RYZUK GEOTECHNICAL
ENGINEERING & MATERIALS TESTING

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GEOTECHNICAL FIELD REVIEW / SITE INSTRUCTION

Project No: 11185-1
Project: Proposed Residential Development
Project Address: 1042/1044 Richardson Street – Victoria, BC
Date: May 20, 2022

Client: 1258330 BC Ltd.
Contact: Bart Johnson
Email: bartj.vi@gmail.com

Distribution:

Preliminary Shoring/Excavation Plan

As requested, we herein provide the following preliminary shoring/excavation plan in support of your rezoning application with the City of Victoria at the above referenced site. Our associated comments and recommendations are included herein.

Based on the plans from Christine Lintott Architects Inc., we understand that the proposed development consists of a five story, multi-unit residential building with one level of below grade parking. The parkade structure extends to near the property line within the majority of the northern half of site. From the drawings, the parkade is situated approximately 280 mm offset from the north property line and 600 mm from the west. Excavation for the parkade structure is anticipated to be up to 4.0 m in depth from current site grade.

The subject property is rectangular in shape and has an area of approximately 615 m^2. The site is bound to the north/west/east by multi-family residential dwellings, and to the south by Richardson Street. The site is relatively flat, however, there is a 0.75 m high retaining wall along the western property line (on the neighbors property) where a covered parking area is present. A small landscaping retaining wall is present along the southern property line accommodating the grade differential between the sidewalk and the front lawn area.

Based on background review we completed for another client at the same property, we expect the subsurface conditions to consist of very stiff to hard brown clay underlain by softer grey clay. We also conducted a microseismic survey at the site to approximate bedrock depth. Survey results suggested that the bedrock/glacial till is in the order of 12 to 13 m depth from the current surface elevation. We note that at the time of writing no subsurface investigation (drilling or test pitting) has been carried out.

We understand that excavation/shoring plans must consider retaining the bylaw protected tree (NT#1) located near the property line on the north neighbors' lot at 1035 McClure Street. We further understand that an arborist has indicated that the tree could be retained provided excavation does not extend beyond the property line.

Given the anticipated soil conditions and the parkade depth/footprint, we expect that shoring along the north/west/east property lines could consist of typical shotcrete lagging with soil/rock tie-back anchors, cantilevered sheet piles, or an internally braced pre-cast panel system. We understand that obtaining surface/subsurface encroachment agreements with the neighboring properties is not desired at this time, and as such, we expect that the tilt-up pre-cast panels would be the preferred option. Note that the panels would have to be internally braced to sufficiently sized concrete deadman. We do not anticipate that excavations beyond the south property line (onto city property) would be required. We expect all excavation could be carried out without undue impact to the adjacent property or utilities.

The tilt-up panels are pre-cast portions of the foundation wall and footing which are installed in windows/phases along the property line/building alignment. The soil is typically excavated near vertically along the property line and the panels are subsequently craned into placed, backfilled, and braced in rapid succession. Based on our previous

experience with a similar systems, we consider the soils at the site to be optimal for this system. The panels are typically 2 to 3 m wide and are placed atop a levelling lift of well compacted crushed rock fill. Actual panel/excavation window width would have to be determined following a more detailed subsurface investigation. Excavation for windows would have to be reviewed by a geotechnical engineer at the time of excavation.

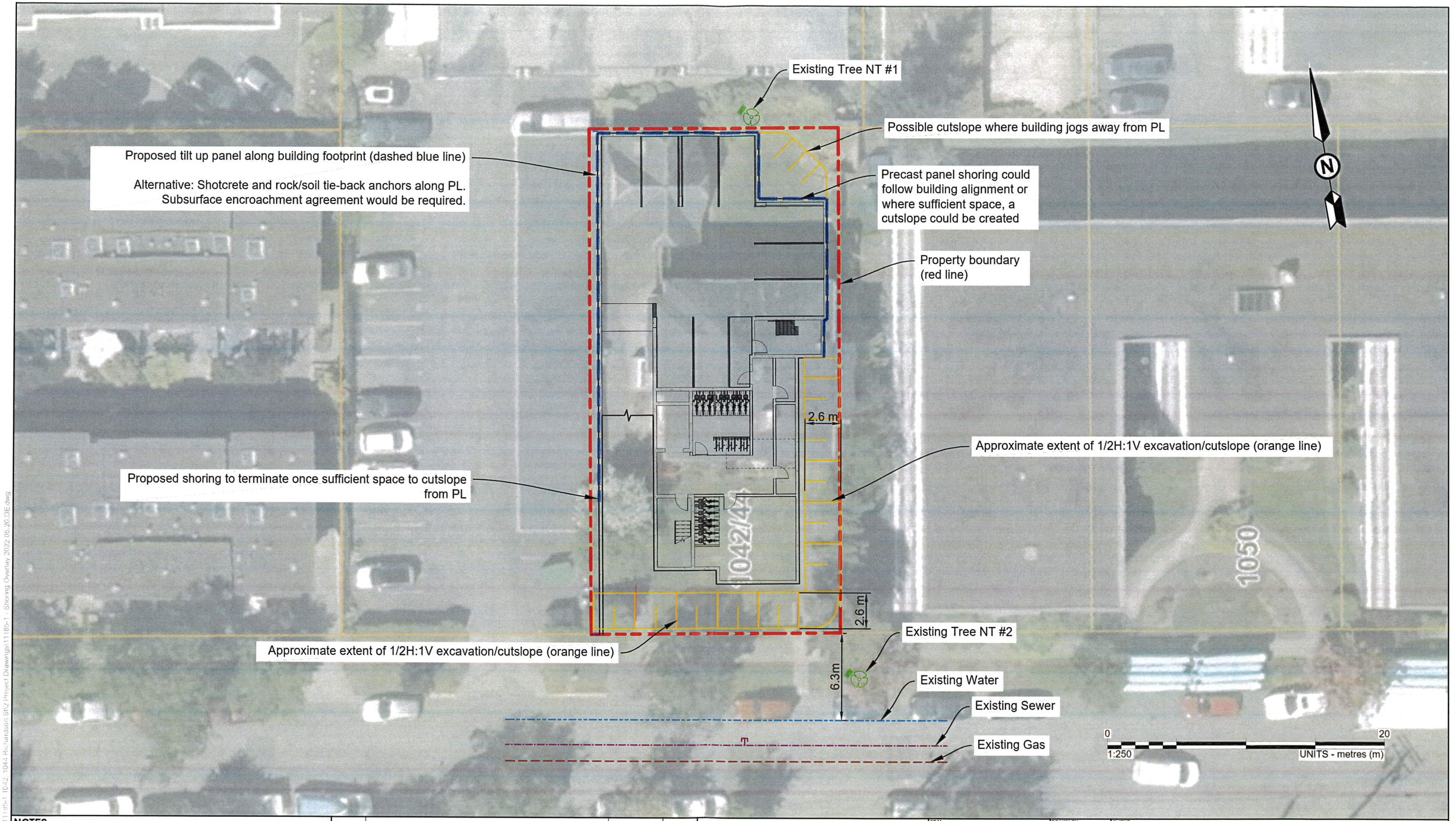
The attached shoring site plan shows the footprint of proposed parkade as well as the approximate extents of the proposed shoring system. As we do not anticipate requiring encroachment beyond the site boundaries, we expect tree health will not be negatively impacted as per the comments/recommendations provided by the project arborist. We note that the shoring methodologies noted in this report are based on the information from our background review as well as the microseismic survey completed at the site. We recommend that a drilling investigation be carried out to confirm/optimize the shoring methodology and building design elements such as seismic site classification, bearing resistance, and settlement considerations.

If there are any questions or comments with respect to the above, please contact us.

Regards,
Ryzuk Geotechnical
Reviewed by Scott Currie, P.Eng.

Colden Van Ommen, P.Eng.
Intermediate Geotechnical Engineer
PTPN: 1002996

Attachments – Preliminary Shoring/Excavation Plan



NOTES

1. This drawing is for the intended use of the client for the specified project, and should not be used elsewhere without the express permission of the client and/or Ryzuk Geotechnical.
2. This drawing is scaled for 11x17 sheet and does not require further scaling to fit. Scales will differ if printed on different sheet size.
3. Basement layout from Christine Lintott Architects Inc. drawing A2.00 dated 2022-04-19.
4. Utilities layout from Christine Lintott Architects Inc. drawing A0.01 dated 2022-04-19
5. NT1 and NT3 locations from McElhanney drawing 20-083-REZONING dated 2021-06-09

REV.	DESCRIPTION	YY/MM/DD	BY
01	ISSUED WITH MEMO	22/05/20	CRWV

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SEAL: PROFESSIONAL ENGINEER, PROVINCE OF BRITISH COLUMBIA, C. R. W. Van OMMEN, # 52801, May 25, 2022, PN 1002996

DRAWN BY	DE
PROJECT MANAGER	CRWV
REVIEW	RSC
SCALE	1:250
DATE	2022/05/20
CLIENT	1258330 BC Ltd.
PROJECT TITLE	Proposed Residential Development
PROJECT ADDRESS	1042, 1044 Richardson Street - Victoria, BC
DRAWING NAME	**Preliminary Shoring/Excavation Plan**
PROJECT No.	11185-1
SHEET No.	01 of 01
REVISION	00

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