

# Town of Roseboro

Department of Public Works

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Roseboro, North Carolina 28382

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## **Town of Roseboro: Wastewater Systems Annual Performance Report January 2023 through December 2023**

### **I. General Information**

Facility/System Name:	<u>Town of Roseboro Collection System and Publicly Owned Treatment Works</u>
Responsible Entity:	<u>Billie Poole, Director of Public Works</u>
Person(s) in Charge/Contact:	<u>Neil D. Carroll, Wastewater ORC</u> <u>&amp; Collections System ORC</u> <u>Travis Anderson, Backup Wastewater ORC</u>
Applicable Permit(s):	<u>Collection System Permit WQCS00155</u> <u>NPDES Discharge Permit NC0026816</u>

### **II. Collection System and Treatment Process Description**

#### **A. Collection System**

The Town of Roseboro maintains approximately 16.2 miles of wastewater collection lines with 4 lift - stations, 310 manholes, and approximately 668 connections. The Collection System is staffed by four (4) full-time personnel, led by the Town's Contract State Certified Collection Operator. The Collection System staff is responsible for the routine inspection, maintenance, and cleaning, as well as repair and upgrading of the collection lines, manholes, and connections. The 4 lift stations are also maintained by the Town's staff.

#### **B. Wastewater Treatment Plant**

The collection system discharges to the Roseboro's Water pollution control facility. The treatment facility is staffed by one (1) part time Certified Wastewater Grade 4 Operator/ORC.

The facility is permitted by the state to treat 490,000 (0.49million) gallons of wastewater per day. Following mechanical separation of solids and biological treatment, the treated wastewater is disinfected, and returned to the Little Coharie Creek, which enters the Great Coharie Creek of the Cape Fear River Basin. Wasted bio solids are aerobically digested and recycled through drying beds which are managed

per North Carolina and EPA regulations. The certified contract Wastewater Laboratory monitors the incoming wastewater (influent), and outgoing water (effluent) routinely to ensure the treatment processes are successful and that the water adhere to state and federal standards and meets the State permitted limits.

### III. System Maintenance and Improvements

#### A. Collection System

During the 2023 calendar year, Collection System personnel along with a contract vacuum company performed routine cleaning of approximately 14,443 ft. of collection lines. The Town also completed jet-vacuuming of all four lift stations.

In addition to routine maintenance the following repairs and/or upgrades were made to the system:

Collection System Repairs/Upgrades in 2023	
1.	Replaced 5221 linear feet of gravity sewer line.
2.	Relined 1636 linear feet of gravity sewer line.
3.	Replaced 21 manholes.
4.	Rehabbed 6 manholes.
5.	Cleaned 6458 feet of sewer line by contractor.
6.	Cleaned 7975 feet of sewer line by Town Employees and contractor.
7.	Installed trash basket at Wrench Street Lift-Station

#### B. Wastewater Treatment Plant:

During the calendar year of 2023, in addition to routine maintenance of the plant and effluent outfall receiving waterways, the following major repairs, replacements or upgrades were made to the WWTP:



Wastewater Treatment Plant Repairs/Upgrades in 2023
1. All the stainless-steel pipes were purchased for 2024 repairs of the aerated grit chamber.
2. Rebuilt aerobic digester aerator motor.

#### IV. Performance: Summary of Performance for Reporting Period

- A. **Collection System Performance:** The North Carolina Division of Water Resources conducted an inspection of the Roseboro Collection System on 12/1/2021. There were no significant issues or findings.

The Town of Roseboro had no (0) SSOs (sanitary sewer overflows) for the 2023 year. The Town continues to work on the collection system to locate problems and make repairs to stop any SSOs from occurring in the future. The Town has started its first part of replacement of collection lines that were found to have defects that allowed the infiltration of ground water to enter the collection system. This project started in 2023 and will continue into 2024. This pipe replacement will also help with heavier flows at the water pollution control facility in times of rain and storm events.

The Town is routinely working to maintain and improve the efficiency of their collection system by installing back-up generators at lift stations, and increased maintenance of collection lines, and lift-stations. A local contract company is also utilized one time per year to vacuum at minimum 10% of the total collection system. The Town employees clean sewer lines at other times when a problem may arise. The NCRWA was also called to help locate problem areas in the collection system. They have performed smoke testing which showed where some of the infiltration problems were located. Once located, the Town employees made necessary repairs which helps with excessive flow entering the WPCF from the collection system in times of heavy rain. This will help eliminate discharge permit violations in the future.

Sanitary sewer overflows may result from a variety of causes: inflow and infiltration due to high water levels; blocked pipes from rags, roots, and grease accumulation; broken lines from corrosion or construction activity; and power failures at lift stations within the system. The Town of Roseboro helps educate the citizens in the importance of proper disposal of household waste, including fats, oils, and grease (FOG).

### Wastewater Treatment Plant Performance

During the calendar year of 2023, the Town of Roseboro WWTP treated approximately 91.25 million gallons of wastewater. The plant underwent routine inspection by the North Carolina Division of Water Resources (NCDWR) on 8/25/2020 and was found to be compliant with all applicable state and federal regulations. The Roseboro Water Pollution Control Facility had (6) reportable violations in 2023, all related to heavy rain, inflow/infiltration of the collection system.

The following table summarizes plant performance for the calendar year 2023 in comparison with NPDES permitted limits:

#### *Town of Roseboro WASTEWATER TREATMENT PLANT EFFLUENT ANALYSIS*

Parameter	Limit Interval	NPDES Limits	Measured Values; Range or Mean
Flow	Monthly Average	0.49 MGD	<b>0.25 MGD</b>
pH	Weekly	>6.0 / <9.0	<b>6.3 / 8.2</b>
Residual Chlorine	Weekly	28 ug/L	<b>14 ug/L</b>
BOD <sub>5</sub>	Weekly	22.5mg/L	<b>2.67 mg/L</b>
Ammonia Nitrogen	2 / Month	Monitor	<b>0.15 mg/l</b>
Total Suspended Residue	Weekly	45.0mg/L	<b>6.4 mg/L</b>
Fecal Coliform	Geometric Mean Weekly	400/100 ml	<b>16 /100 ml</b>
Dissolved Oxygen	Weekly	>5.0 mg/L	<b>9.3 mg/L</b>
Temperature	Weekly	Monitor	-----
Conductivity	Weekly	Monitor	-----
Total Nitrogen	Quarterly	Monitor	-----
Total Phosphorus	Quarterly	Monitor	-----
Toxicity	Quarterly	Pass	<b>Pass</b>

**V. Notification**

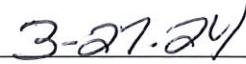
A copy of this report will be available at Roseboro's Town Hall, and included on the Town of Roseboro's website at: <http://www.roseboronc.com>

**VI. Certification**

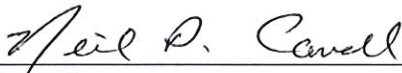
I certify under penalty of law that this report is complete and accurate to the best of my knowledge. I further certify that this report has been made available to the users or customers of the named system and that those users have been notified of its availability.



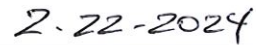
Billie Poole  
Director of Public Works  
Town of Roseboro



Date



Neil D. Carroll  
Wastewater Treatment Plant ORC, Collection Systems ORC  
Town of Roseboro



Date