



Key Achievements

- McKinney Drilling Company (MDC) offered an accelerated schedule to complete all work in a single phase rather than the two originally planned and were able to assist in finishing ahead of the client's anticipated schedule, which saved them money.

The project

The project consisted of the construction of a new 0.5-mile transmission line connecting a new substation to an existing transmission line. The project had 11 transmission poles each 130 ft supported on drilled shaft foundations ranging from 84 to 132-in-diameters. The soil conditions warranted the use of polymer slurry due to a high-water table in swamp-like areas.

The challenge

The poor soil conditions posed the threat of caving potential and consisted of cobbles and boulders that often make drilling very difficult. At one point in the project, MDC worked approximately 50 ft under existing live 345 kV power lines.

The solution

Permanent casing in 4 to 6-ft sections was placed, advanced, and welded together. This process was repeated several times to prevent soil caving. A specialty short-mast rig was utilized and line height measurement taken to ensure proper clearances were met and maintained. In the swampy areas, MDC installed permanent casing in multiple sections as opposed just one, suppressing the potential for soil caving.

"The team quickly and safely adapted to rapidly changing conditions and their performance was above par. They were a key component in safely completing this project prior to the anticipated completion date with the quality we require."

Alan Osborne, Operations Manager, Giordano Construction Company

Application

Deep Foundations

Technique

Drilled Shafts (Caissons)

Market sector

Commercial

Owner

FirstEnergy

Main contractor

Giordano Construction Company

Engineer

FirstEnergy

Keller business unit (s)

McKinney Drilling Company