



The Frederick News Post

Frederick, MD



To support the foundation of a large printing facility, Menard designed an innovative Controlled Modulus Column™ (CMC) solution to support the building and cap grout the top of karstic limestone to prevent sinkholes.

Project Summary

When the Frederick News Post built a new three-story office building and newspaper production facility, a site analysis concluded that the soil conditions were not adequate to support the weight and size of the 100,000 square foot printing and distribution facility, while maintaining the settlement design tolerance. To support the foundation, Menard provided an innovative design-build solution for Controlled Modulus Columns (CMCs) as an alternative to compaction grouting and piles for foundation support.

Ground Conditions

The site analysis showed that the site had poor soil conditions with very soft layers of compressible fill and soils on top of karstic limestone commonly found in the area and characterized by sinkholes.

Ground Improvement Solution

Menard proposed an innovative CMC solution to support the building columns and the slab-on-grade floors, as well as cap grout the top of the karstic limestone.

Menard designed a CMC system with on-board monitoring to cap grout the very soft layers on top of the limestone while simultaneously creating 12.5-inch-diameter CMC support elements with a 30-ton capacity. The automated system — installed on the pump and inside the rig — guaranteed the constant monitoring of the grout pressure and volume, ensuring the filling of any surficial voids and openings in the rock and reducing the risk of sinkholes.

Menard installed more than 2,200 CMCs to depths up to 40 feet. In total, over 30,000 linear feet of CMCs was required to accept the load of the building. Menard completed the installation in a 38 day production schedule.

*Client/Owner: Frederick News Post Facility
Construction Manager: Attune Development Consultants
Owner's Foundation Engineer: Specialized Engineering-Hanover
Ground Improvement Contractor: Menard*

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