Subsurface Constructors

Ground Improvement

Rigid Inclusions at Avalon Bay – Montville, New Jersey



Subsurface Constructors

Design & Install of 2,500 Rigid Inclusions for a Residential Apartment Complex

Subsurface Constructors completed the design and installation of over 2,500 rigid inclusions (fully grouted columns) for a 349-unit luxury residential apartment complex in Montville, New Jersey. The site had been used as an auto salvage yard dating back to the 1960's and once had large basins that were filled over the years using urban fill materials. Due to the history of the site, the subsurface materials at the site were evocative of a landfill. Our ground improvement installation was used to improve the soils to support the structure on conventional shallow foundations and a slab-on-grade while providing a sizeable cost savings to the developer in lieu of a deep foundation system.

The rigid inclusion ground improvement system was used to increase the allowable bearing capacity at the site to 4,000psf while maintaining settlements below one inch. Additionally, as a concerted effort in our strive towards sustainability, reclaimed concrete materials that were excavated from the site were crushed and used for the load transfer platform (LTP) above our rigid inclusions. Not only did this provide a substantial reduction in cost to our client, but greatly reduced the environmental impact associated with the new construction. The purpose of the LTP when using rigid inclusions is to distribute the applied load of the structure between the soils and the grouted elements and alleviate pressure points beneath the footings and slabs.

Project details:

Year: 2022
Location: Montville, New Jersey