

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

DANBRO DISTRIBUTORS
Philadelphia, PA

CERTIFIED CHANCE®
INSTALLER

KEYSTONE FOUNDATION REPAIR, INC.
Carlisle, PA

PROJECT ENGINEER

BAKER, INGRAM AND ASSOCIATES
Centreville, MD

GENERAL CONTRACTOR

YERKES CONSTRUCTION
Chestertown, MD

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.

Chesapeake Bay Dock Stair Tower



“ Helical piles were the only thing that you could get in there and have that kind of accessibility. If they were going to have a pile driver come out and do it, they would've had to just tear it down and start over again. ”

- SCOTT NYE - KEYSTONE FOUNDATION REPAIR, INC.

PROJECT:

Create a stable foundation for a 50-foot stair tower that leads to a dock on the Chesapeake Bay to eliminate the leaning of the tower into the bay.

PROBLEM:

A beautiful stair tower was originally built on wooden posts placed into shallow holes in the ground by the shore of the bay. Over time, the tower began leaning towards the water due to the unstable soil around the foundation. Originally, the stair tower location was chosen for its beauty and remoteness, but these assets proved to be impractical and problematic for bringing heavy equipment to the site.

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SOLUTION:

Accessibility was the driving factor for this remediation project using CHANCE® Helical Piles. Not only was the work site on a beach with no vehicular access, but the ebb and flow of the tides had to be taken into consideration. To compound the accessibility constraints, it was decided that no equipment weighing over 150 pounds would be carried down the stair tower so as not to compromise the structural integrity of the tower. As a structural retrofit to the existing staircase, steel framework was built to attach the staircase to the new helical pile foundation.

The Certified CHANCE® Installers of Keystone Foundation Repair, Inc. were sought for this remediation project by Yerkes Construction. With the installation crew's 27 years of accumulated helical installation experience, they were able to install eight SS5 helical piles with a 12" helix to a depth of 20 feet with a handheld drive head tool. The interference of the stair tower structure itself was an additional reason the handheld drive head was necessary for this project. A custom-designed galvanized cap bolted to the top of the pile acted as the connection point between the steel framework and the helical piles.

All equipment and supplies were transported to the worksite by walking it down the four flights of stairs. The transportation of all equipment and supplies to and from the worksite and the installation of the eight piles were completed in a single day. Scott Nye with Keystone Foundation Repair, Inc. commented, "Helicals are more accessible than you think. Normally, we use our handheld inside a basement or an elevator shaft. This was a different level of accessibility."

KEY BENEFITS:

- **LIMITED ACCESS**
 - No vehicular access to narrow beach
 - Tide fluctuations
 - Overhead obstructions of stair tower structure
- **SMALL EQUIPMENT**
 - Weight limit on stair tower restricting transportation of heavy equipment
 - Light, handheld equipment available for installation

