PROJECT SUMMARY

Water System Improvements

Client: **Clearfield Municipal Authority, Clearfield County, PA**

Completed: **2014** Cost: **$10,200,000**

To address system storage and hydraulic capacity problems, the Clearfield Municipal Authority directed Gwin, Dobson & Foreman to design a functional and cost-effective solution. With a service area population of 13,000 and average daily demand of 1.75 MGD, the system had marginal distribution storage capacity and transmission restrictions. This made it vulnerable to extended service outages such as large main breaks or loss of treatment at its Montgomery or Moose Creek plants.

After an extensive flow and pressure monitoring study, GD&F recommended the installation of three (3) distribution storage tanks, transmission main, pump station replacements and a system-wide water meter replacement program.

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Project details included the following:

- Montgomery 1.5 MG water storage tank consisting of an AWWA D110 wire wound, prestressed concrete wells and ring-supported roof structure. The tank receives finished water from the Montgomery Run water treatment plant which provides hydraulic control for the greater part of the Clearfield system.

- Hillsdale 1.5 MG water storage tank consisting of an AWWA D110 wire wound, prestressed concrete wells and ring-supported roof structure. This tank is the main distribution reservoir for Clearfield Borough and can support a fire flow of 6,250 gpm for a duration of four (4) hours in downtown Clearfield.

- Wolf Run 0.5 MG water storage tank consisting of a bolted stainless steel, aluminum dome tank. This tank provides hydraulic control and distribution storage for the Clearfield Fireman's Industrial Park and I-80 interchange commercial area.

- The Wolf Run pump station replaced an existing substandard station from the late 1980's. The new system is a factory-built, preassembled pump station with a duplex, horizontal centrifugal pumps, mechanical piping and pump control system.

- Replacement of an early 20th Century 20-inch cast iron main from the Montgomery plant with 10,000 LF of 20-inch AWWA C-905 PVC pipe. The improved hydraulic conditions greatly increased system pressures and flows between the plant and distribution system.

- Replacement of 5,200 water meters with new AMI-compatible meters and installation of an Automatic Meter Reading (AMR) system for water system billing, asset management and accounting purposes.

- Replacement of 1,500 LF of 8-inch water main in the Mt. Joy area, made possible by project savings.

The project was funded by a $10.3 million low interest loan from PENNVEST.