

Sandy-damaged sewage plant bolstered

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The state's largest sewage treatment plant, which was knocked out of commission for days after the storm surge that accompanied Superstorm Sandy, has a new flood wall to protect it from flooding during this summer's hurricane season.

The Passaic Valley Sewerage Commission has installed a mile and a half of temporary flood walls around key buildings and equipment – such as electrical substation and treatment processing facilities – at its facility along Newark Bay.

During Superstorm Sandy, the commission's Newark facility was inundated by a 12-foot storm surge that flooded tunnels and buildings and destroyed equipment and vehicles. Both the main electric power feed and backup power feed were lost. As a result, 840 million gallons of raw sewage flowed untreated into the Passaic River. Over the next three weeks, as the facility was brought back into service, an estimated 4.4 billion gallons of partially treated sewage entered New York Harbor.

The commission "has implemented this new flood control barricade system to ensure we are prepared in the event that a storm like Sandy strikes again," said the commission's executive director, Michael DeFrancisci.

The facility's chief engineer, John Rotolo, said the temporary wall was installed in small, easy-to-lift sections that interlock with each other, and are then filled with water.

The wall has an L-shaped design, with the toe facing outward. In a flood, water pressure would press down on the toe, helping to keep the wall in place, Rotolo said.

The wall sections, which are 4 feet high, cost a combined \$700,000, and were purchased with funds appropriated in the commission's 2013 budget. The wall sections are meant to be a stopgap until a permanent flood wall about 8 to 12 feet high can be built around the entire 140-acre campus.

Major operation

The Passaic Valley Sewerage Commission facility is the fifth-largest in the country. It handles wastewater treatment for 1.5 million residents, more than 5,000 commercial clients and 200 significant industrial facilities in 48 municipalities throughout Bergen, Passaic and Essex counties. The facility handles a quarter of all of New Jersey's wastewater, as well as 15 percent of the sludge generated by New York City.

Last summer, the commission asked the Federal Emergency Management Agency for nearly \$800 million in federal grant money to pay for a series of projects to make the facility more resilient against future surges and flooding. The commission asked for money to build a flood wall around the perimeter of its 140-acre campus in Newark, add several pump stations to remove any flood water from inside the flood wall, and install three natural gas-fired turbines as a backup power source.

The permanent flood wall would be designed to mitigate the effects of a 500-year flood event.

FEMA has not yet provided any funds to the commission, but last month it released an environmental impact statement on the project, which concluded that the flood wall and backup power system would have no significantly adverse impact on the human environment, and only a minor impact on a quarter-acre of wetlands.

To compensate, the commission would restore a small creek that runs through the property.

A public comment period on the report extends through June. FEMA could make a decision on grant money sometime after that, said commission spokeswoman Hollie Gilroy.

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