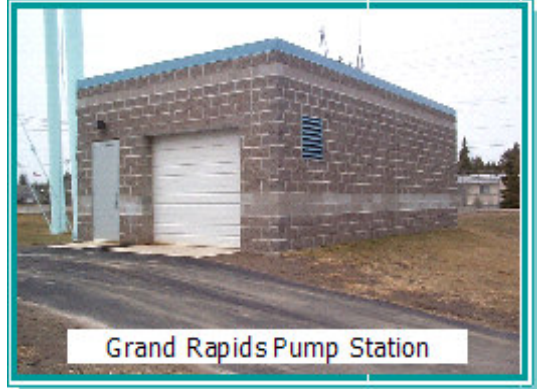


Grand Rapids Pump Station Increases Water System Pressure

Most of the southern part of the City of Grand Rapids is at a higher elevation than the rest of the City. This, combined with recent growth in residential and industrial demands, resulted in low system pressures and inadequate fire flows. The Grand Rapids Public Utilities Commission (GRPUC) retained Progressive Consulting Engineers, Inc. (PCE) to complete a study to eliminate these problems. The study recommended the creation of a high pressure zone south of 10th Avenue with a booster station and a 500,000 gallon tower to increase water pressure and improve fire flows. Extensive distribution system modeling was completed to analyze water pressures and to determine potential pump station locations.



The pump station was constructed on GRPUC property adjacent to the south water tower. PCE designed the station so that the colors matched the existing color scheme of the Grand Rapids south water tower and electrical substation. Colored design block was used for aesthetic reasons as well as structural integrity.



The Grand Rapids Pump Station increases pressure in the south zone by about 40 psi. Check valves were constructed in three locations to create the south pressure zone. One 150 gpm pump, two 550 gpm pumps, and one 3,000 gpm pump were installed. Variable frequency drives were installed on the 550 gpm pumps and the 3,000 gpm fire pump to meet various daily and fire flow demand conditions. The station was designed to meet both the current maximum average day demand and the increased demands of the projected population growth.

PCE prepared plans and specifications, performed periodic construction observation, and provided technical assistance at the startup of the new pump station. Construction of the \$296,210 pump station was completed with less than 5% change orders, it is now fully operational and performing as designed.

Client: Grand Rapids Public Utilities Commission

Client Contact: Anthony Ward

Year Completed: 1997

Bid: \$296,210

Cost: \$310,631



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