
Date:	March 1, 2021	No. of Pages:	2
Project:	Project Name	Project No.:	TA-04622-19
Address:	Bayfield & Sophia St E, Barrie, Ontario		
Client:	Coral Sophia Housing Inc.		
Distribution:	Nick Savino	DMS Property	

Background

Tacoma Engineers has been retained by Coral Sophia Housing Inc. to provide structural engineering for the proposed new multi-story development to be located at the north-east corner of Bayfield & Sophia St E, Barrie, Ontario.

This report discusses the anticipated excavation depth for the site, and to discuss methods of shoring should it be required on site.

Comments – Depth of Excavations

Based on the latest architectural drawings by Kirkor Architects, revision 02, SPA Submission #1, dated Nov 18th, 2020, and on the latest civil drawings, the finished ground floor elevation is 236.40.

There is one bank of elevators noted on the drawings, on the west end of the building. A normal elevator depth is 1.5m to 1.6m depth.

The geotechnical report dated May 5, 2020 notes that fill depths below the floor elevation of 236.40 range from 2.0m to 3.2m, with the lowest borehole being BH19-01.

Footings will be required to extend through the fill and to bear on the native materials¹. This will result in local excavations at footings in the interior of the footing, and around the perimeter of the building.

In addition, there were 5 buildings on site that were demolished, and the basements of those buildings were infilled with loose fill. That fill will need to be excavated and replaced to support the ground floor slab on grade¹.

Footing thickness can range from 0.4m to 1.3m depending on the structural system and location of the footings. Currently the structural schematic design and preliminary sizing and layout of footings has not yet started.

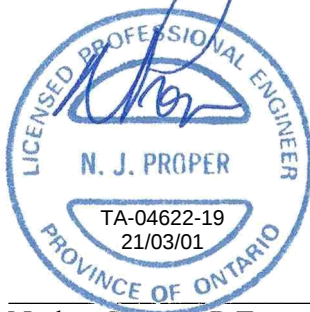
Given the above information, we recommend allowing for a maximum excavation of 3.0m below 236.40 on the site, down to an elevation of 233.40, across the south 3/4 of the site. Across the northern 1/3 of the site an excavation depth of 2.5m could be considered. Additional excavation to 3.2m may be required locally around bore hole 1, at the south-west corner of the property.

Comments - Shoring

As per the Depth of Excavations comments fill depths are up to 3.2m below the new ground floor slab. Fill depths below existing grades range from 2.2m to 3.0m.

At this preliminary design stage shoring is expected to be minimal and tie backs are not anticipated.

If there are any questions about this report, please do not hesitate to contact the undersigned.



Per

Nathan Proper, P.Eng.
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Tacoma Engineers Inc.

Encl.

nil

References:

1. Email from Kent Malcolm, P.Eng., WSP, Feb 22, 2021.