



Union Pacific Track Support

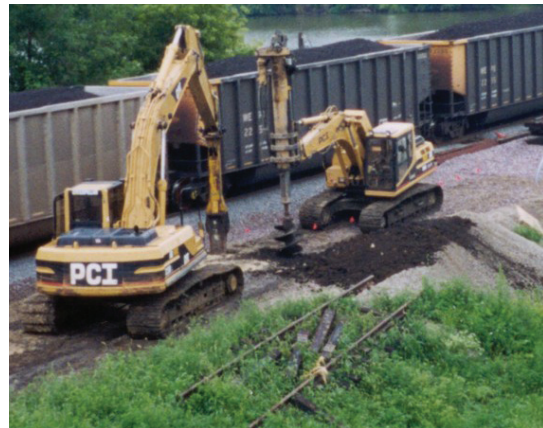
Cedar Rapids, Iowa

Observations of post-construction movement indicated significant reductions in track deflections

Description: Soft abutment soils supporting an existing railroad line at the Cedar River Bridge crossing was causing significant deflections of the track under the railroad live loading.

Subsurface Conditions: Beneath the railroad ballast stone, soft to medium stiff clay fill extended to depths ranging from 6 to 7 feet.

Geopier Solution: During the construction of a new railroad bridge and subsequent relocation of track for a double-tracking operation, Rammed Aggregate Pier® (RAP) elements were installed in the soft clay fill soils to reinforce and stiffen the foundation soils and to support the new set of tracks. A total of 88 RAP elements were installed within 50 feet of each side of the bridge to create a stiffened transition zone between the bridge and the approach abutments. The RAP elements were installed at five foot spacings and covered with two feet of railroad ballast stone. Observations of post-construction movement indicated significant reductions in track deflections.



PROJECT TEAM

Owner:

Union Pacific Railroad

General Contractor:

Peterson Contractors, Inc.

Geopier Installer:

Peterson Contractors, Inc.

Geopier Designer:

GFC Midwest