

Xylem's Godwin pumps tackle large bypass system in Greenwich, Connecticut

Eight-week bypass schedule allows for completion of major infrastructure upgrades

Project

The town of Greenwich, Connecticut's existing 54-in. diameter concrete sanitary sewer line, which carried nearly all of the town's wastewater flow, was being attacked by hydrogen sulfide and deteriorating. After a condition assessment, it was determined that this critical infrastructure should be rehabilitated as soon as possible. In order to complete the sanitary sewer rehabilitation while maintaining treatment operations, a 40.9 million gallons-per-day temporary bypass system was needed to divert the flow from three areas of town to the wastewater treatment plant.

Along with the town's consulting engineer, CDM Smith, Richard Feminella, P.E., Wastewater Division Manager for the Greenwich Department of Public Works, reached out to Andy Culver, Outside Sales Representative for Xylem, for a pump rental solution. Culver and the Xylem team had worked with the town of Greenwich in 2011 on a bypass system at the wastewater treatment plant. Feminella selected Godwin pumps for this large bypass job, based on the town's previous experience with the company. "They certainly have the ability and the experience, and they're very responsive," Feminella said. "In our own experience, Godwin has the most reliable pumping system."

Solution

The bypass system employed a total of 20 Godwin pumps and 11,000 ft of HDPE pipe. The equipment was delivered in 30 tractor-trailer loads, according to Culver.

The sewer bypass flowed out of five separate suction locations. These five manholes used a total of nine Godwin Dri-Prime CD300M pumps, three Godwin Dri-Prime CD150M pumps, two Godwin Dri-Prime CD103M pumps and two Godwin Dri-Prime NC150 pumps. A stream diversion was required to install a concrete conduit and used three pumps: a Godwin Dri-Prime DPC300 pump, a Godwin Dri-Prime CD225M pump and a Godwin Dri-Prime CD150M pump. An additional Godwin Dri-Prime CD300M pump was on site as a dedicated standby pump.

"At each of these setups we had to have multiple pumps so we could handle low flow conditions as well as peak flow conditions," Feminella said. "We also had one standby pump so that if something were to go



Twenty Godwin pumps were on site for the duration of the project. Because of the size and quantity of pumps required, the town opted to rent the equipment to save transportation, storage and maintenance costs.

CUSTOMER: Town of Greenwich, Connecticut

CHALLENGE: Deliver a temporary sanitary sewer bypass system that would allow the town to complete vital infrastructure upgrades.

PRODUCTS: Godwin CD and NC Series Dri-Prime pumps

RESULT: A successful temporary bypass setup that pumped for eight weeks while crews completed a critical sanitary sewer rehabilitation.

Godwin Dri-Prime CD Series pumps handle raw sewage, sludges and liquids. Godwin Dri-Prime NC Series pumps are engineered to deliver non-clogging, nonstop performance by utilizing a Flygt N-technology impeller.

wrong while we were in a high flow condition and our main pumps failed, we had a backup. It was critical that the system have a 'belt-and-suspenders' design so there were contingencies in place for any scenario."

The expertise of Xylem's engineers helped guide the process from start to finish, offering peace of mind for the town and its residents. For the entire duration of the pumping project, two factory-trained service mechanics were on site 24/7 with service vehicles fully stocked with parts to make any necessary repairs in the field.

Because of the massive scale of the project, the town opted to rent the equipment needed for the job. "For a project this size, no one would ever purchase equipment," Culver said. "A project like this may not come along in the town of Greenwich for another 100 years. They may never need the equipment again."

Storage and maintenance also factored into the town's decision to rent. "We certainly don't have enough room to store the number of pumps involved, and we wouldn't have any use for them in the future," Feminella said. "I don't think we have the expertise to set them up, nor do we have the equipment to move them around." He added that by renting, the town was able to avoid costs associated with maintaining equipment that is not in use.

Results

Xylem was able to set up the entire Godwin bypass system in the 35-day period that was promised. The setup process went off without a hitch, according to Feminella. The bypass system pumped successfully for eight weeks while the sanitary sewer rehabilitation took place.

"Because there were so many eyes on this project, we had absolutely no margin for error. We needed to be very comfortable with the folks doing the bypass, which is probably the most critical part of this project," Feminella said. "Xylem provided 'soup-to-nuts' service on this project, from the design to field operation of the bypass."



Although the project was located on a heavily traveled road near a major interstate and local businesses, setup of the system went smoothly.



The eight-week bypass system employed 11,000 ft of HDPE pipe.