



Harner Residence Shalersville, Ohio

The Geopier Impact® Rammed Aggregate Pier (RAP) solution used to reinforce and densify the granular fill to support building footings and the floor slab, eliminating the need for up to 18 feet of overexcavation and replacement.

Description: Construction consisted of an approximately 3,000 square foot residential structure. Column loads ranged from 18 to 41 kips and strip footing loads were up to four kips per square foot.

Subsurface Conditions: Loose sandy silt and silty sand fill extended to depths of up to eight feet and were underlain by very loose to loose sand and gravel fill extending up to 18 feet below grade. Medium dense to dense sand and gravel was encountered below the fill. Ground water was located at five feet below existing grade.

Geopier Solution: RAPs were used to densify and reinforce the existing granular fill extending to depths of 18 feet. A total of 81 RAPs were installed beneath column and strip footings and beneath the floor slab to provide settlement control and eliminate the need for overexcavation and replacement of the existing fill. RAPs were installed to consistent depths of 18 feet to provide complete fill penetration. The solution provided a cost effective alternative to overexcavation and replacement for foundation and



floor slab support. Total RAP installation time was less than two days.

PROJECT TEAM

Owner:

Ray Harner

Geotechnical Engineer:

Summit Testing & Inspection

Geopier Installer:

Peterson Contractors, Inc.

Geopier Designer:

GFC-Great Lakes.