



The new identity of Trow Associates Inc.

MEMORANDUM

Date: June 27, 2011

To: J.P. Perron, P.Eng.
Project Soil Engineer
Geotechnical Section
Northeastern Region

Cc: Marcia Mora, P.Eng.
Foundation Engineer
and
T.C. Kim, P.Eng.
Senior Foundation Engineer

From: Stan E. Gonsalves, P.Eng.
Principal Engineer
Designated MTO Foundation Contact
exp Services Inc.

Re: Addresses on Comments on the Draft Foundation and Design Report
Proposed New Building at Temagami Patrol Yard-Highway 11
Township of Strathcona
Agreement No. 5009-E-0060
WO No.: 2011-11003
Geocres No. 31M-91

We are pleased to submit the Final Foundation Investigation and Design Report of the above noted project. The final report addresses all comments on the Draft Foundation Investigation and Design Report noted in the MTO letter from June 23, 2011. In particular, Trow addresses to these comments are:

PART 1 –FACTUAL INFORMATION

1. Exp address to MTO Comment No. 1: Two Professional Engineers, S. Micic and S. Gonsalves, who is exp's Designated Principal Contact identified for MTO Foundation Engineering Projects, signed and stamped the Final Foundation Investigation Report and the Final Foundation Investigation and Design Report.



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2. Exp address to MTO Comment No. 2: The change in the text was made accordingly. See pg. 7.
3. Exp address to MTO Comment No. 3: The change in the text was made accordingly. See pg. 4.
4. Exp address to MTO Comment No. 4: The change in the text was made accordingly. See pg. 7.
5. Exp address to MTO Comment No. 5: Drawing No. 1 was corrected accordingly.
6. Exp address to MTO Comment No. 6: Drawing No. 2 was corrected accordingly.
7. Exp address to MTO Comment No. 7: Drawing No. 3 was corrected accordingly.

PART 2 - ENGINEERING RECOMMENDATIONS

8. Exp address to MTO Comment No. 8: The design bearing pressure was estimated using the following equation suggested in the Canadian Foundation Engineering Manual (pg. 145)

$$q_a = K_{sp} \times q_{u-core}$$

q_a = design bearing pressure

q_{u-core} = average uniaxial compressive strength of rock (measured average UCS=40 MPa)

K_{sp} = an empirical coefficient of discontinuity spacing (estimated to be 0.1 for moderately close discontinuities)

The bearing-pressure coefficient K_{sp} takes into account the size effect and the presence of discontinuities and includes a nominal safety factor of 3 against the lower-bound bearing capacity of the rock foundation. The factor of safety against bearing failure on the rock may be several times higher. Since the bedrock encountered on the site at the first 0.5 - 1 m is weathered with very close to close spacing of joints and average UCS of 40 MPa and two tests between 20 and 30 MPa, we recommended the lower-bound bearing capacity of the rock foundation. This also recognizes that concrete fill may form part of the bearing surface.

9. Exp address to MTO Comment No. 9: The change in the text was made accordingly. See pg. 15.
10. Exp address to MTO Comment No. 10: The change in the text was made accordingly. See pg. 16.
11. Exp address to MTO Comment No. 11: The silty sand fill was not initially mentioned because the most of the excavation would expect to encounter gravelly sand fill which appears to dominate on the site. However, we agree that the silty sand fill should be included as well, so the text was corrected accordingly. The recommendation for the surface water control was added. See pg. 16.



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12. Exp address to MTO Comment No. 12: Appendix F with all NSSPs is added as requested.

We trust these addresses are satisfactory for your purposes. Should you have any questions, please do not hesitate to contact this office.

Yours truly,

A handwritten signature in black ink, appearing to read "Silvana Micic".

Silvana Micic, Ph.D., P.Eng.
Senior Geotechnical Engineer

A large, stylized handwritten signature in blue ink, appearing to read "Stan Gonsalves".

Stan Gonsalves, M.Eng., P.Eng.
Principal Engineer
MTO Designated Contact