



Assembly Row, Blocks 1-4 and 10

Somerville, Massachusetts

Geopier Rammed Aggregate Piers® (RAPs) were installed below footings and slabs-on-grade throughout the 5-story structure.

Description: Assembly Row is a mixed-use development constructed on a 10-block city site. Surrounded by a six-acre riverfront park, Assembly Row houses approximately 2,100 residential units, a luxury hotel and 2.25M square feet of office and retail space.

Subsurface Conditions: The construction site contained unsuitable urban fill, loose estuarine deposits, soft organic soils and a relatively high groundwater table.

Geopier Solution: Geopier’s Grouted Impact® system allowed for traditional shallow footing and slab-on-grade construction which helped expedite the construction schedule. The Rammed Aggregate Piers® were used to limit total and differential settlement to less than 1 inch and ½ inch and provided a maximum allowable footing bearing pressure of 6 kips per square foot. Helical Drilling installed more than 6,000 RAPs throughout Blocks 1-4 and 10.



Grouted Geopier RAPs were used to support footings and prevent pier bulging within the organic soil layer, while non-grouted RAPs were used to support slabs-on-grade. To address the close proximity of the bottom of footing elevations to the soft organic soil layer, the designer engineered a structural fill pad (“footing pad”) beneath the footings to help transfer footing stresses to the GAPS and surrounding matrix soil. A test footing supported by four GAPS underwent a full-scale modulus test to 200% of the GAP element design stress. In addition, five individual GAP modulus tests were performed to 200% of the GAP element design stress.

PROJECT TEAM

Geotechnical Engineer:

Haley & Aldrich, Inc

Geopier Installer:

Helical Drilling, Inc.

Geopier Designer:

Design/Build Geotechnical

Structural Engineer:

McNamara/Salvia, Inc.

Structural Engineer:

LeMessurier Consultants

Structural Engineer:

McNamara and Sakvia

Structural Engineer:

McNamara and Sakvia

Structural Engineer:

Summit Engineering

General Contractor:

Avalon Bay Communities, Inc.

General Contractor:

Cranshaw Construction

General Contractor:

Cranshaw Construction

General Contractor:

Avalon Bay Communities, Inc.

General Contractor:

Cranshaw Construction

Block 1

Block 2

Block 3

Block 4

Block 10