CASE STUDY

OPERATION AND MAINTENANCE (O&M) FOR WATER AND WASTEWATER UTILITY SYSTEMS, INCLUDING SOLIDS HANDLING

CANTON, GEORGIA

CONTRACT VALUE:
$2,700,000

APPLICATION:
Municipal

TECHNOLOGY:
Water & Wastewater Treatment

CAPACITY:
6 MGD

PROJECT START:
2006

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Est 1834 CANTON GEORGIA

BACKGROUND

H_2O Innovation initially signed the contract with the City of Canton in 2006, with subsequent extensions in 2007, 2012, 2018, and 2024. The transition included 20 full-time employees, with two additional full-time employees hired afterward. The current team consists of 21 full-time employees and one Project Manager. The facilities are classified as a Class I sewage treatment plant (STP) and a Class I water treatment plant (WTP), the highest classification in Georgia.

SCOPE OF WORK

The City of Canton system uses 40 lift stations to pump influent to the wastewater treatment facility. The facility currently operates as a 4 MGD (15,120 m^3/day) sequencing batch reactor (SBR) plant. An expansion is currently underway to increase capacity to 6 MGD (22,680 m^3/day) and convert the facility to a biological nutrient removal (BNR)/membrane bioreactor (MBR) process.

The current system is designed for an influent total phosphorus concentration of 18 mg/L and consistently produces effluent concentrations of 0.18 mg/L. Similarly, the system is designed for an influent ammonia (NH_3) concentration of 43 mg/L and produces effluent concentrations between 0.05 and 0.1 mg/L. Biochemical oxygen demand (BOD) and total suspended solids (TSS) are also consistently low, averaging approximately 2.9 mg/L and 1.6 mg/L, respectively.

SCOPE OF WORK (continued)

The wastewater stream is a blend of domestic wastewater and heavy industrial flows from two metal component manufacturers and one meat processing plant. All three facilities are part of our Industrial Pretreatment Program (IPP) and are monitored by our team for effluent exceedances. Project responsibilities also include sludge digestion and dewatering using a belt filter press, as well as hauling and land application. As part of the current system expansion, the solids handling facility will be upgraded with a sludge dryer to increase solids content from the current 18% achieved by the belt filter press to 92% dryness, producing a Class A biosolids product.

During the summer months, a portion of the treated effluent is reused for irrigation at a local golf course. In July and August 2020 alone, 5.23 MG (19,769 m^3) was diverted for irrigation, reducing demand on the City's potable water system. Our contract also includes the operation of the City's 4.5 MGD surface water treatment facility, as well as its elevated storage tanks and water distribution system. Our team performs meter installations and repairs, along with service connections and disconnections.

Since the start of the project, our team has served over 21,000 residents of the City.

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