

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

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CHANCE CERTIFIED INSTALLER

JRW FOUNDATION SYSTEMS
Redlands, CA JRWFS.COM

PROJECT ENGINEER

DEGENKOB ENGINEERS
Los Angeles, CA

GEOTECHNICAL ENGINEER

**AMEC ENVIRONMENTAL AND
INFRASTRUCTURE**
LOS ANGELES, CA

HELICAL ENGINEER

HADLEY ENGINEERING
Yucaipa, CA

GENERAL CONTRACTOR

MTM CONSTRUCTION
City of Industry, CA

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.

HELICAL FOUNDATION SOLUTIONS

L.A. Sheriff's Department Biscailuz Training Center



PROJECT:

Upgrade existing historical building for Los Angeles County Sheriff's Department Biscailuz Training Center in Los Angeles, California.

BACKGROUND:

The Los Angeles County Sheriff's Department's new juvenile facility and training academy was opened in 1947 and later named the Biscailuz Center. A lack of space led to its closure in 1984. After 30 years of being vacant, the Biscailuz Training Center (BC Academy) was re-opened after renovations including foundation underpinning and straightening of the building.

PROBLEM:

When the decision was made to expand and re-open BC Academy, engineering experts were needed to preserve and renovate its historic buildings. Building B3, dating back to the 1940s, needed to be brought up to current codes. It was built on undocumented fill and the second story was out of plumb by over 6 inches.

SOLUTION:

JRW Foundation Systems (JRWFS) was recommended for the design/build of the underpinning project. The second story was shored so the old foundation could be removed. Even this early stage of the project proved challenging due to limited space with which to shore the building and having to work around bracing to install the helical piles. Utilizing limited access equipment,

continued

CASE HISTORY

JRWFS installed CHANCE SS175 helical piles to provide axial loading capacity as well as lateral capacity within the replaced foundation. With no concrete to cure, the piles could be tested immediately.

Meticulous testing was required throughout this project. Vertical and battered sacrificial test piles were installed and tested. Vertical and battered production piles were tested in compression. The battered piles were installed at a 45-degree angle for lateral resistance within the proposed foundation. The vertical tests proved much easier than the battered tests in compression due to the challenge of limited space and reactionary forces.

The entire project required 37 vertical and 6 battered helical piles reaching depths of 52 ft. A safety factor of 3x the design load of 29 kips was used.

Once all helical piles were installed and testing was complete, the new foundation was placed in its original location over the CHANCE helical piles and, at the direction of JRWFS, framing was then replaced out of plumb. Under separate contract, JRWFS designed a method to re-plumb the second story utilizing cables and turnbuckles. Afterwards, sheer walls were installed, and the cable bracing was removed.

John Whittam of JRW Foundation Systems and Tom Hadley of Hadley Engineering worked seamlessly with CHANCE helical piles to restore the foundations structural integrity through 30' of undocumented fill. JRWFS came up with the design to straighten the second story in a way previously designed sheer walls could be installed without modification. It took JRWFS five (5) days to straighten the building. It was verified by L.A. County surveyors to be perfectly plumb.



KEY BENEFITS:

- Able to install in limited access areas
- Time to install faster than concrete
- Labor savings - smaller crews
- No spoils were generated
- Immediate proof testing and loading
- Able to reach competent soil below undocumented zone
- Minimal impact to existing and surrounding structures



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