

Town of Forest City
2023 System Performance Annual Report (SPAR)
January 1, 2023 to December 31, 2023

I. General Information

- **Name of regulated entity:** Town of Forest City
- **County:** Rutherford County
- **Responsible persons:** Steve Holland, Mayor
Janet Mason, City Manager

Mailing address: PO Box 728; Forest City, NC 28043-0728
Physical address Public Works: 132 Wilkie Street, Forest City 28043
Physical address Forest City WWTP: 397 Riverside Drive, Forest City 28043
Physical address Riverstone WWTP: 219 Broad River Blvd, Forest City 28043

Phone numbers:

828-245-4747	Janet Mason	City Manager
828-245-0149	Sonny Penson	Public Works Director
828-248-5217	Jacob Hodge	WWTP Chief Plant Operator/ORC
828-248-5217	Tommy Wilson	WWTP Plant Superintendent/Back-up ORC
828-245-0149	John Hardin	Water and Sewer Superintendent
828-245-0149	Reid Guffey	Collections ORC

- **Listing of applicable permits:**

Collection System: WQCS00050
Wastewater Treatment Plants: NC0025984 Forest City WWTP – Riverside Drive
NC0087084 Riverstone Industrial Park WWTP
NC0083275 DRG Harris WWTP

- **Description of sewer collection system and wastewater treatment systems or processes:**

Collection System: WQCS00050

The Town of Forest City maintains and operates 27 lift stations (19 in Forest City, 6 in Ellenboro, 1 at Riverstone Industrial Park, and 1 on site at American Zinc Products.) There are ~ 95 miles of gravity sewer and ~13.6 miles of force main. Chase Middle School makes up 2.4 miles of this force main and Chase High School makes up another 1.5 miles of this force main. The Riverstone Industrial Park makes up 0.7 miles of gravity sewer total and 390.8 feet of force main. The Hicks Grove station, leased by Befesa Zinc Metals Inc, has 1.1 miles of force main contributing to the above total. Riverstone's lift station and the Hicks Grove (Befesa) station are pumped to the Riverstone WWTP headworks located at 219 Broad River Blvd.

The Town of Forest City also maintains the Town of Ellenboro's sewer collection system. This system has ~ 6.2 miles of gravity sewer, 7.4 miles of force main and four pump stations (with telemetry and dual high-water alarms). Ellenboro Elementary School and East High School each have lift stations that pump into Ellenboro's collection system and are maintained by the Town of Forest City.

Pretreatment Program:

There are 5 significant industrial users which contribute flow to the collection system and Forest City wastewater treatment plant: Everest Textiles, Danfoss, Westrock, Parker Hannifin, and Premier Poultry. Riverstone WWTP has 1 IUP issued to Befesa Zinc Metals Inc

Wastewater Treatment Plants (WWTP) / Water Reclamation Facility (WRF):

NC0025984 Wastewater Treatment Plant located at 397 Riverside Drive in Forest City is a 4.95 MGD plant consisting of the following units:

- Influent mechanical step/bar screen and manual bypass screen.
- Aerated traveling bridge grit chamber and grease removal.
- 5 smaller first stage aeration tanks with floating aerators (currently not operating.)
- Second stage aeration basin with floating aerators (3.99 MG capacity.)
- Dual secondary clarifiers (75 ft. diameter.)
- Chlorine contact chamber and step aeration.
- Chlorine gas feed equipment
- Sulfur Dioxide gas feed equipment for dechlorination.
- Aerobic Digester with diffused air system (approximately 0.450 MG capacity.)
- Aerobic Digester with floating aerator (approximately 0.230 MG capacity.)
- (2) WAS pumps approximately 500 gpm direct to digester, and 375 gpm to thickener.
- JWC Monster drum thickener IFT Series Rotary Screen.
- Enviroquip 2.0 meter belt filter press (14% - 17% solids.)
- Class B sludge cake is hauled to permitted fields under Southern Soil Builders permit (WQ0010926.)
- Average flow is approximately 1.25 MGD.

NC0087084 Riverstone WWTP

Located at 219 Broad River Blvd in the Riverstone Industrial Park. The Plant is a 0.05 MGD SBR plant consisting of:

- Influent mechanical step/bar screen and manual bypass screen.
- Pre EQ basin with maximum capacity of 0.017 MG and max design flow rate of 138.9 gpm.
- SBR basin with minimum capacity of 0.043 MG and maximum capacity of 0.063 MG. Decant flow rate (average high to low) 313 gpm. Sludge waste rate 100 gpm.
- Post SBR EQ basin maximum volume 0.0156 MG. Flow control valve feeds chlorine contact chamber at a rate of 0 – 313 gpm.
- Chlorine contact chamber with tablet feeders for chlorination and dechlorination
- Aerobic digester with maximum volume of 0.033 MG.

The SBR has a default program for permitted flow rate of 5 cycles/24 hour day:

1. Mixed-fill 35 minutes (anoxic condition)
2. React-fill 109 minutes (blowers running with floating mixer)
3. React phase 35 minutes (influent pumps are locked out)
4. Settle 45 minutes

- 5. Decant 64 minutes
- 6. Idle 64 minutes (integral with decant)
- 7. Sludge waste 2 minutes (integral with decant)

The cycles have programmability built in by PLC. These have been adjusted as needed to accommodate the small flow rate currently received by the plant. Sludge waste is conducted manually as needed. Riverstone WWTP flow is approximately 3,000 to 5,000 gallons per day average.

**NC0083272 DRG Harris Plant
A 0.91 MGD WWTP which is inoperative & currently inactive.**

WWTP Sludge Management:

WQ0037135 Class B land application US Biosolids Incorporated

US Biosolids Incorporated applies Class B cake sludge to sites they have permitted under permit number WQ0037135. 415.18 dry tons were bulk land applied using pathogen reduction option: Class B Alternative 1 - Fecal Coliform Geometric Mean and vector attraction reduction options: Bench-Scale Volatile Solids Reduction (Aerobic Bench Test w/ Percent Solids – 2% or Less.) US Biosolids Inc. submits the NC DEQ report for this permit. EPA online submission was uploaded on 02/6/2024 for the 2023 year.

II. Performance

• Description of overall 12 month performance, noting highlights and deficiencies.

The Forest City WWTP and Collection System had 2 reportable and 3 non-reportable spills during calendar year 2023. The staff of the WWTP, Collection System, and Pump Maintenance departments continuously look for ways to minimize or eliminate heavy flow conditions associated with I&I.

The Forest City WWTP had a notice of deficiency in June 2023 for failure to sample Conductivity, Dissolved Oxygen, Temperature for upstream and downstream. The Riverstone WWTP had a violation for failed weekly fecal coliform in January 2023.

Construction was completed on Dogwood pumpstation, and the station was put online in September 2023.

• By month, list of the number and type of any violations of permit conditions, environmental regulations or environmental laws, including (but not limited to):

Permit Limit Violations, Monitoring and Reporting Violations:

WQCS00050 Collection System:

Non-reportable spills, 3/6/2023 estimated 400 gallons at 74 east and Old Caroleen Rd., 4/26/2023 estimated 300 gallons at Knollwood pumpstation, and 6/5/2023 estimated 200 gallons at 377 Knollwood Dr.

Reportable Spills, 4/30/2023 estimated 9,000 gallons at 108 Plaza Dr. Ext and 6/22/2023 estimated 700 gallons at 138 Pitman St.

NC0025984 Forest City WWTP:

- 6/3/2023 Notice of Deficiency, Frequency Violation (Downstream) for Conductivity, Dissolved Oxygen, Temperature, Conductivity
- 6/3/2023 Notice of Deficiency, Frequency Violation (Upstream) for Conductivity, Dissolved Oxygen, Temperature, Conductivity

NC0087084 Riverstone WWTP:

- 1/21/2023 Notice of Violation, fail weekly fecal coliform.
- 1/28/2023 Notice of Violation, fail weekly fecal coliform.

SSOs or Bypasses of treatment facilities. None

Collection System SSOs: During 2023 the Town of Forest City had 2 reportable SSOs. The first was 11/30/2022 and had an estimated volume of 2000 gallons due to heavy rain. The second was 12/15/2022 and had an estimated volume of 1500 gallons due to heavy rain.

Corrective Measures

Collection System: During 2023 the Town of Forest City had 38,739 feet of sewer line cleaned and 26,737 feet of sewer treated for root control. The camera inspection consisted of 6,495 feet. Approximately 1,820 feet of sewer line was replaced on Old Caroleen Rd,

The Town of Ellenboro collection system is maintained by Forest City. A total of 9,243 feet of cleaning to the Ellenboro collection system took place in 2023.

• **Description of any known environmental impact of violations:** None

• **Description of corrective measures taken to address violations or deficiencies at WWTP:**
The deficiencies at Forest City WWTP were due to not sampling 3 times at the end of the month during a partial week. The violations at Riverstone WWTP were due to receiving 25,000 gallons of water with an Ammonia of 30mg/L from Befesa. Befesa was contacted to stop the excessive flow.

Sewer Collection System Infiltration and Inflow (I&I) Rehabilitation Projects:

III. Notification

Notification of the Town's System Performance Annual Report shall be conveyed to Town customers by a statement printed on monthly billing. The report will be available on the Town's website and shall be made available as "hard copy" upon request from the following locations:

- Forest City Town Hall, located at 128 N Powell Street,
- Public Works Department located at 132 Wilkie Street,
- Forest City Wastewater Treatment Plant located at 397 Riverside Drive.

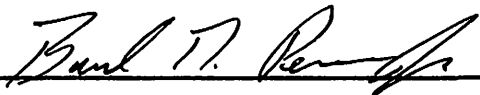
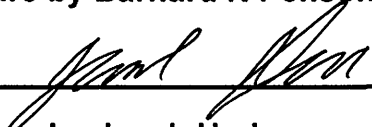
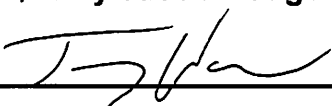
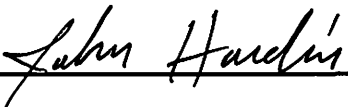
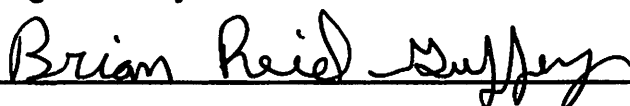
IV. Certification

North Carolina Certified Operators in Responsible Charge (ORC) and backups:

WWTP ORC:	Jacob Hodge	WW IV Cert. # 1002138
WWTP Back-up ORC(s):	Tommy Wilson	WW IV Cert. # 996990
Collections ORC(s):	Brian Reid Guffey	CS 4 Cert. # 1000714
Collections Backup ORC(s)	Darrell Green	CS 2 Cert. # 1013892

• **Statement by responsible officials certifying the report is accurate and complete.**

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.

		2/14/2024
Signature by Barnard N Penson Jr	Public Works Director	Date
		2/15/24
Signature by Jacob Hodge	Chief Plant Operator/ORC	Date
		2-15-24
Signature by Tommy Wilson	WWTP Plant Superintendent/backup ORC	Date
		2/14/24
Signature by John Hardin	Water and Sewer Superintendent	Date
		2/15/24
Signature by Brian Reid Guffey	Collections System ORC	Date

Note: Annual reports (SPAR) must be submitted **within 60 days of the end of the applicable 12-month review period.**

To satisfy the Departmental reporting requirement, annual report (SPAR) was emailed to NCDEQ.