

Norfolk Southern Bridge over the Grand River

Painesville, OH



Existing bridge during early construction of the replacement bridge

Project Information	
Owner:	Norfolk Southern Railroad
Client:	Suburban Maintenance Construction, Inc.
Project Name:	NS RR over Grand River
Foundation Types:	48 to 84-inch Dia. Drilled Shafts socketed into bedrock
Completion Date:	January 2018
GRL Services Provided	
▪	Shaft Quantitative Inspection Device (SQUID)
▪	Crosshole Sonic Logging (CSL)
GRL OFFICE: OHIO	

The existing bridge carrying the Norfolk Southern Railroad over the Grand River was built in 1905 and reinforced in the 1940's. High maintenance costs and a restrictively large footprint in the Grand River led to the decision to replace the bridge. The Great Lakes Construction Company was awarded the contract and chose Suburban Maintenance Construction, Inc. to install 26 drilled shaft foundations ranging from 4' to 7' diameter and up to 93.5 feet in length. Debris thickness at the bottom of the shaft prior to concrete placement was specified to be evaluated using a mini-SID on all shafts, however, the railroad accepted a proposal to use the SQUID (Shaft Quantitative Inspection Device) for shaft bottom inspection. In addition, Crosshole Sonic Logging (CSL) was specified on all shafts for the project.

GRL provided the SQUID equipment, data evaluation and reporting. The shaft inspection was typically completed in 20 minutes or less. GRL collected the data remotely through internet connection (eliminating travel costs) and submitted the results typically within 15 minutes of completion. As the railroad representatives were aware the report was coming, shaft acceptance was typically received with 30 minutes of inspection. This allowed the contractor to install the rebar cage and begin concrete placement very quickly after cleanout.

CSL was typically performed between three and 14 days after the shafts were placed.



Crosshole Sonic Logging performed on shafts



SQUID ready for sediment thickness inspection

For additional information, please contact: info@grlengineers.com