

MnDOT T.H. 61 Glen Road Project, Newport, MN

This project used value engineering to improve retaining wall foundation soils for the Minnesota Department of Transportation's (MnDOT) Glen road bridge and ramp structures. The Glen Road (T.H. 61) project, when complete, will provide the citizens of Newport, MN access to the reconstructed T.H. 61. Deep soil mixing

was planned to improve all foundation soils. CNA, together with C.S. McCrossan and American Engineering and Testing (AET), developed a value engineering plan to limit the use of deep soil mixing to critical zones, and implement soil replacement elsewhere. C.S. McCrossan replaced approximately 21,000 cubic meters of soil. CNA developed a quality control / quality assurance program to ensure that deflections of the foundation soils would not exceed the project requirements. CNA used GPS-based record keeping, providing a permanent electronic record of all the data. Modeling by CNA and AET of the subsoil reactions show that the fill material will exceed the performance requirements established by MnDOT.



Quality Control Testing

- 402 stiffness tests using the Humboldt GeoGauge
- 21 sand cone density tests
- 44 small-scale plate load tests

Quality Assurance Testing

- 63 dynamic cone penetrometer tests
- 10 cone penetrometer soundings
- 15 pressuremeter tests

Owner – MnDOT, Eric Embacher, 651-406-4725

Completion Date – 2004

Construction Cost – \$45 million

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