

GEOPIER®

Geopier® Rammed Aggregate Pier® Solution Sheds Three Weeks Off Construction Schedule

CLIENT'S CHALLENGE

Project Bluejay is a massive 4-story commercial warehouse located on a cornfield northeast of Des Moines, Iowa. Highly variable soil conditions and high anticipated loads created a unique and challenging fast-paced project scenario while delivering the building pad quickly and allowing the building to be supported on high-capacity shallow spread foundations to eliminate the need for expensive deep foundations.

A fast-paced construction schedule of 70 days was allowed for foundation element installations (35 days for each half of the pad).

SUBSURFACE CONDITIONS

The soil conditions for this project consisted of a thin layer of upper sandy clay glacial till soils underlain by soft lacustrine deposits to up to 45 feet below finished grade then followed by very stiff glacial till soils to the maximum explored depth. Groundwater was highly variable across the site, but generally encountered within the soft lacustrine deposit.

GEOPIER® SOLUTION


The Geopier Impact® system and the Geopier X1® system were used to support the high-capacity foundations for this project. Column loads up to 2200 kips were supported in this challenging profile.

The use of the Geopier system allowed for 8 ksf bearing pressures to be utilized, thereby saving on construction materials (foundation concrete, reinforcing steel, etc).

The use of the Rammed Aggregate Pier® systems allowed the pad to be delivered 3 weeks ahead of schedule (completion of 50 calendar days) which allowed the construction schedule savings to be realized.



Project Bluejay

 Bondurant, Iowa

Ryan Companies
Owner/General Contractor

Braun Intertec
Geotechnical Engineer

Shirk & O'Donovan Consulting Engineers
Structural Engineer

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