Buildings

UNITED STATES

One Town Center
Camp Springs, MD

Owner
Peter N.G. Schwartz Management Company

Engineer
Langan Engineering & Environmental Services

General contractor
Davis Construction

Dates of work
2018/01 2018/03

Main figures

Controlled Modulus Columns
1,240 EA.

Description

As a way of consolidating 3,000 employees spread out in six different locations around the Washington, D.C. area, U.S. Citizenship and Immigration Services signed on as the anchor tenant for a proposed four-story, 162,000 sq-ft office building. A parking garage, spanning 80,000 sq ft, was also proposed for the Camp Springs, MD., site.

The building was designed with new standards of safety for the occupants which resulted in higher foundation loads requiring greater support and settlement control.

Ground conditions

Subsurface conditions consisted of a surficial layer of topsoil overlying fill and successive strata of medium dense sand, medium stiff clay, loose to medium dense silty sand/sandy silt, a deep stratum of hard silt and a variable hard layer of gravels and sands extending to a depth of 35 ft.

Due to the variable nature of the soils at the site, excessive and non-uniform settlement was predicted unless ground improvement was provided. Controlled Modulus Column (CMC)® rigid inclusions were proposed to mitigate the settlement and provide suitable bearing for the proposed structures.

Solution

To meet settlement requirement for this project (1" total and ½" differential), Menard's design engineers evaluated the performance of 15.6-inch diameter CMCs installed through the variable soil layers. CMC ground improvement provided column and wall support without the need for generalized slab support.

The installation of deep CMCs using crane leads allowed for efficient installation. The crane leads also allowed for easy maneuvering between footings, as two column lines could be installed from the same set up.

Despite challenging weather conditions (sub-freezing temperatures and high winds), work was completed in one continuous phase.