



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

I. General Information

Facility/System Name: Town of Garland Collection System and Wastewater Treatment Plant

Responsible Entity: Austin Brown, Mayor

Person(s) in Charge: Neil D. Carroll, Wastewater Treatment Plant Operator in Responsible Charge, Blake Raynor, back-up ORC.

Applicable Permit(s): NPDES Discharge Permit NC0025569

Town of Garland
Post Office Box 207
Garland, North Carolina 28441
Telephone: 910-529-4141
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II. Collection System and Treatment Process Description

A. Collection System

The Town of Garland staff maintains 51,500 linear feet of wastewater collection lines with 3 duplex lift stations, 209 manholes and 349 connections. The Collection System discharges to the Town of Garland Wastewater Treatment Plant.

B. Wastewater Treatment Plant

The treatment plant is operated by the state certified Operator in Responsible Charge. The plant is permitted by the state to treat 126,000 gallons of wastewater per day by primary treatment, secondary treatment, and disinfection. The plant utilizes a supervisory control and data acquisition (SCADA) system for process supervisory management of incoming wastewater (influent) flow, pump status, and power status. Wastewater is settled and undergoes biological treatment via three wastewater lagoons. Following settling and biological treatment, the treated wastewater is disinfected, and discharged to the Great Coharie Creek of the Cape Fear River Basin. The Town utilizes a contract laboratory to monitor the influent, in-process water, and outgoing water (effluent) routinely to ensure the treatment processes are successful and that the water adheres to state and federal standards.

III. System Maintenance and Improvements

A. Collection System

During the 2023 calendar year, Town personnel performed cleaning of 1,230 linear ft. of collection lines via jet trailer means.

IV. Performance: Summary of Performance for Reporting Period

A. Collection System Performance

The Town of Garland is routinely working to maintain and improve the efficiency of our Collection System. The Town is encouraging its citizens and system users to properly use the system to assist the Town in avoiding increased maintenance costs to the Town and taxpayers.

Sanitary sewer overflows (SSOs) may result from a variety of causes: inflow and infiltration due to high water levels; blocked pipes from wipes, rags, roots, and grease accumulation; broken lines from corrosion or construction activity; power failures at pump and lift stations within the system. Practices such as recycling used cooking oil, avoiding the use of 'flushable' wipes, and limiting garbage disposal usage are encouraged. The Town of Garland Collection System suffered no SSOs for the calendar year of 2023.

B. Wastewater Treatment Plant Performance

During the calendar year of 2023, the Town of Garland WWTP treated approximately 23.9 million gallons of wastewater.

Town of Garland Wastewater Treatment Plant Effluent Analyses

The following table summarizes plant performance for the calendar year 2023 in comparison with the plant's National Pollutant Discharge Elimination System (NPDES) permitted limits:

Parameter	Limit Interval	NPDES Limits	Measured Values
Flow	Monthly Average	0.126 MGD	0.050 to 0.103 MGD
BOD ₅	Monthly Average	30.0 mg/L	16.7 to 57.7 mg/L
BOD ₅	Weekly Average	45.0 mg/L	14.0 to 142.0 mg/L
Total Suspended Solids	Monthly Average	90.0 mg/L	14.1 to 72.5 mg/L
Total Suspended Solids	Weekly Average	135.0 mg/L	11.7 to 131.0 mg/L
Ammonia Nitrogen	Monthly Average	Monitor and Report	5.0 to 19.9 mg/L
Fecal Coliform	Monthly Geometric Mean	200 cfu / 100 mL	<1 to 2420 cfu / 100 mL
Fecal Coliform	Weekly Geometric Mean	400 cfu / 100 mL	<1 to 2420 cfu / 100 mL
Total Residual Chlorine	Daily Maximum	28/50 µg/L	< 10 to 125 µg/L
Temperature	Daily	Monitor and Report	10 to 28 °C
Total Nitrogen	Quarterly	Monitor and Report	18 to 23 mg/L
Total Phosphorus	Quarterly	Monitor and Report	4 mg/L
pH	Daily Maximum and Minimum	6.0 to 9.0 S.U.	6.0 to 8.1 S.U.

Town of Garland Wastewater Treatment Plant Non-Compliance Events

- In April, May, and November of 2023, the plant was out of compliance for monthly **BOD5**. This was due to heavy rains and inflow and infiltration during those months. In January, May, July, and November the plant was out of compliance for monthly TRC. This was due to heavy rains and inflow and infiltration during those months. In May and September of 2023, the plant was out of compliance for Fecal Coliform. This was due to heavy rains and inflow and infiltration during those months.
- For the week of May 8th, May 22nd, and October 9th, 2023, the plant was out of compliance for weekly average fecal coliform. This was due to heavy rains the night prior to sample collection throwing off the flow proportional disinfection feed. For the week of April 10th and May 15th, 2023, the plant was out of compliance for **BOD5**. This was due to heavy rains the night prior to collection.

Town of Garland Wastewater Treatment Plant Spill/Bypass Events

- No spills or bypass events occurred at the Garland Wastewater Plant during the calendar year of 2023.

V. Planned Upgrades and Maintenance Events

Maintenance Events / Collection System
In the month of March 2023, Pearson Pump replaced the slide rails and supports with stainless steel at Grey Avenue Lift Station.

Future Planned Upgrades to the Wastewater Treatment Plant
Headworks bar screen installation
Cleaning / dredging of the three-wastewater lagoons to remove the accumulated sludge
Installation of a chlorine contact chamber with new chemical feed process
Installation of flow meter at the wastewater effluent discharge


VI. Notification

This report will be published to the Town of Garland website at <http://www.townofgarlandnc.com>.

Paper copies may be obtained by calling the Town of Garland at (910) 529-4141 M,T,Th,F: 9:00 AM to 5:00 PM, or W: 9:00 AM to 2:00 PM.

VII. 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.

Austin Brown	Date
Mayor 	2/21/24
Neil D. Carroll	Date
Wastewater Treatment Plant Operator in Responsible Charge	2/21/24
