

Squantum Gardens

Quincy, MA

Controlled Modulus Columns

In order to provide a stable foundation for construction of two multi-story residential buildings containing senior housing and a senior residential center, DGI-Menard installed Controlled Modulus Columns™ (CMCs) to improve the ground for site preparation.



DGI-Menard installed 1,211 Controlled Modulus Columns to depths up to 31 feet deep.

Client / Owner: Elderly Housing Corporation
General Contractor: Suffolk Construction Company
Owner's Foundation Engineer: Sheskey Architects
Ground Improvement Contractor: DGI-Menard

Project Summary

This project was completed in 2006 as a design-build ground improvement solution. Squantum Gardens is a residential building complex consisting of 216 two- and four-story units of senior housing. Due to poor ground conditions, including highly compressible soil, the site required ground improvement before construction.

Ground Conditions

The project site was previously developed with lightly loaded, two-story frame structures with conventional shallow spread footings. These structures and footings were demolished to prepare the site.

The subsurface conditions included 5 to 8 feet of fill underlain by peat, marine clay, silt and sand, and bedrock. The fill layer consisted of sand with brick and concrete fragments. The top of the peat deposit was 7 to 10 feet below the ground surface. The peat was very soft to medium stiff, and ranged in thickness from 3 to 9 feet. Bedrock was present at depths ranging from 64 feet to 86 feet.

Ground Improvement Solution

DGI-Menard provided a design-build solution to stiffen the ground that included the installation of 1,211 Controlled Modulus Columns (CMCs) to depths up to 31 feet deep. The CMC ground improvement design reduced settlements to within the limits specified for the project.



DGI-MENARD, Inc.
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