

Oakmont Baptist Church

Greenville, NC



Project Description: Geopier[®] rammed aggregate piers[™] were used to support the spread footings for the two to three level addition to the Oakmont Baptist Church in Greenville, NC. Column loads at the foundations ranged from 15 kips to 225 kips. Subsurface conditions consisted of medium dense silty fine sand and firm to stiff sandy clay (N-values of 4 to 9 blows per foot) to depths of 12 feet. This moderately compact surface layer was underlain by a very soft CH clay layer, with N-values ranging from weight-of-hammer (WOH) to 3 blows per foot, that extended to depths of 32 feet. GeoStructures supplemented the Owner's geotechnical exploration program with eight dilatometer probes to depths of 30 feet throughout the building footprint to verify the stress-strain modulus (E_s) of the lower zone soils. Final Geopier design analyses permitted spread footings supported by 8 to 13 foot long Geopier elements to be sized for a bearing pressure of up to 4500 psf and limit the potential total and differential settlement to less than 1 inch and ½ inch, respectively.

THE GEOPIER ADVANTAGE

- A Geopier-supported spread foundation system was determined to be more cost effective than a deep foundation system of driven piles or auger-cast piles.
- 165 Geopier elements were installed in less than 1 week in late December 2001 allowing the GC to proceed immediately with spread footing construction for an aggressive construction schedule.

General Contractor: Farrior & Sons, Inc., Farmville, NC

Architect: ADW Architects, Charlotte, NC

Structural Engineer: Hunter Structural, P.A., Charlotte, NC

Geotechnical Engineer: Titan Atlantic Group, Inc., Raleigh, NC