HELICAL FOUNDATION SOLUTIONS

CASE HISTORY

SITE PREPARATION

NEW CONSTRUCTION

REMEDIAL REPAIR

HELICAL PULLDOWN® MICROPILE

ATLAS RESISTANCE® PIERS

HELICAL UNDERPINNING

EARTH RETENTION

RETAINING WALLS

HELICAL TIEBACK

SOIL SCREW®

PIPELINE STABILIZATION

TELECOM/SUBSTATION

UTILITY/SOLAR

CERTIFIED INSTALLER
MASON GRADY FOUNDATIONS

GENERAL CONTRACTOR
CULPEPPER CONSTRUCTION

STRUCTURAL ENGINEER
ROSENBAUM ENGINEERING

GEOTECHNICAL ENGINEER
NOVA ENGINEERING & ENVIRONMENTAL

Hubbell Power Systems, Inc. is the world's leading helical pile/anchor manufacturer. The CHANCE® brand offers a technically advanced, cost effective solution for the Civil Construction and Electric Utility and Telecommunications markets.

PROJECT

During construction and renovation of the Edison Building at Cascades Park, it was discovered that the soil below the existing first floor slab was too loose to support the interior column footings that had been designed to support the proposed second floor addition. NOVA Engineering and Environmental performed testing at these interior footing locations to assess the soil conditions and found loose soil conditions to depths of up to 9-10 feet below the floor slab. Pat McKee, Structural Engineer and Vice President of Rosenbaum Engineering recommended the use of steel helical pipe piles to underpin the proposed columns, so that the load of each column would be transferred through the pile and into deeper, more competent, load bearing soil layers.

SOLUTION

Helical Piles were chosen over alternative pile systems, and removal and replacement of the soil, due to the low mobilization costs of helical pile installation equipment, and the ability to install the piles with small construction equipment that could be brought into the building through a 4'-6" wide doorway. Other factors that lead to the decision to choose helical piles were the fact that they do not generate spoils, so no soil would have to be removed from the building, vibration free installation, and the ability to monitor torque for each pile throughout the installation process, using a CHANCE Digital Torque Indicator. Therefore, the ultimate loading capacity of each pile would be known immediately following pile installation.

continued

CASE HISTORY

THE WORK

The deep foundation system consisted of 16 CHANCE 2-7/8" Round Shaft Pipe Piles. Lead sections consisted of a 10", 12", 14" helix configuration, installed to depths ranging from 14 feet to 28 feet. Piles were equipped with a 7"x7"x0.5" steel new construction pile cap to allow for connection to the new poured column footings. W orking loads per pile ranged from 12 kips to 25 kips in compression. The additional costs associated with the deep foundation were partially offset by the speed at which the piles were able to be installed. The 16 piles were installed in 1, 10 hour work day. This allowed the interior work to continue on without delay.

Galvanized 10,12,14 lead section being advanced by MGF owner, Mason Frascona. Digital Torque Indicator mounted between the drive head and drive tool.

Doorway through which the installation equipment was brought into the building.

7x7x0.5 new construction pile caps set at elevations 3 inches from bottom of footing.

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CHANCE CERTIFICATION #1912-0009-3630

Mason Grady Foundations specializes in CHANCE Helical Pile Systems primarily for foundations and retaining walls. The company is a certified CHANCE installer, we are family owned and operated, and we are a member of the CHANCE Alliance Network.