

26th Ward Wastewater Treatment Plant Bypass

Brooklyn, NY

The Combined Sewer Overflow Regulator at the 26th Ward WWTP in Brooklyn collapsed. The estimated flow through this regulator was 85 MGD, with a combined plant capacity of 170 MGD. Local environmental regulations restricted the use of diesel engines to 175 HP or less, and all engine driven equipment was required to be sound attenuated to 50 decibels at 30 feet. The discharge point was the high-level manhole approximately 500 feet away.

Godwin worked with the design engineer on the project prior to bid to help design a bypass solution for this sensitive and highly variable system. The New York City DEP had no means of measuring the influent flow through this half of the plant; therefore, the flows specified were merely estimates.

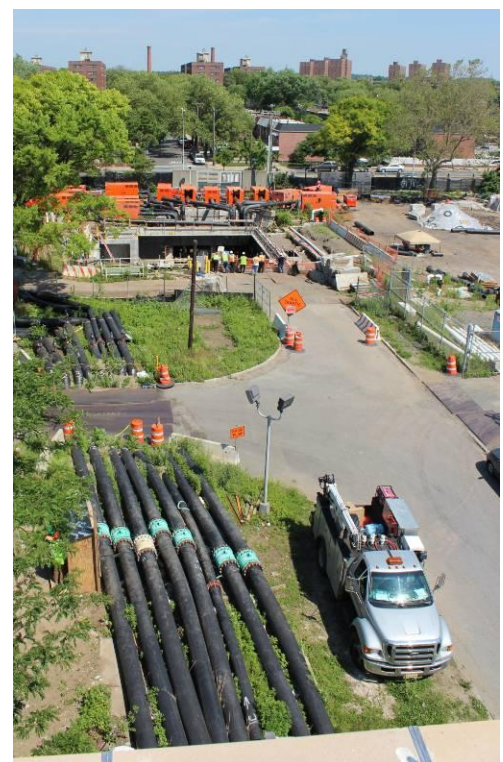
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Once the project was awarded, Godwin began the engineering submittals and project planning with the general contractor. During the review and approval of submittals, approximately 25 percent of the working space for bypass pumping was lost for other adjacent projects.

Solution

Godwin provided fifteen Critically Silenced Dri-Prime[®] DPC300 pump sets, seven 500-gallon auxiliary fuel tanks, seven 18" Magnetic Flow Meters and a Data Logger panel with a flow totalizer to provide the NYC DEP with influent flow data through the East Side interceptor.

Godwin mobilized the contract and two fusion technicians at the end of May 2011. Approximately four weeks later, during the bypass setup, the contractor encountered a wooden floor which had been mummified by concrete since the early 1900s. This floor began to rot once it was exposed to air and subsequently undermined the



CUSTOMER: T. Moriarty & Sons

ORDER DATE: JANUARY 2011

COMPLETION: Estimated August 2012

XYLEM'S ROLE: Provide a solution for an 85 MGD bypass for influent interceptor

XYLEM'S SCOPE:

- 15 Critically Silenced Dri-Prime DPC300 pumps
- 7 500-gallon fuel tanks
- 7 Flow Meters
- Data Logger panel

remaining structure. The contractor was given a stop work order so the situation could be resolved and rectified.

In April 2012, the contractor was given notice to proceed and Godwin sent the fusion technicians back to the site for an additional three weeks of setup, installation and testing.

Bob Spinner, Jr. was the lead fusion technician on the project. During the initial phase of mobilization and setup, Ryan Booth, lead sales representative, and Bob Spinner, Jr. devised a plan for the installation of the equipment and piping. Due to the significant loss of available real estate and tight working space, the installation could not be reset after its initial placement. The contractor had to bench down three of the primary pumps and stager the suction lines in order to fit the bypass system into the space.

Result

The bypass system was started in June 2012. Within the first week, the city had a 10-year storm event, in which all 15 pumps were needed to keep up with the flow. Three of the DPC300s are currently running around the clock to handle the average daily flow of the plant.

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Fifteen Critically Silenced Dri-Prime DPC300 pumps bypassed the plant's flow during a 10-year storm event.



Auxiliary 500-gallon fuel cells connected to the primary pumps.



Pipe led the product to the discharge point, a high-level manhole over 500 feet away.