



Wake County Detention Facility Housing

Raleigh, North Carolina

The Geopier GP3® system was selected by the geotechnical engineer to support this facility in lieu of alternative foundation support solutions

Description: A \$139 million, 414,600 square feet expansion at Wake County Detention Center, a medium-security facility. The new facility combines improved efficiency and safety while planning for future expansion and minimizing environmental impact. The addition will consolidate detention services that are presently located in three separate facilities, including booking, open intake, City/County Bureau of Identification, medical clinic and infirmary, academic services, food service, laundry and warehouse.

Subsurface Conditions: Subsurface conditions consisted of up to three feet of stiff to very stiff silty clay fill, underlain by stiff to very stiff residual silt or residual sandy silty clay. Underlain by medium dense to dense residual sand and silty sand, with partially weathered rock beneath that extended to depths of 40 feet below grade. Groundwater was encountered at approximately 275 ft. msl.

Geopier Solution: The Geopier GP3® system was selected by the geotechnical engineer to support this



facility in lieu of alternative foundation support solutions. Over 700 Rammed Aggregate Pier® elements, 30 inches in diameter were installed.

PROJECT TEAM

Owner:

Wake County Facilities Design & Construction

Geotechnical Engineer:

Geotechnologies, Inc.

Structural Engineer:

Little Diversified & Architectural Consulting

Construction Manager:

Skanska USA Building

Geopier Installer:

GeoConstructors, Inc.

Geopier Designer:

GeoStructures, Inc.