



File No.: GB-DVP-2022.3 (Pink) X.ref:
GB-BE-2022.10 (Pink)

DATE OF MEETING: April 17, 2025
TO: Gabriola Island Local Trust Committee
FROM: Margot Thomaidis, Planner 2
Northern Team
COPY: Renée Jamurat, Regional Planning Manager
SUBJECT: Development Variance Permit – GB-DVP-2022.3 (Pink)
Applicant: Tom & Jeff Pink (Owners)
Location: 1160 The Strand, Gabriola Island

RECOMMENDATION

- 1. That the Gabriola Island Local Trust Committee deny Development Variance Permit application GB-DVP-2022.3 (Pink).**

REPORT SUMMARY

The purpose of this report is to introduce a development variance permit to reduce the setback to the natural boundary of the sea to permit a previously constructed shoreline erosion protection revetment structure along the natural boundary. The Gabriola Island Land Use Bylaw has a 15-metre setback from the natural boundary of the sea for buildings and structures and a 1.5 metre setback from interior lot lines. The applicant is proposing to permit the shoreline erosion protection structure within 0 metres of the natural boundary of the sea and within 0 metres of the interior side lot lines.

Staff are recommending that the Local Trust Committee (LTC) deny the application based on the rationale provided in the following report.

BACKGROUND

The subject property is located at 1160 The Strand, Gabriola Island, and is approximately 0.5 hectares (1.25 acres) in area (Figure 1). The subject property is currently used as a part-time recreational property containing a single-family dwelling and an accessory garage.

Bylaw enforcement file GB-BE-2022.10 was opened in May 2022, due to the unlawful construction of a shoreline structure built without permits. The existing rock revetment is part of an approximately 100 metre long, two-to-three-metre-wide revetment that spans the length of the shoreline along the two properties at 1160 and 1170 The Strand. It is also located partly beyond the legal boundary of the original subdivision plan from 1987.

The objective of this application includes the following:

- to permit the existing revetment to remain in place while being upgraded to meet the recommended design standards according to the geotechnical engineering consultant's assessment, including

expanding part of the existing structure at the west end with additional rip rap to tie in to the neighbouring property's proposed revetment (see **Attachment 6**);

- to revegetate the upper portion of the revetment per the Environmental Impact Assessment's Revegetation Plan (**Attachment 7**); and
- to remove any parts of the rock revetment that are trespassing on Crown land.

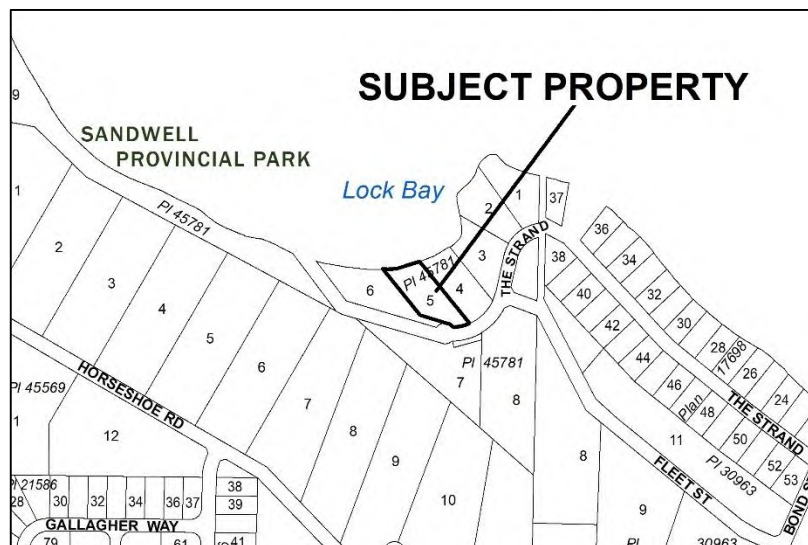
In order to permit this proposal and the existing rock revetment, the setback to the natural boundary of the sea as well as the interior side lot line setbacks would need to be varied through this DVP application.

The applicant has submitted the following materials in support of their application:

- Two letters and a final survey plan prepared by a B.C. Land Surveyor. (September 7, 2022 and May 29, 2023) (**Attachment 5**);
- A Foreshore Revetment Assessment and Design Report prepared by Lewkowich Engineering Associates Ltd. (final revised version submitted March 15, 2025) (Geotechnical Report – **Attachment 6**);
- An Environmental Impact Assessment report prepared by a Registered Professional Biologist at D.R. Clough Consulting (November 23, 2023) (**Attachment 7**); and
- An Arborist report prepared by an ISA Certified Arborist (July 7, 2023) (**Attachment 8**).

A site context, a collection of plans and photos, and an OCP policy review prepared by staff are found in **Attachments 1-3**.

Figure 1 – Subject Property Map



APPLICANT/OWNER RATIONALE FOR REQUESTED VARIANCES

The applicant/Owner's rationale for the variances is found in their four letters submitted to Islands Trust in **Attachment 4** and summarized as follows:

The Owners installed the revetment without permits because they felt they must act very quickly to protect their property and the general public from falling trees, soil slippage, and other erosion events.

Erosion of their property has been accelerating dramatically over the last 5-6 years due to:

- intense and frequent storms combined with king tides;

- high wave energy in and around Lock Bay;
- hundreds of large beach logs from log booms battering the soft foreshore and soil bank; and
- abrupt erosion (avulsion) events in 2021 and 2022.

This has led to:

- undermining of the clay and soil bank, rendering their previously 45-degree sloped bank close to vertical;
- the loss of two mature trees along the shoreline;
- undermining of the remaining mature trees on the edge of the bank (notably a 300-year-old Douglas-fir), which could cause severe damage to their property and neighbouring properties and cause public safety concerns if they fall over onto the public beach; and
- a reduction of the setback to buildings and structures, which had previously remained intact for decades.

The Owners have also noted the following in support of their application:

- They have received advice from qualified professionals that the only way to protect their bank from further erosion is through maintaining the existing hard armouring approach.
- The existing structure has ceased most of the erosion issues on the property and provided stability to the existing mature trees along the slope crest.
- There are multiple examples of shoreline erosion and damage across Gabriola and Vancouver. Public seawalls and piers that are designed specifically to withstand the extreme forces of the ocean have lately been damaged by severe storm surges and extreme weather.
- Landowners have the right to protect their land from further erosion.
- They are willing to consult and cooperate with the various authorities to reach a satisfactory agreement.

ANALYSIS

The existing shoreline erosion protection works are inconsistent with the policy and regulatory framework, as follows.

Official Community Plan:

The subject property is not located within a development permit area. The Gabriola Island Official Community Plan (OCP) policies applicable to this DVP application are reviewed in **Attachment 3**.

The policies provide caution with regards to structures in the setback to the natural boundary of the sea, in particular with regards to erosion caused by human activity, protecting development from hazardous conditions, and minimizing disturbance to environmentally sensitive coastal ecosystems.

Land Use Bylaw:

The revetment is not in compliance with the following regulations in the Gabriola Island Land Use Bylaw (LUB), therefore a variance is sought:

- **Article B.2.1.1 Setbacks and Elevations from Watercourses and the Sea, Clause (a), which states:**
“...retaining walls... must be sited a minimum of 7.5 metres (24.6 feet) from and 1.5 metres (4.9 feet) above the natural boundary of the sea.”
- **Article D.1.1.3, Clause (a) Buildings and Structures Siting Requirements, Item (i), which states:**

“On lots less than 1.0 hectares (2.47 acres), except for a sign, fence, or pump/utility house, the minimum setback of buildings or structures is: ...1.5 metres (4.9 feet) from any interior lot line.”

The existing dwelling and deck are in compliance with the following regulation in the LUB:

- **Article B.2.1.1 Setbacks and Elevations from Watercourses and the Sea, Clause (a), which states:**

“...Where the frontage on the sea is not adequately protected from erosion by natural bedrock or works as certified by a professional engineer, buildings and structures must be sited a minimum of 15 metres (49.2 feet) from and 1.5 metres (4.9 feet) above the natural boundary of the sea.”

The deck attached to the dwelling is sited 16.7 metres from the legal boundary and 15 metres from the erosion extent according to the Geotechnical Report. The dwelling is approximately 21 metres away from the legal boundary, exceeding the setback requirement.

Revetment Design and Environmental Impact Assessment

The rock revetment is intended to protect the property from further erosion in the least invasive and inexpensive means possible. It is sloped at a ratio of 2H:1V and composed of large rock rip rap in a tight two-layer matrix and planned to be infilled with smaller rocks and ‘beach nourishment’ to fill voids above 3.0 metres elevation. Plantings of native vegetation are also included in the design and would be located above the natural boundary. These plantings are intended to maintain or enhance the habitat diversity and function in the areas along the shoreline.

Although both the Environmental Impact Assessment (EIA) and Geotechnical Report state that the revetment preserves coastal processes when compared to more intrusive structures, such as a cement seawall, other alternatives to protect from erosion are not substantially considered in the report. Staff spoke with the engineering consultant for the Geotechnical Report who confirmed that a softer, nature-based approach would not effectively withstand against wave action to protect the property from erosion.

The Geotechnical Report acknowledges that the effects of sea level rise could reduce the effectiveness of the revetment in the long term, noting that the design has incorporated *“a stable matrix of boulders that will provide a stable base for the future expansion of the revetment both in height and depth if warranted to protect habitat, life, and property.”* (pg. 6)

The application as well as consultant reports were sent to the Islands Trust professional biologist for comment. Her comments state that from an environmental perspective the information does not appear to provide justification for the revetment. The application does not state the potential threats and impacts of the revetment on the surrounding area, or include mitigation measures to reduce risks. Specifically, the EIA report does not:

- provide an analysis of sediment transport and natural shoreline processes such as the movement of water and sediment essential for maintaining a healthy foreshore;
- assess the cumulative effects of shoreline armouring across the bay, including potential impacts on eelgrass beds and broader coastal habitat changes;
- assess how the revetment and the proposed revegetation plan provide more benefit than the natural bank;
- acknowledge known potential harms from armouring shorelines; and
- provide mitigation strategies for potential harms.

Both the National Oceanic and Atmospheric Administration (NOAA – USA) and Fisheries and Oceans Canada have stated there are detrimental effects of shoreline armouring on the natural movement of sediments. Islands Trust’s mapping of shoreline types, energy and sediment movement, and shoreline values and vulnerability (**Attachment 9**) show the shoreline near the subject property has potential watershed sediment inputs into the shoreline

system, and localized sediment movement towards the western portion of Lock Bay where eelgrass meadows are mapped. The subject property is indicated as a low-lying area adjacent to a soft shoreline, typically associated with high recreational and ecological values.

Although these shoreline maps and diagrams are helpful, the Islands Trust Shoreline Mapping Project Methodology (2011) report states that they do not have a level of accuracy or representational detail sufficient for analysis of shoreline conditions at the scale of individual properties, and the maps should not be used for detailed analysis without input from qualified building or environmental professionals. They should not be considered a comprehensive inventory of risk factors at the site level, and that detail should be determined by the EIA and Geotechnical reports.

Green Shores for Homes

The applicant and Geotechnical Report indicate that the rock revetement is designed to adhere to the intent of the guiding principals of Green Shores for Homes. The application does not provide an analysis of the project with regards to the [Green Shores for Homes Credits and Ratings Guide](#) to show how the guidelines are achieved with this project. In particular, a high number of base points are available to projects that do not include shoreline protection structures or that remove hard armouring such as the rock revetement in this application.

Staff consulted with the Green Shores for Homes program staff and determined that the site topography and wave energy is such that it is not considered a candidate for Green Shores for Homes nature-based shoreline protection. The Geotechnical Report confirms that the shoreline requires a robust hard armouring approach to withstand the wave energy and logs in Lock Bay.

Arborist Letter

The applicant consulted an arborist to assess the health and structural integrity of the five (5) existing trees along the shoreline of the subject property. Their findings are summarized as follows:

- Four out of the five trees are in ‘Good’ or ‘Moderate’ condition;
- One large Douglas-Fir (185 cm Diameter at Breast Height), although only given an Overall Condition Rating of Moderate, is of special note due to its high value as a habitat tree, able to provide nesting habitat for both cavity nest and open-nest species of birds; and
- One tree, a Multi-stem Red Alder, was rated ‘Poor’ as it was in the stages of advanced decline, however, the arborist noted its value as a wildlife tree with opportunities for cavity nests and as a feeder tree.

The report concludes *“The rapid erosion of the bank was threatening the stability of the (5) trees growing at the top of the bank by undermining the roots. The loss of these trees would have negated the value they offer as habitat to local wildlife, and the stability of the bank.”*

Legal Boundary

With respect to the location of the legal boundary of the subject property at the natural boundary of the sea, the natural boundary is normally considered to be the location of property boundaries along the shoreline. This includes instances where there is erosion or accretion which shift the location of the natural boundary. However, in instances where the boundary abruptly erodes (avulsion), then the legal boundary of the lot does not change. The surveyor hired by the Owners has made the determination that due to sudden erosion/avulsion, the title boundary is the legal boundary.

Intent of Regulations being Varied

The intent of setbacks to the natural boundary of the sea are:

- To protect properties against the accelerated effects of erosion resulting from human activity;
- To ensure that buildings and structures are located outside of environmentally sensitive areas;
- To protect against hazardous conditions and ensure that developments are located a sufficient distance from the water so as not to be impacted by changing shoreline and marine conditions; and
- To protect the visual appearance of the shoreline as seen from the sea and other properties.

Interior side lot line setbacks promote a level of privacy between neighbouring properties and ensure a degree of separation between buildings and structures on neighbouring properties.

Potential Impacts of Granting the Variance

Granting the variance to allow the shoreline armouring at this location to continue would effectively protect the property from further erosion and prevent the mature trees along the top of the bank from being further undermined for now. It may also present risk to the natural coastal environment. Rock revetments impact the sediment migration along the shoreline, may result in scouring and increased erosion where the armouring transitions to the natural shoreline near adjacent properties, and may result in other beach morphology impacts such as steepening of the beach over time. The Owners would be required to return to the LTC to request an additional variance permit in the future when upgrades or a replacement are required.

Potential Impacts of Denying the Variance

Denying the variance would mean that bylaw enforcement action would continue and the Owners would be required to remove the revetment structure to reach compliance with the LUB. Removal may present risk to the natural coastal environment, continued erosion of the property, and potential damage to unrecorded archaeological materials if certain practices are not followed. However, it is not possible for Islands Trust to place conditions on how the removal process must be carried out, unless there is at some point in the future a court-ordered removal. Removal must comply with all other provincial and federal requirements, such as the *Heritage Conservation Act*, *Wildlife Act*, *Fisheries Act*, and the *Species at Risk Act*. The Owners may also apply to the Board of Variance if denied by the LTC.

Circulation

DVP Notices were circulated to surrounding property owners and residents within 100 metres (**Attachment 10**). The notification period ends at 4:30 p.m. on April 16, 2025.

To date, five letters from the public have been received in support of this application: four from neighbouring property owners, and one from a local tree service professional (not a neighbour) (**Attachment 12**). Any submissions received following the preparation of this staff report will be forwarded to the LTC and reported at the meeting.

First Nations

The following two OCP policies apply regarding First Nations archaeological heritage:

- **Policy 6.3.a)** The Snuneymuxw First Nation and the Archaeology Branch should be consulted prior to the initiation of any future development which may impact on a known archaeological site on Gabriola, or an area exhibiting potential for the presence of unrecorded archaeological sites.
- **Policy 6.3.f)** Development proponents are encouraged to consider archaeological resources during all phases of project planning, design and implementation.

At the time of bylaw enforcement inspection, Remote Access to Archaeological Data (RAAD) mapping showed a known archaeological site on the subject properties, near the area where the seawall was installed. A Natural

Resource Officer (NRO) investigated the alleged contravention of Section 12.1(2) of the *Heritage Conservation Act*. The NRO and an archaeological specialist determined that the archaeological site had either completely eroded away or that the position of the site had not been accurately catalogued originally. They determined that the seawall had not been built in an archaeological site.

The Owners submitted a referral to Snuneymuxw First Nation in early 2024 and a response has not been received. Staff have informed Snuneymuxw First Nation staff that the application is on the LTC agenda today. Any responses received from Snuneymuxw following the preparation of this staff report will be forwarded to the LTC and reported at the meeting.

Department of Fisheries and Oceans

Staff have confirmed with staff from the Department of Fisheries and Oceans Canada (DFO) that if the Owners are proposing to do any work in and around the foreshore, including removal of the revetment, they are separately required to submit a Request for Project Review. DFO staff have confirmed that the Owners should contact Fish and Fish Habitat Protection Program staff for advice and to answer any questions prior to any work or undertaking near the water. The Owners were provided with information on HADD (harmful alteration, disruption or destruction of fish habitat).

Rationale for Recommendation

Staff are recommending the LTC deny the development variance permit for the following reasons:

- The dwelling and deck comply with the legal boundary setback requirement;
- There are potential risks to the marine and shoreline environment and adjacent properties associated with shoreline armouring; and
- The structure alters the visual appearance of the shoreline as seen from the sea and other properties.

ALTERNATIVES

The LTC may consider the following alternatives to the staff recommendation:

1. Request further information

The LTC may request further information prior to making a decision. Staff advise that the implications of this alternative are additional staff time and resources. If selecting this alternative, the LTC should describe the specific information needed and the rationale for this request. Recommended wording for the resolution is as follows:

That the Gabriola Island Local Trust Committee request that the applicant for GB-DVP-2022.3 submit to the Islands Trust [describe information].

2. Approve the application

The LTC may approve the application to facilitate the rock revetment. Staff advise that the implications of this alternative are that at this time Snuneymuxw First Nations interests related to this application are not fully known. Recommended wording for the resolution is as follows:

That the Gabriola Island Local Trust Committee approve issuance of Development Variance Permit GB-DVP-2022.3 (Pink).

3. Hold the application in abeyance

The LTC may choose to hold the application in abeyance pending a response from the Snuneymuxw First Nation, or the completion of a significant study or OCP process, etc.

NEXT STEPS

If the staff recommendation is selected the applicant will be informed and the DVP file will be closed. Bylaw enforcement action will continue and the Owners will be required to reach compliance.

Submitted By:	Margot Thomaidis, Planner 2	April 4, 2025
Concurrence:	Robert Kojima, Regional Planning Manager	April 7, 2025

ATTACHMENTS


1. Site Context
2. Maps, Plans, and Photographs
3. OCP Policy Review
4. Applicant Letters dated June 20, 2022, January 16, 2023, May 12, 2023, and January 9, 2025.
5. Surveyor's Letters – Williamson & Associates Professional Surveyors, September 7, 2022 and May 29, 2023.
6. Geotechnical Report – Lewkowich Engineering Associates Ltd. dated February 21, 2025.
7. Environmental Impact Assessment Report – D.R. Clough Consulting dated November 23, 2023.
8. Arborist Letter – Vancouver Island Tree Service, Ltd. dated July 7, 2023.
9. Gabriola Island Marine Shorelines Mapping, 2011
10. Notice
11. Draft Development Variance Permit
12. Public Correspondence

ATTACHMENT 1 – SITE CONTEXT – GB-DVP-2022.3 (PINK)

LOCATION

Legal Description	LOT 5, SECTION 18, GABRIOLA ISLAND, NANAIMO DISTRICT, PLAN 45781
PID	008-828-067
Civic Address	1160 THE STRAND GABRIOLA BC V0R 1X3
Lot Size	0.5 ha / 1.24 acres

LAND USE

Current Land Use	Residential
Surrounding Land Use	Residential to East and West, Provincial Park and Residential to the South, Lock Bay to the North.
	

HISTORICAL ACTIVITY

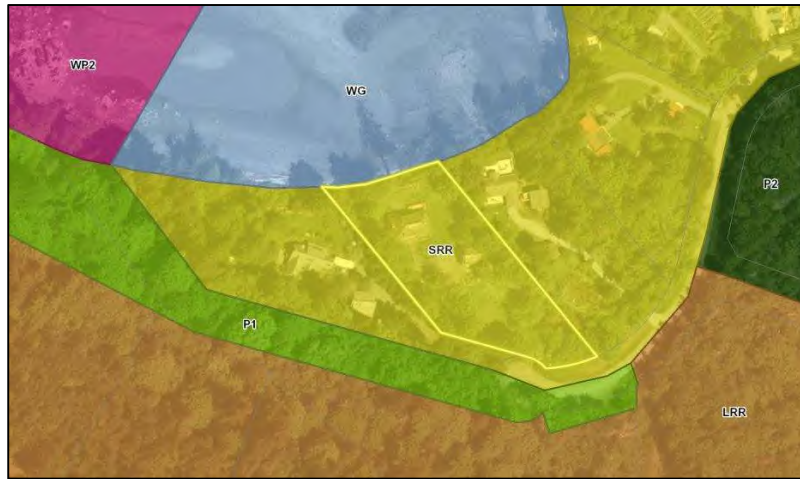
File No.	Purpose
GB-TUP-2007.2	TUP to rent the home weekly during the two months of summer (Closed/Expired).
GB-TUP-2015.1	Vacation rental for approximately 6 to 8 weeks of the year (Closed/Expired).

POLICY/REGULATORY

Gabriola Island Official Community Plan (OCP) No. 166, 1997	Small Rural Residential (SRR) Marine (M) Not in a Development Permit Area
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Gabriola Island
Land Use Bylaw (LUB)
No. 177, 1999

Small Rural Residential (SRR)
Water General (WG)



Regulations applicable to this DVP:

B.2.1.1 Setbacks and Elevations from Watercourses and the Sea

a. Despite all other siting references in this Bylaw excepting B.2.1.4c, third party signs, fences, pump/utility houses, retaining walls, ground level decks, structures and buildings, excepting boathouses, must be sited a minimum of 7.5 metres (24.6 feet) from and 1.5 metres (4.9 feet) above the natural boundary of the sea and a minimum of 15 metres (49.2 feet) from and 1.5 metres (4.9 feet) above the natural boundary of any lake, stream, or wetland. Where the frontage on the sea is not adequately protected from erosion by natural bedrock or works as certified by a professional engineer, buildings and structures must be sited a minimum of 15 metres (49.2 feet) from and 1.5 metres (4.9 feet) above the natural boundary of the sea.

C.3.1.1 Determination of Zone Boundaries

c. where a land based zone and a water based zone boundary coincide, the boundaries must be the surveyed high water mark as shown on a plan registered in the Land Title Office; and where there is no registered survey plan, the natural boundary of the sea is the boundary.

D.1.1.3 Regulations

The general regulations in Part B, plus the following regulations apply in the Small Rural Residential (SRR) zone:

a. Buildings and Structures Siting Requirements

i On lots less than 1.0 hectares (2.47 acres), except for a sign, fence, or pump/utility house, the minimum setback of buildings or structures is:


- 6.0 metres (19.7 feet) from the front lot line;
- 4.5 metres (14.8) from any exterior side lot line; and
- 1.5 metres (4.9 feet) from any interior lot line.

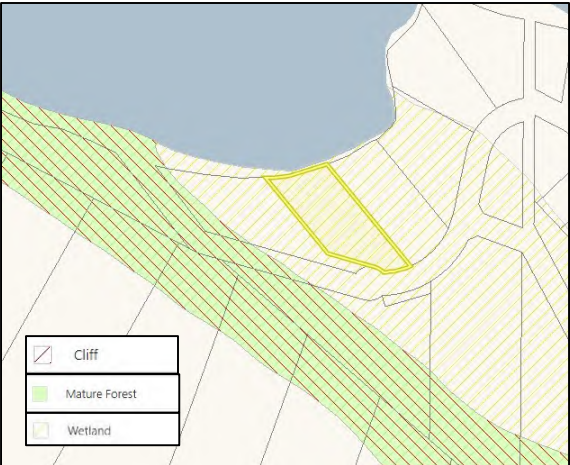

Other Regulations


[Land Act Section 60\(e\)](#):

	<p>Offences</p> <p>A person commits an offence if the person does any of the following: ... (e) constructs on Crown land a building, structure, enclosure or other works, or does or performs any dredging, excavation or filling, without the authorization of the minister;...</p> <p>The existing development involved the installation of parts of a rock revetment on Crown land below the titled natural boundary.</p>
Covenants	M76301 - Undersurface Rights
Bylaw Enforcement	<p>GB-BE-2014.10: STVR. Closed</p> <p>GB-BE-2022.10: Open</p> <p>Non-permitted sea wall along the frontage of two properties (1160 and 1170 The Strand).</p> <p>DVP application submitted to address Bylaw non-compliance.</p>

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	<p>The Regional Conservation Plan 2018-2027 estimated importance of habitat composition in the area of the subject property is Medium- High. This application may be inconsistent or contrary to the goals and objectives set out in the ITC Regional Conservation Plan, as it proposes approval of a natural system modification identified as a common ecosystem threat, which may change natural erosion and sedimentation processes. See ITC Conservation Planning.</p> <p>The QEP report suggests that there is no threat to natural erosion and sedimentation processes, however, Islands Trust Biologist staff suggest that the report is missing this key analysis.</p>
Species at Risk	<p>Ecosystems at Risk: Douglas-fir / dull Oregon-grape mapped (public) ecological community in proximity to the subject property.</p> <p>Wetland Sensitive Ecosystem Inventory mapped in proximity to the subject property.</p> 
Sensitive Ecosystems	SEM Secondary Class: Wetland/ Swamp.

	<p>SEM Primary Class: Mature Forest – Douglas Fir-salal. SEM Tertiary Class: Coastal Cliff.</p>  <p>Terrestrial Species: Mapped eagle’s nest approx. 100 m from subject property.</p>
<p>Hazard Areas</p>	<p>Areas of Low and Moderate risk steep slopes mapped within the subject property.</p> 
<p>Archaeological Sites</p>	<p>Mapping indicates areas of high archaeological potential and a known archaeological site within proximity of the subject property.</p> <p>A Natural Resource Officer and an Arch Specialist visited the site in June 2022 and determined that the seawall had not been built in an archaeological site. They did not find strata or objects to suggest an archaeological site.</p> <p>Notwithstanding the foregoing, and by copy of this report, the owners and applicant should be aware that there is a chance that the lot may contain previously unrecorded archaeological material that is protected under the <i>Heritage Conservation Act</i>. If such material is encountered during development, all work should cease and Archaeology Branch should be contacted immediately as a <i>Heritage Conservation Act</i> permit may be needed before further development is undertaken. This may involve the need to hire a qualified archaeologist to monitor the work.</p>

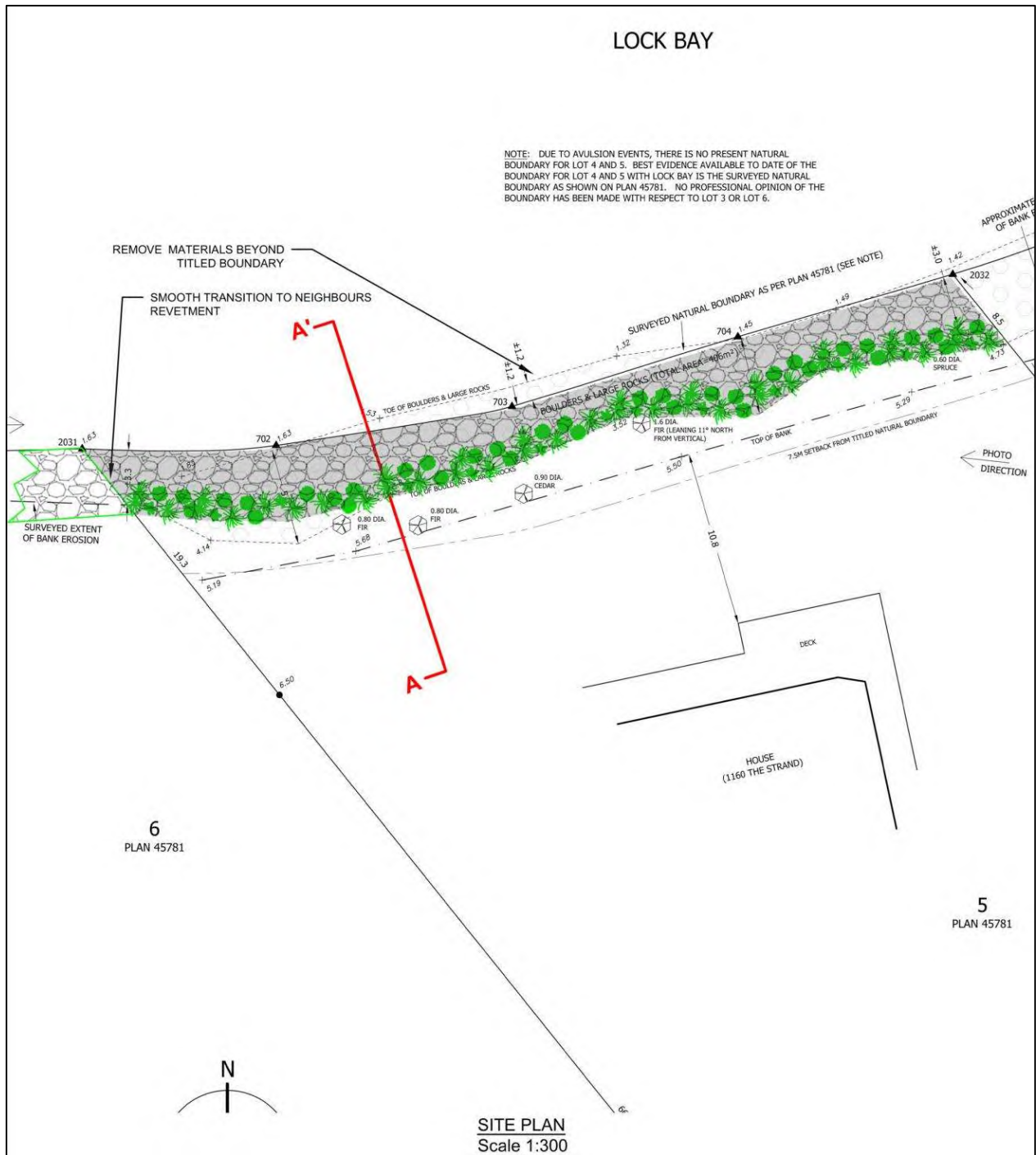
<p>Climate Change Adaptation and Mitigation</p>	<p>In consideration of the existing development's proximity to and placement beyond the natural boundary of the sea, there may be potential for future impacts by sea level rise or other climate change induced hazards. Natural wave action has impacted and eroded parts of the shoreline in the past, and may continue to erode the bank in the future.</p> <p>The subject property ranges in elevation from approximately 0.0 to 10.0 metres.</p>
<p>Shoreline Classification</p>	<p>Sediment Shoreline - Pebble/Sand</p>
<p>Shoreline Data in TAPIS</p>	<p>Large areas of moderate and sparse Eelgrass Meadows mapped in Lock Bay adjacent to the property.</p> 

ATTACHMENT 2 – MAPS, PLANS, & PHOTOGRAPHS – GB-DVP-2022.3 (PINK)

1. Aerial Photo (2020)



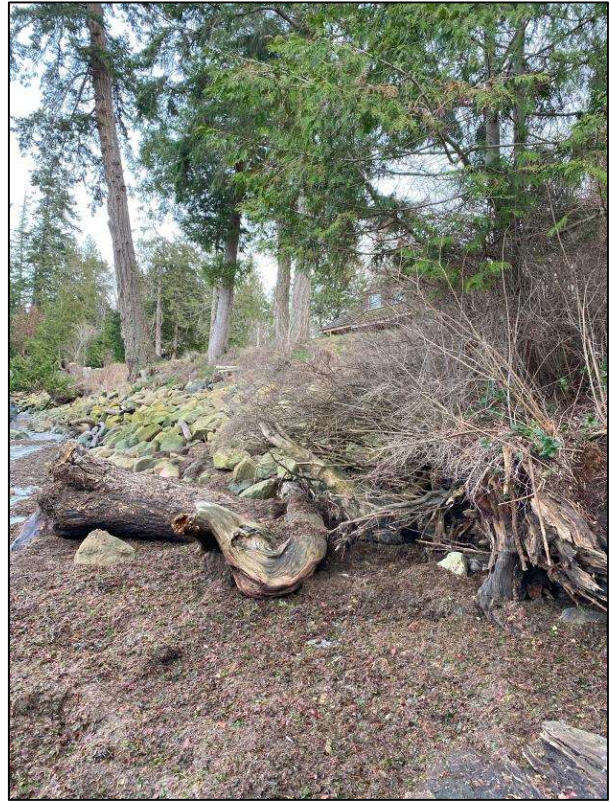
2. Site Plan Survey Excerpt (Extracted from Lewkowich Engineering Associates Ltd. Geotechnical Report)



3. SITE VISIT PHOTOS – OCTOBER 2022 AND JANUARY 2025



Western portion of revetment at 1160 The Strand



Western edge of seawall at 1160 The Strand



Top of bank at 1160 The Strand

ATTACHMENT 3 – GB-DVP-2022.3 (PINK) – OCP ANALYSIS

GABRIOLA ISLAND OFFICIAL COMMUNITY PLAN BYLAW No. 166

OCP Objective/Policy	Planner Comments	Complies?
6.1 Environmentally Sensitive Areas Policies		
<p>Policy 6.1.e) <i>To protect against hazardous conditions and to protect environmentally sensitive areas a setback shall apply from the high-water mark of the sea. In the case where a bluff or large land ridge is the prominent upland feature adjacent the sea, a setback from the upper edge of the bluff or ridge shall be applicable.</i></p> <p>Policy 6.1.f) <i>The sandstone and conglomerate banks along Gabriola’s shoreline shall be protected against the accelerated effects of erosion resulting from human activity by requiring the setback of buildings or structures and control of storm water runoff.</i></p>	<p>The rock revetment is unlawfully located in an environmentally sensitive area in the setback to the natural boundary of the sea. It is protecting private property and mature trees from erosion due to high wave energy and severe storms.</p> <p>The policies provide caution with regards to structures in the setback to the natural boundary of the sea, in particular with regards to erosion caused by human activity, protecting development from hazardous conditions, and minimizing disturbance to environmentally sensitive coastal ecosystems.</p>	Not definitive
6.2 Marine Resource Policies		
<p>Policy 6.2.a) <i>Except as specifically provided for, the surface of the water in the Gabriola Planning Area shall be zoned Water General wherein the permitted uses shall include boat moorage and boat launching facilities (where suitable), associated with single-dwelling residential uses located on the adjacent upland, public parks, ecological reserves, marine navigational aids and publicly funded and operated boat launching facilities.</i></p> <p>Policy 6.2.k) <i>Natural coastal processes shall be left undisturbed to the maximum extent possible and there shall be no deposition of material below the natural boundary of the sea unless a permit is issued by Ministry of Environment and DFO authorizing a breakwater or a seawall to be constructed.</i></p>	<p>Currently, a portion of the revetment is located beyond the legal boundary in the water area. The water area adjacent to the subject property does not permit revetment structures. This application proposes to remove that portion of the structure.</p> <p>The Geotechnical Report prepared by LEA Ltd. states the following “<i>at this site, which is subjected to frequent drifting logs, a robust design that can protect against the impacts of these logs is required. A foreshore revetment following the intent of the GSH and Coastal Slopes principles was considered the most suitable design for this site.</i>”</p> <p>The rock revetment, although not as harmful as a cement seawall structure, may still disturb the natural coastal processes. However, according to the engineer, the rock revetment is the most suitable option that disturbs those processes to the least extent possible while still effectively protecting the properties from erosion.</p>	Yes

ATTACHMENT 4

June 20, 2022

Islands Trust
700 North Road
Gabriola Island, B.C.
VOR 1X3

Re: File: GB-BE-2022.10

To Whom It May Concern:

We are writing to address the By Law violation that is alleged in the violation notice received from your enforcement officer, Mr. Warren Dingman on June 1st. To give context to the situation we find ourselves in, I will provide some history of our time on the Island and with this property.

We purchased this lot in 1986 from the original developer and saved our funds over the ensuing years to eventually build the existing house and garage in 1995. We have been coming to the Island since 1980, having watched the many changes and developments take place over the years that have created a real community, with great amenities and spectacular natural beauty. As such, we have history here and are mentally quite invested in the Island, caring deeply for its future and the preservation of its natural features. We have two families and three generations who have enjoyed great times and memories at our home and on the Island over these many years.

With regard to the erosion of our bank, as the photo taken in 1996 clearly shows, there was an approximately 45 degree slope from the top of the bank to the beach and the bank itself consisted largely of scrub vegetation. This had likely been the case for quite an extended period prior to our time. We noticed that there was erosion occurring at a steady rate around 5 to 6 years ago, however, were not too concerned. This pattern started to accelerate dramatically 2 to 3 years ago, with a clear pattern of larger storms eating away at the bottom third of the bank and then the remaining material above, with no support underneath, just collapsing and then being washed away with the tide.

As we observed this happening over this period, we started to observe the dynamics at play in the bay that would explain the underlying causes.

Firstly, the frequency and intensity of the winter storms in particular, have increased significantly over the years. Further, recent King Tides occurring at certain times in tandem with large storms create a very powerful combination that is directed at the bank with devastating consequences.

Secondly, the characteristics of Lock Bay tend to intensify these effects. The deeper areas further out give way to gradually shallower areas of 6 to 10 feet starting a few hundred yards out, then gradually transition to only 1 to 3 feet by the time these waters reach the bank in a higher tide. In storm situations, where you have enormous volumes of water heading to shore being forced into progressively shallower areas, these forces tend to slingshot and greatly increase the speed and destructive capacity of the surf.

Finally, we want to point out the role that the hundreds of beach logs existing in the Bay, many appearing to have originated from log booms, have played in this destructive pattern. While organic material on a bank might have some resistance against surf, when you take 1 to 3 ton logs driven by 6 to 7 foot seas in a high tidal situation, being hurled and smashed against the bank for hours on end, the result is any vegetation, softer clay and supporting root structures for the trees above are severely compromised, loosened, and destabilized, resulting in reclamation by the sea in a short period of time.

Over the past 3 years, this above described set of circumstances had rendered the bank closer to vertical, with some scrub vegetation overhanging and the trees that have lined the edge bank sitting at the edge.

The largest and most notable of our trees on the bank is a magnificent old growth Douglas Fir that we are advised is likely close to 300 years old and is a regular hang out for the Eagles in the bay. This is a tree we have become quite attached to over our 35 year tenure. Being the size that it is, the root structure is massive and runs deep and wide into our front lawn. The attached photos show the severe undermining of the root structure fronting the bay that was apparent last fall. As the tree has almost a 10% lean toward the bay, any further eating out underneath ensures it will fall into the Bay in the near term. Were this to happen, a good portion of our front lawn would be ripped out and quickly washed away, rendering us fully open to the Salish sea with virtually no protection for the soft clay and soil that would be exposed. Cutting this tree down to help avert some of the destruction of it falling was presented as an option, but we found that a hard

one to consider and it would not have averted its remaining huge root structure from being undermined and eventually collapsing. In desperation, we placed filter cloth and a tarp over the roots over the winter, which were beaten up quite badly, but may have halted some part of the effects of these recent storms. Two other existing trees in the same area, a cedar and a conifer that had been long time occupants of that area of our bank, did finally succumb to these forces of erosion and this spring fell over the bank onto the beach, exposing their root structures and dumping out the underlying soil onto the sand. This was not an unexpected result of this continuing erosion process, but was quite shocking to us, nonetheless.

The other 3 quite large fir trees lined up beside this larger tree are also on the edge of the bank and their root structures have been in the similar process of being undermined to fall victim to these same dynamics in the near term, as the attached photos illustrate.

At this point, we should also note that were these trees to topple, which would have been a virtual certainty, our neighbors on lot 6, who have also been experiencing significant recent low bank erosion, would have been fully exposed to the ocean, with much greater and faster reclamation of their front yard areas. A look at the attached survey and lot lines will illustrate this reality.

While we were experiencing the above noted issues with our own bank, we witnessed our neighbors on lot 4 also struggling with quite dramatic fallout from the sea erosion. They had lost two large trees in a short period of time this spring and in addition, a large section of their bank just collapsed onto the beach and was quickly washed away. This was clearly a frightening occurrence for them, as the front yard is not large, and their house is located close to the edge of the bank.

In summary, we have been facing a desperate situation, which would inevitably have caused the loss of our front yard and eventually threaten our home, as once the soft clay and soil is exposed, there is virtually no defense, except for some dramatic and robust hardscape rescue.

We had consulted the Gabriola Island zoning by law, Section F 3.3.1, which clearly states that emergency procedures to prevent, control or reduce

immediate threats to life or property, including emergency actions for flood protection and erosion protection were exempted from any requirement for a development permit. However, owners must satisfy themselves that they meet any other applicable local, Provincial or Federal requirements.

We also consulted the Gabriola Island Zoning By law, in particular, Section C.3 interpretation of Zone boundaries, Section C 3.1.1© which states that “where a land-based zone and a water-based zone boundary coincide, the boundaries must be the surveyed high-water mark as shown on the survey plan registered in the Land Titles office.

The survey certificate provided at the time of purchase and currently registered on title indicated that we had 8.5 meters or 27.9 feet between the original iron pin and the high-water mark on our East property boundary and 19.3 meters or 63.3 feet between the original iron pin and the high-water mark on the West boundary. These existing dimensions would put the landscape rocks that were placed within our property boundaries.

We have also noted that page 96 of the Gabriola Zoning By law with respect to the definition of a Landscaped area. The By law defines landscaped area as “an area significantly altered by human activity where there is continuous maintenance of no vegetation, cultivated vegetation and/or landscape materials, including but not limited to stones, boulders, cobbles, pavers, or decorative concrete.

We have reviewed the recent supreme court decision regarding property rights and erosion. We were advised that the right of a property owner to prevent erosion was not prohibited, however that nonstructural means was to be used. We concluded from the guidelines that filter cloth and boulders placed over would not be defined as a structure, as it is not bound together, would be covered under the definition of landscaping, and would not require a permit, particularly if placed within the existing registered survey lot boundaries.

We have noted the significant problems currently being experienced on Gabriola Island with sea erosion, with the Regional District of Nanaimo having closed four public parks due to erosion and public safety concerns and continuing issues at Twin Beaches with the same problem. We are also concerned with public safety

on our foreshore, were these large trees to topple onto the public beach near Sandwell Provincial Park.

In conclusion, we would like to emphasize that our actions were taken in desperation and to save our property and home from the inevitable result of these very powerful forces at work in Lock Bay. We would like to work with the Islands Trust and other agencies to arrive at a resolution that respects your concerns and guidelines but can ensure that it can withstand the extreme forces at play here. Resolution of this issue is also critical to protection of the neighbors on lots 3 and 6, who as mentioned are dealing with serious erosion issues of their own. We have recently had property inspections from representatives from The Department of Fisheries and Oceans, the Provincial Natural resource officer and archeologists from Heritage Conservation and are working through their process.

Thank you for your consideration.

Respectfully submitted,

Tom and Jeff Pink

Salient Points

1. Severe erosion of the soft bank structure and loss of trees had created an emergency situation where inaction would have resulted in the toppling of a massive old growth Douglas Fir and three other large Fir trees on the edge of the bank, ripping out a significant portion of the front lawn and threatening the house.
2. There were public safety concerns with trees toppling over the bank onto the public beach.
3. The currently registered survey certificate shows that the landscape rocks were placed within our lot boundaries.
4. The emergency erosion clause in the Gabriola Island Bylaw permits erosion protection measures without permit.
5. The Bylaw definition of landscaping includes placement of rocks and boulders, which are not classified as a structure because they are not bound together.
6. The Supreme Court has affirmed the right of a property owner to protect land from serious erosion by the sea.
7. We want to work and co-operate with the Governing parties to arrive at a solution that respects the Islands Trust guidelines but will also ensure protection of the bank from future erosion.

1996 PHOTO WHICH
THE SLOPING BANK
AND VEGETATION



1996 - SHOWING 3
MUCH SMALLER FIR
TREES ON THE RIGHT
+ MISC VEGETATION.



LARGE FIR TREE
ON LOT 4 BANK
HOLLOWED OUT
UNDERNEATH, WHICH
COLLAPSED IN THE
SPRING & HAD TO BE
CUT DOWN.



A LARGE SECTION OF
THE BANK ON LOT 4
WHICH COLLAPSED IN
SPRING '22



LOWER BANK ON LOT 5 BEING UNDERMINED AS SOFT CLAY AND SOIL IS CARRIED AWAY, EXPOSING ROOTS OF VEGETATION,



FIR TREE THAT WAS UNDERMINED AND FELL OFF THE BANK ON LOT 5 THIS SPRING '22.



SOFT CLAY & SOIL
BANK BEING QUICKLY
ERODED ON LOT 5



EROSION PROCESS
HOLLOWING OUT
UNDER MASSIVE
OLD GROWTH FIR
TREE ON LOT 5.



OLD GROWTH DOUGLAS
FIR ESTIMATED TO BE
ALMOST 300 YEARS OLD
BEING SEVERELY
UNDERMINED AND
BATTERED BY WAVE
ACTION AND LOGS.



THE CERTAIN NEAR
TERM COLLAPSE OF
THIS MAGNIFICENT
TREE WOULD HAVE
RIPPED OUT A LARGE
PORTION OF OUR FRONT
YARD, EXPOSING THE
SOFT CLAY & SOIL TO
THE SALISH SEA.





SOFT CLAY AND SOIL BANK SECTIONS ON LOTS THAT WERE BEING ERODED QUICKLY.



THESE 3 FIR TREES WERE GOING TO TOPPLE OVER THE BANK SOON, THEY HAVE NOW BEEN SAVED, HAD THEY FALLEN, OUR YARD AND THAT OF THE NEIGHBOR ON LOT 6 (HOUSE VISIBLE) WOULD BE IMMEDIATELY THREATENED.



2 HORIZONTAL STUMPS WHICH SLUMPED OVER THE BANK SPRING '22 AND HAD TO BE REMOVED.

3 LARGE FIR TREES BEING HOLLOWED OUT UNDERNEATH BY EROSION. WE WERE GOING TO LOSE THESE TREES IN THE NEAR TERM.



CEDAR TREE THAT
HAD IT'S ROOT
STRUCTURE ERODED
AND FELL OFF THE
BANK IN SPRING '22



SOFT CLAY AND SOIL ON LOT 5 BANK BEING QUICKLY ERODED
EXPOSING ROOT STRUCTURE OF VEGETATION .

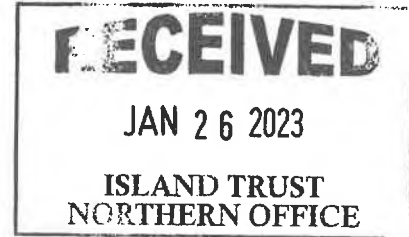


Tom & Jeff Pink



January 16, 2023

Islands Trust
700 North Road
Gabriola Island, B.C.



Attention: Margot Thomaidis

**Re: 1160 & 1170 The Strand Road
Development Variance Permit Application**

Dear Margot:

We are sending some photos of conditions on the beach and in the Bay in front of these properties to provide visual context to the application. These pictures were taken just after Christmas during the King tide that occurred December 27th, reportedly reaching 16.4 feet at its peak and was repeated for several days after slightly lesser highs on those days.

As is plain to see, there are hundreds of logs floating in the water during the higher tides. During storm conditions, these logs become battering rams, weighing anywhere up to 8 – 10 tons for the larger ones that can be 25 to 40 feet long and 2 feet or more in diameter. When you introduce 4 – 6 foot waves with strong winds, the bank gets pounded sometimes for hours at a time. It should be noted that the presence of these logs occurs regularly during the year with the various degrees of tidal heights and cycles. The reality is that greenscape material cannot stand up to these forces and to be effective, should be used only as an overlay.

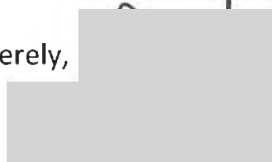
Our neighbours on Lot 6, whom have over 300 feet of low bank waterfront, are extremely concerned at the loss of several feet of bank material in certain places since September. To illustrate the seriousness of this, while we were there over Christmas, their access gate, which had been there for a couple of decades, fell over the bank after the supporting material was washed away during the King tide of that week. They stated to us that they have lost several feet of bank in many areas of their bank since the summer.

By contrast, the landscape rock that was placed in front of Lots 4 & 5 last spring has experienced virtually no change despite experiencing the same strong winter storms this past fall.

With regard to our application, we are just waiting to receive a submission from John Hessels of Lewkowich Engineering to provide a professional overview of our situation as it relates to the by-laws, the landscape rock and the forces at play that can be expected in future years.

If you have any questions or comments on this foregoing, please give me or Jeff a call.

Sincerely,

A large grey rectangular redaction box covering the signature area.

Tom & Jeff Pink

A large grey rectangular redaction box covering the signature area.

- Tom Pink

- Jeff Pink



SCATTERED LOGS AT LOWER TIDE



A HIGH TIDE REDISTRIBUTES THE LOGS



LOOKING TOWARD SANDWELL PARK AT HIGH TIDE



RANDOM LOGS WEIGHING UP TO AS MUCH AS 8-10 TONS ARE DEVASTATING TO BANK STABILITY IN STORM CONDITIONS.



HIGHER TIDE



TYPICAL LOG DISPERSAL AT A LOWER TIDE



LOGS FLOATED OFF THE AREA BEACHES DURING A RECENT KING TIDE.



DURING STORM CONDITIONS, THESE LOGS ARE VERY DESTRUCTIVE TO SHORELINE VEGETATION & BANK STABILITY.

May 12, 2023

Islands Trust

700 North Road

VOR 1X3

Attention: Islands Trust Planning Department & Local Trust Committee

Dear Sir & Madame

My brother and I bought our property at 1160 The Strand in 1987. We had a small trailer on site for a few years until we built the house in 1994/1995. Although we do not live on the Island, we have been visiting for over 35 years and really enjoy the time we spend on Gabriola. It has provided a great opportunity for our extended families and friends to visit and spend time together. We respect the Island and the environment and our interests are long term.

Over the years, we have spent much time on the beach and so have observed the condition of the waterfront bank closely and noticed with great concern severe escalating erosion in recent years.

In the Spring of 2022, two of our mature trees along the bank tipped over almost horizontal due to the loss of soil underneath. Our immediate neighbors to the south saw parts of their bank collapse and cave in and they lost two trees as well due to soil erosion.

Over the past few years, we had become increasingly aware of major erosion events due to severe climate issues such as:

- 1) The Regional District of Nanaimo's decision in July 2017 to close public beach access to Bluewhale Community Park, Hummingbird Community Park, Queequeg Community Park and Joyce Lockwood Community Park owing to erosion, damage and other site challenges. As per the Regional District of Nanaimo website, these same parks remain closed over five years later. These four parks are within relatively close proximity to The Strand and share a similar outlook.
- 2) Shoreline erosion at Gabriola Sands Provincial Park.
- 3) Jericho Pier in Vancouver closed due to extreme weather damage.
- 4) Portions of Spanish Banks beach public walkway and shoreline closed due to extreme weather damage.
- 5) Parts of Stanley Park Seawall were closed due to winter storm damage.
- 6) Ambleside and Dundarave Piers in West Vancouver sustained significant structural damage due to a storm surge in January 2022.
- 7) In December 2018, the iconic White Rock Pier was severely damaged by violent storms.

We are listing these examples of severe storm damage to illustrate the huge problem that we face from winter storm conditions including high tides, winds and waves plus hundreds of large logs that are propelled by the ocean like battering rams against our bank. These conditions create forces far beyond the ability of vegetation to handle. Even piers and seawalls that were specifically designed to withstand the extreme forces of the ocean have lately succumbed to the forces of nature.

We felt that we must act very quickly to protect our property and the general public from falling trees, soil slippage and other erosion events. We have a massive old growth Douglas Fir whose water side

roots were fully exposed to the ocean. If this giant tree fell, it would take out a huge portion of our front yard. Once our trees are gone, the remaining soft earth would be rapidly eaten away eventually placing our home at risk. Extreme soil erosion is a major public safety risk that property owners can't ignore.

Our neighbors to the immediate north at 1140 The Strand have suffered severe erosion and loss of their bank as well. In the past few months alone they have noticed additional extreme erosion and have contacted The Islands Trust about their concerns. They also had a recent survey prepared by Tyler Hansen at Williamson & Associates Professional Surveyors and have contacted John Hessels at Lewkowich Engineering for a professional assessment in order to deal with the problem.

We believe that the Gabriola Zoning Bylaw reinforces our decision to undertake emergency protection measures for public safety and property preservation purposes. Section F.3.3.1 Exemptions on page 86 of the Zoning Bylaw exempts emergency procedures to prevent, control or reduce immediate threats to life or property including emergency actions for flood protection and erosion protection from any requirement for a development permit. Despite these exemption provisions, owners must satisfy themselves that they meet any other applicable local, provincial or federal requirements.

In June 8, 2022, our property was inspected by Provincial Natural Resources officer Anthony Kennedy. On June 16, 2022 our property, 1170 The Strand and the immediate surrounding area were inspected by two archeologists at the direction of Mr. Kennedy in relation to the Heritage Conservation Act. We received a report from Mr. Kennedy stating that the rocks that we placed are not on an archeological site and that we are not in contravention of the Heritage Conservation Act. Mr. Kennedy asked that we engage with The Islands Trust regarding the placement of the rocks.

In June 2022, our property along with our neighbor at 1170 The Strand were inspected by the Federal Fisheries Department. The Fisheries officer verbally advised Mark Woodhouse our neighbor at 1170 The Strand that they had no issues with the placement of the rocks.

With respect to the placement of the rocks, we consulted page 27 of the Gabriola Zoning Bylaw. It says that where a land based zone and water based zone boundary coincide, the boundaries must be the surveyed high water mark as shown on a plan registered in The Land Titles Office. In our case, the recent survey plan prepared by Williamson & Associates outlines our Titled Natural Boundary (TNB) as per Subdivision Plan 45781 registered in 1987 clearly showing that the majority of the rocks that we placed are within our Titled Natural Boundary.

In his September 7, 2022 covering letter accompanying his survey report, Tyler Hansen at Williamson & Associates Professional Surveyors expressed his professional opinion that the "best evidence of the extent of title of lots 4 and 5 that I have is the titled natural boundary as shown on plan 45781".

In his covering letter, Tyler Hansen further states:

"It is my professional opinion that there are rocks beyond the titled natural boundary, but in my opinion, the rocks piled up along the natural boundary do not form a structure. The landowners had these rocks dumped within the setback to the natural boundary, and partially beyond the natural boundary, but none are affixed, secured or stacked into a retaining wall. Furthermore, the work the landowners had completed was for the sole purpose of emergency prevention of further loss and damage of property, and protection of public using the beach."

Tyler Hansen further states, "Based upon the information provided above, I do not believe that the landowners are in violation of the Land Use Bylaw as set out in the Islands Trust Letter."

To further clarify our legal boundary, Tyler Hansen contacted the provincial Surveyor Generals Office to discuss our situation. The Survey Generals office oversees the province's land survey system and gives direction to land surveyors on specific issues. It is the provincial land surveying department that manages natural boundaries. The deputy confirmed that our Titled Natural Boundary is the most probable location of the boundary.

We also submit to you a March 27, 2023 Geotechnical Report prepared by John Hessels and Chris Hudec with Lewkowich Engineering Associates Ltd. LEA is an Architecture, Engineering and Design company founded in 1994. John Hessels ASCT is the president and director of LEA and has been active in the industry since 1983. He specializes in erosion and sediment control, coastal engineering (foreshore revetments), retaining structures and storm water management. Chris Hudec, M.A. Sc, P. Eng received his P.Eng. in 1995 and is a senior project engineer.

The purpose of their report is to provide a revetment assessment and design of the waterfront bank at 1160 The Strand. The report provides a detailed analysis of the existing erosion protection measures that we placed along our bank, the marine related erosion forces that we experience in Lock Bay, as well as a detailed Green Shores Revetment Plan created in conjunction with the survey plan prepared by Williamson & Associates designed to protect our bank and respect the marine environment.

In clause B on page 2, the report states, "There is no vegetation below the tree extents to the beach below. This area is comprised of a revetment installation consisting of a collection of 500mm to 1,000mm sized boulders deposited on a geotextile base that was installed as an emergency measure to protect the property against significant erosion caused by waves and drifting logs from winter storm activity. Since that time the installation has ceased most of the erosion issues and provided stability to the existing mature trees along the slope crest."

In clause D on page 4 of the Lewkowich report, it says, "This filling (revetment) is justified as it helps ensure the protection of the mature trees and provide the necessary safe distance to buildings from storm events. These recent storms have a much greater intensity and come from different directions, all of which are part of Climate Change, causing severe erosion of this area,(and many others) over the past few years. Erosion has destroyed the shoreline habitat and reduced the setback to buildings and mature trees, which had remained intact for decades."

In section 4A on page 5, Foreshore Revetment Design, the report states that,"The wave climate at the site is influenced by several factors including bathymetry, tidal level, storm surge, wind speed and direction , as well as further sea level rise. In addition, at this site, which is subjected to frequent drifting logs, a robust design that can protect against the impacts of these logs is required. A foreshore revetment following the GSH and Coastal Slopes principles was considered the most suitable design for the site."

As per the Green Shores Revetment Plan prepared by Lewkowich Engineering Assoc Ltd., we will remove any rocks that extend beyond our Titled Natural Boundary using a machine positioned on top of our bank. No heavy equipment will go on the beach.

We received legal advice from Dr. Brian Ballantyne, MASC, PhD, LLB, ALS(Hon), who is a lawyer/surveyor with degrees in law, environmental ethics, engineering, surveying and geography and has been an advisor to many senior levels of municipal and provincial governments across Canada on land tenure issues. He advised that the landowner's right to protect their land from erosion was not prohibited by recent court rulings. We were informed that we are obliged to use non-structural means. We were advised that the rocks that we placed are an erosion protection measure and not a structure, because they are not affixed, secured or structurally held together except by their weight, placement and the angle of the slope.

As part of our investigation relating to the placement of erosion protection rocks on our bank, we drove around Gabriola Island and discovered that behind the Silva Bay Shipyard parking lot there are several examples of recently placed waterfront rock riprap, as well as a large waterfront concrete retaining wall. In this case, the waterfront rock riprap is bare untreated rock and has zero Green Shores measures such as fill or landscaping. These long sections of rock riprap and the concrete retaining wall are in a quiet bay that is not exposed to the strong tidal forces that we experience in Lock Bay. As such, we wonder if a concrete retaining wall and rock riprap without any Green Shores measures are permitted on a waterfront bank in a quiet bay on Gabriola Island ; why would rocks with Green Shores specifications not be allowed in Lock Bay where we are experiencing severe erosion due to high tides, winds, waves and hundreds of large projectile logs that batter our bank?

We understand the need for The Islands Trust to protect the environment. However, we do not believe that vegetation alone is sufficient to protect our waterfront bank from the current realities of climate change and the ever-worsening rigors of the sea. The Lewkowich report clearly states that our rock placement (revetment) is justified and it works. It ensures protection of the bank and that "a robust design that can protect against the impact of these logs is required". "Erosion has destroyed the shoreline habitat and reduced the setback to buildings and mature trees, which had remained intact for decades". After much observation, it appears that the vast majority of the public beach walkways around Vancouver, Victoria and Nanaimo and the ferry terminals, etc. use heavy rock riprap protection.

We are here today in an effort to reach an agreement with The Islands Trust to approve the Revetment Plan prepared by Lewkowich Engineering, who are specialists in this field. We want to work with all of the stakeholders to bring about the required Green Shores protection for our bank, our trees and for the safety of the general public under the guidance of Lewkowich Engineering . We are very willing to consult and cooperate with the various authorities to reach a satisfactory agreement. We have already hired very experienced competent surveyors, engineers and professional advice to develop the best possible protection and satisfy the Islands Trust Green Shores requirements.

We look forward to working in harmony with the Islands Trust and other required governing authorities under the direction of Lewkowich Engineering to provide Green Shores protection for our waterfront bank.

Yours truly,

Jeff & Tom Pink

January 9, 2025

Islands Trust Trustees

700 North Road

Gabriola island, B.C.

V0N 1V9

Attention: Peter Luckham, Susan Yates & Tobi Elliott

Dear Sir & Mesdames

RE: 1160 The Strand, Gabriola Island, B.C.

Development Variance Permit

We are attaching this letter in conjunction with other related documents to provide additional information relating to our application.

My brother Tom and I purchased our waterfront lot on Gabriola Island approximately 37 years ago and built our house in 1994/1995. We also built a cabin on Valdes Island in 1980, that we sold to our sister in 2013. We are not island residents. However, we have been regular visitors for many years.

Over the first three decades of ownership, we observed mostly imperceptible forces of nature very gradually eroding our bank. About five to 7 years ago, we noticed an increased intensity in the forces of the ocean and some minor erosion.

During November and December 2021 and January 2022, British Columbia experienced what has been referred to as "once in a century storms and atmospheric rivers of rain on the South Coast". The extreme rainfall saturated the ground and weakened the exposed soil on our bank. The pulverizing effect of King Tides, strong winds, large waves and hundreds of large heavy stray logs caused severe damage to our waterfront bank and led to a major avulsion event on our property, as well as our neighbour's at 1170 The Strand. We also observed severe damage and loss of soil on the waterfront bank at 1140 The Strand.

We suffered very noticeable loss of soil and then around late March 2022, we discovered that two mature trees that were on the crest of our bank fell over towards the ocean. Our neighbour at 1170 observed a large fissure in the front lawn that eventually led to the collapse of a large portion of their bank into the ocean, as well as the resulting loss of a mature Arbutus tree. In addition, another large fir tree near the border between 1160 and 1170 started sinking downward because the root system was hollowed out below. This caused the bank on our border to crack and sink downward. The tree became unstable and had to be removed.

At this point, we realized that we were at risk of losing more trees and portions of our bank. We also were worried that one of our trees could fall on an innocent person walking along the beach below. We also knew that once our trees fell down, the soft soil on our bank could be easily washed away exposing our front lawn and eventually our house to the forces of the ocean.

After experiencing this major avulsion event in the Spring of 2022, we consulted the Gabriola Zoning Bylaw Section F.3.3.1 that clearly states that emergency procedures to prevent, control or reduce immediate threats to life or property including emergency actions for flood and erosion protection are exempted from any requirement for a development permit. We also consulted Section C.3.1.1 of the Gabriola Zoning Bylaw that says “where a land based zone and a water based zone boundary coincide, the boundaries must be the surveyed high water mark as shown on a plan registered in the Land Titles Office. Our subdivision plan was registered in 1987.

At this point, we felt that we had no choice but to fortify our bank with a protective rock revetment, as an emergency protection measure to save our bank, trees and prevent any injuries to innocent bystanders. Please note that all rocks were placed from the top of the bank with no machinery on the beach at any point. Movement or positioning of lower rocks if required was done with people power.

In June 2022, we engaged the services of Williamson & Associates Ltd. Surveyors and applied to the Islands Trust for a Development Variance Permit to approve our rock revetment. We also hired John Hessels with Lewkowich & Engineering Associates Ltd. to inspect our rock revetment, prepare an engineering report and an engineering plan to incorporate industry requirements and Green Shores specifications to bring our existing revetment to required standards for approval.

The survey prepared by Williamson & Associates Ltd. indicates that the vast majority of our rock revetment is situated within our legal titled boundary. We have indicated to the Islands Trust that we are very willing to remove any rocks outside of our legal boundary without any heavy equipment on the beach.

Our surveyor expressed his professional opinion that our natural boundary had moved quickly and perceptibly during the last few years and therefore the best evidence of our legal boundary is the Titled Boundary as per the 1987 registered survey. The Islands Trust required legal determination of our legal boundary. Tyler Hansen our surveyor consulted the BC Surveyor General and on May 29, 2023, we received official legal confirmation by our surveyor that our legal boundary is our titled boundary. Our survey plan was updated on September 12, 2023, to reflect that legal determination.

On June 17, 2022, an archaeological report was commissioned by BC Government Natural Resources Officer Anthony Kennedy based on a June 16, 2022, field study by two NRO archaeologists. They reviewed the foreshore in front of 1160 The Strand (lot 5) to inspect for any archaeological material that may have been in evidence in the foreshore area. In his report of June 17, 2022, Mr. Kennedy referenced our revetment and the recorded archaeological site DhRw-2 that decades earlier mapping had detailed in the area fronting our property.

The findings of the inspection were characterized as follows in Mr. Kennedy’s report:

“On June 16, 2022, at approximately 11:45 am, NRO Hlywka, NRO Kinzie, Arch specialist and I reviewed the foreshore in front of 1160 The Strand, Gabriola Island, B.C. NRO Kinzie reviewed the area of archaeological site DhRw-2, as delineated in Provincial datasets and did not find strata or objects to suggest that the archaeological site was still present. NRO Kinzie indicated, in consideration of observed

erosion, that the archaeological site is either completely eroded away or the position of the site has not been accurately catalogued.” “The NROs conducted a review of the foreshore area in Lock Bay and NRO Kinzie confirmed that the location of DhRw-2 is approximately 100 meters West of the documented extent of DhRw-2. As such, the rock bank armour associated with 1160 The Strand has not been built on an archaeological site.”

For additional clarification for this application, we contacted BC Natural Resources Officer and archaeological specialist Joel Kinzie in January 2024. He conducted the field study of 1160 The Strand on June 16, 2022. His January 16, 2024, email response to us stated:

“Our search found no evidence that your shoreline armouring development impacted a protected archaeological site. It also determined that protected site DhRw-2 had been incorrectly plotted and was in fact 100 m or so from your property.”

The Federal DFO inspected our rock protection in June 2022 and did not express any concerns. To obtain further clarification, we contacted the DFO in late July 2023. I spoke to Vanessa Smith who is a biologist with the Fish and Fish Habitat Protection Program with Fisheries and Oceans Canada. I explained in detail our rock protection and our underlying motivation. She contacted people within the DFO, as well as Margot Thomaidis our planner at the Islands Trust. She sent us a July 31, 2023 indicating that the “DFO cannot review projects retroactively that have already been completed” and as such had no comments regarding our rock protection.

Our Engineer, Lewkowich & Associates contacted that Regional District of Nanaimo to determine if a Building Permit is required. Our engineer, John Hessels spoke to the RDN authorities. He was advised that our rock protection is considered an erosion control revetment and does not require a building permit from the RDN.

On July 7, 2023, we received an Arborist Report from Vancouver Island Tree Service Ltd. The report states:

“In conclusion, the construction of the breakwater along the lower bank at the property has had a positive effect. The rapid erosion of the bank was threatening the stability of the (5) trees growing at the top of the bank by undermining the roots. The loss of these trees would have negated the value they offer as habitat to local wildlife and the stability of the bank.”

We also obtained an Environmental Impact Assessment from DR Clough Consulting – Fisheries Resource Consultants on November 22, 2023. The report concluded:

“Based on this assessment and the recommendations of other professionals including the land surveyor, engineer and biologist are confident the existing structure can be modified to become structurally and environmentally conforming with more benefit than the previous bank. We recommend that the existing revetment remain in place but be upgraded to meet the recommended design standards, the rocks trespassing on crown land be removed and the upper portion of the revetment be planted as per the attached design.”

On December 11, 2023, Lewkowich Engineering Assoc. Ltd. revised our Revetment Plan to reflect the recommendations of the DR Clough Environmental Impact Assessment minimizing disturbance to the existing revetment that has been very effective in stopping any further erosion.

The Lewkowich Engineering report states, " This filling(revetment) is justified as it will help ensure the protection of the mature trees and provide the necessary safe distance to buildings from storm events. The recent storms have a much greater intensity and come from different directions, all of which are part of Climate Change, causing severe erosion of this area, (and many others) over the last few years. Erosion has destroyed the shoreline habitat and reduced the setback to buildings and mature trees, which had been intact for decades" ."In addition, at this site, which is subjected to frequent drifting logs, a robust design that can protect against the impacts of these logs is required."

Our engineer advised that given the high tides, wind, waves and numerous heavy logs that batter our foreshore, we require more robust protection than Green Shores methods alone. His Report indicates that the revetment" installation has ceased most of the erosion issues and provided stability to the existing mature trees along the slope crest." The report states that the "designed revetment will help protect the foreshore from marine erosion by dissipating wave energy and providing stability to the foreshore bank without significant effect on the neighbouring properties."

Lewkowich Engineering updated its report on February 7, 2024, in keeping with the updated Revetment Plan.

DR Clough updated its report on February 21,2024 to include additional observations in consultation with Lewkowich Engineering Associates Ltd.

In summary, we respectfully submit this letter and related documents and are very willing to meet with you to address any questions or concerns that you may have. As previously indicated, we have a long history of ownership on Gabriola Island and our goal is to preserve our property for the use of family and friends for many years to come. We want to work together with the local authorities with the assistance and direction of our professional consultants to make any modifications required to obtain approval for our bank protection.

We have attached copies of the following to accompany our application:

- 1) Lewkowich Engineering Assoc. Ltd. Report Updated February 7,2024 including,
- 2) Lewkowich Engineering Assoc. Ltd. Revetment Plan updated December 11,2023 and including,
- 3) Survey Certificate from Williamson & Associates Ltd. updated September 12, 2023,
- 4) Williamson & Associates Professional Surveyors Boundary Determination Letter May 29,2023,
- 5) DR Clough Consulting Environmental Impact Assessment, Updated February 21, 2024
- 6) Vancouver Island Tree Service Ltd. Arborist Report dated July 7, 2023
- 7) Photographs of 1160 The Strand, Gabriola Island, Foreshore

Please do not hesitate to contact us in the event that you require any further information or clarification.

Our contact information is as follows:

Tom Pink: Telephone [REDACTED]

Jeff Pink: Telephone [REDACTED]

Thanks,

Jeff & Tom Pink

ATTACHMENT 5



WILLIAMSON & ASSOCIATES
PROFESSIONAL SURVEYORS
3088 BARONS ROAD, NANAIMO B.C. V9T 4B5
PHONE: (250) 756-7723 email: waps@vibcls.ca

September 7, 2022

Our File No.: 22066

Your File: _____

Gabriola Local Trust Area
Planning Department (North Team)
700 North Road
Gabriola Island BC V0R 1X3

Attention: Planning Department

RE: 1160 The Strand & 1170 The Strand
Lot 4 (#1170) and Lot 5 (#1160), Gabriola Island, Nanaimo District, Plan 45781

For your review with respect to the above-mentioned properties, I have been retained by the landowners (Tom and Jeff Pink – owners of Lot 5, and Mark and Gail Woodside – owners of Lot 4). The survey plan prepared and enclosed is of a field survey to conducted determine the boundaries of the parcels, and to complete a topographic survey along the natural boundary. This also included surveying the location of rocks placed to prevent further erosion along the natural boundary. The survey is in response to the land owners each receiving a letter from the Island Trust notifying them that they both were in violation of 4 sections of the Land Use Bylaw No. 177. It is our understanding that these violations are all with respect to these rocks that were placed.

Our survey crew and I attended the site on July 5th, 2022 and completed the legal field survey. The survey included:

- finding survey monuments defining the parcel boundaries,
- GNSS (Global Navigation Satellite System) observations to determine geodetic elevations with respect to mean sea level,
- retracing the titled natural boundary for the parcels as shown on Subdivision Plan 45781,
- surveying the location of the present natural boundary, if possible, as defined in the Land Act,
- surveying visible features such as houses & decks, trees along the bank, and topographic top of bank, and
- surveying the extent of the rocks which are the focus of the Island Trust letter.

Accompanying this letter, I have included the following:

1. A copy of the digitally signed Site Plan,
2. Copies of the Certificates of Title for Lot 4 and Lot 5,
3. Photo taken from Survey Station #2031 looking east along titled natural boundary, and
4. Photo taken close to Station "0973" looking westerly at the 1.6m diameter Fir Tree indicating a 11 degree lean toward the water.

For clarity, I have marked on the photo (Item #3) a blue line connecting the wood stakes that we set which approximately corresponds to the titled natural boundary as shown on Plan 45781. This titled natural boundary is the zone boundary between the SRR (Small Rural Residential) zone and the WG (Water General) zone as per Section C.3.1.1(c) of the Land Use Bylaw.

During our research for this project, we have reviewed the following parts of the Land Use Bylaw that appear to be relevant to your review:

1. Definition of "Structure": This definition is for anything "constructed or erected".
2. Definition of "Landscaped Area": This definition includes rocks and boulders and landscaping materials
3. Section F.3.3(k)(i): This section allows for exemption to a development permit for "emergency procedures to prevent, control or reduce immediate threats to life or property including emergency actions for flood-protection and erosion protection".
4. Section C.3.1.1(c): This section defines the boundary between the residential zone and the water zone.

Site Plan and Field Survey

The first conclusion that I make from this survey is that the majority of the rocks placed along the natural boundary is upland from the 1987 titled natural boundary as shown on Plan 45781. There are two areas where some rocks are waterward of this boundary by approximately 1.3 metres or less. The retracement of the titled natural boundary is based on the dimensions shown on the plan and the hand drawn graphical illustration of the natural boundary drawn on the plan. The approximate accuracy of this retracement is +/- 1.0 metres.

Erosion of the Bank

It was relayed to me by the owners of Lot 4 that they hired contractors to place landscaping filter cloth along the near vertical bank to prevent leaching of the soil behind it, and then placed rock to protect the bank and the filter cloth from further wave action and erosion. I was advised that the owners of Lot 5 placed all of the filter cloth and some rock themselves, and then hired the same contractor to place the majority remaining rock along their portion of the bank. It is their opinion that the bank was suffering significant erosion from wave action during intense storms mostly during the winter season in the past couple of years.

They reported trees falling and leaning due to the erosion undercutting the supporting soil. I was advised that the major erosion event that triggered their emergency protection measures happened in the Spring of 2022 when Lot 5 lost two matures trees that slid down the bank due to dramatic recent erosion, and Lot 4 lost 2 trees and a significant section of the bank gave way and slid down to the beach. At that point, it is the landowner's belief that there was a significant risk to losing more trees and more bank collapse, as well as a potential safety risk to the public should the remaining trees fall onto the beach. This was evident during our field survey where a substantial fir tree is

currently leaning 11 degrees from vertical toward the water. In response to witnessing this erosion, the land owners took immediate steps to prevent further erosion.

Legal Extent of the Titles for Lots 4 and 5

With respect to the movement of a natural boundary, the common law principle that applies is that the natural boundary moves lawfully, either by erosion or accretion or other natural methods, if the change is slow and imperceptible. If this is not the case, then the natural boundary remains in the last location before an abrupt change. In Canadian common law, this is most common with flood events and river bends and oxbows. It is my professional belief based on the information provided by the land owners (anecdotally and photographic) that the natural boundary has moved suddenly and perceptibly in the last few years, and therefore, at this time, the best evidence of the extent of the title of Lots 4 and 5 that I have is the titled natural boundary as shown on Plan 45781. The Site Plan provided with this letter shows the legal boundary of Lot 4 and Lot 5 as per Plan 45781. This has not been verified or confirmed by a formal application to the Surveyor General's office at this time.

Professional Opinion

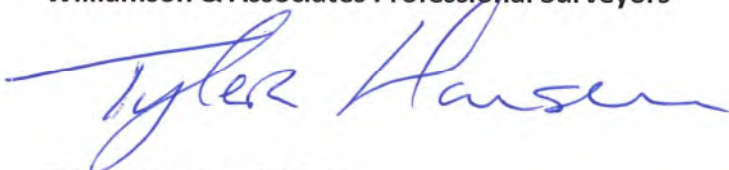
It is my professional opinion that there are rocks beyond the titled natural boundary, but in my opinion, the rocks piled up along the natural boundary do not form a structure. The landowners had these rocks dumped within the setback to the natural boundary, and partially beyond the natural boundary, but none are affixed, secured or stacked into a retaining wall. Furthermore, the work the landowners had completed was for the sole purpose of emergency prevention of further loss and damage of property, and protection of the public using the beach.

Based on the information provided above, I do not believe that the landowners are in violation of the Land Use Bylaw as set out in the Island Trust letter. If I have missed any relevant information within the Land Use Bylaw, or if you have other relevant information regarding these properties, my professional opinion can be revisited and revised.

We trust you will find the preceding and enclosed to be in order and the information you require for your review. If you have additional questions regarding this survey plan, or should you require any information that we have not supplied to you here, please contact me.

Yours truly,

Williamson & Associates Professional Surveyors



Tyler J. Hansen, B.C.L.S.

Enclosures

ec: *Tom and Jeff Pink (1160 The Strand, Gabriola Island)*
Mark and Gail Woodside (1170 The Strand, Gabriola Island)



POINT 2031

Local Time: Jul 5, 2022, 11:11:18 a.m.

Lat, Lon: 49.184334, -123.812077

Alt: -39m MSL WGS84

CEP: 5m

Azimuth and Bearing

254° S73W



11.3°



-3.3°





WILLIAMSON & ASSOCIATES
PROFESSIONAL SURVEYORS
3088 BARONS ROAD, NANAIMO B.C. V9T 4B5
PHONE: (250) 756-7723 email: waps@vibcls.ca

May 29, 2023

Our File No.: 22066
Your File: GB-DVP-2022.3

Gabriola Local Trust Area
Planning Department (North Team)
700 North Road
Gabriola Island BC V0R 1X3

Attention: Margot Thomaidis, MCP

RE: 1160 The Strand - Lot 5, Gabriola Island, Nanaimo District, Plan 45781

Further to my September 7, 2022 letter, this supplementary letter is to provide the Planning Department of the Islands Trust with my professional determination of the location of the extent of title and legal boundary of Lot 5. The land owners relayed that, as part of your review of this file, you have requested certainty as to the location of the boundary of the parcel.

My professional determination of the location of waterward boundary and extent of title ownership of Lot 5 has not changed since my initial survey and report dated September 7, 2022. My professional determination is based on the anecdotal and photographic information provided by the land owners, publically available survey information, and my field survey completed last June. I have determined that the bank was stable until storm events in the past few years caused significant erosion of bank and this erosion that was sudden and perceptible. Under Canadian common law, when a natural boundary undergoes a sudden change in location, the boundary remains at the last determinable location before the sudden change occurred. This is called avulsion. In this instance, the last known location of natural boundary is as surveyed and shown on Subdivision Plan 45781. The Site Plan prepared and provided with the September 7, 2022 letter shows this natural boundary location.

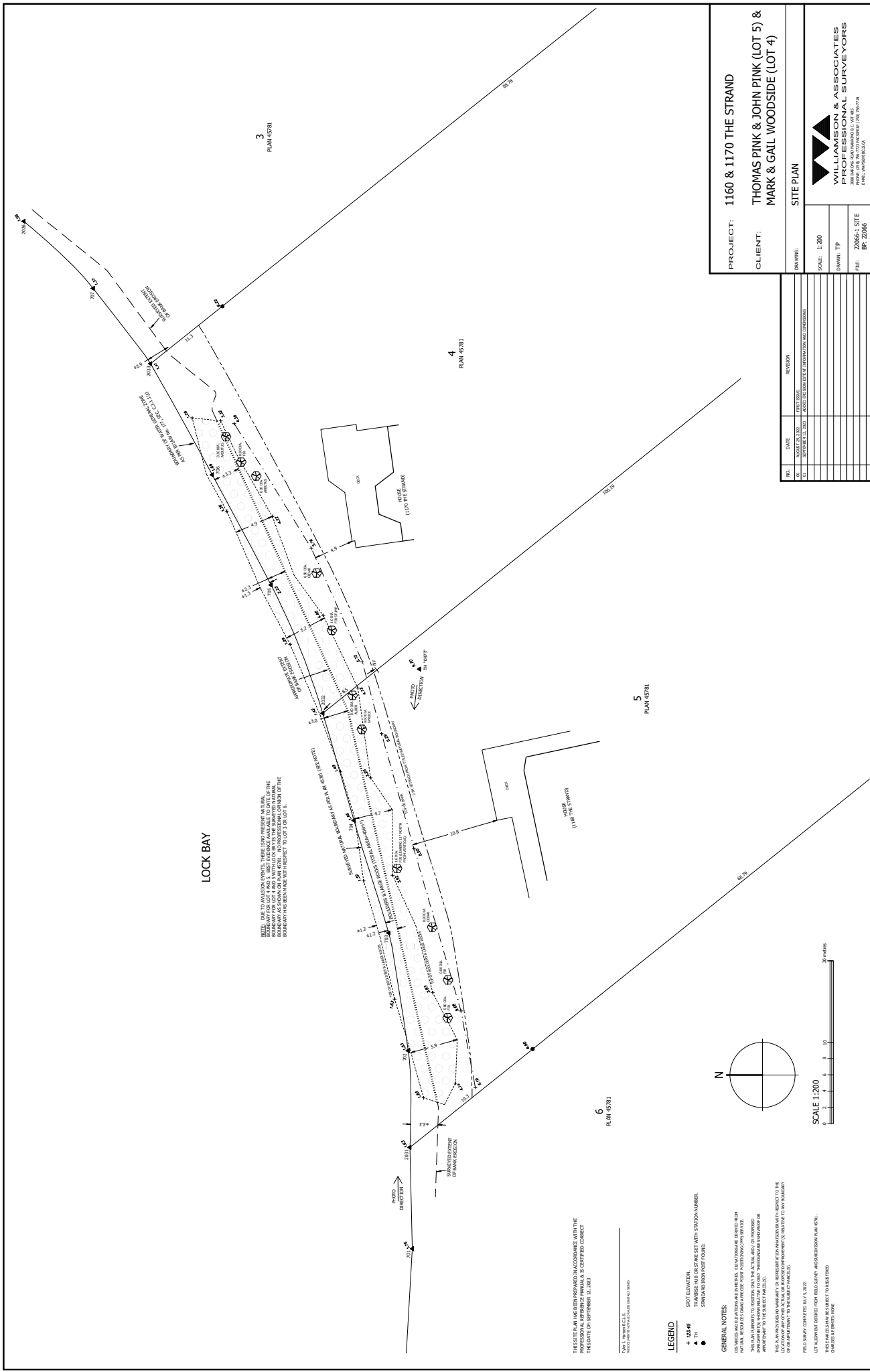
I have consulted with the Survey General's Office, and they have confirmed that they do not accept applications for review of erosion and avulsion events. As such, the determination of the natural boundary location in these instances is left to the professional land surveyor. At this time, I have not been able to locate any relevant information that calls this determination into question. As stated in my first letter, if you have information regarding this boundary, my professional opinion can be revisited and revised. If you have additional questions regarding this, or should you require any information that we have not supplied to you here, please contact me.

Yours truly,
Williamson & Associates Professional Surveyors

Tyler J. Hansen, B.C.L.S.

Enclosures

cc: Tom and Jeff Pink (1160 The Strand, Gabriola Island)



PROJECT: 1160 & 1170 THE STRAND
 CLIENT: THOMAS PINK & JOHN PINK (LOT 5) & MARK & GAIL WOODSIDE (LOT 4)

DATE: 20/05/11
 SCALE: 1:200
 DRAWN: TP
 FILE: 200561 SITE BP 2006

SITE PLAN



NO.	DATE	REVISION
01	20/05/11	PRELIMINARY
02	01/06/11	REVISED TO REFLECT COMMENTS
03	01/06/11	REVISED TO REFLECT COMMENTS
04	01/06/11	REVISED TO REFLECT COMMENTS
05	01/06/11	REVISED TO REFLECT COMMENTS
06	01/06/11	REVISED TO REFLECT COMMENTS
07	01/06/11	REVISED TO REFLECT COMMENTS
08	01/06/11	REVISED TO REFLECT COMMENTS
09	01/06/11	REVISED TO REFLECT COMMENTS
10	01/06/11	REVISED TO REFLECT COMMENTS

NOTE: DUE TO AERIALS EVIDENCE, THERE IS NO PRESENT AN UNLAWFUL EASEMENT OR INTEREST IN THE SUBJECT LAND. HOWEVER, THE BOUNDARY FOR LOT 4 AND 5 APPEARS TO BE THE SEPARATED NATURAL BOUNDARY AS SHOWN ON THE AERIALS. THE BOUNDARY HAS BEEN DRAWN WITH REFERENCE TO THIS FOR LOT 4.

NOTE: THE HOUSE BOUNDARY AS PER PLAN 45781 (SEE NOTE) IS SHOWN AS A DASHED LINE. A LARGE EASEMENT (SEE PLAN 45781) IS SHOWN AS A DASHED LINE WITH A WIDE BOUNDARY LINE.

THIS SITE PLAN HAS BEEN DRAWN IN ACCORDANCE WITH THE PROFESSIONAL REFERENCE MANUAL & IS CERTIFIED CORRECT THIS DATE OF SEPTEMBER 17, 2013

THIS PLAN IS INTENDED TO BE USED AS A REFERENCE ONLY. IT IS NOT TO BE USED AS A BASIS FOR CONSTRUCTION OR ANY OTHER PURPOSE. THE SURVEYOR ACCEPTS NO LIABILITY FOR ANY LOSS OR DAMAGE TO ANY PROPERTY OR PERSONS ARISING FROM THE USE OF THIS PLAN.

FIELD BOOKS COMPLETED 24.04.2012

UP ALLOTMENT CORRECTED FROM FIELD BOOKS AND RE-DRAWN PLAN 45781. THIS DRAWING SHOULD BE SUBJECT TO THIS FIELD BOOKS.



SCALE 1:200

20 METERS



GEOTECHNICAL REPORT

Jeff and Tom Pink
3100 Uplands Road
Victoria, BC
V8R 6B5

File: E1836.01Rev 2
Date: February 21, 2025

ATTENTION: Mr. Tom Pink

PROJECT: SHORELINE EROSION PROTECTION
1160 THE STRAND, GABRIOLA ISLAND, BC
*LOT 5, SECTION 18, GABRIOLA ISLAND, NANAIMO DISTRICT, PLAN
45781, PID 008-828-067*

SUBJECT: SHORELINE REVETMENT ASSESSMENT AND DESIGN

1.0 INTRODUCTION

- a. As requested, Lewkovich Engineering Associates Ltd. (LEA) has conducted an assessment and enhancement design of an existing foreshore revetment for the property located at 1160 The Strand, Gabriola Island, B.C. We understand that a Development Variance permit is required to allow for the shoreline protection (GB-DVP-2022-3).
- b. This letter summarizes the results of our assessment, observations and design and provides our comments, recommendations, and conclusions regarding the proposed enhancement of a foreshore revetment. LEA will be working in concert with BC Land Surveyor³ for the legal boundary component of the work and an Environmental Professional⁴ for the Biological portion of the works.

2.0 OBJECTIVES

- a. The objectives of this report are to provide recommendations and designs regarding foreshore protection utilizing ideals within the BC Coastal Slopes guidelines and the Green Shores for Homes Guiding Principles (GSH). These “Guiding Principles” consist of the following:
 - i. Preserve or restore physical processes to maintain healthy shorelines.
 - ii. Maintain or enhance habitat function and diversity along the shoreline.
 - iii. Prevent or reduce pollutants from entering the aquatic environment.
 - iv. Avoid or reduce cumulative impacts on the shoreline environments.

3.0 SITE CONDITIONS

- a. The property is currently developed with an existing single-family residence, existing out buildings, and established landscaping/lawn areas. The subject site is located in the north east quadrant of Gabriola Island See Figure 3.1 Below for location.

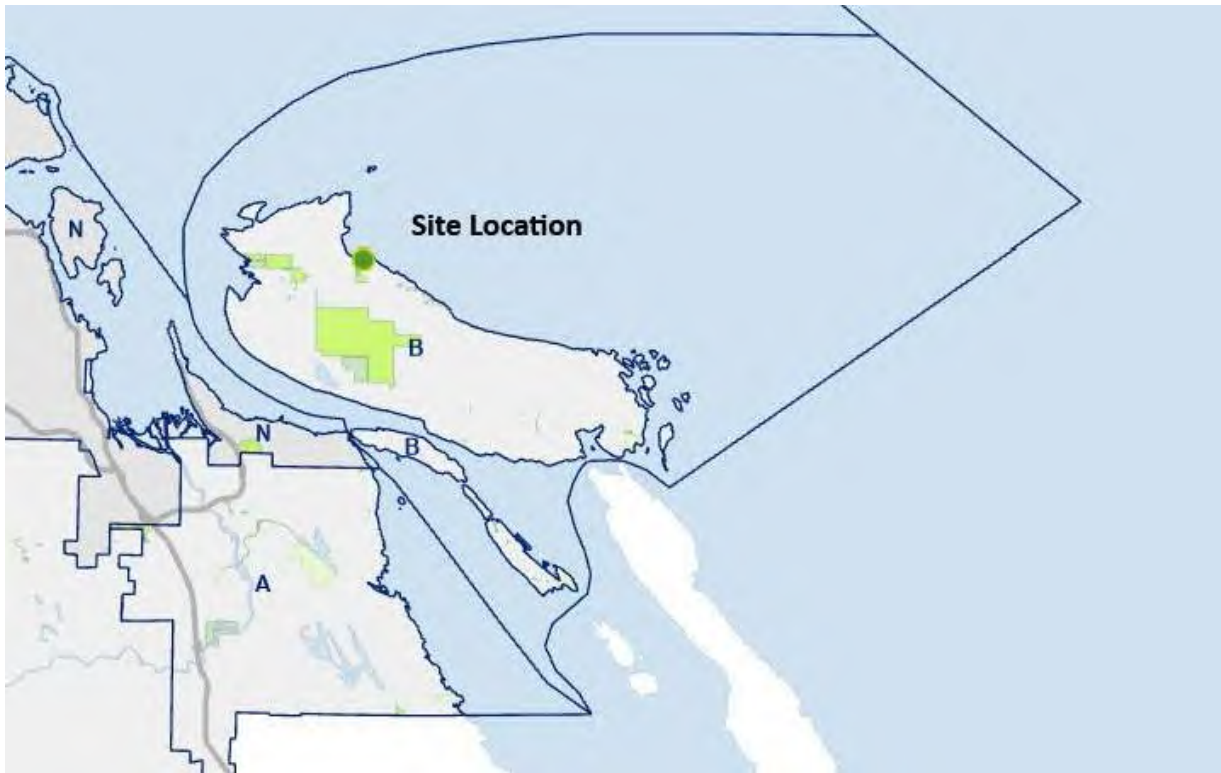


Figure 3.1 Site location

- b. In general, the foreshore can be characterized as a low-bank shoreline with a gently sloping, smooth shallow intertidal zone facing the open waters of the Strait of Georgia / Salish Sea to the north. The total height of the shoreline bank was approximately 5.1m to 5.5m at the time of our assessment. The crest is defined by the rear yard extent of lawn and organic soil cap. Several mature evergreen trees are located at or just below the slope crest. There is no vegetation below the tree extents to the beach below. This area is comprised of a revetment installation consisting of a collection of 500mm to 1000mm sized boulders deposited on a geotextile base that was installed as an emergency measure to protect the property against the significant erosion caused by waves and drifting logs from winter storm activity. Since that time the installation has ceased most of the erosion issues and provided stability to the existing mature trees along the slope crest. See Figures 3.1, 3.2 and 3.3 below.



Figure 3.1 Revetment Installation on Steep Eroded Bank



Figure 3.2 Current Shoreline Condition



Figure 3.3 Heavy flotsam (Logs) along shoreline

- c. There is considerable length of inter-tidal zone along this section of shoreline. The very gently sloping sea floor extends into the Strait of Georgia. This very gently sloping beach is covered by sand, gravel, cobbles and small boulder sized material.
- d. The property owner is looking to have the revetment installation approved by the local authorities and requires a letter and revetment re-design with some Green Shores initiatives supported by the Islands Trust and Regional District of Nanaimo. With this design the goal is to improve the installation with respect to the long term erosion protection for the property, as well as adding a growth medium of soils and plantings thereby softening the hard armouring with a vegetated surface. This filling (revetment) is justified as it will help ensure the protection of the mature trees and provide the necessary safe distance to buildings from storm events. These recent storms have a much greater intensity and come from different directions, all of which are part of Climate Change, causing severe erosion of this area (any many others) over the last few years. Erosion has destroyed the shoreline habitat and reduced the set back to buildings and mature trees, which had remained intact for decades.
- e. A shoreline revetment upgrade is also proposed for the neighbour at 1170 The Strand and it is the intent to enhance this revetment in concert with the neighbours' installation, providing a smooth shoreline alignment without any abrupt protrusions.

- f. Survey data for the natural boundary was provided by the attached survey from Williamson and Associates, British Columbia Land Surveyor, File: 22066-1 Site, Dated September 12, 2023.

4.0 FORESHORE REVETMENT DESIGN

- a. The wave climate at the site is influenced by several factors including bathymetry, tidal level, storm surge, wind speed and direction, as well as future sea level rise. In addition, at this site, which is subjected to frequent drifting logs, a robust design that can protect against the impacts of these logs is required. A foreshore revetment following the intent of the GSH and Coastal Slopes principles was considered the most suitable design for this site. To conform to the design criteria, the following best practices shall be included:
- i. The finished gravel slope shall not exceed 2H:1V (Horizontal, Vertical). The current revetment shall be left intact except for the removal of boulders that are situated past the natural boundary. Smaller 75mm minus pit run materials will infill smaller voids above the 3.0m Geodetic elevation. The smaller materials are considered vital for the root zone of plantings and are part of the beach nourishment component of the design.
 - ii. This will provide a gentle transition from the shoreline to the subject property rear yard level and suitable growth medium for native shoreline species which will aid in reducing erosion of the finer soils. See Table 4.0 for typical gradation of revetment materials.

Revetment Materials	
Material Type	Diameter (mm)
Sand	0.125 to 4.75
Gravel	4.76 to 75
Cobble	76 to 256

Table 4.0 – Foreshore Revetment infill Materials

- iii. The planting plan should include plug planting at 900mm spacing in the sandy infill soils between the large boulders no lower than 3.0m geodetic to help protect against winter wave activity. These plantings should consist of native species which may include:
 - i. Dune and Oak Grasses
 - ii. Nootka or Baldhip Roses
 - iii. Ocean Spray
 - iv. Oregon grape
 - v. Evergreen huckleberry, snow berry, kinnikinnick, salal

These plantings should be installed in the spring / summer and watered periodically to establish root mats into the interstitial spaces between boulders. The planting plan and installation details are also included in the Environmental Report by DR Clough Consulting. ⁴

- iv. See attached LEA Drawing E1836-01Rev 2 - Shoreline Revetment Design, for further details.

5.0 CONSTRUCTION RECOMMENDATIONS

- a. Remove boulders located beyond the natural boundary and re-use them in the revetment matrix. Any displaced flotsam logs should be reinstated after boulders are removed.
- b. Infill voids with clean 75mm minus sand and gravel down to the 3.0m elevation.
- c. Planting of infilled areas to follow details within this report as well as the Environmental Report prepared by DR Clough Consulting.

6.0 CONCLUSIONS AND RECOMMENDATIONS

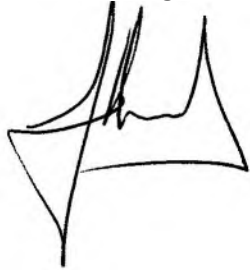
- a. Based on our foreshore assessment and recommendations outlined below, we conclude the designed foreshore revetment will help protect the foreshore from marine erosion by dissipating wave energy and providing stability to the foreshore bank.
- b. The reconstructed moderately sloping (2H:1V) revetment should effectively dissipate wave energy without significant effect on the neighbouring properties. The gentle transitions to the foreshore revetment at the neighbouring properties reduce eddy effects from the revetment installation.
- c. The effects of sea level rise could reduce the effectiveness of the revetment in the long term. The design has incorporated a stable matrix of boulders that will provide a stable base for the future expansion of the revetment both in height and depth if warranted to protect habitat, life, and property.
- d. The benefits of the design principles from the perspective of the RDN and GSH are:
 - i. The proposed revetment preserves the physical processes required to maintain healthy shorelines, compared to more obtrusive concrete structures (i.e., concrete walls).
 - ii. The proposed design will maintain or enhance habitat diversity and function in areas along the shoreline.
 - iii. The proposed revetment will prevent and/or reduce pollutants entering the aquatic environment.
 - iv. The design will reduce the cumulative impacts to the costal environment by reducing erosion and by providing a more stable growth medium for native species.
 - v. We have added beach nourishment sand and gravel to ensure there is a suitable growth medium for

the planting plan. This component of work may require maintenance to ensure this medium is re-established if damaged by storm events until the vegetation has taken hold.

7.0 CLOSURE

- a. 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 service, please contact us at your convenience.

Respectfully Submitted,
Lewkowich Engineering Associates Ltd.



John Hessels, ASCT
Project Manager - Geotechnical



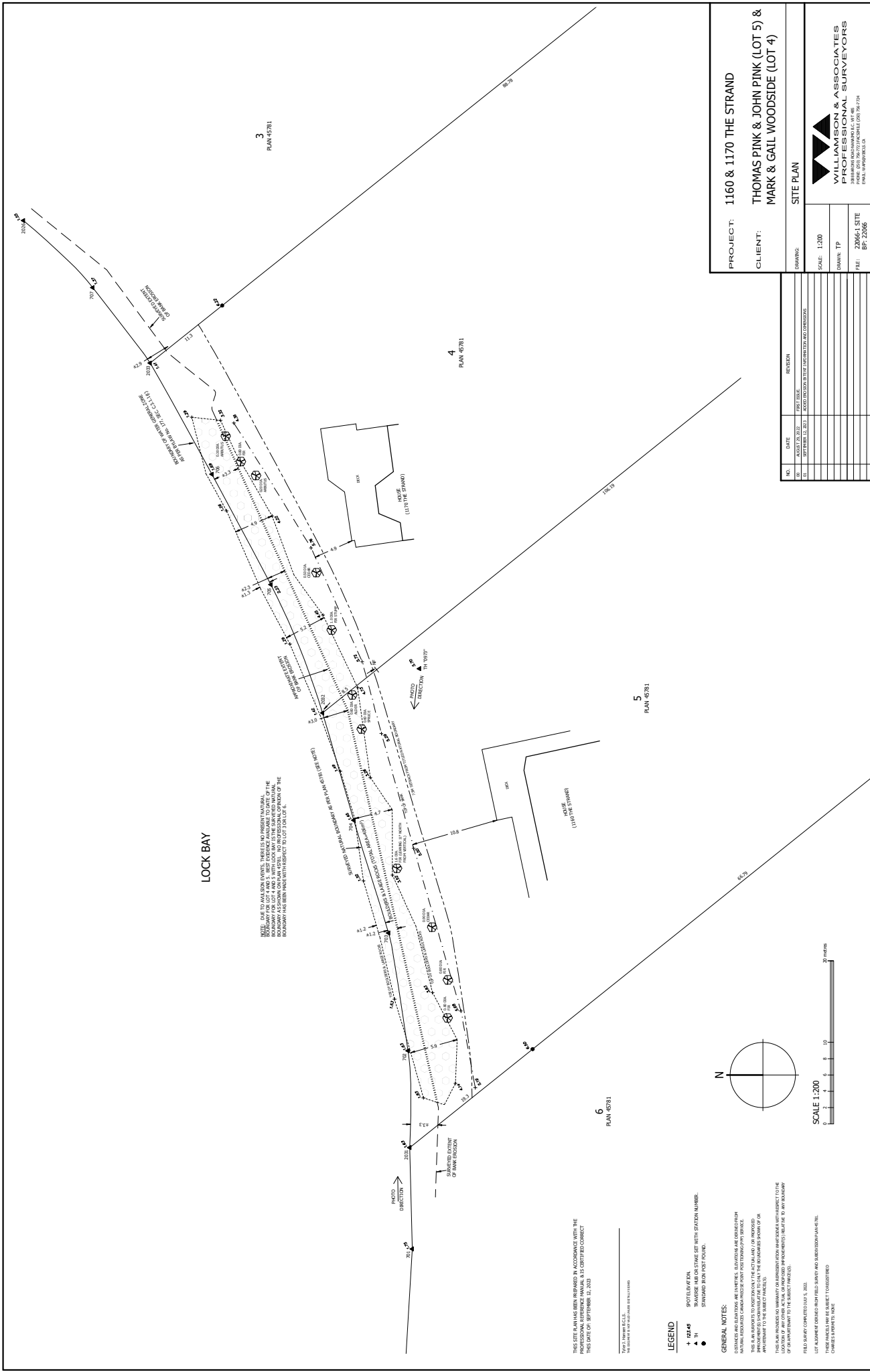
Chris Hudec, M.A.Sc., P.Eng.
Senior Project Engineer

8.0 ATTACHMENTS

1. Williams and Associates, Site Plan, No. 22066-1, Dated September 12, 2023
2. LEA Drawing No. E1836-01Rev2 – Shoreline Revetment Design.

9.0 REFERENCES:

1. Green Shores for Homes. December 2015.
2. Islands Trust, Gabriola OCP
3. Gabriola Land and Trails Trust, Native plants and shoreline erosion.
4. DR Clough Consulting “ Environmental Impact Assessment”



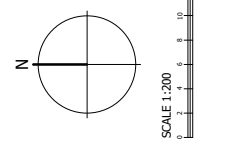
PROJECT: 1160 & 1170 THE STRAND
 CLIENT: THOMAS PINK & JOHN PINK (LOT 5) & MARK & GAIL WOODSIDE (LOT 4)

SITE PLAN

NO.	DATE	REVISION
01	NOV 10, 2022	FIRST ISSUE
02	SEPTEMBER 12, 2023	ACCORDING TO THE PHOTOGRAPHIC AND COMPASSION

SCALE: 1:200
 DRAWN: TP
 FILE: 2023-1 SITE BP-2023

WILKINSON & ASSOCIATES
 PROFESSIONAL SURVEYORS
 2388 BURNHAMMAN AVE. #101
 WILSONVILLE, OR 97158
 PHONE: 503.261.5222 FAX: 503.261.5223



LEGEND

- SPOT LEVEL PIN
- 12.245
- IN
- STANDARD BORN POINT FOUND

GENERAL NOTES:

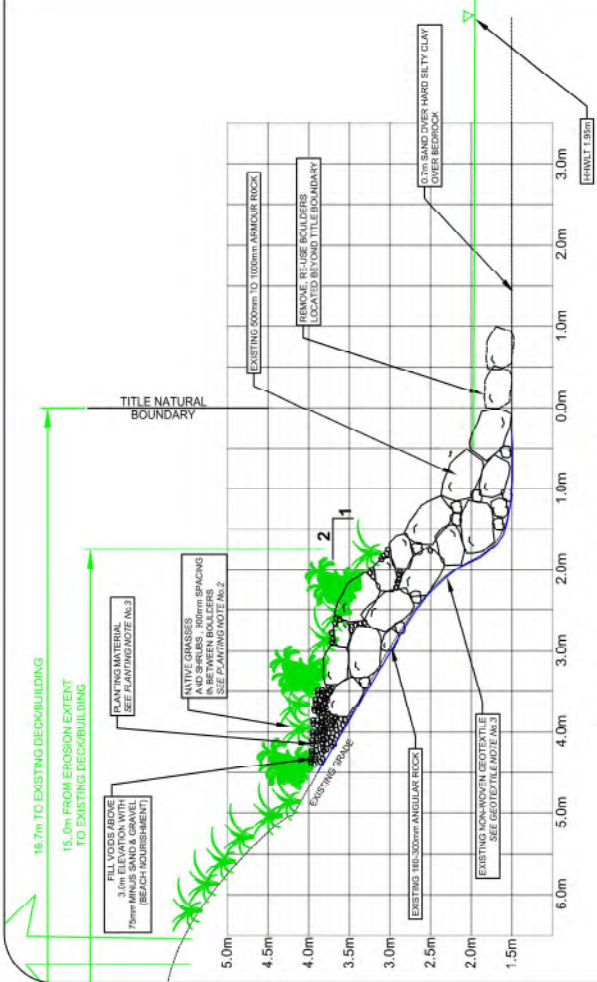
1. DISTANCES AND QUANTITIES ARE IN METERS. ELEVATIONS ARE ORIGINALLY IN NATURAL RESOURCES CANADA PROJECTIONS (NAD 83) UNLESS OTHERWISE NOTED.

2. THIS PLAN PROVIDES INFORMATION TO THE CLIENT AND IS FOR INFORMATION ONLY. IT IS NOT TO BE USED FOR CONSTRUCTION OR AS A BASIS FOR ANY OTHER ACTION.

3. THIS PLAN PROVIDES NO WARRANTY OR GUARANTEE OF ANY KIND, INCLUDING BUT NOT LIMITED TO THE ACCURACY OF THE INFORMATION PROVIDED HEREIN. THE CLIENT IS RESPONSIBLE FOR VERIFYING THE INFORMATION PROVIDED TO THE SURVEYOR.

FIELD SURVEY COMPLETED ON 11/10/2022.

THIS PLAN WAS PREPARED BY THE SURVEYOR AND IS SUBJECT TO THE SURVEYOR'S PROFESSIONAL LIABILITY INSURANCE POLICY.



FORESHORE REVETMENT SECTION A - A

CONSTRUCTION NOTES:

1. REMOVE DEBRIS ALONG SLOPE PRIOR TO REORIENTATING BOULDERS, REPLACE WHEN COMPLETE.
2. DO NOT DISTURB SOILS BEYOND TITLE BOUNDARY.
3. USE BOULDERS FROM CROWN LAND TO ENHANCE REVETMENT AS REQUIRED.
4. INFILL SMALLER VOIDS OF EXISTING REVETMENT ABOVE 3.0m ELEVATION WITH 75mm MINUS SAND AND GRAVEL.

GEOTEXTILE NOTES:

1. ENSURE THE EXISTING GEOTEXTILE IS NOT DISTURBED DURING THE REORIENTATION OF BOULDERS AND INFILL PROGRAM.

PLANTING NOTES: SEE DETAILS IN REPORT:

1. PLANTINGS MAY REQUIRE MAINTENANCE (POST HIGH WATER EVENTS) UNTIL VEGETATION IS FULLY ESTABLISHED.
2. NATIVE GRASSES AND SHRUBS TYPE AND INSTALLATION AS PER DETAILS IN THE ENVIRONMENTAL REPORT.
3. "PLANTING MATERIAL" TO CONSIST OF A 75mm MINUS SAND AND GRAVEL (BEACH NOURISHMENT SAND AND GRAVEL).

ROCK SPECIFICATIONS:

1. EXISTING ROCK IS CONSIDERED SUITABLE FOR THE EROSION CONTROL REVETMENT DESIGN.
2. IMPORTED MATERIALS TO BE USED SHOULD CONTAIN NO SILT OR FINE GRAINED MATERIAL THAT COULD POTENTIALLY WASH OUT AND DEGRADE THE AQUATIC HABITAT.
3. ALL WORKS TO BE SUPERVISED BY GEOTECHNICAL PERSONNEL TO ENSURE CONFORMANCE TO THE DESIGN
4. **ANY CHANGES TO THE DESIGN MUST BE APPROVED BY THE DESIGN ENGINEER.**



SITE PLAN Scale 1:300

REV No	DATE	BY	P/Eng	REVISION DESCRIPTION	LEGEND
01	DEC 11, 2023	JH	CH	REVISE TO REDUCE DISTURBANCE OF EXISTING INSTALLATION	
02	FEB. 11, 2025	JH	CH	REVISE TO TE INTO NEIGHBOURS REVETMENT	
DRAWING TITLE					SHORELINE REVETMENT DESIGN
PROJECT NAME					1160 THE STRAND GABRIOLA ISLAND, BC
LEGAL DESCRIPTION					
ENGINEER'S SEAL					
DRAWN BY		JH		PROJECT No.	E 1836-C1
SCALE		AS NOTED		DRAWING No.	E 1836-C1
PLOT DATE		FEB-2022		PROJECT No.	E 1836
REVIEWED BY		CH		PROJECT No.	E 1836
SCALE		AS NOTED		PROJECT No.	E 1836
DRAWN BY		JH		PROJECT No.	E 1836
SCALE		AS NOTED		PROJECT No.	E 1836
PLOT DATE		FEB-2022		PROJECT No.	E 1836
REVIEWED BY		CH		PROJECT No.	E 1836
SCALE		AS NOTED		PROJECT No.	E 1836
DRAWN BY		JH		PROJECT No.	E 1836

LEA
Lewkovich
Engineering
Associates Ltd.

5
PLAN 45781

6
PLAN 45781

ATTACHMENT 7

Environmental Impact Assessment,
1160&1170 The Strand
Gabriola Island.

By

D. R. Clough Consulting
Fisheries Resource Consultants
6966 Leland Road Lantzville B.C. V0R 2H0
Ph/fax: 1-250-390-2901, email: drclough@shaw.ca

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1.0) General Project Description

The purpose of this report is to review the environmental aspects of a previously constructed emergency shoreline revetment. The works were undertaken to stabilize the foreshore of the subject properties. A record high tide and storm event in spring 2022 resulted in the loss of the property. The owners made repairs to the exposed property in early summer of 2022. These repairs were inspected by Islands Trust who determined them to be a nonconforming structure to the Gabriola Island Land Use Bylaw 177, 1999 natural setback bylaw. The intention of this report is to aid the Islands Trust in review of a variance application for the structure. The impact assessment includes recommendations to improve natural function with plantings and to remove the loosened armour rocks now on crown land.

Location: The properties are located at 1160 & 1170, The Strand on in the eastern corner of Lock Bay Gabriola Island (Fig.1) The adjoining properties each have a residential dwelling. Combined the properties encompass approximately 100m of lineal foreshore.

2.0) Project Objectives

The purpose of this environmental assessment is to determine compliance of the revetment within the Islands Trust OCP by reporting on the following:

1. Assess the aquatic and terrestrial resources within the property area;
2. Determine the potential impacts of the proposed structures;
3. Discuss potential mitigative measures to avoid causing negative impacts caused from the proposed work.

3.0) Methods

The methodology for this assessment included;

1. An assessment of potential environmental impacts
2. Preparation of a mitigation plan (if required);
3. An assessment of cumulative effects and future requirements;

The method and presentation of this assessment follows the Environmental Impact Assessment Act (IAA) guidelines that allow a complete coverage of all potential environmental attributes. This assessment focused primarily on the aquatic resources of the foreshore directly in the vicinity of the proposed work area as these resources are the potential for most impacted.

3.1) Background Review

The report was prepared using the following references to describe the environmental resources and to identify any potential environmental issues within the work area.

1. Islands Trust Gabriola Island Land Use Bylaw Bylaw No. 177, 1999 (<http://www.rdn.bc.ca/pqb-wildlife-management-area>)
2. ImapBC (<http://maps.gov.bc.ca/ess/sv/imapbc/>)
3. Community Mapping Network B.C. (<http://cmnmaps.ca/EELGRASS/>)
4. Committee on the Status of Endangered Wildlife in Canada (Cosewic) database reports. (www.cosewic.gc.ca)
5. Aquatic Species at Risk Mapping (<https://www.dfo-mpo.gc.ca/species-especies/sara-lep/map-carte/index-eng.html>)

Figure 1.) Site Location



3.2) Survey Information

Land survey information was provided by Williamson and Associates Professional Surveys, which included the revetment work (Appendix 1).

3.3) Terrestrial Habitats

The foreshore riparian and surrounding areas were captured within the inventory. The assessment identifies vegetation types, depth, and topographical characteristics. It also identifies features such as bedrock or alterations such as riprap. The terrestrial habitat was identified using methodologies within "A Field Manual for Describing Terrestrial Habitats (MOE 1998)".

3.4) Aquatic Habitats

The aquatic habitat assessment includes a detailed inspection of:

1. Substrates
2. Functional LWD
3. Alterations
4. Bank Erosion
5. Vegetation Depth and type
6. Riparian Slopes and Bank Stability

3.5) Rare and Endangered Species

The province of B.C. and the federal government use separate systems to classify rare or endangered species. Background information was collected prior to the habitat inventory and was used to compile a list of potential species, which may inhabit the site (Appendix 2). The work site was assessed for potential rare species by determining the available habitat based on the individual species requirements.

4.0) Environmental Impact Assessment

The quantity and quality of potential habitats (terrestrial and aquatic) in relation with the magnitude of the proposed project, was assessed to determine the potential impacts associated works. The assessment included the current site condition and anticipation effects of proposed work and associated mitigation.

The anticipated effects were assessed based on the length of exposure, quality of habitat and features such as large woody debris or significant trees. The anticipated impacts were scored on the following:

1. Negligible: no expected disturbance or impact
2. Low: minimal or short length disturbance to important habitat
3. Medium: moderate or potentially long-term alteration or important habitat used by a species of management concern (ie Red Listed)
4. High: Significant, permanent alteration of habitat

4.1) Mitigation and Residual Effects

The mitigative actions are advised to reduce, offset, or avoid the projects related negative effects. Mitigation strategies which limit additional negative effects are advised. This advice is based on accepted practices from both Federal and Provincial Authorities.

4.2) Cumulative Effects

Cumulative effects are changes to the environment that are caused by an action in combination with other past, present, and future human actions. The methodology for assessing the potential cumulative effects is the same as the residual effects.

5.0) Results - Environmental Setting

5.1) Ecological Area

The subject properties are located in the southeast corner of Lock Bay which has significant southeast exposure to wind and as well as wave/log action during winter storm events (Figure 1).

5.2) Vegetation

5.2.1) Vegetation Communities

Vegetation communities within the proposed work site were grouped into one of the two types:

1. Marine foreshore
2. Coastal Forest

Marine Foreshore

The property is located on the shoreline of the Lock Bay with the closest freshwater drainage over 600m away to the west. The site is in a residential setting with single family residences on each lot. The shared properties have approximately 100m of shore frontage. The existing repair structure is a rock revetment with large rock (1000mm diameter) placed approximately 2:1 vertical to a height of approximately 2.5 m. The revetment was reviewed by Lewkowich Engineering Associates (Appendix 3) and deemed stable. There are no native shoreline plants on the new rock wall. Inland of the structure are number of significant trees identified on the site plan (Appendix 1) and measurements shown on Table 1 below.

There are marine grasses in the area but not near the structure. Eel grass is located approximately 170-220m offshore from the subject properties in the lower intertidal area (Figure 2). The beach slope is gentle with the steepest portion at the wrack line where it drops away for 5-10 m (0.5m) and then to a relatively flat to the sub-tidal areas approximately 200m away. The upper beach area has a cobble/gravel substrate with small sand deposits that tend to move around with seasonal weather patterns. The lower beach is mostly gravel with sand flats at the outer tide line set on sandstone base. The eel-grass bed is extensive following the foreshore in a broad band (as recorded by CMNBC.ca). It is located approximately 200m from the foreshore and continuing into the deeper waters.

Figure 2: Eel Grass mapping in relation to subject properties



The foreshore also supports the common species of invertebrates (i.e. Littleneck, Manila Clams, Mussels, Oysters) as well as potential spawning habitat for shoreline forage fish such as Surf Smelt and Sandlance. The offshore eel grass offers herring spawning habitat. The shoreline offers tidal feeding opportunities preferred by salmonids such as Chinook, Coho, Chum Salmon, and Sea Run Cutthroat Trout.

Coastal Forest

The Coastal Douglas-fir (CDF) is the dry, well-drained south aspect areas and rain shadow zones primarily of southeastern Vancouver Island and the Gulf Islands. This coastal forest community is one of the most imperilled due to historic logging and human development. Few old-growth stands remain throughout the community's distribution and existing patches are highly fragmented with less. This ecological community, where it does persist supports a diverse range of at risk flora and fauna, including Northern Goshawk, Marbled Murrelet, Garry Oak as well as species such as Salal, Dull Oregon grape and Ocean Spray, Oregon Beaked Moss and electrified cats-tail moss. The significant trees on the subject properties are shown on Table 1 as well as the site plan.

Table 1: Significant Trees along foreshore

Species	Tree Diameter (m)
Arbutus <i>Arbutus menziesii</i>	0.2/0.3
Douglas Fir <i>Pseudotsuga menziesii</i>	0.8/0.8/0.8/1.6
Western Red Cedar <i>Thuja plicata</i>	0.5/0.9

5.3) Wildlife

Common terrestrial wildlife of the ecological zone such as Black Bear, Black Tail Deer, Mountain Lion and Roosevelt Elk are not likely to be found in the disturbed area. Marine mammals are very common

due to the productivity of Herring and Salmon in the area and the following have been routinely observed; California Sea Lion, Harbour Seal, River Otter and Mink. Since installation of the revetment the property owners have observed an increase in wildlife usage when comparing it to the previous eroding bank. According to the aquatic species at risk map (Appendix 2) there are 14 Species at Risk that have the potential to use Lock Bay. No species habitats were changed in relation with this site.

5.3.1) Birds

Migrating waterfowl and other associated birds are likely to use the foreshore for foraging and rest. There are numerous common wildlife species found in the area with migratory bird species such as Black Brandt a vulnerable species known for reliance on eelgrass beaches. There are Bald Eagles and Blue herons observed routinely in the area. Bald eagles routinely perch on the large fir trees along the foreshore on each property. No nests were observed on the subject property (there was a documented Bald Eagle nest (BAEA-101-016) that is no longer functional located approximately 150m to the south (CMNBC.ca/WiTS).

5.4) Aquatic Resources

There are no freshwater features on or within 30m of the subject properties. The marine foreshore is located primarily within the supra-littoral and intertidal zones, which due to wave action are extremely unstable limiting biological production.

6.0) Environmental Effects

6.1) Wildlife

The existing non-conforming revetment is not expected to result in any habitat lost to wildlife, some will be gained by stabilizing the uppermost intertidal zone, removing the rock off the beach and increasing the repose of the rock and installing the plants in the interstices.

The expected habitat impacts of development on wildlife are summarized below:

1. Temporary habitat avoidance by wildlife can be expected during the work period due to increased noise and other building activities.

Table 2) Anticipated impacts on local wildlife and habitat

	Habitat Effects	Anticipated Environment Effects		
	Mammalian habitat	Reptile and amphibian habitat	Bird Habitat	Species at Risk
Habitat Risk	Low	Low	low	Low

The impacts on potential wildlife habitat and populations are expected to have minimal effects on any protected wildlife.

6.2) Vegetation

There will be no removal of any native plants as most was lost during the avulsion. Inspection of the beach line for transport of materials found no plants in the route. The remaining trees are identified on the site.

Table 3) Anticipated impacts on local vegetation

		Coastal Rain Forest	Rare Plant Species at Risk	Rare or endangered ecosystems
	Marine Foreshore			
Habitat Risk	Low	Nil	Nil	Nil

Planting Plan: The rock slope is constructed at approximately 2:1 sloping rock revetment creating a 2-3m wide face across the 100m width. The rock diameter of 700 to 1000mm has resulted in large voids. These voids are recommended to be filled with smaller rock sand and gravel. Sea Grass plugs and other native plants sourced from local nurseries will then be planted in the gravel voids at approximately 900mm spacing (Appendix 5). This will result in approximately 200m² of planted shoreline above 3m elevation. This will help to restore habitats on the foreshore which serves a vital function as a primary nutrient producer to marine invertebrates as well as cover habitat for shorebirds and reptiles.

6.3) Aquatic Resources

The proposed construction site is located at the high watermark of the foreshore. There is no eel grass nearby (170m away). Past experience using a similar construction method on similar properties indicate there is little impact (i.e. none/little compression, rutting, movement of substrates, logs or grasses). The expected habitat impacts are summarized below:

Table 4) Anticipated impacts on aquatic resources

	Habitat Effects	Anticipated Environment Effects			
	Marine Aquatic Invertebrates	Marine Pelagic Fishes	Salt Water Salmonid Rearing	Fresh Water Salmonid rearing	Fresh Water Salmonid migration
Habitat Risk	Low	Low	Low	Na	Na

7.0) Applicable Legislation

7.1) Provincial Legislation

Wildlife Act: The Wildlife Act protects all wildlife and endangered species from human related disturbance. The Act covers amphibians, birds, mammals, reptiles including nesting habitat. The act also identifies the seasonal window which certain vegetation can be removed (i.e. Mar 15- Aug 15) to protect surrounding bird nests.

Water Act: Section 11 of the Water Sustainability Act covers work around water in non-tidal environments. The project is in a marine tidal area and not covered under the Water Act.

7.2) Federal Legislation

Fisheries Act: The fisheries act protects all fisheries resources in Canada including fish habitat and migration. In a current review using the DFO self assessment tool (<http://www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html>) we find the design, protective measures and marine timing window (Area 17 Summer; June 1-September 1, Winter; Dec. 1- Feb. 15)) will result in no harm to fish habitat.

Migratory Bird Convention Act:

The Migratory Bird Convention Act protects all migratory bird nesting habitat from disturbance. The act also identifies the window which certain vegetation can be removed (Mar 15- August 15) to protect surrounding bird nests.

8.) Residual Effects

Residual impacts refer to those environmental effects predicted to remain after the application of mitigation outlined in this assessment. After review of the site and accompanying professional report/letters it is anticipated that the long-term impacts of this project will have no net loss of habitat with respect to the function of the foreshore. The valued components of the foreshore habitats will be protected or enhanced by stabilizing the failed bank and revegetating it. The most sensitive habitats

water course and eel grass beds are located over 170m away from the project and will show no anticipated impact. There is expected to be a reduction of sediment reduction from the lots onto the foreshore and once the rocks are removed from crown land there is no impact to public spaces. The Residual Effects are, therefore, not significant.

9.) Cumulative Effects

Cumulative effects are changes to the environment that are caused by an action in combination with other past, present, and future human actions. Upon a review of the BC Environmental Assessment Office registry there are no active projects within 1km of the proposed site. This site will have a net improvement as designed as it is being moved off the beach and will also receive a shore grass planting treatment which is expected to result in net positive cumulative effect.

It is our understanding that the adjoining property 1140 The Strand has applied for a similar revetment which will allow for a uniform shoreline. Based on preliminary observations a large proportion of the other properties in the bay have previously altered the foreshore ranging from rip rap to a vertical concrete wall. In comparison to the vertical concrete wall this 2:1 style revetment is the preferred biological option.

10.) Conclusions

Based on this assessment and the recommendations of other professionals including the land surveyor, engineer, and biologist, are confident the existing structure can be modified to become structurally and environmentally conforming with more benefit than the previous bank. We recommend that the existing revetment remain in place but be upgraded to meet the recommended design standards, the rocks trespassing on crown land be removed, and the upper portion of the revetment be planted as per the attached design (Appendix 5).

11.) Closure

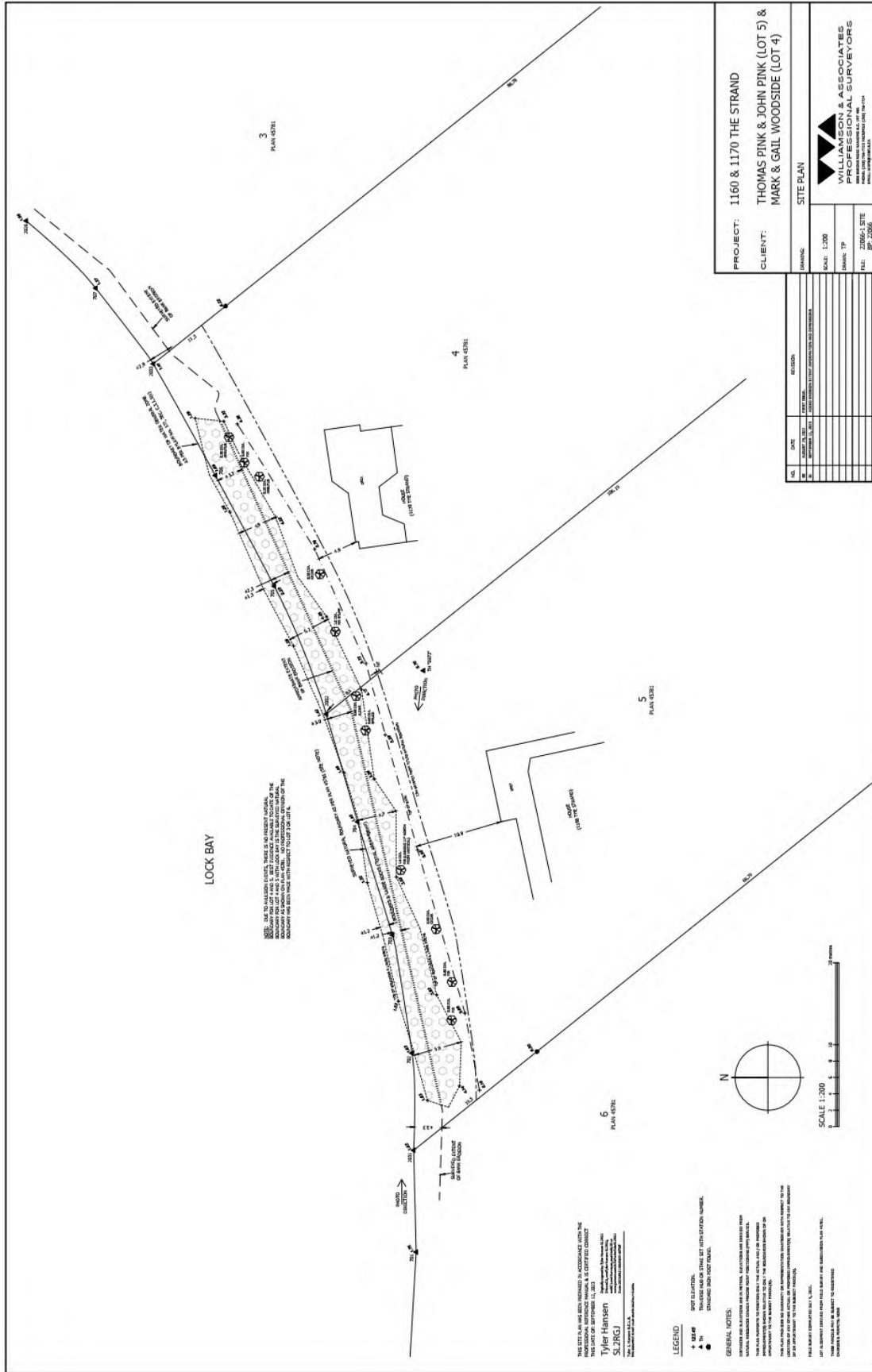
This document was written by Brad Remillard, RPBio of D.R. Clough Consulting. It is for the sole use of the owners of 1160 & 1170 The Strand.

Report prepared by:



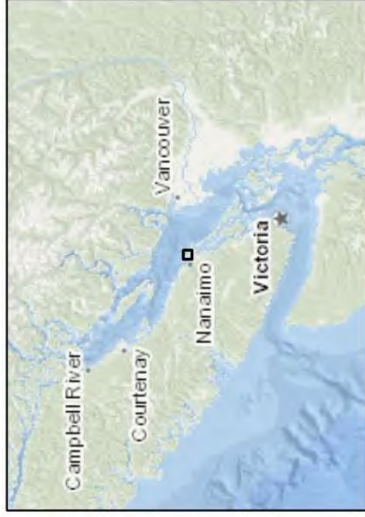
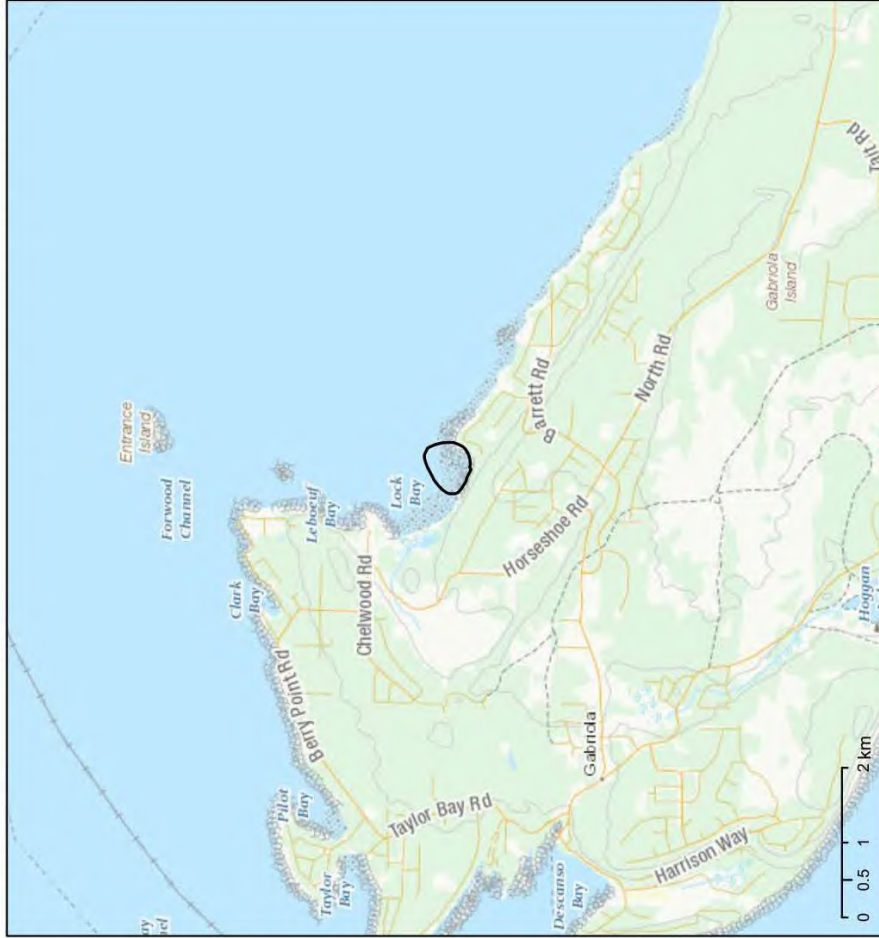
Brad Remillard, RPBio

Appendix 1 - Property Land Survey



Appendix 2: Aquatic Species at Risk Map

Aquatic Species at Risk Report



One or more aquatic species listed under the Species at Risk Act are found (or potentially found) within the coloured areas.

-  Critical Habitat
-  Extirpated, Endangered, or Threatened
-  Special Concern

How to use this information:

1. The map and species list are intended to provide a general overview of aquatic species at risk and their critical habitat that may occur within the mapped area.
2. To assess your project go to: www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html

If you encounter an aquatic species at risk in an area that is not currently mapped, please notify your regional Fisheries Protection Program office to ensure that you are compliant with the Species at Risk Act. The official source of information for species at risk is the Species at Risk Public Registry www.sararegistry.gc.ca. To protect fish and fish habitat, including aquatic species at risk, their residences, and their critical habitat, efforts should be made to avoid, mitigate and/or offset harm. Following the measures to avoid harm will help you comply with the Fisheries Act and the Species at Risk Act.

Critical habitat for these species is found within the outlined area

Critical habitat is identified in recovery strategies or action plans for species listed under Schedule 1 of the Species at Risk Act as extirpated, endangered or threatened.

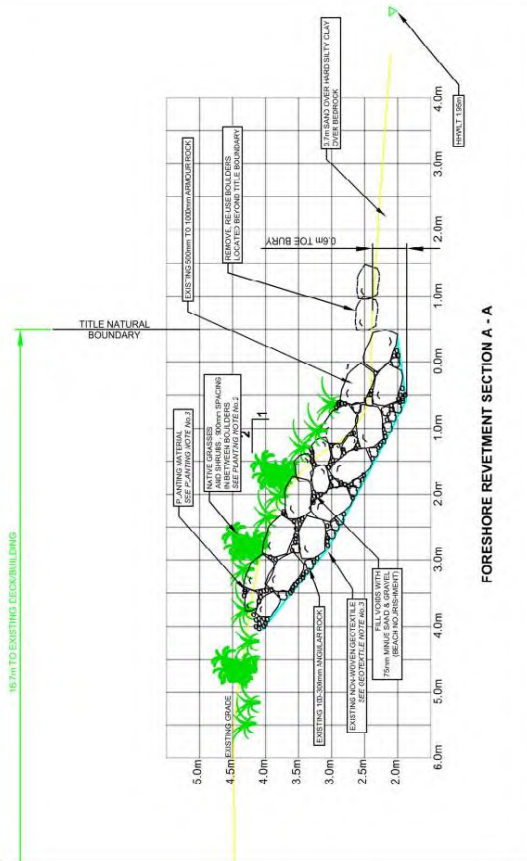
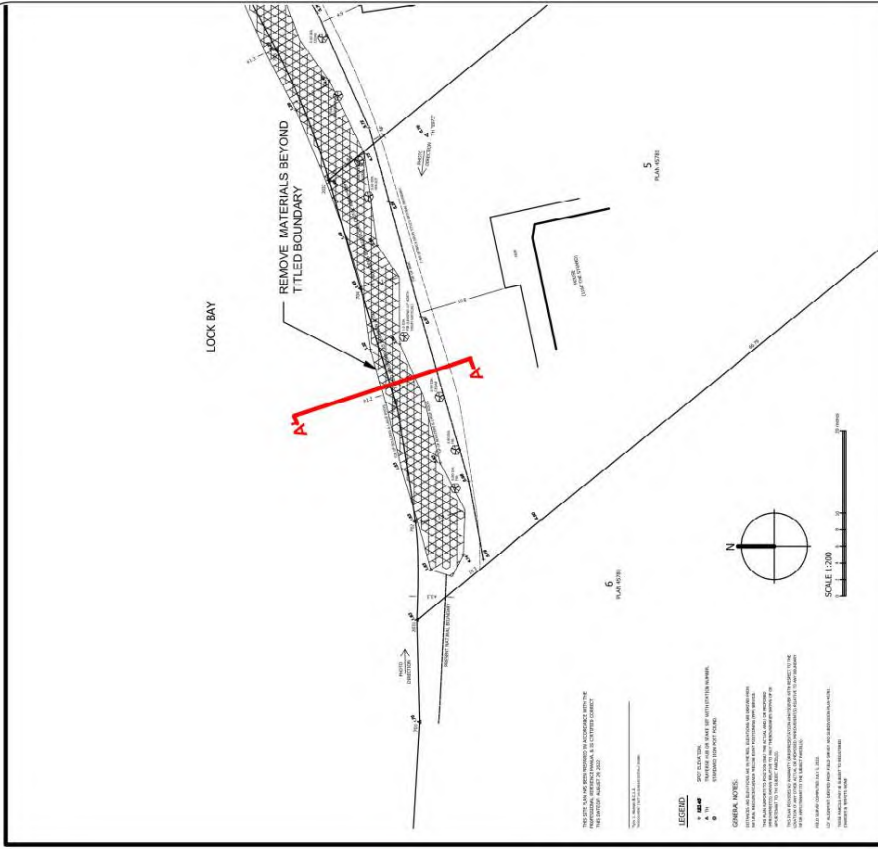
Name	Where Found	Species Status
	No critical habitat	

Species found (or potentially found) within the outlined area

Name	Where Found	Species Status
Basking Shark - Pacific	Pacific Ocean/Océan Pacifique	Endangered
Bluntnose Sixgill Shark	Pacific Ocean/Océan Pacifique	Special Concern
Green Sturgeon	Pacific Ocean/Océan Pacifique	Special Concern
Grey Whale - Eastern North Pacific	Pacific Ocean/Océan Pacifique	Special Concern
Harbour Porpoise - Pacific Ocean	Pacific Ocean/Océan Pacifique	Special Concern
Humpback Whale - North Pacific	Pacific Ocean/Océan Pacifique	Special Concern
Killer Whale - Northeast Pacific Offshore	Pacific Ocean/Océan Pacifique	Threatened
Killer Whale - Northeast Pacific Southern Resident	Pacific Ocean/Océan Pacifique	Endangered
Killer Whale - Northeast Pacific Transient	Pacific Ocean/Océan Pacifique	Threatened
Leatherback Sea Turtle - Pacific	Pacific Ocean/Océan Pacifique	Endangered
Longspine Thornyhead	Pacific Ocean/Océan Pacifique	Special Concern

Northern Abalone	Pacific Ocean/Océan Pacifique	Endangered
Rougheye Rockfish type I	Pacific Ocean/Océan Pacifique	Special Concern
Rougheye Rockfish type II	Pacific Ocean/Océan Pacifique	Special Concern
Steller Sea Lion	Pacific Ocean/Océan Pacifique	Special Concern
Tope	Pacific Ocean/Océan Pacifique	Special Concern
Yelloweye Rockfish - Pacific Ocean Inside Waters	Pacific Ocean/Océan Pacifique	Special Concern
Yelloweye Rockfish - Pacific Ocean Outside Waters	Pacific Ocean/Océan Pacifique	Special Concern

Appendix 3-Revetment Design (LEA Ltd)



FORESHORE REVETMENT SECTION A - A

CONSTRUCTION NOTES:

1. REMOVE DEBRIS ALONG SLOPE PRIOR TO REORIENTATING BOULDERS. REPLACE WHEN COMPLETE.
2. DO NOT DISTURB SOILS BEYOND TITLE BOUNDARY
3. THE IN THE WESTSIDE OF REVETMENT WITH A SMOOTH TRANSITION TO EXISTING LAND AND EASTSIDE TO PROPOSED NEIGHBOURS
4. FILL LARGER VOIDS WITH 100-200mm PIECES THEN INFILL SMALLER VOIDS WITH 75mm MINUS SAND AND GRAVEL.

GEOTEXTILE NOTES:

1. ENSURE THE EXISTING NON-WOVEN GEOTEXTILE IS NOT COMPROMISED DURING THE REINORIENTATION OF BOULDERS AND INFILL PROGRAM.

PLANTING NOTES-SEE DETAILS IN REPORT :

1. PLANTINGS MAY REQUIRE MAINTENANCE (POST HIGH WATER EVENTS) UNTIL VEGETATION IS FULLY ESTABLISHED.
2. NATIVE GRASSES AND SHRUBS TYPE AND INSTALLATION AS PER DETAILS ON DRAWING AND IN REPORT.
3. "PLANTING MATERIAL" TO CONSIST OF ON-SITE MATERIAL. (BEACH NOURISHMENT SAND AND GRAVEL).

ROCK SPECIFICATIONS:

1. EXISTING ROCK IS CONSIDERED SUITABLE FOR THE EROSION CONTROL. REVETMENT DESIGN LARGEST PIECES SHOULD BE ON THE LOWER REACHES
2. IMPORTED MATERIALS TO BE USED SHOULD CONTAIN NO SILT OR FINE GRAINED MATERIAL THAT COULD POTENTIALLY WASH OUT AND DEGRADE THE AQUATIC HABITAT.
3. ALL WORKS TO BE SUPERVISED BY GEOTECHNICAL PERSONNEL TO ENSURE CONFORMANCE TO THE DESIGN.
4. ANY CHANGES TO THE DESIGN MUST BE APPROVED BY THE DESIGN ENGINEER.

REV No	DATE	BY	P/E/F/G	REVISION DESCRIPTION	LEGEND	DRAWING TITLE	ENGINEER'S SEAL	PLOT DATE	DRAWN BY
						SHORELINE REVETMENT DESIGN		FEB-22	JH
						PROJECT NAME		REVIEWED BY	SCALE
						1160 THE STRAND		CH	AS NOTED
						GABRIOLA ISLAND, BC		PROJECT No.	DRAWING No.
						LEGAL DESCRIPTION		E1636	E1636-01
								P2P#: 1001802	
							LEA		
							Lewkovich		
							Engineering		
							Associates Ltd.		

Appendix 4-Site Photos



1.) Looking upland from sub-title across subject properties area.



2.) Looking west across subject properties.



3.) Looking west across subject properties



4.) Looking west across subject properties

Appendix 5-Revegetation Plan

Estimated Landscaping Fees

Item	Cost	# items	Total
Dune Grass 10cm -plug	\$3.00	200	\$600.00
Nootka Rose	\$8.00	16	\$128.00
Ocean Spray	\$8.00	10	\$80.00
Evergreen Huckleberry	\$8.00	6	\$ 48.00
Snowberry	\$8.00	18	\$144.00
Kinninick	\$8.00	12	\$96.00
Salal	\$8.00	6	\$48.00
Feature trees	\$30.00	4	\$120.00
Planting Medium with delivery	\$100	2	\$200.00
Landscape Labour – planting and irrigation		Lump sum	\$480.00
Contingency	10%		\$195.00
Total			\$2139.00

ATTACHMENT 8



Arborist Letter

1160 The Strand

Gabriola, B.C

For:

Tom Pink

1160 The Strand

Gabriola, B.C.

thomasapink@gmail.com

Submitted by:

Jon Bennett (PN-6799A)

Vancouver Island Tree Service, Ltd.

1495 Wilson Rd.

Nanaimo, B.C. V9R 6R3

jon.bennett@vitree.ca



To:

July 7, 2023

Mr. Tom Pink
1160 The Strand
Gabriola, B.C.

Vancouver Island Tree Service, Ltd. (The Arborist) was contracted by Mr. Tom Pink, homeowner at 1160 The Strand (The Property), Gabriola Island, B.C., to write an Arborist Letter re: the installation of a breakwater on the foreshore of The Property. The breakwater was installed to stop the rapid erosion of the bank by waves and debris at high tide. The erosion of the bank was undermining the roots of several trees growing at the top of the bank. It was determined by Mr. Pink that the risk of further tree failures was imminent, given that other trees on the bank had recently failed, and that the roots of the remaining trees had been exposed by the degradation of the bank.

The Arborist visited The Property on the morning of June 28, 2023 to view the installed breakwater, and to inventory the trees along the top the bank. It was low tide at the time of assessment, so it was possible to get a very good look the breakwater construction. The erosion of the unprotected bank at the neighbouring property, at 1178 The Strand, was also observed and noted, as a good comparison of the state of bank erosion on the subject property (Fig. 2-3). Mr. Pink also supplied a picture of the exposed roots of Tree #4, a large Douglas Fir, on subject bank prior to the construction of the breakwater. (Fig. 4)

It was noted at the time of assessment that the rocks were placed mainly along the lowest 2/3 of the bank, to support the upper bank and slow the rate of erosion on the lower bank. The roots and trunk flares were clear of the breakwater. (Fig 5-6). The breakwater construction was composed of fibre cloth and tarp material under riprap rock (Fig. 7).

The (5) trees at the top of the bank were catalogued below with listings for species, trunk diameter (DBH), Live Crown Ratio (LCR), approx. height and crown spread, and an Overall Condition Rating. LCR refers to the amount of live foliage/canopy from root to tip. Generally, trees with an LCR of less than 30% are considered to be in advanced decline.

The **Overall Condition Rating** is a generalized statement about the current state of a particular tree being evaluated. It is a method used to quickly assess larger groups of trees for any obvious defects, evidence of the presence of pests or disease, or to declare a tree to be dead or dying. The different ratings are explained below:

Overall Risk Rating Descriptions:

- **Excellent:** Ideal shape and structure according to species profile, no discernible defects, or heritage tree
- **Good:** Tree is in good condition with no significant structural weaknesses or health concerns
- **Moderate:** Tree has visible health and/or minor structural weaknesses, but overall condition is fair.
- **Poor:** Tree is in serious decline, possibly with obvious structural issues. These trees may have difficulty adapting to land use changes.
- **Dead/Dying:** Tree is dead, or very advanced decline. Usually less than 30% Live Crown

Trees #1-3, on the left side of the bank were in Good condition and all had Live Crown in excess of 60%. Tree #4, the large Douglas Fir, although only given an Overall Condition Rating of Moderate, is of special note due to its high value as a habitat tree. It is an excellent perch tree for eagles and other birds of prey. It is also a very large diameter tree (185 cm), which means it can provide nesting habitat for both cavity nest AND open-nest species of birds. Tree #5, the Alder, was in the stages of advanced decline, with approx. 20% LCR, and previous stem failure evident at the time of assessment. However, the Alder still has value as a wildlife tree, with opportunities for cavity nests, and as a feeder tree. The roots of this tree will also contribute to continued bank stability.

In conclusion, the construction of the breakwater along the lower bank at The Property has had a positive effect. The rapid erosion of the bank was threatening the stability of the (5) trees growing at the top of the bank by undermining the roots. The loss of these trees would have negated the value they offer as habitat to local wildlife, and the stability of the bank.



Vancouver Island Tree Service, Ltd.
1495 Wilson Rd., Nanaimo, B.C.
V9R 6R3 (250) 755-6799

I hereby declare that all information contained in the above report is accurate and true, to the best of my abilities.

A handwritten signature in black ink that reads 'Jonathan Bennett'. The signature is written in a cursive style with a long horizontal stroke at the end.

Jonathan Bennett

ISA Certified Arborist PN-6799A

Vancouver Island Tree Service, Ltd.

Tree #	Species	DBH (cm)	Approx. Height (m)	Approx. Crown Spread (m)	Live Crown (%)	Overall Condition (at time of assessment)
1	Douglas Fir (<i>Pseudotsuga menziesii</i>)	65	18	6	60	Good
2	Douglas Fir (<i>Pseudotsuga menziesii</i>)	65	18	6	65	Good
3	Western Red cedar (<i>Thuja plicata</i>)	75	12	4	70	Good
4	Douglas Fir (<i>Pseudotsuga menziesii</i>)	185	21	6	50	Moderate
5	Multi-stem Red Alder (<i>Alnus rubra</i>)	*80	9	4	< 20%	Poor
	*Averaged DBH of all stems					

Fig. 1: Inventory of trees @ top of bank, subject property



Fig. 2-3: Visible erosion of bank at 1178 The Strand



Fig. 4: Exposed roots of D. Fir @ subject property, prior to breakwater installation

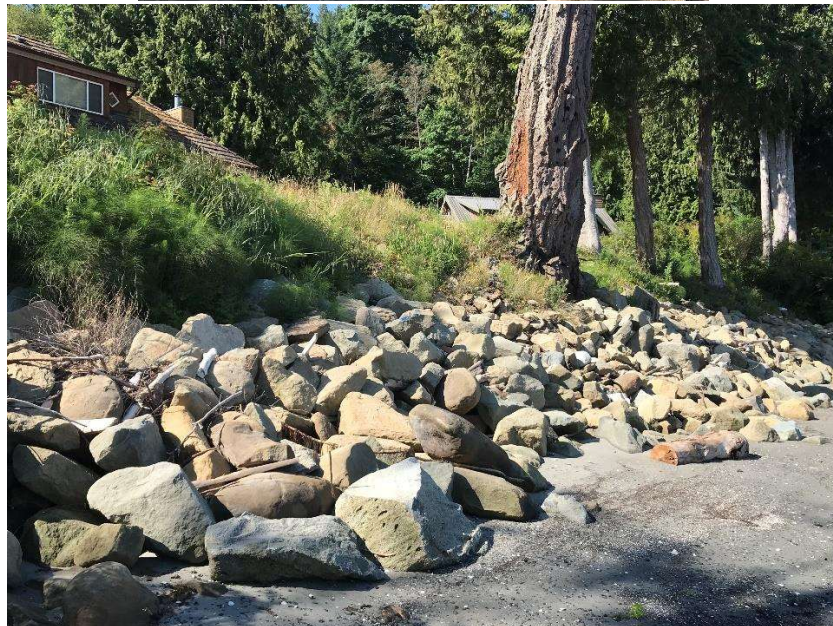


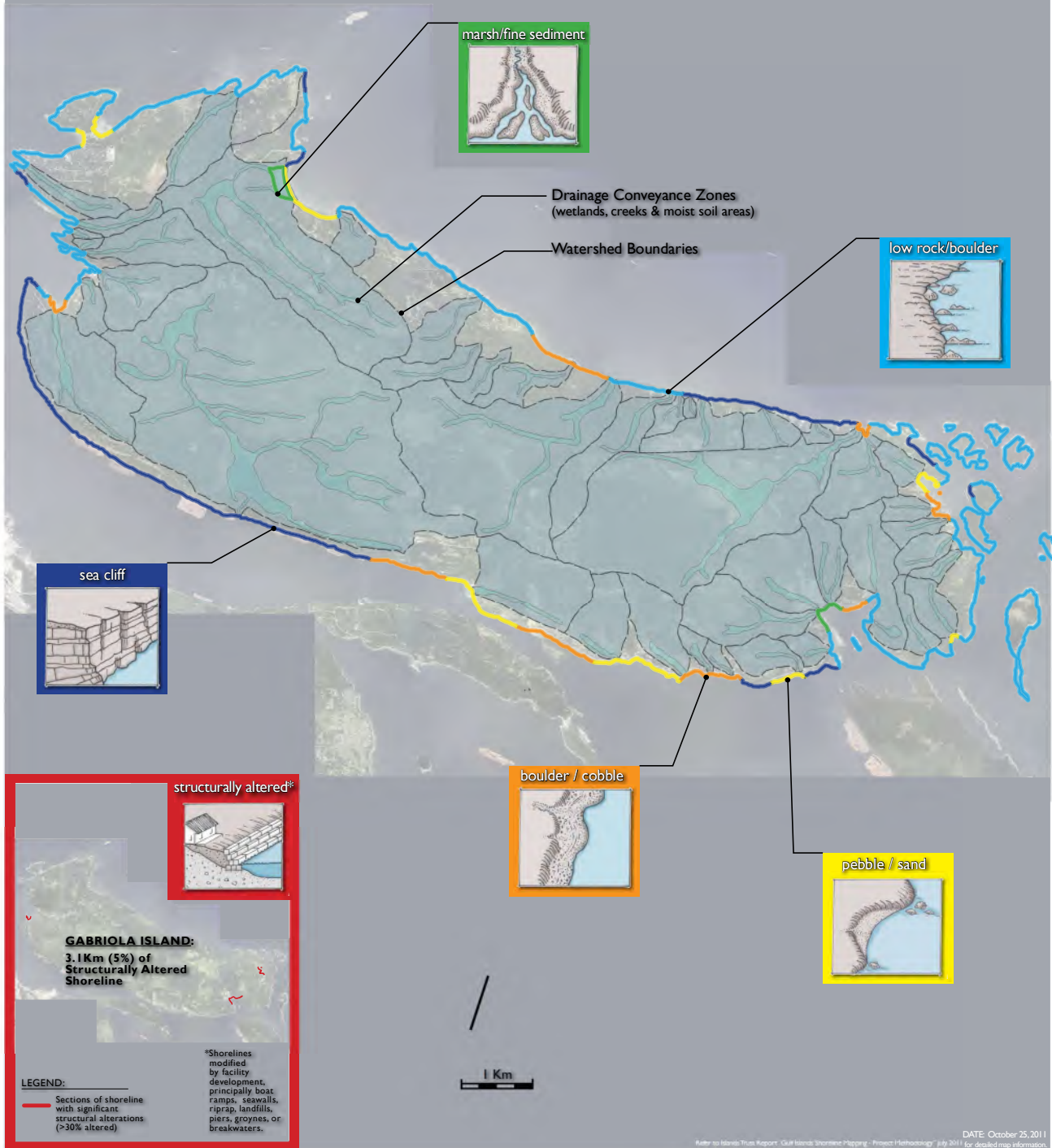
Fig. 5-6: Breakwater supporting lower bank @ subject property



Fig. 7: Evidence of fibre cloth and tarp underlay

ATTACHMENT 9

The Gabriola Island shoreline is largely bedrock and resistant to erosion. There are several sand and shell pocket beaches which are very important recreationally, including Taylor, Pilot and Lock Bays as well as Percy Anchorage. The north end of Gabriola Island is exposed to northwesterly wind and waves and the northeast side of Gabriola Island is exposed to southeasterly storm winds and waves. The south side of Gabriola Island is protected by Valdes Island to the southeast, and partially protected by Mudge Island and the De Courcy group to the south, and by Vancouver Island to the west. Gabriola Island's only areas of mudflat, which are sensitive to human disturbance, are located in Degnen Bay on the southeast end, and to a lesser extent, in Silva Bay. There is a very protected saltmarsh area in Lock Bay, just to the east on the north tip of Gabriola Island, completely bounded on the east by a soft sediment (pebble/sand) spit.



SEA CLIFF

- rocky shore with steep slopes
- 19% of shoreline (12 Km)

Rock (Hard) Shorelines

LOW ROCK/BOULDER

- rocky shore with low slopes
- 59% of shoreline (39 Km)

Sediment (Soft) Shorelines

BLUFF

- moderate to high slopes of sediment (often eroding)
- Saturna Island has no bluff shores

BOULDER/COBBLE

- boulder - cobble cover on beach (often indicates eroding shoreline)
- 10% of shoreline (6.5 Km)

PEBBLE/SAND

- stable or accreting pebbles/sand (or shell) beaches (may be eroding where sediment supply is interrupted)
- 9% of shoreline (6 Km)

MARSH/FINE SEDIMENT

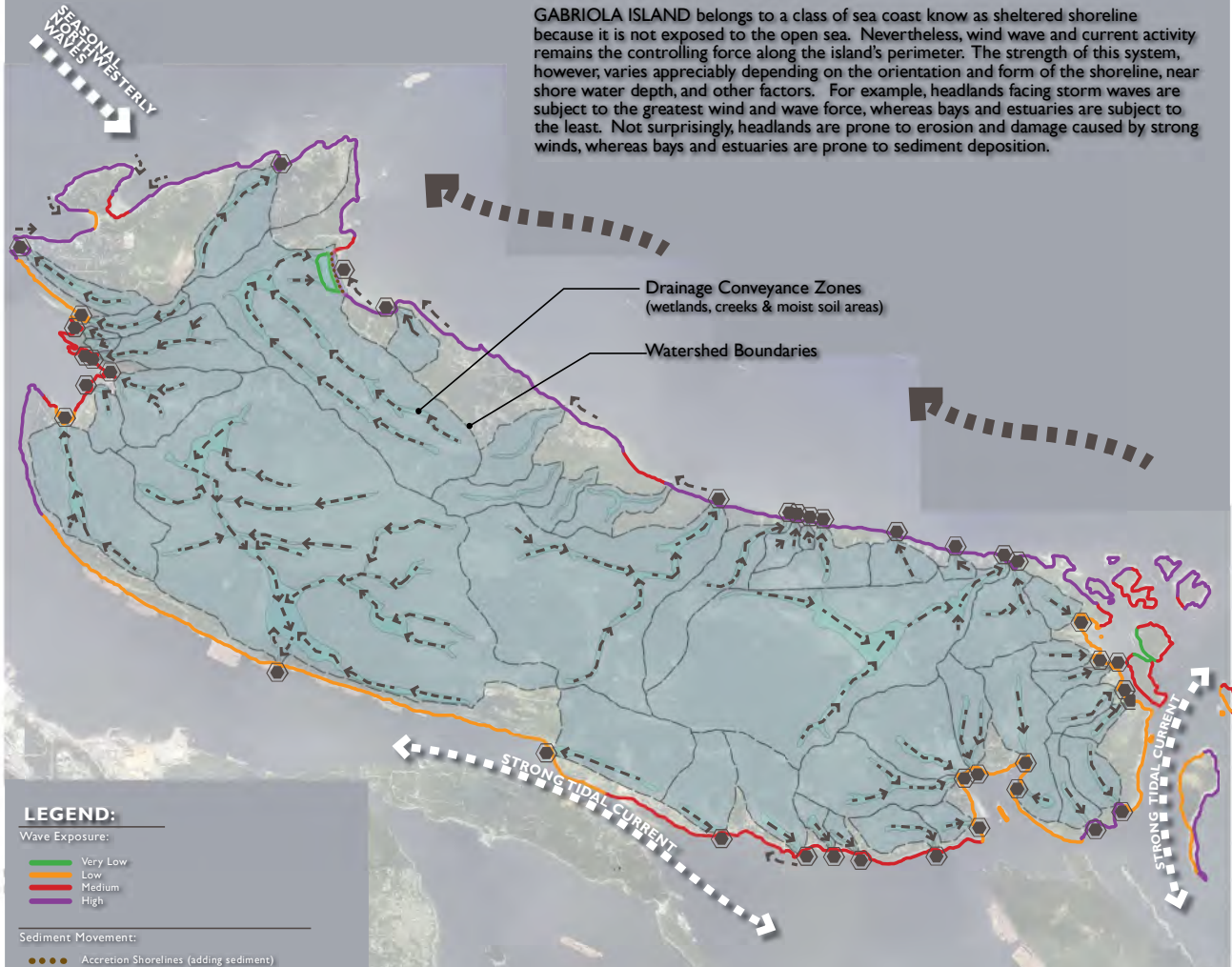
- low energy shorelines with sediment inputs from watersheds nearby
- 3% of shoreline (2 Km)

ISLAND ENVIRONMENTS are shaped by two primary or formative systems:

- 1) watershed systems; and
- 2) longshore systems.

Watersheds are driven by runoff, and longshore systems are driven by waves and ocean currents. Any attempt to understand the islands, including discussions about land use planning, must be framed by these systems. Within this framework all other systems (natural systems like forests, wetlands, eelgrass beds etc. and human systems like roads, buildings, etc) are organized and structured.

GABRIOLA ISLAND belongs to a class of sea coast know as sheltered shoreline because it is not exposed to the open sea. Nevertheless, wind wave and current activity remains the controlling force along the island's perimeter. The strength of this system, however, varies appreciably depending on the orientation and form of the shoreline, near shore water depth, and other factors. For example, headlands facing storm waves are subject to the greatest wind and wave force, whereas bays and estuaries are subject to the least. Not surprisingly, headlands are prone to erosion and damage caused by strong winds, whereas bays and estuaries are prone to sediment deposition.



LEGEND:

Wave Exposure:

- Very Low (Green line)
- Low (Yellow line)
- Medium (Orange line)
- High (Red line)

Sediment Movement:

- Accretion Shorelines (adding sediment)
- Erosion Shorelines (losing sediment)
- ⬡ Watershed Sediment Inputs to Shoreline System
- Localized Sediment Movement Direction (Small Scale)
- ➔ Predominant Direction of Wave Energy

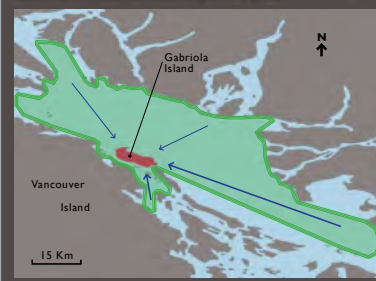
Making Sense of the Energy Systems:

The coloured shorelines on this map indicate that for Gabriola Island, the highest wave exposures occur on the north side of the island. Yet, the arrows indicate that the predominant energy system flow direction is from south to north.

This seemingly conflicting information can be explained by examining the difference between wave exposure and prevailing storms. Wave exposure is a function of wave fetch (as described in more detail in the inset to the right) and wind strength from a given direction. Indeed the Gabriola Island shoreline facing north has a long fetch, and our region does receive periodic cold spells where strong outflow winds blow from the north – this combination of factors results in north facing beaches having a high wave exposure rating relative to other Gabriola shorelines. However, over the course of a storm season, the majority of strong winds and energy comes from the southeast. For Gabriola Island, this means that although north-facing shorelines have high exposures, the dominant sediment movement (relatively little sediment exists on the Gabriola shoreline because it is predominantly rocky) direction is driven by the southeasterly storms towards the north.

Wave Fetch & Energy:

Waves are generated by wind. Wave fetch is the distance over which wind can push water to generate waves - generally, the longer the fetch, the larger the waves. In the diagram below, the wave fetch for Gabriola Island is shown in green.



DATE: October 25, 2011

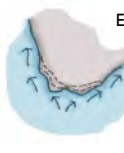
Refer to Islands Trust Report "Gulf Islands Shoreline Mapping - Project Methodology" July 2011 for detailed map information.



Accretion Shorelines:

Sediment accumulation (accretion) is typically associated with lower energy environment along the shorelines.

Accretion features include sandy beaches, beach berms, pocket beaches or storm berms, and are often high value recreation features or wildlife habitats.



Erosion Shorelines:

Eroding shorelines are typically associated with higher energy environment along the shorelines, like headlands, high exposure sediment shorelines or points of land.

Eroding shorelines feed the sediment transport system and halting erosion can have severe impacts on the shoreline sediment movement system and 'downstream' beaches. Adequate setbacks for buildings and facilities are critical.



Trees and vegetation damaged or shaped by the wind along shorelines are good indicators of high wind exposure.

Caution should be exercised when siting buildings and facilities in these locations to ensure they are adequately set back from the shoreline.

Wave Exposure & the Sediment System

Wind Exposure & Buildings



Islands Trust

Preserving island communities, culture and environment

PROJECT FUNDING GENEROUSLY PROVIDED BY:



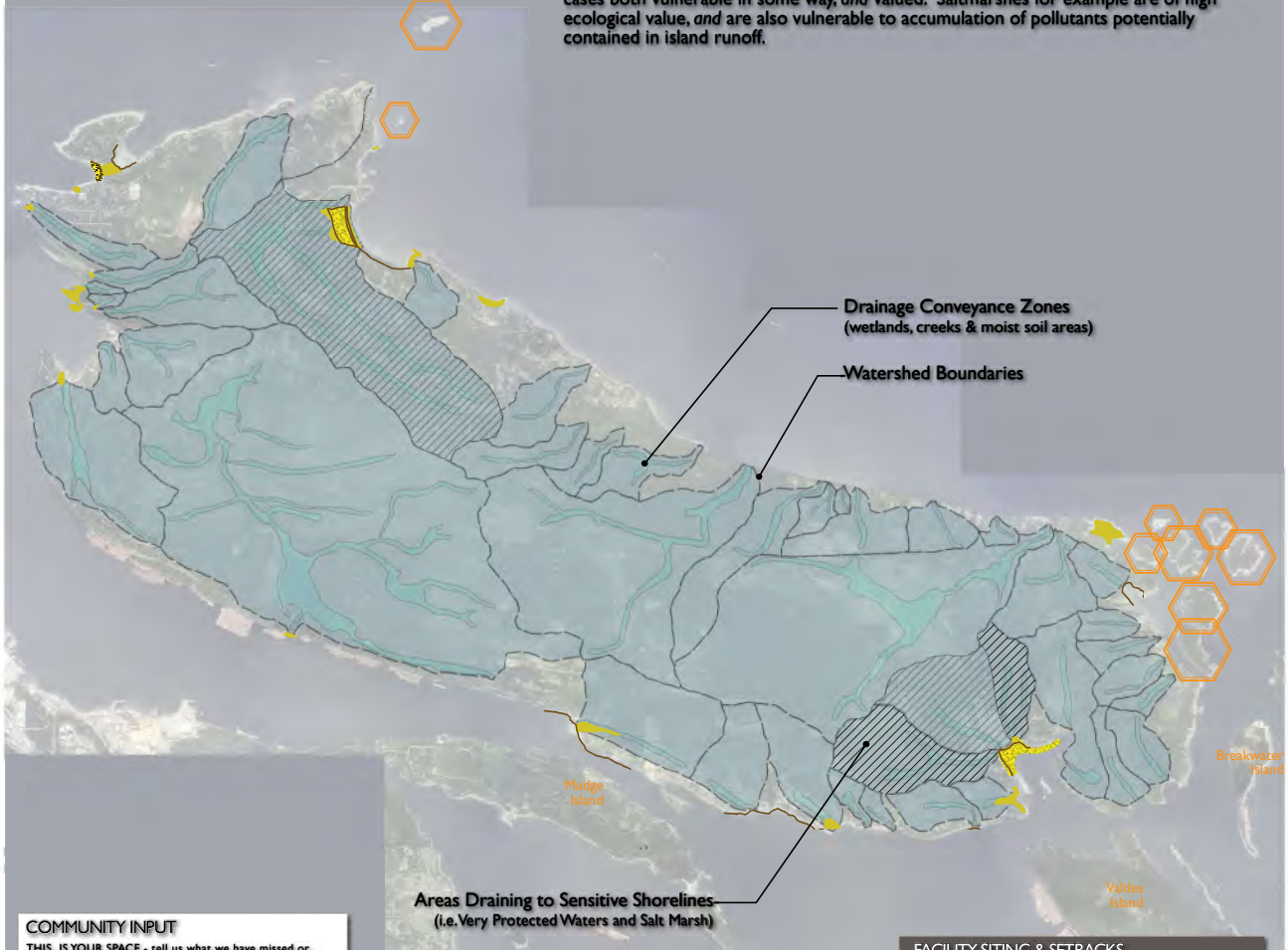
This map is intended to give a general impression of areas along the Gabriola Island shoreline that are considered valued and/or vulnerable to change.

Value refers to areas or features of high ecological or recreational significance.

Vulnerability refers to:

- 1) Natural areas or features vulnerable to human disturbance; or
- 2) Buildings or facilities, vulnerable to disturbance from natural or human-altered system processes.

It is important to note that the various features highlighted on this map are in many cases both vulnerable in some way, *and* valued. Saltmarshes for example are of high ecological value, *and* are also vulnerable to accumulation of pollutants potentially contained in island runoff.

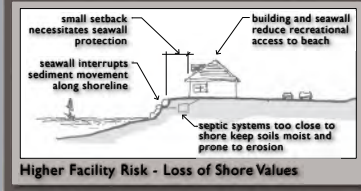
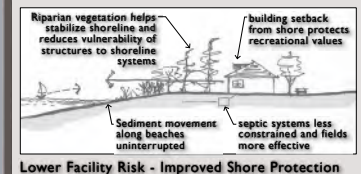


COMMUNITY INPUT

THIS IS YOUR SPACE - tell us what we have missed or where you think the mappers have erred to help us build a more comprehensive values and vulnerability resource! Feel free to make notes right on the map also.

Blank space for community input notes.

FACILITY SITING & SETBACKS



1 Km

DATE: October 25, 2011
 Refer to Islands Trust Report "Gulf Islands Shoreline Mapping - Project Methodology" July 2011 for detailed map information.

LOW LYING AREAS

- Areas 0-4 m in elevation above existing Mean Sea Level and greater than 50 m of width from the shore are mapped as vulnerable to sea level rise.

Gulf Islands BC Provincial Government guidelines suggest a 1 m to 1.1 m rise of sea level in 100 years. Sea level rise may cause increased shoreline vulnerability to increased activities by causing such effects as increased flooding in low riparian areas or collecting of sediment shorelines and increased shoreline erosion. These effects could be further exacerbated by storm surges and changing climate conditions.

SOFT SHORELINES

- Sediment shorelines are typically associated with high recreational values and high ecological values (pocket beaches, estuaries, etc).

VERY PROTECTED WATERS

- Shorelines highly protected from wave exposure
- Poor water circulation increases vulnerability to water pollution

SALT MARSH

- Valued ecological features
- Vulnerable to pollution from land-based activities

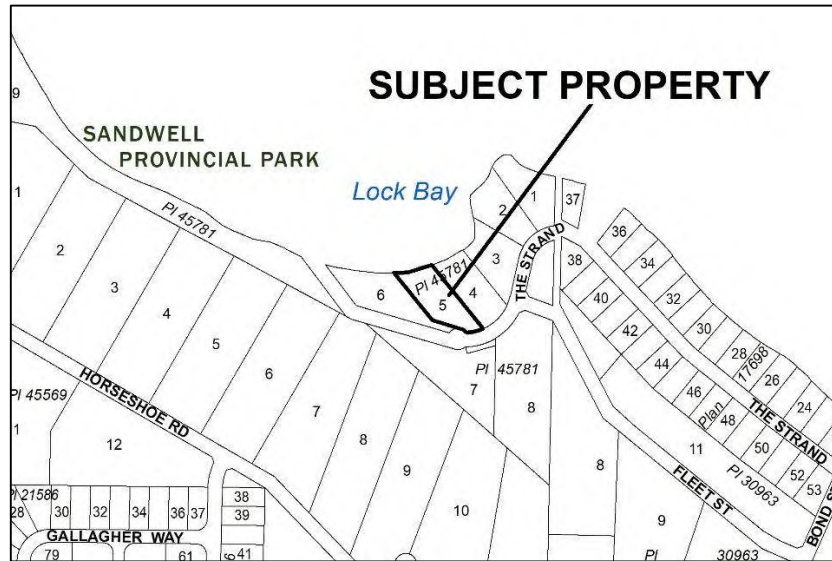
ISLETS

- Often important ecologically, islets can be vulnerable to disturbance from recreational users

NOTICE is hereby given pursuant to Section 499 of the *Local Government Act* that the Gabriola Island Local Trust Committee will be considering a resolution allowing for the issuance of a Development Variance Permit, the proposed permit would vary the Gabriola Island Land Use Bylaw, 1999 by **permitting the siting of an existing rock wall revetment structure and the placement of additional rock wall materials within 0 metres of the interior side lot line setback and 0 metres from the setback to the natural boundary of the sea.**

The property is located at **1160 The Strand** and is legally described as LOT 5, SECTION 18, GABRIOLA ISLAND, NANAIMO DISTRICT, PLAN 45781 (PID: 008-828-067).

The general location of the subject property is shown on the following sketch:



A copy of the proposed permit may be inspected at the Islands Trust Office, 700 North Road, Gabriola Island, BC V0R between the hours of 8:30 a.m. to 4:30 p.m. Monday to Friday inclusive, excluding statutory holidays, commencing **April 3, 2025** and continuing up to and including **April 16, 2025**.

For the convenience of the public only, and not to satisfy Section 499 (2) (c) of the *Local Government Act*, additional copies of the Proposed Permit may be inspected at the Notice Board on Gabriola Island.

Enquiries or comments should be directed to Margot Thomaidis, Planner 2, at (250) 247-2204, for Toll Free Access, request a transfer via Enquiry BC: In Vancouver 660-2421 and elsewhere in BC 1-800-663-7867; or by fax (250) 405-5155; or by email to: northinfo@islandstrust.bc.ca before **4:30 pm, April 16, 2025**.

The Gabriola Island Local Trust Committee may consider a resolution allowing for the issuance of the permit during the regular business meeting starting at **10:30 a.m. on April 17, 2025 at Gabriola Arts & Heritage Centre, 476 South Road, Gabriola, BC.**

All applications are available for review by the public with prior appointment. Written comments made in response to this notice will also be available for public review.

Nadine Mourao, Deputy Secretary



Islands Trust

PROPOSED

ATTACHMENT 11

GABRIOLA LOCAL TRUST COMMITTEE DEVELOPMENT VARIANCE PERMIT GB-DVP-2022.3

To: Thomas & John Pink

1. This Development Variance Permit applies to the land described below:

LOT 5, SECTION 18, GABRIOLA ISLAND, NANAIMO DISTRICT, PLAN 45781
(PID: 008-828-067)

2. Gabriola Island Land Use Bylaw, 1999 is varied as follows:

- a) Article **B.2.1.1 Setbacks and Elevations from Watercourses and the Sea** which states: "...retaining walls, ground level decks, *structures* and *buildings*, excepting *boathouses*, must be sited a minimum of 7.5 metres (24.6 feet) from and 1.5 metres (4.9 feet) above the *natural boundary* of the sea" is varied to permit a rock wall revetment within 0 metres of the natural boundary of the sea.
- b) Article **D.1.1.3 Regulations**, Clause (a) **Buildings and Structures Siting Requirements**, Item (i) which states: "On *lots* less than 1.0 hectares (2.47 acres), except for a sign, *fence*, or *pump/utility house*, the minimum *setback* of *buildings* or *structures* is: ...1.5 metres (4.9 feet) from any *interior lot line*." is varied to permit a rock wall revetment within 0 metres of the interior side lot line.

The development shall be consistent with Schedule 'A' Site Plan and Schedule 'B' Shoreline Revetment Design which are attached to and form part of this permit.

3. 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, 1999" and to obtain other approvals necessary for completion of the proposed development, including approval of the Nanaimo Regional District and Ministry of Transportation and Infrastructure.

AUTHORIZING RESOLUTION PASSED BY THE GABRIOLA LOCAL TRUST COMMITTEE THIS ##th DAY OF [MONTH], 202X.

Deputy Secretary, Islands Trust

Date of Issuance

IF THE DEVELOPMENT DESCRIBED HEREIN IS NOT COMMENCED BY THE ##th DAY OF [MONTH], 202X (2 YEARS FROM DATE OF ISSUANCE)] THIS PERMIT AUTOMATICALLY LAPSES.

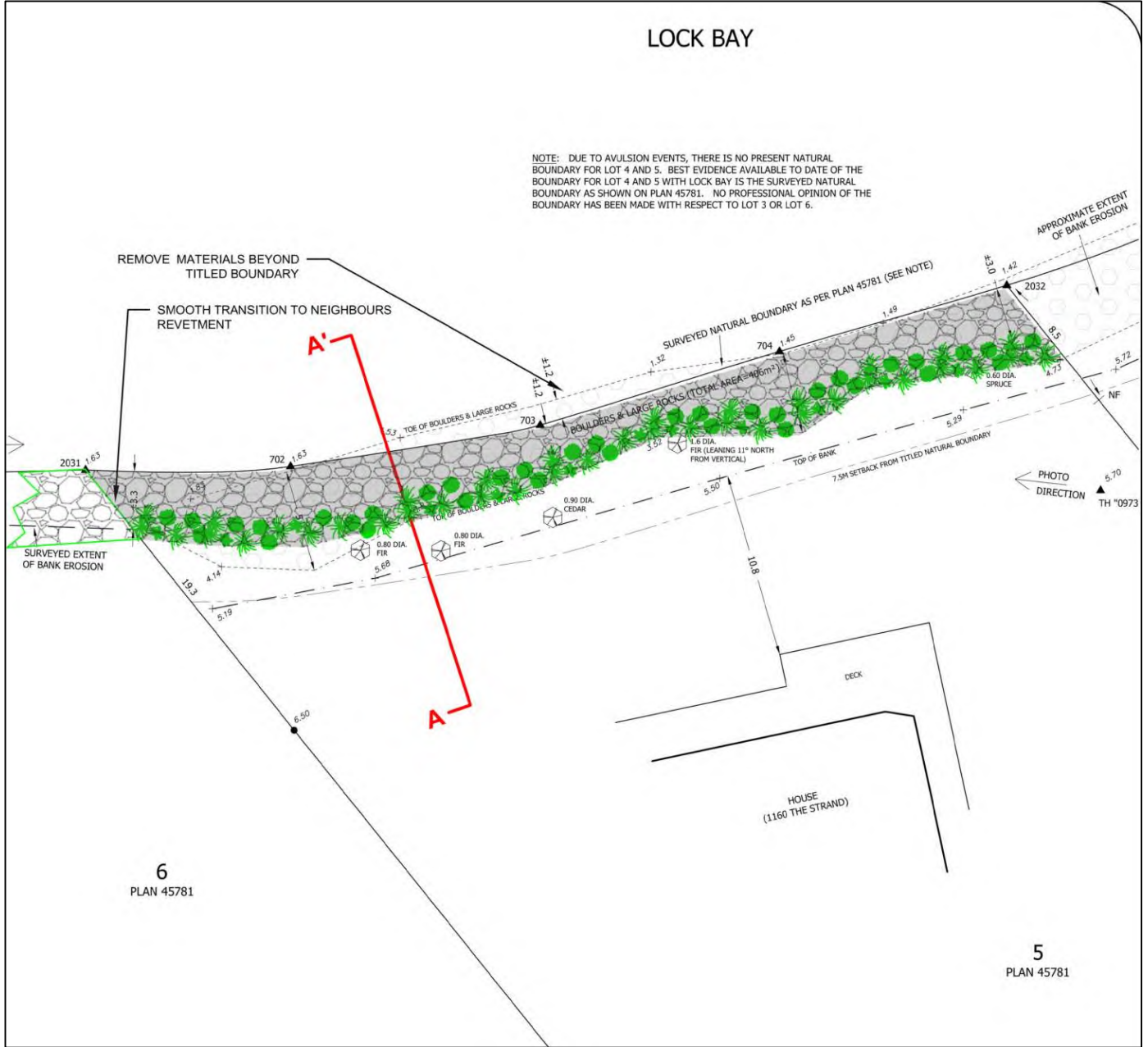
PROPOSED

GABRIOLA ISLAND LOCAL TRUST COMMITTEE

GB-DVP-2022.3

SCHEDULE 'A'

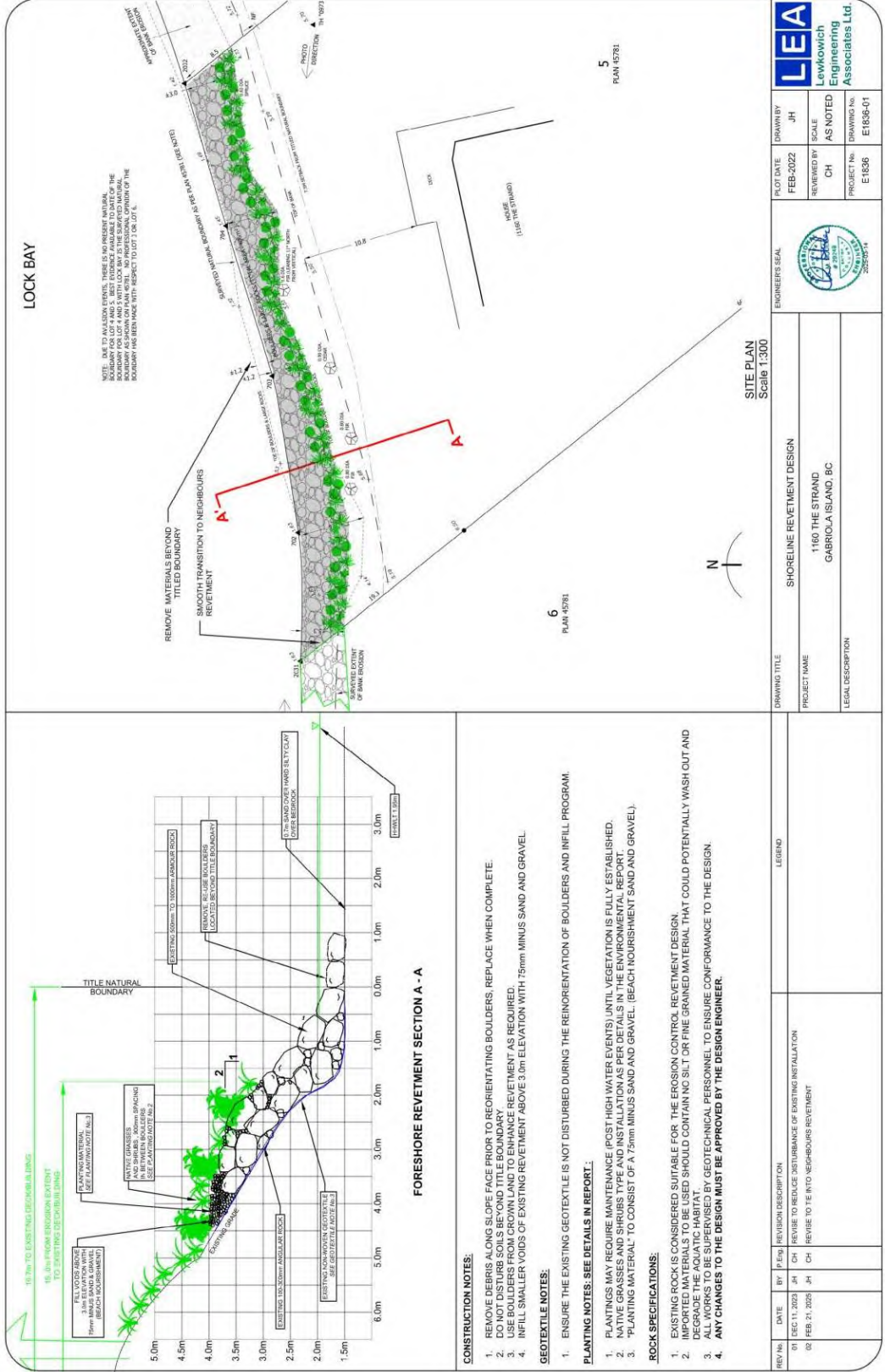
Site Plan



PROPOSED

GABRIOLA ISLAND LOCAL TRUST COMMITTEE GB-DVP-2022.3 SCHEDULE 'B'

Shoreline Revetment Design



ATTACHMENT 12

Island Tree service
1345 North Rd.
Gabriola, B.C.
V0R 1X5

Re: Property of Tom Pink
1160 The Strand, Gabriola, B.C.

To Whom It May Concern,

I am writing this letter on behalf of Tom Pink regarding his property at 1160 The Strand on Gabriola Island. I have lived and worked on Gabriola for the past 30 years. I am the owner of Island Tree Service (est. 2007) and have extensive experience with the trees and landscape on this Island. I also worked doing silviculture and snag falling throughout B.C. for the ten years prior to this.

Over the years I have cleaned up a significant number of trees on the beaches due to erosion and high winds. Although natural, storms in the past 5 years have become stronger with increased damage to the shoreline on Gabriola and the surrounding islands. I believe and support Tom's decision to build a retaining wall to save the existing trees on his property. There is one old growth Douglas fir in particular that needs attention. Unfortunately saving this tree (and a substantial part of Tom's property due to the size of the root mass) requires more intervention and forethought. Without a retaining wall to protect the roots from further damage, I am saddened to say that this Gabriola landmark may end up on the beach one day along with much of Tom's yard.

Sincerely,

Curtis Smith
H: 250-247-7341
C: 250-713-1578

Gabriola, Island

3 June 2022

To: Islands Trust

G:\My Documents_1\House Stuff\IslandsTrust_Erosion.docx

Re: Bank Erosion in Lock Bay, Gabriola

To whom it may concern

I am writing to express my support for the erosion protection efforts undertaken by my neighbours on the Strand, Gabriola Island (addresses 1160 and 1170 the Strand). Over the past several years the banks at both these properties (and on my own) have eroded significantly from wave action.

I recall seeing a Report several years ago indicating that this area of Lock Bay was expected to suffer significant erosion in the coming years. This report may have been commissioned by Island Trust or some other provincial agency - I don't recall for sure. The expected erosion has taken place and indeed, I would estimate that my own property has lost several feet to the ocean over the last year.

The loss of land (on which we still pay taxes, I note) is not as concerning as the undercutting of the bank and the weakening of tree roots and other infrastructure such as paths to the beach. This is particularly true for my neighbours. Several old heritage trees have been lost along the waterfront due to the collapse of the bank. I applaud my neighbours for undertaking mitigative of measures.

I know that as the founding chairperson of the Island Trust, my aunt Hilary Newitt Brown would also have approved these measures. I strongly urge you to approve them as well.

Yours sincerely,

Michael J Apps, PhD

Glenn & Marg Munro

Gabriola, BC, V0R 1X3

April 21, 2023

Islands Trust
700 North Road
Gabriola Island B.C. V0R 1X3

Attn: Margot Thomaidis

Dear Sirs:

Re; 1160 & 1170 The Strand

This letter is to voice our support for the bank restoration plan submitted by our neighbours living at the above noted addresses. We understand they have a hearing with the Development Variance Board in May or early June for the purpose of considering their plan.

Like many homeowners with land fronting on the ocean where the foreshore is composed of softer organic material, significant erosion has and continues to occur. This would appear to be the result of various forces including king tides, more severe winter storms and rising sea levels resulting from climate change. There also seem to be larger numbers of stray logs floating about because, it appears, these are no longer being collected by log salvagers. These seem to act as battering rams and do enormous damage to the shoreline during a heavy storm.

Our own lot sits adjacent to Bell's Landing. I noticed this spring, for the first time, that the bank at the foot of the beach access road from the public parking lot has been gouged out during the winter. We are fortunate in that a significant portion of our own foreshore consists of rock but it would appear that it is only a matter of time before undercutting of the bank on these public lands at Bell's Landing will begin to affect public accessibility and may also threaten erosion of our property.

Given the situation we and our neighbours face, we have no hesitation in supporting our neighbour's application to the Development Variance Board to have their bank restoration plan approved.

Yours truly,



Glenn Munro



Marg Munro

May 26, 2023

Margot Thomaidis
Islands Trust

Re: Erosion Event Gabriola Island

Dear Margot,

We are writing to support our neighbours' request for approval of the variance they have applied for in connection with their emergency mitigation landscaping. This landscaping was required because of a severe erosion event to their properties at 1160 and 1170 The Strand, Gabriola Island.

The landscaping rocks they have put in place have been very well done. We think it looks excellent from the beach and is providing them with the protection they need to preserve their properties. The fact that this was done under urgent circumstances doesn't take away from the care and thoughtfulness that they put into making the landscaping aesthetic and consistent with the natural environment of the surrounding area.

Please feel free to contact us any time on this matter at [REDACTED]

Sincerely,

Jim Logan and Bev Park
[REDACTED]

Gabriola, BC
[REDACTED]

From: k mitchell [REDACTED]
Sent: Tuesday, May 30, 2023 2:39 PM
To: Margot Thomaidis
Cc: [REDACTED]
Subject: 1160 & 1170 The Strand, Gabriola

Follow Up Flag: Follow up
Flag Status: Completed

Dear Margot Thomaidis:

Jeff & Tom Pink supplied me with your name in respect to the work that was being done on their property last summer that was intended to help prevent further erosion of their property due to wave action.

We own the property across the road at [REDACTED]

They inform me that they have to appear before the Island Trust in early June to obtain permission to keep the work done to date which will hopefully prevent further erosion of their bank.

As both neighbour and home owner I fully support the work that has been undertaken to prevent further erosion of both their property at 1160 The Strand and at 1170 The Strand.

Regards
Ken & Kathleen Mitchell

Sent from [Mail](#) for Windows