

WASTEWATER PERFORMANCE REPORT

JULY 1, 2016 - JUNE 30, 2017

CHARLOTTE
WATER



charlottewater.org



[@cltwater](https://twitter.com/cltwater)



[/CharlotteWater](https://www.facebook.com/CharlotteWater)



[CLTWaterBlog](http://CLTWaterBlog.com)

4222 Westmont Dr. Charlotte, NC 28217

I. General Information

Name of Regulated Entity and Responsible Person

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

Applicable Permits

There are seven 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	Michael Lingerfelt	704-336-2572
Mallard Creek WRF	NC0030210	Darrell DeWitt	704-547-0680
McAlpine Creek WWMF	NC0024970	Sandy Kim Neely	704-542-0736
McDowell Creek WWTP	NC0036277	Joseph Lockler	704-875-6443
Sugar Creek WWTP	NC0024937	William Allen	704-553-2124
Ashe Plantation WWTP	NC0065749	Jeremy Nance	704-634-3389
Oxford Glen WWTP	NC0063584	Jeremy Nance	704-634-3389

In addition to those five 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.

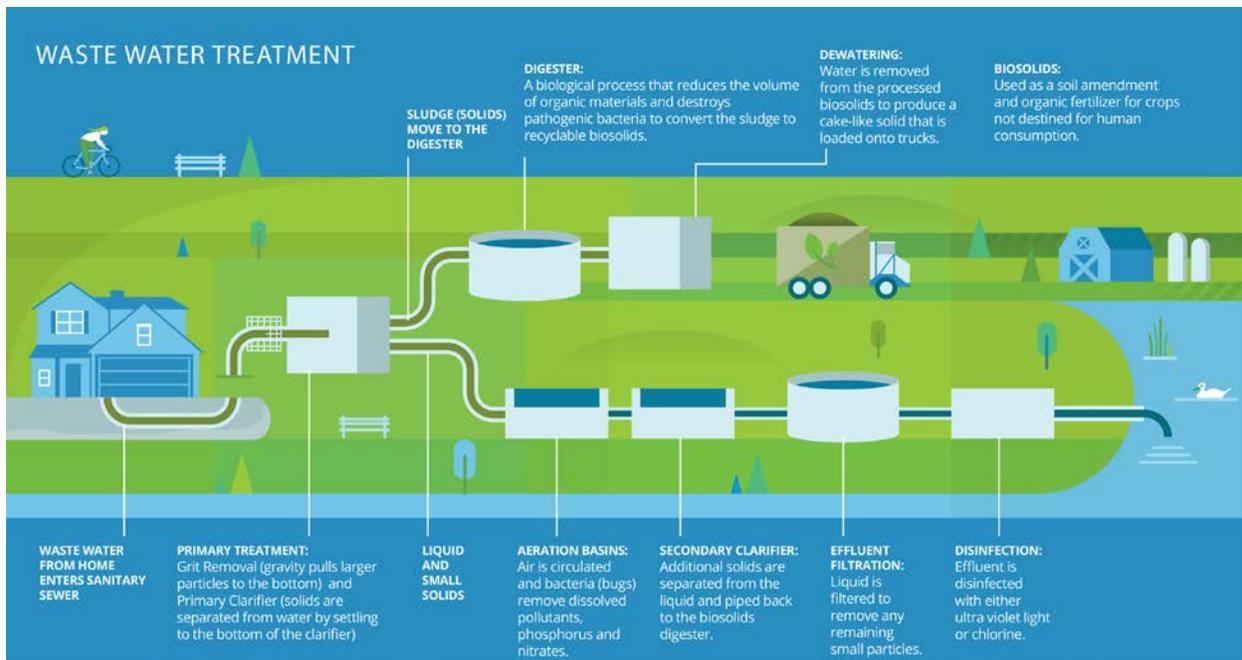
WW COLLECTION	NCDWQ Permit Number	ORC	Phone
4100 W. Tyvola Rd.	WQCS00001	Steven Wroblewski	704-432-2748

Description of collection and treatment systems

Charlotte Water (CLTWater) collects wastewater from approximately 298,651 households and businesses throughout the county. Wastewater is collected and directed (via gravity flow supported by sewage lift stations) to one of seven 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 million gallons of wastewater is treated and discharged each day from CLTWater plants. CLTWater contributes an average of 3.65 million gallons a day (MGD) to the Rocky River Plant. CLTWater also treats roughly 1.74 million gallons (part of the 79 mgd from Union County at CLTWater’s McAlpine Creek Plant.

More than 300 of CLTWater’s 912 employees work to maintain 4,288 miles of collection pipelines and 82 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 advanced 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. Disinfection reduces bacterial and pathogenic materials. Finally, the waste stream passes through granular filters to remove very small particles that may not have been removed through the settling process. The treated water is released to the stream.



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.

3. **Clarification**

Solids and grit and microorganisms settle out in large basins.

4. **Advanced Treatment**

Wastewater flows through granular filters to remove fine particles. Nutrient levels are reduced at McDowell and McAlpine Creek Wastewater Treatment Plants.

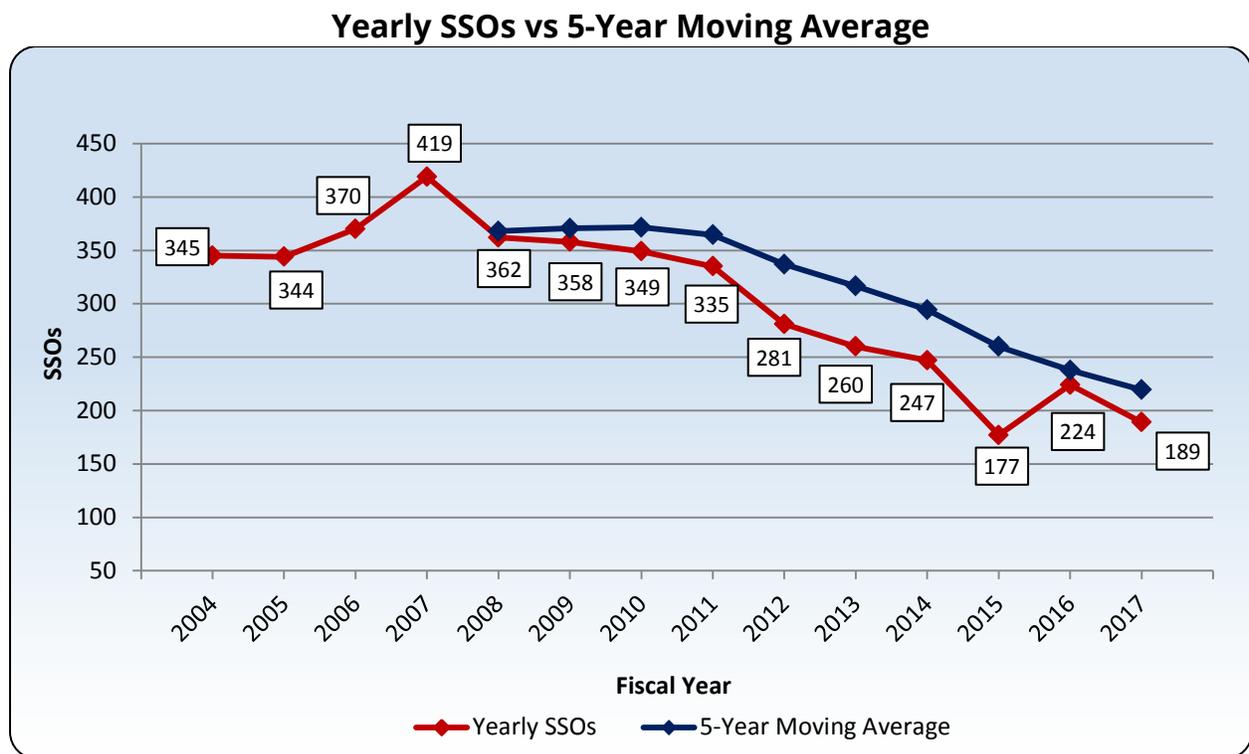
5. **Disinfection**

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

II. Summary of System Performance

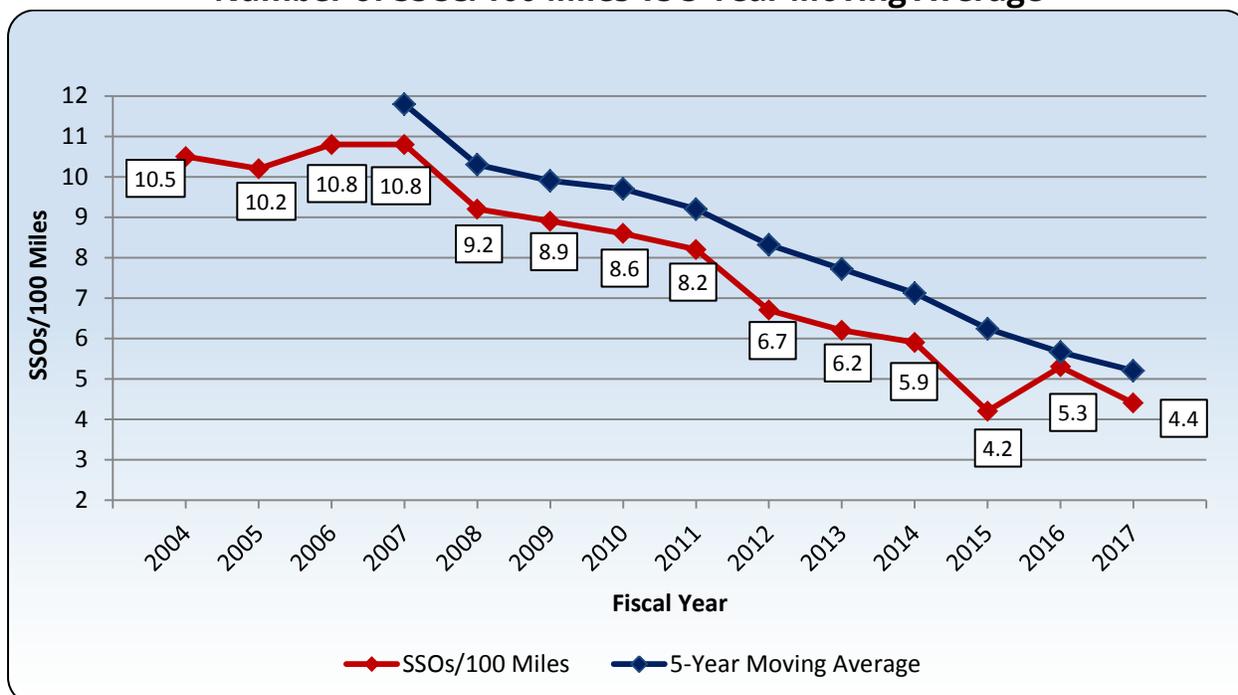
FY17 Performance

Charlotte Water successfully collected and treated 99.9995 percent of the more than 28.7 billion gallons of wastewater the community produced in the past fiscal year. There were 189 sanitary sewer overflows (SSOs) in our community, a decrease of 35 spills compared to the year before. An estimated 124,265.5 gallons spilled.



The number of spills per 100 miles of pipe continued to decline from 10.8 in 2007 to 4.4 spills in fiscal year 2017 as illustrated by the table on page 5.

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 311. CLTWater notifies media any time a sanitary sewer overflow results in 1,000 gallons or more reaching surface waters or reach recreational waters. A legal notice is posted in the Charlotte Observer when overflows of 15,000 gallons or more reach surface waters. Crews also use door hangers to notify customers when appropriate, which is a permit requirement.

This annual report includes all incidents where wastewater escaped out of a manhole or 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). Private spills and sewer backups inside homes are not included. The report summarizes spills (both reportable to the State and those escaping the sewer) 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 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 FY2017 even as it took numerous actions to prevent overflows and protect water quality through effective wastewater treatment.
- Our wastewater treatment plants met 99.98 percent of all permitted discharge limits.
- All five major wastewater treatment plants earned Peak Performance Awards from the National Association of Clean Water Agencies (NACWA) for the calendar year ending 2016. 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 fifth Platinum Award for nine consecutive years of perfect compliance. Sugar Creek Wastewater Treatment Plant, Mallard Creek Water Reclamation Facility, and McDowell Creek Wastewater Treatment Plant earned a Gold Award for zero permit violations in a one year period. Irwin Creek Wastewater Treatment earned the Silver Award for five or fewer violations in a one year period. Over 6,500 compliance tests were conducted during the 2016 calendar year. CLTWater also recently purchased the Ashe Plantation and Oxford Glen wastewater treatment plants in calendar 2016 and will be submitting NACWA Award applications for these facilities next year.
- 15.75 miles of wastewater pipe and 287 manholes were rehabilitated or replaced.
- 321 miles of wastewater pipe were treated with root control chemicals.
- 1088.9 miles of wastewater lines were cleaned (including some multiple cleanings in the same location) by CLTWater Field Operations Staff and an additional 143 miles of pipe were cleaned by contractors.
- 299 wastewater service connections were replaced.
- 106 miles of rights of way were cleared by contractors to maintain access to off-street sanitary wastewater pipes and to help prevent root intrusions. 48.5 miles were cleared by CLTWater staff.
- 327 miles of pipe were closed circuit television recorded (CCTV) for inspection by CLTWater staff and contractors.
- There are 82 Wastewater Lift Stations serving the CLTWater service area. Staff performed 162 preventative maintenance/electrical tasks for a total of 3426 work hours. This does not include daily/weekly station checks, wet well cleaning, emergency generator testing, or emergency/routine repairs. In fiscal year 2017

Charlotte Water accepted two (2) developer donated stations (Huntley Glen in Pineville and Davidson Hall in Davidson). Also as part of the new Steele Creek Lift Station project, currently being constructed, the Carolina Place Odor Control Facility was placed into service. This will help address odor issues in the Pineville area.

- Charlotte Water continues to replace the Steele Creek Pump Station and force main that conveys community wastewater to the nearest wastewater treatment plant in Pineville. This is an investment of \$44 million. This project is 65% complete.
- Construction of the Briar Creek Relief Sewer Project (Phase Three) began in 2016 and is 46% complete.
- Ayrley Gravity Sewer Replacement Phase 2 will start construction in August 2017. This is a \$2.5 million investment to serve the growing population in the South Tryon I-485 area.
- McAlpine Creek Wastewater Management Facility Plant and Potable/Non-Potable Water System Reliability Improvements started in fiscal year 2017. This is a \$6.5 million investment.
- This year, Charlotte Water completed construction on a system at McAlpine Creek Wastewater Treatment Plant that captures and converts methane gas (a byproduct of wastewater treatment) into a fuel for electricity production and useful heat. The Combined Heat and Power (CHP) system was an investment of \$4.6 million. A 20 year, zero-interest loan from the state's Clean Water State Revolving Fund (a federal Clean Water Act program that's been in operation since the late 1980's) financed the project. CLTWater is the first water/wastewater utility in North Carolina to build a CHP facility.



- 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.
- City staff inspected grease-handling facilities at 4,193 food service establishments and restaurants (not including follow-up inspections) to ensure proper grease disposal.
- Staff issued 134 Notice of Deficiencies (NOD) of which 96 returned to compliance and 38 are still under investigation.
- Staff issued five Notice of Violations (NOV).

- In total, 24 grease traps were installed by businesses to fulfill NOD requirements.
- The City continued its educational program to teach proper disposal of pipe-blocking menaces.
- Between September and December 2016 CLTWater advertised new FlowFree commercials. Below are the results of the advertising campaign:
 - WBTV & Bounce TV Advertisements = 248 ads run - 83.7% reach (969,946 individuals according to Nielson TV Households Charlotte region population of 1,168,610)
 - Time Warner Cable TV Advertisements = 1,599 ads - 35.8% reach (418,362 individuals) 5.5 times frequency 463.6
 - Pay-Per-Click = 165 unique visits
 - Banner Ads = 1,017 unique visits, 241,033 impressions
 - YouTube Pre Roll = 58,668 Unique Visits, 241,033 impressions
 - Digital Television = 37,483 unique visits, 171,000 impressions
- Inspectors mailed information to 734 customers near spill sites and handed out information to 1,246 customers in apartments / multi-family complexes.
- Staff conducted presentations to more than 1,046 children and adults. Multiple Earth Day events also provided opportunities to distribute FlowFree scrapers, pens and other items.
- CLTWater continues to use door-hangers specifically for maintenance personnel or property managers of apartment or multi-family complexes. This reinforces best management practices for prevention.
- Staff continues to provide bilingual door hangers and promotional items for property managers to give to new residents.

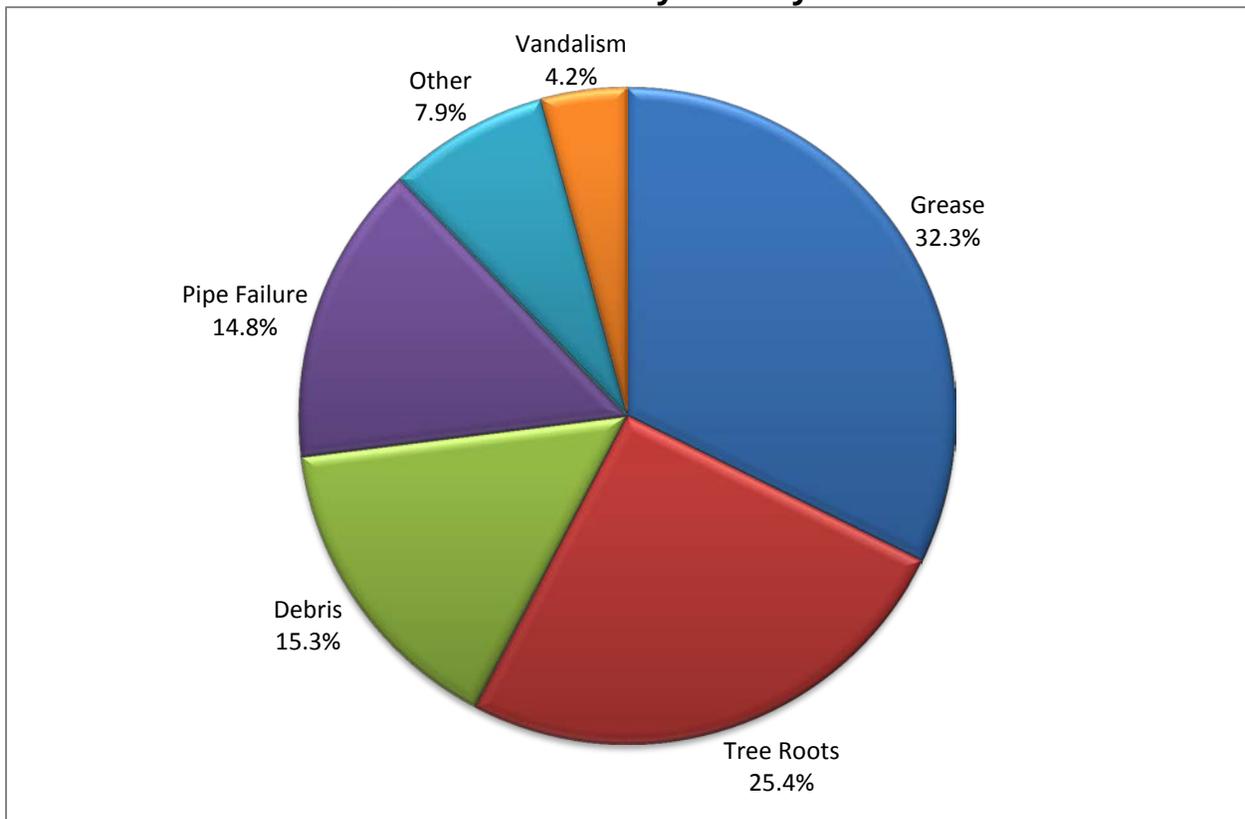
Continuing Challenges

Wastewater Collection Challenges

The greatest continuing wastewater challenge in this community – and in others across the U.S. – is sewage overflows. Of the 189 sewer spills that occurred, grease (fats, oils, grease, and other food leftovers) accounted for most of the sanitary

sewer overflows. While still the leading cause of overflows, grease was less than 50% for the fifth straight year. Grease has traditionally been the primary cause of 50-60% of spills. Other spill causes included the infiltration of tree roots into pipes, broken pipes, debris, and vandalism. Disposable wipes are also a growing cause of sewer spills.

FY 2017 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. If damaged pipe or other infrastructure is discovered it is repaired. The spilled wastewater can sometimes be captured and pumped back into the sewer system.

CLTWater Rapid Response Crews are quick to respond when notified of a possible spill. Crews responded to more than 91.5 percent of the spills within 60 minutes and 100 percent of the spills within 120 minutes. The average for all response was 29 minutes. The state standard for response is 120 minutes or less.

Wastewater Treatment Plant Challenges

Charlotte Water's wastewater treatment plants met 99.98 percent of all discharge limit tests set forth by our NPDES permits but our commitment is 100 percent compliance. Staff continues to improve maintenance capabilities and overall performance. Major rehabilitation and improvement projects help maintain compliance. Future upgrades and expansions are being added.

CLTWater had one permit violation in FY17. A fecal coliform violation occurred at Oxford Glenn WWTP on August 24, 2016. CLTWater had a fecal coliform result of 470 cfu/100ml. This exceeded our daily maximum limit of 400 cfu/100ml. An additional sample was collected after being notified of the exceedance and the result was 3 cfu/100ml. Please note that this limit of 400 cfu/100ml, as a daily maximum, is more stringent than the current water quality standard. CLTWater recent acquired this facility and has also just completed a NPDES permit renewal for this facility. Our new limit as a result of the permit renewal is 400 cfu/100ml as a weekly average. Charlotte Water's results from the week of August 22, 2016 would have been in compliance with our current limit of 400 cfu/100ml as a weekly average. Permit details are available at bottom of report.

There were two (2) incidents where water was released into the creek due to a power outage (20,730 gallons) and a valve failure (5,700 gallons). These were mostly treated wastewater that didn't complete full treatment. These are not violations. In both situations, operators quickly found and fixed the problem and notified North Carolina Department of Environmental Resources. After the initial response was complete, staff evaluated potential causes and solutions for each incident. Quick solutions were implemented and more in-depth / extensive solutions are identified as capital needs. No dead fish were found associated with these bypasses. The 26, 430 gallons that did not receive full treatment was significantly less than one percent (1%) of the 79 million gallons of water that is treated and safely returned to area creeks every day.

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 2017, the Trunkline Monitoring program-also 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 200 annual industrial inspections and site visits in the past fiscal year.
- As part of the industrial pretreatment program, food service establishments and other grease producing businesses are identified and inspected on an annual basis.
- CLTWater honored 29 local companies with Environmental Excellence Awards for FY17 including:
 - Four Platinum recipients for at least five consecutive years of Gold level compliance and reporting
 - Seventeen Gold recipients for 100% compliance with permit limits and reporting, and
 - Eight Silver recipients for 90% compliance with permit limits and 100% compliance with reporting
- CLTWater issued 233 industrial permit limit violations to Significant Industrial Users (SIU), which resulted in a Notice of Violation, Notice of Non-Compliance, Administrative Order, or similar assessments given to Significant Industrial Users in the past fiscal year.
- 23 Notices of Violation with Civil or Criminal penalties were assessed to users during the fiscal year for permit limit exceedances and other violations.

Union County Wastewater Treatment Agreement

Charlotte Water has an inter-local agreement with Union County that began in 2014 to provide contracted operation and maintenance of five Union County wastewater plants. Union County will continue to own the wastewater treatment plants, own

and operate the wastewater collection system (separate from the wastewater treatment plants), set rates, and collect user fees for their customers.

Illegal Dumping Incident

In fiscal year 2017, decontamination efforts of the Mallard Creek Wastewater Treatment Plant after the illegal PCB dumping event that occurred February 2014 continued. Charlotte Water staff worked with regulators and peers to design and implement decontamination plans that contribute to an industry standard for these types of treatment plant impacts. Currently Mallard Creek is in the final phase of a four phase process. The decontamination phase project includes training staff, procuring new equipment/parts, financial tracking, and creating project data tracking. The decontamination efforts at Mallard Creek will be completed August 2017. The total cost of the decontamination of the plant and equipment reached close to \$15 million. Further activity will take place at the McAlpine Wastewater Management Facility beginning this fall.

Although this event marked one of the worst contamination events in the utility's history, customers were never impacted mostly due to the staff's quick response during the event and Charlotte Water's strong commitment to protecting the environment.

Wastewater Capacity Needs

In 2007 a study of the McAlpine, Irwin and Sugar creek basins was completed to help identify our community's future wastewater treatment capacity needs through the year 2030. Recommendations from the study have resulted in the implementation of extensive reliability improvements projects at the Irwin, Sugar, and McAlpine Wastewater Treatment Plants. There are also studies for Mallard and McDowell Creek basins that are near completion.

In recent years CLTWater, Mount Holly, and Belmont entered into Memorandums of Understanding to create the partnership needed for a new, regional wastewater plant. CLTWater purchased 180 acres of land at a former Clariant industrial plant site along with the phosphorus and nitrogen discharge permit allocation associated with the industrial plant. The agreements and nutrient allocation purchase will facilitate compliance with the Lake Wylie nutrient TMDL while planning and construction of the regional plant progresses. An Environmental Impact Statement was completed with N.C. DEQ in March 2015. CLTWater submitted the NPDES

permit application for the new regional facility, which will treat about 12 mgd with a possible expansion to 25 mgd at a future date if necessary. We are in process of completing preliminary engineering report.

A Central Business District (CBD) Sanitary Sewer Modeling and Evaluation project was completed that included the CBD and surrounding areas and their projected growth out to 2040. This project provided an updated sanitary sewer model for assessing future development and their associated service connections. The evaluation portion identified improvement alternatives to meet future capacity of the CBD and developed a phased implementation plan considering capacity improvement triggers. Currently, there were two immediate pipeline needs identified, and those projects are moving toward design and installation.

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.

Some project examples identified from the CAP reviews include:

- Ayrley Gravity Sewer Replacement Phase 2 will start construction in August 2017. This is a \$2.5 million investment to serve the growing population in the South Tryon I-485 area.
- Doby Creek Sanitary Sewer Improvements is anticipated to be an \$11 million project with a completion in early 2019. These improvements are in the University City Blvd / I-85 area.
- Wilmore Drive / Park Avenue Sanitary Sewer Replacement is anticipated to start construction in January 2018. These projects are expected to finish by end of 3rd quarter 2019 at an estimated cost of \$5M.
- Irvins Creek Tributary Trunk Line (Lawyers Rd area) is estimated at \$2.25 million with a notice to proceed in January 2018 and an anticipated completion of 2nd quarter 2019.

- Little Sugar Creek Tributary Trunk Sewer (North Tryon area) will proceed in January 2018 at an estimated cost of \$6 million. Anticipated completion of end of 3rd quarter 2019.

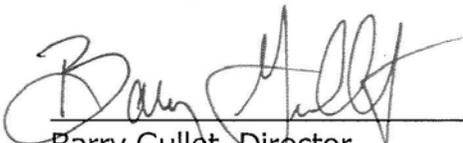
III. Notification

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.



Barry Gullet, Director
Charlotte Water

8-23-2017
Date

V. Listing of Sewer Spills

The following is a list of spills (in gallons) from the public wastewater system that occurred between July 1, 2016 and June 30, 2017.

Date	Volume (Gallons)	Volume to Surface Water	Surface Water Name	Fish Kill?	Address	Primary Cause
07/04/16	174	174	Little Sugar Creek	No	2505 Robin Hill Dr	Grease
07/05/16	95	0	Little Hope Creek	No	1043 Keystone Ct	Roots
07/06/16	17	0	McAlpine Creek	No	8824 E W T Harris Bv	Grease
07/12/16	1540	1540	McAlpine Creek	No	9838 Albemarle Rd	Roots
07/14/16	79	0	Briar Creek	No	3014 Airlie St	Roots
07/14/16	318	159	Clems Branch	No	16035 Johnston Rd	Grease
07/15/16	855	855	McMullen Creek	No	2432 Cloister Dr	Debris In Line
07/15/16	210	0	McAlpine	No	7025 Spring Morning Ln	Roots
07/18/16	900	900	Campbell Creek	No	3205 Winchelsea Dr	Grease
07/20/16	77	0	Mallard Creek	No	3505 Mayspring Pl	Grease
07/20/16	150	0	Little Hope Creek	No	1043 Keystone Ct	Roots
07/22/16	1550	1300	Paw Creek	No	1807 Sloan Dr	Grease
07/25/16	540	0	Briar Creek	No	6436 Dale Av	Grease
08/02/16	780	780	McMullen Creek	No	9243 Covey Hollow Ct	Pipe Failure
08/03/16	492	0	Taggart Creek	No	3101 Stafford Dr	Roots
08/09/16	100	0	Little Sugar Creek	No	230 N College St	Grease
08/12/16	1350	1350	Little Hope Creek	No	4746 Old Woods Rd	Pipe Failure
08/14/16	82	82	McAlpine Creek	No	3411 Burkland Dr	Grease

08/17/16	1640	0	Stewart Creek	No	621 Pennsylvania Av	Grease
08/18/16	73	0	McMullen Creek	No	5012 Carmel Rd	Roots
08/19/16	388	388	McMullen Creek	No	4518 Water Oak Rd	Pipe Failure
08/22/16	714	714	Little Sugar Creek	No	1807 Montford Dr	Grease
08/23/16	60	0	Goose Creek	No	13324 Castleford Dr (Mint Hill)	Vandalism
08/26/16	1620	810	Dixon Branch	No	8510 Prosser Wy	Grease
08/26/16	80	80	Briar Creek	No	1515 Morningside Dr	Roots
08/27/16	200	0	Irwin Creek	No	1501 Kimberly Rd	Roots
08/29/16	275	0	Sugar Creek	No	4100 W Tyvola Rd	Debris In Line
09/05/16	198	198	Big Sugar Creek	No	119 Marine Dr (Pineville)	Pipe Failure
09/05/16	104	0	Paw Creek	No	1035 Tilden Rd	Roots
09/06/16	244	0	McAlpine Creek	No	10304 Mina Ct	Debris In Line
09/08/16	609	0	McDowell Creek	No	8920 Pinnacle Cross Dr (Huntersville)	Debris In Line
09/09/16	147	110	Campbell Creek	No	5650 Albemarle Rd	Grease
09/12/16	460	460	Little Hope Creek	No	4820 South Bv	Debris In Line
09/15/16	425	425	Little Hope Creek	No	4821 South Bv	Pipe Failure
09/16/16	24	0	Four Mile Creek	No	9428 Four Mile Creek Rd	Grease
09/18/16	780	780	Paw Creek	No	6742 Wild Turkey Ln	Pipe Failure
09/19/16	570	0	Little Sugar Creek	No	1001 Blythe Bv	Grease
09/19/16	212	0	Little Sugar Creek	No	712 Morrow Av (Pineville)	Roots
09/24/16	450	0	Irwin Creek	No	2824 Allen Rd S	Grease
09/29/16	264	264	McMullen Creek	No	8324 Woodgate Ln	Grease

10/02/16	440	440	McAlpine Creek	No	13928 Ballantyne Meadows Dr	Grease
10/03/16	3795	3795	Irwin Creek	No	533 Chicago Av	Pipe Failure
10/04/16	400	400	Lake Norman	No	18907 North Beatties Ford Rd (Cornelius)	Other
10/07/16	20	0	McAlpine Creek	No	4612 Shadycroft Cr	Pipe Failure
10/09/16	150	100	Irwin Creek	No	2624 Montreat St	Grease
10/10/16	65	65	Four Mile Creek	No	6014 Lake Providence Ln	Roots
10/14/16	91	0	Mallard Creek	No	5012 Eagle Creek Dr	Grease
10/15/16	700	700	McAlpine Creek	No	3419 Arrow Ln	Grease
10/18/16	160	0	Sugar Creek	No	4601 Charlotte Park Dr	Roots
10/25/16	290	290	Briar Creek	No	5116 Auburndale Rd	Grease
10/28/16	55	0	McMullen Creek	No	847 Shady Bluff Dr	Debris In Line
10/30/16	1270	350	Steele Creek Tributary	No	14109 Williams Glenn Rd	Vandalism
10/30/16	535	535	Little Sugar Creek	No	1305 S College St	Pipe Failure
11/03/16	295	295	Little Sugar Creek	No	6510 Candlewood Dr	Grease
11/04/16	250	250	McMullen Creek	No	901 Shady Bluff Dr	Roots
11/05/16	165	165	Briar Creek	No	415 Eastover Rd	Roots
11/06/16	65	0	Little Sugar Creek	No	1314 S College St	Pipe Failure
11/9/16	630	630	Torrence Creek	No	11809 Hambright Rd (Huntersville)	Pipe Failure
11/9/16	39	0	Mountain Island Lake	No	1833 Mountain Trail Dr	Other

11/13/16	96	0	McAlpine Creek	No	7801 Meadowview Ln	Roots
11/14/16	30	0	Mountain Island Lake	No	2732 Mt Isle Harbor Dr	Other
11/21/16	340	340	Briar Creek	No	102 Wrenwood Ln	Roots
11/21/16	351	351	Little Sugar Creek	No	1144 Dilworth Crescent Rd	Debris In Line
11/23/16	180	0	Little Sugar Creek	No	911 E Morehead St	Grease
12/2/16	87	0	Irwin Creek	No	3921 Nevin Rd	Vandalism
12/4/16	540	0	Reedy Creek	No	11601 Calgary Dr	Roots
12/5/16	640	640	McIntyre Creek	No	9016 Feldbank Dr	Debris In Line
12/7/16	400	400	Little Sugar Creek	No	416 Queens Rd	Grease
12/7/16	1900	1900	Little Sugar Creek	No	1132 Queens Rd W, 28207	Roots
12/14/16	770	770	Big Sugar Creek	No	1919 Bangor Rd	Roots
12/18/16	435	435	Stewart Creek	No	4156 Canyon Creek Ln	Grease
12/21/16	298	0	Doby Creek	No	1000 Louis Rose Pl	Roots
12/21/16	73	73	Cane Creek	No	16016 Loch Raven Rd (Huntersville)	Debris In Line
12/22/16	2980	2980	Little Sugar Creek	No	7547 Starvalley Dr	Grease
12/26/16	77	0	McAlpine Creek	No	7000 Bevington Hollow Cr	Roots
12/26/16	87	0	McAlpine Creek	No	4321 Bathurst Dr	Roots
12/27/16	600	0	McAlpine Creek	No	6118 Fair Valley Dr	Pipe Failure
1/4/17	540	540	Briar Creek	No	5001 Delivau Dr	Other
1/7/17	3210	2500	Doby Creek	No	901 Doby Springs Dr	Vandalism

1/10/17	965	965	Mountain Island Lake	No	2532 Highworth Ln	Other
1/11/17	76	0	McAlpine Creek	No	9232 Clifton Meadow Dr	Grease
1/13/17	595	595	Steele Creek	No	12804 Lismorre Castle Ct	Grease
1/16/17	234	234	Kings Branch	No	638 Archdale Dr	Grease
1/16/17	150	0	Sugar Creek	No	7504 Axis Court Zone 4	Grease
1/16/17	310	0	Lower Little Sugar Creek	No	3917 Flowerfield Rd	Roots
1/17/17	30	0	Steele Creek	No	9200 Stockport Pl	Grease
1/18/17	87	0	Lake Norman	No	18427 Peninsula Cove Ln (Cornelius)	Pipe Failure
1/18/17	910	910	McAlpine Creek	No	6225 Glenridge Rd	Roots
1/18/17	300	0	Sugar Creek	No	530 Doughton Ln	Grease
1/19/17	25	0	Lower Little Sugar Creek	No	8840 Sharonbrook Dr	Debris In Line
1/19/17	325	325	Briar Creek	No	1411 Hawthorne Ln Lot 407	Pipe Failure
1/20/17	212.5	0	McAlpine Creek	No	131 Matthews Station St (Matthews)	Grease
1/21/17	660	500	Sugar Creek	No	6108 Coolbrook Ct	Grease
1/25/17	410	410	Long Creek	No	8846 Chalkstone Rd	Grease
1/26/17	120	0	Clems Branch	No	16014 Marvin Rd	Other
1/26/17	732	732	McAlpine Creek	No	11630 James Jack Ln	Grease
1/27/17	295	295	Four Mile Creek	No	3401 Windbluff Dr	Roots
1/31/17	124	62	Rocky River	No	8630 Carolina Lily Ln	Grease

2/1/17	465	0	Briar Creek	No	2316 Kingsbury Dr	Grease
2/3/17	2040	2040	Steele Creek	No	3031 Nevada Bv	Roots
2/4/17	1650	1650	Sugar Creek	No	4624 Hidden Valley Rd	Grease
2/5/17	1050	1050	Sugar Creek	No	5527 Southampton Rd	Debris In Line
2/8/17	256	128	McAlpine Creek	No	401 Highland Forest Dr	Roots
2/8/17	5	0	Lake Norman	No	17208 Connor Quay Ct (Cornelius)	Pipe Failure
2/8/17	750	750	Gum Branch	No	6622 Sunman Rd	Grease
2/12/17	144	0	McAlpine Creek	No	6724 Bevington Ridge Rd	Roots
2/14/17	755	755	Briar Creek	No	423 Eastway Dr	Pipe Failure
2/15/17	10	0	McIntyre Creek	No	6600 Reames Rd	Roots
2/18/17	411	411	Clems Branch	No	16126 Lost Canyon Wy	Debris In Line
2/20/17	302	302	Campbell Creek	No	7910 Electra Ln	Grease
2/25/17	2872	2802	Stewart Creek	No	900 Lynn St	Pipe Failure
3/2/17	155	155	Steele Creek	No	12018 Pitty Pat Ct	Grease
3/3/17	100	0	Taggart Creek	No	4741 Eleanor Dr	Roots
3/5/17	1170	585	Little Sugar Creek	No	1020 Camborne Pl	Grease
3/9/17	78	0	McAlpine Creek	No	11435 Spreading Oak Ln	Debris In Line
3/9/17	270	0	Little Sugar Creek	No	500 N Polk St (Pineville)	Debris In Line
3/9/17	602	301	Four Mile Creek	No	913 Gateshead Ln (Matthews)	Roots
3/9/17	2390	2390	Little Sugar	No	550 Bilmark Av	Vandalism

			Creek			
3/13/17	38	0	Irwin Creek	No	198 N Pine St	Other
3/16/17	33	0	Clarks Creek	No	3612 Stoneglen Path	Roots
3/19/17	2990	2990	Stowe Branch	No	11034 Shopton Rd W, 28273	Other
3/19/17	172	172	Caldwell Station	No	10314 Caldwell Depot Rd (Cornelius)	Roots
3/20/17	595	595	Little Sugar Creek	No	1001 N Brevard St	Roots
3/20/17	100	100	Stewart Creek	No	1352 Plumstead Rd	Pipe Failure
3/20/17	94	94	Little Sugar Creek	No	6600 Reagan Dr	Roots
3/21/17	25	0	Briar Creek	No	2230 Greenway Av	Pipe Failure
3/21/17	1300	1300	Briar Creek	No	5730 General Commerce Dr	Pipe Failure
3/22/17	189	0	Sugar Creek	No	225 S Poplar St	Other
3/25/17	955	955	Four Mile Creek	No	1101 Cindy Carr Dr (Matthews)	Roots
3/25/17	1620	1450	Sugar Creek	No	5845 S Tryon St	Roots
3/27/17	82	0	Campbell Creek	No	8816 Eaglewind Dr	Debris In Line
4/1/17	89	89	Taggart Creek	No	3959 Carlyle Dr	Grease
4/3/17	400	400	McMullen Creek	No	4615 Castleton Rd	Roots
4/4/17	560	560	Little Hope Creek	No	4528 Halstead Dr	Debris In Line
4/4/17	1110	1110	McMullen Creek	No	2515 Cloister Dr	Pipe Failure
4/5/17	1675	1675	Briar Creek	No	200 Emerson Av	Grease
4/6/17	35	0	Steele Creek	No	12245 Taragate Dr	Roots

4/6/17	4560	4560	Irvin Creek	No	225 S Poplar St	Grease
4/6/17	86	0	Dolby Creek	No	1898 Burgandy Dr	Roots
4/8/17	615	615	Irwin Creek	No	1700 S Mint St	Debris In Line
4/10/17	245	0	Taggart Creek	No	3303 Achievement Ln	Debris In Line
4/12/17	470	470	Briar Creek	No	2312 Vail Av	Pipe Failure
4/13/17	800	800	Irwin Creek	No	225 S Poplar St	Debris In Line
4/13/17	1400	1400	McMullen Creek	No	5925 St John Ln	Roots
4/14/17	335	285	McMullen Creek	No	4124 Bloomdale Dr	Grease
4/15/17	210	0	Campbell Creek	No	8816 Eaglewind Dr	Roots
4/17/17	354	354	Irwin Creek	No	542 Stegall St	Debris In Line
4/17/17	624	624	Campbell Creek	No	7534 Marlbrook Dr	Other
4/18/17	255	255	McAlpine Creek	No	509 Sardis Ln	Grease
4/20/17	20	0	Little Sugar Creek	No	5500 N Tryon St	Debris In Line
4/20/17	315	0	Duck Creek	No	8238 White Ash Ct (Mint Hill)	Debris In Line
4/21/17	80	0	Briar Creek	No	6515 Cool Water Ct	Grease
4/24/17	460	460	McAlpine Creek	No	700 Sardis Ln	Debris In Line
4/25/17	60	0	Little Sugar Creek	No	5032 Buckingham Dr	Debris In Line
4/25/17	960	960	McAlpine Creek	No	509 Sardis Ln	Debris In Line
4/25/17	300	300	Little Hope Creek	No	4820 South Bv	Grease

4/26/17	650	630	Little Sugar Creek	No	6041 South Bv	Other
5/2/17	210	0	Briar Creek	No	4037 Briarhill Dr	Grease
5/5/17	250	250	Reedy Creek	No	9431 Bradstreet Commons Wy	Grease
5/8/17	300	300	Mc Mullen Creek	No	1208 Kingscross Dr	Grease
5/8/17	54	0	McAlpine Creek	No	14325 Ballantyne Meadows Dr	Roots
5/9/17	10	0	Upper Little Sugar Creek	No	1900 Randolph Rd	Pipe Failure
5/11/17	572	0	McAlpine Creek	No	10714 Back Ridge Rd	Grease
5/11/17	940	0	Irwin Creek	No	3407 Fincher Bv	Roots
5/12/17	140	0	Hager Creek	No	20201 Northport Dr (Cornelius)	Grease
5/12/17	756	540	Sugar Creek	No	7240 Forest Point Bv	Roots
5/17/17	180	0	Little Sugar Creek	No	400 Queens Rd	Pipe Failure
5/17/17	146	0	Stewart Creek	No	3615 Glenwood Dr	Debris In Line
5/18/17	20	0	Irwin Creek	No	300 S Turner Av	Grease
5/22/17	580	580	McMullen Creek	No	1208 Kingscross Dr	Pipe Failure
5/22/17	4000	4000	Irwin Creek	No	324 S Mint St	Debris In Line
5/22/17	825	825	Reedy Creek	No	2624 Buckleigh Dr	Debris In Line
5/25/17	900	900	McMullen Creek	No	1208 Kingscross Dr	Pipe Failure
5/26/17	8000	0	McAlpine Creek	No	7259 Point Lake Dr	Vandalism

5/27/17	1250	937	Little Hope	No	1128 Kurt Ct	Roots
5/30/17	147	0	McKee Creek	No	9111 Magnolia Lily Av	Debris In Line
6/1/17	395	395	Lake Norman	No	20220 Bethel Church Rd (Cornelius)	Pipe Failure
6/2/17	94	0	Paw Creek	No	9218 Putnam Pl	Vandalism
6/5/17	1065	1065	McAlpine Creek	No	6845 Ronda Av	Grease
6/6/17	1640	0	Catawba River Tributary	No	12255 Fullerton Ct	Roots
6/10/17	125	0	Ramsey Creek	No	13815 Hagers Ferry Rd (Huntersville)	Other
6/12/17	115	100	Campbell Creek	No	5905 Albemarle Rd	Grease
6/12/17	2800	2800	South Prong Clark Creek	No	15817 Centennial Forest Dr	Pipe Failure
6/14/17	35	0	Upper Sugar	No	3800 N Tryon St	Grease
6/23/17	4200	2100	Stevens Creek	No	11826 Lawyers Rd (Mint Hill)	Pipe Failure
6/26/17	4900	2450	Toby Creek	No	8324 Paces Oak Blvd	Vandalism
6/26/17	325	163	Briar Creek	No	6520 Lake Dr	Grease
6/29/17	355	0	Kings Branch	No	419 Peachtree Dr S, 28217	Roots
6/30/17	145	0	Little Sugar Creek	No	400 Queens Rd	Other

TOTAL NUMBER OF FY2017 COLLECTION SYSTEM SPILLS:

189

Volume Safely Collected, Treated & Discharged During Fiscal Year 2017: 28,748,000,000 Gallons (99.9995%)

Volume Spilled:

124,265.50 Gallons

VI. Permit Compliance and Reporting Violations, by plant

Irwin Creek WWTP -- NPDES Permit #NC0024945

MONTH	PERMIT LIMIT VIOLATIONS	REPORTING REQUIREMENT VIOLATIONS
July, 2016	NA	NA
August, 2016	NA	NA
September, 2016	NA	NA
October, 2016	NA	NA
November, 2016	NA	NA
December, 2016	NA	NA
January, 2017	NA	NA
February, 2017	NA	NA
March, 2017	NA	NA
April, 2017	NA	NA
May, 2017	NA	NA
June, 2017	NA	NA

Mallard Creek WRF -- NPDES Permit #NC0030210

MONTH	PERMIT LIMIT VIOLATIONS	REPORTING REQUIREMENT VIOLATIONS
July, 2016	NA	NA
August, 2016	NA	NA
September, 2016	NA	NA
October, 2016	NA	NA
November, 2016	NA	NA
December, 2016	NA	NA
January, 2017	NA	NA
February, 2017	NA	NA
March, 2017	NA	NA
April, 2017	NA	NA

May, 2017	NA	NA
June, 2017	NA	NA

McAlpine Creek WWTF -- NPDES Permit #NC0024970

MONTH	PERMIT LIMIT VIOLATIONS	REPORTING REQUIREMENT VIOLATIONS
July, 2016	NA	NA
August, 2016	NA	NA
September, 2016	NA	NA
October, 2016	NA	NA
November, 2016	NA	NA
December, 2016	NA	NA
January, 2017	NA	NA
February, 2017	NA	NA
March, 2017	NA	NA
April, 2017	NA	NA
May, 2017	NA	NA
June, 2017	NA	NA

McDowell Creek WWTP -- NPDES Permit #NC0036277

MONTH	PERMIT LIMIT VIOLATIONS	REPORTING REQUIREMENT VIOLATIONS
July, 2016	NA	NA
August, 2016	NA	NA
September, 2016	NA	NA
October, 2016	NA	NA
November, 2016	NA	NA
December, 2016	NA	NA
January, 2017	NA	NA
February, 2017	NA	NA
March, 2017	NA	NA

April, 2017	NA	NA
May, 2017	NA	NA
June, 2017	NA	NA

Sugar Creek WWTP -- NPDES Permit #NC0024937

MONTH	PERMIT LIMIT VIOLATIONS	REPORTING REQUIREMENT VIOLATIONS
July, 2016	NA	NA
August, 2016	NA	NA
September, 2016	NA	NA
October, 2016	NA	NA
November, 2016	NA	NA
December, 2016	NA	NA
January, 2017	NA	NA
February, 2017	NA	NA
March, 2017	NA	NA
April, 2017	NA	NA
May, 2017	NA	NA
June, 2017	NA	NA

Ashe Plantation WWTP -- NPDES Permit #NC0065749

MONTH	PERMIT LIMIT VIOLATIONS	REPORTING REQUIREMENT VIOLATIONS
July, 2016	NA	NA
August, 2016	NA	NA
September, 2016	NA	NA
October, 2016	NA	NA
November, 2016	NA	NA

December, 2016	NA	NA
January, 2017	NA	NA
February, 2017	NA	NA
March, 2017	NA	NA
April, 2017	NA	NA
May, 2017	NA	NA
June, 2017	NA	NA

Oxford Glen Plantation WWTP -- NPDES Permit #NC0065384

MONTH	PERMIT LIMIT VIOLATIONS	REPORTING REQUIREMENT VIOLATIONS
July, 2016	NA	NA
August, 2016	Fecal Coliform (Daily Max)	NA
September, 2016	NA	NA
October, 2016	NA	NA
November, 2016	NA	NA
December, 2016	NA	NA
January, 2017	NA	NA
February, 2017	NA	NA
March, 2017	NA	NA
April, 2017	NA	NA
May, 2017	NA	NA
June, 2017	NA	NA