

Hwy 53 Relocation

Virginia, Minnesota



Owner: Minnesota DOT (MnDOT)

Designer: Parsons Transportation Group

CM/GC: Kiewit

Years of Project: 2014—2018

Total Project Cost: \$350 million

Client Reference: Vincent Gastoni, P.E.
(Parsons—612-656-7070)

Owner Reference: Kevin Western, P.E.
(MnDOT—651-366-4508)

Project Highlights:

MnDOT is relocating TH 53 near Virginia, Minnesota, to allow for future iron ore mining at the location of the existing roadway. The new alignment will include Minnesota's tallest bridge across the currently inactive Rouchleau Mine Pit.

The design phase load test program includes three minipiles (large diameter micropiles) installed through over 120ft of mine waste fill and founded in iron ore bedrock with compressive strengths as high as 70,000 psi. The two 24-in and one 16-in diameter minipiles will be load tested using the Statnamic method.

Design for the bridge is ongoing. The bridge is expected to be founded on 24-in diameter minipiles and spread footings bearing on rock. In addition to the foundations for the bridge, there are several challenging rock and soil slope stability issues to contend with. Rock fall protection for both construction workers and the bridge piers is also part of the design.

DBA is contracted as the load test expert, the foundation designer for the bridge, and as the slope designer for the bridge and roadway.



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