

Meskwaki Casino Hotel Addition Tama County, Iowa

Geopier® Rammed Aggregate Piers™

Project Team

Geotechnical Engineer: Allender Butzke Engineers, Inc.

Structural Engineer: Kuhlmann Design Group, Inc.

Owner: Sac and Fox Tribe of the Mississippi

General Contractor: The Weitz Company

Geopier Installer: Peterson Contractors, Inc.

Geopier Designer: GFC — Midwest

The Geopier® RAP System kept the schedule on track while providing a cost-effective foundation support solution compared to deep foundation and low compaction spread footings.

Project Overview

Description:

Construction of a 15,400 square foot, 8-story hotel next to the existing Meskwaki Casino Hotel. Column loads ranged from 250 to 845 kips and wall loads ranged from 5 to 7 kips per foot. Uplift resistance was also required at particular footing locations.

Subsurface Conditions:

Five feet of fill underlain by 8 feet of soft to medium stiff fat clay followed by very soft to soft clay and silt alluvial soils to a depth of 25 feet. Loose and medium dense alluvial sand was encountered below 25 feet.

Geopier Solution:

The geotechnical engineer considered supporting the light to moderate loads using spread footings and the heavy loads using augercast piles. Ultimately, a Geopier RAP solution was recommended which allowed the use of high capacity footing support across the entire site at a more economical cost. In addition, the Geopier system



was designed to resist the uplift loads. A total of 436 piers including 56 with uplift anchors were installed to depths of 15 to 22 feet in 21 days. Results of the modulus test showed 1/2" of movement at 14.0 ksf. Uplift test results showed 1/2" of upward movement at the 50 kip load.

FOR MORE INFORMATION
Contact Geopier Foundation Company at 800-371-7470
or at www.geopier.com



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The Intermediate Foundation System