

City of Morganton

2018 Wastewater System Performance Report



The City of Morganton operates a wastewater treatment system consisting of a 10.5 million-gallon a day wastewater treatment plant, fifteen sewer lift stations and over 200 miles of collection system. Morganton's collection system operates from the shore of Lake James to the Town of Glen Alpine, to portions of the Salem area and most of the City of Morganton. The collection system is a complex network of piping materials ranging from six inch diameter vitrified clay pipe, plastic pipe, ductile iron pipe and cement pipe up to 54 inches in diameter.

NPDES permit #NC0026573 allows the discharge of treated wastewater into the Catawba River. The wastewater treatment plant is a pure oxygen type facility. Its treatment units are bar screens, flow monitoring, cyclone degritting, primary clarification, aeration, secondary clarification, disinfection and dechlorination before discharge to the Catawba River. The solids process consists of raw sludge removal and storage as well as activated sludge removal to digesters. A dewatering process consists of centrifuge, polymer addition and composting. The composting product is then made available for sale to the public as Morganite.

During 2018, Morganton treated over **2.37 billion** gallons of wastewater. The average daily flow was 6.56 million gallons. The wastewater treatment facility staff continues to strive to improve wastewater treatment quality. Renovations are ongoing and new additions are being built, such as a diffused bubbler system using turbo blowers to replace the pure oxygen system, all to help alleviate some of the challenges the aging facility has experienced in the past and to provide for future permit demands. The wastewater treatment plant was compliant 5 out of 12 months. In months of February, April, May and December the permit violations were from weekly and monthly exceedance of TSS and BOD with December also having a permit violation for an exceedance of flow from the facility. In months of September, October and November the permit violations were from weekly TSS and BOD exceedances with November also having weekly Fecal Coliform exceedance. These permit violations were all due to heavy rainfall which had caused hydraulic overloading of the facility. The plant was back in compliance the following weeks.

Residuals from the wastewater treatment plant are managed through the City of Morganton's Composting Facility regulated by permit # WQ0002127. The facility operates 5 days a week with two full time employees. During the 2018 calendar year the facility processed 1,180 dry tons of residuals from the wastewater treatment plant, producing 621 dry tons of finished compost material, 279 dry tons of which were distributed to customers.

The collection and distribution division monitors the water and sewer system. This small crew of dedicated personnel routinely goes into the lines to maintain and repair them. During 2018, this division maintained 838 manholes, flushed 100,884 feet (19.1 miles) of sewer line and used a robotic TV camera to inspect 9,791 feet of sewer. Collection system crews completed 32 sewer taps during the 2018 calendar year, made 18 repairs to the system and relieved 72 stoppages. Sewer maintenance crews bush-hogged a total of 44,150 feet (8.4 miles) of sewer line right-of-way to give them access to the most remote sewer lines. Morganton's collection system is regulated through permit #WQCS00028.

There were ten reported overflows of the sewer system in 2018. A build-up of debris caused an overflow on North Terrance Place on January 1st, estimated 200 gallons spilled. Had a stoppage causing overflow at Ervin St Outfall on January 29th, estimated 500 gallons spilled. A build-up of rags caused an overflow at Clontz Drive on March 31st, estimated 200 gallons spilled. A build of grease caused an overflow at Green Briar Outfall on April 11th, estimated 225 gallons spilled. Debris in line caused an overflow at Brookside Lade Outfall on July 10th, estimated 100 gallons spilled. A broken sewer pipe was discovered and repaired on Valley Street on July 19th; estimated 1,700 gallons reached Hunting Creek. A build of debris in line caused an overflow at East Fleming Outfall on August 16th, estimated 300 gallons spilled. Severe rain from tropical storm Michael caused overflow at Brookside Lane and at Vine Arden Junction Box on October 11th, estimated 12,750 gallons and 30,000 gallons spilled into Hunting Creek. Severe rainfall with high inflow and infiltration caused Vine Arden Junction box to spill on December 28th, estimated 255,000 gallons spilled into Hunting Creek. In each of the overflow situations, the City personnel worked diligently to address the causes and to mitigate the overflows.

Annually, City crews use a remote camera to help clean and inspect portions of the sewer system. The City plans to continue to use contractors, when the money becomes available, to augment its preventative maintenance program. The results will be used to identify areas that need to be repaired and to plan appropriate action.

The camera that is used has its own light system and can rotate 180 degrees. The camera can tell if the lines are in good condition or whether there are cracks that are allowing the surrounding soil to fall into the sewer line. Cameras can also locate missing taps or indicate where leaks are occurring. This information tells us if we need to make an immediate repair or if the repair can be scheduled.

Fats, oils and grease continue to plague the collection system. Residential customers should avoid placing food into sinks and sanitary sewer lines. Particles accumulate in the customer's home as well as the collection system causing maintenance issues for the homeowner and the City.

Often our customers are the first to find problems. If you see something that appears to be wrong, please call the 24-hour number for water and sewer utilities at 438-5276.