

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

CHANCE® DISTRIBUTOR
FOUNDATION TECHNOLOGIES, INC.
LAWRENCEVILLE, GA

CHANCE CERTIFIED
INSTALLER

MASON GRADY FOUNDATIONS, LLC
PENSACOLA, FL / CAIRO, GA

GEOTECHNICAL ENGINEER
UNIVERSAL ENGINEERING SCIENCES

STRUCTURAL ENGINEER
APEX ENGINEERING GROUP, PLLC

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.

Fitness Center in Alys Beach, Florida



PROJECT:

Installing CHANCE® Helical Pulldown® Micropiles for a Fitness Center at Alys Beach in Walton County, FL.

BACKGROUND:

Prior to construction, a Geotechnical Investigation was conducted by Universal Engineering Sciences that found the presence of unconsolidated, loose sandy soils to depths ranging from existing grade to 10 feet below existing grade, as well as loose organic/wood laden soils at depths ranging from 15 to 20 feet below existing grade.

PROBLEM:

The design team was in need of a deep foundation system that was safe to install in a congested area and one that could penetrate the organic/wood laden soils that were present at the site. Several of the borings also showed that soil density did not increase with depth; therefore, a pile that did not rely solely on end bearing to achieve capacity was also vital to this project.

continued

CASE HISTORY

THE SOLUTION:

CHANCE Helical Pulldown Micropiles offered the best solution for this project, as they provide greater resistance to buckling, which was needed due to the soft organic layer. They can be installed without generating spoils, or the need for hammering, jetting, or driving, which was important because of the adjacent structures, and they develop higher load carrying capacity by combining end bearing of the helical bearing plates with skin friction along the grout column. This was important because in some locations of the site the sand layers were loose throughout the borings. The working loads per pile ranged from 30-kips to 90-kips in compression. Three load tests were conducted prior to production pile installation to verify capacity for each pile type. Pile types installed were SS150 piles with an 8/10/12 helix arrangement and a 5" grout column, SS175 piles with an 8/10/12/14 helix arrangement and 5" grout column, and SS200 piles with an 8/10/12/14 helix arrangement and 6" grout column. In total there were 137 piles installed and total installation time was three weeks.



Completed pile system equipped with new construction plate to allow for connection to the new grade beams.



View of the work site in relation to structure under construction.

KEY BENEFITS:

- Resistance to buckling in weak surface soils
- Stiffer pile (deflects less at a particular load)
- Additional corrosion protection in aggressive soils
- Higher capacity by combining end bearing and skin friction
- Small installation equipment as compared to installation equipment needed for other deep foundations



Mason Grady Foundations LLC
GA 229.872.3991 FL 850.688.2005
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.

