



Western Carolina University



Ground Improvement – Installing Aggregate Piers/Vibratory Stone Column & Uplift Anchors

PROJECT OVERVIEW

Western Carolina University is one of the many universities that we have been fortunate to do ground improvement for throughout the United States. At this job site, CNC Foundations completed a design-build aggregate piers/vibratory stone column ground Improvement method for Western Carolina University's new building addition for their science, technology, engineering, and mathematics program (STEM). Because of the high dead and live load on this proposed building, We were tasked to design-build a ground improvement system that would achieve an excess of 8,000 psf (pounds per square foot). By doing this, we were able to provide our clients with less than 1 inch of total settlement and 1/2" of differential settlement on this design.

REQUIREMENTS AND CHALLENGES

Our aggregate piers/vibratory stone column design and layout had to take the retaining walls into consideration. Not only the weight of the retaining wall, but the soil backfill and the vertical column load on that particular retaining wall. CNC Foundations utilized uplift anchors on this because the shear walls have large net tension loads, therefore, we incorporated in its vibratory stone column design uplift anchors to reduce and take away any and all net tension load on these shear walls.

SOLUTION AND RESULTS

CNC Foundations' engineering team was able to design-build a cost-effective solution that was able to save our client time and money.

Project Details

CNC Foundations provides ground improvement services; either vibratory stone columns, vibratory concrete columns, earthquake drains and or concrete modular columns in the Southeast. We have a new location based in the Raleigh, North Carolina area. This particular location services Virginia, North Carolina, South Carolina, Georgia, and Alabama and we are proud to be continuing that growth by working at Western Carolina University.

