IMPACT®

Manchester Airport

Manchester, New Hampshire

The Geopier Impact® system provided slope stabilization while eliminating the need to maintain 'open' holes and install deep casing

Description: Foundation support for a 200-foot stretch, 12-foot-high embankment near an existing wetland area where slope failure had occurred.

Subsurface Conditions: Soil conditions consisted of four to eight feet of blast rock fill overlying about 10 feet of soft clayey silt. At approximately 15 feet, very soft clayey silt was overlying medium dense fine sand and silt to a depth of 50 feet. Groundwater was encountered at the surface.

Geopier Solution: The embankment and rock fill layer were removed before any Rammed Aggregate Pier® (RAP) elements were installed. The Impact® soil reinforcement system increased the factor of safety for global stability by delivering increased shear strength along the slope's failure plane. In addition, the RAP elements provided radial drainage to facilitate the rapid dissipation of excess pore water pressure in the underlying native soils beneath the embankment. This permitted construction of the remainder of the embankment within the limited time frame permitted by the project schedule.

PROJECT TEAM

Geotechnical Engineer:
Miller Engineering & Testing Inc.

Structural Engineer:
Fay Spofford & Thorndike Inc.

General Contractor:
Continental Paving Inc.

Geopier Installer:
Helical Drilling, Inc.

Geopier Designer:
Design/Build Geotechnical, LLC

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