

CASE STUDY



10.75" HIGH-CAPACITY HELICAL PILES FOR MIXED USE TOWER IN LONG ISLAND CITY, NY

INSTALLER:

Scobbo Foundation Systems
Long Island City, NY
Piscataway, NJ
www.nynjhelix.com

GENERAL CONTRACTOR:

H&H Builders
NYC
www.hhbuilders.net

ENGINEERING:

Ray Teeter, P.E.
Canandaigua, NY

LOADS

440 Kips Ultimate Compression Load
90 Kips Ultimate Tension Load
4 Kips Ultimate Lateral Load

SPECIFICATIONS:

10.75" pile shaft
0.400" W.T.
1" helix plate thickness
24" helix diameter (1)
Grout filled
Non-galvanized

SOILS + EMBEDMENT DEPTH:

Sandy soils with N values of 0-20 BPF were encountered down to bedrock at approximately 40'. Average embedment depth where N values averaged 40 BPF.

OVERVIEW:

A 22 story multi-purpose new-build structure which included retail space on lower levels and condos and apartments on upper floors.

CHALLENGE:

Caissons, drilled piers and H piles were considered for this project, but due to the close proximity of the existing structures, vibration concerns were a significant factor. For this reason, as well as overall project cost concerns, high capacity helical pipe piles from Ideal Foundation Systems were selected for the deep foundations.

SOLUTION:

Full scale load tests to 220 tons were successfully completed to ASTM standards. (190) 10.75" diameter x .40 W.T. high capacity helical piles manufactured by IDEAL Group, were installed to a working load of 110 tons at an average depth of 40 feet. A 125k drive head and a torque monitoring system was used to install the helical pipe piles. All helical pipe pile lead sections and helical pipe pile extensions were 20' or 30' in length and all connections were bolted and field welded. All helical pipe piles were filled with grout after installation.



TALLEST BUILDING KNOWN TO HAVE BEEN BUILT ON HIGH-CAPACITY HELICAL PIPE PILES.

