

# City of Wathena Replaces 10-inch Transmission Waterline



Aerial view of the city of Wathena ground storage tank.

**W**hat does a city do when its main transmission waterline that brings water from the supply system had unexplained splits? In the case of the line from the city of Elwood to Wathena in far northeast Kansas, the answer was to install new 10-inch pipeline. The city received three bids for the project. The bid was awarded to M-CON, based in the hometown, Wathena. The contractor's bid came in at \$224,303. The project consisted of 5,500 feet of 10-inch CL 250 PVC pipe. Also included in the project were valves, flushing devices, road crossings, service meter reconnections, connections to existing waterlines, seeding and restorations. The city used internal funds for the project. The water purchased from the city of Elwood is produced by Missouri American Water at St. Joseph.

While the pipe chosen was CL 250 PVC pipe, other classes of pipe and materials were evaluated during the design process. The new transmission waterline followed the routing of the original 10-inch line that was in service. An alternate pricing item was

required for design and installation of a new concrete control vault with piping and solenoid valve that is located at the intersection of Vernon Road and 170th Road. All construction methods were required to meet KDHE, AWWA, OSHA, and the city's general practices for water system projects.

The contractor was responsible for providing the design and construction for this project. The design was required to meet the city's and Kansas'

**The contractor was responsible for providing the design and construction for this project. The design was required to meet the city's and Kansas' requirements.**

requirements. A Kansas Department of Health and Environment (KDHE) Public Water Supply Permit for the design and construction of the proposed project was the responsibility of the Contractor. The city provided final review and comment of the Design Plans and Specifications before submitting to KDHE.

After the design was approved by the city and KDHE the construction process began. The old line was installed in 1975 and was only rated at 130 psi.

The contractor was required to notify the appropriate utility companies for location of existing utilities and coordinate any necessary relocation. Any damage to utility lines caused by construction operations was repaired at the contractor's expense. The owner was not required to pay for the removal and replacement of surfacing necessary to locate existing utilities for water main and surface bored or any associated work. This work was done at the contractor's expense.

The contractor was required to install the proposed waterline without

disruption of water service to customers until connections were ready to be made.

The contractor was required to notify all landowners at least three days prior to any construction activities taking place adjacent to their property. Twenty-four hour notice was given to the water customers prior to interruption of service for making service connections. Once a water service was interrupted the contractor worked continuously until the service was restored. Three large tie-ins were made during night-time hours to avoid interrupting service to customer. Each of those tie-ins took approximately three hours to complete.

No private easements were required for this project. The contractor worked with the city to acquire right-of-way permitting from the city and county for installation of the new waterline in road right-of-way.

All engineering practices and construction means and methods were required to meet KDHE, AWWA, OSHA, and the city's general practices for water system projects.

The contractor notified city officials throughout the progress of the project along with daily work schedules. The city inspected all material and workmanship before any work was covered.

The new 10-inch waterline was pigged and super-chlorinated for a twenty-four hour period prior to placing it into service. The new line was put in service on September 19, 2019.

M-CON has a full-time engineer employed who designed the construction of the new system. City Superintendent Tim Smith comments that the city is very satisfied with the results of the project. He also stated that M-CON worked in a very timely and professional manner while completing the project.

*Tony Kimmi has worked as a Tech Assistance for KRWA since October 2009. He has extensive experience in the operation of construction equipment. He has assisted in the construction of several rechlorination stations and ongoing monitoring of water quality issues. Tony enjoys providing assistance to public water systems.*



Section of 10-inch pipeline with longitudinal split. The cause of these splits has not been determined but was the cause for the city to install 5,500 feet of new CL 250 PVC pipe.

**-LINE STOPPING**

3/4"- 60"

**-LINE TAPPING**

2"- 60"

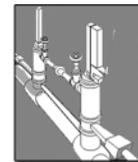
**-VALVE INSERTION**

4"- 16"

**-VALVE TURNING**

**-PIPE REPAIR**

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