HELICAL FOUNDATION SOLUTIONS

CASE HISTORY

SITE PREPARATION

NEW CONSTRUCTION

REMEDIAL REPAIR

HELICAL PULLDOWN® MICROPILE

ATLAS RESISTANCE® PIERS

HELICAL UNDERPINNING

EARTH RETENTION

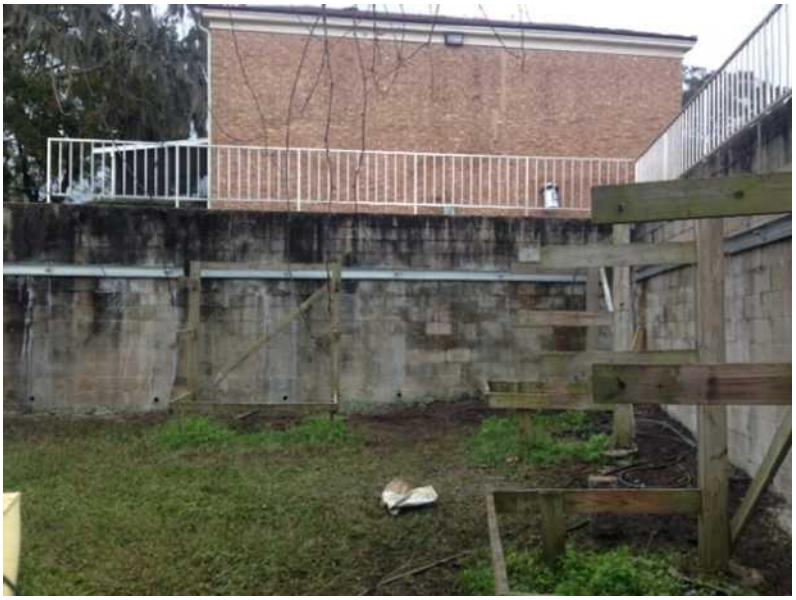
RETAINING WALLS

HELICAL TIEBACK SOIL SCREW®

PIPELINE STABILIZATION

TELECOM /SUBSTATION

UTILITY/SOLAR



PROJECT

A private condominium community in Jacksonville, FL had two units that were built adjacent to a block retaining wall that were experiencing settlement of the perimeter foundation walls. Cracks were evident in the interior drywall, and exterior brick walls in both units. Alta Engineering of Jacksonville was contacted by the property management company to perform a structural analysis of the foundation walls, and adjacent retaining wall. Upon investigation of the adjacent retaining wall it was found to be approximately 4" out of plumb as the upper section of the wall had moved out laterally allowing the loose sandy soils below the two adjacent structure's foundations to shift, and in turn allowing the foundations to settle.

SOLUTION

To prevent further settlement of the perimeter foundation walls Alta Engineering recommended the installation of a CHANCE Underpinning System to transfer the foundation loads through the shallow loose sands into deeper more competent load bearing material. To prevent further rotation of the retaining wall a CHANCE Tieback System, in conjunction with a steel waler system was recommended.

CERTIFIED INSTALLER
MASON GRADY FOUNDATIONS

GENERAL CONTRACTOR
RILEY PALMER CONSTRUCTION

STRUCTURAL ENGINEER
ALTA ENGINEERING

GEOTECHNICAL ENGINEER
RAGES OF JACKSONVILLE

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

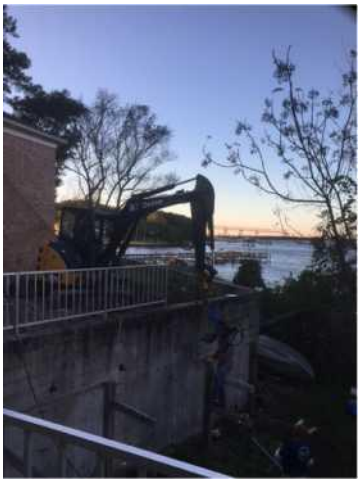
continued

CASE HISTORY

THE WORK

To stabilize the exterior foundation walls a total of (22) CHANCE Model RS2875.203 Helical Pipe Piles were installed to a depth of 20 feet and a minimum installation torque of2,300 ft.-lbs. as averaged over the final three feet of installation. This provided a pile with a minimum ultimate capacity of 20 kips in compression. A CHANCE Digital Torque Indicator was used to monitor torque throughout installation. Each retrofit bracket was set to the design load using a calibrated hydraulic jack and psi gauge.

To prevent further rotation of the block retaining wall (21) CHANCE Model SS5 Helical Square Shaft Anchors were installed at a 30 degree batter with a total anchor length of 25 feet and a minimum installation torque of 1,500 ft.-lbs. as averaged over the final three feet of installation. This provided a pile with a minimum ultimate capacity of 15 kips in tension. Each anchor was pre-tensioned to 125% of the design load. A piece of galvanized "c" channel was used to connect the anchors to the wall and spread the load evenly across the face of the wall.

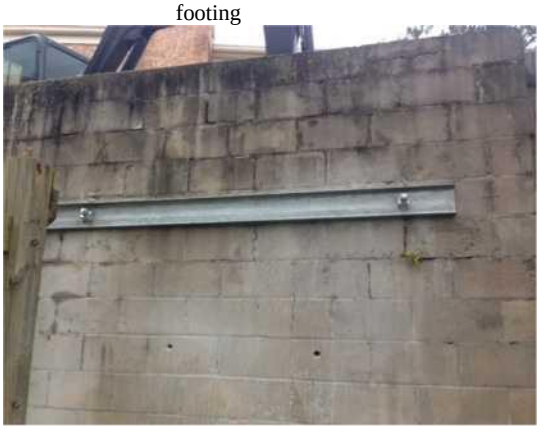


Installing the anchors through 4 inch diameter holes cored in wall

Underpinning pile installed below landing

Retrofit bracket attached to existing footing

Soil excavated behind wall to allow anchor leads to be installed behind wall. This prevented the need for larger holes cored in the block wall.



Galvanized channel used as waler

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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.