RYZUK

GEOTECHNICAL

GEOTECHNICAL MEMORANDUM

Company: Lees + Associates
Contact: Joshua Bernsen
Email: jbernsen@elac.ca
Project Title: Proposed Seaview Cemetery Expansion and Infill
Project Address: 1706 Lower Road – Roberts Creek, SCRD, BC

Date: April 10, 2025
Project #: 10908-2

COLUMBARIA, SIGN KIOSK, LOCK BLOCK BAY

As requested, we have prepared the following geotechnical memorandum to assist the project team in the design and construction of the proposed columbaria, sign kiosk and lock block bay associated with the Seaview Cemetery Expansion and Infill. Our recommendations are based on observations during our site visit and test pitting investigation conducted September 12 and 13, 2024, refer to our Geotechnical Report dated November 7, 2024, for more information. Our work has been undertaken in accordance with, and is subject to, the previously accepted Proposal and Terms of Engagement.

The anticipated locations of the proposed columbaria, sign kiosk and lock block bay are shown on the attached Site and Materials Plan prepared by Lees + Associates and dated October 2024.

FOUNDATION BEARING RESISTANCE – COLUMBARIA & SIGN KIOSK

We anticipate the proposed columbaria and sign kiosk will be supported by shallow, reinforced concrete foundations placed upon undisturbed, native, dense to very dense sand and gravel, glacial till, or engineered fill atop such. Based on our test pit investigation, we anticipate undisturbed, competent, native, mineral soils will be encountered at a depth of between 0.3 m to 0.4 m below ground surface (m bgs) in the location of the proposed columbaria. For the proposed sign kiosk area, there is potential for low-quality, non-select fill materials that would require over-excavation and replacement with geotechnical engineer approved engineered fill (see Engineered Fill section below). While we did not test pit this exact location, our closest test pit encountered low quality, non-select, saturated fill materials extending to a depth of at least 1.8 m bgs. Anecdotally, we were told there was a historic drainage ditch extending through the proposed kiosk area and the noted test pit location (reason we test pit that area), which we understand was filled in a few years ago with unknown, various fill materials from the site.

If, after removal of undesirable soils and fill materials, the foundation subgrade is lower than the design subgrade, engineered fill could be utilized to recover the grade difference, or the foundations could be placed lower than design depth (would require approval from both the structural and geotechnical engineers). Provided foundations bear atop undisturbed, native,

competent mineral soils and/or approved engineered fill, foundations may be dimensioned assuming design bearing resistances of 100 kPa (SLS) and 150 kPa (ULS). We recommend minimum foundation widths of 400 mm and 600 mm for strip and pad footings, respectively.

All foundation subgrade and engineered fill should be inspected by the geotechnical engineer to confirm the noted bearing resistances prior to placement of concrete or engineered fill. Any disturbance to native bearing soils by construction activities should be rectified by cleaning the disturbed area down to undisturbed soil before placing footing formwork or engineered fill. The underside of foundations should be placed at least 450 mm below final site grade to minimize the effects of seasonal frost.

LOCK BLOCK BAY

We understand it is proposed to construct a two-block high lock block wall and reinforced concrete pad to provide a materials storage bay for the cemetery grounds operations. Similar to the sign kiosk area, there is potential for low-quality, non-select fill materials at this location, and over-excavation and replacement with engineered fill may be necessary. We recommend assessment by the geotechnical engineer at time of excavation. Depending on the qualities of the fill materials, it may be possible to accept existing fill materials as subgrade for the concrete pad and lock block wall based on subgrade performance during proof roll testing with a fully loaded tandem axle dump truck under the geotechnical engineer's supervision.

ENGINEERED FILL

Engineered fill should consist of approved, select granular materials placed and compacted in appropriately sized lifts to a specified level of compaction. We recommend fill consists of well graded granular material, with less that 5% by mass passing the #200 sieve, such as 19 mm or 75 mm minus crushed gravel. Engineered fill should be placed atop of geotechnically approved native subgrade materials, be placed in appropriate lift thicknesses for the associated compaction equipment and compacted to at least 95% of the materials Standard Proctor Maximum Dry Density (SPMDD) value. Additional moisture conditioning may be necessary during placement of engineered fill material to achieve associated SPMDD value. All engineered fill placed should have a footprint which extends a horizontal distance beyond the edge of foundation equal to the depth of fill placed to provide adequate splay of foundation loads.

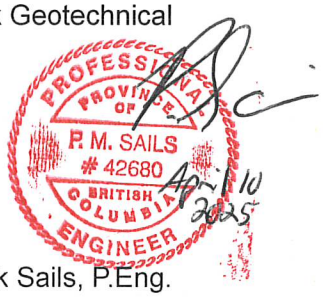
CLOSURE

We understand that moving the sign kiosk and/or lock block bay to different locations is not preferred by the project team, therefore we suggest the project team carry an allowance for some over-excavation and engineered fill in the case undesirable fill materials are encountered.

We trust the preceding is suitable for your purposes at present. If you have any questions or require anything further, please do not hesitate to contact us.

Sincerely,

Ryzuk Geotechnical



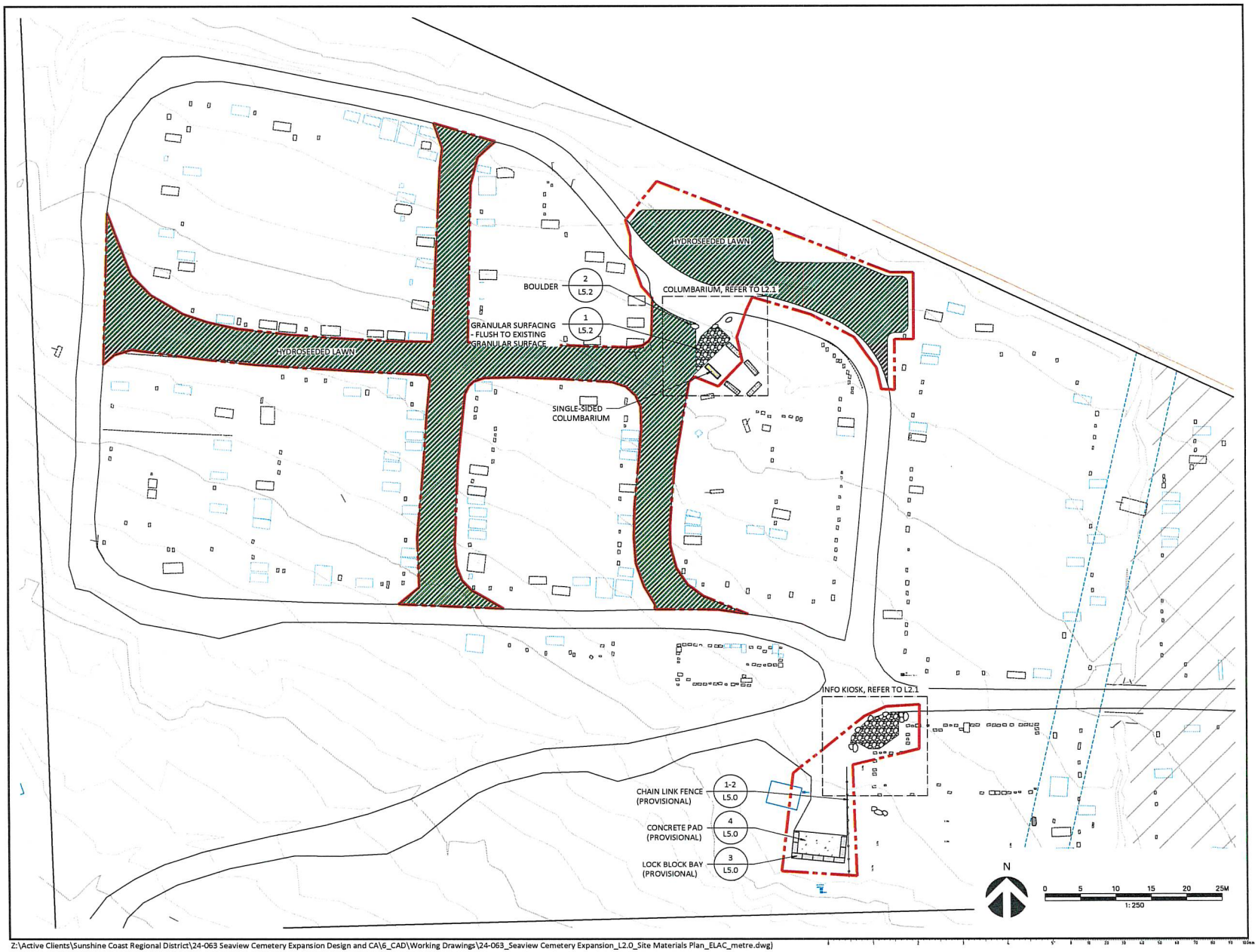
Patrick Sails, P.Eng.
Intermediate Geotechnical Engineer

Reviewed by:
Patrick Ntwari, P.Eng.
Intermediate Geotechnical Engineer

Permit to Practice Number: 1002996

Attachment:

- Site and Materials Plan prepared by Lees + Associates and dated October 2024



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Revisions

No.	Date	Status	By
1	NOV 28, 2024	ISSUED FOR REVIEW	CO
2	JAN 31, 2025	ISSUED FOR REVIEW	CO

LEGEND

- LIMIT OF WORK
- CHAIN LINK FENCE
- GRANULAR SURFACE
- HYDROSEEDED LAWN
- CONCRETE
- BOULDER
- NEW SINGLE-SIDED COLUMBARIUM
- EXISTING COLUMBARIUM

ISSUED FOR REVIEW
NOT FOR CONSTRUCTION

Client
SUNSHINE COAST REGIONAL DISTRICT

Project
SEAVIEW CEMETERY EXPANSION DESIGN AND CA

Drawing Title
SITE AND MATERIALS PLAN

Date: OCTOBER, 2024	ELAC Project No.: 24-063
Scale (On 22 x 34 Inch Sheet):	Drawing No.: L2.0
Drawn By: CO	
Checked: PB	

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