

Appendix D: Permit DV000077



CAPITAL REGIONAL DISTRICT

DEVELOPMENT PERMIT WITH VARIANCE DV000077

1. This Development Permit with Variance is issued under the authority of Sections 490, and 498 of the *Local Government Act* and subject to compliance with all of the bylaws of the Regional District applicable thereto, except as specifically varied or supplemented by this Permit.
2. This Development Permit with Variance applies to and only to those lands within the Regional District described below (legal description), and any and all buildings, structures, and other development thereon:
PID: 000-773-182;
Legal Description: Lot 3, Sections 45-A and 46-A, Highland District, Plan 22641
3. This development permit authorizes construction of an accessory building (the "development") on the Land, located within the development permit areas established under the Comprehensive Community Plan for Willis Point, Bylaw No. 3027, 2003, Section 4.10.3 (Steep Slopes), in accordance with the plans submitted to the CRD and subject to the conditions set out in this Permit.
4. The conditions under which the development referred to in section 3 may be carried out are as follows:
 - a. That the proposed development comply with the Building Plans;
 - b. That the proposed development of the property comply with the Building Location Certificate prepared by Wes Mayenburg Land Surveying Ltd., dated September 9, 2020;
 - c. That the proposed development comply with the recommendations outlined in the report prepared by Ryzuk Geotechnical, dated March 29, 2021.
5. The Capital Regional District's **Bylaw No. 3027** is varied under Section 498 of the *Local Government Act* as follows:
 - a. That Schedule B, Part III, Section 22(2)(d)(i) be varied by decreasing the minimum front yard setback from 6 m to 1.5 m.
6. Notice of this Permit shall be filed in the Land Title Office at Victoria as required by Section 503 of the *Local Government Act*, and the terms of this Permit (DV000077) or any amendment hereto shall be binding upon all persons who acquire an interest in the land affected by this Permit.
7. If the holder of a permit does not substantially start any construction permitted by this Permit within 2 years of the date it is issued, the permit lapses.
8. The land described herein shall be developed strictly in accordance with the terms and conditions and provisions of this Permit, and any plans and specifications attached to this Permit which shall form a part hereof.
9. The following plans and specifications are attached to and form part of this Permit:
Appendix A: Building Plans
Appendix B: Building Location Certificate
Appendix C: Geotechnical Assessment Report
10. This Permit is NOT a Building Permit.



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11. In issuing this Development Permit, the CRD does not represent or warrant that the land can be safely developed and used for the use intended and is acting in reliance upon the conclusions of the Geotechnical Report regarding the conditions to be followed for the safe development of the land.

RESOLUTION PASSED BY THE BOARD, THE ____ day of _____, 2021.

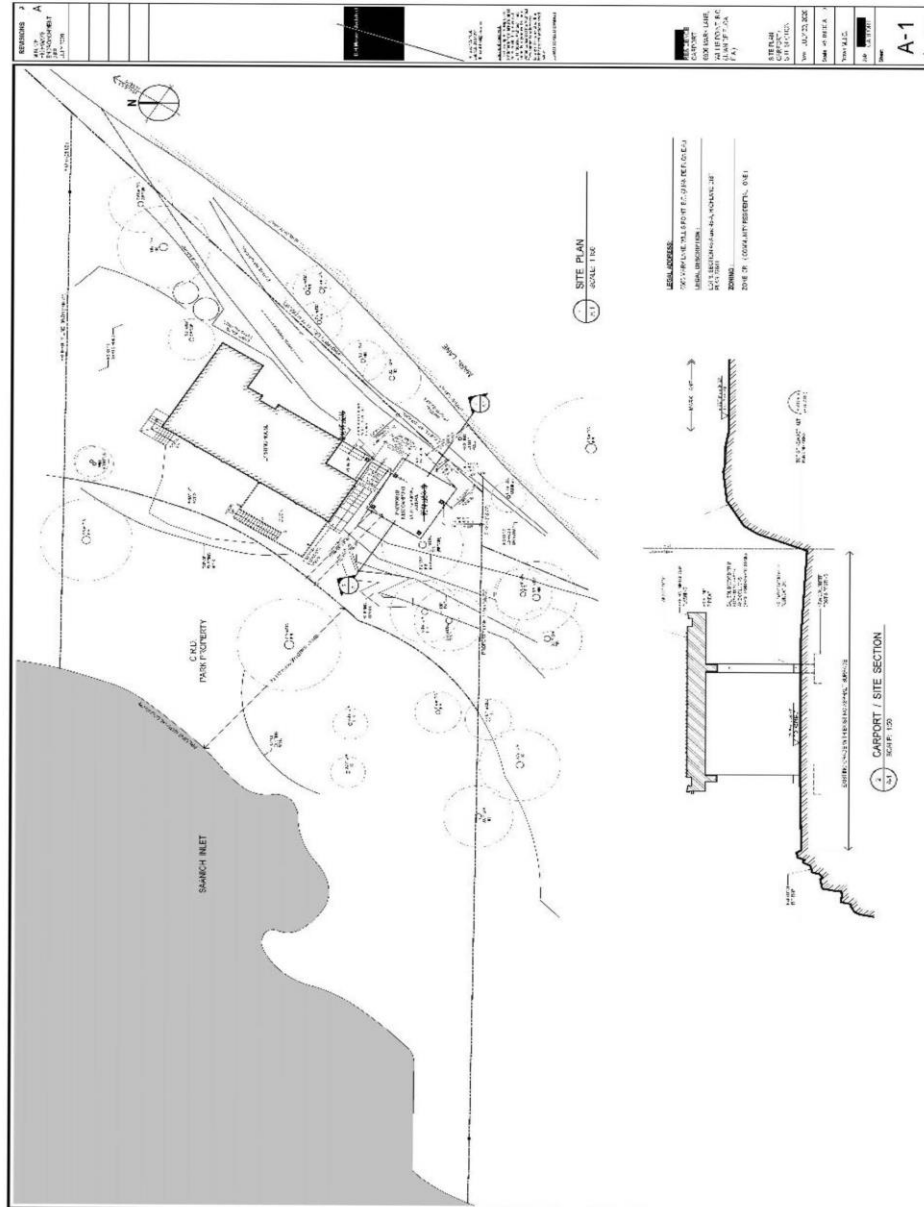
ISSUED this ____ day of _____, 2021

Kristen Morley
Corporate Officer



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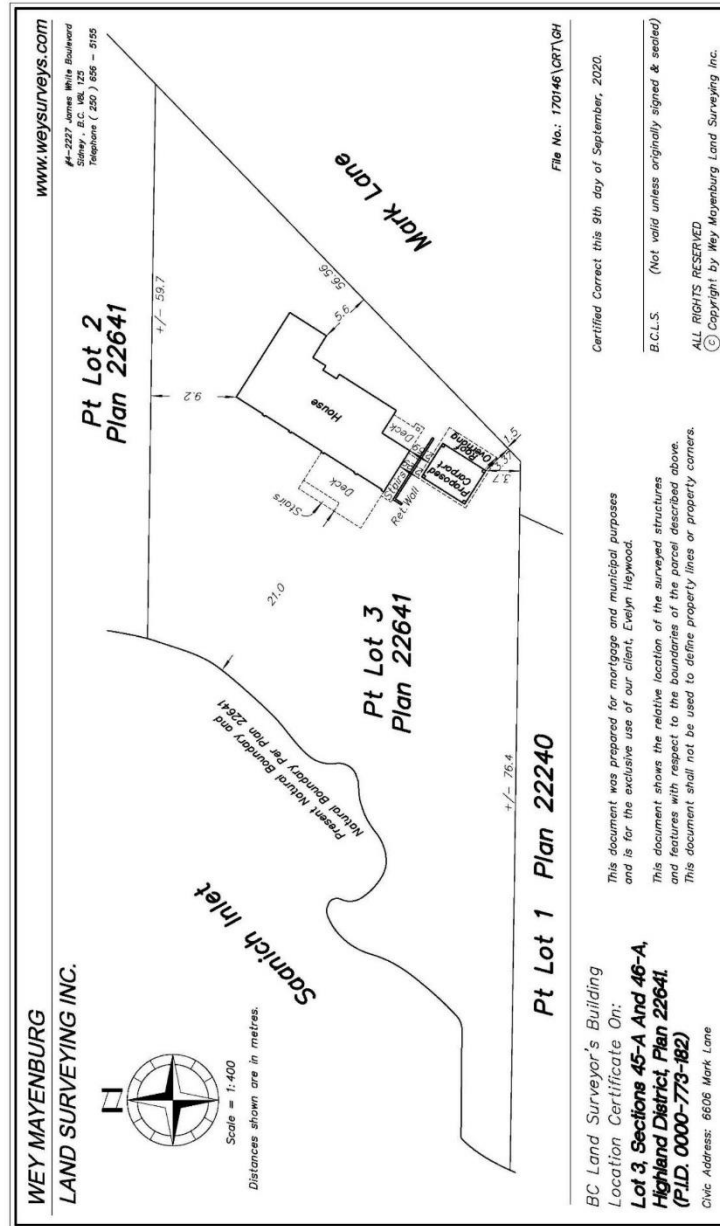
Appendix A: Building Plans





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Appendix B: Building Location Certificate





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Appendix C: Geotechnical Report



March 29, 2021
File No: 10313-1

██████████
6606 Mark Lane
Victoria, BC
V9E 2A1

(by email: ██████████)

Dear Sir,

Re: Proposed Carport
6606 Mark Lane – Victoria, BC

As requested, we attended the referenced property December 31, 2020, to assess the existing geotechnical conditions as such relate to the proposed carport. The property is located within Development Permit Area No. 1: Steep Slopes as set out in Schedule "A" of the Capital Regional District (CRD) Bylaw No. 3027. Our associated comments and recommendations are contained herein to satisfy the requirement of the Bylaw. Our work has been undertaken in accordance with, and is subject to, the previously submitted Terms of Engagement.

Our review has consisted of both office based study and our site attendance to complete a visual assessment of the proposed carport location as well as the surrounding area. The office based work included review of development drawings as well as perusal of geological/terrain mapping. During our site reconnaissance we traversed the areas downslope and upslope of the carport location, to identify any notable features typically associated with steep slopes, including past/current indication of erosion, land slip, overland flow, and rock fall.

The subject property is irregularly shaped and approximately 2 Acres in size. See attached CRD Atlas Site Plan extract. The site is bounded by the foreshore of Saanich Inlet to the west, and neighboring residential properties to the north and south, and undeveloped upland areas to the east. Mark Lane transects the property. The proposed development consists of construction of a carport to the south of the dwelling, in an area currently occupied by a paved parking area. We understand the carport will consist of four corner posts and a roof. No walls will be constructed.

Terrain mapping indicates that the grade rises steeply from the foreshore area up to a flatter benched area that incorporates the dwelling and Mark Lane, before rising steeply again, up to and beyond the eastern property line. Overall relief across the subject property is around 80 m or so. Geological mapping indicates that the area is bedrock controlled, with outcropping bedrock present in much of

Ryzuk Geotechnical



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March 29, 2021

the area. Where not present at the surface, bedrock will be at shallow depth, covered by a veneer of organic and colluvial mineral soils. This is consistent with our experience in the area.

During our site attendance, we traversed areas below and above the proposed development site, including upslope areas beyond the eastern property line. Our observations were generally consistent with our office based work and experience in the area. The dwelling, driveway access, parking area, and Mark Lane alignment are located in a flatter benched area in the northwest corner of the property, with grade falling steeply down to the west towards the foreshore of the Saanich Inlet, and rising steeply to the east above Mark Lane and beyond. The flatter bench appears to have been created by past excavation cut and fill. The area of the proposed carport is currently occupied by an approx. 12 m wide paved bench (see attached Photograph 1) which is retained on the low (west) side by an approx. 2 to 3 m high arrangement of stacked boulders, with a similar arrangement of boulders to the east side. We understand backfill behind the western boulder arrangement consists of well compacted blast rock fill.

As noted, grade falls steeply down to the west from the benched area towards the bedrock controlled foreshore of Saanich Inlet. Grades in the range of 35 to 40° were measured with hand-held inclinometer, although were locally flatter and steeper in areas. The slope is bedrock controlled and considered to be largely stable. Some weathering of the exposed rock, as well as root action from trees, has created some smaller surface rock (talus) that could exhibit mobility. Upslope of the benched area, the grade rises gently to the approx. 8 m wide Mark Lane right-of-way, before rising again to another 4 m wide flatter area associated with a roughed-in driveway (see attached Photograph 2). Beyond the roughed-in driveway, grade generally rises up at around 30°, aside where such is interrupted by exposed near vertical bedrock bluffs. See attached Photographs 3 and 4. The first bluff is some 50 m upslope of Mark Lane and was around 5 m in height. The second bluff was a further 50 m or so east of the first and was estimated at 15 m or so in height. We did not traverse upslope of the second bluff. The slope is vegetated with occasional smaller diameter Fir and Cedar. We observed smaller blocks of talus (0.3 to 0.6 m) on the flatter slopes. This material likely has originated from the bluffs, detaching due to weathering, tree root action, and/or past seismic event. Some larger orthogonal rock blocks to 1.5 m in dimension were observed near the crest of the lower bluff and may have detached from the upslope bluff. See Photograph 5. Although the noted observations are indication of past rockfall, we saw no larger rock blocks at the base of the slope, adjacent to Mark Lane. In addition, there was no indication of past/current large scale instability, landslip, erosion, or overland flow.

Further to our site attendance, we assessed the potential for future rockfall to reach the proposed carport development site. We utilized our rockfall modeling software and completed numerous simulations to initially prove the model by replicating site observations, and then to determine the maximum run out envelope for various sizes of rock blocks being detached from the bluffs. The rock blocks were imparted with rotational velocities to simulate the energy equivalent to that associated with the design seismic event. Our review indicates that although the rock blocks will travel down slope, the run out will only reach the base of the slope and the Mark Lane right-of-way.



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We consider that the proposed carport can be constructed without adverse impact to existing slope stability. However, we note the presence of existing retained fills at the location. We were not involved in the selection, placement, and compaction of this material, nor the adjacent boulder retaining wall. Unless there is prior engineering approval of such, we would recommend taking the supports for the carport roof down to intact level bedrock by locally excavating through the fills. We recommend the posts be pinned/dowelled to clean/intact bedrock so that such will be stable should there be any settlement or lateral movement of the wall/fill in the long term. Footings cast upon intact, level bedrock can be dimensioned using a factored bearing resistance of 1000 kPa (SLS). Alternatively, and to minimize excavation and reinstatement, installation of a drilled micro piles through the asphalt/fill and embedment into the bedrock may prove attractive.

As materials exposed during excavation will predominantly consist of blast rock fill and bedrock, we do not expect erosion to be an issue during the works, and no specific measures to mitigate erosion or silt laden run off are considered necessary. As the proposed building area is already comprised of impermeable surface, we do not anticipate any change in existing stormwater runoff. Any collected/concentrated stormwater can be readily dispersed on a non-erodible bedrock surface downslope of the carport.

In summary, and based on our visual assessment and subsequent analysis, we considered the proposed building area to be safe for the use intended, that being construction of a carport structure in accordance with the current BC Building Code. Our assessment considers a design seismic occurrence with a probability of exceedance of 2% in 50 years. This is pursuant to Section 56 of the Community Charter and in accordance with the noted CRD Bylaw.

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.

Kind regards,
Ryzuk Geotechnical

Scott Currie, P.Eng.
Geotechnical Engineer

Lane Campbell, M.Eng.
Review Engineer

Attachments – Site Photographs
CRD Atlas Site Plan
Landslide Assurance Statement



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Photograph 1 – Looking North over the existing driveway and parking area



Photograph 2 – Looking South over Mark Lane and roughed-in driveway



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Photograph 3 – Slope rising up to the east from Mark Lane



Photograph 4 – Slope rising up from from Mark Lane



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Proposed Carport – 6606 Mark Lane, Victoria, BC

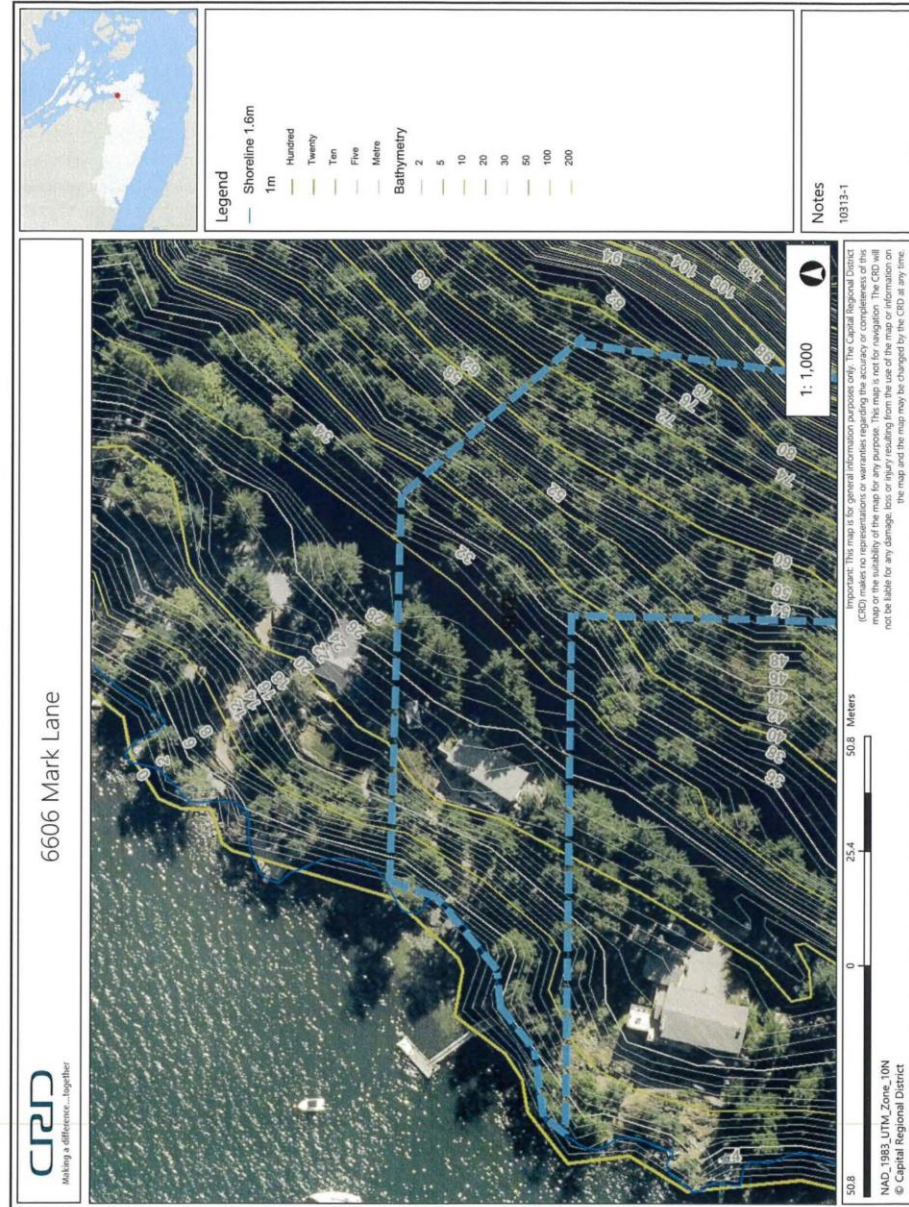
March 29, 2021



Photograph 5 – Example of a larger rock block on the slope



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APPENDIX D: LANDSLIDE ASSESSMENT ASSURANCE STATEMENT

Note: This Statement is to be read and completed in conjunction with the "APEGBC Guidelines for Legislated Landslide Assessments for Proposed Residential Development in British Columbia", March 2006/Revised September 2008 ("APEGBC Guidelines") and the "2006 BC Building Code (BCBC 2006)" and is to be provided for landslide assessments (not floods or flood controls) for the purposes of the Land Title Act, Community Charter or the Local Government Act. Italicized words are defined in the APEGBC Guidelines.

To: The Approving Authority
CAPITAL REGIONAL DISTRICT

Date: 29 MARCH 2021

Jurisdiction and address

With reference to (check one):

- ☐ Land Title Act (Section 86) – Subdivision Approval
- ☐ Local Government Act (Sections 919.1 and 920) – Development Permit
- ☒ Community Charter (Section 56) – Building Permit
- ☐ Local Government Act (Section 910) – Flood Plain Bylaw Variance
- ☐ Local Government Act (Section 910) – Flood Plain Bylaw Exemption
- ☐ British Columbia Building Code 2006 sentences 4.1.8.16 (8) and 9.4 4.4.(2) (Refer to BC Building and Safety Policy Branch Information Bulletin B10-01 issued January 18, 2010)

For the Property: 6606 MARK LANE - VICTORIA, B.C.

Legal description and civic address of the Property

The undersigned hereby gives assurance that he/she is a *Qualified Professional* and is a *Professional Engineer or Professional Geoscientist*.

I have signed, sealed and dated, and thereby certified, the attached *landslide assessment* report on the Property in accordance with the *APEGBC Guidelines*. That report must be read in conjunction with this Statement. In preparing that report I have:

Check to the left of applicable items

- ☒ 1. Collected and reviewed appropriate background information
- ☐ 2. Reviewed the proposed *residential development* on the Property
- ☒ 3. Conducted field work on and, if required, beyond the Property
- ☒ 4. Reported on the results of the field work on and, if required, beyond the Property
- ☒ 5. Considered any changed conditions on and, if required, beyond the Property
- 6. For a *landslide hazard analysis* or *landslide risk analysis* I have:
 - ☒ 6.1 reviewed and characterized, if appropriate, any *landslide* that may affect the Property
 - ☒ 6.2 estimated the *landslide hazard*
 - ☒ 6.3 identified existing and anticipated future *elements at risk* on and, if required, beyond the Property
 - ☒ 6.4 estimated the potential *consequences* to those *elements at risk*
- 7. Where the *Approving Authority* has adopted a *level of landslide safety* I have:
 - ☒ 7.1 compared the *level of landslide safety* adopted by the *Approving Authority* with the findings of my investigation
 - ☒ 7.2 made a finding on the *level of landslide safety* on the Property based on the comparison
 - ☐ 7.3 made recommendations to reduce *landslide hazards* and/or *landslide risks*
- 8. Where the *Approving Authority* has **not** adopted a *level of landslide safety* I have:



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- ☐ 8.1 described the method of *landslide hazard analysis* or *landslide risk analysis* used
- ☐ 8.2 referred to an appropriate and identified provincial, national or international guideline for *level of landslide safety*
- ☐ 8.3 compared this guideline with the findings of my investigation
- ☐ 8.4 made a finding on the *level of landslide safety* on the Property based on the comparison
- ☐ 8.5 made recommendations to reduce *landslide hazards* and/or *landslide risks*
- ☒ 9. Reported on the requirements for future inspections of the Property and recommended who should conduct those inspections.

Based on my comparison between

- Check one
- ☒ the findings from the investigation and the adopted *level of landslide safety* (item 7.2 above)
 - ☐ the appropriate and identified provincial, national or international guideline for *level of landslide safety* (item 8.4 above)

I hereby give my assurance that, based on the conditions^[1] contained in the attached *landslide assessment* report,

- Check one
- ☐ for subdivision approval, as required by the Land Title Act (Section 86), "that the land may be used safely for the use intended"
 - ☐ for a development permit, as required by the Local Government Act (Sections 919.1 and 920), my report will "assist the local government in determining what conditions or requirements under [Section 920] subsection (7.1) it will impose in the permit".
 - ☒ for a building permit, as required by the Community Charter (Section 56), "the land may be used safely for the use intended"
 - ☐ for flood plain bylaw variance, as required by the "Flood Hazard Area Land Use Management Guidelines" associated with the Local Government Act (Section 910), "the development may occur safely".
 - ☐ for flood plain bylaw exemption, as required by the Local Government Act (Section 910), "the land may be used safely for the use intended".

SCOTT CURRIE
Name (print)

Signature

29 MARCH 2021
Date

^[1] When seismic slope stability assessments are involved, *level of landslide safety* is considered to be a "life safety" criteria as described in the National Building Code of Canada (NBCC 2005). Commentary on Design for Seismic Effects in the User's Guide, Structural Commentaries, Part 4 of Division B. This states:

"The primary objective of seismic design is to provide an acceptable level of safety for building occupants and the general public as the building responds to strong ground motion, in other words, to minimize loss of life. This implies that, although there will likely be extensive structural and non-structural damage, during the DGM (design ground motion), there is a reasonable degree of confidence that the building will not collapse nor will its attachments break off and fall on people near the building. This performance level is termed 'extensive damage' because, although the structure may be heavily damaged and may have lost a substantial amount of its initial strength and stiffness, it retains some margin of resistance against collapse".



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#6 - 40 CADILLAC AVE
Address
VICTORIA, BC V8Z 1T2
250 475 3131
Telephone



If the *Qualified Professional* is a member of a firm, complete the following.

I am a member of the firm PEUR GEOTECHNICAL LTD
and I sign this letter on behalf of the firm. (Print name of firm)