

Pappajohn Higher Education Center Des Moines, Iowa

Geopier® Rammed Aggregate Piers™

Project Team

Geotechnical Engineer: Allender Butzke Engineers, Inc.

Structural Engineer: Charles Saul Engineering

Owner: John & Mary Pappajohn

General Contractor: Miron Construction Company, Inc.

Geopier Installer: Foundation Service Corp.

Geopier Designer: GFC – Midwest

Results of the modulus test indicated deflection at the maximum Geopier design stress of 14,400 psf confirming superior stiffness in the urban fill.

Project Overview

Description:

Construction of a multi-story education center with pre-cast exterior load bearing walls and an interior steel frame. Column loads range from 20 to 700 kips. Continuous footing loads range from 1.5 to 25 kips per foot. Floor slab pressures are 125 psf.

Subsurface Conditions:

Urban fill materials with concrete and brick rubble extended between 10 to 15 feet below grade. The fill was underlain by loose to medium-dense sand extending 65 feet to the underlying bedrock materials.

Geopier Solution:

The foundation support options included overexcavation and replacement, drilled shafts, augercast piles and the Geopier Intermediate Foundation System. The Geopier system offered significant cost and schedule savings and was selected for foundation support. The Geopier system was developed to reinforce the existing fill to support footings bearing at 5,000



psf. A total of 318, 30-inch Geopier Rammed Aggregate Piers (RAP) were installed with shaft lengths ranging from 10 to 14 feet to completely penetrate the fill. Results of the modulus test indicated deflection at the maximum Geopier design stress of 14,400 psf confirming superior stiffness in the urban fill. In limited locations, Geopier RAPs installed with embedded uplift anchors were used to control uplift demands on individual column footings.

FOR MORE INFORMATION

Contact Geopier Foundation Company at **800-371-7470**
or at **www.geopier.com**



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The Intermediate Foundation System