



OLATHE, KANSAS FIXED-PRICE DESIGN-BUILD CAROLLO ENGINEERS

The City of Olathe retained Carollo Engineers to perform a feasibility study to expand the city's existing 17 MGD water treatment plant to 36 MGD. Following the feasibility study, the city contracted with Carollo for 30 percent design of the expansion.

The city then chose to contract with the joint venture of Carollo Engineers and Garney Construction to complete the design and construct the expansion to the facility. The award-winning design-build project included the integration of membrane filters into the existing retrofitted lime softening facility.

The city desired to have the first stage of the plant's expansion completed in less than a year. The single greatest challenge to meeting this schedule was the development of a workable yard-piping configuration. Due to a large number of basins and outlet locations, Carollo/Garney developed a computer model to optimize piping sizes and location. The final step in the completion of the complex yard piping was a 72-hour plant outage with seven major tie-ins. The tie-ins were completed 26 days ahead of schedule, resulting in an estimated savings of \$40,000 associated with not having to purchase water from a neighboring utility.

One of the many innovative ideas that allowed the project to be designed and constructed within the prescribed budget included the reconfiguration of the existing basins to increase basin capacity without



having to build additional basins. This reconfiguration allowed process changes that resulted in reduced chemical usage and allowed for plant optimization. The chemical reduction is estimated to save over \$125,000 per year.

