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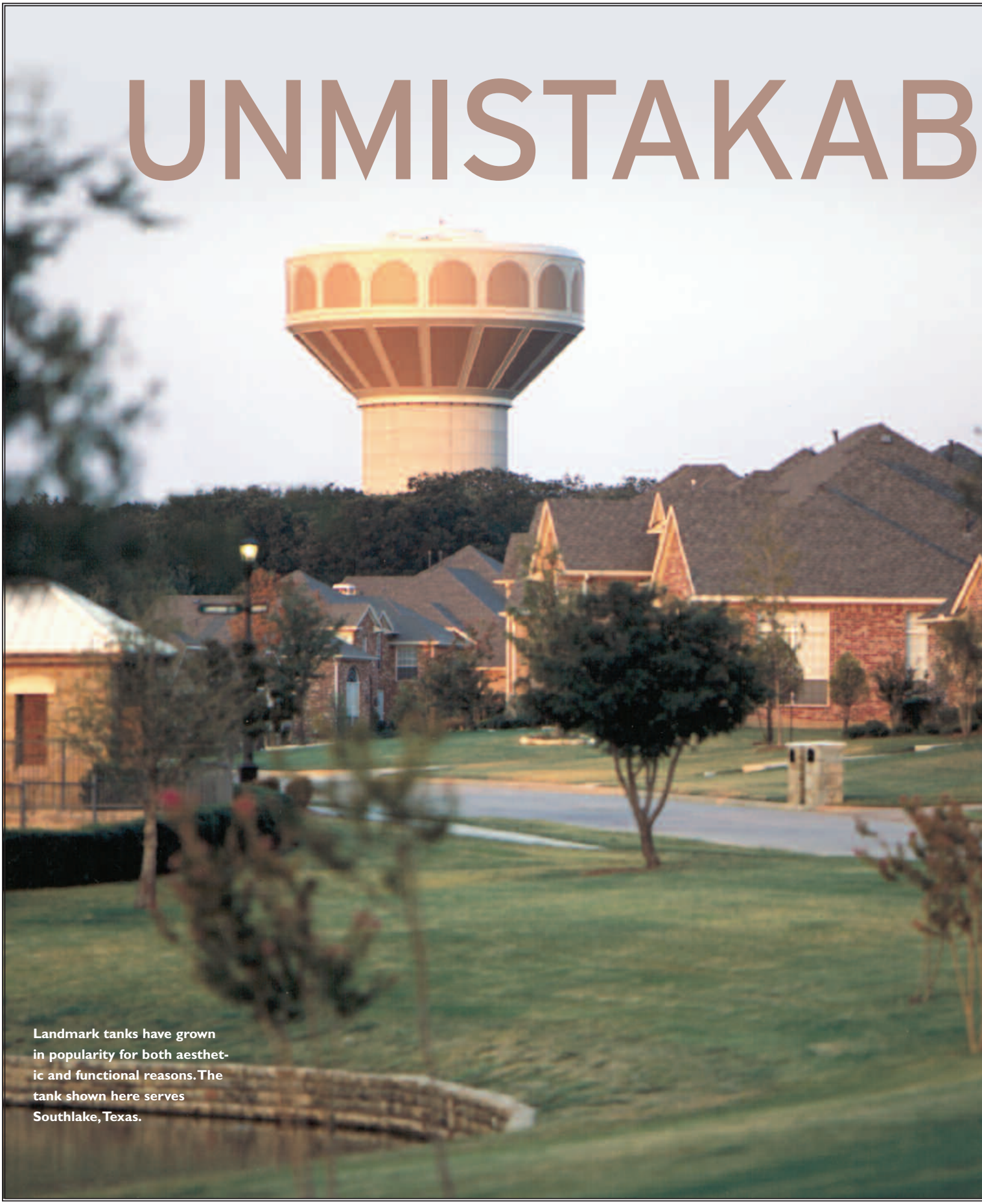
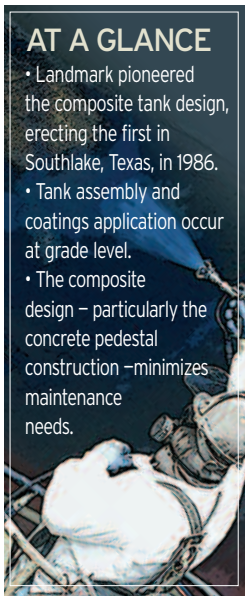


Landmark tanks have grown in popularity for both aesthetic and functional reasons. The tank shown here serves Southlake, Texas.

LY LANDMARK

COMPOSITE TANK PIONEER REFINES CONSTRUCTION, COATINGS STRATEGIES



The broad plain surrounding Dallas is unmistakably Texas. Wandering steers share the landscape with encroaching suburban development. The ever-bobbing oil well often present reminds that this is big oil country. And distinctive Landmark composite elevated tanks rise high above the plain, ensuring water service to local homes and businesses.

While most will make the cattle and oil connection, a Landmark composite elevated water tank is more likely to make an impression by sight than by name. The unit's contemporary, industry-changing design was pioneered in the1970s by the Lamon family that owns and operates Landmark. The first Landmark composite tank — known as such because the design employs both concrete and steel structural elements — was erected in Southlake, Texas, in 1986. Lamon estimates that 70 percent of new composite tanks in the United States are Landmark's signature design but despite its popularity and success, it is in many ways a work in constant evolution.

"Our approach to business is that we don't want to accept the standard simply because it's been done before," says Eric Lamon, P.E., who shares the title of vice president along with brothers Mike and Chris. "The composite tank evolved because of our focus on doing things better and providing better solutions for our customers."

That focus on better solutions has had direct effects on design, construction practices and coatings, from application methods to supplier selection.

DESIGN EVOLUTION

The composite tank concept originated by Landmark was driven largely by economic considerations for the end user. Traditional designs had been all steel, but by using maintenance-free concrete in the construction of the pedestal, future maintenance costs were reduced, as were upfront construction costs.

Jim Climo, Landmark's coatings manager, says, "Our goal is to get to zero maintenance, so we're constantly addressing design nuances on the front end in order to extend the life cycle of our product."

Adds Lamon, "We don't have to sell the added benefit of reduced maintenance. Our composite tank became the preferred style because it's already a lower capital-cost solution, plus you get the added value of lower maintenance. And the market recognized composite tanks for their contemporary styling and preferred aesthetics.

"Plus, the composite tank provides opportunities for multiple use applications. The interior of the pedestal is basically free real estate, available for anything from emergency response stations to secure document storage to municipal office space."

CONSTRUCTION INNOVATION

Like the tank design itself, its construction is innovative as well. The architectural reinforced concrete pedestal is poured and formed by conventional means. Steel for the tank is fabricated and delivered to a job site for assembly, which occurs at ground level rather than atop the finished pedestal. The assembled tank is then hoisted by hydraulics to the top of the pedestal.

"It's a unique approach, but we did it because the conditions at grade provided better plate fit, easier inspection, better constructability and better execution," says Lamon.

This series of photos shows a coated Landmark tank being raised to its permanent position atop a concrete column in Mansfield, Texas. The raising procedure, which requires as many as 40 hyraulic pumps, takes about four hours to complete.

"Everything's integrated in our approach — the materials, the steel erection and the painting. We do it this way because it provides the best quality at the best cost."

COATINGS AT GRADE

Coating begins at the fabricator, where in the last year Landmark began experimenting with a "sacrificial" inorganic zinc prime coating to protect steel during shipping and construction. But the bulk of the coatings work follows plate fitting at ground level, thereby practically eliminating the containment issues inherent to painting at the top of a pedestal, and often in residential areas.

"We avoid the challenges of containment," Lamon says. "It's another contributor to being able to install at a more favorable upfront cost because we don't have the environmental impact issues."

Coating considerations are built into the Landmark composite design, according to Lamon, as evidenced by the generally flat surfaces and minimal irregular shapes and edges found on the steel tank portion of the unit.

"There are very few of those hard-to-access areas on a Landmark tank. For example, our roof rafters are sealed to the roof. In other designs, they may be stitch-welded, but we identified that as a detail that we could improve upon."

Landmark partners with as many as six contractors to apply coatings. In an effort to bring further cost-effective solutions to its customers, the company has recently begun partnering with Sherwin-Williams to supply coatings. Climo likes the MacroPoxy 646-NSF system on the tank interiors, but the breadth of Sherwin-Williams coatings options for steel tank exteriors also serves his interests.

"Part of my job is knowing who is painting for us and providing paints for them that are not only appropriate for the service the tank will provide, but that fit their capabilities," says Climo. "The approach the industry has taken is, 'here's the system, use it.' But there are situation-specific solutions that make it very valuable for us to be involved with a paint manufacturer that offers a variety of solutions."

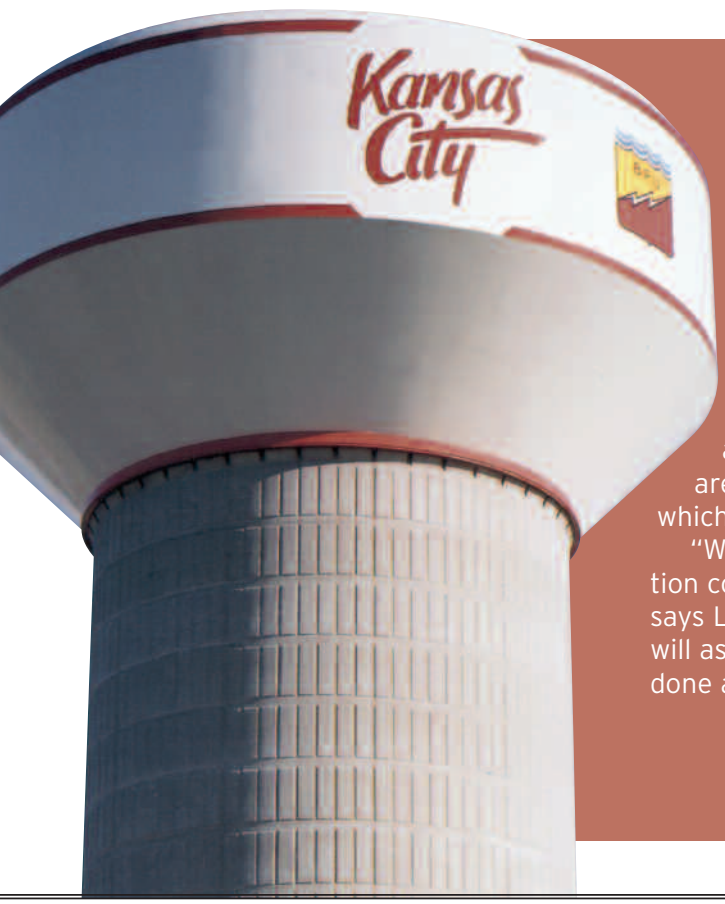
To that end, Climo is very aware of new products and technologies. He cites a recent job in

which ownership asked him to make a cost-efficient recommendation on a recoat of an existing tank. Climo called for spot priming with a Sherwin-Williams Aluminum Mastic and an overcoat of MacroPoxy 920 and Polysiloxane XLE-80.

"The unique thing about this tank is that there was quite a bit of growth," says Climo. "By applying Polysiloxane XLE-80, that surface will be much less susceptible to growth. It's just an example of the value of working with a supplier who can bring that range of products to the equation."

Having a broad range of coatings products and technology at their disposal gives Landmark another tool in bringing greater value to their customer.

"There are minimum standards in this industry, and the industry used to work to those," Lamon says. "But our focus is on opportunities that exist — whether they're in design, our construction practices or the coatings that we use — to provide better solutions for our clients. As the premier provider of composite tanks in the industry, we'll continue trying to raise the bar."



FORM OVER FUNCTION?

While long-term protection is probably the most important role of the tank's coating, its appearance gets as much attention, according to Landmark vice president Eric Lamon.

That's no surprise given that a composite tank is a highly visible form of community identity. And nothing generates as much attention as the logo – once black, block letters, logos now are colorful free-form graphic displays, many of which Lamon has helped design.

"While the logo is the smallest element of construction cost, it's certainly the largest element of interest," says Lamon. "Some will provide us a logo and some will ask for our help which, with the benefit of having done a lot of them, we're happy to offer."