

FABRICATED STEEL/ TANK OF THE YEAR - STANDPIPE



WRITTEN BY ANDY STETZLER

Congratulations, Caldwell - winner of Steel Tank Institute / Steel Plate Fabricators Association's Tank of the Year Award for our Thermal Energy Storage Standpipe in Fort Worth, TX. Way to go!!!

This is the second Thermal Energy Storage Tank we have built for Lockheed Martin at this site (with the first tank next to the new tank in the photo). The Project Manager for this Project was Adam Hass. A special thanks go to Tim Callinan's Crew for a great job.

This standpipe was built in an existing and operating Lockheed Martin plant, the space taken up by the standpipe had to be absolutely minimized. Therefore, we had to size the standpipe to have the smallest diameter possible while still meeting the ton hour of storage required for the standpipe. We were able to provide 16,000 Ton Hours of Thermal Energy Storage in a 45' diameter by 105' tall Chilled Water Standpipe. Included in the scope of supply was the foundation which consisted a 3' pile cap and (37) 3' diameter drilled piers over 25' deep.

The standpipe and the diffuser within it, had to be built, painted, and insulated in an urban, plant environment with many other existing, occupied buildings and in use parking lots immediately adjacent to the standpipe. In any urban environment paint application is difficult, and this project presented an especially challenging work site. The parking lot on the west side of the standpipe was within 15' and on the east side of standpipe was an existing standpipe within 5'. To the south of the standpipe was a production building within 40' and to the north was a production building within 100'. Deliveries and major lifts involved significant communications with Lockheed Martin so as to not impede plant operations.

Most importantly, the building 40' to the south of the standpipe was where Lockheed Martin paints their fighter jets. Because of this numerous steps to ensure Cleanliness had to be taken. This included hourly checks for Foreign Object Debris (FOD) where all construction waste had to be immediately placed in sealed receptacle. All sparks produced during welding had to be contained. This especially is challenging for a hundred foot tall standpipe.

The interior of the standpipe received two coats of epoxy, and the exterior received one coat of epoxy. This was touched up in the field with the welds, and abraded areas being power tool cleaned, to minimize the dust, and then the coatings were applied with brush and roller for the exterior surfaces, to eliminate overspray issues.

Despite the challenges, we were able to provide this Thermal Energy Standpipe to Lockheed Martin ahead of schedule and with a storage capacity exceeding that of the performance guarantee.



WAY TO GO CALDWELL!!