



Carolina Water Service
of North Carolina™

Wastewater Treatment and Collection
Performance Annual Reports

Connestee Falls

NPDES: NC0024295
Collection System: WQCS00219

January 1, 2019 - December 31, 2019

P.O. Box 240908
Charlotte, NC 28224

Phone: 800-525-7990
<https://www.myutility.us/carolinawaterservicenc>

I. General Information

Service Area:

Connestee Falls

Applicable Permits:

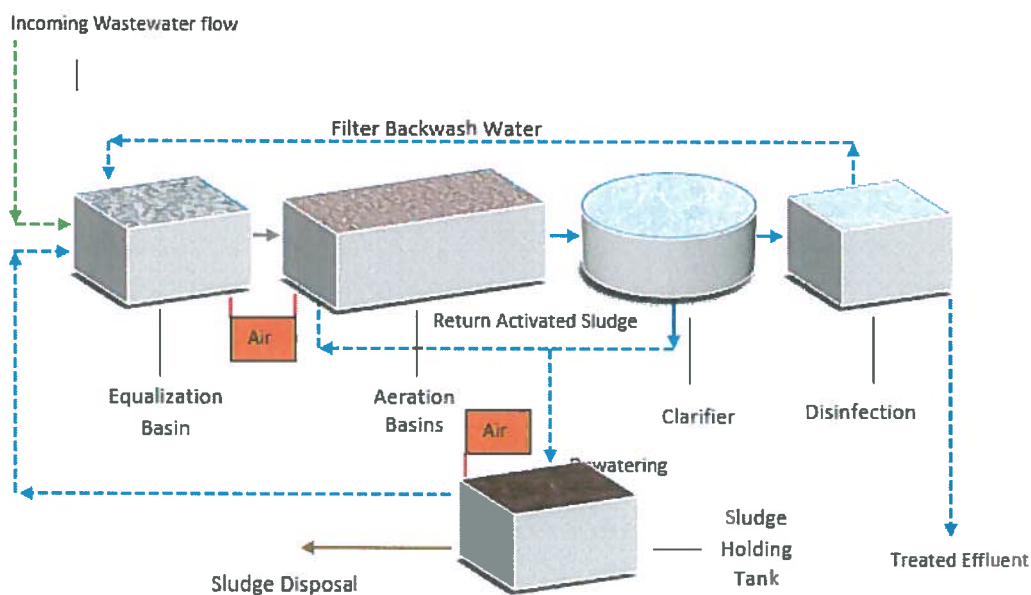
Type	NPDES Permit Number	Area Manager	Phone
Wastewater Treatment Facility #1	NC0024295	Gary Peacock	800-525-7990
Collection System	WQCS00219	Gary Peacock	800-525-7990

Description of Collection and Treatment Systems:

Operation and maintenance of a wastewater collection system consisting of, at the time of permit issuance, approximately 28.1 miles of gravity sewer, approximately 6.5 miles of force main, 17 duplex pump stations, all associated piping, valves, and appurtenances. Serving 1,033 customer connections.

Operation of a 0.30 million gallon per day (MGD) wastewater treatment system (plant #1) with the following components: Concrete influent flow splitter, Dual aeration basins with mechanical aerators, Dual rectangular clarifiers, Chlorine contact chamber, Dechlorination system, Flow meter, Sludge digester.

Treatment Process Flow Chart



1. Equalization Basin — Removes debris which could damage plant equipment.
2. Aeration Basin — Air is circulated and bacteria removes dissolved solids, pollutants, phosphorus and nitrates.
3. Clarifier — Solids are separated from the liquid and piped back to the aeration basins via the return activated sludge piping.
4. Disinfection — Effluent is disinfected by either Ultra Violet light or chlorine to Remove organisms.
5. Solids Handling — Treats the solids removed from the wastewater to allow safe and economical disposal.

Summary of Collection System Performance:

During 2019, we collected and treated approximately 76 million gallons of wastewater. Additionally, major upgrades to the collection system were completed in 2019, including the replacement four (4) sewer lift stations that utilize Mission Communications® alert systems. The alert systems send notifications to work personnel indicating issues were detected, allowing for quicker response times and ultimately eliminating all SSOs. These upgrades have reinforced our collection system to ensure all wastewater is contained within the collection system and ultimately disposed of at the wastewater treatment facility.

In 2019, there was four (4) Sanitary Sewer Overflow (SSO) that occurred on January 23rd, February 18th, April 19th, and May 25th. Three of the four overflows did occur at older lift stations that have been replaced with new ones. Our staff is committed to a standard of excellence by ensuring a safe and clean facility while maintaining regulatory compliance. No known adverse effects have been noted on the environment or receiving streams.

Key Performance:

- 15,465 feet of sewer pipe were cleaned in 2019.
- There are 17 duplex Lift Stations serving Connestee Falls Subdivision. Each lift station is checked three times a week with maintenance conducted as needed as well as emergency generator testing, wet well cleanings, and emergency/routine repairs conducted periodically.
- Annually each Lift Station is inspected using our 56 Point safety checklist.
- As part of our Asset Management Program, an Annual Maintenance Checklist is conducted to determine that equipment is performing at peak efficiencies.
- Our staff throughout the year manually conducts manhole inspections and documents deterioration (if any) due to corrosive atmospheric conditions.
- We have instituted an infiltration and inflow (I&I) program. The purpose of the I&I program is to keep unwanted storm water from entering the collection system. Infiltration and inflow is a clear indicator that there could be broken pipes, uncovered sewer laterals, or someone illegally connected to the collection system.
- As a proactive measure, we educate our customers of our concerns of Fats, Oil, and Grease. Your help in what is put down the drain greatly prevents clogs due to grease buildups and improves our overall collection system. These grease buildups can result in SSO's.
- Our staff is continually monitoring and clearing rights of way (ROW's). These ROW's normally are in low lying creeks and wooded areas. ROW's need to be cleared to ensure easy access during emergency situations.

Summary of Wastewater Facility Performance:

A new wastewater treatment facility was completed in the fall of 2019. The extensive upgrade ensures Carolina Water Service of NC is equipped to meet and exceed all wastewater and environmental regulations and permit limits. A few of the upgrades include a main lift station, treatment tanks, and UV disinfection system.

It is our goal and standard at Carolina Water Service of North Carolina to meet 100% of our NPDES permit discharge limits. We evaluate our treatment processes daily to ensure that goal is obtained. Our permit requires us to continually monitor the effluent to determine if the treatment processes are working effectively. This monitoring consists of sampling at various points in throughout the treatment process. These sample parameters include: Flow measurement of how much wastewater enters and then is discharged from our plant, Biological Oxygen Demand (BOD), Total Suspended Solids, Fecal Coliform, Total Ammonia, Total Residual Chlorine, Temperature, Total Nitrogen, pH, and Total Phosphorous. A minimum of 340 compliance samples are taken on an annual basis.

II. Violation Summary – 2019

January	SSO occurred on January 23, 2019
February	SSO occurred on February 18, 2019
March	No violations/deficiencies.
April	SSO occurred on April 19, 2019
May	SSO occurred on May 25, 2019
June	No violations/deficiencies.
July	No violations/deficiencies.
August	No violations/deficiencies.
September	No violations/deficiencies.
October	No violations/deficiencies.
November	No violations/deficiencies.
December	No violations/deficiencies.

III. Notification

Customers will be notified of the availability of this report with a message on their bills and copies will be provided upon request.

IV. Certification

I hereby certify that the information contained in this report is accurate and complete to the best of my knowledge.

Signature:  Date: 2-20-2020

Name: J. Bryce Mendenhall Title: VP of Operations NC/TN