

Argue Construction Ltd.
106-A Willowlea Road
Ottawa, ON
K0A 1L0

August 24, 2017
Project: 61730.48

Attention: Mr. Keith Riley

**Re: Slope Stability Study
Proposed Commercial Development
2688 Carp Road
Carp, Ontario**

INTRODUCTION

This letter provides our comments on the existing slopes located on the southeast and northwest sides of the property as it relates to the proposed commercial development at 2688 Carp Road in Carp, Ontario

BACKGROUND

Previously, Houle Chevrier Engineering Ltd. (HCEL) carried out a geotechnical investigation at this site and has provided engineering guidelines on the geotechnical design aspects of the project. The results of that investigation are provided in the report titled: 'Geotechnical Investigation, Proposed Commercial Development, 2688 Carp Road, Carp, Ontario' dated June 27, 2017.

It is understood that the City of Ottawa has requested that a slope stability study assessment be carried out at this site. The following items were provided to HCEL to complete the slope stability study:

- The City of Ottawa information request letter for the proposed commercial development at 2688 Carp Road;
- The Site Plan prepared by A+ Architecture Inc. drawing 'A1.0' dated June 6, 2017; and

- The Topographic Sketch prepared by Annis. O'Sullivan. Vollebakk Ltd. titled 'Part of Lot 7 Concession 2, Geographic Township of Huntley, City of Ottawa' dated July 31, 2017.

DISCUSSION

Slope Stability Assessment

Southeast side of Property

The southeast side of the property is bounded by a slope which descends towards an existing creek. In general, the natural slope is vegetated with small shrubs, and small to large trees. Based on the topographic plan provided to HCEL, the existing slope in its current configuration is inclined at 2 horizontal to 1 vertical from the crest to the toe of the slope and is considered stable. A 30 metre setback (no touch zone) from the high water mark and 15 metres from the top of the bank were given by the Mississippi Conservation Authority. An existing garage on the property is to be moved to a new location. This location is outside of the 30 metre setback and the slope at this location is inclined 8 horizontal to 1 vertical from the toe of the slope to the edge of the proposed relocated garage building. From a geotechnical perspective, there are no issues with the relocation of the existing garage.

Northwest side of Property

The north side of the property is bounded by a slope which descends towards a ditch. A site reconnaissance was carried out by a member of our engineering staff on August 16, 2017. At that time, the geometry of the slope in this area was measured using level surveying techniques. The existing slope is inclined at about 2 horizontal to 1 vertical from the crest to the toe of the slope and in general, consists of granular fill material. The slope gradually becomes steeper from the west side of the property towards the east side of the property with a maximum height of about 1.3 metres. Slope stability analyses were carried out on cross sections of the slope and the results indicate that the slope, in its current configuration is considered stable. Based on the site plan provided to HCEL, the proposed location for the septic tank and trailer storage is about 1.2 metres from the crest of the slope. From a geotechnical perspective, there are no issues with the location of the septic tank as it relates to the slope however; relocation of the trailer storage should be considered to reduce surcharge loading in this area.

We trust that this letter is sufficient for your purposes. If you have any questions concerning this information or if we can be of further assistance to you on this project, please contact the undersigned.



Gregory Davidson, E.I.T.



Brent Wiebe, P.Eng.
Senior Geotechnical Engineer

