



Target Store

Chicago, Illinois

The Rammed Aggregate Pier® System saved more than \$1 Million dollars by eliminating the need to remove and replace the subsurface soils contaminated by heavy metals.

Description: Construction of a single-story store with a footprint of 140,000 sq. ft. Column loads up to 140 kips, wall loads up to 5 kips per lineal foot and floor loads up to 250 psf.

Subsurface Conditions: Subsurface conditions consist of 3 to 7 feet of contaminated urban fill, underlain by a layer of loose silt to depths of 8 feet. The silt soils are underlain by soft to very stiff clay and loose to dense clayey sand. The upper fill contained pieces of concrete, wood, bricks and asphalt. Groundwater was encountered at approximately 18 feet below grade.

Geopier Solution: The geotechnical investigation revealed unstable soil that would not adequately support the shallow footings and floor slab. In addition, there would have been exorbitant costs incurred to remove and properly dispose of the soils contaminated with heavy metals. As a result, the geotechnical engineer recommended use of the Geopier GP3® system in lieu of the more costly alternative of overexcavation and replacement. After



fulfilling the extensive requirements and full-scale load testing required by the City of Chicago, construction began. Upon initial drilling, it was discovered that the fill contained relatively large pieces of debris that were difficult to penetrate with a conventional drill, so the Geopier Installer mobilized a high torque drill for the project with successful results. The Geopier design using 30-inch diameter Rammed Aggregate Pier® elements installed to depths ranging from 8 to 10 feet provided superior foundation support while also creating a cost savings for the owner.

PROJECT TEAM

Owner:
Target Corporation

Geotechnical Engineer:
Terracon

Structural Engineer:
Target Corporation

General Contractor:
Walsh Construction Company

Geopier Installer:
Foundation Service Corporation

Geopier Designer:
GFC - Great Lakes