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CASE STUDY

Hurricane-resistant Lift Station | Sarasota, FL

New Lift Station in Florida Solves Community's Wastewater Woes

A new hurricane-resistant lift station in Sarasota, Fla., that opened in 2021 will help manage approximately 33 percent of the city's wastewater flow.

Lift Station 87 replaces Lift Station 7, an aging facility that had a history of mechanical failures. The new structure is built above-ground, and will help withstand a Category 3 storm surge. Other improvements include new sewer lines, replacement of aging water mains to improve water pressure, and reclaimed water mains to provide the area an environmentally friendly source of irrigation water.

Original plans for the lift station called for an underground lift station in the city's Luke Wood Park. City officials thought the site offered the fewest construction problems and lower costs.

Station plans were changed, however, to help the structure withstand hurricanes. Sarasota, on Florida's Gulf Coast, has seen several dangerous hurricanes. In 2017, two storms ripped through the region. Hurricane Irma, a Category 2 storm, brought on downed power lines and fallen trees, with a reported cleanup cost amounting to more than \$8 million.

Within the community the lift station serves is Sarasota Memorial Hospital, an 839-bed regional medical center that is among the state's largest public health systems. The design will allow the hospital and other designated storm shelters to remain operational after a hurricane.

Construction on the two-story building started in October 2017. Work included the demolition of existing structures and the construction of a state-of-the-art odor control facility. The fully-enclosed building minimizes the impacts of routine operation and maintenance, according to the city.

The building includes HVAC and equipment exhausts in the towers, and the two-story building was built over a new, 50-foot-deep wet well. "We've spent the past year constructing the equivalent of a five-story building underground and below sea level," Sarasota Utility Director Bill Riebe said in a press release.

The project included the installation of 15 floor doors from BILCO, the manufacturer of specialty access products. The doors, which were installed by PCL Construction, were manufactured in a wide range of sizes and allow access to vaults, pipes and pumps in the wet well. The floor doors are constructed with a channel frame for H-20 loading, and withstand the force of heavy equipment vehicles.



"The doors are durable, and they are a good product for this application, because they are aluminum and won't be as impacted by corrosive gases and water," said Cory Westphal, an Assistant Project Manager for PCL. "It was a fairly standard installation except that they were installed before the building was finished. The building was built around the doors."

PCL ordered the doors through Building Specialties of Bradenton, which worked with them to manufacture special sizes. "BILCO was selected because they had the capability to make very large hatches," Westphal said. "Competitors had difficulty building the sizes we needed and meeting the loading requirements. The ability to make them that large and meet those requirements was essential. They were prepared because they build doors like this frequently and they knew how to do it."



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