

Helical Piles used to Restore Historic Building

Great Falls, Montana



In 2009 a fire compromised the integrity of several floors of the Rocky Mountain Building in Great Falls, Montana. Built in 1914, the Rocky Mountain Building was the previous home of the Rocky Mountain Fire Insurance Company, the Pantages Theater, and a Public Drug store. Ever since the fire, the building has been left vacant. The building was such an eye-sore that many town locals inquired why it wasn't demolished.

To save the piece of Great Falls history, Alluvion set out to build a state of the art, full-service clinic. They worked with Nelson Architects and the Sletten Construction Company on this massive undertaking. Construction broke ground in 2022 with a budget of 29 million dollars for the initial phase. Gittins Foundation Specialist Inc. installed Earth Contact Products' (ECP) helical piers to provide structural support to the interior load bearing columns.



Project Overview

Engineering - Thomas Dean & Hoskins Engineering & Geotech

General Contractor - Sletten Construction Company

Helical Contractor - Gittins Foundation Specialists Inc.

Helical Pile Mfg. - Earth Contact Products

Helical Piles - TAF-175-84-10-12

Extensions - TAE-175-84

Caps - TAF-175-NC

Other - 6" Grout Ring

Target Depth - 30-35 feet below grade

Working Load - 30 kips compression and tension

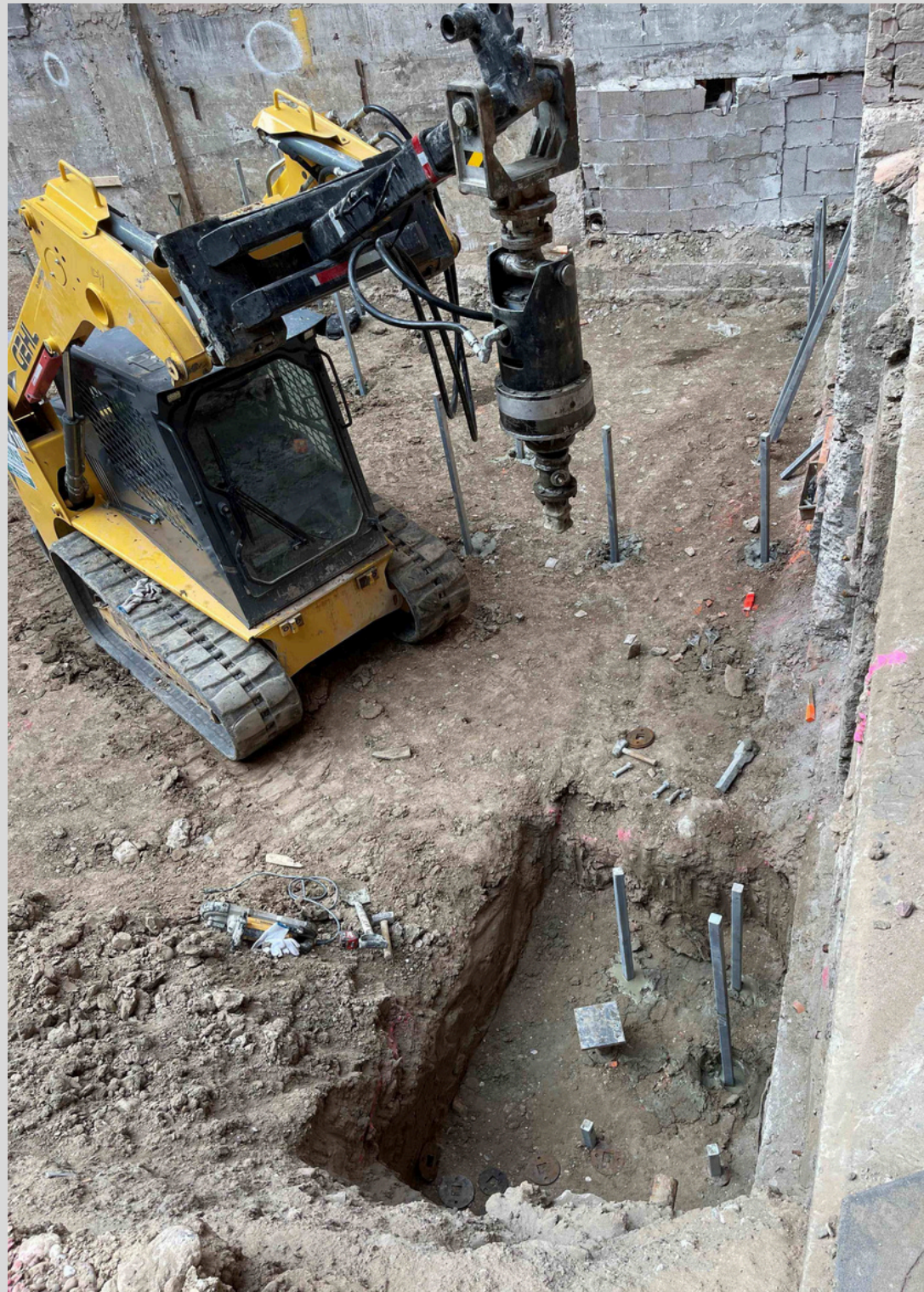
Ultimate Load - tested to 100 kips per pile

Installation Torque - 10,000 ft-lbs.

Each helical pier was grouted to resist shaft buckling within the glacial till soil upon which the piers were embedded. These helical piers were driven 30 to 35 feet below grade where they developed a load bearing capacity of 100,000 lbs. each.



The teams faced very limited access to the charred building site. All equipment and products had to be craned into the basement of the four-story building. On top of that, there was limited headroom for installation of deep foundation elements. The Geotechnical investigation revealed that the soils encountered at bearing elevation are very weak and compressible yet expansive. This, coupled with the magnitude of the anticipated foundation loads for the project, lead the Structural Engineer, Geotechnical Engineer, and General Contractor to the use of grouted helical piers.



The design team, comprised of Thomas Dean & Hoskins Engineering & Geotech, along with consultation from Gittins Foundation Specialist Inc., proceeded with installing ECP TAF-175-84 helical piers with a 10/12 helical flight configuration and a 6" diameter grout ring. The grout ring, made of steel, was placed just below the coupler, allowing the grouted columns to continue to a load bearing strata.



After completing another successful helical pile job, Gittins Foundation Specialists described Earth Contact Products as “the very best” and “the finest engineered foundation restoration products in the industry.”