

GREENSBURG WATER TOWER SYMBOLIZES CITY'S RECOVERY FROM 2007 TORNADO

In the wake of an EF-5-rated tornado that killed 11 people and devastated the City of Greensburg, Kansas on May 4, 2007, a determined community has set out to rebuild what was destroyed, including the 55,000-gallon elevated water tower that supplied the city's potable water. Today, a new 100,000-gallon spheroid water tank stands on the site of the original tower, distributing water to the homes and businesses that signal the city's road to recovery.



Construction of the \$676,000 tower was completed in record time due to the city's urgent need and the involvement of multiple-agencies, designers, contractors, and manufacturers that worked on the project. "The project was on a fast track," according to Tnemec coating consultant Rick Penner. "It was important to get the tank completed because it was so critical to the town rebuilding."

Typically, a water storage tower requires 120-days to design and more than 500 days to build, but the Greensburg project was designed in 45 days by Professional Engineering Consultants, P.A. and constructed in 172 days by Maguire Iron Inc.

By reusing the site of the original water tower, city officials avoided land acquisition costs and the need for an environmental impact study, which would have held up the project's aggressive timetable. The tower's spheroid design allowed the best use of available space and was less expensive to coat compared to other potable water tank styles. Overall, the water tank required approximately 165 gallons of Tnemec protective coatings. "They were looking for long-term performance, decreased maintenance costs, and resistance to ultraviolet (UV) light," Penner noted. "Since the project was publically funded, the engineer wanted a coating system that would perform as long as possible."

Both the interior and exterior steel was shop-primed by Maguire Iron with Series 91-H2O Hydro-Zinc, a zinc-rich urethane that is certified in accordance with NSF/ANSI Std. 61 for use on interior potable water tanks of 8,000 gallons or greater. Series 91-H2O was also used in the field to touch up the tank's welded seams. Interior steel then received two coats of Series N140 Pota-Pox Plus, an innovative, polyamidoamine epoxy that is also certified in accordance with NSF/ANSI Std. 61. Exterior steel received an intermediate coat of Series 73 Endura-Shield, an aliphatic acrylic polyurethane, followed by a finish coat of Series 700 HydroFlon, an advanced thermoset fluoropolymer polyurethane designed especially for water tanks and exposed steel substrates. In addition to resisting UV light degradation, HydroFlon provides unprecedented long-term gloss and color retention.

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Dedication of the new 140-foot water tank held on the one-year anniversary of the tornado drew national news coverage as a visible symbol of the restoration, renewal, and regrowth for the City of Greensburg. In addition to providing a reliable source of water for peak hour flows, fire protection, and other emergencies, the elevated water tower draws attention to the city's claim to fame as "Home of the Big Well." Measuring 109 feet deep and 32 feet in diameter, the hand-dug well was completed in 1888 and served as the city's water supply until 1932. In 1939 it became a popular tourist attraction as the world's largest hand-dug well. Since then, more than 3 million visitors have come to Greensburg to tour the Big Well, which was voted one of the 8 wonders of Kansas in 2008.



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Tnemec Company Incorporated 6800 Corporate Drive Kansas City, Missouri 64120-1372 1-800-TNEMEC1 Fax: 1-816-483-3969 www.tnemec.com