

# Amgen Manufacturing Building Juncos, Puerto Rico

Rammed Aggregate Pier® System

## Project Team

**Owner:** Amgen

**Geotechnical Engineer:** GMTS

**Structural Engineer:** Unipro

**General Contractor:** Caribbean Industrial Construction

**GFC Installer:** M-R Drilling Corporation

**GFC Designer:** GFC - Puerto Rico

**Construction Manager:** Fluor Daniels

**Construction Designer:** Jacobs

*The Geopier® system provided a cost savings of more than \$500,000 in comparison to drilled shafts.*

## Project Overview

### Description:

This project consisted of a two-story manufacturing building with column loads that ranged from 200 to 1,200 kips.

### Subsurface Conditions:

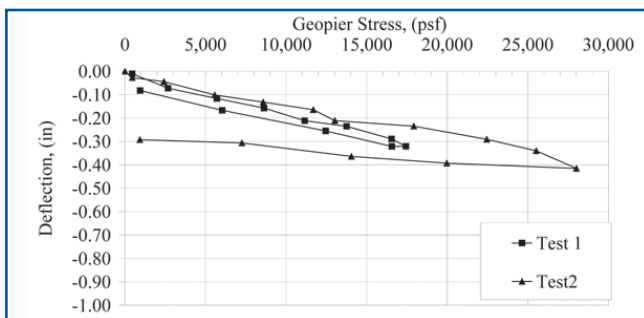
Soil conditions consisted of medium stiff to hard silty to sandy clay (slightly organic near the ground surface) to the depth of 31 feet over weathered rock. Groundwater was encountered five to 12 feet below the ground surface.

### Geopier Solution:

The Geopier System was selected as the Intermediate Foundation® Solution for the pharmaceutical plant. Approximately 800 Rammed Aggregate Pier® (RAP)



elements, 30 inches in diameter were installed in less than a month. The RAP elements ranged in depth from nine to 13 feet below the existing grade. Two modulus tests were performed and both verify less than a half inch deflection at design stress levels.



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