



The Lofts at the Highlands

St. Louis, Missouri

Over 800 Geopier® elements were installed to provide a safe allowable bearing pressure of 5,500 psf and to control settlement beneath two five-story apartment buildings constructed over undocumented, uncontrolled fill

Description: Construction of two 44,500 square foot buildings each consisting of a five-story metal stud frame apartment building over one level of concrete construction parking. Column loads range from 225 to 450 kips.

Subsurface Conditions: Six to 11 feet of engineered fill, underlain by 3.5 to 25 feet of undocumented, uncontrolled fill, overlying natural, cohesive soils and bedrock. The uncontrolled fill consists of silty clay to clay with varying percentages of bricks, broken glass, cinders, gravel and pieces of concrete.

Geopier Solution: Geopier developed an Intermediate Foundation® solution to reinforce the existing fill and support shallow foundations. Over 800 Rammed Aggregate Pier® (RAP) elements were installed to provide a safe allowable bearing pressure of 5,500 psf and to control total settlement to less than one inch and differential settlement to less than one-half inch.



The Geopier approach provided significant cost savings and schedule advantages as compared to the conventional overexcavation/replacement.

PROJECT TEAM

Owner:

Balke Brown

Geotechnical Engineer:

Geotechnology, Inc.

Structural Engineer:

SSE, Inc.

General Contractor:

HBD

Geopier Installer:

Foundation Service Corp.

Geopier Designer:

GFC - St. Louis