



PROJECT BRIEF

Glenn's Bay Interchange Instrumentation & Monitoring

PROJECT PROFILE

CLIENT:
Southern Asphalt

LOCATION:
Conway, SC

VALUE:

- Risk mitigation of excessive settlement and embankment movement
- Monitoring to prevent damage during construction on surrounding structures

SERVICES PROVIDED:

- Pre and post construction surveys of surrounding structures
- Vibration monitoring
- Installation of settlement monitoring points
- Real-time 24/7 automated data monitoring

“Custom threshold limits were established by the design team for each sensor and automated email messages were sent whenever any monitoring point showed movement greater than the pre-established limits.”



GEOTECHNICAL INSTRUMENTATION & MONITORING

Geocomp implemented a comprehensive geotechnical and structural instrumentation and monitoring program for the project to help mitigate the risk of excessive settlement and embankment movement, considering the potential for seismic activity while the embankments and MSE walls were most vulnerable during construction. Real-time monitoring of key parameters included ground pressure, water elevation, pore water pressure, and settlement/slope displacement. Instrumentation data collection was automated using Geocomp's *iSiteCentral*® web-based monitoring system. Charts showing the data plots for each sensor was available to the team in real-time, that could be accessed from any device. Custom threshold limits were established by the design team for each sensor and automated email messages were sent whenever any monitoring point showed movement greater than the pre-established limits. The messaging system allowed the project team to keep track of the movement and determine appropriate courses of action. Geocomp also performed vibration monitoring on surrounding structures to help the client mitigate the risk of construction activities impacting nearby structures.



BACKGROUND

The Glenn's Bay Interchange project included construction of a new interchange and various roadway improvements at the intersection of U.S. 17 Bypass and Glenn's Bay Road in Conway, SC. The project included widening of the roadways to ease traffic, improve drainage conditions and facilitate pedestrian access - with new sidewalks constructed on either side of Glenn's Bay Road. An additional highway exit also provides a northbound exit for residents of The Lakes Community. Geocomp provided instrumentation and monitoring throughout project construction from the fall of 2014 through 2018.