CASE STUDY

COADE® Plant Focused. Industry Driven.℠

"With just a few clicks, CADWorx fieldPipe produced an intelligent 3D model plus isometrics all completed while we were on site."

"The models allowed us to show the owner upfront exactly what the design would look like when finished. This saved us time because we didn't have to explain much."

PRODUCT INDEX

CADWorx® Plant
CADWorx® fieldPipe

INDUSTRIES SERVED

- Water Treatment
- Building and Infrastructure

Installing a Large Loop Cooling System on site in Record Time

Tepsco steps up the challenge

Tepsco provides industrial construction, maintenance, and engineering services to chemical, petrochemical, oil and gas, power and heavy manufacturing industries.

The company was awarded one of the most challenging projects for Texas Medical Center (TMC), which is one of the largest medical centers in the world. The project involved providing a chilled water extension from the central system for a potential 26-floor medical facility. This involved hot-tapping into the municipal 48-in supply and return lines with 20-in take-offs. The central plant loop runs from a few miles south of Houston downtown and along the main streets in the TMC District. Customers take on the chilled water for their internal air conditioning systems.

Manual trial and error methods begging for an automated solution

Installing underground piping systems means the survey technician must work around all existing underground systems. Homero Garcia, the program manager for Tepsco's District Energy Group, knew this would be a challenge given the highly urbanized environment.

In the past, such projects relied heavily upon trial and error to get them right, with a large portion of the work done in the field. Tepsco heard that CADWorx fieldPipe could capture site information by using the laser technology of Leica Geosystems' Total Station to produce accurate and complete piping deliverables without the operator leaving the site.

Quickly detecting errors and eliminating rework

Using the CADWorx fieldPipe package on the TMC project, Tepsco was able to produce an accurate 3D model of the existing 48-inch underground lines in their true as-built state, and then model the proposed 20-inch branch lines.

The laser precision accuracy of the CADWorx system detected the misalignment and falls of installed lines at an early stage, saving both time and money for Tepsco and their customer. Conventional methods would have missed this. Using the old mehod, the dimensions and the locations on the drawings would have to be manually double and triple checked to ensure perfection.

For this project, the hot-tap points were so accurate that Tepsco even reduced the rental duration of a 10-ton temporary refrigeration unit, for keeping the ambient temperature of the excavated lines constant while welding took place. This saved money for the customer.

Project time reduced by nearly 50%

Using CADWorx fieldPipe from COADE prevented costly errors, saved time and ensured that spools fitted accurately in the field. The technology of laser precision made things faster and easier because it captures the pipe routing with laser accuracy, determines the size, and creates drawings that are unmistakably accurate.

The accuracy of the generated deliverables, such as the fabrication isometrics and bills of material, proved beneficial for all involved. Garcia estimates that CADWorx reduced a typical six to eight week field project down to four weeks.

"Using this tool really cut down the man-hours and time, saving all parties unnecessary expense, so this client is more likely to hire us again," adds Garcia.

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