

Town of Murphy

Collection System Report

July 2019 - June 30, 2020

Prepared: July 2020

Town of Murphy
P.O. Box 130
Murphy, NC 28906

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Collection System Permit WQCS#00132

Collection System Components and Operation

The Town of Murphy's wastewater collection system, located in Cherokee County, consists of 15 pump stations with about 34 miles of collection lines. All wastewater from the collection system is transported by other lift stations into pump station #1, which is located approximately 2,300 feet from the wastewater treatment plant. Pump station #1 pumps directly into the head works at the wastewater treatment plant.

The Town of Murphy currently has a wastewater treatment plant permitted to discharge 1.4 mgd. The treatment system is a biological activated sludge process. It uses two (2) 750,000 gallon SBR tanks as treatment units. This system uses a sludge press in order to dewater the sludge prior to disposal instead of the drying beds that were used when the old plant was in service. The processed sludge is hauled to the county's landfill for proper disposal.

System Performance

The Town of Murphy completed the Regal Street rehab project in September, which replaced over 3,000 linear feet of ductile iron sewer pipe. Additionally, the town completed the Hiwassee River Sewer Repair Project in May, replacing over 1700 linear feet of bad sewer pipe at the US Forest Service property located at 123 Woodland Drive. The old sewer line had a reverse grade and eventually failed last July, resulting in several sanitary sewer overflows over the course of 2019-2020. The completion of the project resulted in nearly double the grade for the new sewer line, and also places the sewer line well off the Hiwassee River bank.

The Town jetted and cleaned the collection system periodically throughout the year, documenting the work. The purchase of the CCTV camera system in 2018 gives the town the ability to camera our sewer system in-house. The Town's SCADA system continues to work well, providing real-time data for our crew. The Town continues to progress toward mapping our collection system in our utility cloud software, which was purchased through the state's AIA grant. Minor sewer repairs were made to the system as needed.

DEFICIENCIES

The Town experienced several problems within the past year, documented below.

The Town had a total of six reported sanitary sewer overflows in the 2019-2020 fiscal year, and all but one occurred at the US Forest Service property located at 123 Woodland Drive. The sewer line completely failed last July, forcing town crews to construct an emergency bypass for nearly a year. The new sewer line was installed in May 2020, completing the Hiwassee River Sewer Repair Project and preventing any more SSO's at this location.

On Feb. 2, 2020 the Town of Murphy received nearly five inches of rainfall within a 24 hour period, overwhelming our collection system at the US Forest Service property and Cloe Moore Drive. The vast amount of rain introduced tremendous storm water into our collection system, causing an SSO of 550,000 gallons at the US Forest Service property and 350,000 gallons at Cloe Moore Drive. The completion of the Hiwassee River Sewer Repair project will prevent

future SSO's at the Forest Service property, and the town repaired one pump at the Health Department Lift Station that will help the collection system keep up with future flooding events. The town purchased infiltration bowls for several manholes along Chloe Moore Drive and the Murphy River Walk, in addition to other areas of need. The simple equipment is designed to prevent storm water from entering manholes during extreme flooding conditions. No issues have occurred at this location since they were installed. However, it will be difficult to prevent SSO's when the town experiences such adverse weather conditions.

The town had issues emerge at the Casino Lift Station, which harmed the wastewater treatment plant after the casino force main went septic. Town crews analyzed the lift station and deactivated the variable frequency drives. The latter seemed to resolve the issue.

Notification

The Town of Murphy will post this report on our website, www.townofmurphync.com.

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.

Chad Simons

Chad Simons, Town Manager

July 9, 2020

Date

