

# Industrial Case Study

## North Texas Municipal Water District trusts Guardian™ PVC double containment piping system for new Leonard Water Treatment Plant

Manmade reservoir constructed to feed water to new facility that will serve the local community



### PROJECT:

The Leonard Water Treatment Plant, North Texas

### CONTRACTOR:

Garney Construction

### PRODUCTS:

- Guardian™ Double Containment Piping System
- Xirtec PVC and CPVC SCH 40, 80
- VKD Series Automated Ball Valves

### PROJECT COMPLETION:

1 year and a half for the first for Phase 1



## THE CHALLENGE

In the last five years, the population of North Texas has increased by 650,000 requiring a complete upgrade to the region's water facilities.

The Leonard Water Treatment Plant, located in Leonard, Texas, was built in response to this need and as part of a larger-scale, multi-phase program to expand North Texas Municipal Water District's (NTMWD) regional water system.

But with no naturally occurring lakes in Texas, the municipality needed to dig out a major reservoir (now called Bois d'Arc Lake) to feed water into this new treatment plant.

The plant treats up to 70 million gallons of raw water per day from the reservoir to provide safe, clean drinking water for the residents of North Texas.

This new water treatment plant consists of a raw water pump station (RWPS), a water treatment plant (WTP), and a high-service pump station (HSPS). Altogether, it's a critical component of the region's water supply plan to meet the growing demands of the area.

Given the scale of the project, which broke ground in 2021, and the high demand on the piping systems that would be used in the water treatment plant, the municipality needed to find a piping system that was incredibly durable and could withstand years of heavy use and exposure to chemicals without degrading or rusting.



## THE SOLUTION

Since 2009, the distributor assigned to the Leonard Treatment Plant has only used IPEX products for their municipal water projects in Texas and Oklahoma.

Why? Because IPEX has a reputation for providing high-quality water treatment piping systems as well as unmatched customer service. This is why the solution considered for this project was IPEX's Guardian™ PVC pressure & drainage double containment systems.

For over 25 years, the Guardian™ double containment piping system has been the engineered standard for thermoplastic double containment. Allowing you to choose the best solution for your project with either Xirtec® PVC and or high temperature Xirtec® CPVC made with Corzan®.

This piping system inside a piping system ensures there are no leaks that could contaminate the surrounding soil or ground water, making it an environmentally friendly piping solution as well as being unmatched in safety and reliability.

These high-performance vinyl systems, with Xirtec® PVC Schedule 40 and Schedule 80 pipe, are ideally suited to meet the temperature, pressure, and size requirements used in chemical processes and other industrial applications such as:



Process Water  
& Chemical



Chilled Water



Wastewater  
(Pressure & Non-Pressure)

Guardian™ unique double containment systems offer a number of critical benefits over alternative piping options. Their patented Centra-Lock™ design reduces the number of required joints by 40 – 60%, which means reduced failures and leaks. For this project, IPEX only had to supply 8/12" expansion joints every 200 meters.

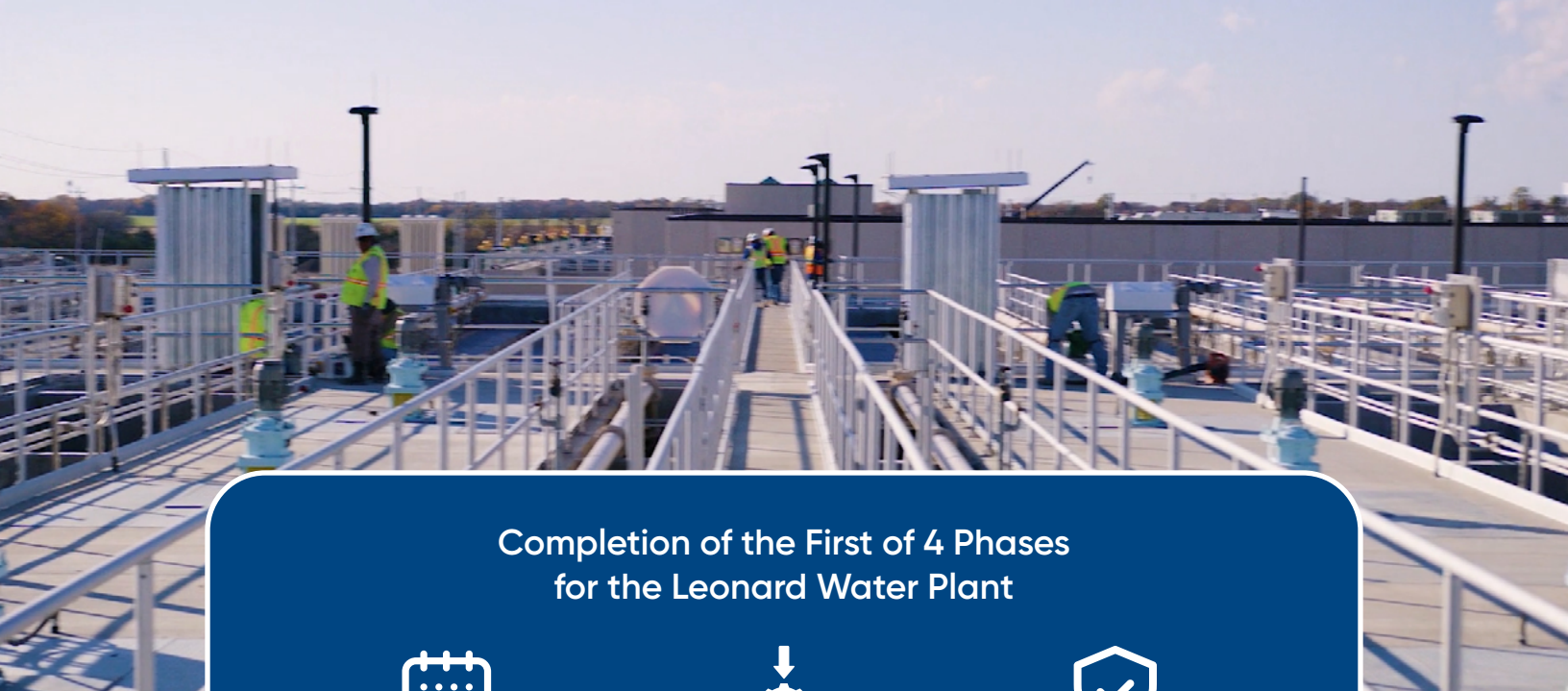
This innovative design also allows for a quick simultaneous solvent weld fusion and offers instant leak detection of overhead piping.

IPEX's line of plastic VKD Series Automated Ball Valves was also used for this project, given how well they work with plastic piping. These actuated valves help control water flow and were selected due to being lightweight, corrosion-resistant and offering a long service life, thanks to high-quality features like the shear point on the stem and double O-ring seals.

Beyond being high-quality products, the Guardian™ PVC piping system and VKD Series were also readily available, meaning the project wasn't delayed due to a lack of product availability.

As well as offering top-of-the-line piping products and valves for this project, IPEX also delivered comprehensive onsite training to the installation team at Garney Construction. This included in-field training where IPEX techs demonstrated how to install the piping systems. The series of training sessions involved having the team make a joint by assembling the pipe and fittings together to ensure they had been assembled correctly.





## Completion of the First of 4 Phases for the Leonard Water Plant



1 Year & a Half to Complete



Single Source of Pipes, Valves & Fittings



No Leaks Performance

### THE RESULTS

The Leonard Water Plant build was a new type of project for IPEX. This from-scratch project included a man-made lake and water treatment plant built from the ground up, as well as a wastewater treatment plant planned for a future phase of the project. This entirely new construction project was a change for the IPEX team, who traditionally work on additions to existing structures.

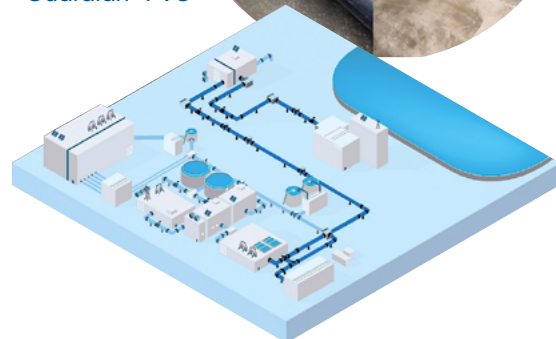
But the project, which took over a year and a half to complete, was a huge success. In total, Garney Construction installed nearly 47 miles of pipe for this project, with Guardian™ PVC piping systems playing a pivotal role in the build.

The municipality was thrilled to finally have a functioning water treatment plant to service the residents of North Texas, which is projected to meet the needs of its growing population through 2040.

This phase is just the first of four phases planned over the next decade to increase the potable water supply that serves the citizens of local North Texas communities. Each phase will see an increase of 70 million gallons added to the water treatment cycle, for a total of 280 million gallons processed at the Leonard Treatment Plant.



IPEX Guardian™ PVC



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