



Mr. Alexander Kopp
c/o Jade Bay Construction Ltd.
4108B Evans Road
Oyama, B.C. V4V 2E9

September 18, 2023
Job 23.214

Attention: Mr. Cody Walsh

Dear Sir:

Re: **Geotechnical Considerations**
Proposed Addition
13595 Forest Hills Drive
Lake Country, B.C.

As requested, Interior Testing Services Ltd. has carried out a site visit at the above noted property and provides the following comments. Please find attached a site plan and typical cross sections as prepared by McPherson Maddox Land Surveying as well as a copy of our two page "Terms of Engagement", which forms the basis on which we undertake this work.

1. We understand that the existing detached garage is to be demolished with an addition to the house constructed in approximately the same location.
2. Based on our site visit and review of the attached cross sections, the natural slope appears relatively steep at roughly 1.5 Horizontal to 1 Vertical (1.5H:1V) to almost 1H:1V. The slope appears to consist of compact to dense granular soils which are expected to be suitable for support of the proposed addition, as loading conditions are expected to be similar to that of the existing detached garage. Based on our site review, it appears that the proposed development will not present any significant geotechnical hazards.
3. However, in order to reduce the potential for slope instability, it is recommended that all footings be set below and behind a conventional plane of 2H:1V. Based on the attached cross sections, this could involve dropping the footings roughly 2 to 3 m below the existing site grades. We discussed this during our site visit, and we understand that this is feasible as the overall site grades are desired to be dropped along the property line, which will further reduce driving forces at the crest of the slope.
4. To that end, based on our site observations and understandings of the proposed addition, the property can be safely used as intended and geotechnical hazards are expected to be nominal and not of critical design importance. In this case, we define "safe" as a 10% chance of exceedence in 50 years, or a 1 in 500 year return period.

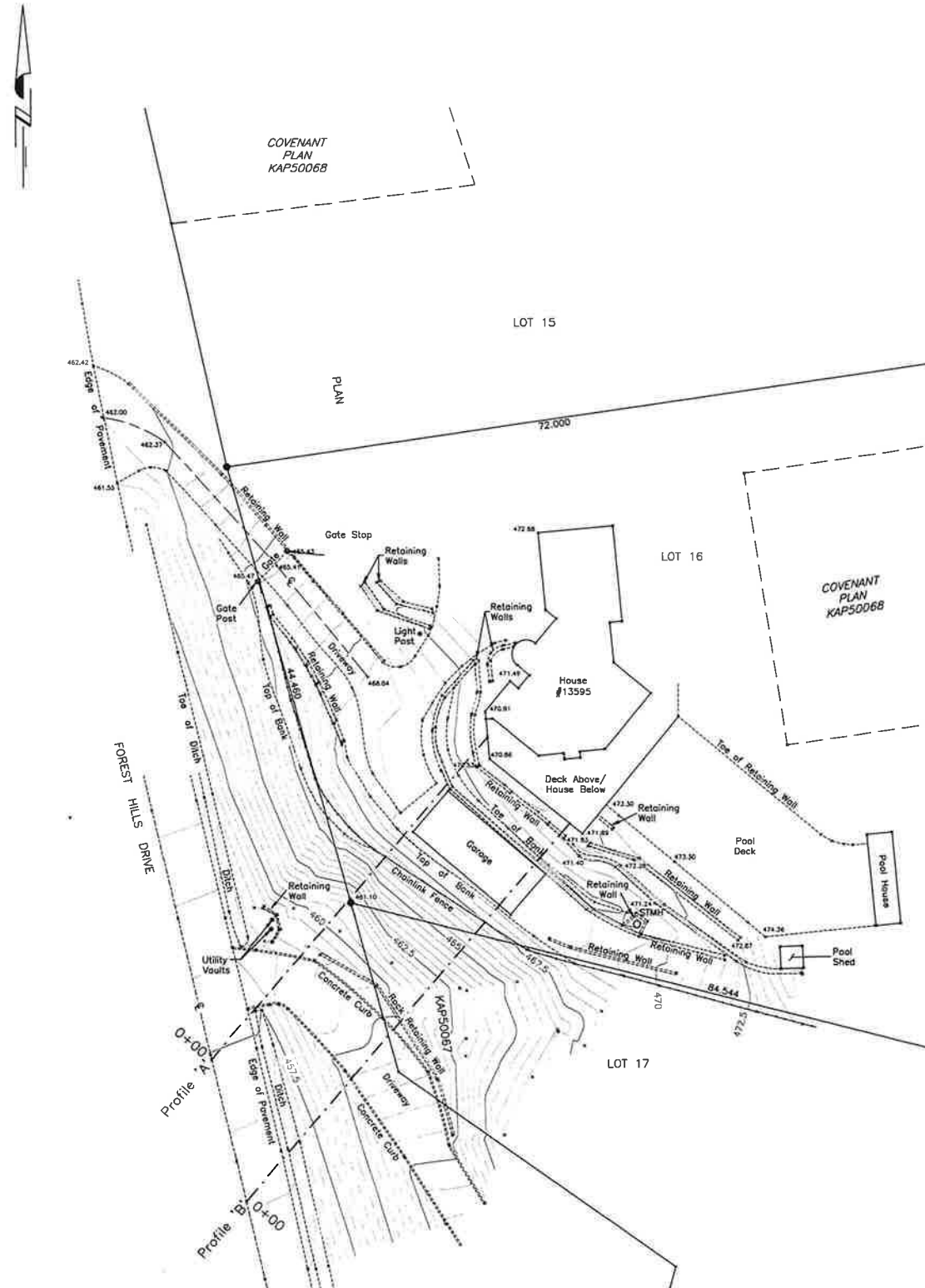
5. While we anticipate the proposed addition to have nominal impact, we recommend that all finished fill slopes on the property be flatter than 1.5 Horizontal to 1 Vertical. In addition, to reduce the potential for surface erosion, we recommend the fill slopes be vegetated or landscaped. This is intended to provide finished slopes comparable to those existing in the general area, which are generally covered with surface grass landscaping or bedrock outcrops, so that surface erosion is not expected to be a significant concern.
6. To summarize, the proposed addition is not expected to impact the surrounding areas and the risk of geotechnical hazards are expected to be low. The potential for surface erosion of any slopes does exist, but this is expected to be sufficiently mitigated if similarly vegetated to match the condition of the surrounding existing slopes.
7. ITSL should be called to visit the site during construction to view the proposed bearing conditions to confirm they are as expected, or to advise of suitable alternative measures if necessary.

We trust this meets your current needs. Please call if you have any questions.

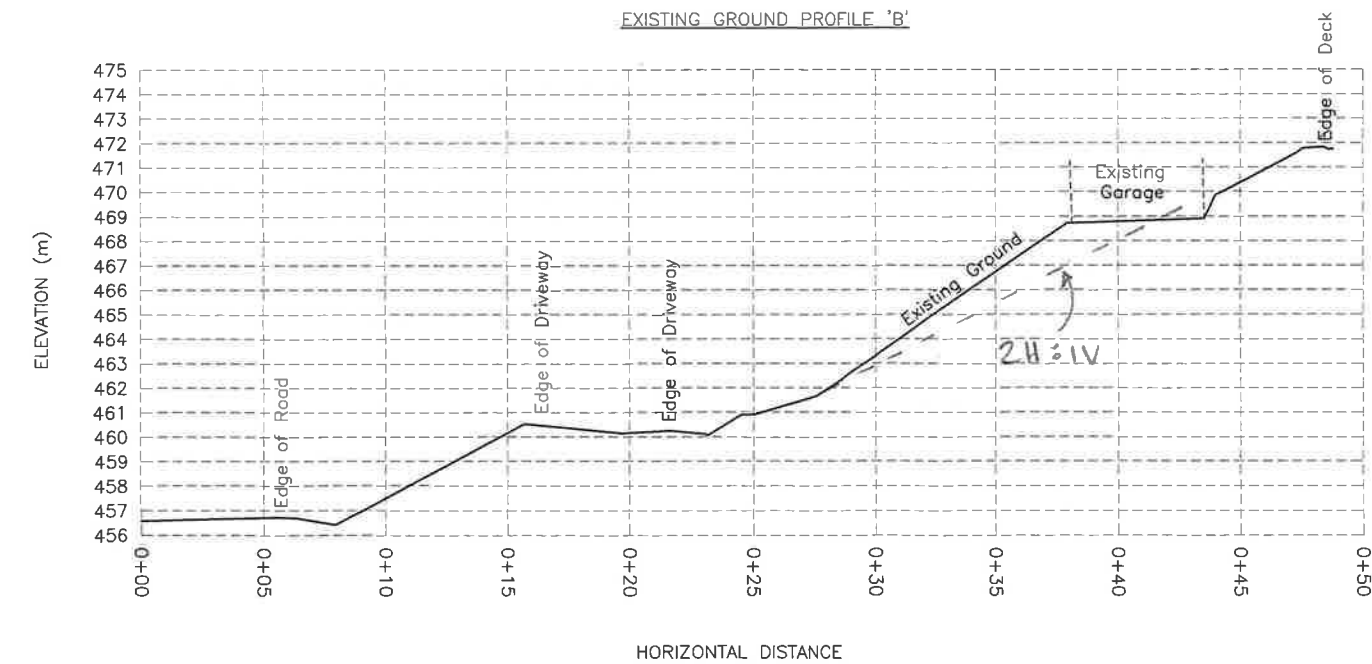
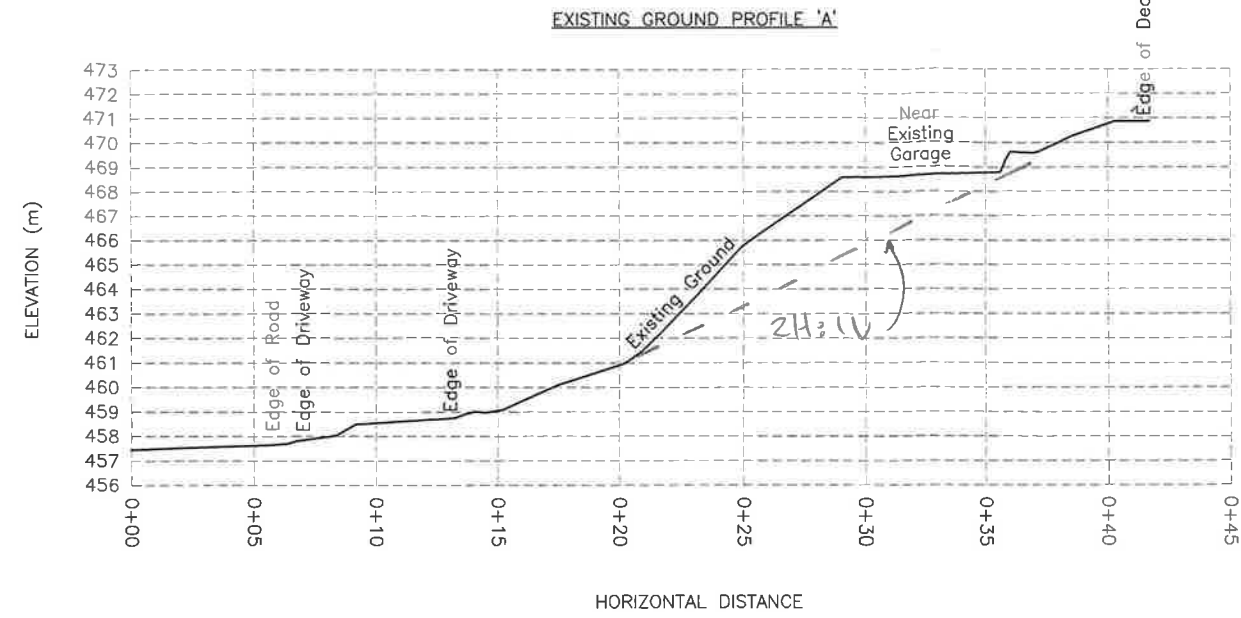
Yours truly,
Interior Testing Services Ltd.
PPN 1001971


Peter Haneburg, P. Eng.

ALL DISTANCES ARE IN METRES.
ELEVATIONS ARE IN METRES, CGVD28 DATUM.
CONTOUR INTERVAL IS 0.5m.



LEGEND:
 * denotes survey point
 ● denotes iron pin found
 STMHO denotes storm manhole



SITE PLAN OF PART OF LOT 16,
PLAN KAP50067, SEC 33, TP 20,
ODYD WITH PROFILE LOCATIONS
AND DATA

SCALE: 1 : 400 OUR FILE: R11426
 DATE: 23 AUG 2023 DRAWN: PS

KOPP
McPherson Maddox
 Land Surveying
 3500 - 30th Street
 Vernon, BC V1T 5E8
 Telephone: (250) 542-4343

TERMS OF ENGAGEMENT

GENERAL

Interior Testing Services Ltd. (ITSL) shall render the Services performed for the Client on this Project in accordance with the following Terms of Engagement. ITSL may, at its discretion and at any stage, engage subconsultants to perform all or any part of the Services. Unless specifically agreed in writing, these Terms of Engagement shall constitute the entire Contract between ITSL and the Client.

COMPENSATION

Charges for the Services rendered will be made in accordance with ITSL's Schedule of Fees and Disbursements in effect from time to time as the Services are rendered. All Charges will be payable in Canadian Dollars. Invoices will be due and payable by the Client within thirty (30) days of the date of the invoice without hold back. Interest on overdue accounts is 18% per annum, compounded monthly (19.6%)

REPRESENTATIVES

Each party shall designate a representative who is authorized to act on behalf of that party and receive notices under this Agreement.

TERMINATION

Either party may terminate this engagement without cause upon thirty (30) days' notice in writing. On termination by either party under this paragraph, the Client shall forthwith pay ITSL its Charges for the Services performed, including all expenses and other charges incurred by ITSL for this Project.

If either party breaches this engagement, the non-defaulting party may terminate this engagement after giving seven (7) days' notice to remedy the breach. On termination by ITSL under this paragraph, the Client shall forthwith pay to ITSL its Charges for the Services performed to the date of termination, including all fees and charges for this Project.

ENVIRONMENTAL

ITSL's field investigation, laboratory testing and engineering recommendations will not address or evaluate pollution of soil or pollution of groundwater. ITSL will co-operate with the Client's environmental consultant during the field work phase of the investigation.

PROFESSIONAL RESPONSIBILITY

In performing the Services, ITSL will provide and exercise the standard of care, skill and diligence required by customarily accepted professional practices and procedures normally provided in the performance of the Services contemplated in this engagement at the time when and the location in which the Services were performed. ITSL makes no warranty, representation or guarantee, either express or implied as to the professional services rendered under this agreement.

LIMITATION OF LIABILITY

ITSL shall not be responsible for:

- (a) the failure of a contractor, retained by the Client, to perform the work required in the Project in accordance with the applicable contract documents;
- (b) the design of or defects in equipment supplied or provided by the Client for incorporation into the Project;
- (c) any cross-contamination resulting from subsurface investigations;
- (d) any damage to subsurface structures and utilities;
- (e) any Project decisions made by the Client if the decisions were made without the advice of ITSL or contrary to or inconsistent with ITSL's advice;
- (f) any consequential loss, injury or damages suffered by the Client, including but not limited to loss of use, earnings and business interruption;
- (g) the unauthorized distribution of any confidential document or report prepared by or on behalf of ITSL for the exclusive use of the Client.

The total amount of all claims the Client may have against ITSL under this engagement, including but not limited to claims for negligence, negligent misrepresentation and breach of contract, shall be strictly limited to the lesser of our fees or \$50,000.00. Increased liability limits may be negotiated upon the Client's request in consideration of an additional fee.

No claim may be brought against ITSL in contract or tort more than two (2) years after the Services were completed or terminated under this engagement.

PERSONAL LIABILITY

For the purposes of the limitation of liability provisions contained in the Agreement of the parties herein, the Client expressly agrees that it has entered into this Agreement with ITSL, both on its own behalf and as agent on behalf of its employees and principals.

The Client expressly agrees that ITSL’s employees and principals shall have no personal liability to the Client in respect of a claim, whether in contract, tort and/or any other cause of action in law. Accordingly, the Client expressly agrees that it will bring no proceedings and take no action in any court of law against any of ITSL’s employees or principals in their personal capacity.

THIRD PARTY LIABILITY

This report was prepared by ITSL for the account of the Client. The material in it reflects the judgement and opinion of ITSL in light of the information available to it at the time of preparation. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. ITSL accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report. This report may not be used or relied upon by any other person unless that person is specifically named by us as a beneficiary of the Report. The Client agrees to maintain the confidentiality of the Report and reasonably protect the report from distribution to any other person.

INDEMNITY

The client shall indemnify and hold harmless ITSL from and against any costs, damages, expenses, legal fees and disbursements, expert and investigation costs, claims, liabilities, actions, causes of action and any taxes thereon arising from or related to any claim or threatened claim by any party arising from or related to the performance of the Services.

DOCUMENTS

All of the documents prepared by ITSL or on behalf of ITSL in connection with the Project are instruments of service for the execution of the Project. ITSL retains the property and copyright in these documents, whether the Project is executed or not. These documents may not be used on any other project without the prior written agreement of ITSL.

FIELD SERVICES

Where applicable, field services recommended for the Project are the minimum necessary, in the sole discretion of ITSL, to observe whether the work of a contractor retained by the Client is being carried out in general conformity with the intent of the Services.

DISPUTE RESOLUTION

If requested in writing by either the Client or ITSL, the Client and ITSL shall attempt to resolve any dispute between them arising out of or in connection with this Agreement by entering into structured non-binding negotiations with the assistance of a mediator on a without prejudice basis. The mediator shall be appointed by agreement of the parties. If a dispute cannot be settled within a period of thirty (30) calendar days with the mediator, the dispute shall be referred to and finally resolved by an arbitrator appointed by agreement of the parties.

CONFIRMATION OF PROFESSIONAL LIABILITY INSURANCE

As required by by-laws of Engineers & Geoscientists British Columbia (EGBC), it is required that our firm advises whether or not Professional Liability Insurance is held. It is also required that a space for you to acknowledge this information be provided.

Our professional liability insurance is not project specific for the project and should not be regarded as such. If you require insurance for your project you should purchase a project specific insurance policy directly.

Accordingly, this notice serves to advise you that ITSL carries professional liability insurance. Please sign and return a copy of this form as an indication of acceptance and agreement to the contractual force of these Terms of Engagement.

PRINT NAME: _____ DATE: _____

ACKNOWLEDGEMENT: _____