



# Project Spotlight

## Cable Towers - Claremont, North Carolina



Owner: Prysmian Cables & Systems USA

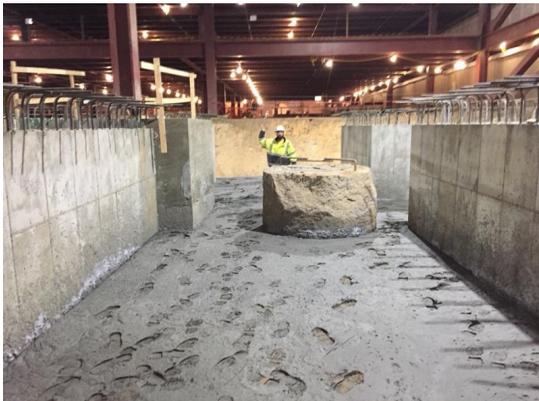
Installer: UMA Inc.

### Background Information

One of the challenges during retrofit construction is that consideration to future expansions are not typically planned for during the initial design and implementation of the structure. This was particularly evident at the Cable Towers project in Claremont, North Carolina. Design-Build Geotechnical Specialist, UMA, Geotechnical Construction, Inc (UMA), was called on to assist with the intricate design-build implementation of an excavation support system, micropile underpinning system, and low-density cellular concrete (LDCC) to facilitate a cost-effective, low-vibration, and fast solution to limit disturbance to other facility activities.



### Project Details



The first step in this project was to design an excavation support and underpinning system to install the retrofit tower foundations below the existing floor elevation. Local Design-Build Geotechnical Specialist, UMA, handled the design and installation of this excavation support and underpinning system.

To construct this excavation support system, the team at UMA designed and installed a soil nail wall along the critical portions of the structure that could not be sloped. Micropiles were installed at existing caissons prior to any excavation to mitigate settlement after the soil was removed. After considering a number of backfill materials, UMA selected their Terra-Crete LDCC. Terra-Crete is a proprietary mixture of cement, water, and Aerix Industries™ AERLITE™ foaming agent. By utilizing Terra-Crete with the central Aerix Industries product, UMA was able to efficiently and effectively provide an excavatable backfill material which facilitates the ability to expand the structure again at a later date.

### Aerix Added Value

The use of Terra-Crete, with AERLITE as an integral component, provided the low-vibration and speedy backfill solution needed to support the continual operation the Cable Manufacturer's building during the project, while also providing the flexibility needed for future renovations. Because it is easy to install, Terra-Crete also significantly reduced the construction time required for the excavation backfilling by eliminating the need to compact lifts of traditional soil backfill while enabling the project to continue at a pace that exceeded the General Contractor's and Owner's expectations.

