GP3®

Medical Center of Southeast Texas

Port Arthur, Texas

The Geopier GP3® system provided a cost effective and efficient means to providing superior foundation support as opposed to overexcavation and replacement.

Description: Construction of a six story, 260,000 square foot hospital building with structural capacity of expanding to eight stories in the future. Column loads are up to a maximum 1,260 kips in compression and 1,080 kips in tension.

Subsurface Conditions: Natural site soils consisted of eight feet of surficial, very soft, highly expansive, fat clay. Underlain by 8 to 12 feet of sandy lean clay over 12 to 20 feet of silty fine sand. Fat/lean clay was encountered to the maximum explored depth of 75 feet. Groundwater was encountered at a depth of 16 feet.

Geopier Solution: A Rammed Aggregate Pier® soil reinforcing solution was developed to reinforce the existing fill and support shallow foundations. 24-inch diameter GP3® elements were installed at spacings of 7 to 8 feet on-center to provide support for conventional continuous wall footings, while 30-inch diameter elements were placed in concentrated groups beneath the heavily-loaded braced frame footings. The GP3 installation allowed for foundations

to be designed using an allowable bearing pressure of 3,000 psf. Over 560 GP3 elements were installed in 12 days. The Geopier® approach provided significant cost savings and schedule advantage as compared to conventional overexcavation/replacement that would otherwise have been required.

PROJECT TEAM

Owner:
Beaumont Hospital Holdings, Inc.

Geotechnical Engineer:
Stork Southwestern Labs

Structural Engineer:
Structural Affiliates Int'l., Inc.

General Contractor:
R. J. Griffin & Company

Geopier Installer:
Peterson Contractors, Inc.

Geopier Designer:
GFC-Houston

130 Harbour Place Drive, Suite 280, Davidson, NC 28036
800.371.7470 | www.geopier.com | info@geopier.com | marketing@geopier.com

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