

# KRWA Awards City of Pretty Prairie ‘Most Improved Water System’



**P**retty Prairie, Kansas was incorporated as a city in 1907. This city, population 653, is known throughout Kansas for attracting thousands of fans from all over the state and nation to the state’s “Largest Night Rodeo” for four evenings every July, being the home of Carl “Alfalfa” Switzer of “Our Gang” fame for a brief time – and for high nitrates in drinking water. Unfortunately, the latter is all that many people know about this small farming community. This idyllic setting in the prairie just west of Cheney Reservoir was the site of a decades’ long showdown between the small-town ideals of common sense, frugality and “getting by” and the regulators in Washington, DC and their trust in the rules designed to protect the health of citizens. But now, this small community will be forever known as the winner of the Kansas Rural Water Association’s 2020 Most Improved Water System.

In the mid-1980s, testing of the town’s drinking water showed increasing nitrate levels. The city leaders began to explore options for alternate sources, connecting to an existing public water supply or building a nitrate removal plant. Multiple observation wells were drilled in the area surrounding the city but the results were still the same. Elevated nitrate levels were prevalent in the sandy, Reno County soil. The closest public water supply was in Kingman, Kansas, some 14 miles to the southwest. The city leaders decided it was not in the public’s interest to connect to another source and lose financial control of the utility. The third option, to build a new water treatment plant to remove nitrates, was pursued. Constructing a new plant was cost prohibitive, so the city entered into a compliance order with the Environmental Protection Agency (EPA) and began to provide bottled water to customers who



The plant is equipped with two PROflex RO skids by Suez Water Technology. A new 50,000-gallon tank was also included in the project.



One of the two RO skids in the plant at Pretty Prairie.

requested it. In 2017, Pretty Prairie and the EPA entered into a consent order to build a treatment plant to remove nitrates.

The city decided to construct a reverse osmosis (RO) plant to remove the nitrates. The two new RO skids are Suez Water Technology PROflex units. Upgrades also included construction of a new 150,000-gallon clearwell and high-service pump station, replacement of the aging water storage tank with a new 50,000-gallon elevated tank, variable frequency drives (VFD) upgrades on the well and a backup generator to provide power during outages. The plant wastewater and RO reject/backwash water is sent to the city's sewer system.



A new backup generator was included in Pretty Prairie's project.

The project was started in February 2019. The ribbon cutting on the new plant took place on June 28, 2019 and the water storage tank was placed into service that October. Nitrate levels in the finished water are averaging around 9 mg/L, much lower than the 23 mg/L in the untreated well water, and most importantly, in compliance with the Safe Drinking Water Act's Maximum Contaminate Level of 10 mg/L.

The overall sentiment from the town's residents is positive. City Maintenance Supervisor Tyler Epp says the new plant is producing such a high-quality water, he has been able to dramatically decrease the amount of chlorine



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The city's well is now equipped with a variable frequency drive.

needed for disinfection. "Everyone is happy with the new product. This plant is producing about as good of water as anybody could want," he says.

The city council revised the rate structure in 2017 to begin to fund the project, increasing rates about 35 percent. The original rates were \$24.00 for the monthly minimum and \$11.70 for 5,000 gallons. The increased rates

are \$32.50 for the monthly minimum and \$16.70 for 5,000 gallons.

The total project cost was \$2,275,503. The city had three failed attempts to obtain a Community Development Block Grant to help with the cost of the new water storage tank. The city obtained a loan of \$1,817,600 through the Kansas Public Water Supply Loan Fund which is administered by the Kansas Department of Health and Environment (KDHE). The city received a 30 percent loan forgiveness for that portion of the plant that addressed water quality. The amount of the forgiveness was \$492,595.47.

The project consultant was Schwab Eaton, Manhattan, Kansas. APAC-Kansas, Inc., Hutchinson, Kansas, served as general contractor on the project.

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*Daryn Martin began work with KRWA in August 2019. He previously was a Water Program Inspector and Environmental Program Administrator at KDHE's Wichita office. Prior to joining KDHE, he worked as an operator in the El Dorado Water Treatment Plant. He holds a Class IV water operator certification.*



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