Gabriola Island Local Trust Committee
Regular Meeting Agenda

Date: July 31, 2025
Time: 10:30 am
Location: Gabriola Arts & Heritage Centre
476 South Road, Gabriola Island, BC

Pages

1. CALL TO ORDER 10:30 AM - 10:35 AM

"Please note, the order of agenda items may be modified during the meeting. Times are provided for convenience only and are subject to change."

2. TERRITORIAL ACKNOWLEDGEMENT

3. APPROVAL OF AGENDA

4. REPORTS 10:35 AM - 10:50 AM

4.1 Trustee Reports

4.2 Chair's Report

4.3 Electoral Area Director's Report

4.4 First Nations Reports

5. PUBLIC COMMENTS 10:50 AM - 11:05 AM

6. MINUTES 11:05 AM - 11:10 AM

6.1 Local Trust Committee Minutes dated June 26, 2025 – for adoption 4 - 15

6.2 Section 26 Resolutions-Without-Meeting Report - none

6.3 Advisory Planning Commission Minutes - none

7. BUSINESS ARISING FROM MINUTES 11:10 AM - 11:25 AM

7.1 Follow-up Action List dated July 24, 2025 16 - 18

8. DELEGATIONS - none

9. APPLICATIONS AND REFERRALS 11:25 AM - 11:55 AM

9.1 GB-DP-2021.1 (Centre Stage Holdings Inc.) - Staff Report 19 - 144

10. LOCAL TRUST COMMITTEE PROJECTS - none

11. CORRESPONDENCE 11:55 AM - 12:05 PM

(Correspondence received concerning current applications or projects is posted to the LTC webpage)

11.1 Email dated July 7, 2025 from D. Elkington regarding Jets Flying over Gabriola Island 145 - 145

11.2 Letter dated July 17, 2025 from N. Bailey, Board Chair, Nanaimo Ladysmith Public Schools Board of Education regarding Advocacy Letter to Support a New Build of Nanaimo District Secondary School 146 - 146

11.3 Email dated July 21, 2025 from Mudge Island Community Association regarding Mudge Island Bylaw Survey Results 147 - 150

12. NEW BUSINESS - none

13. STAFF REPORTS 12:05 PM - 12:35 PM

13.1 Trust Council Bylaw No. 197 - Local Trust Committee Meeting Procedures Bylaw, Update Gabriola Island Local Trust Committee Meeting Procedure Bylaw - Request for Decision 151 - 154

13.2 Trust Conservancy Report - none

13.3 Applications Report dated July 24, 2025 155 - 160

13.4 Trustee and Local Expense Report dated May, 2025 161 - 161

13.5 Adopted Policies and Standing Resolutions 162 - 170

13.6 First Nations Relationship Building Update

13.7 Climate Change Action Update

13.8 Local Trust Committee Webpage

~ BREAK 12:35 PM - 1:05 PM ~

14. WORK PROGRAM 1:05 PM - 1:20 PM

14.1 Active Projects Report dated July 24, 2025 171 - 171

14.2 Future Projects Report dated July 24, 2025 172 - 172

15. UPCOMING MEETINGS

15.1 Next Regular Meeting Scheduled for Thursday, September 4, 2025 at 10:30 am at the Gabriola Arts and Heritage Centre

16. ADJOURNMENT 1:20 PM - 1:20 PM

Gabriola Island Local Trust Committee

Minutes of Regular Meeting

Date: June 26, 2025
Location: Gabriola Arts & Heritage Centre
476 South Road, Gabriola Island, BC

Members Present: Laura Patrick, Chair
Tobi Elliott, Trustee
Susan Yates, Trustee

Staff Present: Renée Jamurat, Regional Planning Manager
Narissa Chadwick, Island Planner (electronic)
Sonja Zupanec, Island Planner
Warren Dingman, Bylaw Compliance and Enforcement Manager
Lisa Millard, Meeting Administrator/Recorder

Others Present: There were approximately 7 members of the public in attendance.

1. CALL TO ORDER

Chair Patrick called the meeting to order at 10:30 a.m.

2. TERRITORIAL ACKNOWLEDGEMENT

Chair Patrick acknowledged that the meeting was held on the territory of the Snuneymuxw First Nation.

3. APPROVAL OF AGENDA

The following addition to the agenda was presented for consideration:

12.1 Summary of Bylaw Enforcement Decision Mudge Island

By general consent, the agenda was approved as amended.

4. REPORTS

4.1 Trustee Reports

Trustee Elliott reported the following:

- Celebrated National Indigenous Peoples Day on June 21 and highlighted upcoming activities supporting Indigenous cultural programming being held at the Gabriola Museum on July 1;
- Attended celebration at Maffeo Sutton Park with Munu Canoe Family and noted upcoming fundraising for Munu Canoe travel journey;
- Attended Oceans Day on June 6 which was jointly hosted by Snuneymuxw First Nation Marine Division and the Department of Fisheries and Oceans;
- Attended feast hosted by Tsawout First Nation with Trustees and staff;

- Noted Kasahara Gabriola Trust Artist in Residence Eliot White-Hill has ended his term and acknowledged his contributions during his time on the island;
- Contributed four articles related to the Official Community Plan and planning processes to the local newspaper;
- Attended a protocol meeting between the Local Trust Committee and the Regional District of Nanaimo;
- Participated in nature reserve monitoring visits with Islands Trust Conservancy staff and celebrated the Koontz conservation covenant;
- Continued work on Policy Statement Amendment Project in preparation for public engagement following First Reading; and
- Attended Trust Council meeting and highlighted roundtable discussion held by Trustees on Minister Kahlon's response to the request for a governance review and the presentation by Jared Williams who spoke about Indigenous food history.

Trustee Yates reported the following:

- Attended Trust Council and highlighted Chief Pelkey's welcoming through drumming and song;
- Attended BC Ferries new engagement framework meeting and noted their new engagement strategy will only focus on projects;
- Attended Trust Programs Committee freshwater webinars on community based freshwater footprint and mapping;
- Attended Trust Programs Committee meeting to discuss Trust Policy Statement revisions and a proposed Stewardship Education program for 2025/26 which will feature up to 5 webinars on topics including Xwe-etay Archaeology Project, Protecting the Shoreline, Rain Gardens, Fallow Deer Strategy, and Species at Risk;
- Participated in monitoring of nature reserves and covenant lands with Islands Trust Conservancy staff;
- Attended Regional District of Nanaimo and Local Trust Committee protocol meeting;
- Attended Islands Trust Conservancy Board meeting;
- Noted the Executive Committee awarded $2000 to the Gabriola Arts Council for their Breaking Bannock program; and
- Attended the Regional District of Nanaimo Master Parks and Recreation Plan meeting and noted the plan is near completion.

4.2 Chair's Report

Chair Patrick reported the draft of the Trust Policy Statement will be going to First Reading which will introduce the document to the public for input. She encouraged the public to read the draft document and noted that in future amendments and updates will evolve on a more frequent basis.

4.3 Electoral Area Director's Report

Director Craig provided a written report to the Local Trust Committee.

4.4 First Nations Reports - none

4.5 Islands Trust Conservancy Report

Islands Trust Conservancy Board Chair Lisa Gauvreau provided a report and highlighted the following:

- Islands Trust Conservancy is celebrating its 35th Anniversary and to date has protected 150 properties totally over 1385 hectares;
- The Conservancy recently received a $1,150,000 donation from an anonymous donor through the Vancouver Foundation with $1,000,000 designated to the Opportunity Fund and the balance to the Property Management Fund which supports trail work, invasive species removal, and restoration efforts;
- Conservancy staff recently met with the Ministry of Housing & Municipal Affairs regarding land transfers;
- The next board meeting will be held July 22 and will include a joint meeting with Executive Committee; and
- They are in the early stages of exploring an Islands Trust Conservancy/Executive Committee joint initiative to establish a Regional Conservation Fund with an emphasis on co-creation with First Nations.

5. PUBLIC COMMENTS

A member of the public asked if ground water is assessed on Mudge Island and if the Regional District of Nanaimo uses the EBird data base in their biodiversity work.

A Trustee noted there are no Provincial or Regional District observation wells on Mudge Island and the Chair indicated the Local Trust Committee can not speak to Regional District of Nanaimo processes.

A member of the public stated it is unfortunate the Local Trust Committee can not refuse the Development Permit Area application to cut down 2000 trees, of which 1500 are Douglas Fir, and noted cutting trees can reduce water supply to neighbouring properties. They asked if the Local Trust Committee can put a restrictive covenant on the area as part of the approval process.

The Regional Planning Manager noted the item will be addressed later in the agenda.

A member of the public indicated that small homes grouped together must have an adequate supply of water and increasing density on the island must consider adequate water and septic requirements. They requested the Local Trust Committee provide assurances that pre-zoning not increase the number or residents that are currently allowed on a parcel of land and that any special provisions for housing not further impact groundwater resupply.

A member of the public requested the Local Trust Committee not approve the Centre Stage Holdings Development Permit application because there is no prior consent given by Snuneymuxw First Nation.

A member of the public made the following comments:

- The Official Community Plan review uses the phrase “attainable housing” but does not provide a definition of attainable;
- The Wild Rose rezoning application contains a statement that the relevant Official Community Plan policy is 2.0(k) which refers to support for senior special needs and

multi dwelling affordable housing; however, the more relevant policy is 3.1.3 which speaks to commercially zoned properties; and

- They suggested postponing drafting a housing agreement for one proposed dwelling in the Wild Rose rezoning application until revised Official Community Plan language pertaining to affordable housing on commercial properties is made public and to ensure the housing agreement is written to be consistent with the new language.

A member of the public stated the six observation wells on Gabriola are located in low demand areas and there is need for more information and records coming from highly populated areas.

A member of the public noted that concerns mentioned about water and septic revolve around ground water or water purchased from off island while rainfall collection is not being addressed as part of the conversation.

A Trustee noted it has been brought forward to allow rainwater catchment for all new construction and this will be reflected in the revised Official Community Plan.

A member of the public added that it is expensive to put in a metal roof and provincial grants would be helpful, while another noted there are 3000 wells on Gabriola and adding more septic pollutes the wells and rain water collection takes away from the environment.

6. MINUTES

6.1 Local Trust Committee Special Meeting Minutes dated February 27, 2025 - for adoption

By general consent, the Local Trust Committee special meeting minutes of February 27, 2025 were adopted as presented.

6.2 Local Trust Committee Special Meeting Minutes dated March 28, 2025 - for adoption

By general consent, The Local Trust Committee special meeting minutes of March 28, 2025 were adopted as presented.

6.3 Local Trust Committee Minutes dated April 17, 2025 – for adoption

The following amendment to the minutes was presented for consideration:

- At the bottom of page 7 of the minutes change the name K and M Bombois to K. Palmer Gordon and M. Bombois.

By general consent, the Local Trust Committee meeting minutes of April 17, 2025 were adopted as amended.

6.4 Local Trust Committee Special Meeting Minutes dated May 22, 2025 - for adoption

By general consent, the Local Trust Committee special meeting minutes of May 22, 2025 were adopted as presented.

6.5 Section 26 Resolutions-Without-Meeting Report dated June 19, 2025

Received for information.

6.6 Advisory Planning Commission Minutes - none

7. BUSINESS ARISING FROM MINUTES

7.1 Follow-up Action List dated June 19, 2025

Received for information.

8. DELEGATIONS – none

The agenda was re-ordered and item 10 was discussed before item 9.

9. APPLICATIONS AND REFERRALS

9.1 GB-DP-2021.1 (Centre Stage Holdings) - Staff Report

The Planner summarized the staff report and highlighted the following:

- The Development Permit Application has been presented to the Local Trust Committee previously;
- The application seeks a permit to remove trees tree within Development Permit Area No. 6 – Steep Slopes;
- A small portion of tree removal is within the Development Permit Area and the balance is outside of the area and not subject to the Development Permit Area guidelines; and
- All permit guidelines have been met.

Discussion ensued and the following comments were noted:

- Several members of the public have indicated concern about ecological values and the Douglas Fir ecosystem on the steep slope;
- The Steep Slope Development Permit Area, as defined within the current Official Community Plan, does not protect the forested area;
- The bylaws that are in affect at the time the application is received are the ones that must be considered and the Local Trust Committee is obligated to process applications within the bylaws in place at the time;
- Reasons for tree removal could include preparation for subdivision, driveway access, infrastructure, and view scaping;
- The Development Permit Area does not provide any guidelines to protect ecosystems;
- All of the Development Permit Areas were put into effect many years ago prior to consideration of dramatic effects of climate change and the guidelines are inadequate to current climate conditions;
- The applicant has indicated there is no plan to remove trees within the archeology site or the buffer area around the sites;
- The Provincial Approving Officer has received the referral response indicating that the Local Trust Committee does not think approval is in the public interest;
- The Ministry is working with First Nations regarding the subdivision application;
- If current subdivision proposal does not move forward then the Development Permit Area permit remains in affect but only for the proposed tree removal;

- An applicant could come forward with the same application with or without a tie to subdivision;
- Subdivision approval can not be obtained until conditions are met; however, work can be undertaken after the Development Permit is issued even without subdivision approval; and
- Legal advice might be required to determine a condition on the permit approval be added that trees can not be removed until subdivision is approved.

GB-2025-038
It was MOVED and SECONDED
that the Gabriola Island Local Trust Committee revise the permit GB-DP-2021.1 No. 5 to add words after 1999 "and the BC Heritage Conservation Act".

CARRIED

GB-2025-039
It was MOVED and SECONDED
that the Gabriola Island Local Trust Committee request staff to come back to the July 2025 Local Trust Committee Meeting with clarity on options to tie GB-DP-2021.1 permit's authority for tree removal to the Ministry of Transportation and Transit approval of subdivision.

CARRIED

Discussion ensued regarding the ability of a local government to enter into voluntary agreements for long range heritage protection under a Heritage Revitalization Agreement which is a tool designed and developed to protect settler heritage. It was noted these agreements are completely voluntary and capacity to undertake them would require resources and the first thing to determine is if the Snuneymuxw First Nation is interested in this approach.

GB-2025-040
It was MOVED and SECONDED
that the Gabriola Island Local Trust Committee request staff to engage with Snuneymuxw Rights and Title Department on whether there is interest to explore Heritage Revitalisation Agreement tool for use in the Gabriola Island Local Trust Area.

CARRIED

GB-2025-041
It was MOVED and SECONDED
that the Gabriola Island Local Trust Committee request staff to provide options and potential consequences of the removal of subdivision potential, to support the Gabriola Official Community Plan project discussion on growth management.

CARRIED

9.2 GB-RZ-2022.1 (Moen) - Staff Report

The Planner summarized the staff report and highlighted the following:

- The Local Trust Committee previously gave First Reading to Bylaws No. 318 and 319 to permit a site-specific Village Commercial zone to allow a range of commercial uses in addition to existing uses on the property as well as two dwelling units, one of which would be secured as affordable rental housing with a housing agreement with the Local Trust Committee; and
- The report recommends a minor amendment to the bylaws to correct citations and seeks direction to enter into a cost recovery agreement with the applicant to enable a legal review of the housing agreement, housing agreement bylaw, and accompanying restrictive covenant.

The applicant was in attendance and noted in the event the Official Community Plan language changes there might be need to consider postponing the cost recovery aspect of the affordable housing agreement, and if so, they request this occur without delaying the application overall.

Discussion ensued and the following comments and clarifications were noted:

- The adoption of the Official Community Plan will not be in affect for the timing of this application;
- While Trustees requested an affordable dwelling unit be included in the application, they did not anticipate a housing agreement would be required for one potential dwelling;
- A housing agreement is the only mechanism the Local Trust Committee has to ensure that affordability is protected and the use concurrently tied to commercial use;
- If the applicant wishes to have a phased agreement, and if there is no plan to develop the housing units in the immediate future, the applicant can work with the Planner to develop language to address options;
- The Local Trust Committee needs to determine if importance of the dwelling unit is market rental housing or affordable housing, and if affordable housing is the key component, then a housing agreement should be in place;
- A housing agreement could be entered into at time of construction versus time of rezoning;
- Having two units that are attainable market rental housing is a benefit to the community and creating an affordable housing agreement for one unit seems onerous; and
- The Local Trust Committee needs to articulate the rationale for not requiring housing in a commercial development as directed within the Official Community Plan policy.

GB-2025-042
It was MOVED and SECONDED
that the Gabriola Island Local Trust Committee amend Bylaw No. 318, cited as "Gabriola Official Community Plan (Gabriola) Bylaw No. 166, 1997, Amendment No. 1, 2024", as follows:

a. Schedule 2, Section 1, Subsection 1.1 is amended by removing "Lot B, Plan VIP50373, Section 19, District 32" and replacing it with "LOT B SECTION 19 GABRIOLA ISLAND NANAIMO DISTRICT PLAN VIP60373";

b. Schedule 3, Section 1, is amended by removing "Lot B, Plan VIP50373, Section 19, District 32" and replacing it with "LOT B SECTION 19 GABRIOLA ISLAND NANAIMO DISTRICT PLAN VIP60373".

CARRIED

GB-2025-043
It was MOVED and SECONDED
that the Gabriola Island Local Trust Committee Bylaw No. 318 cited as "Gabriola Official Community Plan (Gabriola) Bylaw No. 166, 1997, Amendment No. 1, 2024" be read a first time, as amended.

CARRIED

GB-2025-044
It was MOVED and SECONDED
that the Gabriola Island Local Trust Committee amend Bylaw No. 319, cited as "Gabriola Island Land Use Bylaw, 1999, Amendment No. 1, 2024", as follows:

a. Schedule 1, Section 2, Subsection 2.1 is amended by removing "Lot B, Plan VIP50373, Section 19, District 32" and replacing it with "LOT B SECTION 19 GABRIOLA ISLAND NANAIMO DISTRICT PLAN VIP60373".

CARRIED

GB-2025-45
It was MOVED and SECONDED
That the Gabriola Island Local Trust Committee Bylaw No. 319 cited as "Gabriola Island Land Use Bylaw, 1999, Amendment No. 1, 2024" be read a first time, as amended.

CARRIED

GB-2025-046
It was MOVED and SECONDED
that the Gabriola Island Local Trust Committee request staff consider amending language in proposed bylaws for GB-RZ-2022.1 to ensure that housing density is tied to commercial redevelopment of the property in the future prior to any further readings.

CARRIED

10. LOCAL TRUST COMMITTEE PROJECTS

The Planner spoke to the use of the phrase "attainable housing" and noted it refers to housing in the context of market housing while affordable housing generally refers to subsidized units. In the context of the Official Community Plan and Land Use Bylaw Review affordable housing considers housing with a housing agreement and attainable housing refers to housing that is more affordable based on income.

10.1 Major Project: Gabriola Island Comprehensive Official Community Plan and Land Use Bylaw Review - Engagement Process - Staff Report

The Planner summarized the staff report and highlighted the following:

- The report introduces a revised approach to summer engagement on the Official Community Plan and Land Use Bylaw Review project which focusses on key questions related to housing options and growth management;
- Key questions will be developed to enable the community to address policy options that seek to balance support for attainable and affording housing with preservation and protection of the land and the natural environment;
- There is an opportunity within the Official Community Plan to consider a review of subdivision potential, shared ownership of land, clustering of housing, shared water systems, facilitating a more economic way of living, and pre-zoning suitable areas for various housing models; and
- The Local Trust Committee is encouraged to focus key questions through summer engagement as noted in the staff report

Discussion ensued and the following comments were noted:

- It is important to use the same phrase when talking about maximum combined floor area which is not specifically about lot coverage but affects lot coverage;
- The accompanying materials for engagement will include graphics to illustrate the concept of clustered housing and how it contrasts with a subdivision approach and the there is potential of producing a video presentation to provide context to the Official Community Plan process;
- The build out map and maps of suitable areas for development are useful tools;
- Questions and comments should be in plain language with some pre-amble to identify the path the current Official Community Plan work is on and what the outcome of various options might be;
- Trustees prefer a one-page discussion guide over a webinar or engagement video and the guide could be published in the newspaper;
- Market attendance can be undertaken to drive people to the website for information and opportunity to provide feedback;
- Trustees can organize and host drop-in open house sessions to provide information and direct people to the website;
- Focussed and time limited outreach should be done within a two-to-three-week period; and
- The Planner will draft a discussion guide and work with the Local Trust Committee to identify a suitable period of time to engage prior to community discussions in September.

GB-2025-047
It was MOVED and SECONDED
that the Gabriola Island Local Trust Committee endorse the revised approach to the next phase in community engagement for the Gabriola Official Community Plan Review project as discussed at June 26th Local Trust Committee meeting.

CARRIED

11. CORRESPONDENCE - none

(Correspondence received concerning current applications or projects is posted to the LTC webpage)

12. NEW BUSINESS

12.1 Summary of Bylaw Enforcement Decision Mudge Island

It was confirmed that the Gabriola Island Local Trust Committee put in abeyance all open Mudge Island bylaw enforcement files until the Bylaw Enforcement Review project is completed by Trust Council.

13. STAFF REPORTS

13.1 Bylaw Enforcement Notification Bylaw Amendments - Staff Report

The Bylaw Compliance and Enforcement Manager summarized the staff report and highlighted the following:

- The report recommends amendments to the Gabriola Island Local Trust Area Bylaw Enforcement Notification Bylaw No. 263, 2011 to allow inclusion of amendments in the Gabriola, Mudge, and Decourcy Island Land Use Bylaw;
- The contraventions schedule has been updated and simplified and a penalty has been added for failure to obtain a Development Permit for work done in a Development Permit Area; and
- A surcharge has been applied for all contraventions for failure to pay a penalty assessed by its due date.

Trustees had no questions for the Bylaw Compliance and Enforcement Manager

GB-2025-048
It was MOVED and SECONDED
That Gabriola Island Local Trust Committee Bylaw Enforcement Notification Bylaw No. 320, cited as "Gabriola Island Local Trust Committee Bylaw Enforcement Notification Bylaw No. 263, 2011, Amendment No. 1, 2024", be read a first time. 2)

CARRIED

GB-2025-049
It was MOVED and SECONDED
That Gabriola Island Local Trust Committee Bylaw Enforcement Notification Bylaw No. 320, cited as "Gabriola Island Local Trust Committee Bylaw Enforcement Notification Bylaw No. 263, 2011, Amendment No. 1, 2024", be read a second time.

CARRIED

GB-2025-050
It was MOVED and SECONDED
That Gabriola Island Local Trust Committee Bylaw Enforcement Notification Bylaw No. 320, cited as "Gabriola Island Local Trust Committee Bylaw Enforcement Notification Bylaw No. 263, 2011, Amendment No. 1, 2024", be read a third time.

CARRIED

GB-2025-051
It was MOVED and SECONDED
That Gabriola Island Local Trust Committee Bylaw Enforcement Notification Bylaw No. 320, cited as "Gabriola Island Local Trust Committee Bylaw Enforcement Notification Bylaw No. 263, 2011, Amendment No. 1, 2024", be forwarded to the Secretary of the Islands Trust for approval by the Executive Committee.

CARRIED

13.2 Consideration of Housing Advisory Planning Commission - Verbal Discussion

The Regional Planning Manager noted there are three interested applicants and the Local Trust Committee can consider striking a Housing Advisory Planning Commission or work with the existing Advisory Planning Commission.

Discussion ensued and it was determined to revisit the option should the Local Trust Committee determine they would like a Housing Advisory Commission.

13.3 Trust Conservancy - The Heron - Spring 2025 Edition

Received for information.

13.4 Applications Report dated June 17, 2025

Received for information.

A Trustee noted that several of the pre-generated terms used within the application are incorrect or not clear.

13.5 Trustee and Local Expense Report dated April, 2025

Received for information.

13.6 Adopted Policies and Standing Resolutions

Received for information.

13.7 First Nations Relationship Building Update - none

13.8 Climate Change Action Update - none

13.9 Local Trust Committee Webpage

14. WORK PROGRAM

14.1 Active Projects Report dated June 19, 2025

Received for information.

14.2 Future Projects Report dated June 19, 2025

Discussion ensued regarding potential capacity and budget to initiate a Mudge Island Land Use Bylaw targeted review and a Trustee noted that they would not support the commencement of a minor project if it would impact the Development Permit Area work.

The Regional Planning Manager indicated they will provide follow up on timelines for a potential Mudge Land Use Bylaw targeted amendments project.

15. UPCOMING MEETINGS

15.1 Next Regular Meeting Scheduled for Thursday, July 31, 2025 at 10:30 am at the Gabriola Arts and Heritage Centre

16. CLOSED MEETING

16.1 Motion to Close the Meeting

GB-2025-052
It was MOVED and SECONDED
That the meeting be closed to the public in accordance with the Community Charter, Part 4, Division 3, s.90(1)(f) sections] for the purpose of considering:

- (f) law enforcement, if the council considers that disclosure could reasonably be expected to harm the conduct of an investigation under or enforcement of an enactment;

and that the Recorder and Staff attend the meeting.

CARRIED

The meeting was closed to the public at 3:20 p.m.

16.2 Recall to Order

The meeting was adjourned following the in-camera session and not recalled to order.

16.3 Rise and Report

Chair Patrick noted there is no rise and report.

17. ADJOURNMENT

By general consent, the meeting was adjourned at 3:43 p.m.

_____

Laura Patrick, Chair

Certified Correct:

_____

Lisa Millard, Meeting Administrator/Recorder

Islands Trust

Print Date: July 24, 2025

Follow Up Action Report

Gabriola Island

17-Apr-2025

Progress		Activity	Responsibility	Dates	Status
0%	1	PL-RZ-2024-0091 (Mid-Island Co-op) - Draft OCP and LUB amendment bylaw, and send early notification to Snuneymuxw First Nation.	Ian Cox		In Progress
0%	2	OCP Review Project - Proceed with Option 1 from staff report as next step in community engagement process with the addition of a community meeting focused on Housing Options and Growth Management.	Narissa Chadwick		In Progress
0%	3	OCP Review Project - Develop options for a community meeting focused on Housing Options and Growth Management as part of summer engagement.	Narissa Chadwick		In Progress

22-May-2025

Progress		Activity	Responsibility	Dates	Status
0%	1	OCP Review Project - Provide an assessment of possible Development Permit Areas to update or draft as part of the OCP review.	Narissa Chadwick		In Progress
0%	2	OCP Review Project - prepare draft policy language related to resources stewardship, freshwater and the environment, as discussed at the May 22, 2025 LTC Special Meeting, for broader public review.	Narissa Chadwick		In Progress
0%	3	OCP Review Project - Explore options for stronger web presence related to the Official Community Plan project and direct resources as appropriate.	Narissa Chadwick		In Progress

Follow Up Action Report

Gabriola Island

26-Jun-2025

Progress		Activity	Responsibility	Dates	Status
0%	1	Regarding GB-DP-2021-1: Staff to come back to July 2025 Local Trust Committee Meeting with clarity on options to tie GB-DP-2021.2 permit's authority to tree removal to the Ministry of Transportation and Transit approval of subdivision.	Sonja Zupanec	Target: 21-Jul-2025	In Progress
0%	2	Regarding GB-DP-2021-1: Staff to engage with Snuneymuxw Rights and Title Department on whether there is interest to explore Heritage Revitalization Agreement tool for use in the Gabriola Island Local Trust Area. And report back to the LTC for consideration of DP decision.	Sonja Zupanec		In Progress
0%	3	Staff to provide options and potential consequences to the removal of subdivision potential, to support the Gabriola Official Community Plan project discussion on growth management. see minutes from June 26, 2025 LTC meeting for context.	Narissa Chadwick		In Progress
0%	4	Regarding GB-RZ-2022.1 (Moen): Staff consider suggested wording for the proposed bylaws to ensure that the housing density is tied to commercial redevelopment of the property in the future, and bring it back to the LTC prior to any further readings.	Stephen Baugh	Target: 21-Jul-2025	In Progress
0%	5	Regarding the OCP Review major project, staff to prepare next phase in community engagement as discussed at June 26th LTC meeting.	Narissa Chadwick		In Progress

Follow Up Action Report

Gabriola Island

26-Jun-2025

Progress		Activity	Responsibility	Dates	Status
52%	6	Regarding Gabriola Island LTC Bylaw Enforcement Notification Bylaw No. 320, cited as "Gabriola Island Local Trust Committee Bylaw Enforcement Notification Bylaw No. 263, 2011, Amendment No. 1, 2024": Forward to the Secretary of the Islands Trust for approval by the Executive Committee.	Nadine Mourao Warren Dingman		In Progress
0%	7	Re: Consideration of Housing Advisory Planning Commission, staff to send out thank-you correspondence to applicants & ask if they'd like to keep their names for future HAPC interest.	Chloe Straw	Target: 21-Jul-2025	Completed

STAFF REPORT

File No.: GB-DP-2021.1 (Centre Stage Holdings)

DATE OF MEETING:	For LTC Re-consideration July 31, 2025 (Originally Presented October 2023, November 2024 and June 2025)
TO:	Gabriola Island Local Trust Committee
FROM:	Sonja Zupanec, Island Planner Northern Team
SUBJECT:	**Development Permit Application** Applicant: Centre Stage Holdings Location: PID: 003-134-806 NORTH EAST 1/4 OF SECTION 3 GABRIOLA ISLAND NANAIMO DISTRICT EXCEPT PARCEL A (DD 77326I) AND EXCEPT PLANS EPP19453 AND EPP66666

RECOMMENDATION

1. **That the Gabriola Island Local Trust Committee approve issuance of Development Permit GB-DP-2021.1.**

REPORT SUMMARY

This report is to re-introduce a Development Permit (DP) application for consideration by the Gabriola Island Local Trust Committee (LTC). The LTC endorsed a minor amendment to the DP at the June 2025 regular business meeting and requested staff to investigate the possibility of restricting the timing of tree removal in the steep slopes development permit area to after subdivision approval.

BACKGROUND

At the June 2025 regular business meeting the LTC passed the following resolutions:

> ***GB-2025-038 It was MOVED and SECONDED***
> *that the Gabriola Island Local Trust Committee revise the permit GB-DP- 2021.1 No. 5 to add words after 1999 "and the BC Heritage Conservation Act".* ***CARRIED***

Attachment 1 shows the amended draft permit.

> ***GB-2025-039 It was MOVED and SECONDED***
> *that the Gabriola Island Local Trust Committee request staff to come back to the July 2025 Local Trust Committee Meeting with clarity on options to tie GB-DP-2021.1 permit's authority for tree removal to the Ministry of Transportation and Transit approval of subdivision.* ***CARRIED***

Staff have investigated the LTC's request and cannot recommend amendments to the draft permit to include conditions that are not either: 1) directly linked to a DP guideline; or 2) recommendation of the qualified professionals reporting on how the proposed land alterations meet the objectives and/or guidelines of the DPA. The applicant has confirmed that they wish to proceed with the DP application as presented and confirm that the

majority of trees proposed to be removed in this application fall outside of the Steep Slopes DPA and are not subject to LTC approval.

The purpose of the DP application is for subdivision and proposed tree removal within **Development Permit Area No. 6 – Steep Slopes (DP-6).** The subject property is 45 hectares (110 acres) in size as shown in Figure 1. The DP-6 (Steep Slopes) areas on the property includes two locations where the steep slopes exceed 80% grade. The applicant is proposing select tree removal within the areas of DP-6 as well as several other areas of the lot to prepare the parcel for subdivision. The applicant has an open application with the Ministry of Transportation and Infrastructure (MOTI) to subdivide the subject property into 13 lots and the provincial approving officer has issued a 'Preliminary Layout Review' (PLR) with various conditions of subdivision. The LTC has reviewed the PLR and is aware of the extent of conditions from MOTI. One condition is issuance of this DP. Further information about the subject property is contained within the 'Site Context' and 'Mapping' documents (Attachments 1 and 2). A Forest Stand Assessment (Attachment 5) identifies up to 1900 trees to be removed on the subject property. A Geotechnical Hazard Assessment was prepared by Stantec in 2021 and is attached in full to this report as 'Attachment 6'. An updated memo from the geotechnical engineer was prepared by Lewkowich Engineering on July 10, 2023 (Attachment 7) and identifies low to very low risk to slope stability with the removal of up to 1900 trees on the lot.

Pursuant to Section F.2.2 of the Gabriola Island Land Use Bylaw No. 177 (LUB), a DP is required to be issued by the LTC prior to development activities occurring within DPA 6. Copies of the DPA Guideline Checklist and proposed DP are Attachments 3.

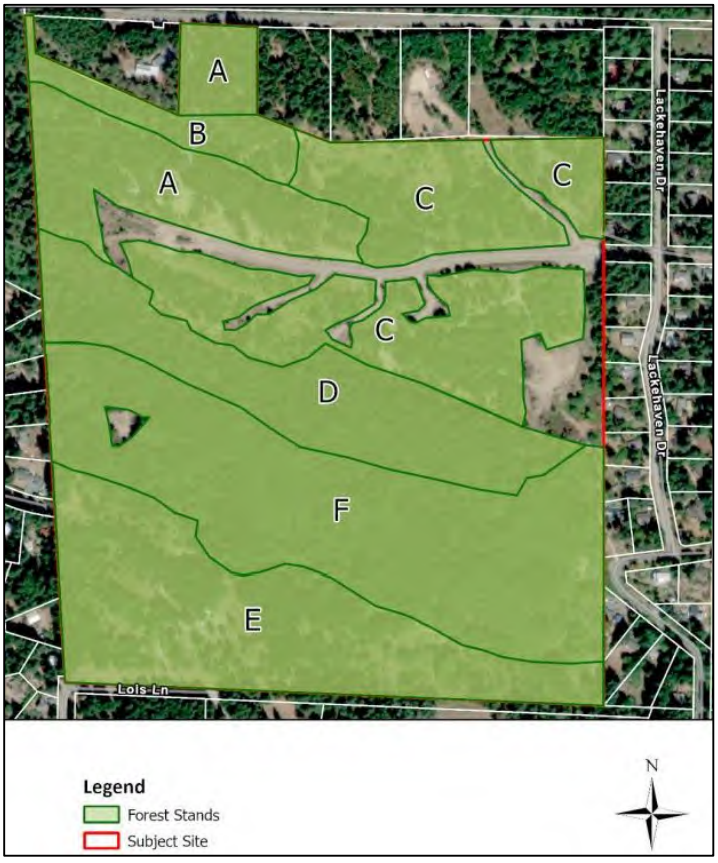


Figure 2 –Proposed Tree Removal Areas B and D

ANALYSIS

Policy/Regulatory

Islands Trust Policy Statement
The following Islands Trust Policy Statement (ITPS) directive policies are relevant to this application and are addressed through DPA 6 – Steep Slopes:

3.1.3 Local trust committees and island municipalities shall, in their official community plans and regulatory bylaws, address the identification and protection of the environmentally sensitive areas and significant natural sites, features and landforms in their planning area.

5.2.6 Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the identification of areas hazardous to development, including areas subject to flooding, erosion or slope instability, and strategies to direct development away from such hazards.

This application is compliant with the ITPS.

Official Community Plan
The subject property is designated **Resource (R)** in the Gabriola Island Official Community Plan (OCP) Bylaw No. 166, and is located within **DP-6 – Steep Slopes**.

The objective of DPA 6 is:

> *To protect development from natural hazards, including terrain instability, erosion, land slippage, rock falls, subsidence, debris flows and flooding or changes to stormwater runoff due to development on or in proximity to lands with excessive slope conditions.*

As reviewed the proposed development complies with the objectives and policies of the OCP.

Land Use Bylaw
The subject property is zoned as **Rural Residential 1 (RR1)** in the Gabriola Island Land Use Bylaw (LUB) No. 177.

The guidelines for DPA 6 are contained within Section F.6.3 of the LUB, and the proposed development complies with applicable development permit area guidelines as analysed in Attachment 3.

Issues and Opportunities

Forest Stand Assessment Report

The report prepared by Diamon Head, May 26, 2023 (Attachment 5) contains a detailed description of the proposed tree removal within the steep slope areas. Up to one thousand nine hundred (1900) trees greater than 15cm diameter at breast height, are being considered for removal within forest stand areas B and D (Figure 2) in preparation for subdivision of the subject property into 14 lots.

Geotechnical Hazard Assessment Report

The applicant submitted an assessment report prepared by Stantec in 2021 as part of their application for subdivision. The author reported there was low to no risk of slope instability due to tree removal in those areas. Staff requested the applicant submit updated correspondence from a geotechnical engineer that confirmed the tree removal referenced in the 2023 forest stand assessment, is consistent with the 2021 geotechnical report findings. The applicant has submitted this confirmation which is included as a schedule in the draft development permit.

DP Guidelines

LUB Guideline F.6.3.2 states that there shall be no removal of trees or vegetation unless a geotechnical engineer recommends that such removal may occur without subjecting land in the escarpment area to increased slope instability. The geotech assessment has concluded there is low to no risk to the slope stability with the proposed tree removal. The draft DP (Attachment 4) is presented with the Forest Stand Assessment included as a schedule to the DP. This development permit area does not contain any guidelines to protect steep slope ecosystems (trees and understory vegetation) which are some of the rarest terrestrial habitats in the Trust Area.

Consultation

There is no public or agency consultation regularly associated with a DP application. In addition, there is no statutory notification required.

First Nations

The Islands Trust reviews all applications to ensure the preservation and protection of cultural heritage, archaeological sites, and ancestral places. The applicant is, through the subdivision application process, able to work directly with the province to ensure strict compliance with the Heritage Conservation Act (HCA) and to address numerous conditions of subdivision related to the interest of First Nations. Tree removal within any archaeological sites may be subject to a site alteration permit under the HCA and the applicant has confirmed that no tree removal is intended to occur within the boundaries of the archaeological sites.

Rationale for Recommendation

Staff consider that the objectives and specific guidelines of the DPA have been met. The LTC cannot refuse to issue a DP for any other reason if it is deemed to be consistent with the guidelines as stated in the LUB.

ALTERNATIVES

The LTC may consider the following alternatives to the staff recommendations on page 1:

1. **Request further information**

   The LTC may request further information prior to making a decision. Recommended wording for the resolution is as follows:

   That the Gabriola Island Local Trust Committee request that the applicant GB-DP-2021.1 submit to the Islands Trust _____.

NEXT STEPS

If the LTC resolves to issue the Development Permit, staff will notify the Provincial Approving Officer that this particular condition of subdivision has been met.

Submitted By:	Sonja Zupanec, RPP, MCIP, Island Planner	July 21, 2025
Concurrence:	Stefan Cermak, Director of Planning Services	July 21, 2025

ATTACHMENTS

1. Site Context
2. Mapping
3. Development Permit Area Guidelines Checklist
4. Draft Development Permit (amended June 2025)
5. Forest Stand Assessment Report, May 2023 (Diamond Head)
6. Geotechnical Hazard Assessment Report, May 2021 (Stantec)
7. Geotechnical Assessment Memo, July 2023

ATTACHMENT #1 – SITE CONTEXT GB-DP-2021.1 (CENTRE STAGE HOLDINGS)

LOCATION

Legal Description	NORTH EAST 1/4 OF SECTION 3 GABRIOLA ISLAND NANAIMO DISTRICT EXCEPT PARCEL A (DD 77326I) AND EXCEPT PLANS EPP19453 AND EPP66666
PID	PID: 003-134-806
Civic Address	n/a

LAND USE

Current Land Use	Vacant
Surrounding Land Use	North: Residential East: Residential South: Residential West: Residential

HISTORICAL ACTIVITY

File No.	Purpose
GB-DP-2001.2	To allow subdiv
GB-DP-2002.2	To amend GB-DP-
GB-DP-2021.1	PID: 003-134-80
GB-DVP-2005.1	Variance of lot
GB-RZ-2004.4	Transfer densit
GB-RZ-2005.3	The Donor land
GB-SUB-2001.1	To create 49 lo
GB-SUB-2012.1	Stokes, Carrier
GB-SUB-2013.2	Subdivision to
GB-SUB-2020.3	PID: 003-134-80

POLICY/REGULATORY

Gabriola Island Official Community Plan No. 166 Designations	Land Use Designation: R Development Permit Area: **DP-6 Steep Slopes**
Gabriola Island Land Use Bylaw No. 177	Zoning: RR1
Other Regulations	*Heritage Protection Act* – may require site alteration permit for vegetation removal or tree falling.
Covenants	• CA1193134 – statutory building scheme • CA1193140 – Restrictive Covenant for Lots 15, 16, 17, 18, 19, 21

	• CA2885907 – Restrictive covenant with the Gabriola Island Local Trust Committee to prevent subdivision of Lot 20 (VIP82759) if the maximum number of lots (49) in the site specific RR1 zone, is achieved through subdivision of the other associated parcels. MOTI File 2020-02192/GB-SUB-2020.2 proposes 3 lots. This subdivision file is for 17 lots, adding 20 more to the RR1 zone. There are 29 subdivided lots already in the RR1 zone. • DF43111 • EX113595 – Restrictive Covenant with the Gabriola Island Local Trust Committee to limit maximum number of lots to 49 in RR1 zone; maintain vegetation buffers; public access and protection of archaeological resources. • FB161960 – statutory building scheme • FB226277 – statutory right of way BC Hydro • FB226278 – statutory right of way Telus R12283 – undersurface rights
Bylaw Enforcement	GB-BE-2007.3 – Development Permit violation

SITE INFLUENCES

Islands Trust Conservancy	There are no ITC covenants or properties in the direct area. Referral to ITC is not required.
Regional Conservation Plan	Appendix II of the Regional Conservation Plan 2018-2027 estimated importance of habitat composition in the area of the subject property is **MEDIUM.**
Species at Risk	Islands Trust mapping indicates a recorded rookery on the subject property. An assessment by a registered professional biologist to determine the extent of the rookery and establish the necessary protective buffer to meet or exceed the rquirements in the Gabriola Land Use Bylaw is required prior to any tree removal. The Great Blue Heron is a federally listed species at risk and protected under the *Migratory Birds Convention Act* and *BC Wildlife Act* and protected year round.
Sensitive Ecosystems	Islands Trust mapping indicates Coastal herbaceous ecosystems.
Hazard Areas	Schedule C of the Gabriola Island Official Community Plan indicates hazardous conditions on the property:  Islands Trust mapping indicates areas of moderate risk steep slopes on the subject property (orange).

	 Please see Attachment 6 for more information.
Archaeological Sites	Remote Access to Archaeological Data (RAAD) indicates registered archaeological sites within the property or within 100 metres. Archaeological material is protected under the *Heritage Conservation Act*. A *Heritage Conservation Act* permit may be needed before tree removal can be undertaken. This may involve the need to hire a qualified archaeologist to monitor the work.
Climate Change Adaptation and Mitigation	GHG emissions are expected as ~1900 trees are proposed to be removed.
Shoreline Classification	Not applicable
Shoreline Data in TAPIS	Not applicable

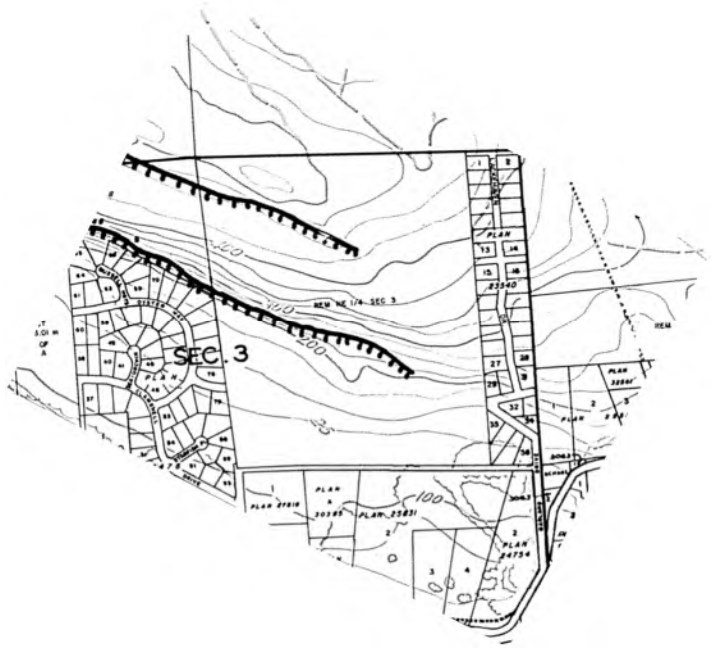
ATTACHMENT 2 – MAPS

2.1 ZONING

2.2 TEN METRE CONTOURS

2.3 ORTHOPHOTO

2.4 DEVELOPMENT PERMIT AREA 6 – STEEP SLOPES



ATTACHMENT #3 – DEVELOPMENT PERMIT AREA GUIDELINES

GB-DP-2021.1 (Centre Stage Holdings)

DEVELOPMENT PERMIT AREA NO. 6 (DP-6 ESCARPMENT AREAS)

Development Permit Area 6 (Schedule C of the OCP) is designated according to Section 919.1(1)(b) of the Local Government Act. Escarpment areas are areas where a land slope of greater than 80 per cent exists. The British Columbia Soil Survey (1990) identified numerous areas of escarpment on Gabriola where the slope is greater than 80 per cent. These escarpment areas may not be suitable for development as they may be subject to erosion, land slip, rock falls or subsidence, or other hazards. The objective of this DPA is to protect development from natural hazards, including terrain instability, erosion, land slippage, rock falls, subsidence, debris flows and flooding or changes to stormwater runoff due to development on or in proximity to lands with excessive slope conditions.

Guideline	Complies	Planner Comments
F.6.3.1 There shall be no construction of buildings, septic tanks, drainage and deposit fields, irrigation or water systems unless a geotechnical engineer recommends that such construction may occur without subjecting land in the escarpment area to increased slope instability.	NA	The applicant is not proposing any construction, excavation or development of the parcel at this time.
F.6.3.2 There shall be no removal of trees or vegetation unless a geotechnical engineer recommends that such removal may occur without subjecting land in the escarpment area to increased slope instability.	YES	The applicant has provided a detailed tree assessment inventory and geotechnical engineer statement that low to very low risk to slope stability would be present with the removal of ~1900 trees.

GABRIOLA ISLAND LOCAL TRUST COMMITTEE
DEVELOPMENT PERMIT
GB-DP-2021.1

To: Centre Stage Holdings

1. This Development Permit (the "Permit") applies to the land described below:

   PID: 003-134-806 NORTH EAST 1/4 OF SECTION 3 GABRIOLA ISLAND NANAIMO DISTRICT EXCEPT PARCEL A (DD 77326I) AND EXCEPT PLANS EPP19453 AND EPP66666

2. This Development Permit GB-DP-2021.1 authorizes the subdivision of the subject parcel and removal of select trees within Development Permit Area 6 (DPA 6) – Steep Slopes, subject to the following requirements and conditions:

   a) The timing of tree removal must be outside of the migratory bird nesting season if possible; or must avoid the peak season. If clearing must occur during the migratory bird nesting season for the area (March 15th to August 15th), a pre-clearing bird nest survey must be completed by a Qualified Environmental Professional prior to clearing to ensure no active nests are disturbed or damaged.

   b) Tree removal shall be limited to maintain slope stability and be consistent with the trees identified for removal in the Forest Stand Assessment report prepared by Diamond Head dated May 26, 2023 and attached to this permit as **'Schedule A'**.

3. The development shall be consistent with:
   - Schedule 'A' – Forest Stand Assessment – Diamond Head (May 26, 2023)
   - Schedule 'B' – Geotechnical Assessment Memo – Lewkowich Engineering July 2023
   - Schedule 'C' – Geotechnical Hazard Assessment Report – Stantec Consulting Ltd. (May 20, 2021)
   - Schedule 'D' – 14 Lot Proposed Subdivision Layout dated February 8, 2024

   which are attached to and form part of this permit.

4. Any further development within designated Development Permit Area will require a new Development Permit, or a Development Permit Amendment.

5. This permit does not relieve the applicant from complying with the provisions of the Gabriola Island Land Use Bylaw.

   This permit is not a building permit and does not remove any obligation on the part of the permittee to comply with all other requirements of Gabriola Island Land Use Bylaw No. 177, 1999, the BC Heritage Conservation Act and to obtain other approvals necessary for completion of the proposed development.

AUTHORIZING RESOLUTION PASSED BY THE GABRIOLA ISLAND LOCAL TRUST COMMITTEE THIS ##th DAY OF MONTH, YEAR.

_____
Deputy Secretary, Islands Trust

_____
Date of Issuance

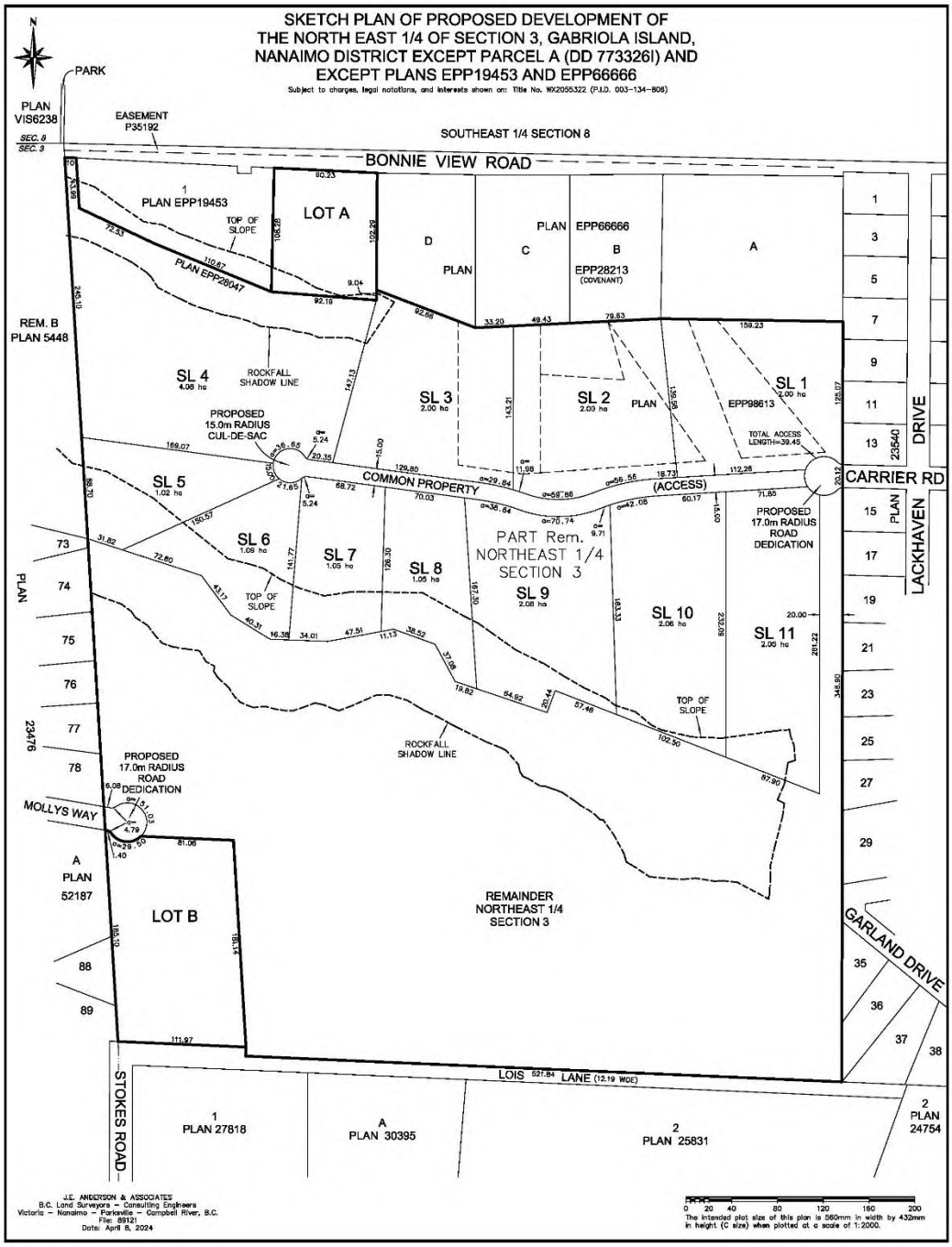
IF THE DEVELOPMENT DESCRIBED HEREIN IS NOT COMMENCED BY THE ##th DAY OF MONTH, YEAR , THIS PERMIT AUTOMATICALLY LAPSES.

SCHEDULE 'A' Forest Stand Assessment Report

SCHEDULE 'B' Geotechnical Assessment Letter

SCHEDULE 'C' Geotechnical Hazard Assessment Report

SCHEDULE 'D' Proposed 14 Lot Subdivision Layout (SL1-11, Lot A, B and Remainder)



Forest Stand Assessment

For:

Centre Stage Gabriola Subdivision Phase 2
Gabriola Island, BC

Submitted to:

Centre Stage Holdings Ltd
c/o Glenna Borsuk
Glenna.borsuk@gmail.com
Date: May 26, 2023

Submitted by:

DIAMOND HEAD
3559 Commercial Street
Vancouver, BC 604.733.4886

The following Diamond Head Consulting staff conducted the on-site tree inventory and prepared or reviewed the report.

All general and professional liability insurance and staff accreditations are provided below for reference.

Reviewed by:

Conor Corbett
Registered Professional Forester (5105)
ISA Certified Arborist (PN-8429A)
ISA Tree Risk Assessment Qualified (TRAQ)
BC Wildlife and Danger Tree Assessor (P2722)

Project Staff:

Mitch Davis, TFT
ISA Certified Arborist (PN-9077A)
ISA Tree Risk Assessment Qualified (TRAQ)
BC Parks Wildlife and Danger Tree Assessor

Project Staff:

Riley Spear
ISA Certified Arborist (PN-9691A)
Forest Technician
Junior Forester

Please contact us if there are any questions or concerns about the contents of this report.

Contact Information:

Phone: 604-733-4886
Fax: 604-733-4879
Email: conor@diamondheadconsulting.com or mitch@diamondheadconsulting.com
Website: www.diamondheadconsulting.com

Insurance Information:

WCB:	# 657906 AQ (003)
General Liability:	Northbridge General Insurance Corporation - Policy #CBC1935506, $10,000,000
Errors and Omissions:	Lloyds Underwriters – Policy #1010615D, $1,000,000

Scope of Assignment:

Diamond Head Consulting Ltd. (DHC) was retained to complete an assessment to supplement the development permit application by Centre Stage Holdings related to those of its lands located within escarpment areas having slopes greater than 80% in accordance with the Gabriola Island Land Use bylaw and the Gabriola Island Official Community Plan. This report provides stand descriptions of the on-site trees and speaks generally to the retention suitability and value of on-site trees. No other tree inventory or count has been undertaken. This report is produced with the following primary limitations, detailed limitations specified in Appendix 3:

1) Our investigation is based solely on visual inspection of the trees during our last site visit. This inspection is conducted from ground level. We do not conduct aerial inspections, soil tests or below grade root examinations to assess the condition of tree root systems unless specifically contracted to do so.

2) The scope of work is primarily determined by site boundaries and local bylaws. Only trees specified in the scope of work (escarpment areas and adjacent steep and moderately steep slopes >80%) were assessed.

3) Beyond two years from the date of this report, the client must contact DHC to confirm its validity because site base plans and tree conditions may change beyond the original report's scope. Additional site visits and report revisions may be required after this point to ensure report accuracy for the development application process.

The client is responsible for:

- Reviewing this report to understand tree value on the site.
- Understanding that we did not assess trees off the subject property and therefore cannot be held liable for actions you or your contractors may undertake in developing this property which may affect the trees on neighboring properties.
- Obtaining a timber mark if logs are being transported offsite.
- Ensuring the project is compliant with the development permit conditions.

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1.0 Introduction

1.1 Site Overview

The development site is one parcel of land, totaling approximately 45 hectares, located near the southern coast of Gabriola Island. The site is bounded on the east by Lackehaven Drive, the west by Oyster Way and on the south by Lois Lane.

The subject site was historically harvested, at varying intensities and timeframes, evidenced by the presence of old forest roads, old skid trails, and old growth and second growth stumps. Trees on the site are recovering from that harvesting, in various states of regeneration. The site slopes to the south, bisected in the lower section by a 20m high rock bluff with steep to moderately steep colluvial slopes. Most of these colluvial slopes have slope gradients of <80%. Numerous small bedrock outcrops occur throughout the colluvial slopes. There is an additional distinct slope area in the NW portion of the site. An access road network runs through the northern and southern part of the property that partitions the continuous forest cover. The dominant canopy trees on site are estimated to be approximately 70 years old, with the exception of some older trees. The maximum height of the trees on site is 30 metres. Figure 1 shows the site and surrounding area.

Figure 1. Development site on Carrier Road and adjacent land uses.

1.2 Report Purpose

The proposed development consists of preparing the site for a new subdivision and road network. In support of these activities, selective tree removal is proposed in escarpment areas of the site. As per the geological hazard review for the site, some of the treed areas identified for removal are on rock bluffs which meet the escarpment criteria (slopes greater than 80%) documented in the Gabriola Island Land Use bylaw and the Gabriola Island Official Community Plan. As such, the Islands Trust has requested additional information including a qualified professionals report addressing the effects of the selective tree removal within the DP area. The purpose of this Forest Stand Assessment is to provide information on trees proposed for removal, including species, height, diameter, location, and an estimate of quantity of trees for removal.

In preparing this report, we reviewed the following information:

- Site Plan for Northeast ¼ of section 3, except parcel A (DD 773261), J.D Anderson and Associates., January 11, 2023.
- Geological Hazard Review. Centre Stage Gabriola Subdivision Phase 2 - Gabriola, BC. Stantec Consulting Ltd. May 20, 2021.

2.0 Process and Methods

Mitch Davis, ISA Cert. Arborist, and Riley Spear, ISA Cert. Arborist, of DHC visited the site on March 29th and 30th, 2023. Conor Corbett, ISA Cert. Arborist and Registered Professional Forester, provided oversight and data analysis. The following methods and standards are used throughout this report.

2.1 Tree Stand Identification

Prior to the site visit, satellite imagery of the on-site forest cover was reviewed to map preliminary tree stands. The site was walked, and each stand identified during desktop review was visited. Based on differences in forest cover and composition six different stand types were delineated. In each stand data was collected including species composition by height, diameter at breast height (DBH) and stand density. The general health and structural integrity of stands was assessed visually and assigned to one of five categories: *excellent; good; moderate; poor; or dying/dead*. Descriptions of the health and structure rating criteria are given in Appendix 2. Health and structure rating criteria follow the Guide for Plant Appraisal, 10th edition, published by the International Society of Arboriculture

3.0 Findings: Land Cover and Tree Stands

3.1 Tree Stands

Most of the site is occupied by forest cover, most of which is estimated to be at most 70-80 years of age, with scattered large diameter trees retained from previous generations observed in the central portion of the property surrounding the bluff. Most trees were measured to be 18 and 25 metres in height with the maximum observed tree height at 30 metres. Most trees were found to be between 15 and 35cm DBH. Stand density varies between 630 and 960 stems per hectare, slightly higher than mature forests in the region which typically have densities of less than 600 stems per hectare. The tree characteristics are typical of coastal Douglas-fir forests composed of a mix of native coniferous and deciduous trees, mostly Douglas-fir (*Pseudotsuga menziesii*), Arbutus (*Arbutus menziesii*), bigleaf maple (*Acer macrophyllum)* and red alder (*Alnus rubra*), with paper birch (*Betula papyrifera*) and grand fir (*Abies grandis*) also scattered throughout.

Stands in the forest were stratified into distinct stand types. These stand types are forests with similar characteristics. Six stand types were identified on the site and are discussed in the following sections individually. Stand types are mapped in Figure 2.

Figure 2. Stand types within forested areas.

Stand Type A – Semi-mature, previously thinned mixedwood stand

This stand type occupies the northwestern quarter of the development site. This area has very little structural development as a result of previous thinning operations. The overstory is typical of young, second/third growth, coastal Douglas fir forests with moderate stem density. These stands typically have a single story of Douglas-fir dominated overstory. Arbutus typically grow in canopy gaps between the fir trees and deciduous plants such as Oregon grape and salal prevail in the shrub layer. The dominant species found in Stand Type A is Douglas fir (*Pseudotsuga menziesii*) with patches of arbutus (*Arbutus menziesii*) distributed throughout. An overall moderate health and structure rating was exhibited in stands of this type. Minimal signs of decay or health issues were observed, however, overstory trees were identified as having relatively poor stem height to width ratio, likely due to density. Stands with these characteristics can be more susceptible to windthrow if new forest edges are created during clearing operations. If left undisturbed, this stand type will likely reach a similar species and structural composition as Stand Type D.

Table 1. Attributes of Stand Type A

Stand Type A	Semi-mature, thinned mixedwood stand
Species (%)	Douglas fir (63%), Arbutus (37%)
Structure description	Single-storied uniform stands indicative of being cleared in the past. Little to no understory and a sparse shrub layer of Oregon grape and salal.
DBH (range)	7-100 cm
Overstorey height (range)	15-30 m
Overstory density	960 stems per hectare
Crown Closure (%)	20-40%
Health and structure rating	Moderate

Photo 1. Typical stand conditions and structure for Stand Type A.

Stand Type B – Multistoried deciduous stand

This stand type occupies the least amount of forest area throughout the site. It is represented by the small strip of forest area on rock bluff and steep colluvial slopes as well as gentle to level slopes at the base of the bluff which separates the two Type A stands. This has allowed the stand to develop multiple overstory layers. There is a higher deciduous component in this forest, and its composition is typical of coastal deciduous forests. Exclusion of less advantageous and suppressed stems has resulted in multiple canopy layers and a lower stem density than surrounding stand types. Besides the natural exclusion of mature trees reaching the end of their life expectancy, no other health or structural issues were observed. A dense shrub layer exists in this stand type of oregon grape (*Mahonia aquifolium*) and salal (*Gaultheria shallon*) .

Table 2. Attributes of Stand Type B

Stand Type B	Multistoried, deciduous stand at the base of slope in NW corner
Species (%)	Arbutus (42%), Red alder (26%), Douglas fir (16%) Bigleaf maple (11%), Paper birch (5%)
Structure description	Multistoried deciduous stand at the base of slope. Overstory dominated by pioneer deciduous species with a dense shrub layer of Oregon grape and salal.
DBH (range)	16-100cm
Overstory height (range)	8-30 m
Overstory density	630 stems per hectare
Crown Closure (%)	20-40%
Health and structure rating	Moderate

Stand Type C –Semi-mature mixedwood stand

This stand occupies the northeastern quarter of the site. This stand type is characterized by a two-layer mixedwood overstory that favors pioneer deciduous species, predominately arbutus (*Arbutus menziesii*). Douglas fir (*Pseudotsuga menziesii*) is also a large component of the upper most canopy layer. A dense mixedwood understory layer comprised of a 50% Douglas fir and 50% arbutus exists at a density of 1050 stems per hectare. A patchy shrub layer of Oregon grape, salal and spurge laurel (*Daphne laureola*) is present. This stand exhibits above average stem density due to its more recent disturbance and semi-maturity. This has caused poor taper in some of the overstory trees and exclusion of suppressed trees has begun. No other health issues were observed in this stand type.

Table 3. Attributes of Stand Type C

Stand Type C	Semi-mature mixedwood stand
Species (%)	Arbutus (51%), Douglas fir (30%), Red alder (11%), Bigleaf maple (8%)
Structure description	A two-storied mixedwood stand dominated by pioneer deciduous with a dense mixedwood understory of Douglas fir and arbutus at 1050 stems/ha and a moderately dense shrub layer with Oregon grape, salal, and splurge laurel.
DBH (range)	14-44cm
Overstorey height (range)	14-30m
Overstory density	925 stems/ha
Crown Closure	20-40%
Health and structure rating	Moderate

Photo 3. Typical stand conditions and structure for Stand Type C.

Stand Type D – Mature, more mature coniferous stand

This stand represents the second growth forest area running along steep to moderately steep slopes including some areas, primarily the rock bluffs, that equal or exceed 80% slope gradient that meet escarpment criteria under the relevant Gabriola Bylaw. Due to the steep grade of this area, minimal disturbance has occurred and allowed this stand type to grow naturally. Forest structure and composition is typical of coastal Douglas fir forests recovering from logging. This stand is characterized by a multistoried overstory, dominated by mature second growth Douglas fir. Patches of mature arbutus grow in canopy gaps and exist in the upper canopy layers. An understory composed exclusively of Douglas fir was recorded at a density of 600 stems per hectare. This stand type constitutes some of the oldest second growth forests found onsite and exhibits and overall moderate health and structure rating.

Table 4. Attributes of Stand Type D

Stand Type D	Mature, second growth coniferous stand
Species (%)	Douglas fir (81%) Arbutus (19%)
Structure description	Mature coniferous stand with multiple stories, a Douglas fir understory at 600 stems/ha exists with a minimal shrub layer.
DBH (range)	14-100cm
Overstorey height (range)	12-30m
Overstory density	800 stems/ha
Crown Closure (%)	40-60%
Health and structure rating	Moderate

Photo 4. Typical stand conditions and structure for Stand Type D.

Stand Type E – two-storied, semi-mature, thinned, coniferous stand

This stand occupies the southernmost portion of the site. It is characterized by a relatively young, two-layered overstory of 90% Douglas fir and grand fir, with individual bigleaf maple and arbutus growing in canopy gaps. This stand type has a very sparse understory of approximately 50 stems per hectare of grand fir. An overstory density of 675 stems per hectare is comparatively lower than similar stand types on this site. Skidder trails and access roads suggest the forest in this stand type was at one point harvested for timber or thinned. Other than natural exclusion of suppressed trees, no other forest health issues were observed in this stand type and the forest health and structure rating throughout this stand type is moderate.

Table 5. Attributes of Stand Type E

Stand Type E	Two-storied, semi-mature, thinned, coniferous stand
Species (%)	Douglas fir (78%), Grand fir (11%), Bigleaf maple (7%), Arbutus (4%)
Structure description	Two-storied semi-mature coniferous stands with very little understory (approx. 50 grand fir stems/ha) and sparse patches of a deciduous shrub layer.
DBH (range)	13-60cm
Overstorey height (range)	15-30m
Overstory density	675 stems/ha
Crown Closure	20-40%
Health and structure rating	Moderate

Stand Type F – Single storied, thinned, mature deciduous stand

This stand occupies the central forested area below the bluff and constitutes the majority of the onsite forest. This stand type is characterized by a single layer of mature pioneer deciduous species dominated by mature bigleaf maple, patches of red alder, and scattered arbutus, all at a low density of 425 stems per hectare. Understory in this stand type is exclusively bigleaf maple, also at a low density of approximately 75 stems per hectare. Like Stand Type E, skidder trails and access roads within this stand type, along with the low density of overstory and minimal understory suggest this stand type was historically harvested. Active woodpecker feeding cavities were observed in large mature maple stems, indicative of decay. However, this decay is likely due to mature trees reaching the end of their life expectancy and not from other health related issues. The overall health and structure rating throughout this stand type is moderate. Patchy splurge laurel, sword fern (*Polystichum munitum*) and blackberry (*Rubus bifrons*) grow on the surface to create a shrub layer.

Table 6. Attributes of Stand Type F

Stand Type F	Single storied, thinned, mature deciduous stand
Species (%)	Bigleaf maple (65), Red alder (24), Arbutus (12)
Structure description	Single storied, mature pioneer deciduous species with a sparse deciduous understory and a patchy deciduous shrub layer.
DBH (range)	17-250 (multistemmed) cm
Overstorey height (range)	10-30m
Overstory density	425 stems/ha
Crown Closure	<20%
Health and structure rating	Moderate

Photo 6. Typical stand conditions and structure for Stand Type F

4.0 Steep Slope Tree Removals

There is a total of approximately 8.5 hectares of forest located on steep to moderately steep colluvial slopes within which there are areas meeting escarpment criteria. (as per the May 20, 2021 Stantec Geological Hazard Review) throughout the property. Selective tree removal will occur on these steep slopes as part of this development. The total quantities are to be determined, but will not exceed 50% of the total stems >15 cm where those tree removals overlap with escarpment areas, which comprises a small portion of the overall 8.5 ha area. 50% has been used as an upper limit calculation, although in some areas this exceeds the likely actual removals.

There are two rock bluffs onsite that constitute the steep slope areas (refer to the Geological Hazard Review for locations). The lower and more significant rock bluff and associated colluvial slopes runs through most of Stand Type D. The smaller upper rock bluff and colluvial slopes run across the northwest corner of the site and encompasses most of Stand Type B.

Selective tree removal will occur in Stand Type B and D and consists largely of Douglas-fir. The remainder of the removals will consist of a mix of deciduous species arbutus, bigleaf maple, red alder, and paper birch. A total of approximately 1937 stems >15 cm DBH will be removed. Appendix 1 shows a full breakdown of removals by species, size class, and stand type.

Table 7. Total area and removals, by species and stand type, across the steep slope areas.

Stand Type	Steep Slope Overlap (ha)
B	0.9
D	4.3

Stand Type	Total Removals >15cm DBH (stems/ha)
B	175
D	1762

5.0 Discussion

5.1 Forest cover

In general, the forest cover on this site is typical of second/third growth coastal Douglas fir forests. Stand Type D is the most well-developed stand type within the site. It consists of multiple layers of undisturbed conifer overstory and conifer understory. Stand Types A and C are both semi mature mixedwood stands that are dominated by Douglas fir and arbutus. However, Stand Type C has more structural development in the form of a well-developed understory. Stand Type B and F are both mature pioneer deciduous stand types but differ in their structural complexity and density. Stand type F has less than half the overstory density Stand Type B does and much larger, open grown trees. Stand Type E is relatively immature, conifer dominant, and contains the only grand fir found on site.

5.2 Steep Slope Removals

Selective tree removal occurring around escarpement areas will take place within the rock bluffs and associated colluvial slopes in Stand Type B and D. Approximately 1937 stems >15 cm DBH will be removed using a guideline of 50% removal where these stands overlap with the escarpment areas. Only a portion of the removals will occur where forest cover is on steep slopes, likely substantially less than the 50% threshold used in this report.

Most of the removed trees will be Douglas-fir, followed by a mix of native deciduous species arbutus, bigleaf maple, red alder, and paper birch. Size classes range up to 75+ cm DBH. However, a large majority of tree removals by numbers will be in the smaller size classes, with only a small amount of larger trees to be removed. Detailed tree counts can be found in the tree removal estimates in Appendix 1.

Appendix 1 Steep Slope Removal Estimates

Table 8. Stems removed on steep slopes in Stand Type B by species and size class if 50% removed.

	DBH Class (cm)	total stems	Stems/plot	Stems/ha	Removal (stems/ha)	Removal in steep slopes
Arbutus	10	4	1	133.3	67	63
	15	3	1	100.0	50	47
	20+	1	0	33.3	17	16
					Total	127
Bigleaf Maple	15	1	0	33.3	17	16
	30	1	0	33.3	17	16
					Total	32
Douglas Fir	15	2	1	66.7	33	32
	20	1	0	33.3	17	16
					Total	47
Paper Birch	20	1	0	33.3	17	16
					Total	16
Red Alder	10	4	1	133.3	67	63
	20	1	0	33.3	17	16
					Total	79
					Grand Total >15 cm DBH	**175**

Table 9. Stems removed on steep slopes in Stand Type D by species and size class if 50% removed.

	DBH Class (cm)	total stems	Stems/plot	Stems/ha	Removal (stems/ha)	Removal in steep slopes
Arbutus	15	1	0.25	25	13	53
	25	3	0.75	75	38	160
	35+	3	0.75	75	38	160
					Total	374
Douglas Fir	10	2	0.5	50	25	107
	15	3	0.75	75	38	160
	20	3	0.75	75	38	160
	25	6	1.5	150	75	321
	30	3	0.75	75	38	160
	35	2	0.5	50	25	107
	40	4	1	100	50	214
	45+	5	1.25	125	63	267
					Total	1496
					Grand Total >15 cm DBH	**1762**

Appendix 2 Tree Health and Structure Rating Criteria

The tree health and structure ratings used by Diamond Head Consulting summarize each tree based on both positive and negative attributes using five stratified categories. These ratings indicate health and structural conditions that influence a tree's ability to withstand local site disturbance during the construction process (assuming appropriate tree protection) and benefit a future urban landscape.

Excellent: Tree of possible specimen quality, unique species or size with no discernible defects.

Good: Tree has no significant structural defects or health concerns, considering its growing environment and species.

Moderate: Tree has noted health and/or minor to moderate structural defects. This tree can be retained, but may need mitigation (e.g., pruning or bracing) and monitoring post-development. A moderate tree may be suitable for retention within a stand or group, but not suitable on its own.

Poor: Tree is in serious decline from previous growth habit or stature, has multiple defined health or structural weaknesses. It is unlikely to acclimate to future site use change. This tree is not suitable for retention within striking distance of most targets.

Dying/Dead: Tree is in severe decline, has severe defects or was found to be dead.

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9) Loss or alteration of any part of this report invalidates the entire report.

Geological Hazard Review

Centre Stage Gabriola Subdivision
Phase 2 - Gabriola, BC

May 20, 2021

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Abbreviations

APEGBC	Association of Professional Engineers and Geoscientists of British Columbia
BC	British Columbia
EGBC	Engineers and Geoscientists of British Columbia
ha	hectare
JEA	J. E. Anderson & Associates
masl	metres above sea level
MOTI	Ministry of Transportation and Infrastructure
PLA	preliminary layout approval
SL	strata lots

1.0 INTRODUCTION

As requested by Centre Stage Holdings Ltd. (Centre Stage), Stantec Consulting Ltd. (Stantec) has carried out a geological hazard review and assessment of Phase 2 of a proposed rural subdivision on Gabriola Island for the purpose of a development permit and subdivision applications by Centre Stage. The legal description of the property is: The North East ¼ of Section 3, Gabriola Island, Nanaimo District, except Parcel A (DD 773261) and except Part in Plans EPP 19453 and EPP6666. The PID number is PID 003 134 806. A preliminary layout approval (PLA) was issued for 24 lots in Phase 2, but with a different lot layout than the current application. Five lots along the northern side of Phase 2 were subdivided and sold, so the footprint of the current proposal is smaller than the original. A geological hazard assessment was carried out for the original Phase 2 subdivision proposal by Golder Associates Ltd. (Golder 2010). The author of this Stantec report was the author of the original Golder report and was asked by Centre Stage to provide an updated report. At the request of Ministry of Transportation and Infrastructure (MOTI), the original Golder report is included in Appendix C. Similarly, a technical memo requested by Centre Stage (Stantec 2020), which addressed the question of change or lack of change in the geological conditions and hazards on the subdivision site between 2010 and 2020 is also included as in Appendix C. The Golder, May 19, 2010, report was registered with the Victoria Land Title Office as a covenant in favour of MOTI under document number CA2923794 on December 19, 2012.

1.1 PROJECT UNDERSTANDING

It is Stantec's understanding, based on discussions with Centre Stage, that the current report should focus on information relating to the proposed subdivision and development permit application.

Under the Association of Professional Engineers and Geoscientists of British Columbia (APEGBC now EGBC) Guidelines for Legislated Landslide Assessments for Proposed Residential Developments in British Columbia (APEGBC 2010) the legislation requires that a Professional Engineer or Professional Geoscientist indicate whether the residential development will be "safe" from the effects of landslides. As outlined in the APEGBC guidelines, the Approving Authority, in this case MOTI, is responsible for rural subdivisions, defines an annual probability of 1/10,000 for catastrophic or life-threatening landslide as its level of safety and an annual probability of occurrence of 1/475 years (10% probability in 50 years) for individual landslide hazards (damaging events). The report addresses the relevant geological hazard criteria outlined in the MOTI 2015 document "Subdivision Preliminary Layout Review – Natural Hazard Risk" (Anon 2015).

2.0 PHYSICAL SETTING AND SITE DESCRIPTION

2.1 PHYSICAL SETTING

The proposed 19 lot subdivision occupies south to southwest facing slopes on the southwest side of Gabriola Island. The upper slopes of the property are accessed from Bonnie View Road; the mid slopes from the west end of Carrier Road; and the lower slopes from Lois Lane. All these roads are accessed from South Road (see J.E. Anderson & Associates drawing in Appendix B).

The hillside occupied by the proposed subdivision is generally forested, but there has been some local clearing and road building, including old logging trails and roads. The area has been logged in the past; the current forest cover is a mix of second and third growth timber with some areas of thick brush and/or blackberry patches. A shallow borrow pit is located on the mid slope, downslope and approximately south-southeast of the west end of Carrier Road.

Elevations on the property range from about 30 m above sea level (asl) to about 160 metres above sea level (masl). Rock bluffs and moderately steep to steeply sloping colluvial (talus) slopes occur as two distinct elongate bands on the upper slope and lower mid slope of the property. These rock bluffs and the colluvial (talus) slopes below them are subject to periodic rockfall, which comprises the geological hazard on the property. The rock bluffs trend west-northwest and generally range from about 5 m to 20 m high. The southeast end of the lower mid slope is primarily a colluvial slope interspersed with small, discontinuous bedrock outcrops.

The proposed subdivision plans (Appendix B) show a single lot above the upper rock bluff. There are strata lots on the gently to moderately sloping area between the upper bluff and the lower mid slope rock bluff and fee simple lots on the gently sloping lower slopes downslope of the lower mid slope rock bluff and colluvial slope.

2.2 GEOLOGICAL SETTING

Gabriola Island like all of British Columbia was glaciated during the last glaciation. The land surface was significantly depressed due to the weight of the overlying glacial ice. Following glacial retreat sea level in the area was likely in the range of 120–140 metres above current sea level[1]. Over time the land surface rebounded to its current elevation. Consequently, as well as typical glacial and post-glacial materials (e.g., morainal material (till), glaciofluvial sediments and colluvium), there are local areas of glaciomarine materials and/or marine sediments. Morainal material is present on gently and moderately sloping areas on the upper, mid, and lower slopes of the proposed subdivision, glaciofluvial and/or glaciomarine gravels are present on the mid slopes and some lower slopes and fine-textured glaciomarine or marine sediments

[1] Clague, 1981, Figure 5 shows a maximum post-glacial sea level elevations of 150 m asl near Courtney, 140 masl near Parksville, 75 m asl near Victoria, and 180 masl near or on the Sechelt peninsula. Clague (1981) states that “Emergence of the isostatically depressed coastal lowlands of Vancouver Island and mainland British Columbia was rapid” and cites Mathews et al.,1970, that present sea level may have been attained between 10,000 and 11,000 years ago on eastern Vancouver Island. The highest elevation on this property where we have identified surficial materials that are potentially marine or glaciomarine sands and gravels is about 125 m asl; however, these materials could also be glaciofluvial in origin.

may occur locally on the lower slopes of the subdivision. Rock bluffs and colluvial (talus) slopes below the bluffs form the steeper slopes on the hillside.

The steep rock bluffs on the upper and lower mid slopes of the proposed subdivision comprise sandstones and conglomerates of the Geoffrey Formation, while the gently sloping lower slopes are underlain by shales, siltstones and minor sandstones of the Northumberland Formation. These two formations are part of the Cretaceous Nanaimo Group (Muller and Jeletzky, 1970, Packard Jr., 1972).

3.0 GEOLOGICAL HAZARD ASSESSMENT

3.1 INTRODUCTION

The scope of work for this project comprised a desktop review of the relevant Golder report for the original subdivision layout, some confirming field work for the new lot layout, and composition of a geological hazard report which address the new lot layout and meets the criteria in APEGBC *Guidelines for Legislated Landslide Assessments for Proposed Residential Developments in BC* (APEGBC, 2010). The scope of work includes reviewing the geological hazard zones within and around the property that may pose a hazard to the proposed subdivision and displaying them on the subdivision drawing. Also, as appropriate to propose mitigation to reduce those hazards.

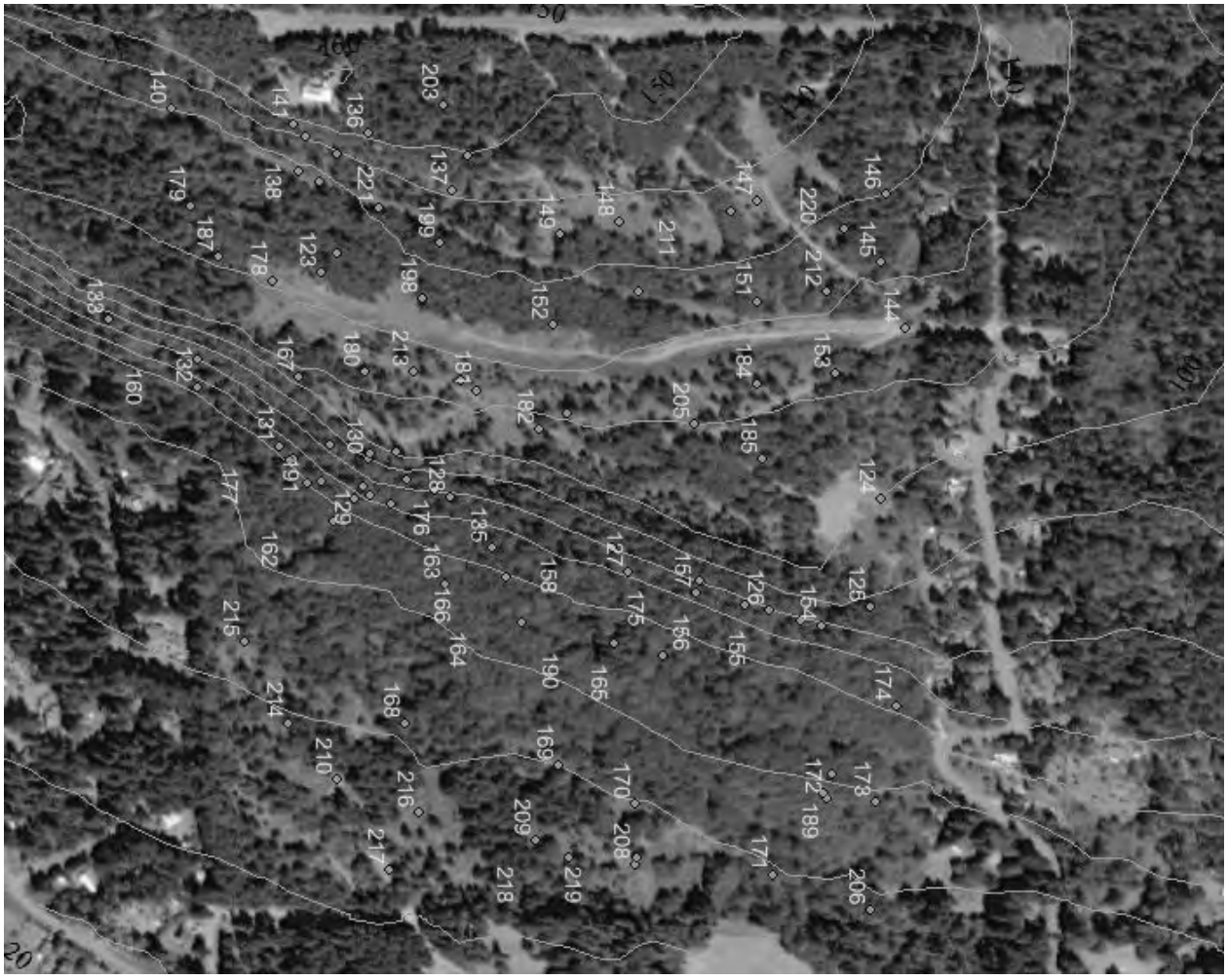
3.2 METHODS

Stantec's geological hazard review and assessment included a desktop review of the original Golder geological hazard report for the property and field work to confirm the geological hazards present on the property. As noted in Section 1.0, Stantec also conducted a field review of the site to determine if there were apparent changes in the geological hazards and geologic conditions on the property since the 2010 Golder report was written (Appendix C). The field work involved a series of walking traverses that comprised:

- Traverses along the crest of the sandstone and conglomerate bluffs and the steep colluvial slopes.
- Traverses along the interface between the base of the rock bluffs and the top of the steep colluvial slopes below the rock bluffs.
- Traverses across the mid slopes of the steep colluvial slopes and along the base of these colluvial slopes, including the rockfall shadow areas beyond the toe of the colluvial slopes. As part of this set of traverses Stantec confirmed the apparent rockfall shadow angles documented in the 2010 Golder report using the same methods documented in the 2010 Golder report (see Appendix C and below).
- Traverses through the areas where residential development (construction) is likely. That is areas outside the identified steep slopes and geological hazard zones.

Figure 1 shows the GPS waypoints taken during field traverses in 2020 and 2021; these waypoints give a general sense of the areas through which Stantec carried out traverses and where the time on the ground was focused. However, not all areas traversed are represented by waypoints.

Figure 1 Waypoint Locations (2020–2021 Field Reviews)



NOTE: Due to scale and plotting limitations most waypoints, but not all waypoint numbers show on Figure 1. In some cases, waypoint numbers hide or are displaced away from the associated waypoint. North is at the top of the figure. The figure is not to scale; contours are at 10 m intervals.

The rockfall shadow angle noted above, defines the furthest distance that visible rockfall fragments are found out from the toe of a colluvial slope. The minimum slope angle from the furthest out rock fragments from the toe of the colluvial slope to the crest of the colluvial slope is measured and recorded (i.e., the base of the rock bluff where the colluvial slope begins is the crest of the colluvial slope). Within the proposed Phase 2 subdivision and in the Phase 1 subdivision to the northwest the rockfall shadow angle is about 22 degrees. The rockfall shadow angle is then used to define a maximum rockfall shadow line along the base of the colluvial slope, including areas where rockfall is either not present or is not at the maximum distance from the toe of the colluvial slope. This method (Evans and Hungr 1993) provides a conservative estimate of how far rockfall fragments may travel from the toe of a colluvial slope.
This approach is typically applied where the ground at the base of the colluvial slope is relatively level. Where the ground beyond the toe of the colluvial slope was not level then an extensive search was made to identify and locate probable rockfall fragments and those fragments furthest from the toe of the colluvial slope were then used to define the rockfall shadow line. In the absence of rockfall fragments this line is based primarily on the minimum hillslope angle where the suspect rockfall fragments were found, which in this area is a slope angle of about 20 percent (11 degrees). Note that a conservative approach to identifying rockfall fragments on these sloping areas was used. Some weathered sandstone rockfall fragments are subangular with rounded edges and some subangular sandstone fragments may also be glacial erratics; however, these were assumed to be rockfall out of an abundance of caution.

This second approach was used for the rockfall shadow line below the lower rock bluff as most slopes were inclined rather than level. Occasional rocks (derived from glacial and post-glacial deposits) that were not sandstone or conglomerate were not considered rockfall. Previous human activity on the hillside, notably logging (e.g., during yarding activity), may have displaced some rockfall fragments. In sloping areas this displacement would most likely have been downslope rather than upslope creating a more conservative interpretation of rockfall travel distance. The rockfall fragments from the upper rock bluff are sandstone, those from the lower mid slope rock bluff are a mix of sandstone and conglomerate fragments with sandstone predominating. The rockfall fragments generally range in size from about 0.05 to 5 m along the long axis of the fragments.

3.3 RESULTS

3.3.1 Steep Slope – Geological Hazard Descriptions

Two areas of rockfall hazard are present within the proposed subdivision. These rockfall areas comprise the two rock bluffs[2] and associated colluvial slopes, one on the upper slopes of the proposed subdivision and one on the lower mid slopes of the proposed subdivision. The dashed top of slope and dashed (red) rockfall shadow lines on the J. E. Anderson & Associates (JEA) drawing in Appendix B define the top of the often near-vertical rock bluffs and/or associated moderately steep to steep[3] colluvial slopes, respectively. The rockfall shadow lines are generally located a short distance downslope of the toe of the steep colluvial slopes.

Within the bounds of the top of slope lines and the rockfall shadow lines at the base of the two rock bluffs and associated colluvial slopes the probability of damaging rockfall likely exceeds the MOTI 1 in 475 year (10% probability in 50 years) for individual landslide hazards (a damaging event). Two instances of recent rockfall are recorded in the 2010 Golder report. One of these rockfall fragments was a tabular piece of sandstone greater than or equal to 1+ m long and approximately 0.5 m wide, leaning against a second growth conifer (T. Rollerson, personal observation). Both these fragments stopped part way down a colluvial slope and did not reach the rockfall shadow zone or the rockfall shadow angle line.
The distribution of rockfall fragments on these slopes suggests that rockfall occurs both as small events comprising one to several rock fragments and as larger events that include numerous individual rock fragments. In either case, there may be fragmentation of individual rocks as they travel downslope.

Weathering processes (e.g., freeze thaw action) and seismic activity can result in rockfall. Seismic events of less magnitude than the 475-year seismic event can generate rockfall. Dislodged rock fragments are often observed in areas of windthrown trees on steep slopes following strong winds.

The lower mid slope rock bluff is much longer west to east than the upper bluff. Both bluffs and associated colluvial slopes trend roughly WNW-ESE; this orientation being controlled by a distinctive, near-vertical joint surface that trends (strikes) at approximately 300 degrees.

Both rock bluffs and the colluvial slopes below are subject to rockfall. There is a larger rockfall accumulation below the 20 m high rock bluff on the lower east side of strata Lot 7 (SL7) that may have moved as a small rock avalanche for a slope distance of about 90 m; stopping on the gentle slopes at the base of the colluvial slope and within the rockfall shadow zone (i.e., about 25 m out from the toe of the colluvial slope and greater than or equal to 20 m upslope of the rockfall shadow line). There are old growth Douglas Fir stumps on this feature and the soil development is comparable to that on the colluvial slopes to the west, suggesting that the feature is quite old. This feature is also immediately east of known First Nations burial sites located within accumulations of large, rockfall blocks at the toe of the colluvial slope.

[2] These rock bluffs and limited portions of the associated colluvial slopes would meet the escarpment criteria (slopes greater than 80%) documented in the Gabriola Island Land Use bylaw and the Gabriola Island Official Community Plan.
[3] The terminology for slope angles follows the usage in the Terrain Classification System for British Columbia (TCSBC), Howes and Kenk (1997), as follows: plain (or level) 0-5%, gentle 6-26%, moderate 27-49%, moderately steep 50-70% and steep >70%. The surficial material terminology used in this report also follows that in and as defined by the TCSBC.

The visible weathering and disintegration of the rock fragments within these rockfall accumulations is similar to or perhaps not as advanced as that on the suspect rock avalanche. Radiocarbon dates from the burial sites nearest to the suspect rock avalanche range in age from 2170 ± 70 to 3240[4] ± 50 years before present (the first date is from Skinner 1991 as cited in Curtin 2002 and the second date is Curtin 2002). These dates suggest a minimum age for the suspect rock avalanche of about 3300 years, since the rockfall accumulations would have been in place for some time before the first burials occurred.

3.3.2 Residential Lot Descriptions

There are three generally gently to locally moderately sloping areas proposed for residential development. These are described below. Some of the lots as laid out do extend down the rock bluffs and steep colluvial slopes. These steeper areas are described as appropriate for individual lots. In the interest of brevity, where terrain and geomorphic conditions are comparable, we have combined descriptions for two or more lots.

3.3.2.1 Area Above the Upper Bluff

The first area is located mainly above the upper bluff and comprises a single lot, Part A upper, with a surface area of 1.04 ha (lot A is split into two portions, a small one on the upper slope, and a larger one on the lower slope of the proposed subdivision).

Part A upper includes a portion of the eastern end of the upper sandstone bluff (see JEA drawing in Appendix A). The portion of the lot above the upper bluff is proposed for siting a residence.
The sandstone bluff is not suitable for residential construction. To provide a safe building site there should be a minimum setback, above the top of slope (rock bluff) line, of 15 m upslope or north of the top of slope line (the rock bluff in this area ranges from about 10 m to 15 m high). The upper portion of the lot is generally mantled with shallow veneers[5] of weathered bedrock[6] and morainal material. The morainal materials may be deeper locally. There are also a few small areas of gently sloping or weakly ridged, weathered, and fractured sandstone exposed at the surface. Slope angles on the short south-facing slope immediately above the upper bluff range from 20–40%, while the slopes on the longer north-facing slope that runs down to Bonnie View Road average about 10%.

The portion of Part A upper above the recommended 15 m setback is considered safe for residential construction.

[4] This is a conventional C-14 age corrected with reference to the measured C13/C12 ratio.
[5] The term veneer is used to indicate material (soil) depths generally less than 1 m deep above bedrock unless otherwise noted. The term blanket infers surficial material depths greater than a metre.
[6] Weathered bedrock is surficial material (or residual soil) formed of decomposed or disintegrated bedrock in situ by processes of chemical and/or mechanical weathering (Howes and Kenk 1997). In this area these materials generally consist of angular rock fragments in a matrix of sand, silt, and possibly minor clay.

3.3.2.2 Area Between the Two Bluffs and Above the Strata Road Extension to Carrier Road

The second area considered comprises strata lots (SL) SL1 to SL5 that are located above the strata road extension to Carrier Road. These lots range from 1.01 to 3.07 ha in size (Appendix B).

Strata Lots SL1, SL2, and SL3

Strata lots SL1, SL2 and SL3 are located primarily on gently sloping (10–20%), well to imperfectly drained, morainal materials. Along the top edge of SL3 slope angles range from 15–30%. A small, near-level area of glaciofluvial or glaciomarine gravels is present in the southwest corner of SL 3.

Strata lots SL1, SL2 and SL3 are considered safe for residential construction.

Strata Lot SL4

Strata lot SL4 is mainly located on gently sloping (10–20%), well drained morainal materials. A small, near-level terrace composed of glaciofluvial and/or glaciomarine gravels is present along the lower boundary of the lot at the extension to Carrier Road. The upper slopes of SL4 comprise a small area of morainal materials sloping at 30 to 50% and the extreme eastern end of the upper sandstone bluff and associated rubbly blocky colluvial slope. The bluff is near-vertical and ranges from 1–5 m high; the colluvial slope has slope angles of 50–60%.

The bluff and colluvial slopes in the NW corner of the lot are considered unsafe for residential development.

A 10 m setback towards the SSW and SE from the rockfall shadow line in the NW corner of SL4 is recommended. The remainder of SL4 is considered safe for residential development, although the 30–50% morainal slopes and old road fill slopes in the upper part of the lot are unlikely to be suitable for residential development.

Strata Lot SL5

Strata lot SL5 extends from strata lot SL4 to the western boundary of the proposed subdivision. The upper WNW trending slope of SL5 begins at the base of the upper rock bluff and comprises a blocky colluvial slope extending downslope from the base of the rock bluff and out to the rockfall shadow boundary. Slope angles on the colluvial slope generally range from 60-70%, but locally there are slopes as gentle as 50% and as steep as 80%. The bluff above the colluvial slope effectively ends about 50 m from the western property boundary; but persists as a few low (1–2 m high), discontinuous, steep, sandstone outcrops. This western portion of the slope is primarily colluvial; occasional 1–2 m diameter rockfall fragments are present on the colluvial slope, below the discontinuous sandstone outcrops. Consequently, the rockfall shadow line extends along the base of this slope to the western property boundary.

South-southwest for about 80 m from the toe of the colluvial slope the surface of SL5 comprises a low, weakly ridged to undulating bedrock surface mantled with a complex of morainal materials and shallow veneers of weathered bedrock. Slope angles in this area generally range from 0–20%. A very small, WNW trending wetland is present in the west-central part of this area. A small, undulating area of glaciofluvial and/or glaciomarine sands and gravels[7]occurs in the SE corner of the lot.

From the west end of the Carrier Road extension, the SL5-SL6 boundary runs WNW along the top of a low, discontinuous rock scarp and colluvial slope (approximately 3–6 m high) for about 140 m. The SL5-SL6 boundary then descends slightly and continues WNW near and along the base of a gently to moderately sloping, 3–5 m high slope composed of well drained, weathered bedrock with occasional small sandstone outcrops for about 75 m to the western property boundary.

Stantec recommends a minimum setback 10 m SW of the rockfall shadow line along the upper slopes of SL5 to ensure that the potential residential building site within this lot is safe from rockfall. South of the 10 m setback from the rockfall shadow line SL5 is considered safe for residential development.

3.3.2.3 Character of the Strata Lots SL6–SL13 Below the Carrier Road Extension

Strata lots SL6 to SL13 extend downslope from the Carrier Road extension to the top of slope line and then down the lower mid slope bluff and colluvial (talus) slope to a greater or lesser degree. The following paragraphs describe the nature of these strata lots, upslope of the top of slope line. These lots, range in area from 1.01 to 2.04 ha. A subsequent section describes their character below the top of slope line.

Strata Lot SL6

Trending WNW along and immediately below the upper boundary of SL6 with SL5 is a low (3–6 m high), discontinuous bedrock scarp and colluvial slope that runs WNW about 140 m from the west end of Carrier Road. There is an accumulation of apparent rockfall fragments at the base of this slope. However, a review of site photographs taken 20 December 2006, indicates that most or all, of these rock fragments result from preliminary subgrade construction near the west end of the extension of Carrier Road and associated land clearing activities. This slope extends further WNW to the western property/lot boundary as a gently to moderately sloping, 3–5 m high slope of weathered bedrock with occasional very small sandstone outcrops. From this WNW trending bedrock and colluvial slope south and southwest to the top of slope line SL6 consists of near level to gently sloping surfaces mantled with shallow veneers of well drained weathered bedrock, and blankets and veneers of well drained morainal materials. These gentle slopes are interrupted midway to the top of slope line by a short (approximately 100 m long), WNW trending, mixed colluvial and weathered bedrock surface ranging from 1–10 m high, having a slope gradient of 40–50%.

[7] The surface of some of the apparent glaciofluvial deposits may have been re-worked by wave action during higher sea-levels at the end of the last (Fraser) glaciation. Some of these deposits may actually be glaciomarine beaches rather than glaciofluvial deposits.

Between the top of slope line and the recommended setback (20 m) for SL6, there are several low, discontinuous, (0.5 to 3 m high) bedrock-controlled scarps. Between the scarps are near-level, to gently sloping steps or terraces, mantled with shallow soil veneers comprised variously of weathered bedrock, morainal materials and glaciofluvial or glaciomarine sands and gravels.

The top of the low, discontinuous bedrock scarp described above at the top of SL6 is composed of weathered and fractured sandstone that is being excavated and crushed for local use, so the height of parts of this scarp will decrease with time. This work (and the work to create the turnaround at the end of the Carrier Road extension) is being done with an excavator mounted hydraulic rock hammer and an excavator mounted bucket crusher, not explosives[8].

The portion of SL6 upslope of the 20 m setback from the top of slope line at the top of the lower mid slope rock bluff is considered safe for residential development and has reasonable building sites within the lot setback lines.

Strata Lots SL7, SL8, SL9, SL10 and SL11

From the recommended setback lines to within a short distance of Carrier Road, strata lots SL7, SL8, SL9, SL10 and SL11 are located on gently sloping, glaciofluvial and/or glaciomarine sands and gravels. There may also be local areas of morainal materials, the surface of which may have been washed by marine wave action (e.g., SL7). In some areas these materials comprise shallow veneers overlying an irregular to glacially smoothed and gently ridged bedrock surface. Locally small areas of rubbly, weathered bedrock may replace the glaciofluvial and/or glaciomarine surface.

The relatively short (20–50 m long) upper slopes of strata lots SL7, SL8, SL9, SL10 and S11, immediately below the Carrier Road extension, comprise a complex of gently to moderately (10–35%) sloping, well drained, glaciofluvial or glaciomarine sands and gravels and moderately sloping (30–40%), well to rapidly drained, rubbly weathered bedrock slopes that abut the fill slopes of the recently constructed Carrier Road extension. Occasional sandstone fragments and small isolated bedrock outcrops are present along these slopes and small areas of morainal materials may also occur locally (e.g., SL11). Some of the rock fragments may have rolled naturally, been pushed, or dragged short distances by earlier logging activities, and some result from the upslope road construction. Some of the rock fragments will have been exposed by natural processes such as tree mortality and windthrow. Some of these slopes may not be suitable for residential construction due to slope angle constraints, the presence of near surface bedrock, and proximity to Carrier Road.

Between the top of slope line along the top of the lower mid slope bluff and the recommended setback lines for SL7 east to and including SL11, there can be low (0.5 to 2 m high), discontinuous, bedrock scarps. Between the scarps there are near-level to gently sloping steps or terraces, mantled with shallow soil veneers comprised variously of weathered bedrock, morainal materials and glaciofluvial or glaciomarine sands and gravels.

[8] The equipment in use is a Van Ed Equipment V25 rock hammer mounted on a Caterpillar 311, 13-ton excavator and a MB 70 bucket crusher attached to a 25-ton excavator.

Strata lots SL7 to SL11 upslope of the top of slope line setbacks are considered safe for residential development and have suitable building sites within the lot setback lines. SL 7 and SL 8 have recommended setbacks of 20 m from the top of slope line and SL 9 to SL11 have recommended setbacks of 10 m from the top of slope line. The bedrock bluff, colluvial slopes and mixed colluvial and bedrock slopes below the top of slope line (see below) are subject to periodic rockfall and are considered unsafe for residential construction.

Strata Lots SL12 and SL13

The upper slopes of strata lots SL12 and SL13 immediately below the Carrier Road extension are mantled with well to imperfectly drained morainal blankets and veneers. Slope angles on these slopes range from 10-15%. The mid and lower portions of these two lots above the top of slope line generally comprise near-level to gently sloping, well drained, glaciofluvial or glaciomarine sands and gravels. In the case of strata lot SL13, a shallow borrow pit has been excavated into the sands and gravels for local use.

Strata lots SL12 and SL13 above the top of slope line setbacks are considered safe for residential construction and have reasonable building sites within the lot setback lines.

Recommended upslope setback distances from the top of slope line to provide safe building sites 10 m for strata lots SL12 and SL13. The bedrock bluff, colluvial slopes and mixed colluvial and bedrock slopes below the top of slope line (described below) are subject to periodic rockfall and are considered unsafe for residential construction.

3.3.2.4 Character of the Strata Lots SL6 to SL13 Below the Lower Mid Slope Bluff Top of Slope Line

Strata lot SL6 extends downslope over the rock bluff and onto the colluvial slope below the bluff. The western end of the lower boundary of strata lot SL6 begins at the toe of the colluvial slope and ascends east across the colluvial slope. The eastern end of the lower boundary of SL6 is about 10 m below (south of) the toe of the sandstone and conglomerate bluff. The bluff is near-vertical and averages about 20 m high across the entire width of strata lot SL6. The blocky rubbly colluvial slopes below the bluff average 70–80% at and below the base of the bluff; but decrease further downslope to 60–70% near the base of the slope. The bluff and the colluvial slope are subject to periodic rockfall. The rock fragments forming the colluvial slope here and along the slope further east (SL7 and SL8), range in size from sand particles to large sandstone and conglomerate blocks several meters across.

Strata lots SL7 and SL8 also extend down and past the base of the 20 m high conglomerate and sandstone bluff and onto the top of the steep (approximately 70–80%) colluvial slopes. The lower boundaries of strata lots SL7 and SL8 are approximately 10 m and 5 m below the base of the bluff, respectively. The base of the bluff retreats upslope, at the SL8–SL9 boundary. The bluff is subject to periodic rockfall.

From the SL8–SL9 boundary the lower boundary of SL9 gradually ascends then descends a rubbly colluvial slope along the base of an approximately 10 m high, dominantly conglomerate bluff from west to east to the SL9–SL10 boundary. The bluff is subject to periodic rockfall.

The lower slopes of SL10 extend from 60 m to 40 m south and downslope of the top of slope line. The slope below the top of slope line formed of a mix of well to rapidly drained, rubbly colluvium and discontinuous bedrock outcrops. Average slope angles range from 50–60% in much of this area; but may increase to 70-80% locally and approach 90 degrees on some bedrock scarps. These mixed colluvial and bedrock slopes are subject to periodic rockfall.

The lower slopes of strata lot SL11 extend about 17 m south and downslope from the top of slope line at the SL10–SL11 property boundary, from that point the lower property boundary ascends to about 2 m south and downslope of the top of slope line at the SL11–SL12 property boundary. In this area the slopes below the top of slope line comprise a mix of rubbly colluvium and discontinuous bedrock outcrops. Average slope angles range from 70-80% in much of this area; but may increase to 90% locally and can approach 90 degrees on some small bedrock scarps. These slopes are subject to periodic rockfall.

The lower slopes of strata lot SL12 extend from about 2 to 20 m downslope from the top of slope line on slopes composed of a mix of discontinuous, steeply sloping bedrock outcrops and rubbly colluvial materials. Slope angles on this slope generally average 70–80%. The slope is subject to periodic rockfall.

The lower slopes of strata lot SL13 extends 20 to 50 m downslope of the top of slope line at the west and east ends of the lot, respectively. The top of slope line ends about 55 m east of the SL12–SL13 property line. Immediately below the top of slope line there is a sandstone bluff ranging from about 3 to 10 m high, and below that a slope composed of rubbly colluvium and discontinuous bedrock outcrops, which has slopes averaging 70% immediately below the bluff and 50% further downslope. These slopes are subject to periodic rockfall. The slope east of the end of the top of slope line is underlain by well drained morainal materials. The slope gradient on these morainal slopes averages about 20%. These morainal slopes extend a short distance into the rockfall zone below the east end of the bluff.

The portions of strata lots SL6 to SL13 below the lower mid slope bluff top of slope line are subject to periodic rockfall; consequently, these areas are considered unsafe for residential development.

3.3.2.5 Character of the Lots Below the Lower Mid Slope Rock Bluff

Lots B to F range from 1.01 to 1.10 ha in area, while Part A lower (Part AL) has an area of 16.71 hectares (ha).

Part A Lower

The eastern and central parts of Part A_L on and below the lower bluff, comprise a mix of colluvial, morainal, glaciofluvial, and glaciomarine slopes. Slope angles vary considerably within Part A_L. At the eastern end of Part A_L slope angles range from 5% at the southern (lower) property boundary and 20% to 25% below the lower boundary of strata lot SL13 and are 10-15% in the narrow portion of Part A_L along the eastern boundary of SL13. The eastern end of Part A_L below strata lot SL13 is mantled with well to moderately-well drained morainal materials, while the lower slopes on the eastern portion of the lot are primarily level to gently sloping glaciofluvial gravels and sands, likely reworked by wave action during the higher stand of sea level at the end of the last glaciation.

The lower slopes along the central portion of Part A_L are primarily composed of near-level to gently sloping (5–15%) glaciofluvial or glaciomarine sands and gravels, possibly with minor areas of morainal material; locally, there are small areas covered with a cobble lag[9], suggestive of wave action. Conversely, the mid and upper slopes in the central portion of the lot are primarily colluvial with some discontinuous bedrock outcrops and average slope angles ranging from 60–80% although immediately below SL9 the slope angles on the colluvial slopes range from 30–50%. The colluvial slopes below the conglomerate bluff at the base of strata lot SL9 have slope angles ranging from 30–40%; but increase to 50–60% near the SL9–SL10 property boundary.

The upper west side of Part A_L comprises a gently sloping glaciofluvial terrace that abuts the toe of the steep blocky colluvial slope. The surface of the terrace may have been reworked by wave action. Slope angles range from 5% to 10% on the gently sloping terrace tread and are moderately sloping (30–40%) along a short (5–10 m long), downslope terrace scarp. The lower portion of Part A_L along the western property boundary (upslope of Lots E and F) is a gently sloping, morainal surface similar to Lots B to F, described below, with slope angles ranging from 5% to 10%.

The northern part of the western slopes of Part A_L that lie along the base of the colluvial slope are within the mapped rockfall shadow zone. Similarly, the upper and mid slopes of the central and most of the eastern portion of Part A_L are also within the rockfall and rockfall shadow zone; however, the extensive lower slopes of the western, central, and eastern portions of the lot lie downslope of the rockfall shadow line. The last roughly 50 m wide section of the eastern portion of Part A_L lies east of the rockfall shadow line.

The colluvial and mixed bedrock and colluvial slopes within Part A_L are subject to periodic rockfall and are considered unsafe for residential construction.

The gently sloping to near-level areas in the mid and lower slopes of Part A_L, downslope of a 20 m downslope setback from the rockfall shadow line are considered safe for residential development.

Lots B, C, D, E, F

Lots B to F are located on the gently sloping, lower slopes of the proposed subdivision. Slope angles within Lots B to F generally range from 5% to 10%. The area is mantled with well to moderately well drained, veneers and blankets of morainal materials, there may be local areas of imperfectly drained soils. In some areas the surface of the morainal materials may have been modified by wave action. Sandy gravelly or gravelly sandy glaciomarine sediments may occur locally along the upper slopes of some of these lots. The area is underlain by shales, siltstones, and minor sandstones of the Northumberland Formation. Small exposures of these rocks may occur locally in areas where the overlying soils are shallow.

These lots are well downslope of the areas of rockfall hazard below the lower mid slope bluff, so are considered safe for residential development.

[9] Lag – as in a gravel lag; a residual accumulation of rock fragments; produced by the removal of finer particles, by wind, stream, or wave action (modified from Thomas and Goudie 2000).

3.3.3 Existing Developments

There are a number of features or installations present within the proposed subdivision, both recent and historical. These include:

A gravel surfaced strata road extension of Carrier Road including two turnarounds. Preliminary gravel, crushed rock, or native material surfaced driveways to access individual lots. Old logging roads and trails. Two septic tank and septic field installations, one in SL 5 and one in lot E. A borrow pit developed in glaciofluvial (possible glaciomarine) sands and gravels on the mid slopes of SL13 and some hydraulic hammer and excavator removal of sandstone bedrock for crushing along the top of SL6. A number of wells have also been drilled and there are a numerous old, shallow tests pits that were excavated to evaluate soil condition suitability for septic fields.

Except for the old logging roads and trails and a few, old septic field test pits none of these features or installations are located on the steep slopes or within the rockfall shadow zones. There are short sections of old logging roads or trails within the rockfall shadow zones below both the upper rock bluff and colluvial slope and the lower rock bluff and colluvial slope. There are a few, old, septic field test pits along an old logging road or trail on the gentle slopes below the lower bluff that are within the lower rockfall shadow zone.

4.0 DISCUSSION AND RECOMMENDATIONS

Setbacks from the top of slope lines of equivalent distances to bluff heights at affected lots from top of slope lines are recommended in the 2010 Golder report ensure that residences are safely back from potential top of slope rock fragment detachments. We generally concur with these setbacks; but have made some adjustments as the new lot outlines vary from those in the original Golder report, all 5 m setbacks have been changed to 10 m setback recommendations. To mitigate rockfall hazard, a 10 m setback for residential construction from the rockfall shadow lines below the upper slope bluff and 20 m below the lower mid slope bluff are recommended to provide an extra measure of safety. The rockfall shadow line below the lower mid slope bluff was defined primarily by the hillslope angle and a ground search for the locations of the furthest downslope identifiable rockfall fragments[10]. Consequently, since this may be a less certain approach for identifying a rockfall shadow line than the rockfall shadow angle method described in Section 3.2 we recommend a setback distance of 20 m downslope of the rockfall shadow line on the hillside below the lower mid slope bluff, to provide a reasonable measure of protection for residential construction.

Only rarely do rockfall fragments reach the rockfall shadow lines, most rockfall fragments stop on the colluvial slopes above the toe of the colluvial slope and only limited numbers occur within the rockfall shadow zones.

If a future lot owner wishes to build a residence closer to the top of slope lines or to the rockfall shadow lines than the setbacks outlined in this report recommend, then Stantec recommends a detailed lot-specific geotechnical hazard assessment be carried out by a qualified professional engineer or geoscientist (APEGBC 2010) to establish a safe building envelope and if necessary, design protective works to mitigate the hazard. Similarly, if an owner wishes to use blasting to develop a site for a residence then Stantec recommends the owner engage a geotechnical engineer to ensure that no adverse effects will result from blasting; especially with respect to the sandstone and conglomerate bluffs and associated colluvial (talus) slopes in the area.

The slopes within the proposed subdivision have been logged, primarily by clearcutting, one or more times. Old growth stumps are visible in various areas including on the steep colluvial slopes, below the rock bluffs. June 5, 1991, BC government air photos show recent second growth, clearcut harvesting on the moderate and gently sloping areas of the property, but not on the steeper slopes. Some of the old growth Douglas Fir stumps on the colluvial slopes below the lower mid slope bluff show evidence of either wildfire or prescribed burning, while the second growth[11] on these slopes does not show evidence of fire. Inspection of the steeper slopes on the property, comprising bedrock, mixed bedrock and colluvium, and

[10] This was partly because much of the land at the base of the lower mid slope bluff continues moderately- to gently-sloping. In areas where the ground is level or almost level, the forest is dense, so it is very difficult to see through the forest to identify the top of the colluvial (talus) slope with certainty. Consequently, it was not possible to use the rockfall shadow angle to locate a rockfall shadow line. So even where the ground was level it was necessary carry out a search for probable rockfall fragments to define the rockfall shadow line.

[11] Stantec cored several second growth Douglas Fir trees on the colluvial slope below the lower mid slope bluff and found a maximum tree age of about 70 years, so it was likely in the late 1940s or early 1950s that the original logging occurred on these steep slopes.

colluvial materials alone, shows no visible evidence of post-logging landslide activity[12]. Consequently, it is Stantec's professional opinion that there is a low to very low likelihood that selective removal of trees on these steeper slopes would adversely affect slope stability.

4.1 RECOMMENDED SETBACKS SUMMARY

Table 1 on the following page summarizes the recommended lot setbacks above the top of slope and below the rockfall shadow lines to create safe building sites. In all relevant cases the slope area between the setbacks for top of slope line and setbacks for the rockfall shadow line for both the upper bluff and colluvial slope and the lower mid slope bluff and colluvial slope are considered unsafe for residential construction.

4.2 LIFE-THREATENING OR CATASTROPHIC EVENTS

We found no physical evidence of life-threatening or catastrophic[13] events having a probability of 1 in 10,000 years (i.e., occurring since the end of the last glaciation) that reached the proposed lot areas beyond the setback lines or the lots considered safe as summarized in Table 1 below. As noted above in Section 3.3.1 (para 2), the two rock bluffs (upper slope bluff and lower mid slope bluff) and associated colluvial slopes which are subject to rockfall are considered unsafe for residential development and would certainly fall within the 1/10,000 annual probability and very likely within an annual probability of occurrence of 1 in 475 years (10% probability in 50 years) for a damaging event. The recent rockfall fragments described above and many of the rockfall fragments present on the colluvial slopes and in the rockfall shadow zone are large enough to damage a residence or threaten life under the right circumstances.

[12] This is a common finding, along the BC Coast, typically in areas with wetter climates than Gabriola. Post-logging landslide frequencies on mixed bedrock and colluvial slopes and on colluvial slopes in these areas tend to be low or very low and negligible on bedrock slopes (Rollerson et.al., 2000, Millard, et al, 2002, Rollerson, et.al., 2002, Rollerson et.al., 2005).

[13] The large rockfall event or small rock avalanche that Stantec found, and described above, would not, in Stantec's professional opinion, be considered a catastrophic event as it traveled only a short distance, about 25 m, beyond the toe of the talus slope, remaining within the mapped rockfall shadow zone (or ~230 m upslope of lots E and F). The distance from the top of the likely rockfall detachment zone on the rock bluff to the toe of the colluvial slope was about 60 m. The Ministry of Environment and Climate Change Strategy, Preliminary Strategic Climate Risk Assessment for British Columbia in Table 2, p 18 of that report, describes a consequence rating of catastrophic, as resulting in a loss of life of 100+ people or >25% of a single community; morbidity, disease, or hospitalization and 1000+ people affected or >25% of a single community, and months long disruption of daily life, among other factors.

Table 1 Recommended Setback Summary

Lot	Top of Slope (ToS) Setback	Rockfall Shadow (RFS) Setback	Comment[1]
Part A upper	15 m	10 m	Area above ToS setback considered safe
SL1	N/A	N/A	Lot is considered safe
SL2	N/A	N/A	Lot is considered safe
SL3	N/A	N/A	Lot is considered safe
SL4	N/A[2]	10 m	Area below RFS setback considered safe, the narrow sliver above the TOS is not.
SL5	N/A	10 m	Area below RFS setback considered safe
SL6	20 m	N/A	Area above ToS setback considered safe
SL7	20 m	N/A	Area above ToS setback considered safe
SL8	20 m	N/A	Area above ToS setback considered safe
SL9	10 m	N/A	Area above ToS setback considered safe
SL10	10 m	N/A	Area above ToS setback considered safe
SL11	10 m	N/A	Area above ToS setback considered safe
SL12	10 m	N/A	Area above ToS setback considered safe
SL13	10 m	N/A	Area above ToS setback considered safe
Part A lower	N/A	20 m	Area below RFS setback considered safe
B	N/A	N/A	Lot is considered safe
C	N/A	N/A	Lot is considered safe
D	N/A	N/A	Lot is considered safe
E	N/A	N/A	Lot is considered safe
F	N/A	N/A	Lot is considered safe

NOTES:

[1] The lot areas considered safe in this tabulation have suitable building sites within the lot setback lines. Note that the recommended setbacks are not included in the mapped Top of Slope and Rockfall Shadow lines, but are located above or below these lines respectively at appropriate distances.

[2] This setback is listed as N/A as the upper lot boundary at this location is only a metre or two above the top of slope line.

RFS = Rockfall Shadow

ToS = Top of Slope

5.0 LIMITATIONS

The approaches with respect to rockfall travel distances and delineation of rockfall shadow hazard lines are described above in Section 3.2.

The descriptions of the spatial extent of various surficial material types and deposits on the property are not exact. Thick brush in some areas, time in the field, and relatively widely spaced ground traverses across the slopes on the property limit the exact delineation of the extent and location of these materials. The identification or separation of colluvial materials from morainal materials from glaciofluvial materials is reasonably straightforward; however, separation of gravelly sandy glaciofluvial deposits from gravelly sandy glaciomarine or marine deposits is not realistic at this level of investigation. Both glaciofluvial and glaciomarine deposits are typically heterogenous and can vary dramatically within short distances. For example, in the case of two test pits excavated some time ago on the lower slopes of the property and less than 10 m apart, one was dominantly sand and the other dominantly gravel.

The recorded slope angles are general averages determined with a hand-held clinometer, not surveying instruments, and do not account for local variations in slope angle over short distances. Distances given in the report are horizontal distances, not slope distances, derived from measurements of a KML version of the subdivision plan using the distance measuring tool in Global Mapper v21.0. Lot areas given in the report are taken from the subdivision drawing in Appendix B.

6.0 CLOSURE

This report was prepared for the exclusive use of Centre Stage Holdings Ltd. and their agents for specific application to the Centre Stage Gabriola Subdivision Phase 2. Any use of this report or the material contained herein by third parties, or for other than the intended purpose, should first be approved in writing by Stantec.

Use of this report is subject to the Statement of General Conditions included in Appendix A. It is the responsibility of Centre Stage Holdings Ltd., who is identified as "the Client" within the Statement of General Conditions, and their agents to review the conditions and notify Stantec should any of them not be satisfied. The Statement of General Conditions addresses the following:

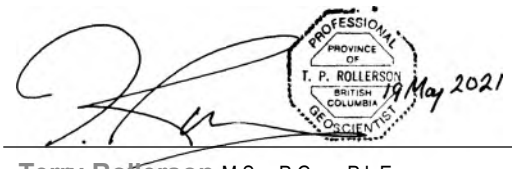
- Use of the report
- Basis of the report
- Standard of care
- Interpretation of site conditions
- Varying or unexpected site conditions
- Planning, design, or construction

Landslide Assessment Assurance Statements can be found in Appendix D.

We trust that this report meets your present requirements. If you have questions or require additional information, please contact the undersigned.

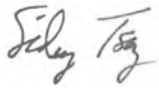
Regards,

Stantec Consulting Ltd.



Terry Rollerson M.Sc., P.Geo., P.L.Eng.
Senior Terrain Scientist
Phone: (250) 327-4187
Terry.Rollerson@stantec.com

Reviewed by:



Sid Tsang P.Geo.
Principal, Geohazards and Geomorphology
Phone: (778) 835-9465
Sid.Tsang@stantec.com

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APPENDIX A

Statement of General Conditions

Appendix A STATEMENT OF GENERAL CONDITIONS

USE OF THIS REPORT: This report has been prepared for the sole benefit of the Client or its agent and may not be used by any third party without the express written consent of Stantec and the Client. Any use which a third party makes of this report is the responsibility of such third party.

BASIS OF THE REPORT: The information, opinions, and/or recommendations made in this report are in accordance with Stantec's present understanding of the site-specific project as described by the Client. The applicability of these is restricted to the site conditions encountered at the time of the investigation or study. If the proposed site-specific project differs or is modified from what is described in this report or if the site conditions are altered, this report is no longer valid unless Stantec is requested by the Client to review and revise the report to reflect the differing or modified project specifics and/or the altered site conditions.

STANDARD OF CARE: Preparation of this report, and all associated work, was carried out in accordance with the normally accepted standard of care in the state or province of execution for the specific professional service provided to the Client. No other warranty is made.

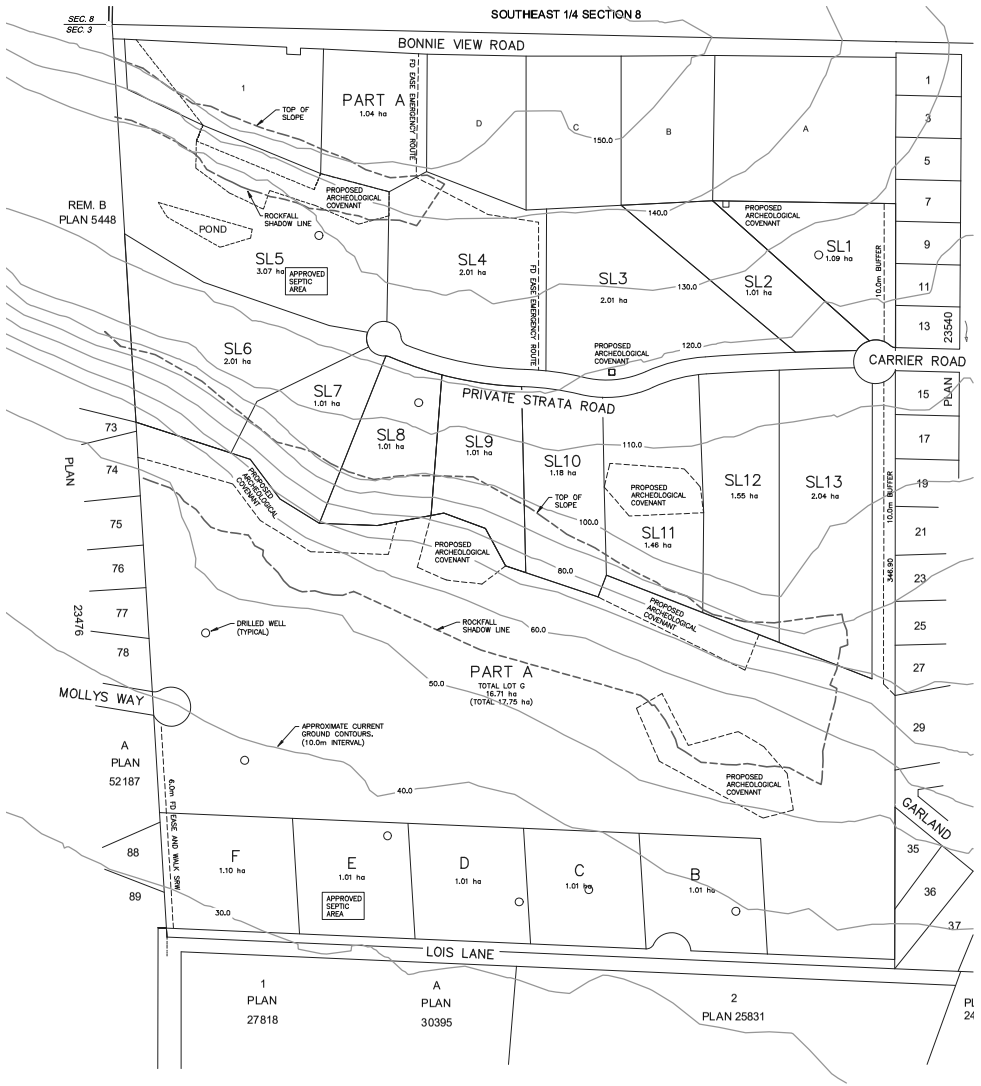
INTERPRETATION OF SITE CONDITIONS: Soil, rock, or other surficial material descriptions, and statements regarding their condition, made in this report are based on review of available literature, geologic and soils maps, third-party borehole records, and through interpretation of both aerial photography and LiDAR data. Classifications and statements of condition have been made in accordance with normally accepted practices which are judgmental in nature; no specific description should be considered exact, but rather reflective of the anticipated behaviour of materials or geomorphic processes. Extrapolation of in situ conditions can only be made to some limited extent beyond the existing borehole locations. The extent depends on variability of the soil, surficial materials, bedrock, soil moisture and groundwater conditions as influenced by geological processes, construction activity, and land use.

VARYING OR UNEXPECTED CONDITIONS: Should any site or subsurface conditions be encountered that are different from those described in this report, Stantec must be notified immediately to assess if the varying or unexpected conditions are substantial and if reassessments of the report conclusions or recommendations are required. Stantec will not be responsible to any party for damages incurred as a result of failing to notify Stantec that differing site or sub-surface conditions are present upon becoming aware of such conditions.

PLANNING, DESIGN, OR CONSTRUCTION: Development or design plans and specifications should be reviewed by Stantec, sufficiently ahead of initiating the next project stage (property acquisition, tender, construction, etc.), to confirm that this report completely addresses the elaborated project specifics and that the contents of this report have been properly interpreted. Specialty quality assurance services (field observations and testing) during construction are a necessary part of the evaluation of sub-subsurface conditions and site preparation works. Site work relating to the recommendations included in this report should only be carried out in the presence of a qualified geotechnical engineer or geoscientist; Stantec cannot be responsible for site work carried out without being present.

APPENDIX B

Subdivision Drawing



1:2000 0 40 120m

LEGAL DESCRIPTION	PART OF NORTH EAST 1/4 OF SECTION 3, EXCEPT PARCEL A (DD 773261)						LEGEND			
							LAMP STANDARD ◆LS ◆LS	CLEANOUT ○ ●	DITCH	
							POLE(Hydro, Tel.) ◆PP ◆PP	CATCHBASIN ▭ ▬	METER Ⓜ Ⓜ	
							U/G WIRING —UGH— —UGH—	MANHOLE ○ ●	FLUSH VALVE ○⋈ ●⋈	
							GAS —GAS— —GAS—	SERVICE RISER ○ ■	VALVE ⋈ ⋈	
PROJECT DATUM	ELEVATIONS AND COORDINATES ARE LOCAL ONLY AND DO NOT RELATE TO ANY OTHER COORDINATE SYSTEM OR ELEVATION DATUM.						WATER —W— —W—	MOUNTABLE CURB —MC—	REDUCER ▷ ▶	
		1	ISSUED FOR DEVELOPMENT PERMIT	MAY 17/21			SEWER —S— —S—	NON-MOUNT. CURB —NMC—	HYDRANT ✣ ✣	
		NO.	REVISION DESCRIPTION	DATE	CHECK	APPR.	DRAIN —D— —D—	EDGE ASPHALT	AIR VALVE Ⓐ Ⓐ	

J.E. ANDERSON & ASSOCIATES
SURVEYORS -- ENGINEERS
1A - 3411 SHENTON ROAD, NANAIMO, B.C. V9T 2H1
TEL: 250 - 758 - 4631 FAX: 250 - 758 - 4660
E-MAIL : nanaimo@jeanderson.com

JURISDICTION	MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE
SCALE:	1:2000 HORZ. N/A VERT.
DESIGN:	SS
DRAWN:	SS

CLIENT: CENTRE STAGE HOLDINGS LTD
PROJECT: GABRIOLA ISLAND
SITE PLAN
86489 01 D1
MoTI FILE 2013-02775 SHEET 1 OF 3

APPENDIX C

Reference Reports

Stantec

Memo

To:	Glenna Borsuk, Don Gatley. Centre Stage Holdings Ltd 601 – 22 Mt Benson Str., Nanaimo, BC	From:	Terry Rollerson, P.Geo. 500 - 4730 Kingsway Burnaby, BC
File:	123314922	Date:	June 5, 2020

Reference: Centre Stage Gabriola Subdivision Phase 2 – Geological Hazard Review

At your request Stantec Consulting Ltd. (Stantec) has completed a review of a Golder Associates Ltd. (Golder) 2010 geological hazard report[1] and carried out a site reconnaissance of Centre Stage Holdings Ltd.'s Gabriola Subdivision Phase 2[2] to confirm or not that the geological conditions and hazards on site have not changed substantively since the Golder 2010 report was completed. The reason for the review is that the subdivision plan has been completely revised (i.e., size, location and number of lots) since the Golder 2010 report and so a new subdivision plan will be submitted for approval to the BC Ministry of Transportation and Infrastructure.

The geological hazard review comprised the following:

- A desktop review of the Golder May 19, 2010 report.
- A field reconnaissance of the hazard zones mapped by Golder for the original Phase 2 subdivision (Figure 1).
- A desktop visual inspection of the selectively logged steep slope area on the nearby Centre Stage Phase 1 Gabriola subdivision using a 2016 Google Earth image to see if there was any satellite visible post-logging landslide activity on those slopes. This slope was logged circa 2005.
- A brief field inspection of a selectively logged steep slope hazard zone in the Phase 1 subdivision to see if there was any ground visible, post-logging landslide activity that occurred between 2016 and 2020. This steep slope is located about 600 m west-northwest of the northwest corner of the proposed Phase 2 subdivision.

FIELD METHODS

There are two hazard zones mapped by Golder on the 2010 Phase 2 subdivision plan (Figure 1), one on the upper slope of the proposed Phase 2 subdivision (upper slope hazard zone) and one on the lower mid-slope of the proposed Phase 2 subdivision (mid slope hazard zone). Both the upper slope and mid slope hazard zones comprise a bedrock bluff and a steep to moderately steep colluvial slope below the bluff. The primary geological hazard on these slopes is rockfall.

Field reviews of these areas were carried out on May 22, 27 and 30, 2020. Figure 3 shows our traverse routes and waypoints (wp) for the May 27 and May 30 field reviews, we did not collect GPS data for a traverse on May 22, 2020.

[1] Geological Hazard Assessment Centre Stage Phase 2. May 19, 2010. Golder Associates Ltd. Provided by Centre Stage Holdings Ltd.

[2] See drawing by J.E. Anderson & Associates Dated June 3, 2020 (Figure 2).

Reference: Centre Stage Gabriola Subdivision Phase 2 – Geological Hazard Review

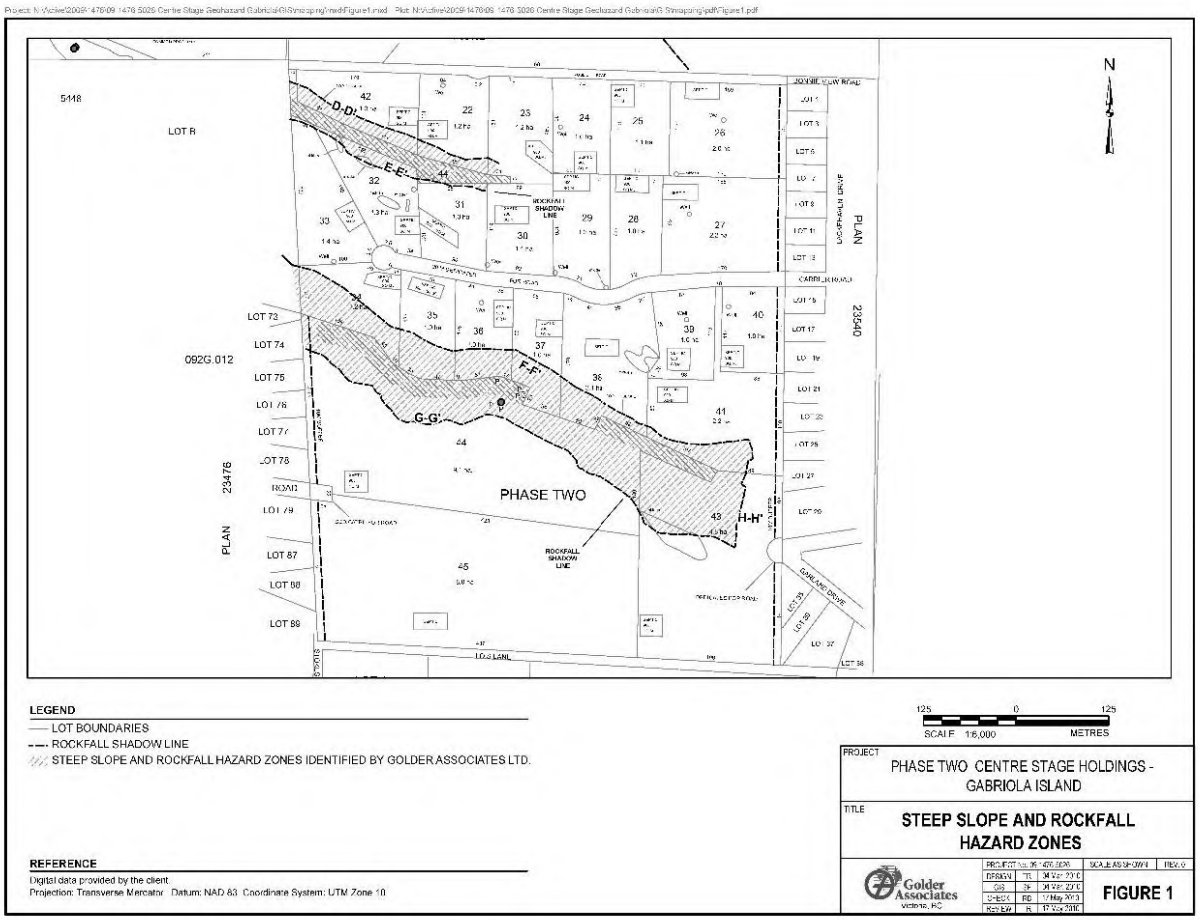
During a pre-project site visit for the revised Phase 2 subdivision plan (Figure 2) on May 22, 2020 to discuss the scope of work, Terry Rollerson (Stantec) and Don Gatley (Centre Stage) walked the approximate location of the Top of Slope line of the mid slope hazard zone from east to west to see if there were any geological changes visible immediately below or above the Top of Slope line.

On May 27, 2020 Terry Rollerson and Don Gatley walked downhill from the west end of Carrier Road (Figures 2 and 3) to the east end of Top of Slope line of the mid slope hazard zone and then down to the base of the mixed sandstone and conglomerate bluff that forms the upper portion of the mid slope hazard zone (wp 03). We walked west-northwest along the base of the bluff for the full extent of the proposed Phase 2 subdivision (i.e., wp 03 to wp 11). We then turned and walked downslope and east-southeast along the lower portion of the colluvial slope and rockfall shadow that forms the lower portion of the mid slope hazard zone and then northeast to our starting point just east of the end of the Top of Slope line (i.e., wp 11 through 12, 13 and 03). This east to west and west to east return traverse allowed us to see both the face of the bluff and the colluvial slopes and blocky rockfall accumulations below the bluff.

To access the upper slope hazard zone, we walked west-northwest from the end of Carrier Road and then northwest through the mid slopes of the proposed subdivision to a point (wp 17) near the western end of the proposed subdivision at the base of the lower slopes of the upper slope hazard zone. From this point we walked east along the base of the blocky colluvial slope that forms the lower slopes of the upper slope hazard zone to the east end of the hazard zone. We then walked up and generally west along the Top of Slope line of the upper slope hazard zone from the east end of the line to the west end of the line (wp 14) within the currently proposed subdivision and then back to the east end of the line. From the east end of the hazard zone Terry Rollerson then traversed west along the base of the sandstone bluff that forms the upper slope of the upper slope hazard zone about half way to the west end of the hazard zone (wp 16) and then walked downslope and southeast through the colluvial slope to the base of the upper slope hazard zone at wp 17. A third short loop traverse was carried out by Terry Rollerson on May 30, 2020 to complete the base of bluff and rock fall shadow line traverses (i.e., wp 17 through 21). These two traverses allowed us to visually inspect the slope at and above the Top of Slope line as well as the sandstone bluff and the colluvial slopes and rockfall accumulations below the bluff.

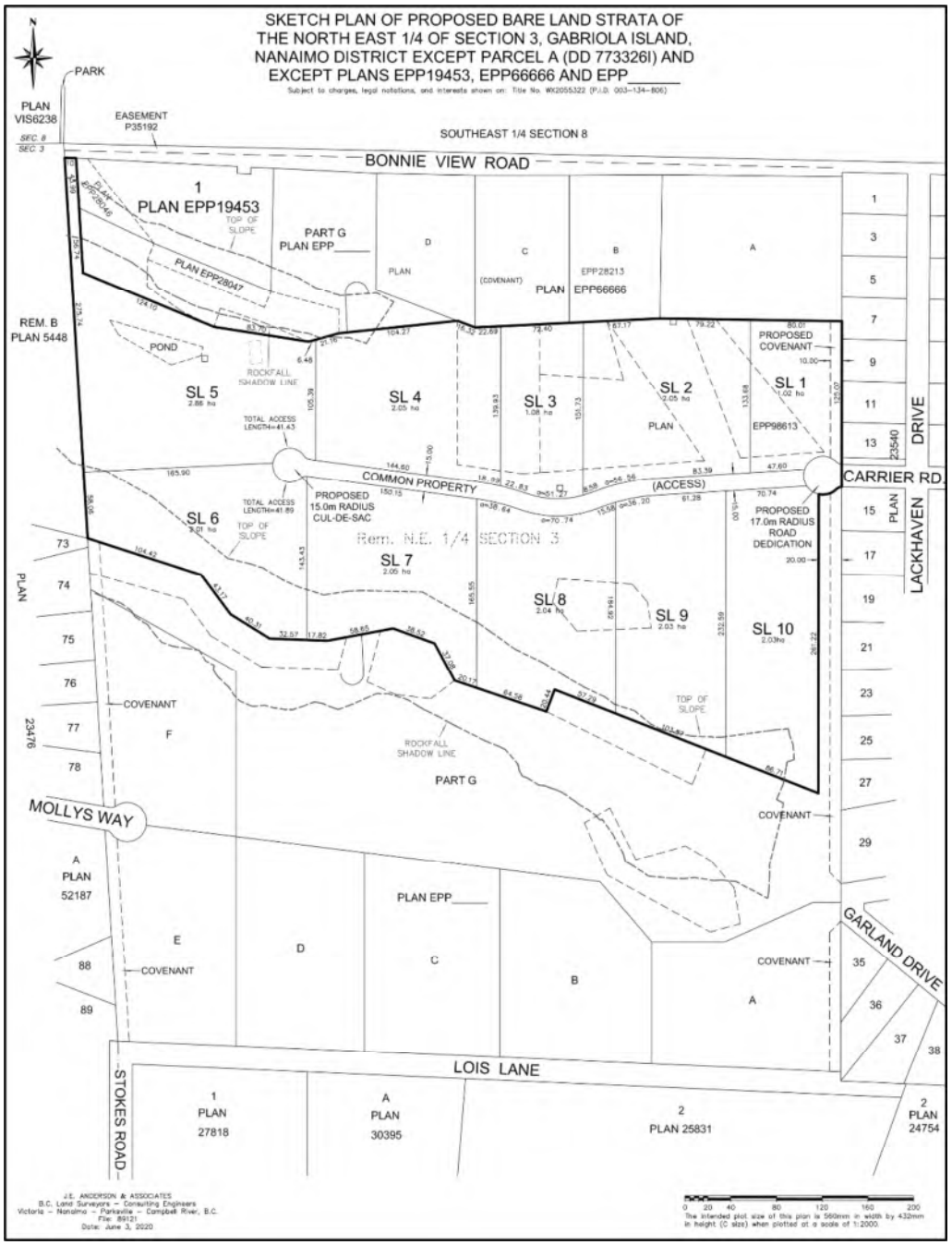
A field inspection of the selectively logged Phase 1 subdivision steep slope hazard zone was carried out by Terry Rollerson on the afternoon of May 28, 2020, by walking from east to west and back along the private road that begins at the east end of Seymour Road and runs downslope through and along the base of the steep slope to access the strata lots within the Phase 1 subdivision. Most of the steep slope is visible from this private road. The east end of this steep, selectively logged slope is visible on Figure 3 west-northwest of wp 18.

Figure 1 Original 2010 subdivision layout with upper and mid slope hazard zones.



Drawing provided by Centre Stage Holdings Ltd.

Figure 2 Proposed new subdivision layout with upper and mid slope hazard zones.



Drawing provided by Centre Stage Holdings Ltd.

Figure 3 Field Traverse GPS Tracks and waypoints - May 27 and 30, 2020

Notes: May 27 tracks – blue
May 30 track – red
North is towards the top of the figure.

RESULTS

Our traverses through the upper slope and mid slope hazard zones within the proposed Phase 2 subdivision revealed no visible changes in the geologic conditions and geologic hazards on site. That is we saw no freshly opened joints or ground cracks at or immediately north of the Top of Slope lines nor any evidence of fresh rockfall scars on the bluff faces or fresh rockfall fragments or freshly scarred trees on the colluvial slopes below the bluffs. We did not see any evidence of post-logging landslide activity on these slopes as a result of previous logging activity[3].

Similarly, we did not see any evidence of post-logging landslide activity on the selectively logged steep slope in the Phase 1 subdivision either on the 2016 Google Earth satellite image or in the field on May 28, 2020.

CONCLUSIONS

Based on our desktop review and reconnaissance field observations, it is Stantec's opinion that the interpretations and conclusions reached by Golder in their 2010 geological hazard report with respect to hazard zones, setbacks, safe areas and the low likelihood of landslide activity following any selective logging that may occur on the steep slopes forming the hazard zones are still valid.

[3] The Golder May 19, 2010 report documents that the hillslopes within the proposed Phase 2 subdivision have been logged one or more times in the past.

Reference: **Centre Stage Gabriola Subdivision Phase 2 – Geological Hazard Review**

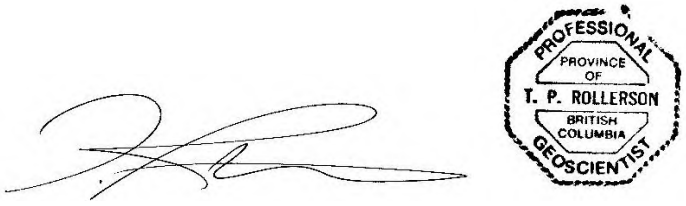
CLOSURE

This technical memorandum was prepared for the exclusive use of Centre Stage Holdings Ltd. Any use of this report or the material contained herein by third parties, or for other than the intended purpose, should first be approved in writing by Stantec.

Use of this memorandum is subject to the Statement of General Conditions provided in **Appendix A**. It is the responsibility of Centre Stage Holdings Ltd., who is identified as "the Client" within the Statement of General Conditions, and its agents to review the conditions and to notify Stantec should any of them not be satisfied.

The memo was prepared by Mr. Terry Rollerson, P.Geo. and reviewed by Mr. Sid Tsang, P.Geo. We trust that this memorandum meets your present requirements. If you have any questions or require additional information, please contact the author.

Stantec Consulting Ltd.



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Senior Terrain Scientist

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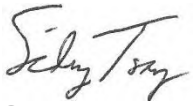

Sidney Tsang, P.Geo.
Senior Associate, Geohazards and Geomorphology

Phone: 604-235-1873
sid.tsang@stantec.com

APPENDIX A Statement of General Conditions

Reference: Centre Stage Gabriola Subdivision Phase 2 – Geological Hazard Review

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FORM_C_V18 (Charge)

VICTORIA LAND TITLE OFFICE
Dec-19-2012 12:28:22.001

DECLARATION(S) ATTACHED
CA2923794 CA2923796

LAND TITLE ACT
FORM C (Section 233) CHARGE
GENERAL INSTRUMENT - PART 1 Province of British Colnmbia

Your electronic signature is a representation that you are a subscriber as defined by the Land Title Act, RSBC 1996 c.250, and that you have applied your electronic signature in accordance with Section 168.3, and a true copy, or a copy of that true copy, is in your possession.

Ronald Leonard Morin UNYLGW
Digitally signed by Ronald Leonard Morin UNYLGW
DN: c=CA, cn=Ronald Leonard Morin UNYLGW, o=Lawyer, ou=Verify ID at www.juricert.com/LKUP.cfm?id=UNYLGW
Date: 2012.12.19 12:26:44 -08'00'

1. APPLICATION: (Name, address, phone number of applicant, applicant's solicitor or agent)

Morin Law Corporation
Barristers and Solicitors
15245 18 Avenue
Surrey BC V4A 1W9

Telephone: (604) 538-9887
LTO Client Number: 12023
File Number: Centre Stage R12694

Document Fees: $217.50 Deduct LTSA Fees? Yes ☑

2. PARCEL IDENTIFIER AND LEGAL DESCRIPTION OF LAND:
[PID] [LEGAL DESCRIPTION]

003-134-806 NORTH EAST QUARTER SECTION 3 GABRIOLA ISLAND NANAIMO DISTRICT EXCEPT PARCEL A(DD77326I)

STC? YES ☐

3. NATURE OF INTEREST CHARGE NO. ADDITIONAL INFORMATION

SEE SCHEDULE

4. TERMS: Part 2 of this instrument consists of (select one only)
(a) ☐ Filed Standard Charge Terms D.F. No. (b) ☑ Express Charge Terms Annexed as Part 2
A selection of (a) includes any additional or modified terms referred to in Item 7 or in a schedule annexed to this instrument.

5. TRANSFEROR(S):

CENTRE STAGE HOLDINGS LTD. (INC. NO. 204577)

6. TRANSFEREE(S): (including postal address(es) and postal code(s))

SEE SCHEDULE

7. ADDITIONAL OR MODIFIED TERMS:

8. EXECUTION(S): This instrument creates, assigns, modifies, enlarges, discharges or governs the priority of the interest(s) described in Item 3 and the Transferor(s) and every other signatory agree to be bound by this instrument, and acknowledge(s) receipt of a true copy of the filed standard charge terms, if any.

Officer Signature(s)	Execution Date			Transferor(s) Signature(s)
	Y	M	D	
Ron Morin Barrister & Solicitor Notary Public 15245-18th Avenue Surrey, BC, V4A 1W9 604-538-9887	12	10	03	CENTRE STAGE HOLDINGS LTD. by it Authorized Signatory GLENNA BORSUK

OFFICER CERTIFICATION:
Your signature constitutes a representation that you are a solicitor, notary public or other person authorized by the *Evidence Act*, R.S.B.C. 1996, c.124, to take affidavits for use in British Columbia and certifies the matters set out in Part 5 of the *Land Title Act* as they pertain to the execution of this instrument.

LAND TITLE ACT
FORM D

EXECUTIONS CONTINUED

Officer Signature(s)	Execution Date Y	M	D	Transferor / Borrower / Party Signature(s)
DEBBY FISHER Commissioner for Taking Affidavits in BC ISLAND Savings Credit Union 300-499 Canada Avenue Duncan, BC, V9L 1T7	12	10	11	ISLAND SAVINGS CREDIT UNION, by its Authorized Signatory(ies) Print Name:LISA VERWOLF Print Name: JOY CISSOLD
GRACE MORIN Barrister & Solicitor Notary Pubic 15245-18th Avenue Surrey, BC, V4A 1W9 604-538-9887	12	11	27	R.G.R. Legacy Holdings Ltd. By its authorized Signatory Ron Morin

OFFICER CERTIFICATION:
Your signature constitutes a representation that you are a solicitor, notary public or other person authorized by the *Evidence Act*, R.S.B.C. 1996, c.124, to take affidavits for use in British Columbia and certifies the matters set out in Part 5 of the *Land Title Act* as they pertain to the execution of this instrument.

LAND TITLE ACT
FORM D

EXECUTIONS CONTINUED

Officer Signature(s)	Execution Date Y	M	D	Transferor / Borrower / Party Signature(s)
STUART JOHNSON Commissioner for Taking Affidavits in BC 2100 Labieux Road, Nanaimo, BC V9T 6E9	12	12	19	HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF BRITISH COLUMBIA, as represented by the Minister of Transportation and Infrastructure, by its authorized signtory (ies) Print Name: BOB WYLIE

OFFICER CERTIFICATION:
Your signature constitutes a representation that you are a solicitor, notary public or other person authorized by the *Evidence Act*, R.S.B.C. 1996, c.124, to take affidavits for use in British Columbia and certifies the matters set out in Part 5 of the *Land Title Act* as they pertain to the execution of this instrument.

FORM_E_V18

LAND TITLE ACT
FORM E

SCHEDULE PAGE 4 OF 38 PAGES

NATURE OF INTEREST	CHARGE NO.	ADDITIONAL INFORMATION
Covenant		Section 219
Priority Agreement		granting Section 219 Covenant with one registration number less than this priority agreement priority over Mortgage CA1806610 and Assignment of Rents CA1806611. Part 2 Page 10 of 38 pages
Priority Agreement		granting Section 219 Covenant with two registration numbers less than this priority agreement priority over Mortgage CA2841957. Part 2 Page 11 of 38 pages

FORM_E_V18

LAND TITLE ACT
FORM E

SCHEDULE PAGE 5 OF 38 PAGES

ENTER THE REQUIRED INFORMATION IN THE SAME ORDER AS THE INFORMATION MUST APPEAR ON THE FREEHOLD TRANSFER FORM, MORTGAGE FORM, OR GENERAL INSTRUMENT FORM.

Part 8 Transferees

HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF BRITISH COLUMBIA, as represented by the Ministry of Transportation and Infrastructure, having its offices at 2100 Labieux Road, Nanaimo, British Columbia

ISLAND SAVINGS CREDIT UNION, Incorporation number FI-29 having its head office at 499 Canada Avenue, Duncan B.C., V9L 1T7

R.G.R. LEGACY HOLDINGS LTD. Incorporation No. BC0775435 having a registered and records office at 15245-18th Avenue, Surrey, BC, V4A 1W9

TERMS OF INSTRUMENT—PART 2

SECTION 219 COVENANT – SAFE BUILDING SITE APPROVAL

THIS AGREEMENT dated for reference June, 2012, is

BETWEEN:

CENTRE STAGE HOLDINGS LTD.,
a British Columbia company with offices at
2761 McBride Avenue, Surrey, BC V4A 3G3

(the **"Owner"**)

AND:

HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF BRITISH COLUMBIA,
as represented by the Ministry of Transportation and Infrastructure, 2100 Labieux Road, Nanaimo. B.C. V9T 6E9

(the **"Province"**)

GIVEN THAT:

A. The Owner is the registered owner in fee simple of the Lot in the Gabriola Island Local Trust Area, British Columbia, legally described as follows:

PID: 003 134 806
North East Quarter, Section 3, Gabriola Island, Nanaimo District, Except Parcel A (DD77326I)

(the **"Lands"**);

B. The Owner wishes to subdivide the Lands into lots (the "Lots")

C. Section 219 of the Land Title Act provides that a covenant in respect of the use of land or a building or that land is or is not to be built on in favour of the Crown or a municipality may be registered as a charge against title to the land; and

D. As a condition to the Province consenting to the subdivision of the Lands, the Province requires the owner to enter into this Section 219 covenant (the **"Agreement"**).

THIS AGREEMENT is evidence that in consideration of payment of $1.00 by the Province to the Owner (the receipt of which is acknowledged by the Owner), and in consideration of the promises exchanged below, the Owner covenants and agrees with the Province in accordance with Section 219 of the Land Title Act as follows:

1. No Build Covenant

The owner will not nor will it permit any party to develop, build or construct or place on the Lands or any Lot or Lots , any building, structure or dwelling until safe building sites have been identified by a qualified Geo Technical Engineer and approved by the Provincial Approving Officer as per the recommendations of the Golder Associates Report on Geological Hazard Assessment (dated May 19, 2010) a copy of which attached hereto as Schedule "A".

2. Acknowledgment of Covenant Purpose

The Owner acknowledges and agrees that the Lands and Lots require identification of safe building sites before the construction of any building, structure or dwelling on the Lands or Lots is commenced.

3. Obligations

The parties agree that this Agreement creates only contractual obligations and obligations arising out of the nature of this document as a covenant under seal. The parties agree that no tort obligations or liabilities of any kind exist between the parties in connection with the performance of, or any default under or in respect of, this Agreement. The intent of this section is to exclude tort liability of any kind and to limit the parties to their rights and remedies under the law of contract and under the law pertaining to covenants under seal.

4. Indemnity

The Owner releases, and must indemnify and save harmless, the Province, and its' respective elected and appointed officials and employees, from and against all liability, actions, causes of action, claims, damages, expenses, costs, debts, demands or losses suffered or incurred by the Owner, or anyone else, arising from the granting or existence of this Agreement, from the performance by the Owner of this Agreement, or any default of the Owner under or in respect of this Agreement.

5. No Public Law Duty

Where Province is required or permitted by this Agreement to form an opinion, exercise a discretion, express satisfaction, make a determination or give its consent, the Owner agrees that the Province is under no public law duty of fairness or natural justice in that regard and agrees that the Province may do any of those things in the same manner as if it were a private party and not a public body.

6. No Effect on Laws or Powers

This Agreement does not affect or limit the discretion, rights or powers of the Province under any enactment (as defined in the Interpretation Act, R.S.B.C. 1996, c. 238, on the reference date of this Agreement) or at common law, including in relation to the use or subdivision of the Lots.

7. Covenants Run with the Lots

Every obligation and covenant of the Owner in this Agreement constitutes both a contractual obligation and a covenant granted under Section 219 of the Land Title Act in respect of the Lots and this Agreement burdens the Lands and Lots and runs with them and binds the successors in title to the Lots. This Agreement burdens and charges all of the Lands and Lots and any parcel into which it is subdivided by any means and any parcel into which the Lots are consolidated. The Owner is only liable for breaches of this Agreement that occur in respect of the Lands or Lots while the Owner is the registered owner of that Land or Lot.

8. Waiver

An alleged waiver of any breach of this Agreement is effective only if it is an express waiver in writing of the breach. A waiver of a breach of this Agreement does not operate as a waiver of any other breach of this Agreement.

9. Severance

If any part of this Agreement is held to be invalid, illegal or unenforceable by a court having the jurisdiction to do so, that part is to be considered to have been severed from the rest of this Agreement and the rest of this Agreement remains in force unaffected by that holding or by the severance of that part.

10. Entire Agreement

This Agreement is the entire agreement between the parties regarding its subject.

11. Enurement

This Agreement binds the parties to it and their respective successors, heirs, executors and administrators.

12. Deed and Contract

By executing and delivering this Agreement each of the parties intends to create both a contract and a deed executed and delivered under seal.

13. Registration in Land Title Office

The Owner agrees to do everything reasonably necessary, at the Owner's expense, to ensure that this Agreement is registered against title to the Lots with priority over all financial charges, liens and encumbrances registered, or the registration of which is pending, at the time of application for registration of this Agreement.

14. Further Assurances

The Owner must do everything reasonably necessary to given effect to the intent of this Agreement, including execution of further instruments.

As evidence of their agreement to be bound by the above terms, the parties each have executed and delivered this Agreement under seal by executing Part 1 of the Land Title Act Form C or Form D's to which this Agreement is attached and which form part of this Agreement.

CONSENT AND PRIORITY AGREEMENT

OF

ISLANDS SAVINGS CREDIT UNION

Islands Savings Credit Union, (the "**Chargeholder**") is the holder of a mortgage and assignment of rents registered against the Land legally described in item 2 of the Form E to which this Agreement is attached, which mortgage and assignment of rents are registered in the Victoria Land Title Office under instrument numbers CA 1806610 and CA 1806611 respectively (collectively, the "**Charge**").

In connection with the Section 219 Covenant (the **"Covenant"**) granted herein by Centre Stage Holdings Ltd. Her Majesty The Queen In The Right of the Province of British Columbia, as represented by the Minister responsible for the Ministry of Transportation (the "**Transferee**"), the Transferee requires the Chargeholder to grant the Covenant priority over the Charge.

This Consent and Priority Agreement is evidence that in consideration of payment to the Chargeholder of $1.00 by the Transferee, the Chargeholder agrees with the Transferee as follows:

1. The Chargeholder consents to the granting and registration of the Covenant and the Chargeholder agrees that the Covenant binds its interest in and to the Land.

2. The Chargeholder grants to the Transferee priority for the Covenant over the Chargeholder's right, title and interest in and to the Lots and the Chargeholder postpones the Charge, and all of its right, title and interest thereunder, to the Covenant as if the Covenant had been executed, delivered and registered prior to the execution, delivery and registration of the Charge.

As evidence of its agreement with the Transferee to be bound by this Consent and Priority Agreement, as a contract and as a deed executed and delivered under seal, the Chargeholder has executed and delivered this Agreement by executing the Land Title Act Form D to which this Agreement is attached and which forms part of this Agreement.

CONSENT AND PRIORITY AGREEMENT

OF

R.G.R. LEGACY HOLDINGS LTD

R.G.R. Legacy Holdings Ltd. (the "**Chargeholder**") is the holder of a registered against the Land legally described in item 2 of the Form E to which this Agreement is attached, which mortgage is registered in the Victoria Land Title Office under instrument numbers CA 2841957 (the "**Charge**").

In connection with the Section 219 Covenant (the **"Covenant"**) granted herein by Centre Stage Holdings Ltd. Her Majesty The Queen In The Right of the Province of British Columbia, as represented by the Minister responsible for the Ministry of Transportation (the "**Transferee**"), the Transferee requires the Chargeholder to grant the Covenant priority over the Charge.

This Consent and Priority Agreement is evidence that in consideration of payment to the Chargeholder of $1.00 by the Transferee, the Chargeholder agrees with the Transferee as follows:

1. The Chargeholder consents to the granting and registration of the Covenant and the Chargeholder agrees that the Covenant binds its interest in and to the Land.

2. The Chargeholder grants to the Transferee priority for the Covenant over the Chargeholder's right, title and interest in and to the Lots and the Chargeholder postpones the Charge, and all of its right, title and interest thereunder, to the Covenant as if the Covenant had been executed, delivered and registered prior to the execution, delivery and registration of the Charge.

As evidence of its agreement with the Transferee to be bound by this Consent and Priority Agreement, as a contract and as a deed executed and delivered under seal, the Chargeholder has executed and delivered this Agreement by executing the Land Title Act Form D to which this Agreement is attached and which forms part of this Agreement.

SCHEDULE A

page 12 of 35

May 19, 2010

GEOLOGICAL HAZARD ASSESSMENT

Centre Stage Phase 2

Submitted to:
Centre Stage Holdings
2761 McBride Avenue
Surrey, BC
V4A 3G3

Report Number: 09-1476-5026/3000
Distribution:

2 Copies - Centre Stage Holdings
2 Copies - Golder Associates Ltd.

world capabilities locally

Golder Associates

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Figure 1: Steep Slope and Rockfall Hazard Zones

1.0 INTRODUCTION

As requested, Golder Associates Ltd. (Golder) carried out a geotechnical hazard assessment for Phase 2 of a proposed rural subdivision application on the Northeast ¼ of Section 3 except Parcel A (DD773261) of the Gabriola Island Nanaimo District. Phase 1 of the development is located on the Southwest ¼ section of Section 8. The purpose of the assessment was to determine the potential presence of geotechnical hazards on and/or immediately adjacent to the site and determine if safe building envelopes exist for residential development on the various lots proposed for the site.

We base the assessment on information obtained from historical air photos, review of the subdivision map and field observations within and adjacent to the proposed subdivision. This report provides a preliminary assessment (zoning) of potential landslide hazards on the subject property, in this case rockfall from a series of sandstone and conglomerate buffs and associated colluvial (talus) slopes. The report identifies areas where safe building envelope setbacks should be designated along the tops of the main bluffs and along the tops of longer mixed bedrock and colluvial slopes, or below designated rockfall hazard zones. Detailed geotechnical assessments are recommended if residential construction is proposed within recommended safe building envelope setbacks.

The report does not specifically address geotechnical conditions or construction issues associated with localized bedrock bluffs or scarps generally less than 5 metres high or short colluvial slopes associated with those smaller outcrops. The report does not address geotechnical conditions or construction issues related to foundation design.

This report follows an earlier evaluation of the possible effects of logging on slope stability on the steeper slopes within the property and recommendations related to forest harvesting practices that was carried out by Golder (see Golder, 18 January, 2006) and draws on some of the information in that earlier report.

The scope of work is limited to geomorphologic, geological and geotechnical issues associated with rural subdivision development. The work undertaken was limited to review of readily available site information, air photo interpretation, visual inspection of the site and examination of exposed soil and bedrock conditions. Subsurface geotechnical investigations were not carried out for this project. This assessment does not include any investigation, testing, or assessment of the potential presence or effect of soil or groundwater contamination at the site or the provision of bioscience services.

This report shall be read in conjunction with the limitations and considerations set out in 'Important Information and Limitations of this Report', which appears following the text. The reader's attention is specifically drawn to this information as it is essential that it is followed for the proper use and interpretation of this report. Section 3.3 (Methods) outlines additional limitations.

2.0 LOCATION

The proposed subdivision is located on a generally south-facing slope on the southwest side of Gabriola Island above False Narrows. The area is accessible from Carrier Road at the east end of the property and from Stokes Road on the south side of the property. We have attached a not-to-scale copy of an original 1:3000 scale subdivision map (dated 26 September 2006) showing the proposed subdivision produced by J.E. Anderson and Associates to this report (Figure 1).

3.0 WORK CARRIED OUT

The assessment included a desk review of background materials, foot and vehicle traverses and observations within the proposed subdivision, qualitative analysis of the field observations and report preparation.

3.1 Desk Review

The desk review included inspection of the preliminary subdivision plans, the topographical, geological and soils maps for the area. A series of historical air photos dating from the early 1960's were reviewed to check for the presence of air photo visible landslides or other landforms and terrain features that might indicate the presence of unstable or potentially unstable slopes.

The preparation of this report involved review of the following information:

- J.E. Anderson & Associates (REA) subdivision maps, scale 1:3000. File 85443 dated 21 December, 2005 and 31 August 2006.
- Soils map for Gabriola Island, scale 1:20,000, from Soil Survey Report 43. Soils of the Gulf Islands of British Columbia. Volume 4 Soils of Gabriola Island and lesser islands. 1990. British Columbia Soil Survey. Research Branch, Agriculture Canada. Authors: E.A. Kenney, L.J.P. van Vliet, and A.J. Green.
- A recent (circa 2005) colour orthophoto plotted at an approximate scale of 1:10,000, source unknown, provided by Centre Stage Holdings Ltd.
- Geological Survey of Canada Open File 463 Geology of Vancouver Island, J.E. Muller, 1977.
- Terrain Stability Assessment, Proposed Subdivision Gabriola Island, report by Golder Associates Ltd., 18 January 2006.
- The air photos reviewed are listed in Table 1.

Table 1: Air Photo Review

Year/Date	Flight line	Frame numbers
pre-1960	BC1437	24-26
pre-1960	BC1499	5-6
15 June 1962	BC5046	24-25
1967	15BC5261	90-92
30 June 1972	BC7407	47-49
30 June 1972	BC7409	134-136
22 July 1975	BC7754	290-293
July 1980	BCC249	204-205
1991	BCB91021	129-132, 68-66

3.2 Site Reconnaissance

As part of Golder's original terrain stability assessment work, Mr. Terry Rollerson P. Geo (Golder) made a preliminary site visit lasting about 2 hours, on 06 December 2005 in company with Mr. Vanstone and Mr. Don Gatley of Centre Stage Holdings Ltd. A second visit to inspect the steeper slopes within the subdivision area for about 7 hours was made on 29 December 2005 with Mr. David Vanstone of Centre Stage Holdings Ltd. These traverses are described in Golder (18 January 2006).

As part of the current scope of work, additional site visits by Mr. Rollerson were made in July 2006. These site visits occurred on July 11, 12, 13, and on July 15 – 27, 2006. Mr. Jeff Fillipone, P. Geo., (Golder) and Mr. Thor Simrose (Thor Simrose Contracting) accompanied Mr. Rollerson on July 12, 2006. Mr. Fillipone, Mr. Rollerson and Mr. Gatley also visited the property to inspect specific steep slope sites on 02 August 2006. The total cumulative field time for these visits amounted to about 40 hours including visits to both the Northeast ¼ of Section 3 except Parcel A (DD773261) and the Southwest ¼ section of Section 8 which was proposed for development earlier. Because of the time elapsed since the original fieldwork and the completion of the report Mr. Rollerson carried out additional site visits on the Northeast ¼ of Section 3 in February and March 2010.

The foot traverses within the subdivision concentrated on the steeper sections of the property including a series of steep sandstone and conglomerate bluffs, moderately to steeply sloping colluvial slopes intermixed with the bluffs and colluvial (talus) aprons formed at the base of the bluffs. These traverses ran roughly east southeast to east along the tops and bases of each of the main bedrock bluffs and along the bases of the dominant talus slopes. Limited foot and vehicle traverses occurred on the gently and moderately sloping portions of the property.

3.3 General Assessment Methods

The geological hazard assessment in large part follows the methodology outlined in the "Guidelines for Legislated Landslide Assessments for Proposed Residential Development in British Columbia" (Association of British Columbia Professional Engineers and Geoscientists [APEGBC], 2006 as revised May 2008), but also takes direction from the "Guidelines for Terrain Stability Assessments in the Forest Sector" (APEGBC, 2003).

The field reconnaissance included a visual assessment of terrain features including surficial material and bedrock conditions, surface water conditions, vegetation, slope gradients and geomorphic processes encountered during our traverses through the property. Our assessment of the surficial material and bedrock conditions was based on visual examination of natural bedrock outcrops, natural surficial material and soil exposures and exposures along existing roads within the property. Our field observations reference lot numbers and topographic features. Much of the terminology used in this report to describe surficial materials (soils), slope processes and slope gradients follows Howes and Kenk, 1997. The terms blanket and veneer refer to surficial material mantles that are generally greater than one metre and less than one metre deep respectively. Basic measurements were made using clinometer, steel tape or hip chain, hand held laser rangefinder and geologic compass. In the assessment of geological hazards for Phase 2 no detailed slope stability analyses or subsurface investigations have been carried out.

Considering the lack of a comprehensive, long-term record of geological hazards in the area, hazard occurrences cannot be predicted by formal statistical analysis. Hence, a subjective assessment based on the opinion and judgement of knowledgeable professionals was used to rate the probability of occurrence, type and magnitude of significant geological hazards capable of affecting the site.

3.4 Fragmental Rock Fall Hazard Assessment Methodology

Fragmental rock fall[1] is characterized by the detachment of individual rock fragments from a steep rock slope and their gravitational downhill transport. There is evidence of previous fragmental rockfall from the steep sandstone and conglomerate bluffs on the property. Boulders of sandstone and conglomerate, 1 to 20 cubic metres in size, that appear to be derived from fragmental rockfall are located on the talus slopes and for a short distances out onto level or gently sloping areas beyond the lower edges of the talus aprons. On most bluffs there are potentially unstable blocks or slabs of sandstone or conglomerate. These blocks range in size from about 0.5 to 20+ cubic metres. Ongoing physical/chemical weathering process will continue to loosen and detach these blocks from the bluffs. Similarly, ground shaking during seismic events may result in future rockfall. Consequently, rockfall will continue to occur on these slopes and occasional blocks will likely travel downslope beyond the lower edges of the existing talus slopes.

Estimates of potential future rockfall runout distances are based on assessment of the distribution and extent of existing rockfall debris. There are at least two empirical methods that can be used to estimate rockfall runout distances and define rockfall hazard zones.

The rockfall runout method used for this study is described in Evans and Hungr (1993). Their study focused on 15 rockfall sites located in mountainous terrain in the southern interior of BC and coastal BC. The method relies on the determination of a "minimum rockfall shadow angle" defined as the angle between the top of a talus slope and the maximum limit of the rockfall shadow. The "rockfall shadow" is an area of scattered boulders located on level to gently sloping ground that extends beyond the lower edge of the talus slope. These boulders likely bounce and/or roll across the slopes beyond the lower edge of the main talus slope. Evans and Hungr found a minimum rockfall shadow angle of 27.5 degrees to be a reasonable first approximation of rockfall shadow limits. The method provides a maximum probable runout distance, which has not been exceeded at any of the 15 rockfall sites studied by Evans and Hungr and which does not require the determination of individual rockfall initiation and termination points.

A second empirical method, "rockfall fahrboschung" for estimating rockfall runout is dependent on the determination of the initiation and terminal points for individual rockfall events (see the description of a study by Onofri and Candian, 1971, in Evans and Hungr). The rockfall fahrboschung is the angle between the highest point on a rockfall source scar and the stopping point of the longest runout boulder for that particular rockfall. Onofri and Candian found this relationship to range from 28.4 to 40.7 degrees. Correlation of rockfall source scars with associated rockfall fragments, however, is not viable unless both the rockfall and the source scars are distinct and fresh (there are very few sites like this on Gabriola). Consequently, this approach was not suitable for the current study.

[1] The term landslides encompasses the term rockfall, but in the context of this report rockfall is considered separate from other types of landslides and the term landslide should be interpreted as referring to debris slides, debris avalanches and similar events and not rockfall.

Measurements of minimum rockfall shadow angles were made at a number of locations on the Gabriola site to confirm the Evans and Hungr 27.5 degrees minimum rockfall shadow angle. In the case of the subject property (and possibly elsewhere on Gabriola) the minimum rockfall shadow angles measured were consistently about 22 degrees. Consequently, a "Gabriola specific" minimum rockfall shadow angle of 22 degrees was adopted and applied to all determinations of rockfall shadow (hazard) zones where the slopes at the toe of the talus were relatively level. Minimum rockfall shadow angle lines were located (flagged) in the field by Golder and then ground surveyed by REA. The minimum rockfall shadow angle lines are identified on the subdivision map (lines E-E'□ and G-G'). The line H-H' defines the apparent eastern extent of bedrock outcrops and rock fall visible on the ground on the lower slopes of the property.

We did observe local areas where the hillsides on the lower portion of the property were gently to moderately sloping rather than level at the toe of a talus slope (or mixed colluvial and bedrock outcrop slope). In these cases rockfall runout distances did not necessarily conform to the local 22 degree minimum rockfall shadow angle relationship. Some individual rockfall fragments on these slopes appear to have traveled well beyond the point defined by the 22 degree, minimum rockfall shadow angle. In these cases, we carried out an extensive search of the slopes below the bluffs/talus to identify possible rockfall fragments with which to define a maximum rockfall shadow (runout) limit. These sites were restricted to the lower eastern slopes of the northeast ¼ of Section 3. In this area the observed rockfall appeared to stop on slopes ranging from 20 to 30 percent (11 to 17 degrees), consequently a 20 percent slope angle limit was adopted to define the likely limit of maximum rockfall runout on these specific hillsides.

The rockfall shadow hazard line should define an approximate 1:10,000 probability of an individual rockfall carrying beyond the defined rockfall shadow line within a single year. This probability is based on the assumption that it is at least 10,000 years since glacial ice left the area, the visible talus and individual rockfall fragments will have accumulated since that time. We suggest that the probability may be somewhat greater than 1:10,000 as the toe of the talus slope has likely extended out from the base of the slope some nominal distance so the rock fall fragments visible beyond the toe of the talus may well represent a period of accumulation less than 10,000 years.

In the case of both methods used to determine the rockfall shadow hazard line on the Gabriola site we recommend a 10-metre setback beyond the rockfall hazard line to define a "safe" building envelope boundary. If a property owner wishes relaxation of the rockfall shadow hazard line or of the building envelope setback distance so that they can build closer to the toe of a rockfall prone slope then a detailed geotechnical evaluation of potential rockfall runout distances and/or protective (mitigative) measures should be undertaken.

Limitations of the approach:

Preliminary clearing and road construction and previous logging activity may have altered the location of occasional rockfall fragments so that in some cases the location of specific fragments may not represent original rockfall runout locations. Similarly, some slopes below bluffs and talus slopes are composed of till containing some moderately large rock fragments consisting of a variety of rock types. Some of these fragments are sandstone. Due to the rounded nature of the edges of some local sandstone outcrops/bluffs and some of the rockfall fragments from these bluffs it is not always possible to distinguish individual rockfall fragments from rocks derived from the till. In cases where it was not possible to distinguish culturally moved rocks or rocks derived from till from rockfall fragments we assumed that the fragments were rockfall. This approach may have lead to overly conservative estimates of rockfall runout distances in a limited number of cases.

On the lower slopes of the northeast ¼ of section 3, below the lower bluffs (i.e., lots 43 and 44), there are locally extensive areas of high, thick brush. In these areas it was difficult to establish minimum rockfall shadow angle limits or to search for and find rockfall fragments. We recommend further work to refine the current rockfall shadow limits when brush clearing takes place in these areas. For the interim period, we recommend that the building envelope setback from the minimum rockfall shadow line (G-G') be set at 20 metres in areas of heavy brush below the lower set of bluffs.

3.5 Bluff Top and Steep Slope Assessment Methodology

The second part of the geotechnical hazards assessment involved evaluation of stability conditions along the tops of the higher sandstone bluffs and longer mixed colluvial and bedrock slopes that border proposed building sites.

Most bluffs/scarps less than about 5 metres high and mixed colluvial and bedrock slopes steeper than about 30 degrees and 5 to 20 metres in downslope extent that occur locally within the subdivision are not specifically included in this assessment. It is unlikely that these slopes pose a significant landslide hazard. It is our understanding that any recommendations for geotechnical assessments for residential foundations are the responsibility of the building inspector. There are localized, short blocky colluvial (talus) slopes associated with some of these smaller bedrock bluffs/scarps indicating that fragmental rockfall has occasionally occurred along these slopes. The runout distances for this type of rockfall appear to be limited to a few metres.

The tops of bedrock bluffs generally higher than 5 metres and the tops of mixed colluvial and bedrock outcrop slopes equal to or steeper than about 30 degrees and with an downslope extent generally greater than 20 metres and that occur in proximity to the more significant bedrock bluffs were traversed and flagged. These flag lines were then ground surveyed by REA and are identified on the subdivision map (lines D-D' and F-F'). The "top of bluff" line was defined as the top of a clearly defined vertical or near vertical bedrock (bluff) surface or the first visible, prominent or open bedrock discontinuity (e.g., joint surface) back from the top edge of the bluff if there was no clearly defined bluff edge. The top of bluff line was placed behind (upslope of) any obviously detached blocks or indentations along the top of the bluff. In a few cases, a significant joint trace running parallel or sub-parallel to the main bluff surface, which was visibly associated with detached slabs or blocks on the bluff face was projected across soil slopes behind the main bluff face where there was no visible surface expression of the joint surface and flagged as the bluff top line. In these cases the "bluff top line" may be located several metres back from (upslope of) the apparent bluff top.

In the case of colluvial or mixed colluvial and rock outcrop slopes the "top of steep slope" line was placed along the most obvious break or change in slope at the top of the 30 degree (58 percent) or steeper than 30 degree slope. In most cases this change in slope is obvious, but in some cases it is indeterminate. In these indeterminate cases, a conservative judgment defines the "top of steep slope" line.

The dominant bedrock joint orientations (strike direction and dip angle), and characteristics along the bedrock bluffs were measured and recorded. Approximate bluff heights were determined with a hand held laser rangefinder.

Horizontal setback distances from the bluff and colluvial "top of slope" lines to define preliminary "safe" building envelopes for individual lots within the subdivision were developed for each significant bluff, colluvial or mixed colluvial and bedrock slope type. If a property owner wishes relaxation of the top of bluff setback distance so that they can build closer to the top edge of a bluff or steep colluvial slope then a detailed geotechnical investigation should be undertaken. The setback distances from the top of each sandstone bluff are based on a 1:1 relationship to estimated bluff height, unless bedrock structure indicated that a greater or lesser distance was appropriate (e.g., for bluffs equal to or less than 5 metres high the horizontal setback distance was set at 5 metres and for bluffs between 5 and 10 metres high the horizontal setback distance was set at 10 metres). In the case of steep, mixed colluvial and bedrock slopes the horizontal setback distance was set at 5 metres based on field observations that bedrock occurs at shallow depths (i.e., 1 to 2 metres) on most of these slopes.

The top of bluff setback is set to minimize the chance that a building foundation could be affected by or trigger a fragmental rockfall event. The top of steep colluvial slope setback is set to minimize the chance that a building foundation or fill might surcharge the slope sufficiently to initiate failure of the slope.

Setbacks for slope stability and rockfall hazard are not specified for the less than 5-metre high bedrock outcrops and short, steep (greater than 30 degrees and less than 20 metres long) colluvial or talus slopes that occur locally within the subdivision. It is our understanding that most of these sites occur at locations where residential construction is unlikely. A site-specific geotechnical evaluation should occur if residential construction is proposed in such areas.

4.0 GENERAL SITE CONDITIONS AND BACKGROUND

4.1 Terrain and Soils

Colluvial veneers and blankets and long, linear sandstone and conglomerate bluffs form the steeper, southwest facing portions of the property.

Within the northeast ¼ of section 3, there is a 10 to 20 metre high sandstone bluff and talus slope that trends east southeast through the southern portions of lots 42, 22 and 23. There is also a 15 to 20 metre high sandstone and conglomerate bluff and talus slope that trends east southeast through the southern portions of lots 34 to 37 and a mixed colluvial and exposed bedrock slope with small 1 to 5 metre high buffs that extends east southeast along the southern slopes of lots 38 and 41. Both bluffs have associated moderately steep to steep colluvial slopes. Morainal materials (till) are present on gently sloping areas on the northern and eastern portions of this ¼ section. Glaciofluvial or marine gravels and sands are present on the eastern slopes of the property above the lower conglomerate bluffs and are also present along the toe of the slope in some areas below the lower talus slope.

The steeper slopes are dominated by Saturna soils and exposed bedrock. Saturna soils are well- to rapidly-drained forest soils developed in shallow till or weathered sandstones and/or conglomerates on gently to moderately sloping surfaces and in colluvial materials derived from the sandstone and conglomerate on steeper surfaces (BC Soil Survey, 1990). Qualicum soils developed in gravely to sandy glaciofluvial, fluvial or marine deposits and Baynes soils developed variously in sandy fluvial, marine or eolian deposits occur locally. The lower slopes of the property contain areas of Galiano soils, Fairbridge soils and Brigatine soils. Galiano soils are well-drained soils developed in weathered shales and in shallow glacial materials overlying shales or siltstones. The Fairbridge soils are imperfectly-drained soils developed in silty to clayey marine deposits. Brigatine soils are imperfectly drained soils developed in sandy marine or fluvial deposits, but in this area they more likely occur in marine sediments.

Gently dipping sandstones and limited areas of conglomerate bedrock of the Upper Cretaceous Gabriola Formation of the Nanaimo Group underlie most of the property. Where exposed in higher vertical outcrops these rocks exhibit localized vertical and moderately to steeply dipping, south-facing joint or exfoliation surfaces. The bedding planes in the sandstones vary from horizontal to surfaces that dip gently out of or into the slope. The conglomerates are generally massive, but can be weakly bedded or jointed locally. These joint and exfoliation surfaces appear to control the periodic but localized rockfall that is evident on the rock bluffs throughout the property. The lower, very gently sloping areas of the property are underlain by siltstones and shales of the Northumberland Formation.

There was no definitive evidence of natural or logging related shallow landslide (e.g., debris slide, debris avalanche) activity visible on any of the areas of the property visited in the field.

There is evidence of ongoing rock fall activity on the sandstone and conglomerate bluffs. During the course of our field investigations we observed two instances where recent rock fall had damaged trees on the talus slopes above and including the upper slopes of lot 44.

There was no apparent evidence of recent shallow landslides on the historical air photos reviewed as part of this assessment. Nor is there evidence of large-scale, deep-seated landsides on these slopes. Soil creep and/or rock creep are likely present on the steeper colluvial slopes and there is some evidence for this in the presence of locally curved stems of some conifers on these slopes.

4.2 Timber Removal

Some localized timber harvesting has taken place on the property in the form of small patch cuts and selective removal of individual trees. Future timber removal on the property will likely follow a similar pattern. The clearing of trees was done to create views and building sites. Ground-based yarding using skidder or hoe forwarding systems and hand felling predominated. There is no sign of instability or significant surface erosion resulting from this harvesting. The property has been harvested twice before and all or part of the property burned by wildfire in the late 1940's (D. Vanstone, pers. comm., December 2005) and there is no indication of landslide activity associated with those events. The last time the property was extensively harvested was in the late 1980's or in 1990. Most of the second growth timber on the steeper slopes was not harvested at that time.

4.3 Seismicity

The proposed subdivision is located within Seismic Zone 4 (on a scale of 0 to 6) of the current British Columbia and National Building Codes (NBC). The spectral acceleration associated with a Cascadia Subduction Zone earthquake having a 2 percent probability of exceedence in 50 years, ranges between about 0.1 and 1.03 with a peak ground acceleration of 0.51g for firm ground conditions[2]. The Cascadia Subduction Zone earthquakes are not reflected on NBC maps. A Cascadia Subduction Zone earthquake could result in Zone 6 velocities being exceeded on Southern Vancouver Island.

It should be noted that the National Building Code of Canada has been revised (NBBCC 2005) and it is recommend that buildings be designed to a 1:2,475 year seismic event (2 percent in 50 year probability of exceedence). The British Columbia Building Code has recently been revised to reflect this same standard.

We consider that the area of potential development is underlain mainly by upland sediments of glacial or immediate post-glacial origin and/or bedrock and the potential for liquefaction is generally low. There are some gravelly to sandy glaciofluvial or marine (beach) deposits in the area that if water tables are high could be subject to a low to moderate liquefaction hazard, however there is no visible evidence of such events in the past. We recommend that prior to construction for residential purposes, appropriate geotechnical input be provided with respect to foundation design, including seismic considerations as per the BC Building Code 2006. It should be noted that seismic events may increase the potential for rockfall on the sandstone and conglomerate bluffs within the development area.

5.0 GEOLOGICAL HAZARD ASSESSMENT

5.1 Terrain Descriptions and Geological Hazard Interpretations

The following descriptions are of slopes within the property traversed or inspected to evaluate geological hazards. The spatial distribution of the terrain types described below corresponds to the lots outlined in the Phase 2 area (northeast ¼ of Section 3) on the property map attached to this report.

Lots 42 and 22

The southern portion of these two lots is formed by a steep slope that trends east-southeast and is composed of a sandstone bluff and shallow, discontinuous, well-to-rapidly drained rubbly colluvial veneers. Slope angles range from 70% to 90 degrees. The slope morphology ranges from irregular to uniform. The bluff ranges from 5 to 20 metres high within lot 42 and the bluff is about 15 metres high at the lot 22 property boundary. The bluff height within lot 22 ranges from about 15 meters high at the lot 42 property line to less than 10 metres high about 10 to 20 metres west of the lot 23 property line. The south-facing colluvial slopes above the top of the bluff have slope gradients of 10 to 20 percent. The sandstone in this area is massive to weakly bedded. The bedding planes, though poorly exposed, vary from dipping gently into the slope to dipping gently out of the slope. There are at least two sets of near-vertical joints, the first orientated generally at right-angles to and the second sub-parallel to the main face of the bluff which strikes at 110 to 130 degrees (see Table 4.1). These joints result in a number of large detached blocks located along portions of the upper slope of the bluff.

[2] Values derived from the Natural Resources Canada Earth Sciences Sector web site which provides interpolated 2005 National Building Code of Canada seismic hazard values for specified sites: http://earthquakescanada.nrcan.gc.ca/hazard/interpolator/index_e.php

A well- to rapidly-drained blocky rubbly colluvial apron runs along the base of the rock bluff. Slope angles on this talus apron range from 50 to 70 percent. There is no evidence of landslide activity following the earlier logging on this slope. Natural rockfall occurs periodically along this slope, but we saw no evidence of recent activity.

The north-facing portions of these lots are mantled with shallow, well-drained, rubbly, weathered bedrock veneers and blankets, morainal veneers may occur locally. Gently sloping bedrock surfaces are exposed locally. Slope angles range from 5 to 15 percent. The slope is generally uniform (smooth) and planar to slightly convex.

We recommend that the top of bluff setbacks in this area be set at 20 metres north of the top of bluff line D-D' in lot 42 and 15 metres north of the top of bluff line D-D' in lot 22 based on the approximate maximum bluff heights in these two lots. As the bluff height varies significantly along these lots relaxation of the setback distances may be feasible locally. For example, the top of slope line in the western portion of lot 42 runs along the top of a steep colluvial slope rather than a rock bluff, so relaxation of the setback distance in this area may be quite feasible.

We recommend a rockfall hazard zone setback distance of 10 metres south of the rockfall hazard line E-E' (the setback may actually occur along the gently sloping northern property boundaries of lots 31 and 32).

The gently sloping areas within these lots with the exception of the setback areas are considered safe for residential construction.

Table 2: Bedrock Joint Characteristics Upper Bluff

Joint #	Dip Direction (°)	Dip Angle (°)	Persistence	Shape	Roughness	Joint Spacing (m)
1	200	03	continuous	wavy	rough	0.5-2
2	315	05	continuous	wavy	rough	0.5-2
3	205-215	70-90	continuous	wavy	rough	1-5
4	200-215	40-50	continuous	wavy	rough	2-5
5	200-215	25-30	continuous	wavy	rough	2-5
6	250-275	60-80	continuous	wavy - irregular	rough	1-5
7	150-175	30-80	discontinuous	wavy	rough	uncommon

Lot 23

This lot is mantled with a complex of well-drained veneers and blankets of rubbly weathered bedrock and morainal materials. Relatively smooth, gently sloping bedrock surfaces occur locally. Slope angles range from 5 to 10 percent on both the north slope and most of the south facing slope of this lot. The lower southern edge of the lot is moderately to steeply sloping and includes a low, near-vertical sandstone scarp and small talus slope in the southwest corner of the lot. The slope morphology is generally uniform (smooth) and the lateral curvature planar to weakly convex. There is no visible evidence of past landslide activity on these slopes, but there has been some rockfall from the low sandstone scarp.

This gently sloping lot is considered safe for residential construction, except for the small area on the lower southwest side of the lot that comprises the low sandstone bluff and small talus slope.

Lots 24 to 26

These lots are mantled with well-drained morainal blankets and veneers. Slope angles range from 5 to 10 percent on the upper portions of these southeast facing lots and 5 to 15 percent on the lower portions of the lots. The slope morphology is uniform to undulating and the lateral curvature varies from planar to slightly convex. There is no visible evidence of previous landslide activity on these slopes.

These lots are considered safe for residential development.

Lots 27, 39 and 40

These lots comprise well-drained morainal blankets and veneers. Slope angles range from 10 to 15 percent. The slope morphology is uniform and generally planar. These lots have a generally southerly aspect. There is no evidence of past natural or harvest related landside activity visible on these lots.

These lots are considered safe for residential development.

Lots 28 and 29

Well-drained morainal blankets and veneers mantle these south-facing slopes. Slope angles range from 10 to 20 percent on the upper portions of these lots and from 5 to 15 percent on the lower portions of these lots. The slope morphology is generally uniform and the lateral curvature planar.

These lots are considered safe for residential development.

Lots 30 and 31

Well-drained morainal blankets and veneers and lesser amounts of rubbly weathered bedrock veneers mantle these slopes. Minor deposits of sandy gravely glaciofluvial or marine deposits (e.g., beach ridges) may be present locally. Slope angles on these lots generally range from 5 to 15 percent but slopes of 20 percent may be present locally. These slopes are generally uniform and planar but may be slightly convex locally.

These lots are considered safe for residential development, with possible localized rockfall hazard as discussed below. The upper property boundary of lot 31 and a possibly a very small area within the northwest corner of lot 30 may fall within the rockfall hazard zone along the base of the upper rock bluff and talus slopes that form the southern edge of lot 22 and the southwest corner of lot 23. A setback of 10 metres is recommended along the lower boundary of the rockfall hazard line D-D' and this setback may intrude into limited areas of lots 31 and 30.

Lots 32 and 33

Well-drained morainal blankets and veneers mantle these slopes. Shallow veneers of weathered bedrock occur locally as do occasional, low (1-2 m high), discontinuous, moderately fractured, steep (70-90°), sandstone scarps. The slope morphology is generally uniform to undulating and the lateral slope curvature is planar. Slope angles range from 0 to 10 percent on the upper part of these lots and 5 to 15 percent on the mid and lower portions of the lots. The uppermost (northern) edges of these lots are within the rock fall shadow of the sandstone bluffs that bound the southwest edge of lot 42.

With the exception of the narrow rock fall hazard zone along the upper (northeast) edge of these lots noted above, this area is considered safe for residential development due to the very gentle slopes and well-drained soils. As noted above, we recommend a rockfall hazard zone setback distance of 10 metres south of the rockfall hazard line E-E' in the northern portions of these lots.

Lots 34 to 36

The upper and mid slopes of these lots comprise a mix of well-drained morainal blankets and veneers and shallow veneers of weathered sandstone. Slope angles range from 10 to 30 percent on this portion of the hillside. The slope morphology is uniform to irregular and benchy. The lateral curvature is planar to slightly convex. The upper slopes of these lots are considered safe for residential development due to the well-drained character of the soils and the gentle to moderate slope gradients.

The steep southern portions of these lots include both a very steep conglomerate and sandstone bluff with very shallow localized colluvial veneers and a deep, blocky rubbly colluvial apron that runs along the base of the bluff.

The bluff is primarily of conglomerate but the top few metres of the buff are sandstone. Sandstone beds occur locally at the base of the bluff. Further east the bluff is dominantly sandstone. The bluff in this area ranges from about 10 to 20 metres high. The slope angles on the exposed bedrock surfaces range from 70 to 90 degrees and there are small overhangs locally. Slope angles on the shallow colluvial veneers range from 60 to 90 percent. The aspect of the bluff ranges from 220 to 230 degrees. Some bedding or bedding plane joints in the sandstones appear horizontal, others dip gently to moderately out of the slope (i.e. they dip southwest) and some dip gently into the slope (i.e., north to northeast). The conglomerates are generally massive, but the bedding planes in the sandstones range from 0.1 to 3 metres apart and can be discontinuous. Near vertical joints striking roughly north-south occur in the sandstones and are spaced at variable distances (i.e., 1 to 5 metres apart). There are near-vertical joints in the sandstones and in the conglomerates that parallel the orientation of the main rock face (i.e., they strike roughly east southeast, 110 degrees and 130 degrees). Table 3 provides descriptions of the dominant joints. The bluff is subject to ongoing rockfall, and there is limited evidence of relatively fresh rockfall activity. There are a few trees growing on the vertical portions of the rock bluff, but on the less steeply sloping areas along the top of the bluff trees are frequent.

We recommend that the top of bluff setbacks in this area be set at 20 metres north of the top of bluff line F-F' in lots 35 and 36, except that the setback can be 10 metres for the eastern 50 metres of lot 36 where the bluff is less than or equal to 10 metres high. The setback should be set at 10 metres north of the top of bluff line from the west side of lot 34 to within 50 metres of lot 35, as the top of bluff line in this area is located conservatively. For the final 50 metres of lot 34 to lot 35 the setback line should run slightly south of east to meet the 20-metre setback line at the lot 34-35 property line.

The colluvial apron at the base of the bluff is dominated by well- to rapidly-drained blocky rubbly materials in the areas where the sandstones predominate. In areas where the conglomerates dominate the bluff above, there are fewer large blocks and the colluvial soils include large numbers of rounded, pebble and cobble sized rocks that have weathered out of the conglomerates. Slope angles generally range from 50 to 70 percent but locally can reach 80 percent.

Table 3: Bedrock Joint Characteristics Lower Sandstone and Conglomerate Bluff

Joint #	Dip Direction (°)	Dip Angle (°)	Persistence	Shape	Roughness	Joint Spacing (m)
1	200	70-90	continuous	planar - wavy	rough	1 to 5+
2	150-160	80-90	continuous	wavy	rough	2 to 5+
3	110-120	80-90	continuous[3]	planar - wavy	rough	rare
4	220-230	90	continuous	planar - wavy	rough	5+
5	130-135	≥65	continuous	wavy	rough	rare
6	015	-5 to +10	continuous	wavy	rough	bed thickness 1 to 3+

Lots 37 and 38

The upper and mid slopes of these lots are mantled with well- to moderately-well drained morainal blankest and veneers and locally with veneers of weathered bedrock. Well-drained glaciofluvial or marine gravels are present in portions of lot 38. Slope angles range from 5 to 30 percent.

The steeper slopes along the southern portions of these lots are dominated by well- to rapidly-drained, blocky rubbly colluvial materials, but a number of small, smooth to irregular sandstone and occasionally conglomerate outcrops and low bluffs also occur on the hillside. Slope angles on the lower portion of this slope generally range from 50 to 70 percent with localized benches and gently sloping areas with slope gradients in the range of 20 to 40 percent. Slope angles along the upper portions of the hillside generally range from 60 to 70 percent but are as steep as 90 degrees on some bedrock outcrops. The bedrock bluffs and outcrops are usually less than a metre in height but occasionally reach 5 to 6 metres high. These bedrock bluffs become higher towards the west. There is evidence of limited rockfall from some of the higher scarps. There is no evidence that past timber harvest has resulted in any landslide activity on this slope. A low sandstone bluff and/or moderately steep talus slope bounds the lower boundary of these lots. We recommend a setback of 5 metres from the top of bluff line on lot 37, but due to the irregular boundary along the top of the low bluff and the relatively weak character of the weathered sandstone and underlying conglomerate bedrock, foundation conditions should be evaluated by a geotechnical engineer at the time of construction if a house is located within 10 metres of the bluff. A 5-metre setback is recommended from the top of top of steep slope line on lot 38.

[3] Where observed, this near vertical joint occurs in the sandstone beds below the conglomerate but does not penetrate up into the conglomerate.

Lot 41

This lot is mantled with well-drained morainal materials on the gently sloping mid and upper slopes of the lot and glaciofluvial or marine gravels on the level to very gently sloping areas on the lower slopes of the lot. Slope angles range from 5 to 10 percent on the lower slopes and from 15 to 20 percent on the mid and upper slopes of the lot. These slopes are generally uniform and planar. These gentle slopes preclude any concern for landslide activity. A low sandstone and conglomerate bluff and colluvial slope bounds the lower boundary on the western side of this lot. We recommend a setback of 5 metres from the top of bluff line. East of the end of the low bluff tabular sandstone slabs exposed on the slope surface tilt slightly downslope (south), contrary to the normal gentle northerly dip of the bedding surfaces along the lower bluff. This contrary tilt suggests that the weak conglomerate beds underlying the upper sandstone beds have disintegrated[4] or were eroded by wave action as the land surface rebounded at the end of the last glaciation. Portions of this area are currently included within or about the geological hazard zone, but no additional setback is recommended from the top of slope line. If construction is proposed within this area then the foundation conditions should be evaluated by a geotechnical engineer as the sandstone slabs may be loose.

Lot 43

This lot extends from the lower development boundary to the eastern edge of the lower bluff line. The bluff in this area is rarely higher than about 5 metres and extends about halfway across the upper boundary of the lot.

The slopes that form the upper one third of the lot are dominated by well- to moderately well-drained morainal and gravely marine materials. Slope angles in this area generally range from 25 to 35 percent. Locally the colluvial slopes below the low sandstone bluff reach slope angles of 50 to 60 percent. These slopes are uniform and generally planar. There is no evidence of previous landslide activity on these slopes. There is some rockfall hazard on the western portion of the slope downslope and slightly east of the end of the low sandstone bluff. The rockfall hazard zone extends east of the end of the bluff as rolling rocks tend to run at an angle rather than straight downhill. Lower on the slope there were some apparent rockfall fragments east of the eastern end of the bluff. Some of these rock fragments may result from wave erosion at the end of the last glaciation, not rock fall, so the rock fall hazard line in this area may be conservative.

The lower two thirds of the lot are dominated by well- to moderately well-drained, pebbly sandy to cobbly gravelly marine sediments. Imperfectly-drained silty clayey to pebbly silty clayey marine sediments are present along the lower slopes of lot 43 immediately north of the southern property boundary. These materials are generally greater than a metre deep, but areas of shallow soil over shales and siltsones of the Northumberland Formation can be expected. Slope angles in this area generally range from 5 to 15 percent. These slopes tend to be uniform and planar.

We recommend an initial 20 metre building envelope setback downslope of the rockfall shadow line G-G' until such time as thinning of the tree and brush cover improves visibility sufficiently to allow a more accurate delineation of this line and a nominal 5 metre setback from line H-H'. The gentle to moderate slopes that comprise this lot outside the hazard lines and setbacks are considered safe for residential development.

[4] At one or two location, further west along the top of the lower bluffs, we have observed tilted sandstone slabs overlying voids were most of the underlying conglomerate bed is gone, but small, residual columns of conglomerate still support the sandstone slab.

Lot 44

This lot occupies a gently sloping area on the lower slopes of the development, mantled with well- to moderately well-drained, pebbly to cobbly sandy marine deposits. Locally, these materials may comprise wave washed till or wave washed glaciofluvial deposits. These materials are generally more than a meter deep, but locally can be shallow over shales, siltstones and occasional sandstone beds of the Northumberland Formation. Locally these materials may overly till. Slope angles generally range from 5 to 10 percent, but locally slopes can reach 30 percent for short distances. These slopes are generally uniform and planar, but locally in the upper northwest corner of the lot these slopes are gently undulating. There is no evidence of landslide activity on or affecting these slopes. The upper portion of the lot may extend into the rockfall shadow (hazard zone) at the base of the talus slope that runs along the lower line of bluffs. As described above (Section 3.4) we recommend an initial 20 metre building envelope setback downslope of the rockfall shadow line until such time as thinning of the tree and brush cover improves visibility sufficiently to allow a more accurate delineation of this line. The gentle slopes that comprise this lot outside the hazard lines and setbacks are considered safe for residential development.

Lot 45

This lot occupies a gently sloping area on the lower slopes of the development, mantled with well- to moderately well-drained to locally imperfectly-drained, cobbly pebbly sandy to pebbly silty sandy marine deposits. Locally, these materials may comprise wave washed morainal deposits. Imperfectly-drained silty clayey to pebbly silty clayey marine sediments may occur along the lower slopes of lot 45 north of the southern property boundary. These materials are generally less than a meter deep and can be quite shallow over the shales, siltstones and occasional sandstone beds of the Northumberland Formation. Locally these materials may overly till. Slope angles generally range from 5 to 10 percent. These gentle slopes preclude concern for landslide activity. These slopes are considered safe for residential development.

6.0 SUMMARY CONCLUSIONS AND RECOMMENDATIONS

The lack of evidence of large scale, deep-seated landslides on these slopes indicates that the probability of large-scale, deep-seated landslides appears to be very low under current (and previous post-glacial) climatic and physical conditions. The lack evidence of such activity since the end of the Fraser Glaciation in this area about 10,000 years ago suggests an annual probability of occurrence of such events of less than 1: 10,000.

Because of the often deeply weathered, and the moderately- to well-fractured or exfoliated character of the local sandstone and conglomerate bedrock, we recommend that prior to construction for residential purposes, additional geotechnical investigation be undertaken to determine the physical characteristics of the bedrock, where bedrock is at or near surface and to provide geotechnical input to the design of appropriate foundations. Similarly, setbacks for slope stability and rockfall hazard are not specified for the less than 5-metre high bedrock outcrops and short, steep (≥30 degrees) colluvial or talus slopes that occur locally within the subdivision. Golder recommends a site-specific geotechnical evaluation for these hazards as well as foundation conditions if residential construction is proposed in such areas.

A significant seismic event, such as that having a 2 percent probability of occurrence in 50 years (i.e., 1:2475-year event), could result in localized landslides on the steeper slopes within the subdivision. However considering that there have been many such events over the last approximately 10,000 years since deglaciation in this area, without obvious evidence of significant landslide activity, we consider the likelihood of a seismically induced landslide on these slopes to be low (i.e., less than 1:10,000 annually). With respect to rockfall there certainly exists a possibility that seismic activity has and could result in rockfall activity. It is our professional opinion that the rockfall runout hazard limits established for the property will suffice for rockfall generated by seismic activity as well as rockfall resulting from physical and chemical weathering.

A detailed, site specific assessment of geotechnical hazards and foundation conditions, including recommendations for suitable mitigation to protect residences from geotechnical hazards is recommended if residential construction is proposed within any of the building (geotechnical hazard) setback zones or on any of the moderately steep to steep bedrock or colluvial slopes within the subdivision area.

There were no apparent geotechnical hazards within the gently to moderately sloping terrain located outside the building envelope setback zones and designated geotechnical hazard zones.

Previous harvesting on the moderately sloping areas on this property has not resulted in any landslide activity so timber removal for building sites, or to develop views, should result in a low likelihood of landslide activity. Similarly the likelihood of natural landslide activity should be low. Occasional post-harvest landslide activity is not unknown on similar terrain on nearby Vancouver Island, although generally in wetter climates than found on Gabriola Island. Rollerson, et al. (2002), report post-harvest landslide probabilities from southwestern Vancouver Island of about 5 percent on terrain with slope angles between 20 and 30 degrees, so landslide activity resulting from timber removal cannot be entirely discounted. If the assumption is made that harvest related landslides on Vancouver Island recur each forest rotation (e.g. every 50 years) the post-harvest landslide rates noted above could equate to a landslide probability of 0.001 per year or 1:1000 annually on terrain with slopes between 20 and 30 degrees and less than 1:1000 on slopes less than 20 degrees. As the climate at the Gabriola site is drier, the natural or harvest-related landslide probabilities on similar slopes on the Gabriola site should be less than those suggested above.

Avoid discharging concentrated drainage, such as from roof rainwater leaders, perimeter drains, or other sources onto the moderately steeply sloping to steeply sloping areas within the subdivision as this could lead to slope failure.

Do not raise grade, create fills or spoil waste materials on any moderately steep to steeply sloping terrain or within building envelope setback zones without the approval of a geotechnical engineer.

Should any signs of future slope instability such as landslides, tension cracks, or significant surface soil erosion be observed on any of the moderately sloping to steeply sloping terrain within individual lots or within the building envelope setback zones, the owner(s) should contact a qualified geotechnical/geological engineer or engineering geologist to assess the situation.

It is our professional opinion that the land outside the identified geotechnical hazard zones and setbacks may be used safely for the use intended (i.e. construction of permanent single family residences) and will not result in a net increase in geotechnical hazards within or immediately adjacent to the subject property, provided the recommendations provided herein are properly implemented.

7.0 CLOSURE

We trust that the information provided in this report is sufficient for your immediate needs. If you have any questions about this report, please contact us.

Yours truly,

GOLDER ASSOCIATES LTD.

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TR/MGG/smh

21 May 2010

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SLOPE CLASS DEFINITIONS

Level or plain – slopes between 0 and 5 percent (0 and 3 degrees)

Gentle – slopes between 6 and 26 percent (4 and 15 degrees)

Moderate slope - slopes between 27 and 49 percent (16 and 26 degrees)

Moderately steep - slopes between 50 and 70 percent (27 and 35 degrees)

Steep – slopes steeper than 70 percent (35 degrees)

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IMPORTANT INFORMATION AND LIMITATIONS OF THIS REPORT (CON'T)

Soil, Rock and Groundwater Conditions: Classification and identification of soils, rocks, and geologic units have been based on commonly accepted methods employed in the practice of geotechnical engineering and related disciplines. Classification and identification of the type and condition of these materials or units involves judgment, and boundaries between different soil, rock or geologic types or units may be transitional rather than abrupt. Accordingly, Golder does not warrant or guarantee the exactness of the descriptions.

Special risks occur whenever engineering or related disciplines are applied to identify subsurface conditions and even a comprehensive investigation, sampling and testing program may fail to detect all or certain subsurface conditions. The environmental, geologic, geotechnical, geochemical and hydrogeologic conditions that Golder interprets to exist between and beyond sampling points may differ from those that actually exist. In addition to soil variability, fill of variable physical and chemical composition can be present over portions of the site or on adjacent properties. The professional services retained for this project include only the geotechnical aspects of the subsurface conditions at the site, unless otherwise specifically stated and identified in the report. The presence or implication(s) of possible surface and/or subsurface contamination resulting from previous activities or uses of the site and/or resulting from the introduction onto the site of materials from off-site sources are outside the terms of reference for this project and have not been investigated or addressed.

Soil and groundwater conditions shown in the factual data and described in the report are the observed conditions at the time of their determination or measurement. Unless otherwise noted, those conditions form the basis of the recommendations in the report. Groundwater conditions may vary between and beyond reported locations and can be affected by annual, seasonal and meteorological conditions. The condition of the soil, rock and groundwater may be significantly altered by construction activities (traffic, excavation, groundwater level lowering, pile driving, blasting, etc.) on the site or on adjacent sites. Excavation may expose the soils to changes due to wetting, drying or frost. Unless otherwise indicated the soil must be protected from these changes during construction.

Sample Disposal: Golder will dispose of all uncontaminated soil and/or rock samples 90 days following issue of this report or, upon written request of the Client, will store uncontaminated samples and materials at the Client's expense. In the event that actual contaminated soils, fills or groundwater are encountered or are inferred to be present, all contaminated samples shall remain the property and responsibility of the Client for proper disposal.

Follow-Up and Construction Services: All details of the design were not known at the time of submission of Golder's report. Golder 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 Golder's report.

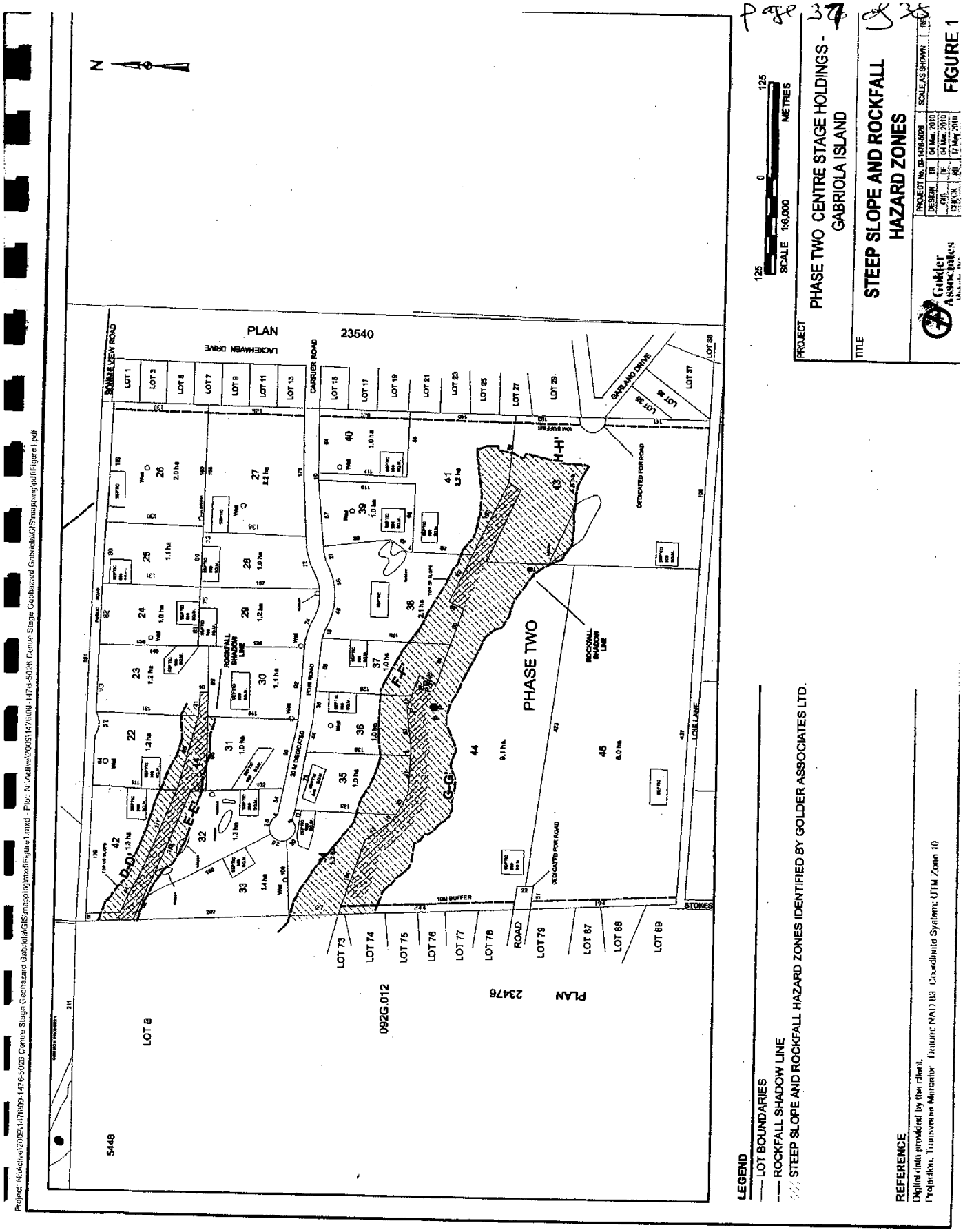
During construction, Golder should be retained to perform sufficient and timely observations of encountered conditions to confirm and document that the subsurface conditions do not materially differ from those interpreted conditions considered in the preparation of Golder's report and to confirm and document that construction activities do not adversely affect the suggestions, recommendations and opinions contained in Golder's report. Adequate field review, observation and testing during construction are necessary for Golder to be able to provide letters of assurance, in accordance with the requirements of many regulatory authorities. In cases where this recommendation is not followed, Golder's responsibility is limited to interpreting accurately the information encountered at the borehole locations, at the time of their initial determination or measurement during the preparation of the Report.

IMPORTANT INFORMATION AND LIMITATIONS OF THIS REPORT (CON'T)

Changed Conditions and Drainage: Where conditions encountered at the site differ significantly from those anticipated in this report, either due to natural variability of subsurface conditions or construction activities, it is a condition of this report that Golder be notified of any changes and be provided with an opportunity to review or revise the recommendations within this report. Recognition of changed soil and rock conditions requires experience and it is recommended that Golder be employed to visit the site with sufficient frequency to detect if conditions have changed significantly.

Drainage of subsurface water is commonly required either for temporary or permanent installations for the project. Improper design or construction of drainage or dewatering can have serious consequences. Golder takes no responsibility for the effects of drainage unless specifically involved in the detailed design and construction monitoring of the system.

FIGURES


N
PLAN 23540
BONNIE VIEW ROAD
LAKEHAVEN DRIVE
CARRIER ROAD
GARLAND DRIVE
PHASE TWO
ROCKFALL SHADOW LINE
FOX ROAD
LOIS LANE
STOKES ROAD
DEDICATED FOR ROAD
100M BUFFER
LOT 8
5448
092G.012
PLAN 23476
SCALE 1:6,000
0
125
METRES
LEGEND
LOT BOUNDARIES
ROCKFALL SHADOW LINE
STEEP SLOPE AND ROCKFALL HAZARD ZONES IDENTIFIED BY GOLDER ASSOCIATES LTD.
REFERENCE
Digital data provided by the client.
Projection: Transverse Mercator Datum: NAD 83 Coordinate System: UTM Zone 10
PROJECT
PHASE TWO CENTRE STAGE HOLDINGS - GABRIOLA ISLAND
TITLE
STEEP SLOPE AND ROCKFALL HAZARD ZONES
Golder Associates
PROJECT No. 09-1476-5026
SCALE AS SHOWN
DESIGN TR 04 Mar. 2010
GIS IK 04 Mar. 2010
CHECK RC 17 May 2010
FIGURE 1

At Golder Associates we strive to be the most respected global group of companies specializing in ground engineering and environmental services. Employee owned since our formation in 1960, we have created a unique culture with pride in ownership, resulting in long-term organizational stability. Golder professionals take the time to build an understanding of client needs and of the specific environments in which they operate. We continue to expand our technical capabilities and have experienced steady growth with employees now operating from offices located throughout Africa, Asia, Australasia, Europe, North America and South America.

Africa	+ 27 11 254 4800
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Australasia	+ 61 3 8862 3500
Europe	+ 356 21 42 30 20
North America	+ 1 800 275 3281
South America	+ 55 21 3095 9500

solutions@golder.com
www.golder.com

Golder Associates Ltd.
2640 Douglas Street
Victoria, British Columbia, V8T 4M1
Canada
T: +1 (250) 881 7372

Golder Associates

FORM_DECGEN_V18

LAND TITLE ACT
FORM DECLARATION

Related Document Number: CA2923794

Your electronic signature is a representation that: you are a subscriber as defined by the Land Title Act, RSBC 1996, C.250, the original or where designated by the Director, a true copy of the supporting document is in your possession and that the summary of the material facts set out in this declaration accurately reflects the material facts set out in each supporting document and if a supporting document is evidenced by an imaged copy the material facts of the supporting document are set out in the imaged copy of it attached. Each term used in the representation and declaration set out above is to be given the meaning ascribed to it in Part 10.1 of the Land Title Act.

Ronald Leonard Morin UNYLGW

Digitally signed by Ronald Leonard Morin UNYLGW
DN: c=CA, cn=Ronald Leonard Morin UNYLGW, o=Lawyer, ou=Verify ID at www.juricert.com/LKUP.cfm?id=UNYLGW
Date: 2012.12.20 09:36:59 -08'00'

I, RONALD L. MORIN, Barrister and Solicitor of 15245 - 18 Avenue, Surrey, B.C. V4A 1W9, Declare that due to a clerical error:

On the Form C Priority Agreement, Page 1, Section 5. (Transferor(s), the Grantors ISLAND SAVINGS CREDIT UNION (Inc. No. FI 29) and R.G.R. LEGACY HOLDINGS LTD. (Inc. No. 0775435) were inadvertently not joined in as Transferors.

Page 1, Section 5. (Transferor(s): of the Form C Priority Agreement should read as follows:

CENTRE STAGE HOLDINGS LTD. (Inc. No. 204577), ISLAND SAVINGS CREDIT UNION (Inc. No. FI 29) having its head office at 499 Canada Avenue, Duncan B.C., V9L 1T7and R.G.R. LEGACY HOLDINGS LTD. (Inc. No. 0775435) having a registered and records office at 15245-18th Avenue, Surrey, BC, V4A 1W9

On the Form C, Page 1, Section 6 Transferees, the Grantors ISLAND SAVINGS CREDIT UNION (Inc. No. FI 29) and R.G.R. LEGACY HOLDINGS LTD. (Inc. No. 0775435) were inadvertently joined in as Transferees. The addition of ISLAND SAVINGS CREDIT UNION (Inc. No. FI 29) having its head office at 499 Canada Avenue, Duncan B.C., V9L 1T7 and R.G.R. LEGACY HOLDINGS LTD. (Inc. No. 0775435) having a registered and records office at 15245-18th Avenue, Surrey, BC, V4A 1W9 in this Section 6 should be deleted.

All Parties hereto agree to the Amendment.

I make this Declaration and know it to be true based on personal information.

_____

RONALD L. MORIN
Barrister & Solicitor
15245 - 18 Avenue
Surrey, BC V4A 1W9

NOTE:
A Declaration cannot be used to submit a request to the Registrar for the withdrawal of a document.

Fee Collected for Document: $0.00

APPENDIX D

Landslide Assessment Assurance Statements

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* Date: 19 May 2021

Islands Trust - Northern Office
700 North Road, Gabriola, BC. V0R 1X3

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: North East ¼ of Section 3, Gabriola Island, Nanaimo District, except Parcel A (DD 77326I) and except Part in Plans EPP19453 and EPP6666

Legal description and civic address of the Property PID 003 134 806, 1905 Stokes Rd., V0R 1X2

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".

Terry Rollerson, P.Geo., P.Eng.
Name (print)

19 May 2021
Date

Signature

[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".

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* Date: 19 May 2021

Ministry of Transportation and Infrastructure
Vancouver Island District. 2100 Labieux Rd. Nanaimo, BC. V9T 6E9

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
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For the Property: NE ¼ of Section 3, Gabriola Island, Nanaimo District, except Parcel A (DD77326I) and except Part in Plans EPP19453 and EPP6666.

Legal description and civic address of the Property PID 003 134 806, 1905 Stokes Rd., V0R 1X2

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
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- ✓ 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:
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  - ✓ 7.2 made a finding on the *level of landslide safety* on the Property based on the comparison
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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".

Terry Rollerson ~~P.Geo.~~, P.L.Eng.
Name (print)

19 May 2021
Date

Signature

[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".

Lewkowich Engineering Associates Ltd.

geotechnical • environmental, health & safety • materials testing

GEOTECHNICAL MEMO

Islands Trust, Northern Office
700 North Road
Gabriola Island, BC. V0R 1X3

File: E2444.01
Date: July 10, 2023

ATTENTION: **Sonja Zupanec, RRR, MCIP**

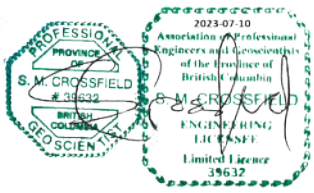
PROJECT: **CENTRE STAGE GABRIOLA SUBDIVISION PHASE 2**
GABRIOLA ISLAND, BC.
PID: 003-134-806

SUBJECT: **TREE REMOVAL AND SLOPE STABILITY**

1. As requested, Lewkowich Engineering Associates Ltd. (LEA) has reviewed the above referenced development being proposed by Centre Stage Holdings Ltd., the associated background reports, and undertook a site reconnaissance, to observe and comment on the effects of tree removal on slope stability, as per Development Permit DP-6 Escarpment Areas.
2. We understand the Islands Trust would like a follow-up confirmation by a geotechnical engineer that slope stability will not be impacted by tree removal as discussed in the report by Diamond Head Consulting Ltd. "Forest Stand Assessment for Centre Stage Gabriola Subdivision Phase 2" dated May 26, 2023. The report outlines selective tree removal around escarpment (steep slope) areas with an estimated 2,000 trees removed in total using a guideline of 50% removal ratio.
3. We have also reviewed Stantec Consulting Ltd. report titled "Geological Hazard Review of Centre Stage Gabriola Subdivision, Phase 2" dated May 20, 2021, which concludes a low to very low likelihood that selective removal of trees on steeper slopes would adversely affect slope stability.
4. LEA undertook a site reconnaissance of the property along the steep slopes on June 30, 2023 with Centre Stage Holdings and Stantec. LEA was able to become familiar with the site conditions, slope stability and setbacks, as they relate to the proposed development plans.
5. Based on the above It is the opinion of LEA that the approximately 2,000 trees estimated for removal does remain consistent with the terminology of "selective removal" and furthermore we concur that there remains a low to very low likelihood that the tree removal will adversely affect slope stability.
6. Lewkowich Engineering Associates Ltd. appreciates the opportunity to be of service on this project. If you have any comments, or if we can be of further assistance, please contact us at your convenience.

Respectfully Yours,
Lewkowich Engineering Associates Ltd.

Stuart Crossfield, P.Geo., P.L.Eng.
Engineering Geologist



From: Don Elkington
Sent: Monday, July 7, 2025 2:53 PM
To: Sonja Zupanec
Cc: Bob McKechnie; Vanessa Craig
Subject: Jets flying over Gabriola Island

Hi Sonja;

Can you somehow forward this email to the local Trust representatives. Trustee's.

Venessa Craig got Bob McKechnie and myself on a working committee a few years back to work with Transport Canada and the Nanaimo Airport authorities to mitigate the noise and jet flights overhead which really went nowhere. Communication after 2 years of quarterly meetings didn't change the flight partners; but to some extent there were some minor changes.

This has changed drastically over the past few months. I visually see Air Canada and West Jet flying right down the center of the Island turning left just over the village. Low altitude as well.

If in fact Island Trust has any clout over their mandates, coping Venessa as well on this; there should be immediate pushback with a letter to the Federal authorities as well as the Nanaimo Airport and the RDN to show concern.

Quote:

"Gabriola Island is recognized as a noise-sensitive area, and local authorities have expressed concerns about increased noise disruption due to both airspace changes and airport expansions."

Also see https://soundernews.com/nav-canada-establishing-new-air-traffic-patterns/

Otherwise an explanation as to why the Island Trust policy for Gabriola being and extreme sensitive zone for aircraft is incorrect and what can be done to fix this.

Thank you;

Don Elkington

July 17, 2025

Laura Patrick, Chair
Tobi Elliott and Susan Yates, Gabriola Island Trustees
Islands Trust
700 North Road
Gabriola Island, BC V0R 1X3

Dear Laura, Tobi and Susan,

On behalf of the Board of Education for Nanaimo Ladysmith Public Schools, I would like to request your advocacy to support a new build of Nanaimo District Secondary School (NDSS).

The building that houses NDSS reached the end of its expected lifespan many years ago. Apart from the addition of the tower and a new heating system in 2000, the building is held together by 1952-era construction materials. It was never designed for the electrical, technical and learning needs of students in 2025. For example, in 1952, the architects could not have imagined computer labs, multimedia classrooms, a modern science lab, or gender-neutral washrooms. In addition, NDSS has been over capacity for many years and is currently at its highest enrollment in over three decades. Together, these factors contribute to a poor and substandard learning environment for Nanaimo students who attend NDSS. The low ceilings, dark hallways, crumbling building and lack of communal spaces are a detriment to the mental health and well-being of students and staff.

With this in mind, we need your help. Our hope is that you also feel strongly that funding a new NDSS is a priority for our region.

The school district has been asking the Ministry of Education and Ministry of Infrastructure for a new NDSS for many years. We are now reaching out to regional governments, rights holders, and other community partners to ask that you advocate widely within your circles of influence for including funding for a new NDSS building in the next provincial budget.

Our hope is to share the message that funding a new NDSS and supporting learning in a safe and healthy environment for nearly 1,700 students is a priority for our region.

Sincerely,

Naomi Bailey

Naomi Bailey
Board Chair
Nanaimo Ladysmith Public Schools Board of Education

From: Mudge Island Community Association <mudgeislandcommunityassociatio@gmail.com>
Sent: Monday, July 21, 2025 6:27 PM
To: Tobi Elliott <telliott@islandstrust.bc.ca>; northinfo <northinfo@islandstrust.bc.ca>; Susan Yates <syates@islandstrust.bc.ca>; Laura Patrick <lpatrick@islandstrust.bc.ca>; Renee Jamurat <rjamurat@islandstrust.bc.ca>
Cc: micabc@googlegroups.com
Subject: Mudge Island Bylaw Survey Results

Gabriola Local Area Trust Committee

Please find attached the Executive Summary of the Mudge Island Bylaw Survey Results.

We respectfully request that this correspondence be included in the agenda for the Local Area Trust Committee meeting on July 31st. We believe it offers valuable insight and clarity regarding the desires of the Mudge Island community as a whole.

The Executive Summary includes a link to the full report hosted on Google Drive. For convenience, we have also included a link to our community communication, which contains access to the full report as well.

While the Executive Summary provides a helpful overview, we encourage planning staff to review the complete document. The full report contains survey responses, and analysis, and raw community comments that offer important perspectives and ideas.

We look forward to working collaboratively with Islands Trust to improve our land use bylaws once resources are available.

If you or staff have any questions, please don't hesitate to contact us at MICABC@googlegroups.com.

Sincerely,

Mudge Island Community Association
MICABC@googlegroups.com

Mudge Island Community Bylaw Survey
18 July, 2025

Executive Summary

The Mudge Island Bylaw Survey was designed to help Mudge Island Community Association provide guidance to the Gabriola Island Local Area Trust Committee and Island Trust Planning staff in conducting the targeted review of the Land Use Bylaws of Mudge Island.

The survey contained questions on specific areas that were identified by MICA through community consultation. The survey was designed to provide MICA with broad direction guidance for working with the Gabriola Local Trust effectively. Each question asked for input on direction, and priority and free form comments. We did not enforce any limits or restrictions on the priorities selection. So each respondent could have selected more than one question as the highest priority There was an open ended question about any omissions that were not included in the survey. Lastly, the respondent had the opportunity to rate the effectiveness of the survey.

The questions were:

1. What is your opinion of the current definition of “Structure” in the Mudge Island Bylaws?
2. What is your opinion on the Lot coverages in the Mudge Island Bylaws?
3. What is your opinion on mooring buoys in the Mudge island Bylaws?
4. <u>Three Questions on Home Occupations</u>
   What is your Opinion on Commercial Vehicles and Heavy Equipment in the Mudge Island Bylaws?
   What is your Opinion on Short Term Temporary Worker Accommodation? in the Mudge Island Bylaws?
   What is your opinion on Storage of Temporary building supplies in the Mudge Island Bylaws?
5. What is your opinion on the current regulations regarding Structures in the Setback from the Sea in the Mudge Island Bylaws?
6. What is your opinion on the current Setback from the Sea Bylaws in the Mudge Island Bylaws?
7. What is your opinion on the current regulations on Tent Trailer and RV’s in the Mudge Island Bylaws

8. What items did we omit that are important to you?

The survey was conducted between June 29th and July 13th, 2025. The invitations were sent to the Mudge Island Community email list and was launched at a town hall on June 29th. There were 2 reminders sent to the community to participate.

Results:
The survey received 165 unique responses that were anonymous. This represents over 50% of the known Mudge Island residents that were all invited to participate. The survey was anonymous unless the resident identified themself in the textual survey response. .

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General Results and Observations

With the exception of two question areas, survey responses show that in general about 10% of residents are comfortable with the current bylaw restrictions and may even support stricter rules in some cases. In contrast, 20% of respondents prefer minimal or no regulation. The majority of Mudge Island residents, however, want more flexibility in how properties are used. Overall, residents support bylaws that preserve the island's beauty while allowing property owners to enjoy their property in ways that do not unreasonably affect others. *Detailed Results in Full Document*

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Based Top Box 2 Rating, the most important issues to the community in priority order are:

1. Structures in the setback from the sea
2. Restrictive definition of structure
3. Moorage Buoys
4. Lot Coverage
5. Setback from the sea
6. Commercial Vehicles and Heavy Equipment
7. Tents Trailer, RV's
8. Temporary Storage of Building Supplies
9. Short Term Workers Accommodation

Based on the Omission question there were some areas that warrant being addressed in the bylaw review as well. We are aware that not all items in the omissions list are in the jurisdiction of Islands Trust but it would be a great service to the Island and probably many other islands in the Trust area for Islands Trust to work with other governments agencies to provide resources that provide clarity and support to the community. The list of commonly identified omissions or areas of concern not included in the survey are below. *Detailed Summary in Full Document*

1. Setbacks on lots between 1 and 5 acres
2. Derelict Vehicles
3. Expansion of Home Based Businesses
4. Accommodation Off Grid Living

5. Community Access to the Ocean
6. More flexibility in uses of accessory structures and primary use

We think we asked the right questions since all issues were ranked as either high or medium priority. Overall the survey was well received by the community as 86.7% of the respondents rated it highly. *Detailed Summary in Full Document*

Distribution
The full report was sent to the Mudge island Community email list, the Local Area Trust Committee, Islands Trust Planning Department and Staff and has been posted on the Mudge Island Community Association Website. The raw survey data in excel format will be shared with Islands Trust Planning Staff if requested.

Mudge Island Community Association would like to thank the residents of Mudge Island who responded. This feedback has given us the direction we needed to collaborate with the Gabriola Local Area Trust committee and Island Trust planning on a targeted review of the Mudge Island bylaws.

Respectfully submitted,

Mudge Island Community Association

Link to Full Report that Includes Survey Responses, Comments Summaries and Analysis
MICA requests that the full report be shared with planning staff
Should staff wish a copy of the survey results please email MICABC@googlegroups.com

REQUEST FOR DECISION

To:	Local Trust Committees	**For the Meeting of:**	July 31, 2025
From:	David Marlor, Director, Legislative and Information Services	**Date Prepared:**	July 18, 2025

SUBJECT: Trust Council Bylaw No. 197 - Local Trust Committee Meeting Procedures Bylaw, Update Gabriola Island LTC Meeting Procedures Bylaw

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RECOMMENDATION:
That the Gabriola Island Local Trust Committee give Bylaw 323, cited as "Gabriola Island Local Trust Committee Meeting Procedures Repeal Bylaw No. 323, 2025", First Reading.

That the Gabriola Island Local Trust Committee give Bylaw 323, cited as "Gabriola Island Local Trust Committee Meeting Procedures Repeal Bylaw No. 323, 2025", Second Reading.

That the Gabriola Island Local Trust Committee give Bylaw 323, cited as "Gabriola Island Local Trust Committee Meeting Procedures Repeal Bylaw No. 323, 2025", Third Reading.

That the Gabriola Island Local Trust Committee forward Bylaw 323, cited as "Gabriola Island Local Trust Committee Meeting Procedures Repeal Bylaw No. 323, 2025" to the Islands Trust Executive Committee for consideration of approval.

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1 PURPOSE:

To rescind the "Gabriola Island Local Trust Committee Meeting Procedure Bylaw, 2022."

2 BACKGROUND:

At its regular meeting in June 2025, Trust Council adopted the Local Trust Committees' Meeting Procedures Bylaw by a 2/3 majority vote. This bylaw is authorized under s.11 of the *Islands Trust Act.*

Staff based the draft LTC meeting procedures bylaw on the local trust committee meeting procedures model bylaw that Trust Council adopted in December 5, 2003 and updated in early 2020's, and which was used by local trust committees to develop their own meeting procedures bylaws.

The new Trust Council Bylaw No. 197 'LTC Meeting Procedures' does not add anything new beyond what local trust committees where recommended to have in their bylaws under Trust Council's previously adopted model meeting procedures bylaw, with the exception of:

- adding the release of an agenda outline two-days before the agenda deadline as indicated in the Trust Council resolution;

- changing the period for notification of meetings from calendar year to fiscal year (April 1 to March 31) to align with proposed changes to Trust Council's meeting procedures bylaw;
- adding an allowance for the minimum of two required annual meetings of the Executive Committee Acting as a local Trust Committee (for Ballenas-Winchelsea) to be in-person or electronically; and
- making other minor changes to address wording amendments and clarity.

Gabriola, Galiano, Gambier, Mayne, North Pender, Saturna, and South Pender local trust committees do not currently have procedures regarding "delegations", "order and decorum", "Invited Presentations", and "public participation" in their bylaws (sections 23 to 45 in the draft Trust Council Local Trust Committees Meeting Procedure Bylaw).

The Trust Council Bylaw No. 197 has the same meeting procedure requirements for all 12 local trust areas and the Executive Committee Acting as a Local Trust Committee (for Ballenas-Winchelsea). This will streamline administration of meetings and reduce costs and resources.

Most local trust committee bylaws contain a clause authorizing the LTC Chair as signatory to documents on behalf of the local trust committee. As this is not a meeting procedure it is omitted from the Trust Council Bylaw No. 197 for local trust committee meeting procedures. Local trust committees authorize Chair signatory through other means, such as a standing resolution or policy of the local trust committee.

Under s.11 of the *Islands Trust Act*, a Trust Council meeting procedures bylaw for local trust committees would over-ride any local trust committee meeting procedures bylaws in the event of a conflict. As Trust Council's Local Trust Committee Meeting Procedure Bylaw contains all the procedures that are in the local trust committee's meeting procedure bylaws, the local trust committee meeting procedures bylaws are redundant. To avoid confusion, Staff recommend that the local trust committee rescind their meeting procedure bylaws.

3 IMPLICATIONS OF RECOMMENDATION

ORGANIZATIONAL:
Rescinding the local trust committee meeting procedure bylaws will avoid confusion, as the Trust Council bylaw prevails, and there are no additional procedures in the local trust committee bylaws.

FINANCIAL:
There is no direct financial implication.

POLICY:
There are no policy implications

IMPLEMENTATION/COMMUNICATIONS:
Islands Trust website has been updated to link the Trust Council Local Trust Committee Meeting Procedures Bylaw to each local trust committee's list of administrative bylaws.

FIRST NATIONS RELATIONS:
There are no implications for First Nations relations.

OTHER:
There are no other implications.

4 RELEVANT POLICY(S):

- Islands Trust Act, Section 11
- Policy 2.1.7 Trust-wide Administrative Procedures (Section 11)
- Trust Council Bylaw No. 197, 2024 Local Trust Committees' Meeting Procedures Bylaw

5 ATTACHMENT(S):

- Draft Bylaw 323 "Gabriola Island Local Trust Committee Meeting Procedures Repeal Bylaw No. 323, 2025"

RESPONSE OPTIONS

Recommendation:
That the Gabriola Island Local Trust Committee give Bylaw 323, cited as "Gabriola Island Local Trust Committee Meeting Procedures Repeal Bylaw No. 323, 2025", First Reading.

That the Gabriola Island Local Trust Committee give Bylaw 323, cited as "Gabriola Island Local Trust Committee Meeting Procedures Repeal Bylaw No. 323, 2025", Second Reading.

That the Gabriola Island Local Trust Committee give Bylaw 323, cited as "Gabriola Island Local Trust Committee Meeting Procedures Repeal Bylaw No. 323, 2025", Third Reading.

That the Gabriola Island Local Trust Committee forward Bylaw 323, cited as "Gabriola Island Local Trust Committee Meeting Procedures Repeal Bylaw No. 323, 2025" to the Islands Trust Executive Committee for consideration of approval.

Alternative:
As requested by the Gabriola Local Trust Committee

Prepared By: **David Marlor, Director, Legislative and Information Services**

Reviewed By/Date: **Renée Jamurat, Regional Planning Manager, Gabriola (Northern) Office**

DRAFT

GABRIOLA ISLAND LOCAL TRUST COMMITTEE
MEETING PROCEDURES REPEAL BYLAW
BYLAW NO. 323

A Bylaw to repeal the “Gabriola Island Local Trust Committee Meeting Procedure Bylaw, 2022".

WHEREAS Trust Council by a 2/3 vote of the members present adopted the Local Trust Committee Meeting Procedures Bylaw No. 197 at its regular meeting in June 2025;

AND WHEREAS, under s.11 of the Islands Trust Act, a Trust Council meeting procedures bylaw for local trust committees would over-ride any local trust committee meeting procedures bylaws in the event of a conflict; as Trust Council’s Local Trust Committee Meeting Procedure Bylaw contains all the procedures that are in the local trust committee’s meeting procedure bylaws, the local trust committee meeting procedures bylaws are redundant,

NOW THEREFORE, the Gabriola Island Local Trust Committee in open meeting assembled, enacts as follows:

1. This bylaw may be cited as "Gabriola Island Local Trust Committee Meeting Procedures Repeal Bylaw No. 323, 2025".

2. “Gabriola Island Local Trust Committee Meeting Procedure Bylaw, 2022", is hereby repealed.

READ A FIRST TIME THIS __ DAY OF _____ , 202_

READ A SECOND TIME THIS __ DAY OF _____ , 202_

READ A THIRD TIME THIS __ DAY OF _____ , 202_

APPROVED BY THE EXECUTIVE COMMITTEE OF THE ISLANDS TRUST THIS

__ DAY OF _____ , 202_

ADOPTED THIS __ DAY OF _____ , 202_

_____ _____
Chairperson Secretary

Gabriola Local Trust Committee
Open Applications
Report

Print Date: July 24, 2025

Development Permit

Application Number	Applicant Name	Date Received	Address	Purpose
GB-DP-2021.1		5/20/2021	0 STOKES RD	DP application for protection of development from hazardous conditions DPA6, relating to subdivision application.

Planner	Status	Most Recent Completed Activity
Sonja Zupanec	Local Trust Committee	Record LTC Decision/Update FUAL

Development Variance Permit

Application Number	Applicant Name	Date Received	Address	Purpose
GB-DVP-2022.3	Thomas Pink	6/23/2022	1160 THE STRAND, GABRIOLA, BC	PID: 008-828-067 Shoreline protection variance. Civic address: 1160 The Strand, Gabriola Island, BC.

Planner	Status	Most Recent Completed Activity
Margot Thomaidis	Under Review	Planning Review

Gabriola

Application Number	Applicant Name	Date Received	Address	Purpose
GB-DVP-2022.4	Mark & Gail W	6/30/2022	1170 THE STRAND, GABRIOLA, BC	PID: 008-828-059 Foreshore protection variance. Civic address: 1170 The Strand, Gabriola Island, BC.

Planner	Status	Most Recent Completed Activity
Margot Thomaidis	Local Trust Committee	Verify Final Review Status

Application Number	Applicant Name	Date Received	Address	Purpose
PLDVP20240299	Michael Apps	11/7/2024	1140 THE STRAND, GABRIOLA, BC	Application to allow a rock revetment to repair and prevent ongoing damage to the property shoreline.

Planner	Status	Most Recent Completed Activity
Stephen Baugh	Local Trust Committee	Generate LTC Public Notice

Rezoning

Application Number	Applicant Name	Date Received	Address	Purpose
GB-RZ-2024.1	Talyn Martin	1/10/2024	0 SOUTH RD	PID: 004-633-989 seeking a rezoning from industrial to commercial in order to build a year-round community food hub at 465 South Rd. on Gabriola.

Planner	Status	Most Recent Completed Activity
Stephen Baugh	Waiting for Revisions	Waiting for Revisions

Application Number	Applicant Name	Date Received	Address	Purpose
PLRZ20250138	Toby Seward	3/29/2025	1900 STALKER RD, GABRIOLA, BC	Application to amend the OCP and complete a rezoning at 1900 Stalker Road, Gabriola.

Planner	Status	Most Recent Completed Activity
Stephen Baugh	Under Review	Add Optional Referrals

Application Number	Applicant Name	Date Received	Address	Purpose
GB-RZ-2023.1	John Steil	6/13/2023	0 DESCANSO BAY	PID: 025-798-090 and 025-798-103 renovation and expansion of ferry terminal at Descanso Bay Ferry Terminal on Gabriola Island.

Planner	Status	Most Recent Completed Activity
Stephen Baugh	Local Trust Committee	Waiting for APC Response

Gabriola

Application Number	Applicant Name	Date Received	Address	Purpose
PLRZ20240091	Nigel Gray	6/18/2024	793 LOCKINVAR LANE	Proposed rezoning to add propane tank storage and delivery as a site specific permitted use.

Planner	Status	Most Recent Completed Activity
Ian Cox	In Progress Rezoning	Generate & Send Notice of LTC Decision

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Application Number	Applicant Name	Date Received	Address	Purpose
PLRZ20240091	Nigel Gray	6/18/2024	793 LOCKINVAR LANE	Proposed rezoning to add propane tank storage and delivery as a site specific permitted use.

Planner	Status	Most Recent Completed Activity
Ian Cox	In Progress Rezoning	Generate & Send Notice of LTC Decision

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Application Number	Applicant Name	Date Received	Address	Purpose
GB-RZ-2022.1	Kent Moen	6/7/2022	750 TIN CAN ALLEY, GABRIOLA, B	PID: 023-005-629 Change zoning to accommodate multiple changes in use. Civic address: 750 Tin Can Alley, Gabriola Island, BC.

Planner	Status	Most Recent Completed Activity
Stephen Baugh	In Progress Rezoning	Generate & Send Notice of LTC Decision

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Subdivision

Application Number	Applicant Name	Date Received	Address	Purpose
PLSUB20250243		6/16/2025	2605 SOUTH RD, GABRIOLA, BC V	

Planner	Status	Most Recent Completed Activity
Ian Cox	Administrative Review	Generate and Send Referral Response Form

Application Number	Applicant Name	Date Received	Address	Purpose
GB-SUB-2024.2	Scott Stevenson	4/30/2024	0 STOKES RD	subdivision to create 2 lots at NORTH EAST 1/4 OF SECTION 3 GABRIOLA ISLAND NANAIMO DISTRICT EXCEPT PARCEL A (DD 77326I) AND EXCEPT PLANS EPP19453 AND EPP66666 on Gabriola Island.

Planner	Status	Most Recent Completed Activity
Sonja Zupanec	Administrative Review	Record and File PLR

Application Number	Applicant Name	Date Received	Address	Purpose
GB-SUB-2024.1	Scott Stevenson	3/13/2024		PID: 027-086-500 subdivision to create 11 lots at Lot 20, Section 8 on Gabriola Island.

Planner	Status	Most Recent Completed Activity
Sonja Zupanec	Administrative Review	Record and File PLR

Temporary Use Permit

Application Number	Applicant Name	Date Received	Address	Purpose
PLTUP20250167	Glenda and S. Brett	4/19/2025	2370 WINDECKER DR, GABRIOLA,	Application for a temporary use permit to allow a short-term rental.

Planner	Status	Most Recent Completed Activity
Margot Thomaidis	Under Review	Generate Complete Application Letter

Application Number	Applicant Name	Date Received	Address	Purpose
PLTUP20250126	Chris Campbell	3/20/2025	2235 SHAW RD, GABRIOLA, BC V0	Application for a short-term vacation rental.

Planner	Status	Most Recent Completed Activity
Margot Thomaidis	Under Review	Generate Complete Application Letter

Islands Trust

LTC EXP SUMMARY REPORT F2026

Invoices posted to Month ending May 2025

620 Gabriola	Invoices posted to Month ending May 2025	Budget	Spent	Balance
LTC Local				
65200-620	LTC - Local Exp - LTC Meeting Expenses	3,090.00	242.28	2,847.72
65220-620	LTC - Local Exp - Communications	490.00	0.00	490.00
TOTAL LTC Local Expense		3,580.00	242.28	3,337.72
Projects				
73001-620-2001	Gabriola OCP/LUB	48,000.00	16,558.86	31,441.14
TOTAL Project Expenses		48,000.00	16,558.86	31,441.14

Gabriola Island Local Trust Committee Policies & Standing Resolutions

No	Meeting Date	Resolution No.	Issue	Policy and Description
1.	June 14, 2018	GB-2018-040	Processing non-medical cannabis retail license applications	**It was MOVED and SECONDED** that the Gabriola Island Local Trust Committee adopt the following standing resolution with respect to the processing of non-medical cannabis retail license applications: • Proposed or amended licenses for non-medical cannabis retail establishments require an application to the Local Trust Committee; • The application process shall comprise a public consultation component, which includes at least one notification to neighbours, one public meeting, posting of public notices and one advertisement in a local periodical; • The public consultation process shall be determined by the Local Trust Committee after initial review of the proposal; and • However, as a minimum, the Local Trust Committee will mail or otherwise deliver a notice to all owners and residents of properties within a 500 metre radius of the subject property where the establishment is proposed at least 10 days before adoption of a resolution providing comment on the application. The required notice shall include the following information: • Name of the applicant and a description of the proposal in general terms; • The location of the proposed establishment and the subject site; • The place where, and date and time when, both a public meeting will be held and a resolution of the local trust committee considered; • The name and contact information of the Islands Trust planning staff member who can provide copies of the proposed or amended license application; and • How public comments may be submitted to the Local Trust Committee.
2.	November 22, 2018	GB-2018-122	Applications for Federal Cannabis License	**It was MOVED and SECONDED** that the Gabriola Island Local Trust Committee requests that Notices of Intention to Apply for a Federal Cannabis License be forwarded to the Local Trust Committee upon receipt by the Islands Trust.
3.	February 28, 2019	GB-2019-031	First Nations - Community Reconciliation	**It was MOVED and SECONDED** that the Gabriola Island Local Trust Committee adopt the following standing resolution: Whereas the Local Trust Committee seeks to engage in Reconciliation with local

				First Nations, governments and the island community by honouring the Truth and Reconciliation Commission Calls to Action, United Nations Declaration on the Rights of Indigenous Peoples, Draft Principles that Guide the Province of British Columbia's Relationship with Indigenous Peoples, and Islands Trust First Nations Engagement Principles, the Local Trust Committee endeavours to: a) Annually, write a letter to First Nations, (re)introducing Trustees and Staff and provide a schedule of known Local Trust Committee meetings for the upcoming year, as well as provide an update of current projects and advocacy activities; b) For various Local Trust Committee meetings, invite elders from local First Nations to attend and provide a traditional welcome to the territory; c) Work with First Nation governments on cooperative initiatives, including and not limited to, language, place names, territorial acknowledgements, and community education on Coast Salish and local First Nations' cultural heritage and history; d) Work with First Nation governments on engagement principles for inclusive land use, marine use and climate change planning; advocacy, protection and stewardship; and knowledge and information sharing protocols; and e) Establish and maintain government to government dialogue with First Nations, now and into the future, based on respect and recognition of Aboriginal rights and title, treaty rights, and First Nations' traditional territories within the Islands Trust Area.
4.	April 11, 2019	GB-2019-040	S219 Covenant Signatories	**It was MOVED and SECONDED** that the Gabriola Island Local Trust Committee adopt the following standing resolution: that the Gabriola Island Local Trust Committee is authorized to enter into section 219 covenants, in the form of the 'Model Covenant for Secondary Suites' attached and in satisfaction of subsection B.6.6.8 of the Gabriola Island Land Use Bylaw No. 177, provided that such covenants must be executed on behalf of the Local Trust Committee by two members of the Local Trust Committee.
5.	January 23, 2020	GB-2020-002	Consultation for Communication Towers	**It was MOVED and SECONDED** that the Gabriola Island Local Trust Committee adopt the "Model Strategy for Antenna Systems" prepared by the Local Planning Committee of the Islands Trust, as the Gabriola Local Trust Committee strategy to assess any future potential tower proposals in the Gabriola Local Trust Area.

6.	August 8, 2024	GB-2024-066	Defer enforcement of Mudge Island Land Use Bylaw No. 228 except…	**It was MOVED and SECONDED** that the Gabriola Island Local Trust Committee replace standing resolution GB-2024-023 with the following: defer enforcement of the Mudge Island Land Use Bylaw No. 228 until a full review of policies and procedures for compliance and enforcement is complete and adopted, and a targeted review of Land Use Bylaw No. 228 is undertaken by the Gabriola Local Trust Committee; with the exception of enforcement of derelict trailers and vehicles, health and safety concerns, interference with archeological heritage sites, or possible environmental damage that are a significant concern, and these would be brought to the Local Trust Committee for review.
7.	November 7, 2024	GB-2024-075	Gabriola Island Local Trust Committee Bylaw Compliance & Enforcement Policy	Bylaw Compliance & Enforcement Policy No. 1, effective November 7, 2024. Version No. 1 Purpose To establish policies and procedures for bylaw compliance and enforcement in the Gabriola Island Local Trust Area in accordance with the adopted Trust Council Policies contained in Policy 5.5.1., and that are within the authority of the Local Trust Committee to enforce, and that will ensure polices and procedures are efficient, transparent, reasonable, and consistent with local community standards. PART A 1.0 Application This policy will apply to the Gabriola Island Local Trust Area and the enforcement of all applicable regulatory bylaws. 2.0 Definitions & Abbreviations BEN – bylaw enforcement notice LUB – Land Use Bylaw LTC – Local Trust Committee Minor structure – any structure that does not require a building permit, and that is not located in a development permit area or located within any other environmentally sensitive area Respondent – a property owner whose property is subject to a bylaw enforcement complaint Health & Safety concerns – fire, unsafe construction, hazards relating to steep slopes or cliffs, dumping of sewage Vexatious - complaints that are made in bad faith or for retaliatory purposes or that are considered frivolous, may be considered vexatious; or repeated

				complaints that form a part of a pattern of conduct by the complainant that amounts to an abuse of the complaint process 3.0 References Gabriola Island Land Use Bylaw No. 177 Mudge Island Land Use Bylaw No. 228 Gabriola Island Local Trust Committee Bylaw Enforcement Notification Bylaw No. 263 4.0 Priorities 4.1 Enforcement on short-term vacation rentals is a priority and proactive enforcement is authorized. 4.2 Enforcement on non-compliant dwellings will be deferred unless there are contraventions in development permit areas; or other environmentally sensitive areas; or there are concerns about health and safety; or the lack of an approved septic system; or if it is determined that there is contamination of wells or other drinking sources. 4.3 Enforcement on limited public markets will be deferred when they are operated indoors contrary to section B.6.2 of the LUB. Operators will be provided with information regarding the applicable land use regulations. 5.0 Inspection 5.1 At the start of any investigation, Bylaw Enforcement Officers will determine if entry to the property is necessary to investigate the alleged contravention or if the investigation can be conducted from a public road or other lands. 5.2 Bylaw Enforcement Officers will give 30 days notice for inspection of any property unless there is consent for a site inspection at less than 30 days. 5.3 Investigations into health and safety issues and matters that may cause adverse environmental impact and result in irreversible damage are a priority and may be investigated without notice pursuant to section A.3.2.1 of the LUB. 5.4 If a Respondent has indicated that they will work towards compliance, and have agreed on a time to comply, a site inspection is only required to confirm compliance. 5.5 Site inspections will be limited to the use or structure subject to complaint unless there is work observed in development permit areas, or other environmentally sensitive areas, or there are concerns regarding health and safety.

				5.6 If a Respondent provides photographic evidence, a survey, or a professional report that confirms compliance, or other reliable evidence, a site inspection is not mandatory. 6.0 Enforcement Procedures 6.1 If a bylaw contravention is confirmed, and there is no agreement on a deadline for compliance, there will be notice in writing, and Respondents will be given a minimum of 90 days to comply. Notice may also be given that enforcement action will be escalated if there is no compliance at the deadline, and this may include the use of the BEN system or a request for legal action. 6.2 Bylaw Enforcement Officers can use their discretion to consider any reasonable request for time to comply from Respondents, but the term cannot be for more than one year. 6.3 If there are contraventions in environmentally sensitive areas, or development permit areas, or if there is a risk to health and safety, there will be a demand for the Respondent to cease the use or activity immediately. 6.4 Respondents will be given a Bylaw Warning Notice with a minimum of 45 days to comply before a Bylaw Violation Notice is issued, unless there are health and safety concerns, or contraventions in environmentally sensitive areas. 6.5 Bylaw Violation Notices will not be issued more than once per week unless authorized by the Manager of Bylaw Compliance and Enforcement. 7.0 Closing Files 7.1 If the identity of a complainant cannot be confirmed during the course of an investigation, or if a complainant uses a false name, the file will be closed. 7.2 If the contravention is for a minor structure that has only received one written complaint, the file can be closed. 7.3 If it is unreasonable for a Respondent to comply, whether due to specific circumstances or finances, Bylaw Enforcement Officers or the Manager of Bylaw Compliance and Enforcement, can use their discretion to close the file. 7.4 If a contravention has been identified that is subject to deferred enforcement by the LTC, the file can be closed unless there are contraventions that exist in environmentally sensitive areas or there are concerns about health and safety. 7.5 If it is determined during an investigation that the complaint was frivolous, repeat, or vexatious in nature, the Manager of Bylaw Compliance and Enforcement can use their discretion to close the file unless there is work on a

				development permit area, or work in an environmentally sensitive area, or there are health and safety concerns. 7.6 The LTC will be notified when any file is closed. 8.0 Vexatious Complaints 8.1 If a decision is made to not act upon a complaint that is considered frivolous, repeat, or vexatious, the complainant will be advised of the decision, the reason for it, and may be advised of the circumstances under which it may be reconsidered. 9.0 Communications 9.1 When a file is opened and an investigation commenced, Respondents will be advised of the Trust Council Policy that authorized the opening of the file and that an investigation has commenced. 9.2 Respondents will receive as much information about complaints against their properties as possible without revealing the identity of the complainant. 9.3 The Manager of Bylaw Compliance and Enforcement will communicate with Trustees or the LTC if there are questions or concerns regarding individual files. 9.4 The Manager of Bylaw Compliance and Enforcement will arrange public information and education sessions regarding bylaw enforcement when appropriate and time permitting. 9.5 Bylaw staff will be available during regular LTC meeting public comment sessions to answer questions regarding bylaw enforcement. 10.0 Reporting 10.1 The LTC will receive regular reporting on bylaw compliance and enforcement files. 10.2 The Manager of Compliance and Enforcement will report to the LTC any concerns, trends, or issues with enforcement that they believe the LTC needs to be aware of. 10.3 The Manager of Compliance and Enforcement will maintain the Gabriola Island Bylaw Enforcement Policy and will report to the LTC if amendments are recommended or required. PART B MUDGE ISLAND

				All policies in Part A will apply to compliance and enforcement of the Mudge Island Land Use Bylaw with the following exceptions: 1.1 Priorities 1.1.1 Enforcement of the Mudge Island Land Use Bylaw No. 228 will be deferred until a full review of policies and procedures for compliance and enforcement is complete and adopted, and a targeted review of Land Use Bylaw No. 228 is undertaken by the Gabriola Local Trust Committee; with the exception of enforcement of derelict trailers and vehicles, health and safety concerns, interference with archeological heritage sites, or possible environmental damage that are a significant concern, and these would be brought to the Local Trust Committee for review. 1.1.2 Enforcement will not proceed for siting contraventions involving structures that predate 2008. Property owners will be able to repair and maintain these structures as long as they did not expand the contravention. 1.1.3 Enforcement will not proceed regarding otherwise lawful accessory uses, buildings and structures on a parcel where no principal use exists if the adjacent parcel has a permitted principal use and both parcels are held under common ownership. 1.2 Inspection and Enforcement Procedures: 1.2.1 Subject to section 1.1.1, enforcement will proceed only if there are written complaints received from two property owners residing on separate parcels located in the immediate neighbourhood; and where the contraventions are causing a nuisance or an adverse effective in the neighbourhood. 1.2.2 Enforcement on contraventions that are in environmentally sensitive areas, concern issues of health and safety, or interfere with archeological heritage sites, will proceed if there is a written complaint from any person. 1.2.3 There will be 30 days notice for site inspections unless there is consent for an earlier date, or there are concerns about contraventions in environmentally sensitive areas, and issues of health and safety. 1.2.4 For confirmed contraventions, a minimum of 180 days will be given to comply unless there are immediate concerns regarding health and safety or possible environmental damage. PART C Bylaw Enforcement Notice Bylaw Screening Officer's Powers and Duties Policy Appointment of Screening Officers

				Pursuant to section 7.2 of the Gabriola Island Local Trust Committee Bylaw Enforcement Notification Bylaw No. 263, 2011, (the Bylaw) the persons holding the following positions are appointed as screening officers: 1) Regional Planning Manager; 2) Manager of Compliance and Enforcement; and 3) Bylaw Compliance and Enforcement Assistant. Screening Officer Powers and Duties The powers and duties of the screening officer are contained in section 7.3 of the Bylaw. It is the direction of the Gabriola Island Local Trust Committee (LTC) that these powers and duties are only exercised in respect to each of the above positions as follows: 1) Regional Planning Manager. In respect to Bylaw Violation Notices issued by the Manager of Compliance and Enforcement, only the Regional Planning Manager, acting as Screening Officer, may exercise all of the powers and duties in Section 7.3 of the Bylaw; 2) Manager of Compliance and Enforcement. In respect to Bylaw Violation Notices issued by Bylaw Compliance and Enforcement Officers, only the Manager of Compliance and Enforcement, acting as Screening Officer, may exercise all of the powers and duties in Section 7.3 of the Bylaw; 3) Bylaw Compliance and Enforcement Assistant. In respect to Bylaw Violation Notices issued by the Manager of Compliance and Enforcement, and Bylaw Compliance and Enforcement Officers, the Bylaw Compliance and Enforcement Assistant, acting as Screening Officer, may exercise only those powers and duties in Section 7.3(1) and 7.3(2) of the Bylaw. Authorized Reasons to Cancel Bylaw Violation Notices The Screening Officer may cancel a Bylaw Violation Notice if satisfied that one or more of the following reasons exist: 1. The contravention did not occur as alleged. 2. The contravention no longer exists. 3. The Bylaw Violation Notice was issued to the wrong person. 4. The Bylaw Violation Notice was not completed properly. 5. The issuance of the Bylaw Violation Notice did not adhere to established Trust Council or LTC policies. 6. It is unreasonable for the person to pay the penalty. 7. An exception specified in the bylaw or related enactment or LTC Standing Resolution exists. 8. A permit exists or has been obtained that authorizes the alleged

				contravention. 9. There is poor likelihood of success at adjudication for the Local Trust Committee the following reasons: a. The evidence is inadequate to show a contravention; b. Incorrect information was relied upon in issuing the Bylaw Violation Notice; c. The disputant intends to challenge the bylaw with a legal argument that is ill suited to the adjudication process or the legal arguments are too complicated to be decided by an adjudicator. 10. It is not in the public interest to proceed to adjudication for one of the following reasons: a. The bylaw has changed since the Bylaw Violation Notice was issued and now authorizes the contravention; b. An LTC resolution has deferred enforcement on the specific contravention; c. The LTC has closed the file; d. The offence occurred because of a circumstance that made it unreasonable for the person to comply with the bylaw.

Print Date: July 24, 2025

Follow Up Action List

Active Projects Report

Gabriola Island

1. *Major Project - Gabriola Island Comprehensive OCP and LUB Review - Phase 2*	Responsible	Dates
Activity: To identify and prioritize the community values and vision that will inform the review of Gabriola Island's Official Community Plan and Land Use Bylaw through engaging Frist Nations, the Gabriola community, community organizations and other relevant groups. The 2024/25 Gabriola Island OCP and LUB Comprehensive Review will address a number of issues of importance to the Gabriola Community. In Phase 1 (2023/24), community engagement helped to identify the vision and values of the community. The next phases of the project will build upon this work with focused engagement on specific topic areas, undertake a water balance assessment and drafting of OCP policies related LUB changes. The project will result in a new Official Community Plan and Land Use Bylaw for Gabriola Island.	Narissa Chadwick	

Islands Trust

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Follow Up Action List

Future Projects Report

Gabriola Island

1. *1. LTC Initiated Rezoning of Property with PID: 003-134-806*	Responsible	Date Received

Bylaw amendments to rezone property with PID: 003-134-806. Legal Description:
NORTH EAST 1/4 OF SECTION 3 GABRIOLA ISLAND NANAIMO DISTRICT EXCEPT PARCEL A (DD 77326I) AND EXCEPT PLANS EPP19453 AND EPP66666

2. *2. Mudge Island Official Community Plan and Land Use Bylaw Review*	Responsible	Date Received

Comprehensive review or targeted amendments to Mudge Island OCP and LUB.