Power Plant

Deep Foundations – Installing Hollow Bar Micropile System

PROJECT OVERVIEW

The design requirements for this deep foundation were 200 kips compression, 125 kips tension, and 25 kips shear. The soil borings revealed limestone at an approximate elevation of 135 feet. Above that was a mixture of gravelly sands, sands, sandy silts, and fill extending to the surface. The job site location was near the Missouri River.

REQUIREMENTS AND CHALLENGES

Based on the sub-surface conditions and the design requirements, CNC Foundations chose a Hollow Bar Micropile System that was designed as a friction pile to handle the loads.

CNC Foundations first installed casing at every Micropile location to a depth of approximately 21 feet to handle the shear loads. Once all of the casing was in place, we then drilled through the casing with a hollow bar micropile. These micropiles were drilled to a design depth ranging from 60 to 87 feet.

SOLUTION AND RESULTS

Over the course of the project, CNC Foundations performed two sacrificial compression tests, two sacrificial tension tests, one sacrificial lateral test, and 27 proof tests. All testing passed the design requirements and further validated that a Hollow Bar Micropile System was the best deep foundation system for the design loads and sub-surface ground conditions.

Project Details

SECTOR
Power Plant

LOCATION
Missouri

APPLICATION(S)
Deep Foundations
Hollow Bar Micropile System

1ST CHOICE