

Pre-Engineered Lift Stations for Wastewater, Stormwater and Industrial Pumping

A grand stormwater solution for Grand Avenue



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THIS EDITION OF TECH NOTES examines the use of a pre-engineered lift station in a rail and road project near Chicago. Improvements to a busy railroad intersection in Franklin Park, Ill., included construction of a below-grade underpass.

A pre-engineered lift station from Romtec Utilities was an integral part of the storm management system in the underpass area. Rainwater drains into a series of box culverts, and then flows into the lift station's wet well. Submersible pumps then move the stormwater into a combined sewer system.

Components of the lift station include:

- Pre-cast concrete wet well (6' dia. x 22' depth) with ITT Flygt Safe-Hatch access cover and self-cleaning fiberglass basin
- ITT Flygt duplex submersible pumps and MultiTrobe liquid level sensor probes in the wet well
- Pre-cast concrete vaults with pre-assembled check and plug valves and Siemens flow meter
- Station control panel with MultiTrobe MT2PC controller
- Natural gas-powered standby generator

The village of Franklin Park, Ill. is home to about 20,000 people and includes the fourth largest industrial area in the state. Grand Avenue is a main east-west route between the area south of O'Hare International Airport and Chicago to the east. Rail lines intersecting Grand Ave. include the only north-south route of the Canadian Pacific Railway and the Indiana Harbor Belt Railroad. Dozens of trains cross Grand Ave. every day.

struction project that separates rail and road with a below-grade underpass on Grand Avenue. Three rail lines now pass over the street on a wide steel bridge, improving safety and eliminating traffic delays.

An integral part of the project was a strategy to prevent surface and stormwater from collecting in the low area created by the underpass. "A half-mile of the road drains into the low point at the bridge," Talbot



Municipal leaders have been working for nearly 50 years to build an underpass designed to alleviate the traffic congestion at railroad crossings along Grand Avenue. "It was a horrible backup problem that impacted every driver on the road," says David Talbot of Clark Dietz Engineers, who serves as the village engineer. In one spot, for example, two sets of railroad tracks were placed a thousand feet apart, which created safety and emergency services issues when traffic was stuck between them.

explains, "and we also had to plan for flood events."

Rainwater is collected by a storm drain consisting of 330 feet of 6x12-foot box culverts, set in three rows. "You can stand up and walk in them," Talbot says of the large-capacity culverts.

This runoff flows through an underground drain line into the 6-foot wet well of a Romtec Utilities' pre-engineered lift station, located alongside the street. Inside the wet well, a pair of ITT Flygt 10 Hp submersible pumps lift the stormwater to the combined sewer system,

These efforts came to fruition recently with the completion of a con-



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which provides partially separated channels for sanitary sewage and stormwater runoff. If the sewer system becomes surcharged during a storm event, the pump station is designed to shut down and then restart when the water flow returns to normal.

The lift station has a permanent onsite generator with an automatic transfer switch, ensuring an uninterruptible power supply in case of electrical outages.

Franklin Park has had one big storm since the overpass was built, giving the stormwater man-

agement system a good workout. "The lift station went through every alarm parameter it was designed for, and everything operated perfectly," Talbot says.

The pump station stopped when the sewer system surcharged, and started back up when levels went back to normal. When the site lost power, the backup generator started and switched operations over. "We had a high water alarm, and nothing overflowed," Talbot says. "Everything worked the way it was intended to."

For More Information

Romtec Utilities provides complete pre-engineered lift stations for the stormwater, wastewater and industrial markets. We help you meet your deadlines with a pre-engineered system that typically delivers to the job site six to eight weeks from the date of submittal approval. For more information, call Romtec Utilities at 541-496-9678 or visit our comprehensive website at:

www.RomtecUtilities.com

