



Aventine Ethanol Plant

Mt. Vernon, Indiana

The project team recognized the potential for cost and schedule savings compared to other foundation options, and selected the Geopier GP3® system for tank and foundation support

Description: Plant construction required support of 25 tanks and grain bins with bearing capacities up to 5 ksf. The project also included support of a tower crane pad and several process pads. The current plant design capacity is 108 MGY with the ability to expand to 216 MGY in the future.

Subsurface Conditions: The soil profile was 20 to 23 feet of interbedded medium stiff to stiff clay and loose clayey silt over stiff to hard silty clay and dense sand.

Geopier Solution: Although removal and replacement as well as driven and auger-cast piles were considered, the Geopier system provided significant cost and schedule savings. Over 2,200 Rammed Aggregate Pier® (RAP) elements were installed to deliver the completed job ahead of schedule. Piers were installed beneath the tanks at spacings of 5 to 6 feet on-center to provide improved bearing support and settlement control. Additionally, piers were installed to support a large tower crane.



PROJECT TEAM

Owner:

Aventine Renewable Energy, Inc.

Geotechnical Engineer:

Weaver Boos Consultants

Structural Engineer:

Bibb and Associates

General Contractor:

Kiewit Energy Company

Geopier Installer:

Foundation Service Corporation

Geopier Designer:

GFC-Midwest