GEMTEC
CONSULTING ENGINEERS AND SCIENTISTS

Feature Project

Project Title: Brun-Way (TCH Woodstock - Grand Falls) Highway

Client: SNC Lavalin

Project Description:

GEMTEC's involvement with the on-going Brun-Way highway project included; geotechnical investigations and assessments, geometric design services and geotechnical inspection and consultation during the construction phase.

The fieldwork included assessment for 54 separate structures as well as 102 kilometres of roadway. A total of 340 boreholes along with more than 1000 test pits were put down. In addition 56 peizocone holes were put down where soil conditions required. All of this work, along with separate reports for each site, was completed in the very short timeframe allowed (3 months). In order to complete the work in the very short timeframe 5 to 6 drill crews were allocated to the project, under the supervision of GEMTEC geotechnical staff. Also another 4 geotechnical engineers were allocated to the project so as to compilate data enabling reporting to be completed within the timeframe allowed.

As discussed previously separate geotechnical reports were required for the 54 structures (bridges and overpasses) as well as for the 102 kilometres of highway. This work had to be completed within the 3 months allocated. The geotechnical analysis and reporting involved structures with foundation conditions ranging from thick deposits of organic silts and clays to situations where foundations were to be founded on steep (30%) rock slopes. Complicated foundation conditions were also analyzed for roadway embankments, including many sections of roadway constructed on organic soils to high embankments constructed on soft soils where settlement and slope stability were of concern.

GEMTEC provided geotechnical consultation to various design consultants through the design phase of this project. As is typical with large highway design projects structure locations and roadway alignments are altered many times in an attempt to find the most economical route while meeting the proponents (NBDOT) design requirements. GEMTEC's role as the project's geotechnical consultant was to provide advise (for costing purposes) as to how any changes may change the geotechnical requirements.

GEMTEC has also provided construction inspection and monitoring services during the on-going construction phase of the project. The services included, but were not limited to; pile driving monitoring for bridge footings, using our Pile Driving Analyzer (PDA), inspection of exposed rock (bearing and rock stability), plate load testing of deep structural fills under footing, asphalt placement inspection, as well as routine compaction inspection.