

Wastewater Treatment Plant
PERFORMANCE ANNUAL REPORT
2020

I. GENERAL INFORMATION

Facility/System Name: City of Thomasville Hamby Creek Wastewater Treatment Plant

Responsibility Entity: City of Thomasville
P.O. Box 368
Thomasville, NC, 27361

Person in Charge/Contact: Morgan Huffman, Utilities Director
P.O. Box 368
Thomasville, NC, 27361
(336) 475-4220

Applicable NPDES Permits: NC00024112 (Wastewater Treatment Plant),
WQCS00057 (Collection System),
NCG110000 COC#NCG110094 (Stormwater-Industrial Site),
WQ0006050 Non-Discharge (Sludge Disposal),
NC0088200 (Alum Lagoon)

CERTIFIED MAIL RETURN RECEIPT NUMBER: **7020 1290 0001 7858 8196**

Description of Collection System:

The Thomasville sanitary sewer collection system is comprised of a system of 219.869 miles, or 1,160,908 linear feet of pipe, and 26 sewage lift stations spread throughout the area.

Description of Treatment Process:

Hamby Creek WWTP is a 6.0MGD capacity grade 4 wastewater treatment facility using the 5-Stage Bardenpho process with post aeration to achieve biological nutrient reduction of both phosphorus and nitrogen. Headworks equipment consists of an automated solids removal bar screen and a grit removal system. Secondary treatment consists of two parallel trains of treatment, each consisting of an anaerobic zone, an anoxic zone, an oxidation ditch, and second anoxic zone, and re-aeration. Removal of activated sludge is accomplished in two circular secondary clarifiers equipped for removal of solids for return to the process or wasting to a digestion system. Effluent from the two circular clarifiers is filtered through 10 micron disk filters and then receives disinfection via a UV system prior to post aeration and discharge into Hamby Creek. A proprietary solids reduction process is also in place via a side stream to reduce the amount of solids that must be removed. Waste activated sludge is belt pressed and landfilled or anaerobically digested to standards for class B sludge as defined by EPA in CFR Part 503 then applied to farm land as a beneficial reuse. No land application of biosolids from Thomasville occurred in 2020.

II. PERFORMANCE

In 2020 Hamby Creek WWTP treated **1,029.2** Million Gallons of wastewater at an average daily flow of 2.81 MGD. The treatment plant was in compliance for all effluent parameters for 10 months of the year. The exceptions to this were in May and July. In May BOD₅, TSS, and DO limits were violated. In July BOD₅, TSS, and Total Ammonia Nitrogen limits were violated. In all instances the violations were a direct result of high flows from the collection system during heavy precipitation overloading the plant.

In the sanitary sewer collection system forty-six sanitary sewer overflows were experienced as summarized in the table below. Thirty-eight of the sanitary sewer overflows were more than one-thousand gallons in volume. Construction projects, described below the table, have been completed and more are planned for the future to address areas where repeated sanitary sewer overflows have been experienced. The Water Sewer Utility Project List can be seen on the City website. Four things that users of the system can do to help prevent overflows are:

- 1) **NEVER place GREASE or OIL into the sanitary sewer system.** It may be liquid in your pan, but it becomes as hard as concrete in the sewer system. Instead, either place grease and oil wastes in empty containers and place these into the garbage or, preferably, **BRING YOUR USED COOKING OIL TO THE PUBLIC WORKS FACILITY AT 525 TURNER STREET TO HAVE IT RECYCLED.** The city has contracted with a private vendor to recycle citizen's used cooking oil free of charge. You can help the environment in multiple ways by recycling your used cooking oil and helping to prevent sanitary sewer overflows at the same time. Only 1 of the sanitary sewer overflows in 2020 was attributable to grease blocking the lines.
- 2) **NEVER place down the drain anything that will not biodegrade in a few days.** Put another way, **if you wouldn't leave it in your front yard and expect it to biodegrade in a few days, then don't put it down the drain.** Two of the sanitary sewer overflows in 2020 were attributable at least in part to debris blocking the lines.
- 3) **Make sure no trees or shrubs grow on or near any sewer lines that may pass through your yard.** Roots will seek out the water being carried in the pipes and penetrate the pipe at the joints, creating a blockage. An aggressive program of removal of vegetation from sanitary sewer easements has helped to bring the number of spills caused by roots down. This program is showing results in the fact that none of the spills in 2020 were attributable to roots blocking the lines.
- 4) **Make sure no roof or yard drains are hooked into the sanitary sewer system and that cleanout caps are securely in place.** The sanitary sewer system can become overloaded during rainfall events if roof or yard drains are mistakenly connected to the sanitary sewer system or if cleanout connections in your yard are missing their caps. Roof and yard drains should be run off into open areas or a rain garden for absorption into the ground and by plants. Twenty-three, or **50%, of the sanitary sewer overflows in 2020 were caused by the inflow and infiltration of rainwater during an extreme weather event.**

SANITARY SEWER OVERFLOWS

During 2020 the City of Thomasville experienced 46 sanitary sewer overflows, all but three of these reached surface waters. There were no known environmental impacts from these sanitary sewer overflows. These spills are summarized in the table below and represent only about 0.0595% of the water that was collected in the sanitary sewer collection system. Another way of stating this is that 99.9405% of the water collected made it to the plant and thru the treatment process. Fifteen of the spill from September through December were attributable mainly to the failure of a deeply buried force main that took several months to remedy.

| Month | Date | Location | Volume (Gallons) | Cause | Reached Surface Waters of the State? |
|---------|---------|-------------------------|------------------|-------|--------------------------------------|
| January | 1/03/20 | W Cooksey Drive | 1500 | I & I | Y |
| | 1/03/20 | W Cooksey Drive | 3000 | I & I | Y |
| | 1/24/19 | Rains Road | 44850 | I & I | Y |
| | 1/24/20 | W Cooksey Drive | 9000 | I & I | Y |
| | 1/24/20 | Old Emanuel Church Road | 22000 | I & I | Y |
| | 1/31/20 | W Cooksey Drive | 100 | Other | N |

| | | | | | |
|-----------|----------|-------------------------|-------|---|---|
| February | 2/6/20 | High Meadow Road | 7200 | Severe Natural Condition | Y |
| | 2/6/20 | W Cooksey Drive | 10000 | Severe Natural Condition | Y |
| | 2/6/20 | W Cooksey Drive | 37500 | Severe Natural Condition | Y |
| | 2/6/20 | Old Emanuel Church Road | 46000 | Severe Natural Condition | Y |
| | 2/7/20 | Rains Road | 36000 | Severe Natural Condition | Y |
| | 2/7/20 | Veach Farm Road | 3000 | Severe Natural Condition | Y |
| | 2/7/20 | Veach Farm Road | 5850 | Severe Natural Condition | Y |
| | 2/28/20 | Blair Street | 0 | Debris in Line | N |
| April | 4/13/20 | W Cooksey Drive | 1750 | I & I, Severe Natural Condition | Y |
| | 4/30/20 | W Cooksey Drive | 6000 | I & I, Severe Natural Condition | Y |
| May | 5/21/20 | W Cooksey Drive | 375 | I & I, Severe Natural Condition | Y |
| | 5/21/20 | W Cooksey Drive | 1500 | I & I, Severe Natural Condition | Y |
| | 5/21/20 | Old Emanuel Church Road | 19300 | I & I, Severe Natural Condition | Y |
| | 5/21/20 | Old Emanuel Church Road | 38600 | I & I, Severe Natural Condition | Y |
| | 5/27/20 | Old Emanuel Church Road | 20900 | I & I, Severe Natural Condition | Y |
| June | 6/12/20 | Randolph Street | 40 | Grease | Y |
| July | 7/10/20 | W Cooksey Drive | 300 | Severe Natural Condition | Y |
| | 7/23/20 | Old Emanuel Church Road | 22500 | Severe Natural Condition | Y |
| August | 8/15/20 | W Cooksey Drive | 8000 | Severe Natural Condition | Y |
| | 8/15/20 | Old Emanuel Church Road | 6000 | Severe Natural Condition | Y |
| | 8/30/20 | Shanda Court | 70 | Other | Y |
| September | 9/17/20 | W Cooksey Drive | 6300 | Pipe Failure | Y |
| | 9/17/20 | Williams Street | 3500 | Pipe Failure | N |
| | 9/18/20 | Randolph Street | 200 | Debris in Line | Y |
| | 9/25/20 | W Cooksey Drive | 21200 | I & I, Pipe Failure, Severe Natural Condition | Y |
| | 9/29/20 | W Cooksey Drive | 31200 | I & I, Pipe Failure, Severe Natural Condition | Y |
| October | 10/11/20 | W Cooksey Drive | 14400 | I & I, Pipe Failure, Severe Natural Condition | Y |
| | 10/29/20 | W Cooksey Drive | 8400 | I & I, Pipe Failure, Severe Natural Condition | Y |
| | 11/1/20 | W Cooksey Drive | 3000 | I & I | Y |
| November | 11/11/20 | W Cooksey Drive | 2700 | Severe Natural Condition | Y |
| | 11/12/20 | High Meadow Road | 14400 | Severe Natural Condition | Y |
| | 11/12/20 | E US Hwy 64 | 560 | Severe Natural Condition | Y |
| | 11/12/20 | W Cooksey Drive | 22800 | Severe Natural Condition | Y |

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|----------|----------|-------------------------|-------|---------------------------------|---|
| | 11/12/20 | Old Emanuel Church Road | 78368 | Severe Natural Condition | Y |
| | 11/30/20 | W Cooksey Drive | 4800 | I & I, Pipe Failure | Y |
| | 11/30/20 | W Cooksey Drive | 7000 | I & I, Pipe Failure | Y |
| December | 12/4/20 | W Cooksey Drive | 3600 | I & I, Pipe Failure | Y |
| | 12/14/20 | W Cooksey Drive | 18600 | I & I, Pipe Failure | Y |
| | 12/16/20 | W Cooksey Drive | 12000 | I & I, Pipe Failure | Y |
| | 12/24/20 | W Cooksey Drive | 8400 | I & I, Severe Natural Condition | Y |

The City of Thomasville continues to address the issue of sanitary sewer overflows through the planning and implementing sanitary sewer infrastructure rehabilitation projects and by increasing the amount of maintenance done to the existing system. Phase 3, the final phase, of the North Hamby Creek Outfall line upgrade project is currently under construction and should be completed by the end of March, 2021. Completion of phases 1 and 2 of this project have already greatly reduced both the number and volume of large spills experienced in this portion of the collection system. Other infrastructure projects include: Phase 2 of upgrades to the Hanks Branch Basin Collection System, continued rehabilitation of manholes throughout the collection system, and continued monitoring and evaluation of Inflow/Infiltration issues in both the Hasty Creek and Hunts Fork Creek outfall areas to be addressed in future projects. Numerous smaller pipe replacement and rehabilitation projects are performed every year by contractors hired by the City.

In addition to these projects to address infrastructure issues the City has begun a more aggressive program of Right-of-Way maintenance over the last decade. This program consists largely of the cutting and removal of vegetation that has been allowed to grow within the sanitary sewer rights-of-way or easements. Several local tree services have been employed to help in this effort along with clearing performed by City of Thomasville personnel. In conjunction with this program a private contractor has been hired to chemically treat select sections of the collection system that have experienced problems associated with root intrusion into the lines. The chemicals they use kill back the root growth and prevent re-intrusion for at least three years.

III. NOTIFICATION

Public notification of the availability of this report was made using the city government information channel (cable channel 13), the Facebook social network, and the City web site. This report was prepared and issued in compliance with the North Carolina Clean Water Act of 1999. Copies of this report are available at the City of Thomasville Water Department located in City Hall, 10 Salem St., Thomasville, N.C, and on the City web site <http://www.thomasville-nc.gov/>.

IV. 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 has been made available to the users or customers of the named system and that those users have been notified of its availability.

Michael Brandt
Responsible Person
Title: City Manager
Entity: City of Thomasville

Date

Explanation of Acronyms Used:

BOD5: Biochemical Oxygen Demand 5 Day

DO: Dissolved Oxygen

I & I: Inflow and Infiltration

NPDES: National Pollutant Discharge Elimination System

MGD: Million Gallons per Day

TSS: Total Suspended Solids

WWTP: Wastewater Treatment Plant