

# System Performance Annual Report

Fiscal Year 2019 (July '18 - June '19)

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## I) General Information

Town of Franklin Wastewater Treatment Plant

399 Sierra Drive

Franklin, NC 28734

Wastewater ORC

William L. Deal

828-524-2516

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 2019 an average 1.0723 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

Converted a storage room into a maintenance and equipment room.

### Equipment

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

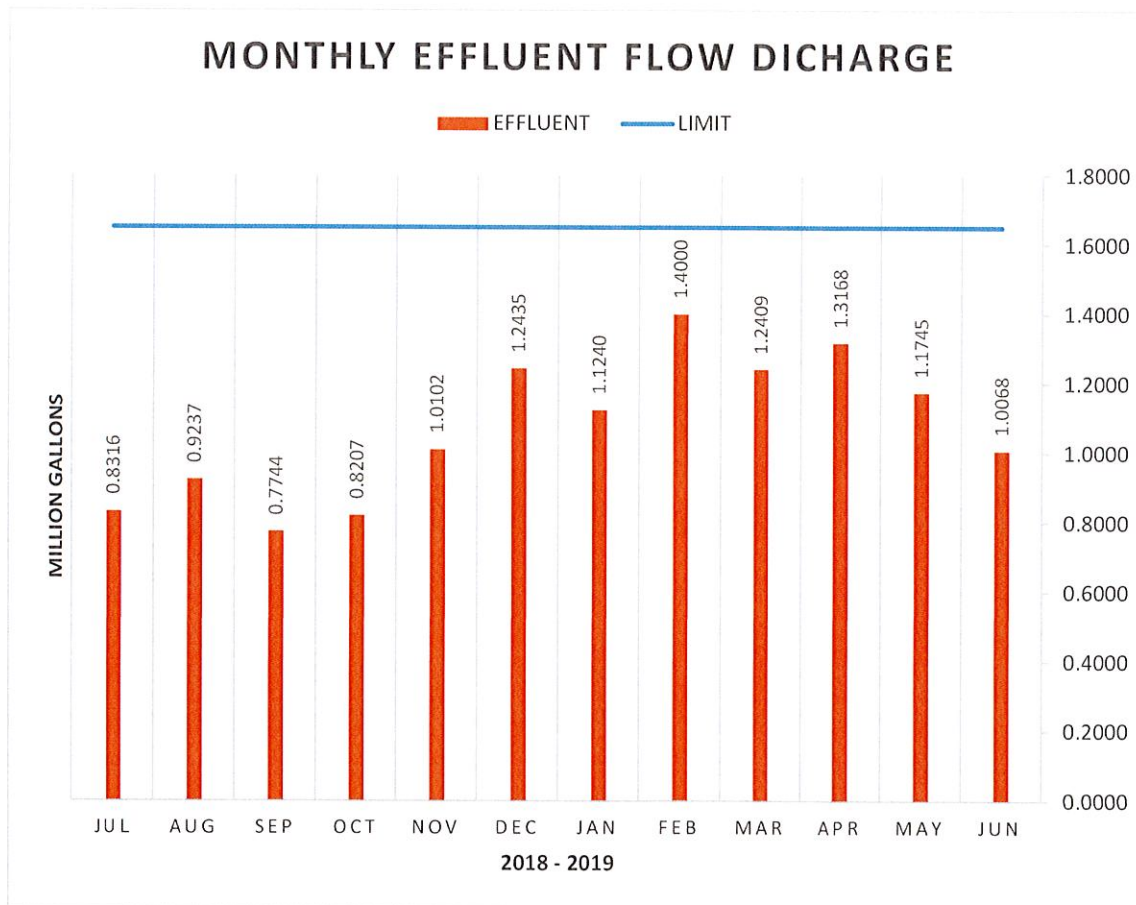
## IV) System Performance Measures

The Town of Franklin wastewater treatment plant has achieved high performance levels for the 2019 fiscal year. The Town of Franklin continues to provide effective/efficient treatment services to the Town. Average wastewater BOD & TSS removal efficiencies of 98.6% and 99.1% respectively (state permit requires a minimum of 85% removal rates for compliance). See attached charts removal efficiencies.

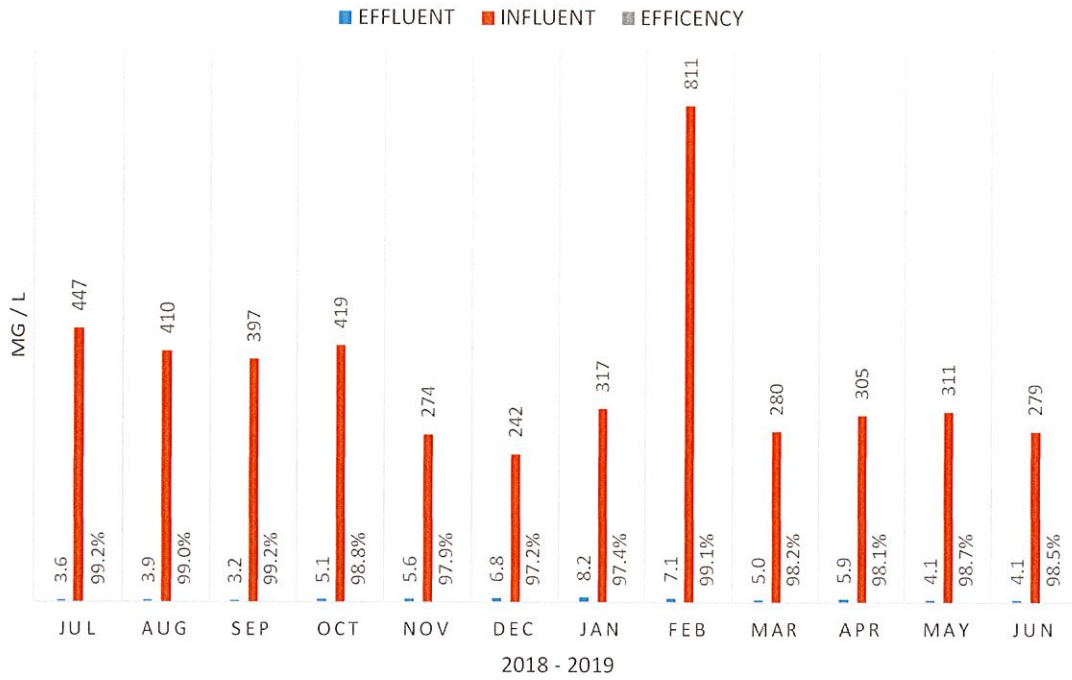
## V) Violations

The Town of Franklin wastewater treatment plant did not have any permit violations from July 1<sup>st</sup> 2018 to June 30<sup>th</sup> 2019. There was however one spill that occurred on December 28<sup>th</sup> 2018 due to heavy amounts of rain fall. The event was reported to NC DWR within the acceptable timeframes.

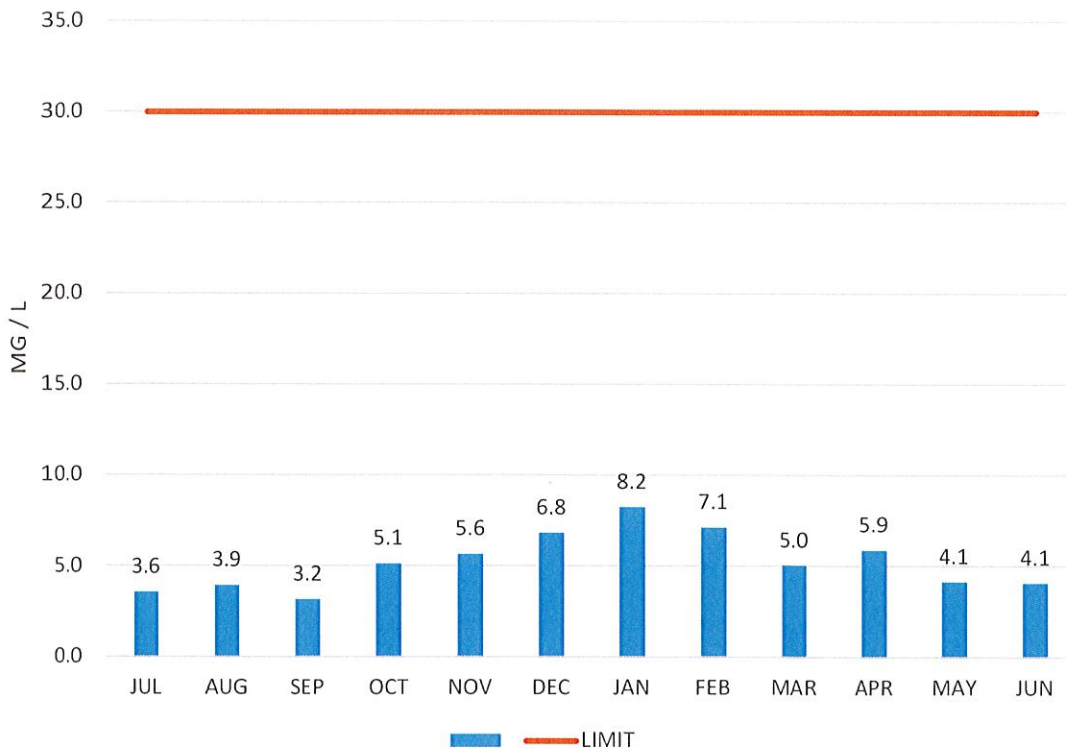
## VI) Charts



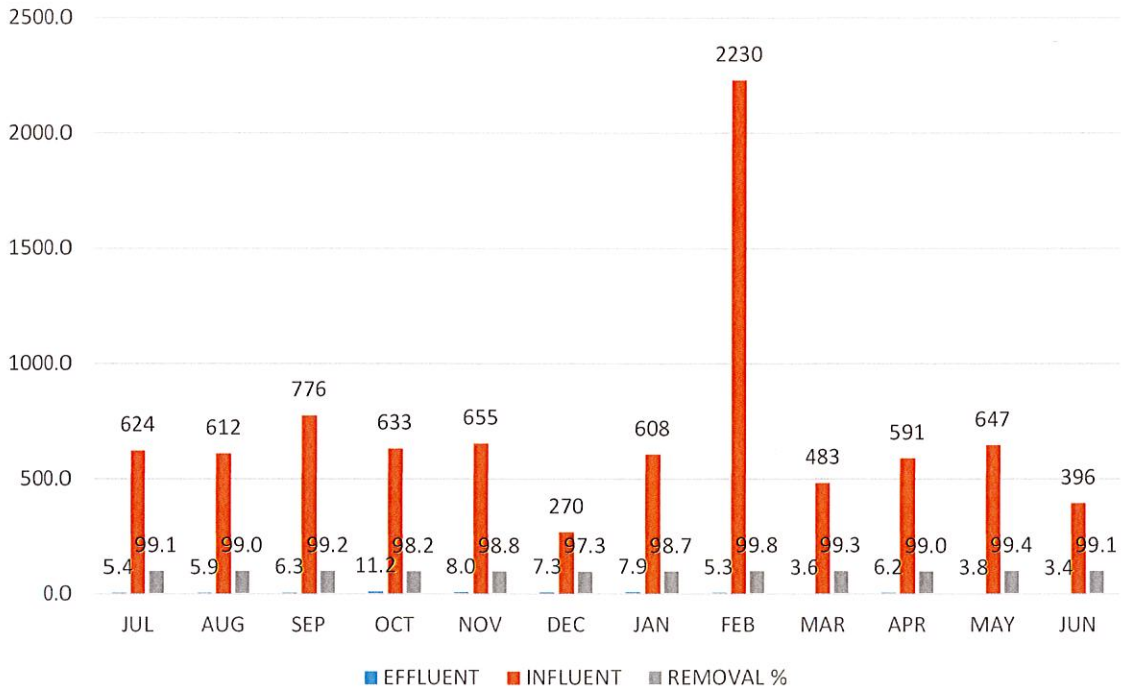
## MONTHLY BOD EFFICIENCY



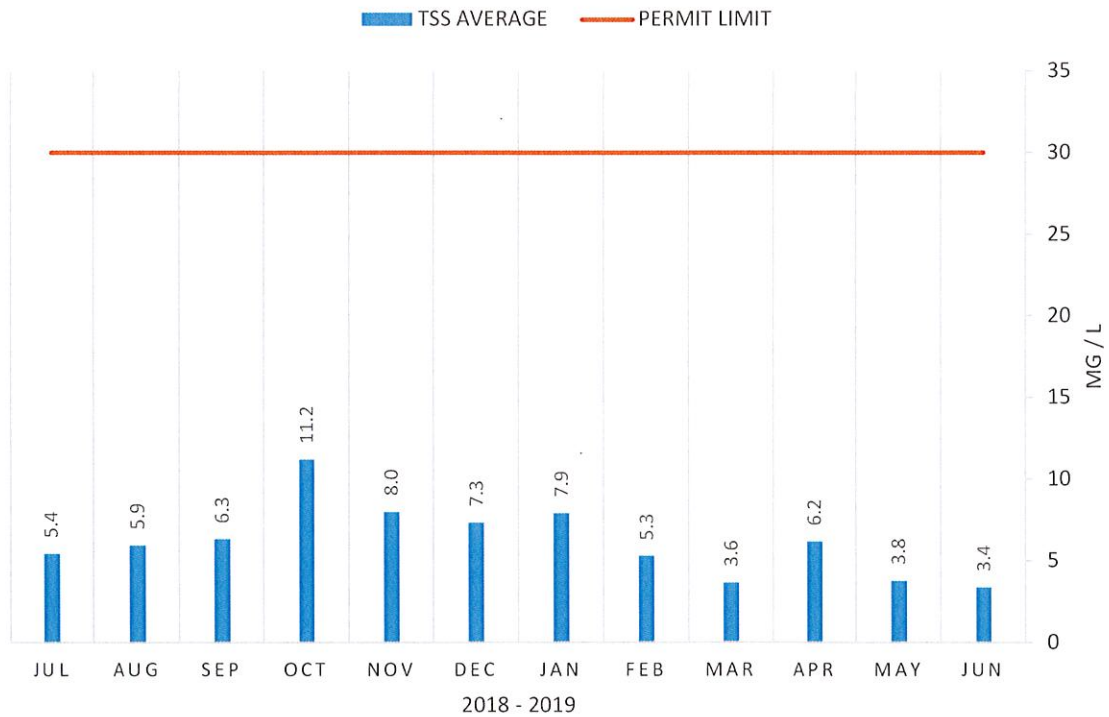
## 2018 - 2019 BOD MONTHLY AVERAGES



### 2018-19 TSS PERCENTAGE REMOVAL



### EFFLUENT TSS MONTHLY AVERAGES



## VII) Summary

### Effluent Flow

The wastewater treatment plant treated a total flow of 391,374,292 gallons for the 18-19 fiscal year which is an increase of 21.7% from 17-18 fiscal year.

### Belt Press Sludge

The wastewater treatment plant pressed a total of 673.14 tons or 1,346,280 pounds for the 18-19 year which is slightly higher than the 670.84 tons pressed in 17-18 fiscal year.

### Domestic Septic Treated

The wastewater treatment plant treated a total of 1,190,080 gallons of domestic septic.

### Leachate Treated

The wastewater treatment plant treated a total 1,455,900 gallons of leachate.

### Sodium Hypochlorite Bleach


The wastewater treatment used 4925 gallons of bleach for the 18-19 year which is equal to 13.5 gallons per day of bleach used.

### Calcium Thiosulfate Solution

The wastewater treatment plant used a total of 2030 gallons of Captor to dechlorinate the final effluent water before entering the Little Tennessee River. This is an average of 5.56 gallons per day.

## VIII) 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 user and customers of the Town of Franklin and that those users have been notified of its availability.



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William Logan Deal, 8/19/2019

Town of Franklin WWTP ORC / Pretreatment Coordinator