

Memorandum



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2013 03 01

To: Jean Pierre Perron, P.E.
Project Soils Engineer, Project Manager
Geotechnical Section - Northeastern Region

From: Pavements and Foundations Section
Room 232, Building C
Downsview, Ontario

Re: Comments on the Draft Foundation Investigation and Design Recommendations reports
Propose Sand/Salt Storage Facility – Porquis Junction Patrol Yard
Township of Tweed
Agreement No. 5011-E-0010
WO No.: 2011-11034
Geocres No. 42A-95

We have completed our evaluation on the Draft Foundation Investigation and Design Recommendations Reports for the above noted project received by our office by email dated February 25 2013. The reports dated February 2013 were produced by **GENIVAR** Inc. We understand that the hardcopy of the Final Foundation Investigation and Design Recommendations will be delivered by **GENIVAR** to MTO.

The accuracy of the subsurface information and the adequacy and technical aspects of the recommendations remain the responsibility and liability of the consultant. The Ministry assumes no responsibility or liability for these aspects of the report. These aspects will be reviewed in order to assess the Consultant's performance in this assignment upon implementation of the recommendations in the design and upon review of the performance of the foundations of the completed project. Following are our comments:

GENERAL COMMENTS:

1. MTO GEOCREs No. **42A-95** has been assigned to the Reports and Foundation Drawing (BH Locations and Soil Strata). **This has been done.**
2. The Final Foundation Investigation and Design Reports and Foundation Drawings must be signed and stamped by two Professional Engineers licensed by PEO, one of which shall be **GENIVAR's** Designated Principal Contact identified for MTO Foundation Engineering Projects. **This has been done.**
3. **Section 4.1 Subsurface Investigation - Table 4-1 (page 4-2)** – "BH12-4 was terminated prematurely at 1.5 m depth, as instructed by *MTO Area Office staff* [...]." Review is required. **This has been done.**

PART 2 – DESIGN RECOMMENDATIONS

4. **Section 6.0 – Geotechnical Design Recommendations** – Soil deposits shall be informed in terms of elevation and not depths. **This has been done.**

Below the proposed new structure, a Silty CLAY and a SILT layers were identified through the foundation investigation performed at the site. Based on the presence of this material and the load conditions that will be applied on the area, please discuss findings regarding settlements (where applicable) due the application of the different load scenarios.

Settlement analyses and discussion has been added into section 6.2.

5. **Section 6.1. – “Red-Flag” Conditions and NSSP’s** – The acronym is NSSP. Review is required were applicable.

NSSP’s shall be revised and text shall as clear as possible. Review is required.

Shoring shall be addressed by OPSS 539. Review is required.

This has been done.

6. **Section 6.3. – Frost Protection Depth** – Is rockfill option applicable for this type of site? Clarification is required.

Rockfill option has been removed.

7. **Section 6.4. – Preferred Foundation Option** - Please specify OPSS relevant to 19 mm Clear Stone. Specify characteristics of the Geotextile recommended.

This has been done.

Section 6.8 Dewatering and Drainage – Groundwater levels described along this section are not in agreement with drawing # 2 and factual part of the report. Please ensure that all information about GWT is consistent. Review is required.

This has been done.

The Final Foundation Reports should be accompanied by a cover letter from GENIVAR Inc explaining changes made in the Final Reports in response to these comments on the Draft Reports. Where changes are not made, explanation is required. If you have any questions or need any clarification then please contact us.

Marcia Mora, P. Eng.
Foundation Engineer
For
T.C. Kim, P. Eng.
Senior Foundation Engineer