



UNITED STATES

Port Access Road

North Charleston, SC

**Owner**South Carolina Department of
Transportation**Engineer**

S&ME, Inc.

General contractor

Fluor-Lane South Carolina LLC

Dates of work

2016/12 2020/02

Description

The Port Access Road project located in North Charleston, South Carolina consists of a new roadway connecting the new Hugh K. Leatherman, Sr. Container Terminal at the Port of Charleston with Interstate 26. The Port of Charleston is one of the fastest growing major container ports in the continental United States, and the new intended route will safely combine container terminal traffic with existing local and commuter traffic. A geotechnical investigation concluded that 10 specific areas have the potential for seismically induced liquefaction due to the gradation of the site's soils. To avoid liquefaction, US Wick Drain designed a multi-phased solution utilizing earthquake (EQ) drains, to quickly drain excess water from the soils.

Main figures

Earthquake drains

6300 EA.

Ground conditions

The site's soils are characterized by coastal plain deposits of soft clay and loose to medium dense sands to depths up to 55 feet. Underlying these layers is Charleston's famous Cooper Marl Formation, a fine-grained soil which displays a high degree of cementation.

Solution

EQ drains are made from a slotted, corrugated plastic pipe wrapped in a geotextile filter fabric. They're a good fit for this project because their primary purpose is to prevent liquefaction by eliminating excess pore water pressure generated by the shaking of an earthquake.

US Wick Drain completed the first phase of ground improvement and installed 864 EQ drains in one of the 10 sites identified as at risk for liquefaction. Several months have been allocated for overhead power line installation, and EQ drain installation is scheduled to begin again in October 2017. Ground improvement installation is anticipated to wrap up in early 2018 with an estimated total of 6,300 earthquake drains to be installed for the project.

US Wick Drain installed the first phase of earthquake drains in a multi-phased project to connect the new Hugh K. Leatherman, Sr. Container Terminal with Interstate 26.