

Taking ground engineering to a deeper level



TECHNICAL REFERENCE



SR83 (US33 I) over Choctawhatchee Bay



Santa Rosa Beach, FL

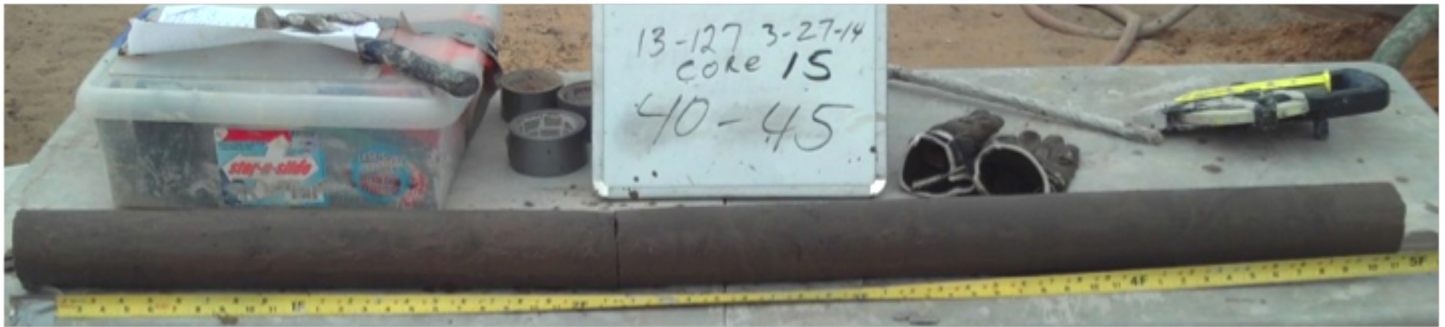
Soil Mixing

Owner: FLORIDA DEPARTMENT OF TRANSPORTATION

General Contractor: SKANSKA USA CIVIL Southeast

Geotechnical Engineer: FGE

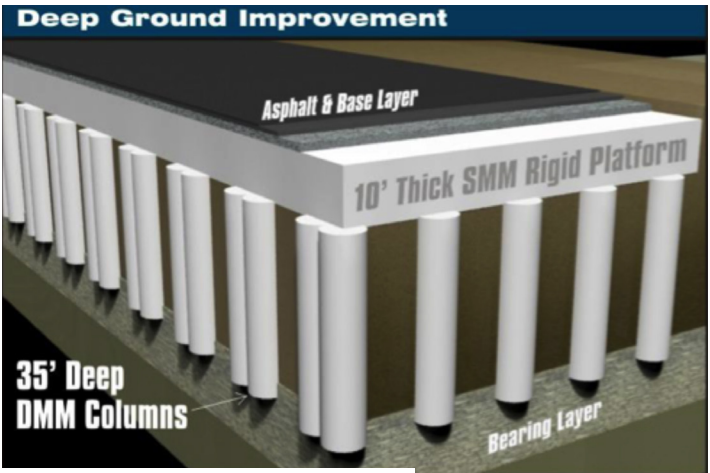
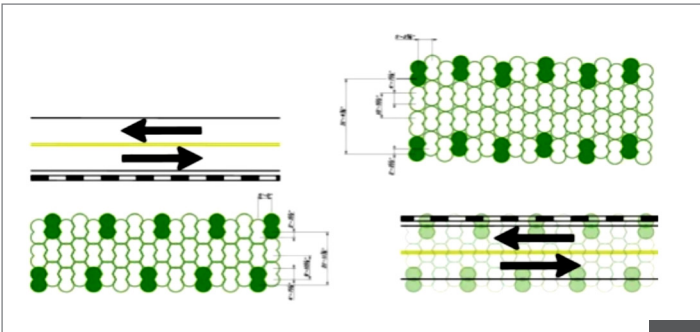
2013-03



SR 83/US 331 is a primary North/South roadway in Walton County, which is a crucial link for tourism and commerce, between the Walton County beaches and the heavily traveled I-10 corridor. The facility also serves as the primary hurricane evacuation route from southern Walton County.

This 3.4-mile Project involves expanding the current two-lane crossing Choctawhatchee Bay, to a four-lane facility, in order to increase the capacity and dramatically improve mobility within the corridor. One of the major goals of the Project is to perform ground stabilization, along existing causeways, that have considerable settlement over the years.

The Mixing Method combines the injection of pre-set quantities of cement slurry, at high velocity into the ground, with the mechanical mixing of rotating blades. This technology is considered a “**wet system**” since the binder is injected, in the form of fluid grout, through outlets positioned at the end of the hollow stems of the rig. The grout is injected, in advance of the mixing tool, which is properly configured to fine-cut the soil and to mix it with the grout creating a modified mixture of soil and cement products. Mixing the soil with the grout takes place during the down-stroke and up-stroke of the mixing tool. While the pressure grout injection primarily occurs during the down-stroke phase, additional grout may be added during the up- stroke, if required. The Mixing Method employs multiple sets of blades or paddles located at the bottom end of the drilling shaft(s). The proper combination of vertical penetration/withdrawal rates, rotational speed and tool configuration, along with the injection parameters and the properties of the grout, are fundamental for the success of the soil treatment.



38 Third Avenue
Boston National Historic Park
Charlestown, MA 02129
P: (617) 241-4800

Soil Mixing	
Type of Treatment:	TREVI Turbojet
Cubic Yards Treated:	255,000
No. of Deep Elements:	1,500
No. of Shallow Elements:	8,500
Maximum Depth:	45 ft

— treviicos.com