PA DEP Small Drinking Water Systems Engineering Services Program (ESP) Case Study

Client Name: Austin Borough Waterworks
Location: Austin Borough, Potter County
Project Name: Source Yield and Feasibility Studies

Background:
The Austin Borough Waterworks (ABW) Public Water System serves approximately 700 people through 235 service connections to meet average demands of 89,900 gallons per day (gpd). Both ground water and surface water sources are utilized and water treatment involves disinfection and corrosion control.

Public Health Challenges:
ABW's primary water supply is a spring source which was classified as groundwater under the direct influence of surface water (GUDI) after Source Water Identification Protocol (SWIP) monitoring. Their secondary water supply is a well that has passed SWIP monitoring. The well water quality is acceptable (low manganese levels), but it has sustained yield problems. The water quantity problems have continued to degrade over the last several years and the PWS has been forced to implement mandatory conservation measures.

Capacity Issues:
Technical – The surface source requires a filtration system to comply with regulations or an alternative ground water source with a higher yield must be developed.

Managerial – ABW could not effectively operate and maintain the system due to the increased regulatory requirements. As a result of source water deficiencies, PADEP has issued 3 notice of violations (NOVs).

Financial – Upgrades to their existing system to achieve compliance meant at the very least doubling current water rates, which would be an unacceptable financial burden on the small customer base.

Actions:
A Source Yield Study was completed to examine the existing sources, identify potential new sources, and provide a system evaluation based on available information. The study concluded that the existing sources cannot meet the current or future water demands, drilling wells in the past has proven to be unsuccessful, and an interconnection with an adjacent community water system was not feasible. The addition of a formerly used spring to the existing spring and well sources can provide sufficient raw water for the community and an appropriately designed filter plant can centrally treat these sources. A Feasibility Study was completed to determine the most viable alternative to treat the combined sources and provide safe drinking water. Construction of a conventional package plant was identified as the most feasible option.

Outcomes:
These Studies have provided an assessment of the existing water system, evaluated technical, managerial, and financial capabilities, projected future consumption and demands, and identified and evaluated alternatives to meet compliance requirements. As a result, ABW has initiated the design phase to implement the selected alternative.

Small Drinking Water Systems
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