

GDOT Archeological Study Remote *iSiteCentral*™ Automated Monitoring

Client:

Georgia Department of
Transportation (GDOT)

Location:

GA

Service Provided:

- Remote data monitoring
and charting

Value Provided:

- Real-time performance
monitoring provided
essential data for
assessing deformation

Background & Project Challenges

The Georgia Department of Transportation (GDOT) Archeological and Geotechnical groups wanted to determine the effects that roadway construction/compaction (pressure induced by construction activities) had on buried artifacts. As part of the construction contract for a new bridge and temporary roadway on State Road 91, GDOT specified burying artifacts in 3-ft pits along with vibrating wire (VW) pressure sensors in six locations. The six locations represented three (3) different conditions: i) no geogrid; ii) geogrid reinforced subgrade; and iii) geotextile fabric reinforced subgrade, all beneath graded aggregate base. The purpose of burying the artifact was to monitor the induced pressure during construction operations. GDOT specified the test locations and the loads to be applied. The specification did not require automating the data acquisition.



Geocomp Role & Accomplishments

Geocomp provided dynamic cone penetration test in the field and all required physical characteristic testing on our GDOT certified Laboratory. Geocomp was chosen for all of the geotechnical requirements on this project. Using *iSite*™ data loggers and *iSiteCentral*™ web-based software, Geocomp automatically monitored and charted the pressures during the backfilling operation and during the operation of the grading equipment, truck traffic and routine traffic loading during the life of the temporary roadway. Geocomp provided the project team with real time data, as often as every 10 seconds, via the internet. The results were quickly graphed automatically on *iSiteCentral*™ and the GDOT team could easily track the loading and resulting pressures applied to the archeological artifacts. The amount of data generated from the *iSite*™ data loggers and uploaded to *iSiteCentral*™ web-site was substantial and is backed up three times by Geocomp for permanent record and downloaded to a .csv file for further study.

The Southern Concrete construction team chose a cost effective and extensive approach to provide remote data monitoring and charting using Geocomp's *iSiteCentral*™ for real-time monitoring program. The system proved to be the most cost effective way to provide the massive amount of data for the study.