



I-35 Reconstruction MSE Retaining Wall

Wyandotte County, Kansas

The Geopier GP3® system significantly improved the support capacity of the bearing soils and sufficiently increased the factor of safety against slope instability

Description: This project involved construction of two MSE walls with maximum heights of approximately 5 meters and lengths of nearly 60 meters.

Subsurface Conditions: The soil conditions consisted of clay fill and natural soils which extended to underlying limestone bedrock.

Geopier Solution: The Geopier GP3® system was selected for this project after the Geotechnical Engineers determined that construction of the retaining walls over the 6.5 meters of relatively weak clay fill and clay soils found at the site would result in insufficient factors of safety against bearing capacity failure and slope instability. To solve these geotechnical challenges, the project design incorporated 180 Rammed Aggregate Pier® (RAP) elements with a 30 inch diameter to be installed beneath the wall face and MSE wall section. The RAP elements penetrated the weak clay soils and extended to the underlying limestone bedrock. The RAP



solution significantly improved the support capacity of the bearing soils and sufficiently increased the factor of safety against slope instability.

PROJECT TEAM

Owner:

Kansas Department of Transportation

Geotechnical Engineer:

HNTB Corporation

Structural Engineer:

HNTB Corporation

General Contractor:

Clarkson Construction Company

Geopier Installer:

Foundation Service Corp.

Geopier Designer:

GFC-Midwest