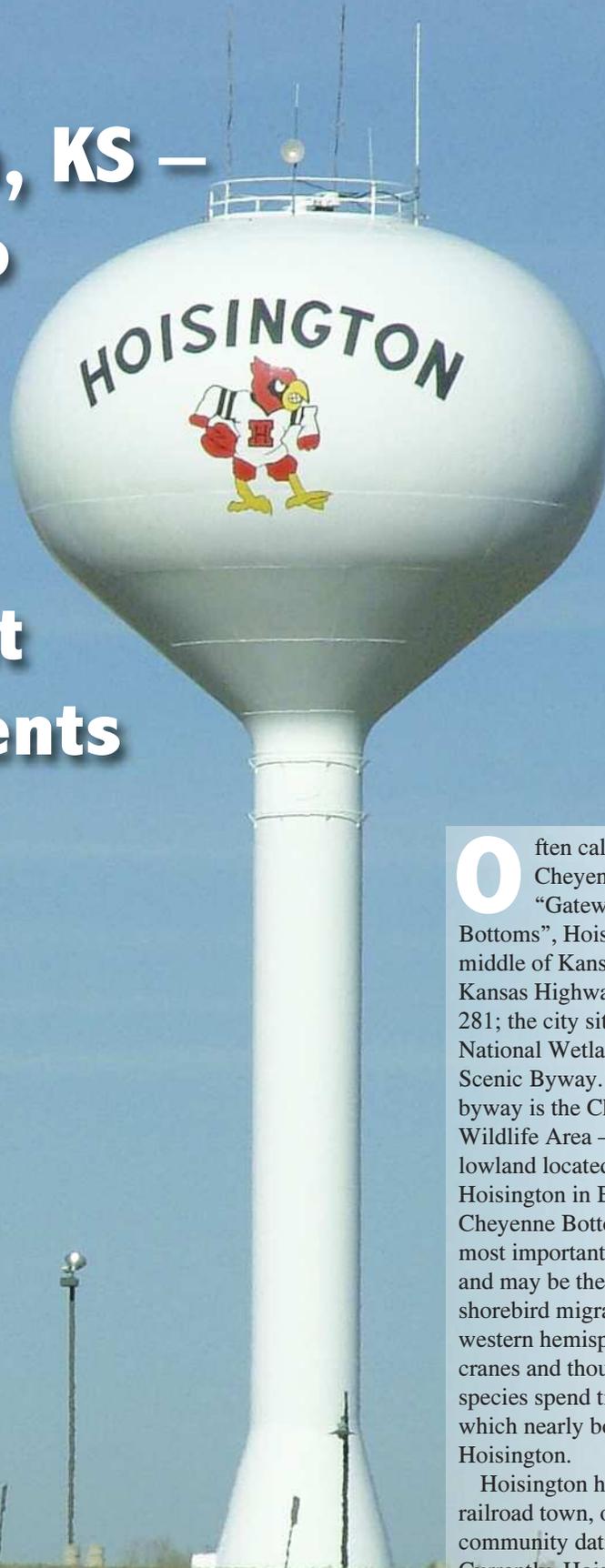


Hoisington, KS – Gateway to Cheyenne Bottoms – Completes Water Plant Improvements



Often called the “Heart of Cheyenne Bottoms” or the “Gateway to Cheyenne Bottoms”, Hoisington is located in the middle of Kansas at the junction of Kansas Highway 4 and US Highway 281; the city sits directly on the National Wetlands and Wildlife Scenic Byway. Included in this scenic byway is the Cheyenne Bottoms Wildlife Area – the 19,857-acre lowland located southeast of Hoisington in Barton County. Cheyenne Bottoms is considered the most important ecosystem in Kansas and may be the most important shorebird migration point in the western hemisphere. The whooping cranes and thousands of other bird species spend time at the Bottoms which nearly borders the edge of Hoisington.

Hoisington has a rich history as a railroad town, oil town, and farming community dating back to the 1880’s. Currently, Hoisington has an active manufacturing base along with agricultural production.



This upflow clarifier was completely rehabilitated with new interior equipment. Notice the new railing and walkway. The steel tank is the original tank installed in about 1960.



\$1.297 million in improvements

After many years of operation, the city decided to make more improvements to the system. These improvements included updating the water softening plant and replacing the old meters with an automated meter reading system.

At the upflow clarifier the original steel tank was retained but all original equipment was removed and replaced with new equipment including sludge scraper arms, effluent weir trough, reaction center cone, and mixer drive and motor. The replacement equipment was provided by HI-TECH Environmental, Inc.

The bulk lime tank, with a storage capacity of 114,000 pounds, was cleaned and repainted. A new Merrick lime slaker was installed. Plant Operator John Bradley commented that the slaker is one of the smallest ever made by Merrick.

Water system: 1904 – 2011

The first city water system was completed in 1904. The water however, was high in hardness. In 1936, Layne Western built the original water system. The system consisted of wells located about seven miles south of town, a lime softening and iron removal plant, and a 220,000-gallon clearwell located adjacent to the power plant.

In 1960, an upflow clarifier and bulk lime storage unit were added to the system. Then, in about 2000, the city made additional improvements to the system. The improvements included replacing the old sand cast iron pipe with C-900 PVC. Also, a new 500,000-gallon pedestal type elevated storage tank was constructed; new high service pumps at the water plant to deliver water to the system were installed. These improvements were being made at about the time an F-4 tornado ripped through the town on April 21, 2001. Obviously this event slowed progress on these improvements but eventually they were completed.

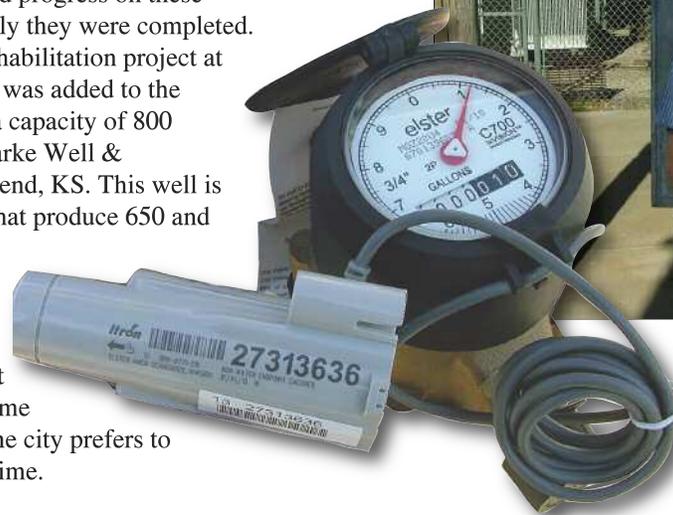
Just prior to the major rehabilitation project at the water plant, a new well was added to the system. The new well has a capacity of 800 gpm and was drilled by Clarke Well & Equipment, Inc. of Great Bend, KS. This well is joined by two other wells that produce 650 and 350 gpm. According to John Bradley, Plant Operator, even though the city could operate more than one well at a time, that is rarely done as there is some production loss. As such, the city prefers to operate only one well at a time.



Hoisington's new lime slaker is reported to be one of the smallest units ever made by Merrick.



Operator John Bradley shows an Elster AMCO C700 60W radio-read meter along with an Itron Transmitter.



Hoisington completes improvements

Water leaving the softening basin flows into a settling basin that was previously uncovered. The project included the provision of a new aluminum cover for this basin. A new carbon dioxide storage tank was also provided. The carbon dioxide tank has a solar powered monitoring device that allows the supplier to remotely monitor the tank contents and refill as needed. Carbon dioxide is being fed at the inlet of the settling basin to adjust the pH.

The gravity sand filters were also rehabilitated. The entire filter contents were removed and replaced with new material. A new PVC underdrain system, along with new media, was installed. The underdrain material was provided by the Roberts Filter Group.

The entire well and plant operation has automatic controls and is computer-monitored. Call out alarms were installed at various plant functions to notify city staff in the event of a failure or emergency.

Another improvement that city employees are excited about is the meter replacement project. To date,



The improvement project included this new carbon dioxide tank. Note the solar panel used to power the monitoring equipment to allow the vendor to know when to fill the tank.

To date, about 800 of the approximately 1,450 meters have been replaced with Elster AMCO C700 60W radio read meters with Itron transmitters.

about 800 of the approximately 1,450 meters have been replaced with Elster AMCO C700 60W radio read meters with Itron transmitters. Superintendent Paul Zecha noted that with about 55 percent of the meters replaced, the city has reduced meter reading time from having eight people recording manually into 22 books for at least five days to having three people using portable units



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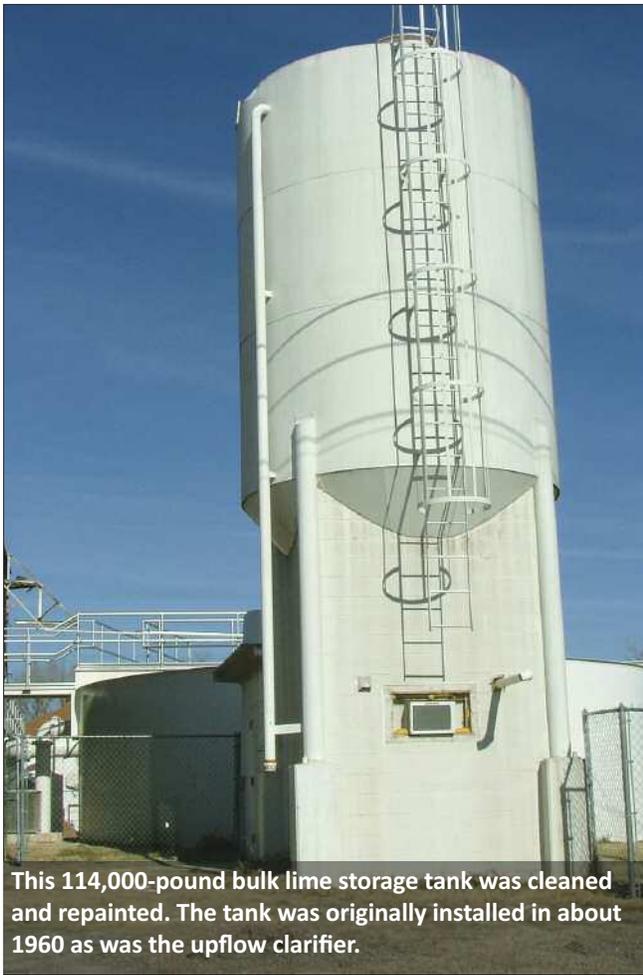
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This 114,000-pound bulk lime storage tank was cleaned and repainted. The tank was originally installed in about 1960 as was the upflow clarifier.

reading for two days. Paul anticipates needing only one more day to complete meter reading when all 1,450 meters are installed. Paul is hopeful that the new meters will result in improved accuracy and reduce water loss through better accounting and billing.

Current water rates are \$16.05 minimum per month with no water provided plus \$6.15 per 1,000 gallons. City Manager Jonathan Mitchell says that water rates were increased two times in recent years to reach the present rate. There was a 7.5 percent increase in 2009-2010 and a 6.5 percent increase in 2010-2011.

Overall, this \$1.297 million project brings the water utility, from wells to meters, into a condition that should produce good quality water for Hoisington customers for many years. Also, with a plant capacity of 2.0 MGD and a daily usage averaging between 0.30 and 0.80 MGD, depending on the season, the system capacity should be adequate also. Lochner Engineering, Salina, KS, was the design firm on this project and APAC-Kansas, Inc., Hutchinson, KS, was the general contractor. The electrical contractor was Jaguar Electric, Great Bend, KS.

This project included \$400,000 in funding by a Community Development Block Grant (CDBG) utilizing funds as directed by the American Recovery Reinvestment



This photo shows the new well located seven miles south of Hoisington. The wellhead was elevated for protection from surface water and further protected with concrete slab and guard posts.



The new chlorination building is located adjacent to the new well seven miles south of town. The building is well designed and with excellent workmanship; it has a separate room for the chlorination equipment.

Act (ARRA) and \$897,000 from the United States Department of Agriculture, Rural Development.

The 2012 Annual Kansas Rural Water Association conference will be held at Century II Convention Center in Wichita on March 27, 28 and 29. Many training sessions will be offered for both operators and management personnel. Funding agencies will be making various presentations and will also be available for individual discussions in EXPO Hall. I encourage cities and RWDs to attend to learn and to see the latest in products and services.

Bert Zerr is currently a consultant with KRWA. He has been with KRWA since 2005. Prior to that, Bert was a District Engineer with the KDHE in the Salina District Office for 32 years.

