

Front Street Overpass

Cuyahoga County, Ohio

Project Description

Pro Geotech, Inc. (PGI) was retained by HNTB to provide geotechnical engineering, construction monitoring, and material testing services for the design and construction of the Front Street Overpass in Berea, Ohio. The project plan called for the grade separation of Front Street from the CSX Railroad, Proposed Access Road, and Norfolk Southern Railroad with an overpass. The project plan also called for construction of MSE walls for the proposed three (3) bridge approaches and Access Road ramp. Some of the MSE wall sections were more than 30 feet in height. Originally, the plans called for the grade separation with an underpass and a subsurface exploration program was performed. Some of the soil information obtained from this subsurface exploration program was utilized for design and construction of the Front Street Overpass project. In order to explore the subsurface conditions at the project site, drilling, sampling, and field testing operations were performed. A total of 22 structural and roadway test borings were advanced across the project site. Three (3) structural test borings were advanced to approximate depths ranging from 55.0 to 60.0 feet for bridge foundation design purposes while 11 structural test borings were advanced to approximate depths ranging from 20.0 to 40.0 feet for MSE wall foundation design purposes. Eight (8) roadway test borings were advanced to approximate depths ranging from 10.0 to 15.0 feet for pavement design purposes. In addition, soil/rock information obtained from the 10 structural test borings which were advanced to approximate depths ranging from 70.0 to 100.0 feet for underpass investigation were used to design the bridge foundations. All test borings were advanced in accordance with the ODOT Specifications for Subsurface Investigations. The groundwater conditions were monitored during and upon completion of the drilling operations.

Numerous soil and rock samples were obtained for testing purposes. The laboratory testing program consisted of performing One-Dimensional Consolidation Properties of Soils, Unconfined Compressive Strength of Rock Core/Soil Specimens, soil classification and engineering properties tests on selected soil samples, and classifying the soils in accordance with the ODOT Soil Classification System. PGI prepared a detailed subsurface exploration report which included recommendations and discussions pertaining to driven pile for bridge foundations, Soil improvement and anticipated settlement for MSE wall Foundations, and pavement design parameters for roadway. PGI also provided on-site monitoring services during construction of the MSE walls. Our personnel were responsible for verifying bearing capacity of the MSE Wall foundation soil on an "as needed" basis, and completing daily field reports.

Client:
City of Berea
c/o HNTB Ohio, Inc.
1100 Superior Ave.
Cleveland, OH 44114

Contact:
Mr. Zoltan Szabo
(216) 522-1140

Performance Period:
January 2004 to June 2004 and
July 2009 to November 2009

Project Costs:
\$110,000 (Fee)

PGI's Role:
Geotechnical Exploration
Construction Monitoring
Material Testing



Pro Geotech, Inc.