



WILSON, OK CASE STUDY WITH WT ENERGY

In 1912 the decision was made by Jake Hamon, Ardmore oilman, and John Ringling, the circus magnate, to build a railroad from Ardmore to Healdton. Shortly after the railroad was up and functioning, it was decided a depot was needed half way between the two cities. In 1914, the depot was established into a new town site was named Wilson, in honor of John Ringling's secretary, Charles Wilson. By 1918, the old Wilson had disappeared and on August 5, 1918 Oklahoma governor R. L. Williams declared "New Wilson".

About the time Wilson was founded, oil was discovered in the region; by the end of 1914 Wilson was estimated to have over 2,000 residents. By 1918, there were three oil refineries, three cotton gins, over 5,000 residents, and everything that went with a booming oil field town. During this time, Wilson served as the trading center for many smaller communities in the region. With the depression days of the 1930's and WWII, many of these communities ceased to exist. The railroad closed in 1976; today Wilson's population has stabilized at about 1,700 residents.

Problem:

The town of Wilson's potable water is supplied from wells and stored in four (4) 80,000 gallon concrete storage tanks that were built in the 1930's. Two (2) of these tanks were in extremely poor condition, with cracks and leaks, due to the deterioration of the concrete exposing the re-bar. One of these tanks was leaking so bad, that it was taken out of commission, which required the town to spend \$4,000 per month to purchase water to meet their demand.



The town council needed to make a quick decision on whether to re-place these clear well tanks, which would be very expensive (>\$1M) or find a way to quickly fixed them, so they could continue supplying safe clean drinking water for their town.

WT Energy Services evaluated this challenge and recommended rehabilitating these clear well tanks with Raven AquataFlex® 510, which is a 100% solids NSF ANSI61 pure polyurea lining for potable water.

Challenges and Issues:

The inside walls were covered with a thick layer of Calcite (calcium carbonate) that had built up over the last 80 years due to the hard well water. This had to be removed along with any loose concrete, before the rehabilitation process could be started.

Another challenge was the extreme cold winter weather during the project, with temperatures fluctuating between 20-50 degrees Fahrenheit. This required a coating system that was engineered to be both applied and cure in a cold environment.

Solutions and Process:

The applicator prepared the surface by grit blasting to remove Calcite build up and loose concrete. The walls were then repaired using a cementitious material, to rebuild the extensive deterioration.



Due to the extreme weather conditions during the project, the Raven 171FS was recommended as the best primer for the cold conditions to reduce out gassing. The 171FS is a 100% solids, fast curing concrete epoxy primer with little to no blushing.

The final step was to apply an 80 to 100 mil top coat of the AquataFlex® 510. As a quality control check to assure a monolithic lining, WT Energy performed a spark test on the structure and made any necessary repairs.

The project was completed on time and within budget. According to Buddy Way – President of WT Energy; “The city of Wilson needed to find a way to repair the water tanks or build new ones. We were able to provide a high quality, cost effective engineered solution to provide a long term fix of the existing tanks for the city. It was a big success for everyone involved!

Benefits:

The cost of replacing the underground water storage tanks would have been around \$1.4 million. “Thanks to WT Energy and Raven Lining Systems, the city of Wilson was able to repair the tanks for \$140,000, which was a \$1.26 million savings for the city”, said town of Wilson Mayor, Frank Schaaf. On top of this capital savings, the town will be able to realize an additional \$480,000 savings over the next ten (10) years by not having to purchase as much water from a neighboring town to meet the city of Wilson’s potable water demand.

Products used:

Raven AquataFlex 510 NSF ANSI61 Certified pure polyurea lining with Raven 171FS epoxy primer.

WT Energy Services, specializes in primary and secondary containments, painting and coating. WT’s main focus is to deliver high performance protection for all of your containment needs. We provide peace of mind from

the effects of weather, wear, and chemical environments.

Raven Lining Systems has been offering comprehensive solutions for the protection and renewal of wastewater and potable water infrastructure since 1988. Raven concentrates its efforts on protection and rehabilitation of water and wastewater infrastructure. Raven utilizes its years of experience and dedicates technical sales engineers and scientists to assist municipalities and engineering firms in the design build, rehabilitation and specification process.

Raven delivers its products and services via its network of Certified Applicators. We provide our Certified Applicators continuous education on methods and technology along with proven products, enabling them to deliver the solutions demanded by today’s aging and deteriorating infrastructure. Currently there are more than 50 Certified Applicators serving customers nationwide.

Embracing the opportunity to serve people and communities everywhere, Raven will continue to lead this growing market by offering cost effective environmentally friendly infrastructure solutions.

