WASTEWATER PERFORMANCE REPORT

JULY 1, 2021 - JUNE 30, 2022

CHARLOTTE WATER

charlottewater.org

CLTWater Blog

@cltwater

/CharlotteWater

4222 Westmont Drive Charlotte, NC 28217

I. General Information

Name of Regulated Entity and Responsible Person

City of Charlotte
Angela Charles, Director
Charlotte Water (CLTWater)
Administration Division
4222 Westmont Drive
Charlotte, NC 28217
704-336-4407

Applicable Permits

There are six wastewater treatment plants (WWTP) owned and operated by Charlotte Water (CLTWater). Below is a list of these facilities and their applicable NPDES (National Pollutant Discharge Elimination System) permit number. Included with the list of facilities is the name of the Operator in Responsible Charge (ORC) at the facilities and the site telephone numbers.

WWTP	NPDES Permit Number	ORC	Phone
Irwin Creek WWTP	NC0024945	Jacob Bolick	704-336-2573
Mallard Creek WRF	NC0030210	Henry Eudy	704-336-1024
McAlpine Creek WWMF	NC0024970	Keith Purgason	704-542-0736
McDowell Creek WWTP	NC0036277	Dan Matias	704-336-1125
Sugar Creek WWTP	NC0024937	Donna Slachciak	704-432-2510
Ashe Plantation WWTP	NC0065749	Jeremy Nance	704-634-3389

Oxford Glen WWTP was decommissioned June 2021. In addition to the above plants, CLTWater sends wastewater to the Rocky River Regional Wastewater Treatment Plant through an agreement with the Water and Sewer Authority of Cabarrus County (WSACC). CLTWater also accepts flow from Union County to McAlpine Creek WWMF.

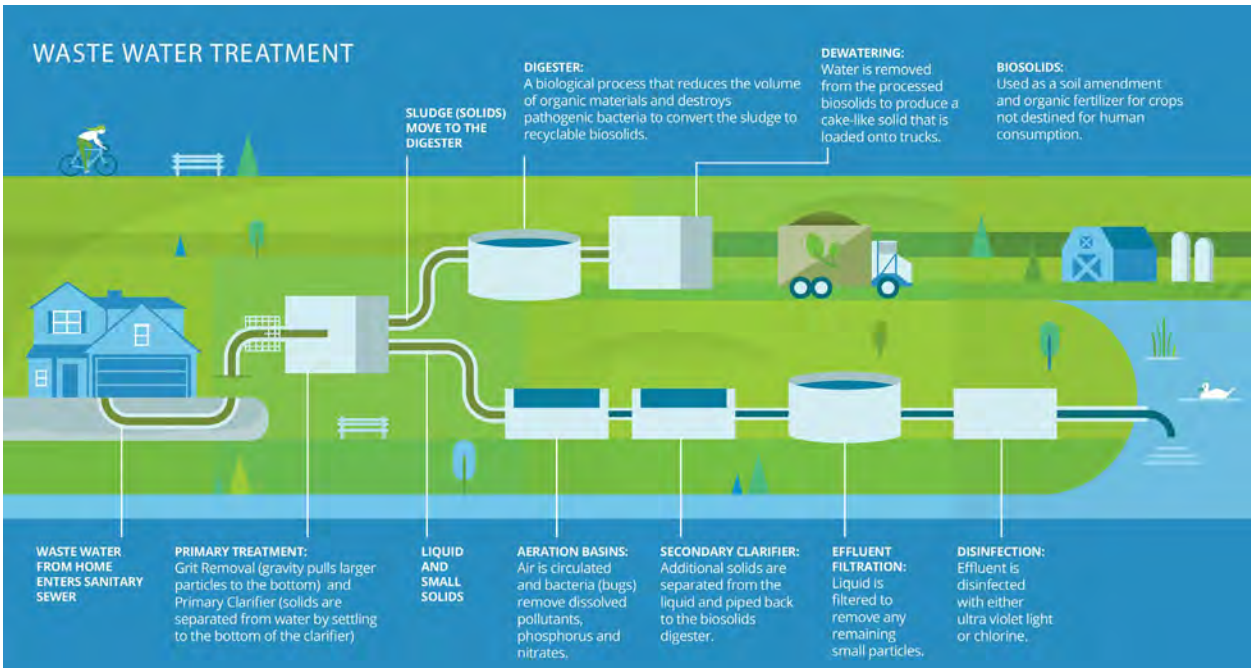
WW COLLECTION	NCDWQ Permit Number	ORC	Phone
4100 W. Tyvola Rd.	WQCS00001	Steven Wrobleski Malcom Edwards (backup)	704-432-2748 704-649-5098

Description of collection and treatment systems

Charlotte Water (CLTWater) collects wastewater from approximately 281,983 households and businesses throughout the county. Wastewater is collected and directed (via gravity flow supported by sewage lift stations) to one of six CLTWater wastewater treatment plants or the Rocky River Regional Plant (owned and operated by the Water and Sewer Authority of Cabarrus County) where it is treated. An average of 79.8 million gallons of wastewater is treated and discharged each day from CLTWater plants. CLTWater sends an average of 4.82 million gallons per day (MGD) of wastewater to the Rocky River Regional Wastewater Treatment Plant (WWTP) operated by the Water and Sewer Authority of Cabarrus County for (WSACC). Roughly 1.0 MGD of wastewater from Union County is treated at McAlpine Creek WWTP, roughly 2.6% of its 39.4 MGD annual average daily flow (AADF) treatment volume.

More than 300 of CLTWater's 1,019 employees work to maintain 4,526 miles of collection pipelines and 74 wastewater lift stations throughout the county. The gravity wastewater pipes in this system range in size from 8 inches in diameter to 78 inches in diameter.

Each of CLTWater's wastewater treatment plants applies primary, secondary and tertiary treatment to the waste stream. Large solid particles and inorganic materials are removed by screening and settling. The wastewater is treated biologically to remove dissolved pollutants. The waste stream passes through granular filters to remove very small particles that may not have been removed through the settling process. Finally, disinfection reduces bacterial and pathogenic materials. The treated water is released to the nearby creek.



1. **Primary Treatment**
   Solid particles & objects are captured by screens, grit chambers, and primary clarifiers.

2. **Aeration/Secondary Treatment**
   Wastewater is aerated to support growth of microorganisms that remove harmful pollutants. Nutrient levels are reduced at McDowell and McAlpine Creek Wastewater Treatment Plants.

3. **Clarification**
   Solids and microorganisms settle out in large basins.

4. **Tertiary Treatment**
   Wastewater flows through granular filters to remove fine particles.

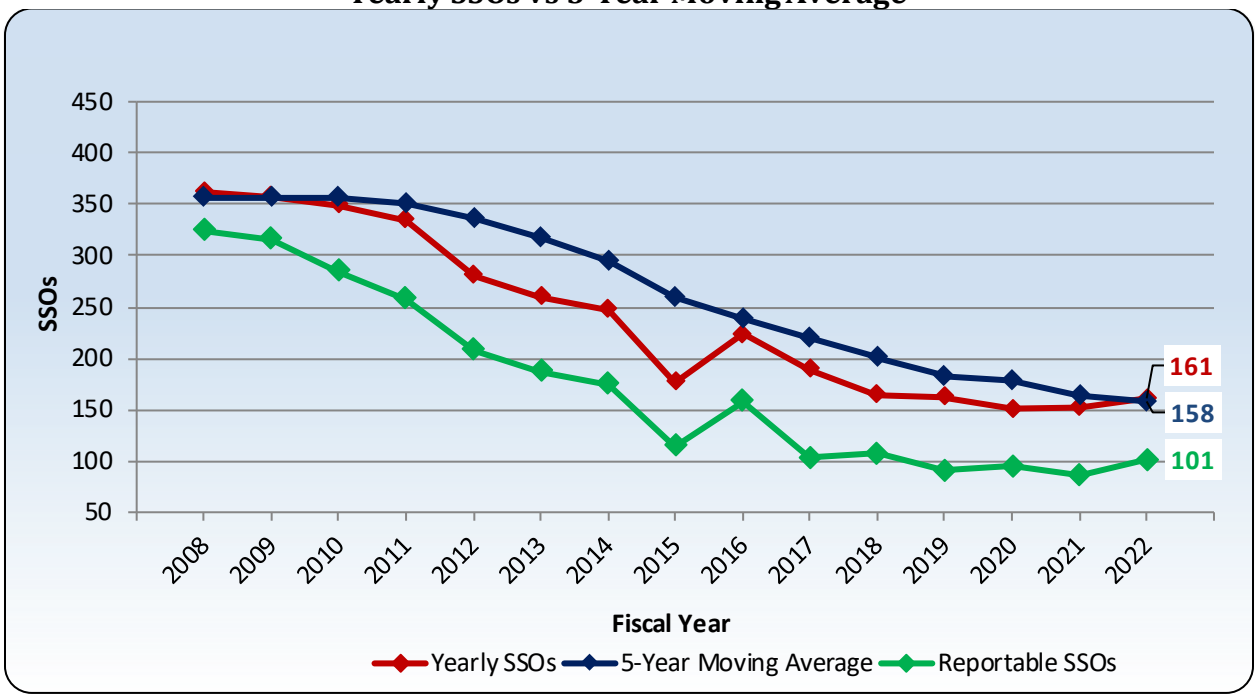
5. **Disinfection**
   Water is disinfected to remove any remaining pathogens, and then the treated water is released into creeks.

II. Summary of System Performance

FY22 Performance

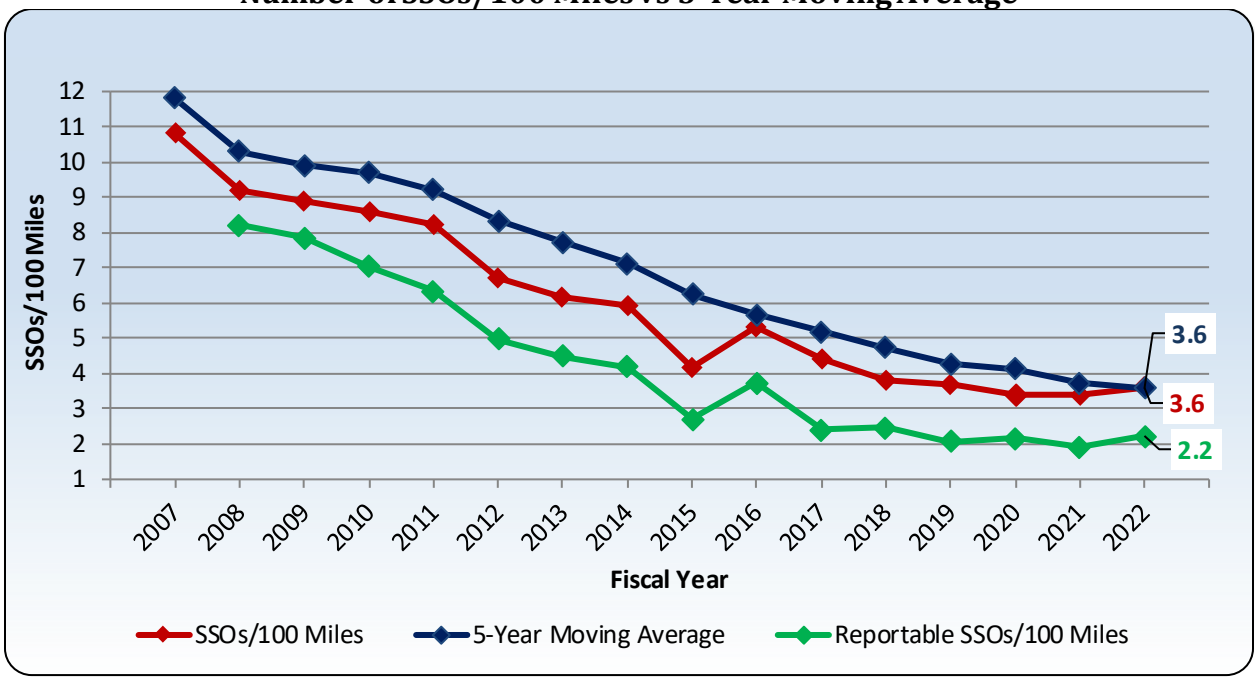
Charlotte Water successfully collected and treated 99.99 percent of the more than 29 billion gallons of wastewater the community produced in the past fiscal year. There were 161 sanitary sewer overflows (SSOs) in our community, an increase of nine spills compared to the year before.

Yearly SSOs vs 5-Year Moving Average



The number of spills per 100 miles of pipe continued to decline in general from 9.2 in fiscal year 2008 to 3.6 spills in fiscal year 2022 as illustrated by the table on the following page.

Number of SSOs/100 Miles vs 5-Year Moving Average



Inspection crews and our customers find overflows. Overflows from the wastewater collection system are discovered during routine inspections of the system and also through

reports from the public to the 311 customer service call center. CLTWater notifies media any time a sanitary sewer overflow results in 1,000 gallons or more reaching surface waters or any size overflow reaching recreational waters. Crews provide notices to customers closest to the overflow. In May 2022, CLTWater began calling, texting, and emailing customers in the immediate area of these spills. A legal notice is posted in the Charlotte Observer when overflows of 15,000 gallons or more reach surface waters.

This annual report includes all incidents where wastewater escaped out of a public manhole or public collection system pipe before reaching proper treatment, including spills less than required reporting thresholds (i.e. less than 1,000 gallons or any amount reaching surface water). There were 101 reportable spills (by state definition) during fiscal year 2022. All spill response protocols are followed regardless of the spill volume or reporting status. Private spills and sewer backups inside homes are not included. The report summarizes spills (both reportable to the State and SSOs that do not meet state definition) and other challenges at wastewater treatment plants.

CLTWater employees work 24 hours a day, 365 days per year to prevent and respond to overflows. Crews prevent overflows by clearing pipes of tree roots, wipes, and grease, as well as replacing broken and aging pipes. CLTWater has increased its efforts to educate customers about properly disposing of fats, oils and grease (FOG).

Performance Highlights

CLTWater celebrated some important milestones in FY2022 while taking numerous actions to prevent overflows and protect water quality through effective wastewater treatment.

- All seven wastewater treatment plants earned Peak Performance Awards from the National Association of Clean Water Agencies (NACWA) for the calendar year ending 2021. NACWA Peak Performance Awards recognize wastewater treatment professionals throughout the nation for protecting the environment and public health through outstanding treatment and discharge regulatory compliance.
  - McAlpine Creek Wastewater Treatment Plant was awarded its tenth Platinum Award for fourteen consecutive years of perfect compliance. (Five years of perfect compliance are needed to achieve the award.)
  - McDowell Creek Wastewater Treatment Plant earned their fifth Platinum Award, and their ninth out of the last fourteen years.
  - Mallard Creek and Sugar Creek Wastewater Treatment Plants earned their second Platinum Awards for six years of perfect compliance.
  - Oxford Glen earned the Platinum Award for five years of perfect compliance.
  - Ashe Plantation, and Irwin Creek earned Gold Awards for zero permit violations in a one-year period.
  - Over 7,500 compliance judgement points were met during the 2021 calendar year.
- 18.3 miles of wastewater pipe and 698 manholes were rehabilitated or replaced.
- 321 miles of wastewater pipe were treated with root control chemicals.
- 711 miles of wastewater lines were cleaned (including some multiple cleanings in the same location) by CLTWater Field Operations Staff and contractors.

- 187 wastewater service connections were replaced.
- 115.3 miles of rights of way were cleared by contractors to maintain access to off-street sanitary wastewater pipes and to help prevent root intrusions.
- 230 miles of pipe were closed-circuit television recorded (CCTV) for inspection by CLTWater staff and contractors.
- There are 74 Wastewater Lift Stations serving the CLTWater service area. Staff performed 139 preventative maintenance/electrical tasks for a total of 2,765 work hours. This does not include daily/weekly station checks, wet well cleaning, emergency generator testing, or emergency/routine repairs. No lift stations were added. Satterwythe, Mint Hill Commons, Cheval, and Matthew Commons were removed.
- McAlpine Creek Wastewater Treatment Plant captures and converts methane gas (a byproduct of wastewater treatment) into a fuel for electricity production and useful heat. In the past 12 months the Combined Heat & Power (CHP) system engine has generated more than 6.5 million kilowatt hours of energy. Since it started running, the CHP has generated in excess of 30 million kilowatt hours of clean energy approaching $1.4 million in gross revenue back to the City. Methane gas is also generated at Irwin, McDowell, and Mallard WWTPs. There, methane gas is used to generate heat required for anaerobic digestion to treat the solids produced during the treatment process.

Capital & Community Investment Highlights

Projects in Progress in FY22

- Dairy Creek Wastewater Project (Phase 2) started September 2021 and is expected to take 13 months to complete. The project is replacing wastewater pipe from Kenilworth Road to South Boulevard.
- Derita Branch Tributary Wastewater Project (between 36th Street and West Sugar Creek Road) started phase 1 late 2021 and phase 1 will be completed by early 2023. Phase 2 will be completed by late 2024. This is a $19 million investment to upsize pipe to accommodate current and future capacity.
- Little Hope Creek Wastewater Project (Phase 2) began March 2022 and is expected to take 24 months to complete. The existing pipes are reaching the end-of-life expectancy and substantial growth requires larger wastewater pipes to serve the area. Phase 2 is an investment of approximately $25 million. The total investment for phases 1-3 is approximately $50 million.
- Upper Little Sugar Creek (East Boulevard to East Morehead Street) Wastewater project began January 2022 and is estimated to be complete by mid-2023. This project is in coordination with Atrium Health and Mecklenburg County to decrease tunneling costs, reduce construction duration, and reduce greenway closures.
- Upper Little Sugar Creek (Hidden Valley Neighborhood – Bilmark Drive to Canterwood Drive) started spring 2022 and estimated to be completed by spring 2023. CLTWater and Charlotte-Mecklenburg Storm Water Services worked together to combine projects in the neighborhood to reduce on construction related neighborhood impacts. The project is an investment of $5.3 million.
- Mallard Creek Wastewater Treatment Plant Rehabilitation and UV Upgrade Project consists of the rehabilitation and upgrade of the final clarifiers and their pumping

stations, effluent filters, and UV disinfection system. Construction started in May 2020 with completion projected in early 2023.

Projects Completed in FY22

- Belmont and Optimist Park Wastewater Pipe Replacement Project (Little Sugar Creek Tributary Trunk Sewer North Tryon area) completed most of the project in Fall 2021. There is a small section of pipe that will be completed in a few months. Approximately 6,327 LF of pipe was upsized to serve the growing area around Belmont and Optimist Park neighborhoods. The project is an investment of $12.3 million.
- Stevens Creek Lift Station, Force Main & Gravity Sewer Project now serves the Goose Creek and Stevens Creek drainage basins, which includes the Town of Mint Hill. The project was the first step in providing public sewer service to an area that is predominantly on septic systems. This project also facilitates the removal of a nearby package wastewater plant. The construction cost is $20.375 million. Construction started late summer 2019 and was completed in August 2021. The lift station was put in service during fiscal year 2021.
- Stevens Creek Phase 2 was completed in fall 2021. Approximately 4,600 linear feet of pipe was upsized to serve the growing area. The project was an investment of $1.5 million.
- Upper Taggart Creek Wastewater Pipe Replacement Project was completed. Approximately 10,200 linear feet of pipe was upsized to serve the growing area. The project was an investment of $20 million.

Fats, Oils and Grease Education Highlights

- Charlotte Water started a fats, oil and grease reduction effort during the late 1990s to educate customers about food related clogs that lead to sanitary sewer overflows. In 2017, Charlotte Water rebranded to FlowFree to focus on other overflow contributors now that grease related spills continue to decline.
  - CLTWater staff inspected grease-handling facilities at 3,926 food service establishments and restaurants (not including follow-up inspections) to ensure proper grease disposal. BMP Posters were distributed to the facilities to post. (1,937 posters distributed)
  - Staff issued 48 Notices of Deficiency (NOD) of which 45 returned to compliance and three are still under investigation.
  - Staff issued 1 Notices of Violation (NOV).
  - 5 grease traps were installed by businesses to fulfill NOD requirements.
  - Inspectors mailed information to 1,041 customers near spill sites and handed out information after spill events to 1,784 customers in apartments/multi-family complexes.
  - Staff conducted educational presentations to more than 930 children and adults.

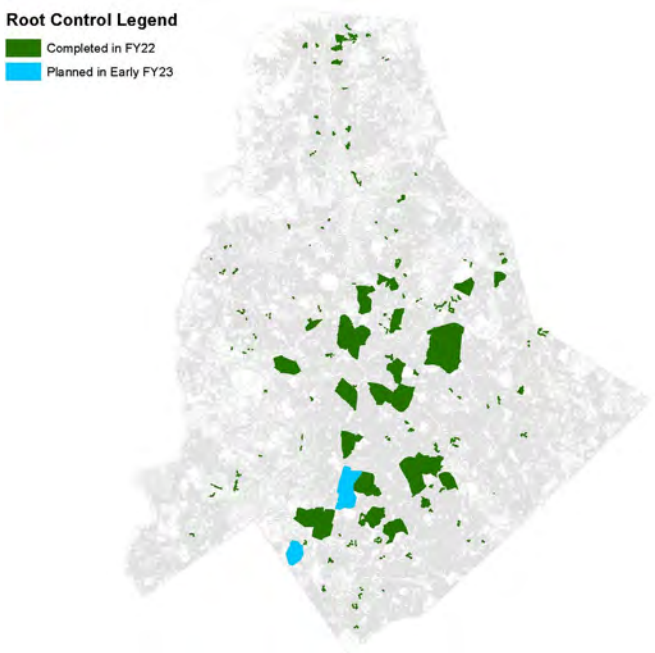
- Staff continues to provide bilingual door hangers and promotional items for property managers to give to new residents. Educational posters were also provided for managers to post. (1,784 posters provided)
- A multi-family outreach team was created in the System Protection division in 2019 that worked closely with the communications team to create a multi-pronged outreach plan for multi-family units that were causing blockages or SSO's in the system. The plan included targeted doorhangers, pop up events, meetings with facilities staff and residents, educational materials and if necessary, enforcement techniques. For FY'23 the Multi- Family Team conducted 218 Inspections at Multi-Family units across Mecklenburg County.
- Communications staff posted social media alerts on Nextdoor to inform residents when spills occurred exceeding 1,000 gallons in creeks or any amount that reached recreational water.

Continuing Challenges

Wastewater Collection Challenges

The greatest continuing wastewater challenge in this community – and in others across the U.S. – is sewage overflows. Of the 161 sewer spills that occurred; debris, grease, and roots accounted for most of the sanitary sewer overflow causes.

The largest individual spill was on July 16th, 2021 near 8924 Old Dowd Road (Paw Creek Lift Station) in Charlotte, NC. An estimated 847,000 gallons reached Paw Creek in the Catawba River watershed. The overflow was caused by a pipe failure. Crews were able to prevent an additional 99,000 gallons from reaching the river by pumping it and hauling it to another part of the wastewater system for treatment. The cause of the spill was a pipe alignment issue during a construction project.



Twenty-one spills were caused by private contractors (directional boring, etc.).

Twenty-eight spills were 100 gallons or less.

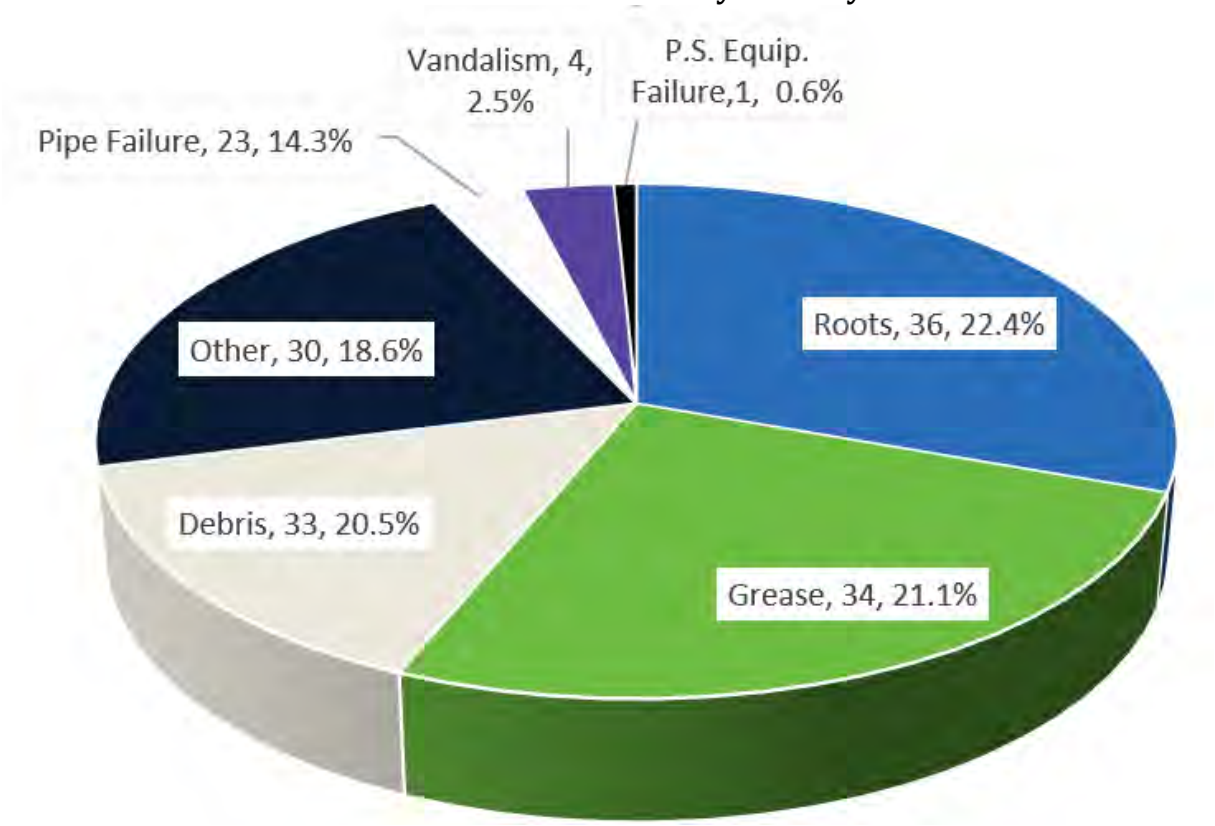
The number of overflows caused by tree roots are up slightly from the previous year. CLTWater continues to utilize a robust tree root control program.

Mainline blockages, by any cause and including those unrelated to overflows, have increased from 102 in fiscal year 2021 to 106 in fiscal year 2022. The good news is that 27 of the mainline blockages were found through SmartCover sensors and several were in off-street sewer lines that would have become SSOs if not found by staff.

Wipes, even 'flushable' wipes, and other rags account for several blockages leading to spills. These are typically categorized as "Debris In The Line," which also includes rocks, gravel, etc. Wipes related spills are typically in wastewater pipes serving multi-family (apartments, condos) and institutions (hospitals, nursing facilities, schools, daycares etc.).

The graphic is only one-time actual cleanings and doesn't include multiple cleanings.

Fiscal Year 2022 Overflows by Primary Cause



Grease and other blockages that lead to sewer overflows are cleared by CLTWater crews using various cleaning methods, including mechanical rodders and truck-mounted water jets. The spilled wastewater can sometimes be captured and pumped back into the sewer system. After cleaning, if follow up CCTV discovers damaged pipe, a repair is initiated based on CLTWater's "Find and Fix" protocols.

CLTWater Rapid Response Crews are quick to respond when notified of a possible spill. Crews responded to more than 91.9 percent of the spills within 60 minutes and 99.4 percent of the spills within 120 minutes. The average for all response was 27.91 minutes. The state standard for response is 120 minutes or less.

Field Operations – Critical Assets Group

Regular inspections are performed by Field Operation - Critical Assets group which was established to inspect all high priority and vulnerable lines. The Critical Assets group has expanded their inspection responsibilities to include additional pipes not previously identified as critical but have become critical due to streambank erosion. Additionally, pipes installed after 2007, not included in an evaluation of critical infrastructure during a NCDEQ Collection Permit renewal, have been identified and added to the inspections. As part of a collaboration effort with the Mecklenburg County Water Quality group numerous stream bank erosion problems have been identified threatening sanitary sewer lines. A

contract for streambank restoration, which protects these sanitary lines, was established several years ago and has been renewed. The Critical Assets team maintains 289 SmartCover level sensors strategically placed in areas with a history of SSOs. Twenty-seven mainline blockages were found and resolved before they turned into SSOs in FY2022. The cost to maintain the Smart Covers is more than $1 million annually but reduces the significantly higher cost of adding additional staff and cleaning equipment.

Critical asset crews also continue to use a drone to inspect previously inaccessible locations and to assist with streambank inspections.

Wastewater Treatment Plant Challenges

Charlotte Water's wastewater treatment plants met 99.99 percent of all discharge limit tests set forth by our NPDES permits. Staff continue to improve maintenance capabilities and overall performance. Major rehabilitation and improvement projects help maintain compliance.

Mallard Creek WRF (Mallard) was issued a Notice of Violation (NOV) by the North Carolina Department of Environmental Quality (NCDEQ) for exceeding the quarterly chronic toxicity limit for their initial test of the quarter conducted in August 2021. The toxicity report provided by the subcontract lab indicated that the test narrowly failed. The failure was not due to mortality of the test organisms but instead due to the lack of reproduction of the test organisms in the laboratory setting. All other parameters monitored at Mallard were within normal ranges.

As required by Mallard's NPDES permit, Mallard performed two consecutive months of additional sampling in September and October of 2021, and both tests passed. Although Mallard received a NOV for their failure of the initial test of the quarter, Mallard's two consecutive months of sampling returned Mallard back to compliance with the quarterly requirement for toxicity in Mallard's permit. Given that the reproduction of test organisms in the laboratory are not necessarily performance-based indicators of wastewater treatment and given Mallard's ultimate compliance with their quarterly permit requirement, CLTWater is considered 100% compliant for the purposes of the NACWA Peak Performance Awards.

Charlotte Water System Protection

CLTWater System Protection operates within CLTWater's service area to enforce federal, state, and local regulations pertaining to discharges to the sanitary sewer, including protection of workers and treatment processes from pollutants harmful to people or the environment. System Protection includes the Industrial Pretreatment Program and the Commercial Source Program.

The Pretreatment Program identifies, permits, and regulates industrial users and others to keep unsuitable discharges out of the wastewater treatment plants. The Commercial Source Program, also referred to as Flow Free, inspects and regulates commercial users,

such as food service establishments, to keep unsuitable discharges such as fats, oils and grease out of the collection system and wastewater treatment plants.

While industrial and commercial compliance is extremely high, identifying sources of potentially harmful discharges is an ongoing challenge. In fiscal year 2022, the Trunkline Monitoring program continued, enabling CLTWater's System Protection and Water Quality staff to closely observe what industrial, institutional, and commercial customers discharge to the wastewater treatment plants, identify potential problem areas, and protect the collection system, wastewater line workers, treatment plants and the environment.

- There were over 140 industrial inspections and site visits in the past fiscal year. As part of the Commercial Source program, food service establishments and other grease producing businesses are identified and inspected on an annual basis. Compliance is also monitored using a document tracking software system.
- During fiscal year 2022 the Commercial Source program continued their outreach program specifically focused on multi-family housing properties.
- CLTWater honored 16 local companies with Environmental Excellence Awards in fiscal year 2021 for compliance during calendar year 2020 including:
  - 5 Platinum recipients for at least five consecutive years of Gold level compliance and reporting,
  - 3 Gold recipients for 100% compliance with permit limits and reporting, and
  - 8 Silver recipients for 90% compliance with permit limits and 100% compliance with reporting.
- CLTWater recorded 290 industrial permit limit violations for effluent samples collected by Significant Industrial Users (SIU) during the past fiscal year, resulting in a Notice of Violation, Notice of Non-Compliance, Administrative Order, or similar assessment.
- 27 Notices of Violation with Civil penalties were assessed to users during the fiscal year for permit limit exceedances and other violations.

In November of 2021 CLTWater began a collaborative permitting program with our local brewery community. The goal of the program is to ensure that our sanitary sewer system continues to perform properly and allows the brewers to keep producing the best beer possible. Working with the Charlotte Area Brewers Alliance and representatives from five area breweries, a local brewery permit program was developed and put into place on July 1, 2022. The program is based on Best Management Practices and focus on low cost for the brewers and compliance assistance from CLTWater.

Wastewater Capacity Needs

Charlotte Water is in the design and permitting phase for its sixth major WWTP, the Stowe Regional Water Resources Recovery Facility (WRRF), and plans to have Phase 1 of the WRRF online in 2026. Phase 2 will be triggered when McAlpine WWTP ADF reaches 70% capacity. Several conveyance projects associated with the development of the Stowe Regional WRRF will change the current WWTP service area delineation. Two new pump stations will be built

to allow Charlotte Water to support the region with wastewater service by conveying wastewater from the City of Mount Holly and City of Belmont in Gaston County. The pump stations will pump wastewater under the Catawba River to the Charlotte Water wastewater system. The agreements between Charlotte Water, Mount Holly, and Belmont, are interlocal agreements (ILA) for wholesale wastewater conveyance and treatment.

In 2007 a study of the McAlpine, Irwin and Sugar Creek basins was completed to help identify future wastewater treatment capacity needs through 2030. Projects at the Irwin Creek and Sugar Creek WWTPs were completed recently, bringing the reliable treatment capacity up to 15 and 16 MGD, respectively. Significant flow and load reduction at the McAlpine WWTP will be accomplished by converting the Long Creek Lift Station into the Stowe Regional WRRF, allowing wastewater flows from the western part of Mecklenburg County to be treated in their native watershed basin.

Charlotte Water's Wastewater System Master Plan (WWSMP) is a comprehensive planning effort to evaluate systemwide needs. This planning effort will provide a guiding framework and vision for system performance as well as a capital expenditure roadmap to ensure priorities are addressed in a cost-effective manner. The WWSMP completion is expected to be in Fall 2022.

Major studies of the Mallard and McDowell sewer basins have been completed and provide recommendations to address existing collection system and treatment capacity issues. In accordance with the recommendation from the Mallard basin study, work is well underway to expand the Mallard Creek Water Reclamation Facility (WRF) capacity from 12 to 13.1 MGD by December 2022 with additional phases of expansion to follow. Mallard WRF Phase 1 expansion will bring capacity up to 16 MGD in 2027. Improvements to reliable capacity at McDowell Creek WWTP are expected to begin within the next five years.

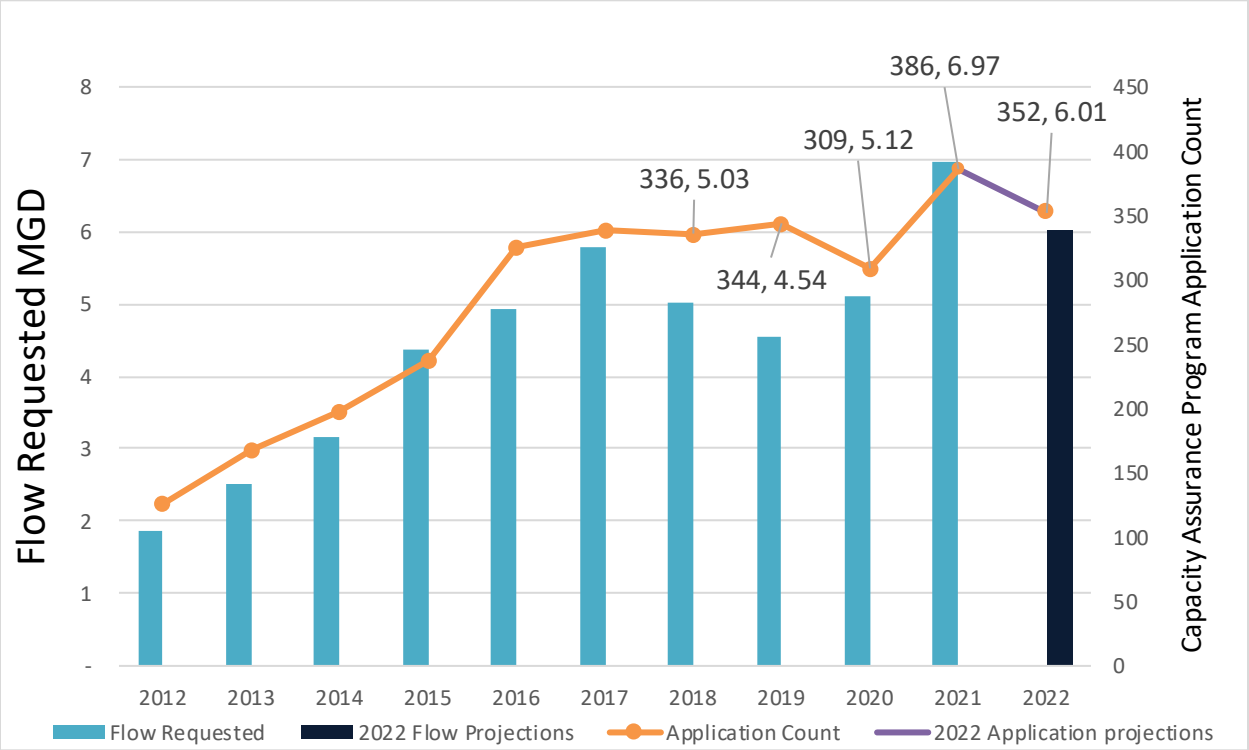
In 1990, Charlotte Water pursued a study to identify service areas for which low pressure sanitary sewer (LPSS) is the most cost-efficient and viable wastewater collection option. The resulting Lake Area Study (LAS) is in the process of being updated now to capture development and system configuration changes occurring over the intervening 30 years. It will be completed in 2023.

CLTWater's Capacity Assurance Program (CAP) was implemented on January 1, 2009. CAP helps CLTWater prevent sanitary sewer overflows (SSOs) that could be caused by adding too many customers' wastewater flow to an existing pipe. Developers are encouraged to apply for a CAP review during the early stages of requesting building permits or rezoning. This review process is performed at no cost to the applicant. Engineers analyze hydraulic models, past spills in the area and other field data to verify that there is adequate capacity in the pipes downstream. If no major sewer capacity limitations are found during the review, applications are generally approved in 30 days. Some reviews lead to identification of capital pipeline projects to improve the service level to our current customers as well as accommodate projected development.

Examples of projects identified from the CAP reviews are mentioned on page 6.

Below graphic is calendar year instead of fiscal year and 2022 is January through June 30th.

2022 Capacity Assurance Program & Donated Projects Application and Flow Request



III. Notification

Sanitary sewer overflow and wastewater treatment plant details are included in Sections V and VI.

This report is available to the users or customers of this system by visiting http://charlottewater.org. Printed copies are available at the Charlotte-Mecklenburg Government Center at 600 E. Fourth Street, Charlotte, NC 28202, Charlotte Water buildings at 4222 Westmont Drive, Charlotte, NC 28217 and at 5100 Brookshire Boulevard, Charlotte, NC 28216. Customers of this system will receive a summary version of this report and will be notified of the availability of this comprehensive version via a bill insert in the September water bill. A news release will be issued to local media outlets. In addition, the summary version will be translated into Spanish and advertised during the month of September in a regional Spanish-speaking newspaper. The Spanish version will also be on the Charlotte Water website.

IV. Certification

I certify under penalty of law that this report is complete and accurate to the best of my knowledge. I further certify that this report has been made available to the users or customers of the named system and that those users have been notified of its availability.

Angela Charles 8/18/22

Angela Charles, Director — Date
Charlotte Water

V. Listing of Sewer Spills

The following is a list of spills (in gallons) from the public wastewater system that occurred between July 1, 2021 and June 30, 2022.

Date	Volume (Gallons)	Volume to Surface Water	Surface Water Name	Fish Kill?	Address	Primary Cause
7/5/2021	32.5	0	McAlpine Creek	No	2022 East Barden Rd	Pipe Failure
7/12/2021	285	142.5	Four Mile Creek	No	10418 Lady Grace Ln	Grease
7/12/2021	180	180	Lake Norman	No	17501 Paradise Cove Ct, Cornelius	Other - Contractor Construction Damage
7/12/2021	195	0	Gar Creek	No	7214 Old Plank Rd	Other - Contractor Construction Damage
7/16/2021	847,000	847,000	Paw Creek	Yes	8924 Old Dowd Rd	Other
7/18/2021	450	200	Upper Little Sugar Creek	No	6351 Countryside Dr	Grease
7/22/2021	1375	1375	Six Mile Creek	No	8706 Darcy Hopkins Dr	Vandalism
8/10/2021	755	755	Irwin Creek	No	1301 Mint St	Grease
8/13/2021	1800	1000	Lower Little Sugar Creek	No	3814 Fircrest Dr	Vandalism
8/18/2021	300	0	Irwin Creek	No	1301 S Mint St	Debris In Line
8/19/2021	515	515	Stowe Branch	No	11000 Shopton Rd W	Grease
8/23/2021	42	0	Lower Little Sugar Creek	No	4620 Hidden Valley Rd	Debris In Line
8/23/2021	132	0	McAlpine Creek	No	9100 Monroe Rd, 28212	Debris In Line
8/24/2021	1449	1449	Four Mile Creek	No	10209 Crestwood Dr	Other - Contractor Construction Damage
8/25/2021	1540	1540	Briar Creek	No	2630 E 7th St	Grease
8/25/2021	2660	2660	Paw Creek	No	6600 Wilkinson Bv	Debris In Line

8/26/2021	94	24	Lake Norman	No	16607 Jetton Rd, Cornelius	Other - Contractor Construction Damage
8/29/2021	650	0	Reedy Creek	No	8044 Shiny Meadow Ln	Debris In Line
8/30/2021	245	0	Six Mile Creek	No	10810 Chamberlain Hall Ct	Roots
8/30/2021	80	0	Briar Creek	No	1524 Shamrock Dr	Pipe Failure
9/4/2021	300	300	Campbell Creek (McAlpine)	No	7636 Dorn Cr	Roots
9/7/2021	900	900	Upper Little Sugar Creek	No	1914 N Tryon St	Pipe Failure
9/16/2021	345	345	Four Mile Creek	No	10624 Bryony Ct	Grease
9/20/2021	570	570	Upper Little Sugar Creek	No	2420 N Brevard St	Pipe Failure
9/25/2021	60	0	Campbell Creek (McAlpine)	No	5531 Grafton Pl	Debris In Line
9/28/2021	75	50	Lake Norman	No	18605 Peninsula Club Dr, Cornelius	Other - Contractor Construction Damage
9/29/2021	339	339	Briar Creek	No	5924 Ferndale Pl	Roots
10/10/2021	2720	2720	Beaverdam Creek	No	9925 Glenburn Ln	Other
10/14/2021	685	685	Irwin Creek	No	2112 Wilmore Dr	Debris In Line
10/16/2021	340	0	Briar Creek	No	1017 N Wendover Rd	Roots
10/18/2021	92	0	Briar Creek	No	938 Highland Mist Ln	Debris In Line
10/20/2021	66	0	McAlpine Creek	No	13146 Ballantyne Corporate Pl	Debris In Line
10/22/2021	600	600	Upper Little Sugar Creek	No	414 Faison Av	Pipe Failure
10/25/2021	153	0	Briar Creek	No	6401 Morrison Bv	Roots
10/28/2021	300	300	Upper Little Sugar Creek	Yes	1200 W Sugar Creek Rd	Grease
10/29/2021	40	0	Taggart Creek (Sugar)	No	3700 Morris Field Dr	Roots

11/2/2021	360	180	Lake Wylie	No	17502 Terryglass Ln	Other - Contractor Construction Damage
11/3/2021	94	0	Briar Creek	No	411 N Wendover Rd	Debris In Line
11/3/2021	2100	2100	Briar Creek	No	342 Wendover Hill Ct.	Pipe Failure
11/4/2021	561	280	McAlpine Creek	No	438 Mammoth Oaks Ln	Grease
11/16/2021	111	111	McMullen Creek	No	2761 Loch Ln	Roots
11/20/2021	68	0	Reedy Creek	No	7932 Saddleview Ct	Roots
11/20/2021	191	0	Lake Norman	No	17311 Belle Isle Dr, Cornelius	Pipe Failure
11/25/2021	206	0	Lower Little Sugar Creek	No	831 E 37th St	Debris In Line
11/29/2021	594	594	Briar Creek	No	2328 Kingsbury Dr	Pipe Failure
11/29/2021	540	540	McAlpine Creek	No	8446 E Independence Bv	Grease
11/30/2021	350	350	Torrence Creek	No	319 Hillcrest Dr, Huntersville	Roots
12/1/2021	315	0	Steele Creek	No	10730 S Tryon St	Pipe Failure
12/2/2021	660	330	Torrence Creek	No	510 Mt Holly-Huntersville Rd, Huntersville	Debris In Line
12/3/2021	783	783	Briar Creek	No	2205 Chatham Ave	Pipe Failure
12/3/2021	835	835	Long Creek	No	140 Margaret Turner Rd	Roots
12/4/2021	382	382	Stewart Creek (Irwin)	No	2420 Crestview Dr	Pipe Failure
12/5/2021	152	152	McAlpine Creek	No	7346 Kennington Ct	Roots
12/6/2021	108	0	Toby Creek	No	8410 Knollwood Cr	Roots
12/13/2021	690	0	Lower Little Sugar Creek	No	413 Tyvola Rd	Pipe Failure
12/13/2021	126	0	McMullen Creek	No	11109 Timber Hill Ct	Roots
12/14/2021	2850	1425	Stewart Creek (Irwin)	No	1020 Swearngan Ridge Ct	Vandalism
12/15/2021	60	0	Lower Little Sugar Creek	No	810 Seneca Pl	Other - Contractor Construction Damage

12/17/2021	2695	2695	Lake Norman	No	20333 Queensdale Dr, Cornelius	Grease
12/22/2021	420	420	Upper Little Sugar Creek	No	701 Dawn Cr	Roots
12/27/2021	466	466	Clems Creek	No	15519 Prescott Hill Av	Pipe Failure
12/28/2021	760	760	Clarke Creek	No	14022 Bernardy Ln	Grease
12/28/2021	160	0	Campbell Creek (McAlpine)	No	5917 Albemarle Rd	Grease
12/28/2021	320	320	McAlpine Creek	No	5142 Red Cedar Ln	Debris In Line
12/30/2021	630	315	Steele Creek	No	12515 Wandering Brook Dr	Debris In Line
12/31/2021	450	450	Steele Creek	No	11407 Antebellum Dr	Roots
1/3/2022	200	200	Four Mile Creek	No	4316 Old Course Dr	Grease
1/3/2022	1650	1650	McKee Creek	No	9839 Oak Barrel Ln	Vandalism
1/4/2022	95	0	Six Mile Creek	No	10941 Kilkenny Dr	Debris In Line
1/5/2022	420	420	Taggart Creek (Sugar)	No	2600 Queen City Dr	Grease
1/6/2022	325	325	Upper Little Sugar Creek	No	2100 N Davidson St	Debris In Line
1/9/2022	670	670	Reedy Creek	No	8505 Highgate Dr	Other
1/11/2022	600	600	Long Creek	No	5026 Twin Dr	Other - Contractor Construction Damage
1/13/2022	700	700	McDowell Creek	No	15531 Sullivan Glen Wy, Huntersville	Roots
1/18/2022	243	243	Lake Norman	No	18300 Shearwater Ln, Cornelius	Other
1/18/2022	55	0	Irwin Creek	No	2424 Statesville Av	Debris In Line
1/20/2022	1350	1350	Upper Little Sugar Creek	No	4820 South Bv	Grease
1/20/2022	260	0	McMullen Creek	No	6226 Louis Patrick Ln	Other
1/20/2022	810	800	McAlpine Creek	No	8825 Driftwood Commons Ct, Mint Hill	Grease

1/21/2022	225	200	Campbell Creek (McAlpine)	No	4046 Southgate Dr	Debris In Line
1/23/2022	560	450	Briar Creek	No	1300 Central Av, 28205	Grease
1/25/2022	171	0	Lower Little Sugar Creek	No	1900 Randolph Rd	Grease
1/27/2022	60	0	Paw Creek	No	8213 Tuckaseegee Rd.	Roots
1/28/2022	950	950	Cane Creek	No	13510 Bryton Gap Bv, Huntersville	Grease
1/31/2022	1470	1470	Stewart Creek (Irwin)	No	343 S Crigler St	Grease
2/1/2022	62	0	Campbell Creek (McAlpine)	No	7400 E W T Harris Bv	Other
2/2/2022	500	0	Stevens Creek	No	15714 Thompson Rd	Pipe Failure
2/2/2022	40	0	McAlpine Creek	No	100 Holly Ln	Roots
2/5/2022	120	0	Briar Creek	No	1942 Willie Worrell Dr	Grease
2/14/2022	40	0	Mallard Creek	No	9803 Steed Ct	Roots
2/16/2022	52	0	Stewart Creek (Irwin)	No	2047 English Dr	Roots
2/19/2022	600	0	Beaverdam Creek	No	9025 Windygap Rd	Pump Station Equipment Failure
2/21/2022	530	530	Lake Norman	No	21300 Davidson St, Cornelius	Debris In Line
2/25/2022	122	61	Mallard Creek	No	4033 Windwood Cr	Grease
2/25/2022	146	146	Four Mile Creek	No	316 E Matthews St, Matthews	Other - Contractor Construction Damage
2/25/2022	200	50	Lake Wylie	No	17507 Snug Harbor Rd	Other - Contractor Construction Damage
2/25/2022	56	0	McDowell Creek	No	7823 Garnkirk Dr, Huntersville	Roots
2/28/2022	225	225	Sugar Creek	No	9023 Landsburg Ln	Roots
3/1/2022	246	0	Upper Little Sugar Creek	No	1200 W Sugar Creek Rd	Grease

3/2/2022	84	84	Lake Norman	No	18246 Mainsail Pointe Dr, Cornelius	Other - Contractor Construction Damage
3/2/2022	267	267	Irwin Creek	No	2508 Starita Rd	Roots
3/2/2022	120	120	Lake Norman	No	18400 Peninsula Club Dr, Cornelius	Other - Contractor Construction Damage
3/7/2022	770	770	Dairy Branch	No	270 Iverson Wy	Pipe Failure
3/7/2022	11240	11240	Kings Branch	No	6035 Tyvola Glen Cir	Pipe Failure
3/8/2022	164	0	Irvins Creek	No	1102 Kale Wood Dr, Matthews	Roots
3/9/2022	550	275	McAlpine Creek	No	1812 Woodberry Rd	Debris In Line
3/9/2022	815	815	Briar Creek	No	2200 Roswell Av	Other - Contractor Construction Damage
3/13/2022	116	0	McMullen Creek	No	1321 Ferncliff Rd	Roots
3/15/2022	484,075	484,075	Long Creek	No	4100 Oakdale Rd	Pipe Failure
3/16/2022	2400	1200	Stewart Creek (Irwin)	No	517 Tallwood Ct	Roots
3/19/2022	265	265	McAlpine Creek	No	14444 W S Lee Ct	Debris In Line
3/20/2022	174	174	Upper Little Sugar Creek	No	6507 Elgywood Ln	Grease
3/20/2022	150.5	0	Irwin Creek	No	1300 Eureka St	Other - Contractor Construction Damage
3/21/2022	1200	600	McIntyre Creek	No	3654 Trull St	Grease
4/1/2022	1860	1860	Irwin Creek	No	3600 Crestridge Dr	Grease
4/1/2022	123	0	Walkers Branch	No	11331 Wagonford Ln	Debris In Line
4/4/2022	43	0	McMullen Creek	No	11109 Timber Hill Ct	Pipe Failure
4/5/2022	1375	1000	Irwin Creek	No	2908 Barringer Dr	Debris In Line
4/11/2022	300	300	Campbell Creek (McAlpine)	No	5734 Settlemyer Ct	Debris In Line

4/12/2022	630	400	Lake Norman	No	17801 Spinnakers Reach Dr, Cornelius	Other - Contractor Construction Damage
4/12/2022	1200	1000	Rocky River	No	13100 Robert Walker Dr, Davidson	Roots
4/18/2022	552	552	Taggart Creek (Sugar)	No	3315 Scott Futrell Dr	Debris In Line
4/22/2022	4620	4620	Beaverdam Creek	Yes	9925 Barrands Ln	Debris In Line
4/24/2022	175	0	Caldwell Creek	No	10051 Caldwell Depot Rd, Cornelius	Roots
4/24/2022	1200	1000	Four Mile Creek	No	1252 Rockwell View Rd, Matthews	Roots
5/2/2022	450	450	Neal Branch	No	11411 Whimbrel Ct	Debris In Line
5/4/2022	245	245	Upper Little Sugar Creek	No	611 Patterson St	Grease
5/8/2022	875	875	Briar Creek	No	1341 Briar Creek Rd	Pipe Failure
5/11/2022	38	0	Four Mile Creek	No	9542 Four Mile Creek Rd	Roots
5/12/2022	216	0	Studman Branch	No	14211 Fiddlers Run Dr	Other - Contractor Construction Damage
5/13/2022	60	0	Irwin Creek	No	1301 Carrier Dr	Debris In Line
5/15/2022	240	240	Lower Little Sugar Creek	No	2615 Wensley Dr	Roots
5/15/2022	4680	4680	McAlpine Creek	No	6800 Fisher's Farm Ln	Grease
5/16/2022	930	930	Briar Creek	No	3541 Randolph Rd	Grease
5/18/2022	309	0	McMullen Creek	No	10642 Tigerton Lane	Grease
5/20/2022	23	0	Reedy Creek	No	8717 Woodhill Manor Ct	Debris In Line
5/20/2022	480	480	Lower Little Sugar Creek	No	201 E 7th St	Debris In Line
5/28/2022	60	0	Lake Wylie	No	18527 Lahaina Ln	Other
5/30/2022	955	955	Irwin Creek	No	540 Pressley Rd	Other
6/2/2022	2104.5	2104.5	Upper Little Sugar Creek	No	1118 E 3rd St	Pipe Failure

6/4/2022	110	0	Upper Little Sugar Creek	No	301 S Davidson St	Roots
6/6/2022	124	0	Lake Wylie	No	17230 Sand Bank Rd	Pipe Failure
6/6/2022	1360	1360	Toby Creek	No	325 W Rocky River Rd	Debris In Line
6/8/2022	320	160	Walkers Branch	No	15005 Cane Field Dr	Debris In Line
6/9/2022	825	412.5	Gum Branch	No	6126 Brookshire Bv	Roots
6/9/2022	220	0	Catawba River	No	19032 Casual Cay Lane, Cornelius	Other
6/9/2022	177	0	McAlpine Creek	No	6061 Acadian Woods Dr	Roots
6/13/2022	70	0	Irwin Creek	No	2004 Weyland Av	Grease
6/15/2022	600	600	Lake Norman	No	19632 Meta Rd, Cornelius	Other - Contractor Construction Damage
6/16/2022	470	0	McMullen Creek	No	6038 Sharon Hills Rd	Roots
6/16/2022	796	0	Lower Mountain Island Lake	No	12112 Haymarket Rd	Other - Contractor Construction Damage
6/18/2022	86	0	Studman Branch	No	17701 Snug Harbor Rd	Pipe Failure
6/20/2022	214	0	Lake Norman	No	19601 Bustle Rd, Cornelius	Other - Contractor Construction Damage
6/21/2022	350	350	Edwards Branch	No	4610 Central Av	Grease
6/22/2022	270	130	Mallard Creek	No	6811 Trimbach Wy	Grease
6/24/2022	1160	580	Taggart Creek (Sugar)	No	6900 Wilkinson Bv	Other - Contractor Construction Damage
6/27/2022	790	790	Kings Branch	No	116 Rountree Rd	Debris In Line
6/28/2022	205	0	Upper Little Sugar Creek	No	1426 E Morehead St	Grease
6/29/2022	900	900	Dairy Branch	No	301 E Tremont Av	Other – Construction Plug
6/29/2022	565	565	Four Mile Creek	No	6802 Guinevere Dr	Roots

6/30/2022	935	468	Lower Little Sugar Creek	No	132 Kenmore Dr, Pineville	Pipe Failure

TOTAL NUMBER OF FY2022 COLLECTION SYSTEM SPILLS: 161

Volume Safely Collected, Treated & Discharged During Fiscal Year 2022: 29,139,000,000 Gallons (99.99%)
Volume Spilled: 1,435,835.50 Gallons

VI. Permit Compliance and Reporting Violations, by plant

Ashe Plantation WWTP -- NPDES Permit #NC0065749

MONTH	PERMIT LIMIT VIOLATIONS	REPORTING REQUIREMENT VIOLATIONS
July, 2021	None	None
August, 2021	None	None
September, 2021	None	None
October, 2021	None	None
November, 2021	None	None
December, 2021	None	None
January, 2022	None	None
February, 2022	None	None
March, 2022	None	None
April, 2022	None	None
May, 2022	None	None
June, 2022	None	None

Irwin Creek WWTP -- NPDES Permit #NC0024945

MONTH	PERMIT LIMIT VIOLATIONS	REPORTING REQUIREMENT VIOLATIONS
July, 2021	None	None
August, 2021	None	None
September, 2021	None	None
October, 2021	None	None
November, 2021	None	None
December, 2021	None	None

January, 2022	None	None
February, 2022	None	None
March, 2022	None	None
April, 2022	None	None
May, 2022	None	None
June, 2022	None	None

Mallard Creek WRF -- NPDES Permit #NC0030210

MONTH	PERMIT LIMIT VIOLATIONS	REPORTING REQUIREMENT VIOLATIONS
July, 2021	None	None
August, 2021	Chronic Whole Effluent Toxicity P/F	None
September, 2021	None	None
October, 2021	None	None
November, 2021	None	None
December, 2021	None	None
January, 2022	None	None
February, 2022	None	None
March, 2022	None	None
April, 2022	None	None
May, 2022	None	None
June, 2022	None	None

McAlpine Creek WWMF -- NPDES Permit #NC0024970

MONTH	PERMIT LIMIT VIOLATIONS	REPORTING REQUIREMENT VIOLATIONS
July, 2021	None	None
August, 2021	None	None
September, 2021	None	None
October, 2021	None	None
November, 2021	None	None
December, 2021	None	None
January, 2022	None	None
February, 2022	None	None
March, 2022	None	None

April, 2022	None	None
May, 2022	None	None
June, 2022	None	None

McDowell Creek WWTP -- NPDES Permit #NC0036277

MONTH	PERMIT LIMIT VIOLATIONS	REPORTING REQUIREMENT VIOLATIONS
July, 2021	None	None
August, 2021	None	None
September, 2021	None	None
October, 2021	None	None
November, 2021	None	None
December, 2021	None	None
January, 2022	None	None
February, 2022	None	None
March, 2022	None	None
April, 2022	None	None
May, 2022	None	None
June, 2022	None	None

Oxford Glen Plantation WWTP -- NPDES Permit #NC0065384
(Facility was decommissioned in June 2021 and was demolished in August 2021)

MONTH	PERMIT LIMIT VIOLATIONS	REPORTING REQUIREMENT VIOLATIONS
July, 2021	None	None
August, 2021	None	None
September, 2021	Plant Offline	Plant Offline
October, 2021	Plant Offline	Plant Offline
November, 2021	Plant Offline	Plant Offline
December, 2021	Plant Offline	Plant Offline
January, 2022	Plant Offline	Plant Offline
February, 2022	Plant Offline	Plant Offline
March, 2022	Plant Offline	Plant Offline
April, 2022	Plant Offline	Plant Offline

May, 2022	Plant Offline	Plant Offline
June, 2022	Plant Offline	Plant Offline

Sugar Creek WWTP -- NPDES Permit #NC0024937

MONTH	PERMIT LIMIT VIOLATIONS	REPORTING REQUIREMENT VIOLATIONS
July, 2021	None	None
August, 2021	None	None
September, 2021	None	None
October, 2021	None	None
November, 2021	None	None
December, 2021	None	None
January, 2022	None	None
February, 2022	None	None
March, 2022	None	None
April, 2022	None	None
May, 2022	None	None
June, 2022	None	None