

Town of Roseboro  
Department of Public Utilities  
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Roseboro, North Carolina 28382  
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**Town of Roseboro: Wastewater Systems  
Annual Performance Report  
January 2017 through December 2017**

**I. General Information**

Facility/System Name: Town of Roseboro Collection System and Publicly Owned Treatment Works

Responsible Entity: David Phillips, Director of Utilities

Person(s) in Charge/Contact: Neil D. Carroll, Wastewater, Collections System ORC  
David Phillips, Backup ORC, Collections System  
Travis Anderson Backup ORC, Wastewater

Applicable Permit(s): Collection System Permit WQCS00155  
NPDES Discharge Permit NC0026816

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

**A. Collection System**

The Town of Roseboro maintains approximately 16.2 miles of wastewater collection lines with 5 lift - stations, 310 manholes, and approximately 674 connections. The Collection System is staffed by two (2) full time personnel, led by the Town's 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 lift stations are also maintained by the Town's staff.

**B. Wastewater Treatment Plant**

The collection system discharges to the Roseboro's Wastewater Treatment Plant. The treatment plant is staffed by one (1) Wastewater Operator, and one (1) part time Certified Wastewater Grade 4 Operator/ORC.

The plant 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 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.

**III. System Maintenance and Improvements**

**A. Collection System**

During the 2017 calendar year, Collection System personnel performed routine cleaning of approximately 13,804 ft. of collection lines. The Town also completed jet-vacuuming of all lift stations.

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

Collection System Repairs/Upgrades in 2017
640 feet of new PVC 6" sewer installed on North West Rail Road Street.
4 new manholes installed on North West Rail Road Street.
7 clean-out caps installed.

**B. Wastewater Treatment Plant**

During the calendar year of 2017, 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 2017
In 2017, the effluent discharge point was changed to a closer location. The new discharge point corrected problems with old piping and headwalls. The effluent is now in a location that can be inspected easily by the Town workers and also by the State during routine inspections.
The chlorine and sulfur dioxide building were rewired and the complete breaker panel replaced.
The final clarifier (east) had the complete scraper arm replaced with one made from stainless steel.


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

**A. Collection System Performance**

The Town of Roseboro had one reportable spill in 2017. A combination of rags and grease caused a backup on the line entering the west side of the plant. Wastewater spilled from a manhole. The line was cleaned and no wastewater entered in the waters of the State. A vacuum truck removed the contained wastewater and properly discharged it on the drying beds at the wastewater treatment plant. Lime was applied to the work area.

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; power failures at pump and lift stations within the system. The Town of Roseboro is routinely working to maintain and improve the efficiency of our collections system by installing back-up generators at lift stations, increased routine maintenance of lines and lift stations, and by educating citizens in the importance of proper disposal of household waste, including fats, oils, and grease.

### Wastewater Treatment Plant Performance

During the calendar year of 2017, the Town of Roseboro WWTP treated approximately 107 million gallons of wastewater. The plant underwent routine inspection by the North Carolina Department of Environment and Natural Resources (NCDENR) in 2017 and found to be compliant with all applicable state and federal regulations. The Roseboro Wastewater Treatment Plant had (3) reportable violations in 2017. Two violations were high fecal count, and one was a high chlorine residual due to a heavy rain event. The Town has now installed a flow paced chlorine and sulfur dioxide feed system that has helped with these problems.

The following table summarizes plant performance for the calendar year 2017 in comparison with NPDES permitted limits:

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

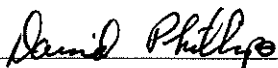
<b>Parameter</b>	<b>Limit Interval</b>	<b>NPDES Limits</b>	<b>Measured Values; Range or Mean</b>
<b>Flow</b>	Monthly Average	0.49 MGD	<b>0.30 MGD</b>
<b>pH</b>	Weekly	>6.0 / <9.0	<b>7.0 / 8.2</b>
<b>Residual Chlorine</b>	Weekly	28 ug/L	<b>&lt;20 ug/L</b>
<b>BOD<sub>5</sub></b>	Weekly	22.5mg/L	<b>4.3 mg/L</b>
<b>Ammonia Nitrogen</b>	2 / Month	Monitor	<b>0.49 mg/L</b>
<b>Total Suspended Residue</b>	Weekly	45.0mg/L	<b>10.2 mg/L</b>
<b>Fecal Coliform</b>	Geometric Mean Weekly	400/100 ml	<b>114/100 ml</b>
<b>Dissolved Oxygen</b>	Weekly	>5.0 mg/L	<b>9.0 mg/L</b>
<b>Temperature</b>	Weekly	Monitor	-----
<b>Conductivity</b>	Weekly	Monitor	-----
<b>Total Nitrogen</b>	Quarterly	Monitor	-----
<b>Total Phosphorus</b>	Quarterly	Monitor	-----
<b>Toxicity</b>	Quarterly	Pass	<b>Pass</b>

**V. Notification**

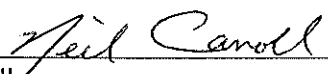
A copy of this report will be available at Roseboro's Town Hall, and included on the Town of Roseboro's website at: <http://www.roseboronc.com>

**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.

  
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David Phillips  
Director of Utilities  
Town of Roseboro

*2-27-18*  
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Date

  
\_\_\_\_\_  
Neil Carroll  
Wastewater Treatment Plant, Collection System ORC  
Town of Roseboro

*2-27-2018*  
\_\_\_\_\_  
Date