

Fertile Ground: Aquastore® Braces for North Texas Boom

In 2008 a headline in the Denton (TX) Record Chronicle read “Small towns disappearing across the North Texas prairie.” The article was prophetic. The inexorable growth of the Dallas Ft. Worth metroplex is reshaping a part of our nation that was once the provenance of horse trainers and peanut farmers. In recent years the term “North Texas” has become a fixture in the American lexicon as the character of this area is transformed from rural and remote to a dynamic urban-suburban cluster with a progressive identity.

The US-380 corridor in northeast Denton County is well positioned to benefit from this growth. The area’s population has exploded since 2000 as residents escape the congestion of the cities to the south for a more bucolic lifestyle. They live in towns like Cross Roads and Oak Point, with easy access to jobs, shopping and recreation in nearby Denton, Frisco, Lewisville, McKinney and Plano. Even downtown Dallas is only 50 miles away—practically around the corner in Texas-size terms.

The Mustang Special Utility District board anticipated this migration years ago and planned accordingly. For their water handling and storage needs they chose Aquastore® by CST, the industry’s premiere glass-fused-to-steel tank. Unlike concrete and steel tanks, the Aquastore tank needs virtually no maintenance, never needs repainting, and can withstand the harsh Texas elements like no other.

But maybe the most important feature of the Aquastore is its versatility and expandability, which Mustang needs to meet the water demands of a growing population. The district started a half century ago with 50 customers and today serves more than 12,500 customers. During that time, the district has installed three Aquastore tanks that collectively have 2.75 million gallons of capacity.



You’d never know these tanks are 16 and 9 years old. While a concrete or steel tank shows signs of age and diminished performance, the first Aquastore tank built in 2000 and the second and third built in 2007 perform and look like new, according to the utility’s operations manager Aldo Zamora.

When Zamora arrived at Mustang in 2004 the original Aquastore tank had been in service for a few years and the challenge of expansion was looming. With the topic of a new tank on the table, careful due diligence was in order.

“My general manager Chris Boyd and I flew up to the CST factory in DeKalb, Illinois and watched them manufacture the tank panels,” says Zamora. “What we witnessed made our decision very obvious.”

Chris and Aldo have been working with CST’s exclusive distributor Texas Aquastore for over 15 years because they prefer CST’s glass-fused-to-steel tank and the multi-step fabrication process that makes it special:

1. A panel of high strength low carbon steel is blasted and alkaline cleaned.
2. The edges of the panel are beveled and then it’s sprayed with a stainless steel alloy.
3. The panel is sprayed with a specially formulated slurry that gives it durability, consistency and impermeability. Unlike powder coatings or paint, the slurry is inorganic so it blocks corrosion.
4. The panel is then fired at temperatures above 1,500°F (815°C) to fuse to porcelain coating and the steel.
5. Tests are conducted to verify integrity and durability, including high voltage testing to detect discontinuities.

The glass-fused-to-steel system was developed to meet the wear and tear a liquid storage tank will experience in its lifetime. The Aquastore tank is resilient and gives water districts and other industries with liquid storage needs a solution that requires minimal maintenance with the lowest lifecycle costs.

Unlike other bolted steel tanks the Aquastore is virtually seamless, which reduces the likelihood of leaking from within or contamination from the outside.

Additionally, “with concrete you never know where a crack will appear and you can spend a lot of time and money trying to patch and control them,” says Zamora.

The Aquastore’s glass-fused-to-steel composition makes it durable with a rich permanent finish that never needs painting. Water districts across the country report they save thousands simply by never having to repaint because the Aquastore retains its original luster.

Zamora says Aquastore saves the district \$8,000 to \$10,000 a year in maintenance since the tanks are crackresistant and don’t need repainting. The district’s other ground storage tanks require costly sandblasting and painting with a special polyurethane every five to eight years. In addition, older tanks with lead paint require remediation, a budget item utility managers don’t have to fund with the Aquastore.

Structural issues that could be overwhelming with a concrete or steel tank are almost a no-brainer with the Aquastore. Zamora says that recent floor maintenance to an Aquastore tank was “painless” and cost efficient because the Aquastore disassembled and reassembled easily.

CST anticipated everything when it designed the Aquastore: the weather, construction requirements and other limitations. Quality control is also built in to the Aquastore which means Zamora can take quality to a level he can’t attain with other tanks.



“I can take samples directly from the tank because the dealer bored a hole for me to install a tap,” he says. “It’s also ideal if you need to install piping and tie into another well.”

Zamora knows that kind of adaptability will be crucial when the district needs to extend its service once again to meet residential and commercial growth. It doesn’t have to erect another tank; it can simply expand one of its existing tanks. The roof of the Aquastore tank can be easily detached and raised so additional panels can be installed below it.

The US-380 corridor in Denton County is undergoing a lot of change, which means the arrival of new homes, new businesses

and new infrastructure. With all this “new,” it’s satisfying to know Mustang Special Utility District can count on its Aquastore tanks to service a rapidly growing customer base over the long haul.

“The Mustang staff is great to work with—eager stewards of our natural resources and always looking out for the best interests of their community,” says Texas Aquastore Sales Manager John Pappalardo. “Texas Aquastore looks forward to being a part of Mustang’s continued expansion as plans for growth continue with amazing traction. Mustang has plenty of horsepower to propel them into the future!”

Benefits of CST’s Aquastore® glass-fused-to-steel tanks:

- No painting for life of tank
- Will not corrode or rust
- Lowest total life cycle cost compared to concrete & welded
- Turnkey services from approval drawings to tank testing
- Faster construction
- No need for cranes or other large equipment for construction
- Expandable
- Interior & exterior easily cleaned
- Tank can be easily relocated
- Available in diameters from 11 feet (3.3 m) to 204 feet (62.2 m) and capacity from 20,000 gallons (75 cu m) to over 6 million gallons (22,700 cu m)
- Specific tank designs, options and accessories to meet customer needs
- Industry best warranty
- White interior coating
- Multiple color options
- Authorized network of local Aquastore Dealers for convenient service and support

OptiDome® geodesic aluminium domes are the preferred cover solution for any storage application. Aluminum dome structures are superior to other cover designs of alternate materials due to: corrosion resistance, low life-time maintenance cost, clear-span capability, fast and low cost construction and design flexibility.

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