00	4.10
Gizzard Branch	0.54	0.00	0.00	0.73	0.00	0.00	0.00	0.00	0.00	1.27
Harpeth River	2.54	0.00	0.00	15.80	0.00	0.00	7.50	0.00	0.00	25.84
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	0.42	0.00	0.00	0.97	0.00	0.00	1.90	0.00	0.00	3.30
Loves Branch	0.13	0.00	0.00	0.97	0.00	0.00	0.00	0.00	0.00	1.10
Mansker Creek	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31
Marrowbone Creek	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08
Mill Creek Lower	4.23	0.00	0.00	30.88	0.00	0.00	40.87	0.00	0.00	75.98
Mill Creek Upper	1.89	0.00	0.00	9.24	0.00	0.00	6.12	0.00	0.00	17.25
Overall Creek	0.32	0.00	0.00	0.49	0.00	0.00	1.78	0.00	0.00	2.59
Pages Branch	0.73	0.00	0.00	3.65	0.00	0.00	0.00	0.00	0.00	4.38
Percy Priest Lake, Lower	1.55	0.00	0.00	19.70	0.00	0.00	2.19	0.00	0.00	23.43
Percy Priest Lake, Upper	2.14	0.00	0.00	2.67	0.00	0.00	17.26	0.00	0.00	22.08
Pond Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Richland Creek	24.15	0.00	0.00	17.02	0.00	0.00	3.42	0.00	0.00	44.59
Sevenmile Creek	2.45	0.00	0.00	18.24	0.00	0.00	0.57	0.00	0.00	21.25
South Harpeth River, Lower	0.03	0.00	0.00	0.73	0.00	0.00	1.66	0.00	0.00	2.42
Stoner Creek	10.57	0.00	0.00	14.59	0.00	0.00	3.42	0.00	0.00	28.58
Stones River	1.17	0.00	0.00	9.48	0.00	0.00	6.40	0.00	0.00	17.05
Sugartree Creek	1.21	0.00	0.00	4.13	0.00	0.00	0.04	0.00	0.00	5.39
Sulpher Creek	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09
Sycamore Creek	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09
Whites Creek	11.14	0.00	0.00	8.75	0.00	0.00	15.77	0.00	0.00	35.67
Sandy Creek	0.08	0.00	0.00	0.97	0.00	0.00	0.00	0.00	0.00	1.05
All Watersheds	156.65	0.00	0.00	243.15	0.00	0.00	134.57	0.00	0.00	534.37

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: Zn									Total Pollutant Load Removed from Watershed
	Removal by MWS Control Measure Implementation during FY22 (pounds)									
	SCMs Removal <sup>1</sup>	Construction Inspection Removal <sup>2</sup>	Illicit Discharge Removal <sup>2</sup>	Street Sweeping Removal <sup>2</sup>	Home Buyout Removal <sup>1</sup>	Tree Planting Removal <sup>1</sup>	Stream Buffer Removal <sup>1</sup>	Industrial Inspection Removal <sup>2</sup>	Field Screening Removal <sup>2</sup>	
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 <sup>1</sup>	Construction Inspection Removal <sup>2</sup>	Illicit Discharge Removal <sup>2</sup>	Street Sweeping Removal <sup>2</sup>	Home Buyout Removal <sup>1</sup>	Tree Planting Removal <sup>1</sup>	Stream Buffer Removal <sup>1</sup>	Industrial Inspection Removal <sup>2</sup>	Field Screening Removal <sup>2</sup>	
Back Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Browns Creek	1.24	0.00	0.00	11.09	0.00	0.00	0.07	0.00	0.00	12.40
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	0.39	0.00	0.00	3.25	0.00	0.00	0.03	0.00	0.00	3.67
Cub Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cumberland River	40.35	0.00	0.00	61.95	0.00	0.00	14.62	0.00	0.00	116.92
Davidson Branch	0.18	0.00	0.00	0.81	0.00	0.00	0.00	0.00	0.00	0.99
Dry Creek	0.32	0.00	0.00	3.52	0.00	0.00	1.54	0.00	0.00	5.37
Ewing Creek	1.12	0.00	0.00	9.47	0.00	0.00	1.77	0.00	0.00	12.36
Gibson Creek	0.15	0.00	0.00	3.52	0.00	0.00	0.56	0.00	0.00	4.23
Gizzard Branch	0.17	0.00	0.00	0.81	0.00	0.00	0.00	0.00	0.00	0.98
Harpeth River	2.07	0.00	0.00	17.59	0.00	0.00	1.21	0.00	0.00	20.86
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	0.12	0.00	0.00	1.08	0.00	0.00	1.74	0.00	0.00	2.94
Loves Branch	0.09	0.00	0.00	1.08	0.00	0.00	0.00	0.00	0.00	1.17
Mansker Creek	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11
Marrowbone Creek	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
Mill Creek Lower	1.72	0.00	0.00	34.36	0.00	0.00	8.22	0.00	0.00	44.30
Mill Creek Upper	0.76	0.00	0.00	10.28	0.00	0.00	3.12	0.00	0.00	14.16
Overall Creek	0.15	0.00	0.00	0.54	0.00	0.00	0.38	0.00	0.00	1.07
Pages Branch	0.32	0.00	0.00	4.06	0.00	0.00	0.00	0.00	0.00	4.38
Percy Priest Lake, Lower	0.84	0.00	0.00	21.91	0.00	0.00	0.46	0.00	0.00	23.21
Percy Priest Lake, Upper	1.16	0.00	0.00	2.98	0.00	0.00	7.79	0.00	0.00	11.92
Pond Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Richland Creek	6.35	0.00	0.00	18.94	0.00	0.00	4.82	0.00	0.00	30.11
Sevenmile Creek	0.91	0.00	0.00	20.29	0.00	0.00	0.81	0.00	0.00	22.01
South Harpeth River, Lower	0.01	0.00	0.00	0.81	0.00	0.00	0.35	0.00	0.00	1.17
Stoner Creek	2.29	0.00	0.00	16.23	0.00	0.00	4.92	0.00	0.00	23.44
Stones River	0.54	0.00	0.00	10.55	0.00	0.00	9.19	0.00	0.00	20.28
Sugartree Creek	0.40	0.00	0.00	4.60	0.00	0.00	0.01	0.00	0.00	5.01
Sulpher Creek	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
Sycamore Creek	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
Whites Creek	2.94	0.00	0.00	9.74	0.00	0.00	10.86	0.00	0.00	23.54
Sandy Creek	0.03	0.00	0.00	1.08	0.00	0.00	0.00	0.00	0.00	1.12
All Watersheds	64.81	0.00	0.00	270.54	0.00	0.00	72.47	0.00	0.00	407.83

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: Cu									Total Pollutant Load Removed from Watershed
	Removal by MWS Control Measure Implementation during FY22 (pounds)									
	SCMs Removal <sup>1</sup>	Construction Inspection Removal <sup>2</sup>	Illicit Discharge Removal <sup>2</sup>	Street Sweeping Removal <sup>2</sup>	Home Buyout Removal <sup>1</sup>	Tree Planting Removal <sup>1</sup>	Stream Buffer Removal <sup>1</sup>	Industrial Inspection Removal <sup>2</sup>	Field Screening Removal <sup>2</sup>	
Cooper Creek	1.12	0.00	0.00	3.36	12.77	0.00	0.00	0.00	0.00	17.25
Cub Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cumberland River	112.15	0.00	0.00	64.17	56.08	0.00	11.32	1.21	0.00	244.94
Davidson Branch	0.60	0.00	0.00	0.84	0.00	0.00	0.00	0.00	0.00	1.44
Dry Creek	1.33	0.00	0.00	3.64	0.29	0.00	1.20	0.00	0.00	6.46
Ewing Creek	6.09	0.00	0.00	9.81	1.33	0.00	0.54	0.19	0.00	17.96
Gibson Creek	0.48	0.00	0.00	3.64	8.23	0.00	0.55	0.00	0.00	12.90
Gizzard Branch	0.59	0.00	0.00	0.84	0.00	0.00	0.00	0.00	0.00	1.44
Harpeth River	5.59	0.00	0.00	18.22	0.73	0.00	0.00	0.00	0.00	24.53
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	0.36	0.00	0.00	1.12	0.00	0.00	1.50	0.00	0.00	2.98
Loves Branch	0.35	0.00	0.00	1.12	0.12	0.00	0.00	0.00	0.00	1.59
Mansker Creek	0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.51
Marrowbone Creek	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
Mill Creek Lower	8.33	0.00	0.00	35.59	17.74	0.00	3.11	0.34	0.00	65.11
Mill Creek Upper	2.74	0.00	0.00	10.65	61.70	0.00	1.67	0.00	0.00	76.76
Overall Creek	0.44	0.00	0.00	0.56	0.12	0.00	0.00	0.00	0.00	1.12
Pages Branch	1.74	0.00	0.00	4.20	0.32	0.00	0.00	0.00	0.00	6.27
Percy Priest Lake, Lower	1.63	0.00	0.00	22.70	0.10	0.00	0.00	0.00	0.00	24.43
Percy Priest Lake, Upper	5.81	0.00	0.00	3.08	0.00	0.00	2.12	0.00	0.00	11.01
Pond Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Richland Creek	16.44	0.00	0.00	19.62	1.69	0.00	4.62	0.00	0.00	42.37
Sevenmile Creek	2.21	0.00	0.00	21.02	3.73	0.00	0.79	0.04	0.00	27.79
South Harpeth River, Lower	0.03	0.00	0.00	0.84	0.00	0.00	0.00	0.00	0.00	0.87
Stoner Creek	6.24	0.00	0.00	16.81	0.40	0.00	4.78	0.10	0.00	28.32
Stones River	2.46	0.00	0.00	10.93	0.08	0.00	8.91	0.00	0.00	22.38
Sugartree Creek	1.09	0.00	0.00	4.76	0.05	0.00	0.00	0.00	0.00	5.90
Sulphur Creek	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20
Sycamore Creek	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
Whites Creek	7.90	0.00	0.00	10.09	55.41	0.00	7.94	0.00	0.00	81.34
Sandy Creek	0.18	0.00	0.00	1.12	0.00	0.00	0.00	0.10	0.00	1.40
All Watersheds	191.63	0.00	0.00	280.24	222.54	0.00	49.05	2.25	0.00	745.72

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: O&G									Total Pollutant Load Removed from Watershed
	Removal by MWS Control Measure Implementation during FY22 (pounds)									
	SCMs Removal <sup>1</sup>	Construction Inspection Removal <sup>2</sup>	Illicit Discharge Removal <sup>2</sup>	Street Sweeping Removal <sup>2</sup>	Home Buyout Removal <sup>1</sup>	Tree Planting Removal <sup>1</sup>	Stream Buffer Removal <sup>1</sup>	Industrial Inspection Removal <sup>2</sup>	Field Screening Removal <sup>2</sup>	
Back Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Browns Creek	957.60	0.00	0.44	254.27	0.00	0.00	0.18	13.38	3.24	1,229.12
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	192.64	0.00	0.01	74.42	0.00	0.00	0.09	0.00	0.91	268.07
Cub Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cumberland River	36,820.43	0.00	1.20	1,420.17	0.00	0.00	18.13	59.35	11.50	38,330.78
Davidson Branch	172.87	0.00	0.08	18.60	0.00	0.00	0.00	0.00	0.00	191.55
Dry Creek	336.42	0.00	0.00	80.62	0.00	0.00	1.78	0.00	0.00	418.81
Ewing Creek	1,192.97	0.00	1.09	217.06	0.00	0.00	3.08	9.19	0.92	1,424.31
Gibson Creek	144.67	0.00	0.01	80.62	0.00	0.00	0.65	0.00	0.00	225.94
Gizzard Branch	179.27	0.00	0.00	18.60	0.00	0.00	0.00	0.00	0.00	197.87
Harpeth River	1,137.52	0.00	0.04	403.10	0.00	0.00	3.11	0.00	0.00	1,543.77
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	123.50	0.00	0.00	24.81	0.00	0.00	2.25	0.00	0.49	151.05
Loves Branch	90.55	0.00	0.00	24.81	0.00	0.00	0.00	0.00	0.00	115.35
Mansker Creek	120.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	120.44
Marrowbone Creek	18.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.67
Mill Creek Lower	1,739.15	0.00	0.53	787.60	0.00	0.00	15.71	16.45	2.29	2,561.74
Mill Creek Upper	683.40	0.00	0.37	235.66	0.00	0.00	4.54	0.00	0.00	923.97
Overall Creek	130.99	0.00	1.13	12.40	0.00	0.00	1.02	0.00	0.00	145.53
Pages Branch	287.87	0.00	0.04	93.02	0.00	0.00	0.00	0.00	6.44	387.37
Percy Priest Lake, Lower	890.61	0.00	0.04	502.33	0.00	0.00	1.24	0.00	0.00	1,394.23
Percy Priest Lake, Upper	1,112.01	0.00	1.53	68.22	0.00	0.00	10.04	0.00	0.00	1,191.80
Pond Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Richland Creek	7,297.07	0.00	1.22	434.11	0.00	0.00	5.54	0.00	2.54	7,740.48
Sevenmile Creek	975.23	0.00	1.62	465.12	0.00	0.00	0.93	2.15	1.43	1,446.47
South Harpeth River, Lower	11.09	0.00	0.00	18.60	0.00	0.00	0.95	0.00	0.00	30.64
Stoner Creek	3,063.96	0.00	1.14	372.10	0.00	0.00	5.63	4.77	0.00	3,447.59
Stones River	531.58	0.00	0.40	241.86	0.00	0.00	10.52	0.00	0.00	784.36
Sugartree Creek	404.63	0.00	0.40	105.43	0.00	0.00	0.02	0.00	0.00	510.48
Sulpher Creek	38.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	38.89
Sycamore Creek	30.90	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	30.93
Whites Creek	3,378.50	0.00	0.37	223.26	0.00	0.00	14.87	0.00	0.00	3,616.99
Sandy Creek	36.53	0.00	0.01	24.81	0.00	0.00	0.00	4.88	0.49	66.71
All Watersheds	62,099.93	0.00	11.70	6,201.60	0.00	0.00	100.28	110.16	30.25	68,553.93

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									Total Pollutant Load Removed from Watershed
	Removal by MWS Control Measure Implementation during FY22 (pounds)									
	SCMs Removal <sup>1</sup>	Construction Inspection Removal <sup>2</sup>	Illicit Discharge Removal <sup>2</sup>	Street Sweeping Removal <sup>2</sup>	Home Buyout Removal <sup>1</sup>	Tree Planting Removal <sup>1</sup>	Stream Buffer Removal <sup>1</sup>	Industrial Inspection Removal <sup>2</sup>	Field Screening Removal <sup>2</sup>	
Back Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Browns Creek	15,332.06	413,649.73	742.90	64,705.18	0.00	0.00	0.75	1,670.83	405.20	496,506.65
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	3,905.70	67,492.11	741.69	18,938.10	5.76	0.00	0.37	0.00	113.31	91,197.03
Cub Creek	0.00	3,265.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3,265.14
Cumberland River	414,687.41	2,599,789.24	6,678.33	361,402.12	24.47	0.00	125.55	7,412.26	1,436.27	3,391,555.66
Davidson Branch	1,993.70	86,338.49	0.21	4,734.53	0.00	0.00	0.00	0.00	0.00	93,066.92
Dry Creek	3,681.28	98,549.80	2,966.67	20,516.28	0.00	0.00	12.42	0.00	0.00	125,726.44
Ewing Creek	15,266.69	979,358.69	744.70	55,236.13	0.00	0.00	12.90	1,148.33	114.83	1,051,882.27
Gibson Creek	1,876.48	36,038.29	0.02	20,516.28	2.87	0.00	5.63	0.00	0.00	58,439.58
Gizzard Branch	2,182.88	37,773.65	0.00	4,734.53	0.00	0.00	0.00	0.00	0.00	44,691.06
Harpeth River	20,134.32	24,572.82	4,450.10	102,581.39	0.00	0.00	9.50	0.00	0.00	151,748.13
Indian Creek	0.00	3,411.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3,411.89
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	1,636.75	0.00	0.00	6,312.70	0.00	0.00	17.45	0.00	60.89	8,027.79
Loves Branch	1,008.70	66,030.31	741.67	6,312.70	0.00	0.00	0.00	0.00	0.00	74,093.38
Mansker Creek	1,443.57	8,973.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10,417.42
Marrowbone Creek	222.77	1,296.27	1,483.33	0.00	0.00	0.00	0.00	0.00	0.00	3,002.38
Mill Creek Lower	25,181.28	271,775.90	1,484.80	200,428.25	6.06	0.00	54.12	2,054.73	286.14	501,271.27
Mill Creek Upper	9,617.87	1,607,649.37	2,967.70	59,970.66	27.94	0.00	23.72	0.00	0.00	1,680,257.26
Overall Creek	1,573.64	98,491.89	2,969.80	3,156.35	0.00	0.00	4.12	0.00	0.00	106,195.80
Pages Branch	6,125.82	32,007.89	2,966.77	23,672.63	0.00	0.00	0.00	0.00	804.95	65,578.05
Percy Priest Lake, Lower	8,440.02	47,362.76	2,225.11	127,832.19	0.00	0.00	5.04	0.00	0.00	185,865.12
Percy Priest Lake, Upper	15,157.78	68,041.83	1,487.58	17,359.93	0.00	0.00	27.76	0.00	0.00	102,074.88
Pond Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Richland Creek	57,285.16	614,864.42	2,970.04	110,472.26	0.00	0.00	48.06	0.00	317.11	785,957.06
Sevenmile Creek	9,850.49	244,583.93	4.48	118,363.14	0.00	0.00	8.11	268.89	178.58	373,257.63
South Harpeth River, Lower	108.46	0.00	1,483.33	4,734.53	0.00	0.00	3.83	0.00	0.00	6,330.15
Stoner Creek	21,096.77	609,840.29	744.83	94,690.51	0.00	0.00	49.18	595.28	0.00	727,016.86
Stones River	7,865.11	340,343.77	742.79	61,548.83	0.00	0.00	91.86	0.00	0.00	410,592.36
Sugartree Creek	4,329.92	89,043.66	1.12	26,828.98	0.00	0.00	0.09	0.00	0.00	120,203.76
Sulphur Creek	490.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	490.24
Sycamore Creek	302.45	220.12	0.10	0.00	0.00	0.00	0.00	0.00	0.00	522.67
Whites Creek	26,325.85	161,695.63	8,159.35	56,814.31	22.07	0.00	99.23	0.00	0.00	253,116.45
Sandy Creek	487.13	56,571.82	0.02	6,312.70	0.00	0.00	0.00	608.88	60.89	64,041.44
All Watersheds	677,610.30	8,669,033.55	46,757.43	1,578,175.20	89.16	0.00	599.71	13,759.20	3,778.17	10,989,802.73

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									Total Pollutant Load Removed from Watershed
	Removal by MWS Control Measure Implementation during FY22 (pounds)									
	SCMs Removal <sup>1</sup>	Construction Inspection Removal <sup>2</sup>	Illicit Discharge Removal <sup>2</sup>	Street Sweeping Removal <sup>2</sup>	Home Buyout Removal <sup>1</sup>	Tree Planting Removal <sup>1</sup>	Stream Buffer Removal <sup>1</sup>	Industrial Inspection Removal <sup>2</sup>	Field Screening Removal <sup>2</sup>	
Back Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Browns Creek	50,790.22	0.00	0.00	0.00	0.00	0.00	6.06	0.00	0.00	50,796.28
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	19,585.03	0.00	0.00	0.00	0.00	0.00	3.00	0.00	0.00	19,588.03
Cub Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cumberland River	1,565,833.25	0.00	0.00	0.00	0.00	0.00	1,289.61	0.00	0.00	1,567,122.86
Davidson Branch	7,001.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7,001.09
Dry Creek	9,438.75	0.00	0.00	0.00	0.00	0.00	143.06	0.00	0.00	9,581.81
Ewing Creek	32,500.68	0.00	0.00	0.00	0.00	0.00	206.70	0.00	0.00	32,707.38
Gibson Creek	7,117.71	0.00	0.00	0.00	0.00	0.00	37.30	0.00	0.00	7,155.00
Gizzard Branch	7,266.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7,266.53
Harpeth River	99,285.42	0.00	0.00	0.00	0.00	0.00	184.03	0.00	0.00	99,469.45
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	6,117.00	0.00	0.00	0.00	0.00	0.00	118.62	0.00	0.00	6,235.62
Loves Branch	2,230.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2,230.67
Mansker Creek	4,690.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4,690.35
Marrowbone Creek	646.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	646.81
Mill Creek Lower	57,283.79	0.00	0.00	0.00	0.00	0.00	1,323.21	0.00	0.00	58,607.00
Mill Creek Upper	31,455.75	0.00	0.00	0.00	0.00	0.00	331.97	0.00	0.00	31,787.72
Overall Creek	4,757.67	0.00	0.00	0.00	0.00	0.00	33.29	0.00	0.00	4,790.96
Pages Branch	8,942.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8,942.10
Percy Priest Lake, Lower	48,932.46	0.00	0.00	0.00	0.00	0.00	40.76	0.00	0.00	48,973.21
Percy Priest Lake, Upper	23,701.51	0.00	0.00	0.00	0.00	0.00	1,234.96	0.00	0.00	24,936.47
Pond Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Richland Creek	197,540.30	0.00	0.00	0.00	0.00	0.00	319.46	0.00	0.00	197,859.76
Sevenmile Creek	48,431.14	0.00	0.00	0.00	0.00	0.00	53.69	0.00	0.00	48,484.83
South Harpeth River, Lower	787.96	0.00	0.00	0.00	0.00	0.00	30.98	0.00	0.00	818.94
Stoner Creek	168,432.46	0.00	0.00	0.00	0.00	0.00	325.34	0.00	0.00	168,757.80
Stones River	17,845.64	0.00	0.00	0.00	0.00	0.00	608.07	0.00	0.00	18,453.71
Sugartree Creek	16,635.96	0.00	0.00	0.00	0.00	0.00	0.71	0.00	0.00	16,636.67
Sulpher Creek	920.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	920.59
Sycamore Creek	910.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	910.68
Whites Creek	77,059.06	0.00	0.00	0.00	0.00	0.00	898.16	0.00	0.00	77,957.22
Sandy Creek	1,402.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,402.76
All Watersheds	2,517,543.31	0.00	0.00	0.00	0.00	0.00	7,188.98	0.00	0.00	2,524,732.30

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									Total Pollutant Load Removed from Watershed
	Removal by MWS Control Measure Implementation during FY22 (MPN e9)									
	SCMs Removal <sup>1</sup>	Construction Inspection Removal <sup>2</sup>	Illicit Discharge Removal <sup>2</sup>	Street Sweeping Removal <sup>2</sup>	Home Buyout Removal <sup>1</sup>	Tree Planting Removal <sup>1</sup>	Stream Buffer Removal <sup>1</sup>	Industrial Inspection Removal <sup>2</sup>	Field Screening Removal <sup>2</sup>	
Back Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Browns Creek	15,430.86	0.00	230.91	3,939.87	0.00	0.00	0.00	0.00	0.00	19,601.64
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	8,954.99	0.00	3.79	1,153.13	0.00	0.00	0.00	0.00	0.00	10,111.91
Cub Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cumberland River	206,084.51	0.00	624.59	22,005.62	0.00	0.00	0.00	0.00	0.00	228,714.72
Davidson Branch	1,373.74	0.00	39.75	288.28	0.00	0.00	0.00	0.00	0.00	1,701.77
Dry Creek	1,801.42	0.00	0.00	1,249.23	0.00	0.00	0.00	0.00	0.00	3,050.64
Ewing Creek	3,108.43	0.00	567.81	3,363.30	0.00	0.00	0.00	0.00	0.00	7,039.55
Gibson Creek	1,512.09	0.00	3.79	1,249.23	0.00	0.00	0.00	0.00	0.00	2,765.11
Gizzard Branch	608.34	0.00	0.00	288.28	0.00	0.00	0.00	0.00	0.00	896.62
Harpeth River	43,965.56	0.00	18.93	6,246.14	0.00	0.00	0.00	0.00	0.00	50,230.62
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	897.86	0.00	0.00	384.38	0.00	0.00	0.00	0.00	0.00	1,282.24
Loves Branch	207.07	0.00	0.00	384.38	0.00	0.00	0.00	0.00	0.00	591.45
Mansker Creek	323.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	323.04
Marrowbone Creek	56.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	56.61
Mill Creek Lower	7,010.19	0.00	274.44	12,203.99	0.00	0.00	0.00	0.00	0.00	19,488.63
Mill Creek Upper	8,023.94	0.00	193.06	3,651.59	0.00	0.00	0.00	0.00	0.00	11,868.58
Overall Creek	1,530.07	0.00	586.74	192.19	0.00	0.00	0.00	0.00	0.00	2,309.00
Pages Branch	711.90	0.00	18.93	1,441.42	0.00	0.00	0.00	0.00	0.00	2,172.25
Percy Priest Lake, Lower	6,987.22	0.00	20.82	7,783.65	0.00	0.00	0.00	0.00	0.00	14,791.69
Percy Priest Lake, Upper	7,184.67	0.00	796.83	1,057.04	0.00	0.00	0.00	0.00	0.00	9,038.53
Pond Creek	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Richland Creek	26,141.17	0.00	632.16	6,726.61	0.00	0.00	0.00	0.00	0.00	33,499.94
Sevenmile Creek	6,187.34	0.00	840.36	7,207.08	0.00	0.00	0.00	0.00	0.00	14,234.78
South Harpeth River, Lower	189.96	0.00	0.00	288.28	0.00	0.00	0.00	0.00	0.00	478.24
Stoner Creek	8,195.79	0.00	592.42	5,765.67	0.00	0.00	0.00	0.00	0.00	14,553.87
Stones River	2,147.40	0.00	210.09	3,747.68	0.00	0.00	0.00	0.00	0.00	6,105.17
Sugartree Creek	2,789.56	0.00	210.09	1,633.61	0.00	0.00	0.00	0.00	0.00	4,633.26
Sulpher Creek	73.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	73.99
Sycamore Creek	260.93	0.00	18.93	0.00	0.00	0.00	0.00	0.00	0.00	279.85
Whites Creek	10,450.84	0.00	191.16	3,459.40	0.00	0.00	0.00	0.00	0.00	14,101.41
Sandy Creek	266.17	0.00	3.79	384.38	0.00	0.00	0.00	0.00	0.00	654.33
All Watersheds	372,475.66	0.00	6,079.37	96,094.42	0.00	0.00	0.00	0.00	0.00	474,649.45

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 FY22**

**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 <sup>1</sup>	Pollutant: Runoff								Net Pollutant Load from Watershed (ac-ft)	
			Removal by MWS Control Measure Implementation during FY22 (Acre-foot)									
			Construction Inspection Load <sup>2</sup>	Illicit Discharge Load <sup>2</sup>	Street Sweeping Load <sup>2</sup>	Home Buyout Load <sup>1</sup>	Tree Planting Load <sup>1</sup>	Stream Buffer Load <sup>1</sup>	Industrial Inspection Load <sup>2</sup>	Field Screening Load <sup>2</sup>		
Back Creek	131	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	131
Browns Creek	13,607	372.36	0.00	0.00	0.00	8.97	0.58	0.25	0.00	0.00	0.00	13,224
Bull Run Creek	505	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	505
Cooper Creek	3,283	109.80	0.00	0.00	0.00	4.11	0.10	0.48	0.00	0.00	0.00	3,168
Cub Creek	140	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	140
Cumberland River	53,388	15,046.99	0.00	0.00	0.00	24.27	4.17	24.25	0.00	0.00	0.00	38,288
Davidson Branch	2,182	64.61	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	2,117
Dry Creek	5,197	134.98	0.00	0.00	0.00	1.04	0.10	4.42	0.00	0.00	0.00	5,057
Ewing Creek	11,412	327.32	0.00	0.00	0.00	7.20	0.12	6.25	0.00	0.00	0.00	11,072
Gibson Creek	5,570	87.52	0.00	0.00	0.00	14.83	0.21	2.42	0.00	0.00	0.00	5,465
Gizzard Branch	2,043	82.53	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	1,961
Harpeth River	12,782	711.47	0.00	0.00	0.00	0.74	0.09	4.94	0.00	0.00	0.00	12,064
Indian Creek	337	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	337
Island Creek	188	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	188
Little Harpeth River	2,264	68.05	0.00	0.00	0.00	0.00	0.06	2.96	0.00	0.00	0.00	2,193
Loves Branch	2,459	24.88	0.00	0.00	0.00	0.24	0.06	0.00	0.00	0.00	0.00	2,433
Mansker Creek	3,931	38.39	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	3,893
Marrowbone Creek	2,623	12.35	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	2,611
Mill Creek Lower	38,375	664.62	0.00	0.00	0.00	18.81	0.22	13.31	0.00	0.00	0.00	37,678
Mill Creek Upper	12,760	315.94	0.00	0.00	0.00	1.94	0.19	8.01	0.00	0.00	0.00	12,434
Overall Creek	2,842	57.89	0.00	0.00	0.00	0.25	0.04	0.73	0.00	0.00	0.00	2,783
Pages Branch	4,326	128.50	0.00	0.00	0.00	1.69	0.09	0.00	0.00	0.00	0.00	4,195
Percy Priest Lake, Lower	12,748	181.11	0.00	0.00	0.00	1.33	0.08	0.21	0.00	0.00	0.00	12,565
Percy Priest Lake, Upper	11,039	362.22	0.00	0.00	0.00	0.00	0.04	11.56	0.00	0.00	0.00	10,665
Pond Creek	230	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	230
Richland Creek	16,034	3,768.23	0.00	0.00	0.00	16.68	0.55	2.71	0.00	0.00	0.00	12,246
Sevenmile Creek	15,697	329.85	0.00	0.00	0.00	13.03	0.18	4.85	0.00	0.00	0.00	15,349
South Harpeth River, Lower	1,381	4.56	0.00	0.00	0.00	0.00	0.01	0.24	0.00	0.00	0.00	1,376
Stoner Creek	10,165	1,091.12	0.00	0.00	0.00	2.67	0.11	9.71	0.00	0.00	0.00	9,061
Stones River	11,744	195.30	0.00	0.00	0.00	0.48	0.19	2.42	0.00	0.00	0.00	11,546
Sugartree Creek	3,795	199.00	0.00	0.00	0.00	0.25	0.05	0.25	0.00	0.00	0.00	3,596
Sulpher Creek	818	14.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	804
Sycamore Creek	4,704	14.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4,690
Whites Creek	15,001	1,780.10	0.00	0.00	0.00	21.74	0.20	11.76	0.00	0.00	0.00	13,187
Sandy Creek	1,007	10.89	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	997
All Watersheds	284,706	26,199.13	0.00	0.00	0.00	140.27	7.56	111.71	0.00	0.00	0.00	258,247

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 <sup>1</sup>	Pollutant: BOD5								Net Pollutant Load from Watershed (ac-ft)	
			Removal by MWS Control Measure Implementation during FY22 (pounds)									
			Construction Inspection Load <sup>2</sup>	Illicit Discharge Load <sup>2</sup>	Street Sweeping Load <sup>2</sup>	Home Buyout Load <sup>1</sup>	Tree Planting Load <sup>1</sup>	Stream Buffer Load <sup>1</sup>	Industrial Inspection Load <sup>2</sup>	Field Screening Load <sup>2</sup>		
Back Creek	1,293	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,293
Browns Creek	142,326	4,158.54	0.00	1.12	1,879.53	12.02	0.00	0.00	65.52	15.89		136,193
Bull Run Creek	4,408	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		4,408
Cooper Creek	38,960	1,289.17	0.00	0.02	550.11	9.48	0.00	0.00	0.00	4.44		37,107
Cub Creek	1,491	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		1,491
Cumberland River	650,123	104,673.26	0.00	3.03	10,497.87	53.38	0.00	0.00	290.68	56.32		534,549
Davidson Branch	25,285	552.20	0.00	0.19	137.53	0.00	0.00	0.00	0.00	0.00		24,595
Dry Creek	60,038	1,178.55	0.00	0.00	595.95	2.06	0.00	0.00	0.00	0.00		58,261
Ewing Creek	130,502	4,221.03	0.00	2.75	1,604.48	9.56	0.00	0.00	45.03	4.50		124,614
Gibson Creek	76,291	583.15	0.00	0.02	595.95	18.17	0.00	0.00	0.00	0.00		75,094
Gizzard Branch	32,398	582.45	0.00	0.00	137.53	0.00	0.00	0.00	0.00	0.00		31,678
Harpeth River	150,109	6,958.98	0.00	0.09	2,979.75	5.22	0.00	0.00	0.00	0.00		140,165
Indian Creek	3,605	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		3,605
Island Creek	1,343	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		1,343
Little Harpeth River	26,806	409.25	0.00	0.00	183.37	0.00	0.00	0.00	0.00	2.39		26,211
Loves Branch	26,424	231.68	0.00	0.00	183.37	0.86	0.00	0.00	0.00	0.00		26,008
Mansker Creek	39,543	425.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		39,117
Marrowbone Creek	27,604	58.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		27,545
Mill Creek Lower	446,705	6,288.49	0.00	1.33	5,821.96	41.68	0.00	0.00	80.58	11.22		434,460
Mill Creek Upper	157,154	2,543.19	0.00	0.94	1,742.00	44.21	0.00	0.00	0.00	0.00		152,824
Overall Creek	33,891	433.62	0.00	2.85	91.68	0.85	0.00	0.00	0.00	0.00		33,362
Pages Branch	55,064	1,144.26	0.00	0.09	687.63	2.33	0.00	0.00	0.00	31.57		53,198
Percy Priest Lake, Lower	137,124	1,318.53	0.00	0.10	3,713.22	0.75	0.00	0.00	0.00	0.00		132,092
Percy Priest Lake, Upper	112,014	3,980.49	0.00	3.87	504.26	0.00	0.00	0.00	0.00	0.00		107,525
Pond Creek	2,378	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		2,378
Richland Creek	195,041	22,149.38	0.00	3.07	3,208.96	12.16	0.00	0.00	0.00	12.44		169,655
Sevenmile Creek	193,334	2,208.24	0.00	4.08	3,438.17	26.84	0.00	0.00	10.54	7.00		187,639
South Harpeth River, Lower	12,619	47.61	0.00	0.00	137.53	0.00	0.00	0.00	0.00	0.00		12,434
Stoner Creek	130,388	9,829.69	0.00	2.87	2,750.53	2.87	0.00	0.00	23.34	0.00		117,779
Stones River	154,483	1,803.74	0.00	1.02	1,787.85	0.57	0.00	0.00	0.00	0.00		150,890
Sugartree Creek	54,976	1,256.75	0.00	1.02	779.32	0.35	0.00	0.00	0.00	0.00		52,938
Sulpher Creek	7,580	132.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		7,448
Sycamore Creek	49,394	73.92	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00		49,320
Whites Creek	166,895	10,178.60	0.00	0.93	1,650.32	82.90	0.00	0.00	0.00	0.00		154,982
Sandy Creek	11,808	141.31	0.00	0.02	183.37	0.00	0.00	0.00	23.88	2.39		11,457
All Watersheds	3,359,396	188,852.48	0.00	29.49	45,842.23	326.25	0.00	0.00	539.58	148.16		3,123,658

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 <sup>1</sup>	Pollutant: COD								Net Pollutant Load from Watershed (ac-ft)
			Removal by MWS Control Measure Implementation during FY22 (pounds)								
			Construction Inspection Load <sup>2</sup>	Illicit Discharge Load <sup>2</sup>	Street Sweeping Load <sup>2</sup>	Home Buyout Load <sup>1</sup>	Tree Planting Load <sup>1</sup>	Stream Buffer Load <sup>1</sup>	Industrial Inspection Load <sup>2</sup>	Field Screening Load <sup>2</sup>	
Back Creek	12,694	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12,694
Browns Creek	1,289,827	33,410.90	0.00	2.95	3,759.06	0.00	0.00	0.44	657.96	159.56	1,251,836
Bull Run Creek	47,296	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	47,296
Cooper Creek	338,624	9,519.75	0.00	0.05	1,100.21	36.84	0.00	0.22	0.00	44.62	327,922
Cub Creek	14,516	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14,516
Cumberland River	5,548,097	859,673.20	0.00	7.97	20,995.74	156.61	0.00	152.36	2,918.88	565.59	4,663,627
Davidson Branch	236,199	4,523.44	0.00	0.51	275.05	0.00	0.00	0.00	0.00	0.00	231,400
Dry Creek	512,140	8,625.90	0.00	0.00	1,191.90	0.00	0.00	15.23	0.00	0.00	502,307
Ewing Creek	1,152,311	33,386.32	0.00	7.25	3,208.96	0.00	0.00	11.15	452.20	45.22	1,115,200
Gibson Creek	631,338	4,427.37	0.00	0.05	1,191.90	18.37	0.00	6.91	0.00	0.00	625,693
Gizzard Branch	263,233	4,700.82	0.00	0.00	275.05	0.00	0.00	0.00	0.00	0.00	258,257
Harpeth River	1,316,757	49,988.05	0.00	0.24	5,959.49	0.00	0.00	12.99	0.00	0.00	1,260,796
Indian Creek	34,869	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	34,869
Island Creek	17,096	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17,096
Little Harpeth River	259,848	3,529.01	0.00	0.00	366.74	0.00	0.00	20.17	0.00	23.98	255,908
Loves Branch	255,760	1,979.04	0.00	0.00	366.74	0.00	0.00	0.00	0.00	0.00	253,414
Mansker Creek	383,340	3,338.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	380,001
Marrowbone Creek	273,490	444.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	273,046
Mill Creek Lower	3,682,980	52,398.01	0.00	3.50	11,643.93	38.75	0.00	118.46	809.13	112.68	3,617,856
Mill Creek Upper	1,332,332	20,736.03	0.00	2.46	3,484.01	178.80	0.00	24.90	0.00	0.00	1,307,906
Overall Creek	291,778	3,341.96	0.00	7.49	183.37	0.00	0.00	2.40	0.00	0.00	288,243
Pages Branch	456,702	10,716.54	0.00	0.24	1,375.27	0.00	0.00	0.00	0.00	316.98	444,293
Percy Priest Lake, Lower	1,319,279	16,129.47	0.00	0.27	7,426.44	0.00	0.00	2.94	0.00	0.00	1,295,720
Percy Priest Lake, Upper	1,024,015	30,764.40	0.00	10.17	1,008.53	0.00	0.00	30.23	0.00	0.00	992,201
Pond Creek	22,268	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22,268
Richland Creek	1,698,353	147,086.11	0.00	8.07	6,417.91	0.00	0.00	58.77	0.00	124.88	1,544,657
Sevenmile Creek	1,635,536	21,107.19	0.00	10.72	6,876.33	0.00	0.00	9.96	105.89	70.32	1,607,356
South Harpeth River, Lower	136,413	324.87	0.00	0.00	275.05	0.00	0.00	2.24	0.00	0.00	135,810
Stoner Creek	1,082,633	67,922.79	0.00	7.56	5,501.07	0.00	0.00	60.36	234.42	0.00	1,008,907
Stones River	1,317,668	15,459.12	0.00	2.68	3,575.69	0.00	0.00	112.70	0.00	0.00	1,298,518
Sugartree Creek	455,374	10,017.94	0.00	2.68	1,558.64	0.00	0.00	0.05	0.00	0.00	443,795
Sulpher Creek	79,589	1,011.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	78,577
Sycamore Creek	480,374	626.91	0.00	0.24	0.00	0.00	0.00	0.00	0.00	0.00	479,747
Whites Creek	1,542,393	66,988.76	0.00	2.44	3,300.64	141.25	0.00	110.76	0.00	0.00	1,471,850
Sandy Creek	100,289	1,116.97	0.00	0.05	366.74	0.00	0.00	0.00	239.77	23.98	98,541
All Watersheds	29,245,412	1,483,296.16	0.00	77.57	91,684.46	570.62	0.00	753.23	5,418.25	1,487.81	27,662,124

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 <sup>1</sup>	Pollutant: NH3								Net Pollutant Load from Watershed (ac-ft)
			Removal by MWS Control Measure Implementation during FY22 (pounds)								
			Construction Inspection Load <sup>2</sup>	Illicit Discharge Load <sup>2</sup>	Street Sweeping Load <sup>2</sup>	Home Buyout Load <sup>1</sup>	Tree Planting Load <sup>1</sup>	Stream Buffer Load <sup>1</sup>	Industrial Inspection Load <sup>2</sup>	Field Screening Load <sup>2</sup>	
Back Creek	41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	41
Browns Creek	4,576	108.64	0.00	0.04	0.00	0.00	0.00	0.00	1.09	0.26	4,466
Bull Run Creek	164	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	164
Cooper Creek	1,116	24.84	0.00	0.00	0.00	0.22	0.00	0.00	0.00	0.07	1,090
Cub Creek	45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	45
Cumberland River	18,222	3,106.41	0.00	0.12	0.00	0.93	0.00	0.00	4.84	0.94	15,109
Davidson Branch	825	15.69	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	809
Dry Creek	1,688	28.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,659
Ewing Creek	3,857	113.00	0.00	0.11	0.00	0.00	0.00	0.00	0.75	0.08	3,743
Gibson Creek	2,004	17.47	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00	1,986
Gizzard Branch	877	19.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	858
Harpeth River	4,137	135.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4,002
Indian Creek	97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	97
Island Creek	70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	70
Little Harpeth River	780	14.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	765
Loves Branch	831	6.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	825
Mansker Creek	1,235	12.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,222
Marrowbone Creek	751	2.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	749
Mill Creek Lower	12,479	199.64	0.00	0.05	0.00	0.24	0.00	0.00	1.34	0.19	12,278
Mill Creek Upper	4,077	76.27	0.00	0.04	0.00	1.06	0.00	0.00	0.00	0.00	3,999
Overall Creek	927	10.67	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	916
Pages Branch	1,522	45.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.53	1,476
Percy Priest Lake, Lower	3,690	36.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3,653
Percy Priest Lake, Upper	3,127	95.96	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	3,031
Pond Creek	63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	63
Richland Creek	5,709	499.25	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.21	5,209
Sevenmile Creek	5,159	67.47	0.00	0.16	0.00	0.00	0.00	0.00	0.18	0.12	5,091
South Harpeth River, Lower	399	1.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	398
Stoner Creek	3,433	260.64	0.00	0.11	0.00	0.00	0.00	0.00	0.39	0.00	3,172
Stones River	4,481	59.51	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	4,422
Sugartree Creek	1,461	37.70	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	1,424
Sulpher Creek	264	3.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	260
Sycamore Creek	1,405	1.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,403
Whites Creek	4,938	221.58	0.00	0.04	0.00	0.85	0.00	0.00	0.00	0.00	4,715
Sandy Creek	324	3.92	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.04	320
All Watersheds	94,772	5,226.42	0.00	1.14	0.00	3.42	0.00	0.00	8.99	2.47	89,529

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 <sup>1</sup>	Pollutant: TKN								Net Pollutant Load from Watershed (ac-ft)
			Removal by MWS Control Measure Implementation during FY22 (pounds)								
			Construction Inspection Load <sup>2</sup>	Illicit Discharge Load <sup>2</sup>	Street Sweeping Load <sup>2</sup>	Home Buyout Load <sup>1</sup>	Tree Planting Load <sup>1</sup>	Stream Buffer Load <sup>1</sup>	Industrial Inspection Load <sup>2</sup>	Field Screening Load <sup>2</sup>	
Back Creek	163	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	163
Browns Creek	15,798	583.21	0.00	0.35	0.00	0.93	0.00	0.00	0.00	0.00	15,213
Bull Run Creek	513	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	513
Cooper Creek	4,404	202.18	0.00	0.01	0.00	0.37	0.00	0.00	0.00	0.00	4,201
Cub Creek	191	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	191
Cumberland River	74,572	14,970.11	0.00	0.96	0.00	2.58	0.00	1.15	0.00	0.00	59,597
Davidson Branch	2,648	68.41	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	2,580
Dry Creek	7,080	129.48	0.00	0.00	0.00	0.16	0.00	0.10	0.00	0.00	6,950
Ewing Creek	14,854	453.44	0.00	0.87	0.00	0.74	0.00	0.04	0.00	0.00	14,399
Gibson Creek	8,691	104.26	0.00	0.01	0.00	1.23	0.00	0.04	0.00	0.00	8,585
Gizzard Branch	3,384	91.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3,293
Harpeth River	17,782	1,078.43	0.00	0.03	0.00	0.41	0.00	0.47	0.00	0.00	16,703
Indian Creek	512	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	512
Island Creek	115	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	115
Little Harpeth River	3,311	82.14	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.00	3,229
Loves Branch	3,090	19.98	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	3,070
Mansker Creek	4,934	56.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4,877
Marrowbone Creek	3,950	11.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3,939
Mill Creek Lower	51,585	879.83	0.00	0.42	0.00	2.80	0.00	4.30	0.00	0.00	50,698
Mill Creek Upper	19,201	408.67	0.00	0.30	0.00	1.64	0.00	0.14	0.00	0.00	18,790
Overall Creek	4,080	54.32	0.00	0.90	0.00	0.07	0.00	0.00	0.00	0.00	4,025
Pages Branch	6,182	184.44	0.00	0.03	0.00	0.18	0.00	0.00	0.00	0.00	5,997
Percy Priest Lake, Lower	18,477	253.98	0.00	0.03	0.00	0.06	0.00	0.00	0.00	0.00	18,223
Percy Priest Lake, Upper	15,057	419.09	0.00	1.22	0.00	0.00	0.00	0.17	0.00	0.00	14,636
Pond Creek	331	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	331
Richland Creek	21,498	2,378.69	0.00	0.97	0.00	0.95	0.00	0.38	0.00	0.00	19,117
Sevenmile Creek	22,689	405.34	0.00	1.29	0.00	2.09	0.00	0.06	0.00	0.00	22,281
South Harpeth River, Lower	1,753	7.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,746
Stoner Creek	14,988	1,456.75	0.00	0.91	0.00	0.22	0.00	0.39	0.00	0.00	13,530
Stones River	16,537	236.60	0.00	0.32	0.00	0.04	0.00	0.72	0.00	0.00	16,299
Sugartree Creek	6,011	192.82	0.00	0.32	0.00	0.03	0.00	0.00	0.00	0.00	5,818
Sulpher Creek	919	15.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	903
Sycamore Creek	6,647	12.09	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	6,634
Whites Creek	19,984	1,017.24	0.00	0.29	0.00	5.03	0.00	0.65	0.00	0.00	18,961
Sandy Creek	1,384	18.57	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1,365
All Watersheds	393,315	25,791.78	0.00	9.34	0.00	19.60	0.00	8.73	0.00	0.00	367,486

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 <sup>1</sup>	Pollutant: NO2+NO3								Net Pollutant Load from Watershed (ac-ft)	
			Removal by MWS Control Measure Implementation during FY22 (pounds)									
			Construction Inspection Load <sup>2</sup>	Illicit Discharge Load <sup>2</sup>	Street Sweeping Load <sup>2</sup>	Home Buyout Load <sup>1</sup>	Tree Planting Load <sup>1</sup>	Stream Buffer Load <sup>1</sup>	Industrial Inspection Load <sup>2</sup>	Field Screening Load <sup>2</sup>		
Back Creek	71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	71
Browns Creek	7,881	206.99	0.00	0.01	0.00	0.00	0.00	0.00	0.00	2.59	0.63	7,671
Bull Run Creek	257	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	257
Cooper Creek	1,848	64.78	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.18	1,783
Cub Creek	81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	81
Cumberland River	32,395	7,805.08	0.00	0.01	0.00	0.34	0.00	0.12	11.51	2.23	24,575	
Davidson Branch	1,221	36.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,185
Dry Creek	3,097	76.95	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	3,020
Ewing Creek	6,577	196.36	0.00	0.01	0.00	0.00	0.00	0.01	1.78	0.18	6,378	
Gibson Creek	3,404	38.79	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	3,366
Gizzard Branch	1,374	38.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,335
Harpeth River	7,195	397.09	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.00	6,798
Indian Creek	202	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	202
Island Creek	86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	86
Little Harpeth River	1,389	28.19	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.09	0.00	1,361
Loves Branch	1,384	13.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,370
Mansker Creek	2,231	23.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2,207
Marrowbone Creek	1,582	4.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,577
Mill Creek Lower	23,052	326.55	0.00	0.01	0.00	0.08	0.00	0.92	3.19	0.44	22,721	
Mill Creek Upper	7,540	156.23	0.00	0.00	0.00	0.39	0.00	0.02	0.00	0.00	0.00	7,383
Overall Creek	1,672	30.21	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	1,642
Pages Branch	2,639	51.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.25	0.00	2,586
Percy Priest Lake, Lower	7,449	110.82	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	7,338
Percy Priest Lake, Upper	6,647	198.79	0.00	0.02	0.00	0.00	0.00	0.02	0.00	0.00	0.00	6,448
Pond Creek	130	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	130
Richland Creek	9,429	2,033.15	0.00	0.01	0.00	0.00	0.00	0.02	0.00	0.49	0.00	7,396
Sevenmile Creek	9,130	170.59	0.00	0.02	0.00	0.00	0.00	0.00	0.42	0.28	0.00	8,958
South Harpeth River, Lower	773	3.26	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	770
Stoner Creek	5,947	778.30	0.00	0.01	0.00	0.00	0.00	0.02	0.92	0.00	0.00	5,168
Stones River	7,267	95.33	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	7,172
Sugartree Creek	2,346	96.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2,250
Sulpher Creek	441	6.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	434
Sycamore Creek	2,717	6.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2,711
Whites Creek	8,634	946.39	0.00	0.00	0.00	0.31	0.00	0.07	0.00	0.00	0.00	7,687
Sandy Creek	571	6.88	0.00	0.00	0.00	0.00	0.00	0.00	0.95	0.09	0.00	563
All Watersheds	168,657	13,948.77	0.00	0.13	0.00	1.25	0.00	1.42	21.36	5.86	0.00	154,678

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 <sup>1</sup>	Pollutant: TN								Net Pollutant Load from Watershed (ac-ft)
			Removal by MWS Control Measure Implementation during FY22 (pounds)								
			Construction Inspection Load <sup>2</sup>	Illicit Discharge Load <sup>2</sup>	Street Sweeping Load <sup>2</sup>	Home Buyout Load <sup>1</sup>	Tree Planting Load <sup>1</sup>	Stream Buffer Load <sup>1</sup>	Industrial Inspection Load <sup>2</sup>	Field Screening Load <sup>2</sup>	
Back Creek	228	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	228
Browns Creek	23,359	696.09	0.00	0.26	539.21	1.10	0.00	0.00	0.00	0.00	22,122
Bull Run Creek	744	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	744
Cooper Creek	6,308	246.99	0.00	0.00	157.82	0.56	0.00	0.00	0.00	0.00	5,903
Cub Creek	265	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	265
Cumberland River	107,367	19,542.11	0.00	0.69	3,011.68	3.59	0.00	1.13	0.00	0.00	84,808
Davidson Branch	3,840	89.06	0.00	0.04	39.45	0.00	0.00	0.00	0.00	0.00	3,711
Dry Creek	10,076	166.85	0.00	0.00	170.97	0.19	0.00	0.09	0.00	0.00	9,738
Ewing Creek	21,382	551.41	0.00	0.63	460.30	0.88	0.00	0.04	0.00	0.00	20,369
Gibson Creek	12,132	112.74	0.00	0.00	170.97	1.51	0.00	0.04	0.00	0.00	11,847
Gizzard Branch	4,758	104.21	0.00	0.00	39.45	0.00	0.00	0.00	0.00	0.00	4,615
Harpeth River	25,406	1,320.99	0.00	0.02	854.84	0.48	0.00	0.50	0.00	0.00	23,229
Indian Creek	693	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	693
Island Creek	191	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	191
Little Harpeth River	4,629	84.66	0.00	0.00	52.61	0.00	0.00	0.12	0.00	0.00	4,491
Loves Branch	4,409	28.59	0.00	0.00	52.61	0.08	0.00	0.00	0.00	0.00	4,327
Mansker Creek	6,932	68.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6,863
Marrowbone Creek	5,355	12.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5,343
Mill Creek Lower	74,217	959.19	0.00	0.30	1,670.24	3.43	0.00	4.59	0.00	0.00	71,579
Mill Creek Upper	26,776	453.70	0.00	0.21	499.76	2.56	0.00	0.13	0.00	0.00	25,819
Overall Creek	5,665	69.04	0.00	0.65	26.30	0.08	0.00	0.00	0.00	0.00	5,569
Pages Branch	8,842	172.83	0.00	0.02	197.27	0.21	0.00	0.00	0.00	0.00	8,472
Percy Priest Lake, Lower	26,215	316.37	0.00	0.02	1,065.27	0.07	0.00	0.00	0.00	0.00	24,834
Percy Priest Lake, Upper	20,999	489.31	0.00	0.89	144.67	0.00	0.00	0.16	0.00	0.00	20,364
Pond Creek	449	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	449
Richland Creek	31,216	3,417.75	0.00	0.70	920.60	1.11	0.00	0.36	0.00	0.00	26,876
Sevenmile Creek	32,273	465.23	0.00	0.93	986.36	2.46	0.00	0.06	0.00	0.00	30,818
South Harpeth River, Lower	2,468	9.63	0.00	0.00	39.45	0.00	0.00	0.00	0.00	0.00	2,419
Stoner Creek	21,442	2,016.96	0.00	0.66	789.09	0.26	0.00	0.37	0.00	0.00	18,634
Stones River	23,869	272.31	0.00	0.23	512.91	0.05	0.00	0.69	0.00	0.00	23,083
Sugartree Creek	8,521	228.48	0.00	0.23	223.57	0.03	0.00	0.00	0.00	0.00	8,069
Sulpher Creek	1,313	18.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,295
Sycamore Creek	9,102	13.61	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	9,089
Whites Creek	28,377	1,482.67	0.00	0.21	473.45	6.42	0.00	0.62	0.00	0.00	26,414
Sandy Creek	1,972	21.72	0.00	0.00	52.61	0.00	0.00	0.00	0.00	0.00	1,898
All Watersheds	561,792	33,431.38	0.00	6.75	13,151.46	25.09	0.00	8.89	0.00	0.00	515,168

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 <sup>1</sup>	Pollutant: Diss. P								Net Pollutant Load from Watershed (ac-ft)	
			Removal by MWS Control Measure Implementation during FY22 (pounds)									
			Construction Inspection Load <sup>2</sup>	Illicit Discharge Load <sup>2</sup>	Street Sweeping Load <sup>2</sup>	Home Buyout Load <sup>1</sup>	Tree Planting Load <sup>1</sup>	Stream Buffer Load <sup>1</sup>	Industrial Inspection Load <sup>2</sup>	Field Screening Load <sup>2</sup>		
Back Creek	117	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	117
Browns Creek	5,776	244.77	0.00	0.00	0.00	1.18	0.00	0.00	0.00	0.00	0.00	5,530
Bull Run Creek	337	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	337
Cooper Creek	2,449	134.66	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	2,314
Cub Creek	128	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	128
Cumberland River	33,030	4,861.81	0.00	0.00	0.00	1.60	0.00	3.44	0.00	0.00	0.00	28,163
Davidson Branch	1,237	23.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,213
Dry Creek	3,358	36.28	0.00	0.00	0.00	0.20	0.00	0.41	0.00	0.00	0.00	3,322
Ewing Creek	7,326	73.53	0.00	0.00	0.00	0.94	0.00	0.46	0.00	0.00	0.00	7,251
Gibson Creek	4,380	26.50	0.00	0.00	0.00	1.36	0.00	0.09	0.00	0.00	0.00	4,352
Gizzard Branch	1,069	17.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,052
Harpeth River	11,061	685.64	0.00	0.00	0.00	0.51	0.00	0.41	0.00	0.00	0.00	10,374
Indian Creek	367	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	367
Island Creek	52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	52
Little Harpeth River	1,682	15.03	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.00	1,666
Loves Branch	1,630	5.22	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	1,625
Mansker Creek	2,818	10.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2,808
Marrowbone Creek	2,679	1.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2,677
Mill Creek Lower	22,105	142.22	0.00	0.00	0.00	3.14	0.00	4.02	0.00	0.00	0.00	21,956
Mill Creek Upper	11,392	120.09	0.00	0.00	0.00	0.17	0.00	0.84	0.00	0.00	0.00	11,271
Overall Creek	2,284	23.69	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	2,260
Pages Branch	2,725	19.21	0.00	0.00	0.00	0.23	0.00	0.00	0.00	0.00	0.00	2,706
Percy Priest Lake, Lower	12,105	153.21	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	11,952
Percy Priest Lake, Upper	8,005	101.41	0.00	0.00	0.00	0.00	0.00	3.84	0.00	0.00	0.00	7,900
Pond Creek	247	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	247
Richland Creek	9,873	839.06	0.00	0.00	0.00	1.19	0.00	0.78	0.00	0.00	0.00	9,032
Sevenmile Creek	12,804	139.94	0.00	0.00	0.00	2.65	0.00	0.13	0.00	0.00	0.00	12,661
South Harpeth River, Lower	1,202	3.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,199
Stoner Creek	8,403	347.80	0.00	0.00	0.00	0.28	0.00	0.79	0.00	0.00	0.00	8,055
Stones River	6,077	42.56	0.00	0.00	0.00	0.06	0.00	1.49	0.00	0.00	0.00	6,033
Sugartree Creek	2,895	53.89	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	2,841
Sulpher Creek	557	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	555
Sycamore Creek	4,481	4.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4,476
Whites Creek	11,216	372.26	0.00	0.00	0.00	4.84	0.00	2.07	0.00	0.00	0.00	10,837
Sandy Creek	810	3.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	806
All Watersheds	196,677	8,504.79	0.00	0.00	0.00	18.70	0.00	19.03	0.00	0.00	0.00	188,135

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 <sup>1</sup>	Pollutant: Total P								Net Pollutant Load from Watershed (ac-ft)
			Removal by MWS Control Measure Implementation during FY22 (pounds)								
			Construction Inspection Load <sup>2</sup>	Illicit Discharge Load <sup>2</sup>	Street Sweeping Load <sup>2</sup>	Home Buyout Load <sup>1</sup>	Tree Planting Load <sup>1</sup>	Stream Buffer Load <sup>1</sup>	Industrial Inspection Load <sup>2</sup>	Field Screening Load <sup>2</sup>	
Back Creek	173	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	173
Browns Creek	10,076	394.58	0.00	0.05	215.68	1.20	0.00	0.00	0.00	0.00	9,464
Bull Run Creek	518	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	518
Cooper Creek	3,856	192.83	0.00	0.00	63.13	0.07	0.00	0.00	0.00	0.00	3,600
Cub Creek	193	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	193
Cumberland River	54,838	8,001.85	0.00	0.12	1,204.67	1.63	0.00	5.18	0.00	0.00	45,625
Davidson Branch	2,074	41.07	0.00	0.01	15.78	0.00	0.00	0.00	0.00	0.00	2,018
Dry Creek	5,367	66.35	0.00	0.00	68.39	0.21	0.00	0.59	0.00	0.00	5,231
Ewing Creek	11,821	187.47	0.00	0.11	184.12	0.95	0.00	0.59	0.00	0.00	11,447
Gibson Creek	7,010	42.93	0.00	0.00	68.39	1.38	0.00	0.16	0.00	0.00	6,897
Gizzard Branch	1,987	31.11	0.00	0.00	15.78	0.00	0.00	0.00	0.00	0.00	1,941
Harpeth River	17,090	976.00	0.00	0.00	341.94	0.52	0.00	0.63	0.00	0.00	15,770
Indian Creek	544	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	544
Island Creek	95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	95
Little Harpeth River	2,791	27.58	0.00	0.00	21.04	0.00	0.00	0.44	0.00	0.00	2,742
Loves Branch	2,648	11.52	0.00	0.00	21.04	0.09	0.00	0.00	0.00	0.00	2,616
Mansker Creek	4,374	20.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4,353
Marrowbone Creek	4,041	2.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4,038
Mill Creek Lower	35,892	312.90	0.00	0.05	668.09	3.20	0.00	6.35	0.00	0.00	34,901
Mill Creek Upper	17,477	202.40	0.00	0.04	199.90	0.18	0.00	1.15	0.00	0.00	17,073
Overall Creek	3,513	38.08	0.00	0.12	10.52	0.08	0.00	0.00	0.00	0.00	3,464
Pages Branch	4,482	51.16	0.00	0.00	78.91	0.23	0.00	0.00	0.00	0.00	4,352
Percy Priest Lake, Lower	18,860	249.66	0.00	0.00	426.11	0.07	0.00	0.00	0.00	0.00	18,184
Percy Priest Lake, Upper	12,386	230.36	0.00	0.16	57.87	0.00	0.00	4.64	0.00	0.00	12,093
Pond Creek	360	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	360
Richland Creek	16,431	1,280.91	0.00	0.13	368.24	1.21	0.00	1.36	0.00	0.00	14,779
Sevenmile Creek	20,057	231.91	0.00	0.17	394.54	2.70	0.00	0.23	0.00	0.00	19,427
South Harpeth River, Lower	1,850	4.62	0.00	0.00	15.78	0.00	0.00	0.00	0.00	0.00	1,830
Stoner Creek	13,230	514.79	0.00	0.12	315.64	0.29	0.00	1.38	0.00	0.00	12,398
Stones River	10,774	93.47	0.00	0.04	205.16	0.06	0.00	2.59	0.00	0.00	10,473
Sugartree Creek	4,779	89.17	0.00	0.04	89.43	0.03	0.00	0.00	0.00	0.00	4,600
Sulpher Creek	870	5.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	864
Sycamore Creek	6,751	7.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6,743
Whites Creek	17,685	570.52	0.00	0.04	189.38	4.92	0.00	3.18	0.00	0.00	16,917
Sandy Creek	1,246	7.73	0.00	0.00	21.04	0.00	0.00	0.00	0.00	0.00	1,217
All Watersheds	316,136	13,887.69	0.00	1.20	5,260.58	19.01	0.00	28.45	0.00	0.00	296,939

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 <sup>1</sup>	Pollutant: Pb								Net Pollutant Load from Watershed (ac-ft)	
			Removal by MWS Control Measure Implementation during FY22 (pounds)									
			Construction Inspection Load <sup>2</sup>	Illicit Discharge Load <sup>2</sup>	Street Sweeping Load <sup>2</sup>	Home Buyout Load <sup>1</sup>	Tree Planting Load <sup>1</sup>	Stream Buffer Load <sup>1</sup>	Industrial Inspection Load <sup>2</sup>	Field Screening Load <sup>2</sup>		
Back Creek	7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7
Browns Creek	73	1.48	0.00	0.00	15.61	0.00	0.00	0.02	0.27	0.00	0.00	55
Bull Run Creek	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9
Cooper Creek	21	0.35	0.00	0.00	4.57	1.84	0.00	0.01	0.00	0.00	0.00	14
Cub Creek	7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7
Cumberland River	306	48.60	0.00	0.00	87.18	7.83	0.00	1.30	1.21	0.00	0.00	160
Davidson Branch	17	0.23	0.00	0.00	1.14	0.00	0.00	0.00	0.00	0.00	0.00	16
Dry Creek	29	0.50	0.00	0.00	4.95	0.00	0.00	0.12	0.00	0.00	0.00	23
Ewing Creek	61	1.68	0.00	0.00	13.33	0.00	0.00	0.29	0.19	0.00	0.00	46
Gibson Creek	32	0.27	0.00	0.00	4.95	0.92	0.00	0.05	0.00	0.00	0.00	26
Gizzard Branch	15	0.28	0.00	0.00	1.14	0.00	0.00	0.00	0.00	0.00	0.00	14
Harpeth River	79	2.10	0.00	0.00	24.75	0.00	0.00	0.24	0.00	0.00	0.00	52
Indian Creek	8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8
Island Creek	8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8
Little Harpeth River	18	0.21	0.00	0.00	1.52	0.00	0.00	0.21	0.00	0.00	0.00	16
Loves Branch	15	0.10	0.00	0.00	1.52	0.00	0.00	0.00	0.00	0.00	0.00	13
Mansker Creek	18	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18
Marrowbone Creek	13	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13
Mill Creek Lower	200	2.81	0.00	0.00	48.35	1.94	0.00	0.42	0.34	0.00	0.00	146
Mill Creek Upper	66	1.12	0.00	0.00	14.47	8.94	0.00	0.38	0.00	0.00	0.00	41
Overall Creek	18	0.19	0.00	0.00	0.76	0.00	0.00	0.14	0.00	0.00	0.00	17
Pages Branch	30	0.59	0.00	0.00	5.71	0.00	0.00	0.00	0.00	0.00	0.00	24
Percy Priest Lake, Lower	80	0.63	0.00	0.00	30.84	0.00	0.00	0.17	0.00	0.00	0.00	48
Percy Priest Lake, Upper	47	1.68	0.00	0.00	4.19	0.00	0.00	0.40	0.00	0.00	0.00	41
Pond Creek	8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8
Richland Creek	99	10.56	0.00	0.00	26.65	0.00	0.00	0.45	0.00	0.00	0.00	61
Sevenmile Creek	92	1.08	0.00	0.00	28.55	0.00	0.00	0.08	0.04	0.00	0.00	62
South Harpeth River, Lower	13	0.02	0.00	0.00	1.14	0.00	0.00	0.13	0.00	0.00	0.00	12
Stoner Creek	66	3.82	0.00	0.00	22.84	0.00	0.00	0.46	0.10	0.00	0.00	39
Stones River	70	0.81	0.00	0.00	14.85	0.00	0.00	0.86	0.00	0.00	0.00	54
Sugartree Creek	30	0.60	0.00	0.00	6.47	0.00	0.00	0.00	0.00	0.00	0.00	23
Sulpher Creek	10	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10
Sycamore Creek	21	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21
Whites Creek	75	4.96	0.00	0.00	13.71	7.06	0.00	1.32	0.00	0.00	0.00	48
Sandy Creek	12	0.05	0.00	0.00	1.52	0.00	0.00	0.00	0.10	0.00	0.00	10
All Watersheds	1,673	85.02	0.00	0.00	380.72	28.53	0.00	7.06	2.25	0.00	0.00	1,169

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 <sup>1</sup>	Pollutant: Ni								Net Pollutant Load from Watershed (ac-ft)
			Removal by MWS Control Measure Implementation during FY22 (pounds)								
			Construction Inspection Load <sup>2</sup>	Illicit Discharge Load <sup>2</sup>	Street Sweeping Load <sup>2</sup>	Home Buyout Load <sup>1</sup>	Tree Planting Load <sup>1</sup>	Stream Buffer Load <sup>1</sup>	Industrial Inspection Load <sup>2</sup>	Field Screening Load <sup>2</sup>	
Back Creek	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9
Browns Creek	90	1.77	0.00	0.00	9.97	0.00	0.00	0.32	0.00	0.00	78
Bull Run Creek	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10
Cooper Creek	18	0.28	0.00	0.00	2.92	0.00	0.00	0.16	0.00	0.00	14
Cub Creek	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9
Cumberland River	328	84.62	0.00	0.00	55.68	0.00	0.00	18.22	0.00	0.00	170
Davidson Branch	17	0.39	0.00	0.00	0.73	0.00	0.00	0.00	0.00	0.00	16
Dry Creek	32	0.88	0.00	0.00	3.16	0.00	0.00	1.63	0.00	0.00	27
Ewing Creek	60	2.28	0.00	0.00	8.51	0.00	0.00	4.93	0.00	0.00	45
Gibson Creek	29	0.54	0.00	0.00	3.16	0.00	0.00	0.39	0.00	0.00	25
Gizzard Branch	17	0.54	0.00	0.00	0.73	0.00	0.00	0.00	0.00	0.00	16
Harpeth River	60	2.54	0.00	0.00	15.80	0.00	0.00	7.50	0.00	0.00	34
Indian Creek	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10
Island Creek	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9
Little Harpeth River	22	0.42	0.00	0.00	0.97	0.00	0.00	1.90	0.00	0.00	19
Loves Branch	16	0.13	0.00	0.00	0.97	0.00	0.00	0.00	0.00	0.00	15
Mansker Creek	21	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21
Marrowbone Creek	16	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16
Mill Creek Lower	228	4.23	0.00	0.00	30.88	0.00	0.00	40.87	0.00	0.00	152
Mill Creek Upper	56	1.89	0.00	0.00	9.24	0.00	0.00	6.12	0.00	0.00	39
Overall Creek	19	0.32	0.00	0.00	0.49	0.00	0.00	1.78	0.00	0.00	17
Pages Branch	32	0.73	0.00	0.00	3.65	0.00	0.00	0.00	0.00	0.00	28
Percy Priest Lake, Lower	78	1.55	0.00	0.00	19.70	0.00	0.00	2.19	0.00	0.00	55
Percy Priest Lake, Upper	68	2.14	0.00	0.00	2.67	0.00	0.00	17.26	0.00	0.00	46
Pond Creek	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9
Richland Creek	95	24.15	0.00	0.00	17.02	0.00	0.00	3.42	0.00	0.00	50
Sevenmile Creek	76	2.45	0.00	0.00	18.24	0.00	0.00	0.57	0.00	0.00	54
South Harpeth River, Lower	15	0.03	0.00	0.00	0.73	0.00	0.00	1.66	0.00	0.00	13
Stoner Creek	51	10.57	0.00	0.00	14.59	0.00	0.00	3.42	0.00	0.00	23
Stones River	76	1.17	0.00	0.00	9.48	0.00	0.00	6.40	0.00	0.00	59
Sugartree Creek	27	1.21	0.00	0.00	4.13	0.00	0.00	0.04	0.00	0.00	22
Sulpher Creek	12	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12
Sycamore Creek	22	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22
Whites Creek	72	11.14	0.00	0.00	8.75	0.00	0.00	15.77	0.00	0.00	37
Sandy Creek	13	0.08	0.00	0.00	0.97	0.00	0.00	0.00	0.00	0.00	12
All Watersheds	1,723	156.65	0.00	0.00	243.15	0.00	0.00	134.57	0.00	0.00	1,189

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 <sup>1</sup>	Pollutant: Zn								Net Pollutant Load from Watershed (ac-ft)
			Removal by MWS Control Measure Implementation during FY22 (pounds)								
			Construction Inspection Load <sup>2</sup>	Illicit Discharge Load <sup>2</sup>	Street Sweeping Load <sup>2</sup>	Home Buyout Load <sup>1</sup>	Tree Planting Load <sup>1</sup>	Stream Buffer Load <sup>1</sup>	Industrial Inspection Load <sup>2</sup>	Field Screening Load <sup>2</sup>	
Back Creek	253	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	253
Browns Creek	1,478	45.87	0.00	0.00	42.91	82.26	0.00	0.00	1.64	0.00	1,305
Bull Run Creek	278	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	278
Cooper Creek	477	10.53	0.00	0.00	12.56	120.07	0.00	0.00	0.00	0.00	334
Cub Creek	255	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	255
Cumberland River	6,275	1,101.18	0.00	0.00	239.64	598.70	0.00	0.00	7.27	0.00	4,328
Davidson Branch	478	5.70	0.00	0.00	3.14	0.00	0.00	0.00	0.00	0.00	470
Dry Creek	679	14.00	0.00	0.00	13.60	14.02	0.00	0.00	0.00	0.00	637
Ewing Creek	1,320	55.23	0.00	0.00	36.63	66.00	0.00	0.00	1.13	0.00	1,161
Gibson Creek	845	6.73	0.00	0.00	13.60	151.22	0.00	0.00	0.00	0.00	674
Gizzard Branch	470	6.89	0.00	0.00	3.14	0.00	0.00	0.00	0.00	0.00	460
Harpeth River	1,537	58.99	0.00	0.00	68.02	35.91	0.00	0.00	0.00	0.00	1,374
Indian Creek	270	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	270
Island Creek	255	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	255
Little Harpeth River	491	4.90	0.00	0.00	4.19	0.00	0.00	0.00	0.00	0.00	482
Loves Branch	366	2.59	0.00	0.00	4.19	5.82	0.00	0.00	0.00	0.00	354
Mansker Creek	463	5.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	457
Marrowbone Creek	348	0.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	347
Mill Creek Lower	4,272	88.20	0.00	0.00	132.90	343.71	0.00	0.00	2.01	0.00	3,705
Mill Creek Upper	1,491	32.06	0.00	0.00	39.77	570.50	0.00	0.00	0.00	0.00	848
Overall Creek	537	4.33	0.00	0.00	2.09	5.85	0.00	0.00	0.00	0.00	525
Pages Branch	764	20.25	0.00	0.00	15.70	15.82	0.00	0.00	0.00	0.00	712
Percy Priest Lake, Lower	1,278	12.01	0.00	0.00	84.76	5.88	0.00	0.00	0.00	0.00	1,175
Percy Priest Lake, Upper	1,072	54.12	0.00	0.00	11.51	0.00	0.00	0.00	0.00	0.00	1,006
Pond Creek	261	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	261
Richland Creek	2,082	217.18	0.00	0.00	73.25	84.02	0.00	0.00	0.00	0.00	1,708
Sevenmile Creek	1,857	24.61	0.00	0.00	78.49	181.31	0.00	0.00	0.26	0.00	1,573
South Harpeth River, Lower	340	0.38	0.00	0.00	3.14	0.00	0.00	0.00	0.00	0.00	337
Stoner Creek	1,312	85.48	0.00	0.00	62.79	19.34	0.00	0.00	0.58	0.00	1,143
Stones River	1,663	23.85	0.00	0.00	40.81	3.87	0.00	0.00	0.00	0.00	1,594
Sugartree Creek	773	13.31	0.00	0.00	17.79	2.38	0.00	0.00	0.00	0.00	739
Sulpher Creek	305	1.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	303
Sycamore Creek	520	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	520
Whites Creek	1,588	103.96	0.00	0.00	37.67	781.56	0.00	0.00	0.00	0.00	665
Sandy Creek	346	1.79	0.00	0.00	4.19	0.00	0.00	0.00	0.60	0.00	339
All Watersheds	36,999	2,003.27	0.00	0.00	1,046.48	3,088.23	0.00	0.00	13.49	0.00	30,848

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 <sup>1</sup>	Pollutant: Cr								Net Pollutant Load from Watershed (ac-ft)
			Removal by MWS Control Measure Implementation during FY22 (pounds)								
			Construction Inspection Load <sup>2</sup>	Illicit Discharge Load <sup>2</sup>	Street Sweeping Load <sup>2</sup>	Home Buyout Load <sup>1</sup>	Tree Planting Load <sup>1</sup>	Stream Buffer Load <sup>1</sup>	Industrial Inspection Load <sup>2</sup>	Field Screening Load <sup>2</sup>	
Back Creek	7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7
Browns Creek	70	1.24	0.00	0.00	11.09	0.00	0.00	0.07	0.00	0.00	58
Bull Run Creek	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9
Cooper Creek	21	0.39	0.00	0.00	3.25	0.00	0.00	0.03	0.00	0.00	18
Cub Creek	7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7
Cumberland River	292	40.35	0.00	0.00	61.95	0.00	0.00	14.62	0.00	0.00	175
Davidson Branch	17	0.18	0.00	0.00	0.81	0.00	0.00	0.00	0.00	0.00	16
Dry Creek	28	0.32	0.00	0.00	3.52	0.00	0.00	1.54	0.00	0.00	23
Ewing Creek	63	1.12	0.00	0.00	9.47	0.00	0.00	1.77	0.00	0.00	51
Gibson Creek	32	0.15	0.00	0.00	3.52	0.00	0.00	0.56	0.00	0.00	28
Gizzard Branch	13	0.17	0.00	0.00	0.81	0.00	0.00	0.00	0.00	0.00	12
Harpeth River	84	2.07	0.00	0.00	17.59	0.00	0.00	1.21	0.00	0.00	63
Indian Creek	8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8
Island Creek	7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7
Little Harpeth River	19	0.12	0.00	0.00	1.08	0.00	0.00	1.74	0.00	0.00	16
Loves Branch	16	0.09	0.00	0.00	1.08	0.00	0.00	0.00	0.00	0.00	15
Mansker Creek	22	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22
Marrowbone Creek	17	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17
Mill Creek Lower	186	1.72	0.00	0.00	34.36	0.00	0.00	8.22	0.00	0.00	142
Mill Creek Upper	71	0.76	0.00	0.00	10.28	0.00	0.00	3.12	0.00	0.00	57
Overall Creek	19	0.15	0.00	0.00	0.54	0.00	0.00	0.38	0.00	0.00	18
Pages Branch	28	0.32	0.00	0.00	4.06	0.00	0.00	0.00	0.00	0.00	24
Percy Priest Lake, Lower	88	0.84	0.00	0.00	21.91	0.00	0.00	0.46	0.00	0.00	65
Percy Priest Lake, Upper	52	1.16	0.00	0.00	2.98	0.00	0.00	7.79	0.00	0.00	41
Pond Creek	7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7
Richland Creek	97	6.35	0.00	0.00	18.94	0.00	0.00	4.82	0.00	0.00	67
Sevenmile Creek	94	0.91	0.00	0.00	20.29	0.00	0.00	0.81	0.00	0.00	72
South Harpeth River, Lower	14	0.01	0.00	0.00	0.81	0.00	0.00	0.35	0.00	0.00	13
Stoner Creek	65	2.29	0.00	0.00	16.23	0.00	0.00	4.92	0.00	0.00	42
Stones River	65	0.54	0.00	0.00	10.55	0.00	0.00	9.19	0.00	0.00	45
Sugartree Creek	28	0.40	0.00	0.00	4.60	0.00	0.00	0.01	0.00	0.00	23
Sulpher Creek	10	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10
Sycamore Creek	27	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27
Whites Creek	84	2.94	0.00	0.00	9.74	0.00	0.00	10.86	0.00	0.00	60
Sandy Creek	12	0.03	0.00	0.00	1.08	0.00	0.00	0.00	0.00	0.00	10
All Watersheds	1,681	64.81	0.00	0.00	270.54	0.00	0.00	72.47	0.00	0.00	1,273

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 <sup>1</sup>	Pollutant: Cu								Net Pollutant Load from Watershed (ac-ft)	
			Removal by MWS Control Measure Implementation during FY22 (pounds)									
			Construction Inspection Load <sup>2</sup>	Illicit Discharge Load <sup>2</sup>	Street Sweeping Load <sup>2</sup>	Home Buyout Load <sup>1</sup>	Tree Planting Load <sup>1</sup>	Stream Buffer Load <sup>1</sup>	Industrial Inspection Load <sup>2</sup>	Field Screening Load <sup>2</sup>		
Back Creek	28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28
Browns Creek	214	4.90	0.00	0.00	11.49	1.67	0.00	0.00	0.00	0.27	0.00	196
Bull Run Creek	33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	33
Cooper Creek	68	1.12	0.00	0.00	3.36	12.77	0.00	0.00	0.00	0.00	0.00	51
Cub Creek	29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	29
Cumberland River	898	112.15	0.00	0.00	64.17	56.08	0.00	11.32	1.21	0.00	0.00	653
Davidson Branch	64	0.60	0.00	0.00	0.84	0.00	0.00	0.00	0.00	0.00	0.00	63
Dry Creek	92	1.33	0.00	0.00	3.64	0.29	0.00	1.20	0.00	0.00	0.00	86
Ewing Creek	194	6.09	0.00	0.00	9.81	1.33	0.00	0.54	0.19	0.00	0.00	176
Gibson Creek	115	0.48	0.00	0.00	3.64	8.23	0.00	0.55	0.00	0.00	0.00	103
Gizzard Branch	60	0.59	0.00	0.00	0.84	0.00	0.00	0.00	0.00	0.00	0.00	58
Harpeth River	233	5.59	0.00	0.00	18.22	0.73	0.00	0.00	0.00	0.00	0.00	208
Indian Creek	31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	31
Island Creek	29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	29
Little Harpeth River	65	0.36	0.00	0.00	1.12	0.00	0.00	1.50	0.00	0.00	0.00	62
Loves Branch	52	0.35	0.00	0.00	1.12	0.12	0.00	0.00	0.00	0.00	0.00	51
Mansker Creek	67	0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	67
Marrowbone Creek	49	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49
Mill Creek Lower	585	8.33	0.00	0.00	35.59	17.74	0.00	3.11	0.34	0.00	0.00	520
Mill Creek Upper	215	2.74	0.00	0.00	10.65	61.70	0.00	1.67	0.00	0.00	0.00	138
Overall Creek	69	0.44	0.00	0.00	0.56	0.12	0.00	0.00	0.00	0.00	0.00	68
Pages Branch	100	1.74	0.00	0.00	4.20	0.32	0.00	0.00	0.00	0.00	0.00	94
Percy Priest Lake, Lower	207	1.63	0.00	0.00	22.70	0.10	0.00	0.00	0.00	0.00	0.00	182
Percy Priest Lake, Upper	148	5.81	0.00	0.00	3.08	0.00	0.00	2.12	0.00	0.00	0.00	137
Pond Creek	30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30
Richland Creek	303	16.44	0.00	0.00	19.62	1.69	0.00	4.62	0.00	0.00	0.00	261
Sevenmile Creek	273	2.21	0.00	0.00	21.02	3.73	0.00	0.79	0.04	0.00	0.00	246
South Harpeth River, Lower	45	0.03	0.00	0.00	0.84	0.00	0.00	0.00	0.00	0.00	0.00	44
Stoner Creek	191	6.24	0.00	0.00	16.81	0.40	0.00	4.78	0.10	0.00	0.00	163
Stones River	233	2.46	0.00	0.00	10.93	0.08	0.00	8.91	0.00	0.00	0.00	210
Sugartree Creek	103	1.09	0.00	0.00	4.76	0.05	0.00	0.00	0.00	0.00	0.00	98
Sulpher Creek	38	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	37
Sycamore Creek	78	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	77
Whites Creek	244	7.90	0.00	0.00	10.09	55.41	0.00	7.94	0.00	0.00	0.00	162
Sandy Creek	42	0.18	0.00	0.00	1.12	0.00	0.00	0.00	0.10	0.00	0.00	41
All Watersheds	5,226	191.63	0.00	0.00	280.24	222.54	0.00	49.05	2.25	0.00	0.00	4,480

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 <sup>1</sup>	Pollutant: O&G								Net Pollutant Load from Watershed (ac-ft)	
			Removal by MWS Control Measure Implementation during FY22 (pounds)									
			Construction Inspection Load <sup>2</sup>	Illicit Discharge Load <sup>2</sup>	Street Sweeping Load <sup>2</sup>	Home Buyout Load <sup>1</sup>	Tree Planting Load <sup>1</sup>	Stream Buffer Load <sup>1</sup>	Industrial Inspection Load <sup>2</sup>	Field Screening Load <sup>2</sup>		
Back Creek	504	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	504
Browns Creek	56,981	957.60	0.00	0.44	254.27	0.00	0.00	0.18	13.38	3.24	55,752	
Bull Run Creek	2,152	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2,152	
Cooper Creek	12,212	192.64	0.00	0.01	74.42	0.00	0.00	0.09	0.00	0.91	11,943	
Cub Creek	580	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	580	
Cumberland River	213,884	36,820.43	0.00	1.20	1,420.17	0.00	0.00	18.13	59.35	11.50	175,553	
Davidson Branch	9,599	172.87	0.00	0.08	18.60	0.00	0.00	0.00	0.00	0.00	9,408	
Dry Creek	19,539	336.42	0.00	0.00	80.62	0.00	0.00	1.78	0.00	0.00	19,120	
Ewing Creek	44,889	1,192.97	0.00	1.09	217.06	0.00	0.00	3.08	9.19	0.92	43,464	
Gibson Creek	21,109	144.67	0.00	0.01	80.62	0.00	0.00	0.65	0.00	0.00	20,883	
Gizzard Branch	9,255	179.27	0.00	0.00	18.60	0.00	0.00	0.00	0.00	0.00	9,057	
Harpeth River	46,903	1,137.52	0.00	0.04	403.10	0.00	0.00	3.11	0.00	0.00	45,359	
Indian Creek	1,359	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,359	
Island Creek	942	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	942	
Little Harpeth River	11,130	123.50	0.00	0.00	24.81	0.00	0.00	2.25	0.00	0.49	10,979	
Loves Branch	10,871	90.55	0.00	0.00	24.81	0.00	0.00	0.00	0.00	0.00	10,756	
Mansker Creek	16,329	120.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16,209	
Marrowbone Creek	11,297	18.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11,278	
Mill Creek Lower	139,108	1,739.15	0.00	0.53	787.60	0.00	0.00	15.71	16.45	2.29	136,546	
Mill Creek Upper	45,392	683.40	0.00	0.37	235.66	0.00	0.00	4.54	0.00	0.00	44,468	
Overall Creek	10,360	130.99	0.00	1.13	12.40	0.00	0.00	1.02	0.00	0.00	10,215	
Pages Branch	16,596	287.87	0.00	0.04	93.02	0.00	0.00	0.00	0.00	6.44	16,209	
Percy Priest Lake, Lower	54,473	890.61	0.00	0.04	502.33	0.00	0.00	1.24	0.00	0.00	53,079	
Percy Priest Lake, Upper	43,306	1,112.01	0.00	1.53	68.22	0.00	0.00	10.04	0.00	0.00	42,114	
Pond Creek	812	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	812	
Richland Creek	65,418	7,297.07	0.00	1.22	434.11	0.00	0.00	5.54	0.00	2.54	57,678	
Sevenmile Creek	56,865	975.23	0.00	1.62	465.12	0.00	0.00	0.93	2.15	1.43	55,419	
South Harpeth River, Lower	6,316	11.09	0.00	0.00	18.60	0.00	0.00	0.95	0.00	0.00	6,285	
Stoner Creek	36,349	3,063.96	0.00	1.14	372.10	0.00	0.00	5.63	4.77	0.00	32,902	
Stones River	50,841	531.58	0.00	0.40	241.86	0.00	0.00	10.52	0.00	0.00	50,057	
Sugartree Creek	15,299	404.63	0.00	0.40	105.43	0.00	0.00	0.02	0.00	0.00	14,789	
Sulpher Creek	3,624	38.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3,585	
Sycamore Creek	19,246	30.90	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	19,215	
Whites Creek	61,536	3,378.50	0.00	0.37	223.26	0.00	0.00	14.87	0.00	0.00	57,919	
Sandy Creek	3,486	36.53	0.00	0.01	24.81	0.00	0.00	0.00	4.88	0.49	3,419	
All Watersheds	1,118,565	62,099.93	0.00	11.70	6,201.60	0.00	0.00	100.28	110.16	30.25	1,050,011	

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 <sup>1</sup>	Pollutant: TSS								Net Pollutant Load from Watershed (ac-ft)
			Removal by MWS Control Measure Implementation during FY22 (pounds)								
			Construction Load <sup>2</sup>	Illicit Discharge Load <sup>2</sup>	Street Sweeping Load <sup>2</sup>	Home Buyout Load <sup>1</sup>	Tree Planting Load <sup>1</sup>	Stream Buffer Load <sup>1</sup>	Industrial Load <sup>2</sup>	Field Screening Load <sup>2</sup>	
Back Creek	6,681	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6,681
Browns Creek	676,362	15,332.06	413,649.73	742.90	64,705.18	0.00	0.00	0.75	1,670.83	405.20	179,855
Bull Run Creek	26,413	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26,413
Cooper Creek	180,209	3,905.70	67,492.11	741.69	18,938.10	5.76	0.00	0.37	0.00	113.31	89,012
Cub Creek	7,410	0.00	3,265.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4,145
Cumberland River	2,857,466	414,687.41	2,599,789.24	6,678.33	361,402.12	24.47	0.00	125.55	7,412.26	1,436.27	0
Davidson Branch	123,067	1,993.70	86,338.49	0.21	4,734.53	0.00	0.00	0.00	0.00	0.00	30,001
Dry Creek	252,056	3,681.28	98,549.80	2,966.67	20,516.28	0.00	0.00	12.42	0.00	0.00	126,329
Ewing Creek	600,586	15,266.69	979,358.69	744.70	55,236.13	0.00	0.00	12.90	1,148.33	114.83	0
Gibson Creek	300,555	1,876.48	36,038.29	0.02	20,516.28	2.87	0.00	5.63	0.00	0.00	242,115
Gizzard Branch	115,708	2,182.88	37,773.65	0.00	4,734.53	0.00	0.00	0.00	0.00	0.00	71,016
Harpeth River	734,951	20,134.32	24,572.82	4,450.10	102,581.39	0.00	0.00	9.50	0.00	0.00	583,203
Indian Creek	17,298	0.00	3,411.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13,887
Island Creek	10,636	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10,636
Little Harpeth River	131,863	1,636.75	0.00	0.00	6,312.70	0.00	0.00	17.45	0.00	60.89	123,835
Loves Branch	134,540	1,008.70	66,030.31	741.67	6,312.70	0.00	0.00	0.00	0.00	0.00	60,446
Mansker Creek	192,291	1,443.57	8,973.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	181,873
Marrowbone Creek	135,315	222.77	1,296.27	1,483.33	0.00	0.00	0.00	0.00	0.00	0.00	132,313
Mill Creek Lower	1,814,774	25,181.28	271,775.90	1,484.80	200,428.25	6.06	0.00	54.12	2,054.73	286.14	1,313,503
Mill Creek Upper	668,601	9,617.87	1,607,649.37	2,967.70	59,970.66	27.94	0.00	23.72	0.00	0.00	0
Overall Creek	137,930	1,573.64	98,491.89	2,969.80	3,156.35	0.00	0.00	4.12	0.00	0.00	31,735
Pages Branch	225,973	6,125.82	32,007.89	2,966.77	23,672.63	0.00	0.00	0.00	0.00	804.95	160,395
Percy Priest Lake, Lower	775,589	8,440.02	47,362.76	2,225.11	127,832.19	0.00	0.00	5.04	0.00	0.00	589,724
Percy Priest Lake, Upper	490,912	15,157.78	68,041.83	1,487.58	17,359.93	0.00	0.00	27.76	0.00	0.00	388,837
Pond Creek	11,047	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11,047
Richland Creek	903,714	57,285.16	614,864.42	2,970.04	110,472.26	0.00	0.00	48.06	0.00	317.11	117,757
Sevenmile Creek	869,644	9,850.49	244,583.93	4.48	118,363.14	0.00	0.00	8.11	268.89	178.58	496,387
South Harpeth River, Lower	77,208	108.46	0.00	1,483.33	4,734.53	0.00	0.00	3.83	0.00	0.00	70,878
Stoner Creek	587,312	21,096.77	609,840.29	744.83	94,690.51	0.00	0.00	49.18	595.28	0.00	0
Stones River	653,871	7,865.11	340,343.77	742.79	61,548.83	0.00	0.00	91.86	0.00	0.00	243,279
Sugartree Creek	230,067	4,329.92	89,043.66	1.12	26,828.98	0.00	0.00	0.09	0.00	0.00	109,864
Sulphur Creek	42,711	490.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	42,221
Sycamore Creek	240,529	302.45	220.12	0.10	0.00	0.00	0.00	0.00	0.00	0.00	240,007
Whites Creek	809,770	26,325.85	161,695.63	8,159.35	56,814.31	22.07	0.00	99.23	0.00	0.00	556,653
Sandy Creek	53,212	487.13	56,571.82	0.02	6,312.70	0.00	0.00	0.00	608.88	60.89	0
All Watersheds	15,096,273	677,610.30	8,669,033.55	46,757.43	1,578,175.20	89.16	0.00	599.71	13,759.20	3,778.17	6,254,047

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 <sup>1</sup>	Pollutant: TDS								Net Pollutant Load from Watershed (ac-ft)
			Removal by MWS Control Measure Implementation during FY22 (pounds)								
			Construction Inspection Load <sup>2</sup>	Illicit Discharge Load <sup>2</sup>	Street Sweeping Load <sup>2</sup>	Home Buyout Load <sup>1</sup>	Tree Planting Load <sup>1</sup>	Stream Buffer Load <sup>1</sup>	Industrial Inspection Load <sup>2</sup>	Field Screening Load <sup>2</sup>	
Back Creek	29,440	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	29,440
Browns Creek	2,578,468	50,790.22	0.00	0.00	0.00	0.00	0.00	6.06	0.00	0.00	2,527,672
Bull Run Creek	108,799	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	108,799
Cooper Creek	645,916	19,585.03	0.00	0.00	0.00	0.00	0.00	3.00	0.00	0.00	626,328
Cub Creek	33,568	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	33,568
Cumberland River	10,657,266	1,565,833.25	0.00	0.00	0.00	0.00	0.00	1,289.61	0.00	0.00	9,090,143
Davidson Branch	437,537	7,001.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	430,536
Dry Creek	1,016,606	9,438.75	0.00	0.00	0.00	0.00	0.00	143.06	0.00	0.00	1,007,025
Ewing Creek	2,259,557	32,500.68	0.00	0.00	0.00	0.00	0.00	206.70	0.00	0.00	2,226,850
Gibson Creek	1,122,809	7,117.71	0.00	0.00	0.00	0.00	0.00	37.30	0.00	0.00	1,115,654
Gizzard Branch	398,930	7,266.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	391,664
Harpeth River	2,679,383	99,285.42	0.00	0.00	0.00	0.00	0.00	184.03	0.00	0.00	2,579,913
Indian Creek	87,863	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	87,863
Island Creek	36,963	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	36,963
Little Harpeth River	568,627	6,117.00	0.00	0.00	0.00	0.00	0.00	118.62	0.00	0.00	562,391
Loves Branch	542,511	2,230.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	540,281
Mansker Creek	870,717	4,690.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	866,027
Marrowbone Creek	698,637	646.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	697,990
Mill Creek Lower	7,026,841	57,283.79	0.00	0.00	0.00	0.00	0.00	1,323.21	0.00	0.00	6,968,234
Mill Creek Upper	2,687,782	31,455.75	0.00	0.00	0.00	0.00	0.00	331.97	0.00	0.00	2,655,995
Overall Creek	582,611	4,757.67	0.00	0.00	0.00	0.00	0.00	33.29	0.00	0.00	577,820
Pages Branch	826,311	8,942.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	817,369
Percy Priest Lake, Lower	3,234,871	48,932.46	0.00	0.00	0.00	0.00	0.00	40.76	0.00	0.00	3,185,898
Percy Priest Lake, Upper	2,449,509	23,701.51	0.00	0.00	0.00	0.00	0.00	1,234.96	0.00	0.00	2,424,573
Pond Creek	54,598	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54,598
Richland Creek	3,168,811	197,540.30	0.00	0.00	0.00	0.00	0.00	319.46	0.00	0.00	2,970,951
Sevenmile Creek	3,181,362	48,431.14	0.00	0.00	0.00	0.00	0.00	53.69	0.00	0.00	3,132,877
South Harpeth River, Lower	358,824	787.96	0.00	0.00	0.00	0.00	0.00	30.98	0.00	0.00	358,005
Stoner Creek	2,025,249	168,432.46	0.00	0.00	0.00	0.00	0.00	325.34	0.00	0.00	1,856,491
Stones River	2,287,846	17,845.64	0.00	0.00	0.00	0.00	0.00	608.07	0.00	0.00	2,269,392
Sugartree Creek	771,453	16,635.96	0.00	0.00	0.00	0.00	0.00	0.71	0.00	0.00	754,816
Sulpher Creek	185,090	920.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	184,170
Sycamore Creek	1,154,903	910.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,153,992
Whites Creek	3,268,401	77,059.06	0.00	0.00	0.00	0.00	0.00	898.16	0.00	0.00	3,190,444
Sandy Creek	197,201	1,402.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	195,799
All Watersheds	58,235,262	2,517,543.31	0.00	0.00	0.00	0.00	0.00	7,188.98	0.00	0.00	55,710,529

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 <sup>1</sup>	Pollutant: E. coli								Net Pollutant Load from Watershed (ac-ft)
			Removal by MWS Control Measure Implementation during FY22 (MPN e9)								
			Construction Inspection Load <sup>2</sup>	Illicit Discharge Load <sup>2</sup>	Street Sweeping Load <sup>2</sup>	Home Buyout Load <sup>1</sup>	Tree Planting Load <sup>1</sup>	Stream Buffer Load <sup>1</sup>	Industrial Inspection Load <sup>2</sup>	Field Screening Load <sup>2</sup>	
Back Creek	6,485	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6,485
Browns Creek	228,955	15,430.86	0.00	230.91	3,939.87	0.00	0.00	0.00	0.00	0.00	209,353
Bull Run Creek	17,105	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17,105
Cooper Creek	139,227	8,954.99	0.00	3.79	1,153.13	0.00	0.00	0.00	0.00	0.00	129,115
Cub Creek	6,929	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6,929
Cumberland River	1,660,161	206,084.51	0.00	624.59	22,005.62	0.00	0.00	0.00	0.00	0.00	1,431,446
Davidson Branch	62,546	1,373.74	0.00	39.75	288.28	0.00	0.00	0.00	0.00	0.00	60,844
Dry Creek	172,935	1,801.42	0.00	0.00	1,249.23	0.00	0.00	0.00	0.00	0.00	169,884
Ewing Creek	382,367	3,108.43	0.00	567.81	3,363.30	0.00	0.00	0.00	0.00	0.00	375,328
Gibson Creek	249,325	1,512.09	0.00	3.79	1,249.23	0.00	0.00	0.00	0.00	0.00	246,560
Gizzard Branch	52,011	608.34	0.00	0.00	288.28	0.00	0.00	0.00	0.00	0.00	51,115
Harpeth River	640,350	43,965.56	0.00	18.93	6,246.14	0.00	0.00	0.00	0.00	0.00	590,119
Indian Creek	20,068	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20,068
Island Creek	1,283	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,283
Little Harpeth River	78,172	897.86	0.00	0.00	384.38	0.00	0.00	0.00	0.00	0.00	76,890
Loves Branch	79,855	207.07	0.00	0.00	384.38	0.00	0.00	0.00	0.00	0.00	79,264
Mansker Creek	140,672	323.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	140,349
Marrowbone Creek	139,981	56.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	139,925
Mill Creek Lower	1,118,010	7,010.19	0.00	274.44	12,203.99	0.00	0.00	0.00	0.00	0.00	1,098,522
Mill Creek Upper	655,174	8,023.94	0.00	193.06	3,651.59	0.00	0.00	0.00	0.00	0.00	643,306
Overall Creek	127,542	1,530.07	0.00	586.74	192.19	0.00	0.00	0.00	0.00	0.00	125,233
Pages Branch	144,065	711.90	0.00	18.93	1,441.42	0.00	0.00	0.00	0.00	0.00	141,892
Percy Priest Lake, Lower	637,799	6,987.22	0.00	20.82	7,783.65	0.00	0.00	0.00	0.00	0.00	623,007
Percy Priest Lake, Upper	383,824	7,184.67	0.00	796.83	1,057.04	0.00	0.00	0.00	0.00	0.00	374,785
Pond Creek	14,049	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14,049
Richland Creek	512,661	26,141.17	0.00	632.16	6,726.61	0.00	0.00	0.00	0.00	0.00	479,162
Sevenmile Creek	733,088	6,187.34	0.00	840.36	7,207.08	0.00	0.00	0.00	0.00	0.00	718,853
South Harpeth River, Lower	59,308	189.96	0.00	0.00	288.28	0.00	0.00	0.00	0.00	0.00	58,829
Stoner Creek	491,869	8,195.79	0.00	592.42	5,765.67	0.00	0.00	0.00	0.00	0.00	477,315
Stones River	288,726	2,147.40	0.00	210.09	3,747.68	0.00	0.00	0.00	0.00	0.00	282,621
Sugartree Creek	165,552	2,789.56	0.00	210.09	1,633.61	0.00	0.00	0.00	0.00	0.00	160,919
Sulpher Creek	27,039	73.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26,965
Sycamore Creek	240,938	260.93	0.00	18.93	0.00	0.00	0.00	0.00	0.00	0.00	240,658
Whites Creek	589,682	10,450.84	0.00	191.16	3,459.40	0.00	0.00	0.00	0.00	0.00	575,581
Sandy Creek	46,866	266.17	0.00	3.79	384.38	0.00	0.00	0.00	0.00	0.00	46,212
All Watersheds	10,314,620	372,475.66	0.00	6,079.37	96,094.42	0.00	0.00	0.00	0.00	0.00	9,839,970

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