PARK RANGE CONSTRUCTION NEWS

ISSUE 03, May 2012 303.781.8936 ParkRangeConstruction.com 2755 South Raritan Street, Englewood, CO 80110

Repair Specialist since 1981. Park Range Construction is a family owned general contractor. Our company was established in 1981, and we are still family owned today.

Park Range is highly respected throughout the engineering and building community as a structural repair specialist.

Park Range provides a highly competent team of estimators, project managers, on-site supervisors and qualified crews equipped to provide excellent service.

Our staff will provide all scheduling and communication between the owner and engineer.



Helical Pile Installation at Power Plant Sub-Station



Park Range Construction was awarded the contract to install 250 Magnum galvanized 6.50° O.D. x .280" wall thickness tubular piles with a single .875" x 24" helice plate and 10"x10" pier caps welded to the shafts. Piles were installed to support foundations for a new sub-station at a power plant.

The original foundation was designed with 6" micropiles. Installation was scheduled during winter months which would have required tremmie grouting in extreme conditions for micropiles. However, an alternate design was engineered by Magnum Geo Solutions providing an economical and efficient installation with helical

piles.

The soils were soft and sandy in the upper 15 feet. The conditions were ideal for helical piles. The $6\frac{1}{2}$ helical pile met the lateral capacity requirements of the engineer and torqued to the required capacity at 18-24 lf.

Park Range performed six proof tests in tension. The tests were measured optically and by micro dial gauges. The proof tests were loaded to 22.55 kips which was 150% of the design load. The site was very congested, drilling next to and under transformers. (Continued on Page 4)



Historic Water Works Renovation

Fort Collins' First Water Works







The City of Ft. Collins constructed a water delivery system to improve everyday life in 1882. This provided water to fight fires and the ability to pump clean drinking water to the citizens. Preservation of this historical site required a new foundation support system. Park Range Construction was contracted to install ECP Galvanized 2 7/8" tubular piers to underpin and re-level the foundation. Piers were installed with underpinning brackets attached to W 10x26 ASTM galvanized I-Beams with face plates. The piers and I-Beams were placed under the existing footings to spread the load along the old stone block foundation and stabilize the structure. - Engineered by AE Design.

Park Range Construction, Inc. is now officially WOSB a certified Women-Owned Small Business.

Causes of Water Problems: Why Is It Happening?

IMPROPER GRADING OR LANDSCAPING

The soil grading surrounding the perimeter of the home should have a slope or fall away from the foundation. Landscaping should require minimal or no watering close to the foundation.

DOWNSPOUT DISCHARGE

Downspouts could be the culprit if they don't effectively discharge water away from home (6-10'). If not properly place, downspouts could create a "recycling effect", basically discharging rainwater toward the home and into your foundation drain.

HYDROSTATIC PRESSURE BUILD-UP

Hydrostatic pressure will cause water to find the path of least resistance into your basement causing flooding.

CRACKS IN WALLS OR FLOORS

Cracks in walls and floors will allow water, which is under hydrostatic pressure, to enter.



PERIMETER DRAINS

Perimeter drains are a way to remove water that may accumulate around and under your foundation as well as control hydrostatic pressure. The key to the effectiveness of the system is proper installation and proper discharge of water through the sump pump and pump extension away from the foundation.

PLUMBING LEAKS

Plumbing leaks, both interior and exterior, are major contributors of water damage to a structure. Plumbing leaks could be putting undo hydrostatic pressure on your basement.

Park Range can perform the following services:

- Interior & Exterior Drain Installation
- Epoxy Injection
- Swales and Concrete Pans

- Waterproofing
- Improved Grading & Landscaping

For more information on Drainage Improvement services offered by Park Range Construction, please visit our website at www.parkrangeconstruction.com or scan the QR Code at the right with your Smartphone QR Reader.



Lunch & Learns with Park Range Construction

We are pleased to offer Lunch and Learn Presentations to your office so you can learn more about the products and services we offer for structural repairs, foundation support systems, drainage improvements, building envelope repairs, structural floor installation, expert testimony and intrusive testing. Please contact us at **303.781.8936** to schedule a one-hour seminar to be held at your office.

Helical Pile Installation at a Power Plant Sub-Station

Park Range Construction performed both compression and tension proof and verification load tests on two non-production sacrificial helical piers installed per ASTM D₃689 and ASTM D₁₁₄₃ standards. The compression test consisted of a steel load frame; which the main reaction beam is a double 12x26 x 15' long steel beam bearing onto cross beams. All built up beam sections were welded together with $\frac{1}{2}$ " thick steel plates with space for the "all-tread" to go through and double $\frac{1}{4}$ " web stiffeners at all point load locations.



Cross beams were made of double MC 18x45.8 steel C-channels back-to-back that bore onto four reaction piles. The reaction piles were tubular piers with multiple helices installed to accommodate the loading criteria. All connections used appropriate tie-back transitions and caps specifically designed for each application.

The tension test had a double 12x26x 15' long steel load frame bearing onto 4'x4' built up cribbage. Four additional field verification tests were performed on production piles as specified in the construction documents.

The schedule was very tight requiring night work and working next to many other crews. Every day of power plant closure cost thousands of dollars. Park Range provided two drilling crews and the job finished on time and within budget.





PARK RANGE SERVICES

Structural Repairs Helical Pier Foundation Support Systems Micropile Foundation Support Systems Resistance Pier Foundation Supports Drainage Improvements Building Envelope Repairs ADDITIONAL SERVICES Structural Floor Installation Expert Testimony / Intrusive Testing

For more information about our services, project photos, technical information and more, please visit us at: **ParkRangeConstruction.com**