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# Large Utility Turns to Artificial Intelligence at Major Pump Station

Genesee County, Michigan, is considered to be part of the greater Mid-Michigan Area. The population as of the 2010 census was about 425,000, making it the fifth most populous county in the state. Named after Genesee County, New York, it was created in 1835 and fully organized by 1836. Covering 639 square miles, Genesee County has thirty-two cities, townships and villages, with the City of Flint as the largest urban center.

## INSIDE GENESEE COUNTY

The Genesee County Drain Commissioner, Division of Water and Waste Services (GCDC-WWS) is responsible for the construction and maintenance of the sanitary sewer collection system and water distribution system. This includes establishing rates, certifying capacity, sewer modeling, capital improvement planning, master planning, and receiving bids and awarding contracts for construction among local units of government.

GCDC-WWS also offers engineering and project management services to municipalities, which combine low costs, better knowledge of the infrastructure, and a wealth of resources to use as needed. Engineering services

are turnkey and include planning, design, construction, and project closeout, making the entire process as easy as possible for the client. GCDC-WWS also provides a master plan review and sewer and water modeling evaluation.

Among GCDC-WWS's many responsibilities is the operation of the Anthony Ragnone Treatment Plant (ARTP), located in the Township of Montrose. The ARTP facility was originally placed in service in the 1960s, with major expansions completed in the 1970s and 1980s. This facility

has been an integral part of Genesee County's system to provide safe, effective wastewater treatment. The recently completed screenings, grit and scum removal systems, and fine bubble aeration diffuser improvements, as well as the new wet weather facilities, disinfection improvements, and

pump station upgrades allows GCDC-WWS to effectively continue to improve effluent quality to comply with state and federal regulations, and more importantly, provide watershed protection.

GCDC-WWS owns and operates three wastewater treatment facilities: ARTP, Sanitary Disposal District #3 Treatment Plant, and Sanitary Disposal District #7 Lagoons. The collection system for ARTP service area includes over 1,700

Pump Station #8 was outfitted with old equipment whose operation and reliability had become problematic. It was time to turn over a new leaf and embrace technology to solve the problem.



Two new Flygt Concertor pumps being prepared for installation



Removal of old pump from Station #8



miles of 8-inch through 96-inch sanitary sewers and seventy-three pump stations. ARTP final effluent discharges into the Flint River, located at the northwest end of the county in Montrose Township.

In 2007, GCDC-WWS completed the construction of its Northeast Extension Sewer Project, which split and rerouted

some of the system's flows. They began reviewing the current status of ten of their major sanitary sewer pumping stations. Pump Station #8, servicing Genesee and Richfield Township's, was among the stations being considered for rebuilding the existing pumps or replacing them with new units.

By Steve London