

System Performance Annual Report

Fiscal Year 2020 (July '19 - June '20)

I) General Information

Town of Franklin Wastewater Treatment Plant

399 Sierra Drive

Franklin, NC 28734

Wastewater ORC
2516

William L. Deal

828-524-

Permit Number

NC0021547

II) Description of Facility

The Town of Franklin Wastewater Treatment Plant (WWTP) is rated for 1.65 million gallons per day (MGD) serving the Town of Franklin and extended service areas. For fiscal year 2020 an average 0.9965 million gallons of flow were treated. The majority of the flow treated is from residential customers. Other flows such as commercial and industrial along with inflow and infiltration (I&I) are also treated.

The design of the wastewater treatment plant is a modified activated sludge biological treatment process which relies on an oxidation ditch to provide much of the treatment process. It consists of three rings; an outside, middle, and inside. It's a process that utilizes long solids retention time (SRT) to remove biodegradable organics. The lifeblood of the treatment system are the microorganisms (bugs). These microorganisms treat the wastewater and make the treatment process possible. Here is a detailed layout of the treatment system.

Preliminary Treatment

HydoDyne Band Screen – screening with compactor and auger.

Aerated Grit Chamber – 2 Gorman – Rupp grit pumps and auger grit removal system.

1.5 MGD Equalization Basin – with fine bubble air diffusion.

Septic Receiving Station – Offloading of domestic septic only.

Primary Treatment

3 Ring Oxidation Ditch – utilizes 9 S&N Airflo aerators to maintain correct oxygen content and to maintain adequate mixing.

Secondary Treatment

2 - Rex Secondary clarifiers (50 feet in diameter each)

2 - Fairbanks Morse Return Sludge Pumps

Disinfection Treatment

Sodium Hypochlorite Solution with dechlorination of effluent prior to exiting the treatment facility.

Residual Handling Equipment

Aerobic Digester 85 feet in diameter, with coarse bubble diffusion;

1 - Moyno E Z Strip Transfer Pump

1 - Meter Komline Sanderson Belt Press

1 - Fairbanks Morse Waste Sludge Pump

Back Up Power Supply

Headworks and EQ with (80KW generator)

Wastewater Treatment Plant (600KW generator)

Bio solids / Sludge Removal

The Town of Franklin presses sludge and is disposed into the Macon County Landfill.

Automation

SCADA provides some automation controls of the treatment facility and emergency notification when operators are not on site.

III) Improvements to the Facility and Equipment

Facility

The Town of Franklin facility was inspected and found to be exempt from implementing a storm water permit. The wastewater treatment plant is installing a cover over the cascade to reduce algae growth

Equipment

Converted 1 S&N aerator from belt drive to a direct drive system.

IV) System Performance Measures

The Town of Franklin wastewater treatment plant has achieved high performance levels for the 2020 fiscal year. The Town of Franklin continues to provide effective/efficient treatment services to the Town. Average wastewater BOD & TSS removal efficiencies of 98.2% and 98.8% respectively (state permit requires a minimum of 85% removal rates for compliance). See attached charts removal efficiencies.

V) Violations

The Town of Franklin wastewater treatment plant did have one Notice of Violation that accrued on February 6TH 2020. The specific incident cited that an unauthorized bypass downstream of the secondary clarifiers due to extremely heavy rain.

VI) Charts