



Hazard Mitigation Measures Protect Pump Station from Repetitive Flooding

Full Mitigation Best Practice Story

Luzerne County, Pennsylvania

Luzerne County, PA – A wastewater pumping station belonging to the Wyoming Valley Sanitary Authority (WVSA) is often at the mercy of the Susquehanna River. The station, built in 1966, is situated in the historical section of West Pittston, adjacent to the riverbank. It floods every time the river crests above 30 feet.



The repetitive flooding was a serious problem for the WVSA pumping station, resulting in damaged equipment and costly repairs. According to Jim Tomaine, WVSA Deputy Executive Director, “We had to find the manpower to protect the pumping station and to remove the equipment quickly when we received notice of high water levels. Everything that we didn’t remove, prior to any flooding, was damaged. When flooding hit the area, we would keep the non-submergible pumps going for as long as we could, but the floodwaters would always win.”

After the floods of 1996, WVSA took action to reduce damages and losses from future floods. The WVSA applied to FEMA’s Hazard Mitigation Grant Program for a long term solution to the repetitive flooding. “The project was completed in 2002 at a cost of \$173,857,” Mr. Tomaine said. “If not for this project, there would have been additional losses and expenses from the periodic flooding, especially during Hurricane Ivan in 2004 and the spring floods of 2005 and 2006. During recent flooding, we had 6 feet of water on the first floor and the submergible pumps were still working,” he noted.

The mitigation project involved the construction of a second story for the pumping station in order to elevate the electrical motor control center and power panels. Submersible pumps that operate underwater were also installed.

Fred DeSanto, Executive Director of WVSA, proclaimed “With the assistance of FEMA, WVSA was able to protect critical equipment while maintaining the historical architectural landscape of the local community.”

“We are so pleased with the results of this project that we are looking into protecting two more pumping stations,” said Mr. Tomaine.

Activity/Project Location

Geographical Area: **Single County in a State**

FEMA Region: **Region III**

State: **Pennsylvania**

County: **Luzerne County**

City/Community: **Wilkes-Barre**

Key Activity/Project Information

Sector: **Public**
Hazard Type: **Flooding**
Activity/Project Type: **Elevation, Structural; Elevation, Utilities**
Structure Type: **Masonry, Reinforced**
Activity/Project Start Date: **04/1998**
Activity/Project End Date: **04/2003**
Funding Source: **Hazard Mitigation Grant Program (HMGP)**
Funding Recipient: **Lifelines - Water/Sewer**
Funding Recipient Name: **Wyoming Valley Sanitary Authority**
Application/Project Number: **9999**

Activity/Project Economic Analysis

Cost: **\$173,857.00 (Actual)**

Activity/Project Disaster Information

Mitigation Resulted From Federal
Disaster? **Yes**
Federal Disaster #: **1093 , 01/21/1996**
Federal Disaster Year: **1996**
Value Tested By Disaster? **Yes**
Tested By Federal Disaster #: **No Federal Disaster specified**
Year First Tested: **2004**
Repetitive Loss Property? **Unknown**

Reference URLs

Reference URL 1: <http://www.fema.gov/government/grant/hmgp/index.shtm>
Reference URL 2: <http://www.pema.state.pa.us/>

Main Points

- A wastewater pumping station belonging to the Wyoming Valley Sanitary Authority (WVSA) is often at the mercy of the Susquehanna River.
- The repetitive flooding was a serious problem for the WVSA pumping station, resulting in damaged equipment and costly repairs.
- After the floods of 1996, WVSA took action to reduce damages and losses from future floods. The WVSA applied to FEMA's Hazard Mitigation Grant Program for a long term solution to the repetitive flooding.
- The mitigation project involved the construction of a second story for the pumping station in order to elevate the electrical motor control center and power panels. Submersible pumps that operate underwater were also installed.



Pump building after elevation.



Jim Tomaine stands near elevated controls. Photo by Leif Skoogfors, FEMA.