



**REPORT TO THE JUAN DE FUCA LAND USE COMMITTEE
MEETING OF WEDNESDAY, MAY 20, 2015**

SUBJECT **Development Permit and Request for Exemption from Section 944 of the *Local Government Act* for Lots 6, 7 & 8, Block 453, Malahat District, Plan VIP84067 (Goldstream Heights Drive)**

ISSUE

The applicant has made application for a development permit and an exemption from Section 944 of the *Local Government Act (LGA)* to reduce the road frontage and to establish a driveway and building site in a sensitive ecosystem, riparian and steep slope development permit area as part of a subdivision application.

BACKGROUND

The three properties are located in Malahat in the Goldstream Heights subdivision (Appendix A). The properties are split-zoned Greenbelt 2 (GB2) and Greenbelt 3 (GB3) in the Malahat Land Use Bylaw No. 980 (Appendix B). The vacant parcels are bounded by similar split-zoned properties to the north and south, Goldstream Heights Drive to the west, the Esquimalt & Nanaimo Railway and GB3 properties to the east.

The lots were created as part of a 32-lot subdivision in 2007. The applicant has submitted a subdivision application (S-01-14) to consolidate Lots 6, 7 and 8 and then re-subdivide into four lots (Appendix C). The lots are being consolidated to comply with the Section 3.4.06B of the Greenbelt 3 (GB3) zone which states:

3.4.06B *Greenbelt Residential Development*

Notwithstanding Subsection 3.4.06A of this Bylaw, a parcel having an area in excess of 20 ha may be subdivided provided that the average parcel size created by the subdivision is at least 2 ha and no parcel is less than 0.8 ha.

This consolidation then permits a reconfiguration of the size of the lots.

The properties are designated as within the Steep Slopes, Watercourses and Sensitive Ecosystems Development Permit Areas in the Malahat Official Community Plan Bylaw No. 3721. The applicant has provided a report from Thurber Engineering Ltd. addressing the steep slope development permit guidelines (Appendix D) and reports from P.A. Harder and Associates Ltd. addressing the Sensitive Ecosystem and Riparian development permit guidelines (Appendix E).

As a requirement of subdivision, the owners are also requesting an exemption from Section 944 of the *LGA* to reduce the road frontage of proposed Lot 2 from 103.9 m to 48.4 m (4.7% frontage).

ALTERNATIVES

- 1) a) That the Steep Slopes, Watercourses, Wetlands and Riparian Areas, and Sensitive Ecosystems Development Permit DV000044 for Lots 6, 7 and 8, Block 453, Malahat District, Plan VIP84067 for the proposed consolidation and re-subdivision into four lots, as shown in the Bazett Land Surveying Inc. Plan of Proposed Subdivision, Appendix C, be approved subject to the following conditions:
 - i. That the proposed development comply with the Steep Slopes, Watercourses, Wetlands and Riparian Areas and Sensitive Ecosystems Development Permit Guidelines outlined in the Malahat Official Community Plan, Bylaw No. 3721;
 - ii. That the proposed development comply with the recommendations outlined in the professional engineer's report prepared by Thurber Engineering Ltd., dated December 11, 2014, as shown in Appendix D;

- iii. That the proposed development be contained to previously disturbed road networks and building sites on the subject properties as described in the reports prepared by P.A. Harder and Associates Ltd., dated December 9, 2014 and April 22, 2015 as shown in Appendix E.
 - b) That the exemption from Section 944(1)(a) of the *Local Government Act* for proposed Lot 2, as shown in the Bazett Land Surveying Inc. Plan of Proposed Subdivision, Appendix C, be approved.
- 2) Recommend that the CRD deny the development permit and require that the parcels comply with Section 944 of the *Local Government Act*.
 - 3) Request more information be provided by staff.

LEGISLATIVE IMPLICATIONS

The Malahat Official Community Plan Bylaw No. 3721 establishes development permit guidelines. The property is within the Steep Slopes, Sensitive Ecosystems and Watercourses, Wetlands and Riparian Areas Development Permit Areas; therefore, a development permit is required before the land may be subdivided or altered.

Section 944(1) of the *LGA* establishes minimum frontage requirements for parcels created by subdivision. Where local government has not established a minimum frontage requirement, the statutory minimum frontage requirement is 10% of the lot perimeter. A local government may exempt a parcel from the statutory minimum frontage under Section 944(2).

PUBLIC CONSULTATION IMPLICATIONS

There is no requirement for public consultation if a local government is considering a statutory exemption pursuant to Section 944 of the *LGA*. There is also no requirement to notify residents/tenants under the Capital Regional District Bylaw No. 3110, Fees and Procedures Bylaw for a statutory exemption or a development permit application. The Land Use Committee meeting agenda is advertised in the local newspaper and on the CRD website.

LAND USE IMPLICATIONS

Development Permit

Thurber Engineering Ltd. prepared a report on December 11, 2014 addressing the steep slope development permit areas for proposed Lots 1-4 (Appendix D) and updates Thurber Engineering's previous assessment of the Goldstream Heights development from 2006 and includes geotechnical hazard assessment of potential rock-fall and debris slides on the site. The assessment uses a hazard rating system and includes mapping of the proposed lots. The report describes the terrain on proposed Lot 1 containing intermittent steep rocky outcrops with two potential building sites located in the northern portion of the property in an area of low hazard terrain. Terrain within proposed Lot 2 consists of a small valley with a safe building site at the northern end. Suitable safe building sites are located in the central portion of proposed Lots 3 and 4 at higher elevations. The engineer concludes that each of the four proposed lots have areas rated as low hazard terrain suitable for use as a safe building site, but, if future building is proposed outside the areas indicated in the report, further assessment by a qualified professional engineer would be required.

There is an easement registered over Lot 7 for access to Lot 8; as this parcel configuration will not be altered, the easement would be transferred to proposed Lots 3 and 4. As a condition of the original subdivision, a covenant is registered on title of all the parcels restricting building prior to geotechnical review, which will transfer to the title of the proposed lots.

P.A. Harder and Associates Ltd. prepared a report on December 9, 2014 addressing the sensitive ecosystem development permit guidelines for the proposed subdivision (Appendix E). The report assumes approximately 50% of the tree growth was harvested from the subject parcels in 2003. Dominant vegetation on the unlogged portions includes Douglas fir, pine, arbutus and bluff habitat. On the previously cleared areas, some native under-storey vegetation has been established including alder, salal, bracken fern and ocean spray. Invasive scotch broom is the dominant species along existing roadways. A subsequent report was prepared by P.A. Harder and Associates Ltd. on April 22, 2015

(Appendix E) indicating no watercourses or existing stands of trees will be affected by the development provided proposed building sites and existing road networks are utilized.

Staff recommends approval of the steep slopes, sensitive ecosystem and riparian development permit provided future development is conducted in the building sites indicated in the geotechnical engineer's report (Appendix D) and environmental reports (Appendix E).

Frontage Exemption

In cases where a frontage relaxation is acceptable to the local government, the Provincial Approving Officer must be advised of the approval before a subdivision can be finalized. In evaluating whether an exemption from Section 944 is justified, the following technical criteria are considered:

- Will reducing the frontage eliminate future subdivision potential of the lot and of lots beyond?
- Does the proposed reduction disturb existing residences?
- Will reducing the frontage produce an awkward lot configuration?
- How does it relate to the topography of the area?
- Does it create any environmental impacts?
- Will the exemption reduce road network and access options?

Consideration is also given to land use designation policies and land use regulations with respect to the request for an exemption. The subject properties are designated Settlement in the Malahat Official Community Plan Bylaw No. 3721 which specifies residential development should consist of parcels greater than 12 ha. However, the Malahat Land Use Bylaw No. 980 includes clauses that permit the consolidation and re-subdivision of lots down to 2 ha in the GB3 zone.

The access strip to the proposed building site on Lot 2 is not designated as within a geotechnical hazard area in the report from Thurber Engineering Ltd. (Appendix D) or is within any sensitive environmental areas or watercourses as indicated in the reports from P.A. Harder and Associates Ltd. (Appendix E). There will be no further subdivision potential of proposed Lot 2 and, as the surrounding lots remain vacant, no disturbance to residences is anticipated. Although the side lot lines of proposed Lot 2 are not substantially at right angles to the road in accordance with the parcel and subdivision design policy 8.0.01 in the Langford Subdivision Bylaw No. 986, the lot design does take advantage of the contours of the site and does not impact any other road network requirements. Staff recommends approval of the development permit with frontage exemption.

CONCLUSION

The applicant is requesting a development permit and an exemption from Section 944 of LGA for the proposed consolidation of Lots 6, 7 and 8 and re-subdivision into four lots. Reports have been submitted to address the steep slopes, sensitive ecosystem and riparian development permit guidelines. Staff recommends approval of the development permit with frontage exemption subject to conditions.

RECOMMENDATION

That the Land Use Committee recommends to the Capital Regional District Board:

- a) That the Steep Slopes, Watercourses, Wetlands and Riparian Areas, and Sensitive Ecosystems Development Permit DV000044 for Lots 6, 7 and 8, Block 453, Malahat District, Plan VIP84067 for the proposed consolidation and re-subdivision into four lots, as shown in the Bazett Land Surveying Inc. Plan of Proposed Subdivision, Appendix C, be approved subject to the following conditions:
 - i. That the proposed development comply with the Steep Slopes, Watercourses, Wetlands and Riparian Areas and Sensitive Ecosystems Development Permit Guidelines outlined in the Malahat Official Community Plan, Bylaw No. 3721;
 - ii. That the proposed development comply with the recommendations outlined in the professional engineer's report prepared by Thurber Engineering Ltd., dated December 11, 2014, as shown in Appendix D; and

- iii. That the proposed development be contained to previously disturbed road networks and building sites on the subject properties as described in the reports prepared by P.A. Harder and Associates Ltd., dated December 9, 2014 and April 22, 2015, as shown in Appendix E.
- b) That the exemption from Section 944(1)(a) of the *Local Government Act* for proposed Lot 2, as shown in the Bazett Land Surveying Inc. Plan of Proposed Subdivision, Appendix C, be approved.

Submitted by:	Emma Taylor, MCIP, RPP, Planner
Concurrence:	June Klassen, MCIP, RPP, Manager Local Area Planning
Concurrence:	Kevin Lorette, P.Eng., MBA, General Manager, Planning & Protective Services
Concurrence:	Robert Lapham, MCIP, RPP, Chief Administrative Officer

ET:wm

Appendix A: Subject Properties Map

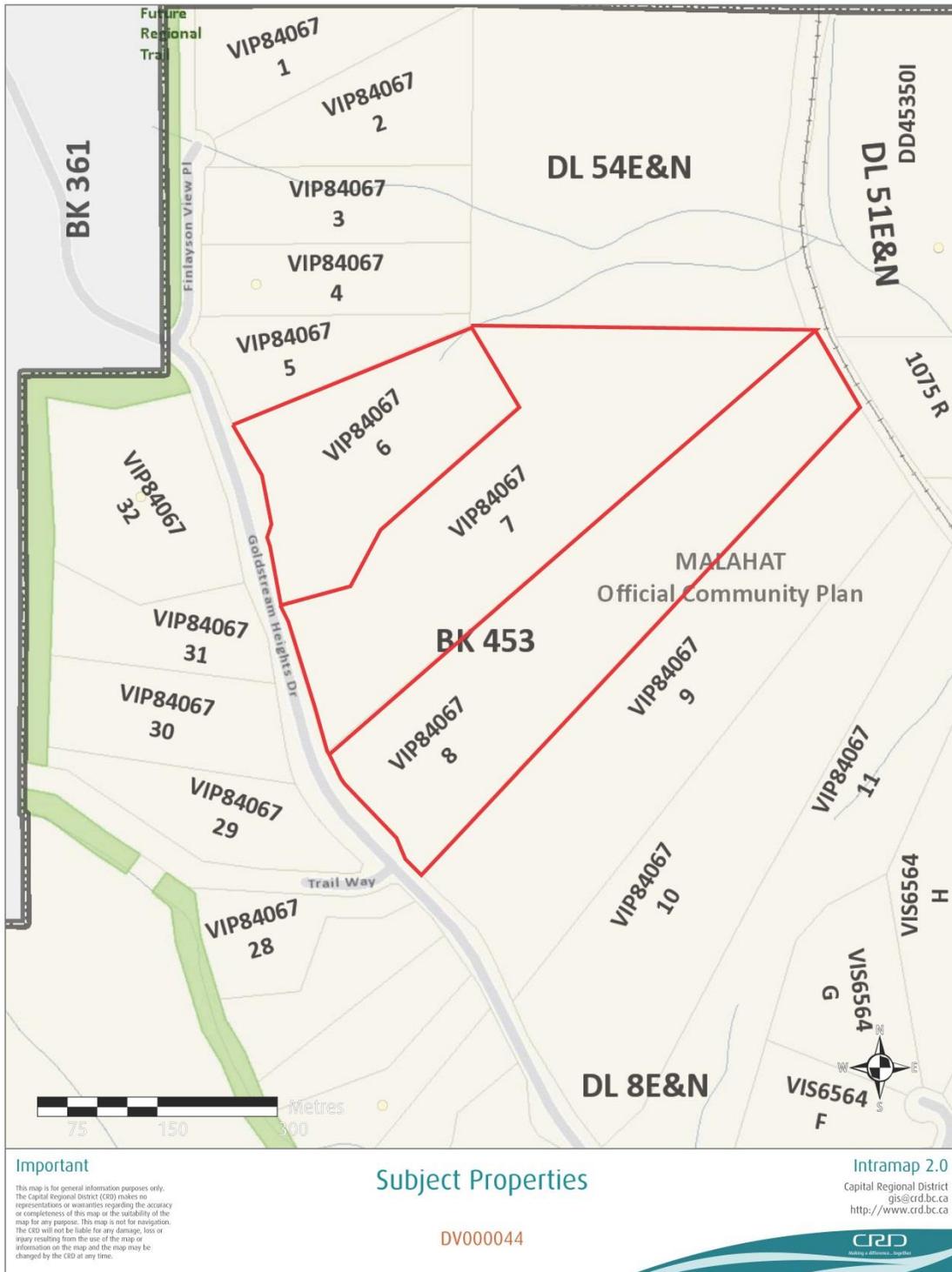
Appendix B: Zoning

Appendix C: Proposed Parcel Consolidation and Subdivision, Bazett Land Surveying Inc.

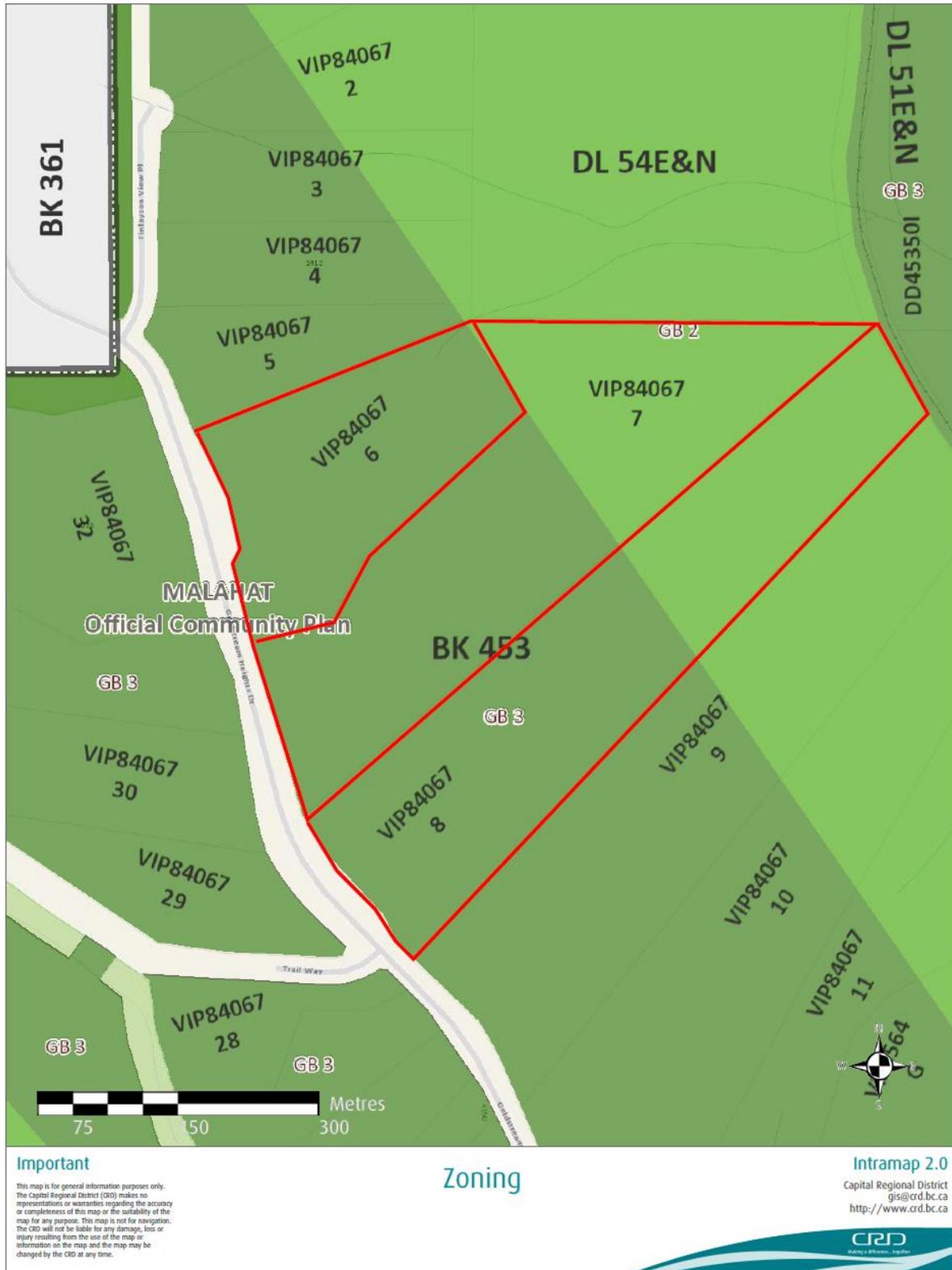
Appendix D: Engineer's Report, Thurber Engineering Ltd., December 11, 2014

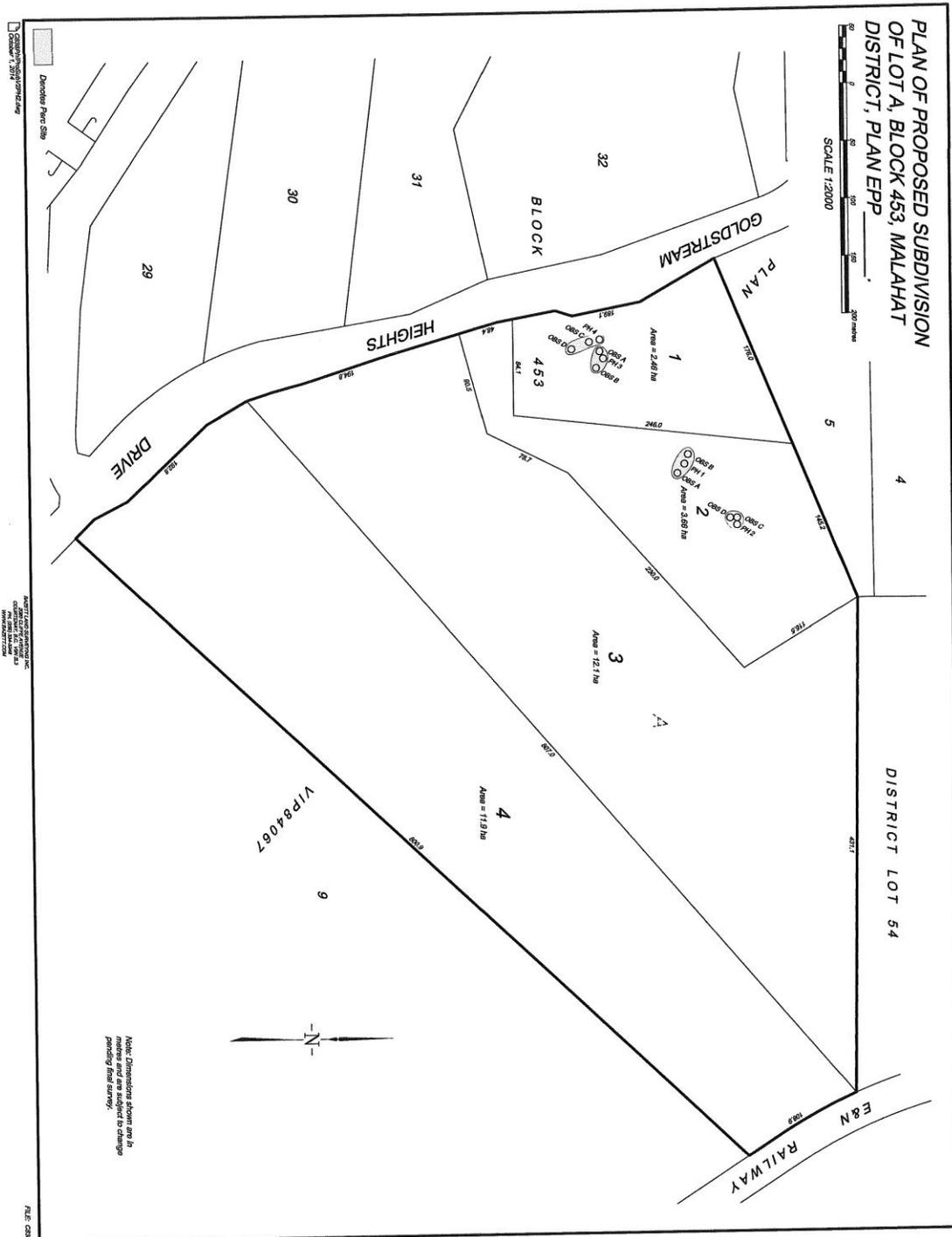
Appendix E: Environmental Reports, P.A. Harder and Associates Ltd., December 9, 2014 & April 22, 2015

Appendix A: Subject Properties Map



Appendix B: Zoning







December 11, 2014

File: 19-5314-1

Earth Corporation
c/o Devin Hawes
1-3179 Barons Road
Nanaimo, BC, V9T 5W5

Attention: Mr. Devin Hawes

**PRELIMINARY GEOLOGICAL HAZARD ASSESSMENT
PROPOSED SUBDIVISION OF LOTS 6, 7 AND 8
BLOCK 453, MALAHAT DISTRICT PLAN VIP84067**

Dear Mr. Hawes:

This letter is a geological hazard assessment carried out for the proposed subdivision of Lots 6, 7 and 8, Block 453, Malahat District, Plan VIP84067. This letter updates an earlier Thurber Engineering Ltd. geological hazard assessment report dated August 15, 2006, which covered all of the Phase 2 of the Goldstream Heights Subdivision area including the above-referenced properties.

This letter includes a site plan showing the location of terrain that is considered to be "safe" for the use intended (i.e. residential building construction). In our opinion, building sites located within the areas of very low hazard terrain identified within this report have a less than 2% in 50 year chance of being affected by a geological hazard and therefore do not require additional terrain stability hazard assessment.

This assessment was conducted in general accordance with the 2010 APEGBC *Guidelines for Legislated Landslide Assessments for Proposed Residential Developments in BC*.

Use of this report is subject to the attached Statement of Limitations and Conditions.

1. SITE DESCRIPTION

The subject property consists of four proposed lots (labelled 1 through 4) that are planned to be created through the subdivision of the three existing lots described below.

- Lot 6, Plan VIP84067, Block 453, Malahat District, PID 027-301-389
- Lot 7, Plan VIP84067, Block 453, Malahat District, PID 027-301-397
- Lot 8, Plan VIP84067, Block 453, Malahat District, PID 027-301-401

The attached drawing 19-5314-1-1, shows the proposed lot layout, likely building areas and mapped terrain hazard areas.

100, 4396 West Saanich Road, Victoria, BC V8Z 3E9 T: 250 727 2201 F: 250 727 3710
thurber.ca



The properties are located 8 km to the southeast of Shawnigan Lake on the west side of Goldstream Heights Drive at the north end of the Phase 2 development area. The area was harvested of trees within the last ~13 years. The only existing development within the study area are several rockfill-covered driveways that access potential building sites.

2. GEOLOGICAL HAZARDS AND RATINGS

Geological hazards assessed as part of this study include the occurrence of rockfalls from steep rocky terrain, open-slope debris slides (i.e. landslides) on moderate to steeply-inclined terrain consisting of thick colluvial or morainal blankets and the run out of the respective failed materials. Other types of geological hazards (i.e. debris flow, snow avalanche etc.) are not anticipated to occur within the study area.

Definitions for the geological hazard ratings used in this assessment are shown on the attached Drawing 19-5314-1-1 and are described below.

A “safe” building site means that it is our opinion that the probability of occurrence of a geological hazard within a given area is less than 2% chance in 50 years (i.e. 1 chance in 2475 years).

A very low hazard rating (uncoloured areas on the map) indicates that there are no known or suspected geological hazards and buildings constructed in these areas do not require additional geological hazard assessment as they are considered to be “safe” for the use intended.

A low hazard rating (coloured yellow on the map) indicates that there may be small scale hazards that could occur at a frequency of greater than 2% chance in 50 years that should be easily avoided within the hazard zone. Proper siting of the buildings or engineered designs should readily mitigate the hazards within these areas. Proposed buildings planned for these areas must undergo additional terrain assessment prior to the start of building construction.

A moderate hazard rating (coloured orange on the map) indicates that there is moderately steep terrain that may be subject to geological hazards at a frequency potentially much greater than 2% in 50 years. These areas should be avoided if possible. However, within each moderate hazard zone, there may be small areas where development could proceed. If development occurs within these zones, a more detailed site investigation and / or engineering assessment is required to more accurately define the hazard, and if necessary, engineer a solution.

A high hazard rating (coloured red on the map) typically refers to steep rock bluffs and/or steep slopes where rockfall and/or debris slides are likely to occur, or where failed materials originating from higher on the slope are likely to be deposited. No buildings should be constructed within these zones.

Client: Earth Corporation
File No. 19-5314-1
E file: pjw_19-5314-1_rpt_Goldstream Heights Phase 2_Lot 6_7_8 Subdiv Terrain Hazard_rev 1.doc

Date: December 11, 2014
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3. 2006 STUDY PROCEDURE

The 2006 assessment was conducted by examining and mapping aerial photographs which was followed by a ground based visual assessment. The background information reviewed prior to the field work included the review of:

- Air photographs BC84027 #9 and #10 (1984);
- Muller, J.E. 1980. Geology Victoria, British Columbia. GSC Map 1553A. Scale 1:100,000.
- Koers and Associates Engineering Ltd. maps showing surface features, 1 m contours, proposed roads, driveways and probable house locations.

The field assessment was carried out by Paul Wilson, M.Sc., P.Geo. and Andrew Chand, E.I.T. of Thurber Engineering Ltd. At the time of the assessment, Goldstream Heights Drive was under construction. The proposed residential lot boundaries were not marked, however, the relatively recent logging activity had left an arrangement of built roads and skidder trails that provided excellent access to most areas of the site.

The 2006 assessment included foot traverses within each of the three lots included within the current study area. Locations in the field were determined using detailed topographic maps provided by Koers and Associates Engineering Ltd., the road chainage and a hand-held GPS unit. Areas of exposed bedrock were noted. Elsewhere, the surficial geology was observed along existing road cuts and noted from previous test pit logs. Slope angles, drainage characteristics and evidence of past or potential slope failures were also noted.

4. 2014 TERRAIN UPDATE PROCEDURE

New proposed Lots 1,2,3 and 4 (formerly Lots 6, 7 and 8) were observed in the field by Paul Wilson, M.Sc., P.Geo. in the company of Devin Hawes on December 8, 2014 for the purpose of re-observing the previously mapped terrain and noting the occurrence of any significant development or terrain-related changes that had taken place since 2006. Orthophoto imagery captured during the summer of 2013 and obtained on-line from the CRD Natural Areas Atlas (<http://viewer.crdatlas.ca/public#/Home>) was also inspected for any indications of recent or potential slope failure.

This re-assessment resulted in a number of revisions to the original geological hazard assessment mapping including lowering the hazard ratings at a number of locations that were originally conservatively mapped as having a high terrain hazard rating.

5. TERRAIN CONDITIONS

Proposed Lot 1: The terrain within proposed Lot 1 consists primarily of a rounded hill dominated by morainal and colluvial veneers (<1 m thick) and intermittent steep rocky outcrops. The northern portion of the lot includes two potential building sites at and near the top of the hill

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that are gently inclined and dominated by very low hazard terrain. Several lower rocky slopes on the lot are subject to intermittent rockfall and should be avoided.

Proposed Lot 2: The terrain within the northern portion of proposed Lot 2 consists of a small local valley (including a small pond) that is bordered to the west by a short section of rocky terrain and to the east by a longer slope of rocky terrain and colluvium. Most of the central valley is dominated by morainal veneers and blankets. The northern end of the valley includes a safe building site made up of very low hazard terrain.

Proposed Lot 3: The terrain within the northern half of Lot 3 consists of steep and moderately steep, northeast-facing slopes dominated by colluvial veneers and blankets while the central portion of the lot includes a wide area of elevated, gently-inclined very low risk terrain dominated by thin soils and rocky outcrops. The terrain within the western portion of the lot is more variable with intermittent gently inclined benches and steeper rocky areas. Suitable safe building sites are present within the central, higher elevation portions of the lot.

Proposed Lot 4: The terrain within the northern half of Lot 4 consists of steep and moderately steep, northeast-facing slopes dominated by colluvial veneers and blankets while the central portion of the lot includes an area of elevated, gently-inclined very low risk terrain dominated by thin soils and rocky outcrops. The terrain within the western portion of the lot is more variable with intermittent gently inclined benches and steeper rocky areas. Suitable safe building sites are present within the central, higher elevation portions of the lot.

6. CONCLUSIONS AND LIMITATIONS OF THIS ASSESSEMENT

This report presents the findings of a geological hazard assessment of proposed Lots 1 through 4 which are to be created from the subdivision of existing Lots, 6, 7 and 8 of Block 453, Malahat District Plan VIP84067. Each of the four proposed lots has terrain with a very low geological hazard rating that would be suitable for use as a "safe" building site.

It is our opinion that the likelihood of a geological hazard affecting an area with a very low hazard rating is much less than 2% in 50 years. As a result, the proposed subject lots may be used safely if future residential construction is properly sited and constructed within areas mapped as having very low terrain hazard ratings. The placement of residential construction within areas mapped as having higher geological hazard ratings may still be possible but would require additional terrain hazard assessment and / or the development of site-specific engineered mitigation designs.

This assessment does not include a review of non-terrain related geological hazards such as the presence of poor foundation materials, flooding, hazard trees or fire etc.

It is recommended that any potential building sites that are proposed outside of the areas of very low hazard identified within this report be assessed by a qualified professional engineer or geoscientist prior to the initiation of construction.

A completed Landslide Assessment Assurance Statement is appended to this report.

Client: Earth Corporation
File No. 19-5314-1
E file: pjw_19-5314-1_rpt_Goldstream Heights Phase 2_Lot 6_7_8 Subdiv Terrain Hazard_rev 1.doc

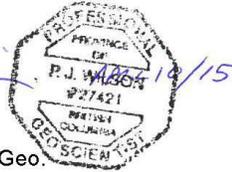
Date: December 11, 2014
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7. CLOSING

We trust the information provided herein is of assistance with your planning requirements for this subdivision. If you have any questions concerning the assessment or our recommendations, please do not hesitate to contact us.

Yours truly,
Thurber Engineering Ltd.
Stephen Bean, M.Eng., P. Eng.
Review Principal

Paul Wilson, M.Sc., P. Geo.
Project Geoscientist

- Attachments
- Statement of Limitations and Conditions
 - Drawing 19-5314-1-1
 - Landslide Assessment Assurance Statement



STATEMENT OF LIMITATIONS AND CONDITIONS

1. STANDARD OF CARE

This study and Report have been prepared in accordance with generally accepted engineering or environmental consulting practices in this area. No other warranty, expressed or implied, is made.

2. COMPLETE REPORT

All documents, records, data and files, whether electronic or otherwise, generated as part of this assignment are a part of the Report which is of a summary nature and is not intended to stand alone without reference to the instructions given to us by the Client, communications between us and the Client, and to any other reports, writings, proposals or documents prepared by us for the Client relative to the specific site described herein, all of which constitute the Report.

IN ORDER TO PROPERLY UNDERSTAND THE SUGGESTIONS, RECOMMENDATIONS AND OPINIONS EXPRESSED HEREIN, REFERENCE MUST BE MADE TO THE WHOLE OF THE REPORT. WE CANNOT BE RESPONSIBLE FOR USE BY ANY PARTY OF PORTIONS OF THE REPORT WITHOUT REFERENCE TO THE WHOLE REPORT.

3. BASIS OF REPORT

The Report has been prepared for the specific site, development, design objectives and purposes that were described to us by the Client. The applicability and reliability of any of the findings, recommendations, suggestions, or opinions expressed in the document, subject to the limitations provided herein, are only valid to the extent that this Report expressly addresses proposed development, design objectives and purposes, and then only to the extent there has been no material alteration to or variation from any of the said descriptions provided to us unless we are specifically requested by the Client to review and revise the Report in light of such alteration or variation or to consider such representations, information and instructions.

4. USE OF THE REPORT

The information and opinions expressed in the Report, or any document forming part of the Report, are for the sole benefit of the Client. NO OTHER PARTY MAY USE OR RELY UPON THE REPORT OR ANY PORTION THEREOF WITHOUT OUR WRITTEN CONSENT AND SUCH USE SHALL BE ON SUCH TERMS AND CONDITIONS AS WE MAY EXPRESSLY APPROVE. The contents of the Report remain our copyright property. The Client may not give, lend or, sell the Report, or otherwise make the Report, or any portion thereof, available to any person without our prior written permission. Any use which a third party makes of the Report, are the sole responsibility of such third parties. Unless expressly permitted by us, no person other than the Client is entitled to rely on this Report. We accept no responsibility whatsoever for damages suffered by any third party resulting from use of the Report without our express written permission.

5. INTERPRETATION OF THE REPORT

- a) Nature and Exactness of Soil and Contaminant Description: Classification and identification of soils, rocks, geological units, contaminant materials and quantities have been based on investigations performed in accordance with the standards set out in Paragraph 1. Classification and identification of these factors are judgmental in nature. Comprehensive sampling and testing programs implemented with the appropriate equipment by experienced personnel, may fail to locate some conditions. All investigations utilizing the standards of Paragraph 1 will involve an inherent risk that some conditions will not be detected and all documents or records summarizing such investigations will be based on assumptions of what exists between the actual points sampled. Actual conditions may vary significantly between the points investigated and the Client and all other persons making use of such documents or records with our express written consent should be aware of this risk and this report is delivered on the express condition that such risk is accepted by the Client and such other persons. Some conditions are subject to change over time and those making use of the Report should be aware of this possibility and understand that the Report only presents the conditions at the sampled points at the time of sampling. Where special concerns exist, or the Client has special considerations or requirements, the Client should disclose them so that additional or special investigations may be undertaken which would not otherwise be within the scope of investigations made for the purposes of the Report.
- b) Reliance on Provided Information: The evaluation and conclusions contained in the Report have been prepared on the basis of conditions in evidence at the time of site inspections and on the basis of information provided to us. We have relied in good faith upon representations, information and instructions provided by the Client and others concerning the site. Accordingly, we cannot accept responsibility for any deficiency, misstatement or inaccuracy contained in the Report as a result of misstatements, omissions, misrepresentations, or fraudulent acts of the Client or other persons providing information relied on by us. We are entitled to rely on such representations, information and instructions and are not required to carry out investigations to determine the truth or accuracy of such representations, information and instructions.

(see over ...)



INTERPRETATION OF THE REPORT (*continued. . .*)

- c) Design Services: The Report may form part of the design and construction documents for information purposes even though it may have been issued prior to the final design being completed. We should be retained to review the final design, project plans and documents prior to construction to confirm that they are consistent with the intent of the Report. Any differences that may exist between the report recommendations and the final design detailed in the contract documents should be reported to us immediately so that we can address potential conflicts.
- d) Construction Services: During construction we must be retained to provide field reviews. Field reviews consist of performing sufficient and timely observations of encountered conditions to confirm and document that the site conditions do not materially differ from those interpreted conditions considered in the preparation of the report. Adequate field reviews are necessary for Thurber to provide letters of assurance, in accordance with the requirements of many regulatory authorities.

6. RISK LIMITATION

Geotechnical engineering and environmental consulting projects often have the potential to encounter pollutants or hazardous substances and the potential to cause an accidental release of those substances. In consideration of the provision of the services by us, which are for the Client's benefit, the Client agrees to hold harmless and to indemnify and defend us and our directors, officers, servants, agents, employees, workmen and contractors (hereinafter referred to as the "Company") from and against any and all claims, losses, damages, demands, disputes, liability and legal investigative costs of defence, whether for personal injury including death, or any other loss whatsoever, regardless of any action or omission on the part of the Company, that result from an accidental release of pollutants or hazardous substances occurring as a result of carrying out this Project. This indemnification shall extend to all Claims brought or threatened against the Company under any federal or provincial statute as a result of conducting work on this Project. In addition to the above indemnification, the Client further agrees not to bring any claims against the Company in connection with any of the aforementioned causes.

7. SERVICES OF SUBCONSULTANTS AND CONTRACTORS

The conduct of engineering and environmental studies frequently requires hiring the services of individuals and companies with special expertise and/or services which we do not provide. We may arrange the hiring of these services as a convenience to our Clients. As these services are for the Client's benefit, the Client agrees to hold the Company harmless and to indemnify and defend us from and against all claims arising through such hirings to the extent that the Client would incur had he hired those services directly. This includes responsibility for payment for services rendered and pursuit of damages for errors, omissions or negligence by those parties in carrying out their work. In particular, these conditions apply to the use of drilling, excavation and laboratory testing services.

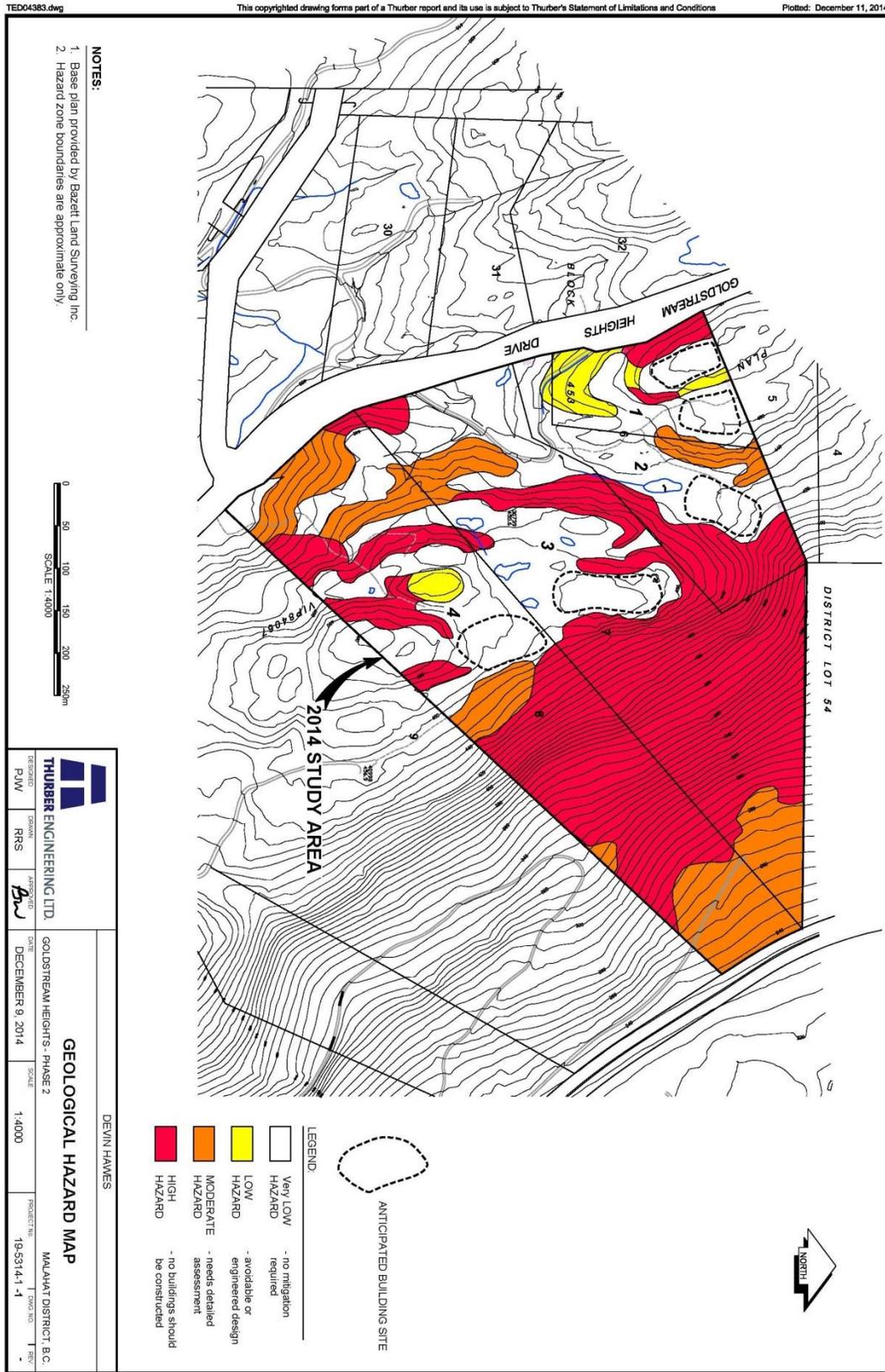
8. CONTROL OF WORK AND JOBSITE SAFETY

We are responsible only for the activities of our employees on the jobsite. The presence of our personnel on the site shall not be construed in any way to relieve the Client or any contractors on site from their responsibilities for site safety. The Client acknowledges that he, his representatives, contractors or others retain control of the site and that we never occupy a position of control of the site. The Client undertakes to inform us of all hazardous conditions, or other relevant conditions of which the Client is aware. The Client also recognizes that our activities may uncover previously unknown hazardous conditions or materials and that such a discovery may result in the necessity to undertake emergency procedures to protect our employees as well as the public at large and the environment in general. These procedures may well involve additional costs outside of any budgets previously agreed to. The Client agrees to pay us for any expenses incurred as the result of such discoveries and to compensate us through payment of additional fees and expenses for time spent by us to deal with the consequences of such discoveries. The Client also acknowledges that in some cases the discovery of hazardous conditions and materials will require that certain regulatory bodies be informed and the Client agrees that notification to such bodies by us will not be a cause of action or dispute.

9. INDEPENDENT JUDGEMENTS OF CLIENT

The information, interpretations and conclusions in the Report are based on our interpretation of conditions revealed through limited investigation conducted within a defined scope of services. We cannot accept responsibility for independent conclusions, interpretations, interpolations and/or decisions of the Client, or others who may come into possession of the Report, or any part thereof, which may be based on information contained in the Report. This restriction of liability includes but is not limited to decisions made to develop, purchase or sell land.

SLC20120601_HKH/KDG



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: DEC 11/14

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:

LOTS 6, 7, 8, BLOCK 453, MALAHAT DISTRICT PLAN VIP84067
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:

- 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"
 - Check one
 - with one or more recommended registered covenants.
 - without any registered covenant.
 - 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"
 - Check one
 - with one or more recommended registered covenants.
 - without any registered covenant.
 - 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".

PAUL WILSON
Name (print) _____

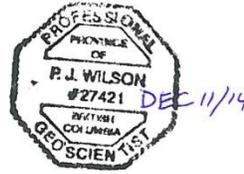
Signature _____

DEC 11/14
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".

100-4396 WEST SAAWICH RD
Address
VICTORIA BC V8Z 3E9
250-727-2201
Telephone



(Affix Professional seal here)

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

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

P.A. Harder and Associates Ltd.
Environmental Consultants
612 Downey Road, North Saanich, BC V8L 5 M6 (250) 656-7783

December 9, 2014

Capital Regional District
3-7450 Butler Road
Sooke, BC
V9Z 1N1



Attention: Emma Taylor

RE: Earth Corporation (Formerly Isis Land Corporation)
Proposed Four Lot Subdivision in Goldstream Heights
Lot 6, Plan VIP84067, Block 453, Malahat District, PID 027-301-389
Lot 7, Plan VIP84067, Block 453, Malahat District, PID 027-301-397
Lot 8, Plan VIP84067, Block 453, Malahat District, PID 027-301-401

Earth Corporation has retained our services to inspect the subject property and report on environmental matters pertaining to the proposed subdivision plan. Specifically we were asked to survey the property and identify any sensitive environmental ecosystems on the property and assess potential environmental impacts that may result from the proposed subdivision plan. Our findings and recommendations are presented in this letter.

1) Site Conditions

The 30.098 ha property is located on the east side of Goldstream Heights Road approximately 0.6 km north of Wigglesworth Lake. The property is characterized by undulating terrain with moderate steep side slope and the occasional rocky bluff. There are no signs of slope instability on the property (refer to Thurber report under separate cover). The property has been previously logged (circa 2003) with approximately 50% of the tree growth removed.

Vegetation Characteristics

The dominant vegetation on the unlogged portions of the property include Douglas fir and pine. Some young arbutus trees are occasionally present in association with rock bluff habitats.

Dominant vegetation growth on the previously logged sections of the property include sappling alder trees and Scotch Broom. The under storey is vegetated with predominance of salal, bracken fern, pearly everlasting, grasses and some ocean spray

Scotch Broom is the dominant plant along the existing roadways. Other invasive plant species, including English Ivy, morning glory, purple loosestrife, Himalayan blackberry and Gorse, were not identified on the property.

Drainage Conditions

There are no water courses or sensitive wetland habitats on the property.

Existing Development

Existing development on the property is limited to a network of former logging access roads.

Proposed Development Plans

The proposed subdivision plan will allow for the construction of one single family home and a cottage on each of the four lots. Driveway access will also be required, however, the existing network of roads has previously been developed in close proximity to available building sites and it is anticipated that further road development work on the property will be minimal.

Environmental Sensitivity and Impact Potential

In our assessment we concluded the site has low environmental sensitivity and no significant potential for environmental impact in relation to the proposed subdivision development plans.

Sincerely,

P.A. Harder and Associates Ltd.



Paul Harder, R.P. Bio
Consulting Biologist

P.A. Harder and Associates Ltd.
Environmental Consultants
612 Downey Road, North Saanich, BC V8L 5 M6 (250) 656-7783

April 22, 2015

Capital Regional District
625 Fisgard Street
Victoria, B C
V8W 1R7

Attention: Ms. Emma Taylor

RE: Earth Corporation Proposed Four Lot Subdivision in Goldstream Heights Lot A, Block 453, Malahat District, VIP 84067

Further to my earlier assessment presented in my letter to CVRD dated December 8, 2014 and subsequent discussions with you I have provided the following additional information to address your concerns.

Additional inspection of the site and review of the Thurber Engineering report (December 11, 2014) confirm that there are no watercourses or wetland habitats affected by the proposed 4 lot sub-division. The proposed development plan does not trigger a RAR assessment since the proposed development area (roads and building lots) do not lie within 30 m of a watercourse. The only water feature on the property is a small wetland area located in a deep gully on the at the west side of the property as noted in the Thurber report. All of the proposed building sites and access roads, as outlined in the Thurber report, are situated on previously logged land. The proposed building sites will be accessed using the existing network of roads. Potential refinements to driveway access to the proposed building lot will not require any additional tree clearing. Existing stands of trees located on the property are situated well away from the proposed building sites.

In summary, the proposed 4 lot sub-division does not trigger an assessment requirement under RAR. The proposed location of the building lots and road and driveway accesses will not require any additional tree clearing on the property. It is my professional opinion that the proposed development plan as presented in the Thurber Report will have no environmental impact on the existing landscape including the previously identified wetland area.

Please contact me if you have any questions or require any additional information.

Sincerely,

P.A. Harder and Associates Ltd.

Signed Copy via Post Mail

Paul Harder, R.P. Bio
Consulting Biologist