



Gabriola Island Local Trust Committee

Regular Meeting Addendum

Date: June 25, 2020
Time: 10:30 am
Location: Electronic Meeting

			Pages
8.	APPLICATIONS AND REFERRALS	1:00 PM - 2:00 PM	
8.3	<i>GB-DVP-2020.3 (McCaw) - Staff Report</i>		2 - 24
13.	REPORTS	2:35 PM - 2:55 PM	
13.3	<i>Trust Conservancy Report dated May 26, 2020</i>		25 - 26

File No.: GB-DVP-2020.3
(McCaw)

DATE OF MEETING: June 25, 2020

TO: Gabriola Island Local Trust Committee

FROM: Ian Cox, Planner 1
Local Planning Services

SUBJECT: Development Variance Permit application GM-DVP-2020.3

Owners: James and Elaine McCaw

Applicant: Owner is applicant

Location: PID: 003-969-380

Lot 21, Plan VIP176698, Section 18, Nanaimo Land District,
Gabriola Island

RECOMMENDATION

1. That the Gabriola Island Local Trust Committee approve issuance of Development Variance Permit GB-DVP-2020.3 as presented in Attachment 1.

REPORT SUMMARY

The Gabriola Island Local Trust Committee (LTC) is asked to consider Development Variance Permit (DVP) application GB-DVP-2020.3 (McCaw) as presented in **Attachment 1**. The applicant seeks to vary to the Gabriola Island Land Use Bylaw (LUB) regulations to reduce the required setback from the natural boundary of the sea from 30 metres to 21.4 metres, in order to permit the siting of a Type 2 septic system. The variance would facilitate compliance with the *BC Sewerage System Regulation*, which requires a 30 metre separation between sewerage systems and drinking water sources. Considering the system design and specifications as developed by the Registered Onsite Wastewater Professional (ROWP) (see **Attachment 2** – Septic Filing and System Design), the existing drinking water well on the subject property and the wells on neighbouring properties would be within 30.0 metres of the septic system if strict compliance with the LUB was required. Staff is recommending issuance of the proposed DVP (**Attachment 1**).

BACKGROUND

The applicant has constructed and installed a Waterloo Biofilter Septic Treatment (WBST) system, designed by a Registered Onsite Wastewater Professional (ROWP), within 21.4 metres of the natural boundary of the sea on Lot 21, The Strand. Per the "Variance Purpose Letter" supplied by the applicant (**Attachment 3**), it appears that relocation of the installed WBST system would not be possible given the location of nearby water wells. The fact that the system was installed in the location prior to obtaining a DVP for its siting is a question for the applicant. It is the understanding of staff that the applicant may have been legitimately unaware of the 30 metre bylaw setback given that the WBST was approved by Island Health in its current, constructed location under certification by the ROWP and in accordance with the *BC Public Health Act* and *Sewerage System Regulation*. See **Attachment 2**.

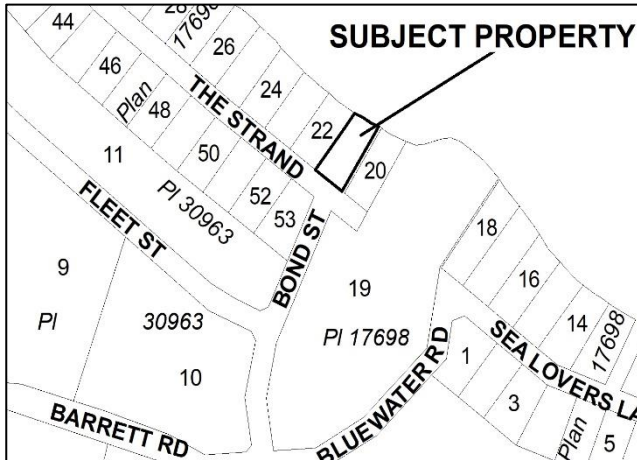


Figure 1 - Subject Property



Figure 2 - Registered Area Water Wells (iMap BC)

ANALYSIS

Policy/Regulatory

Attachment 4 addresses the subject property site context and Islands Trust policies in greater detail. The following is a summary.

Official Community Plan

The proposed residential development on the subject property is consistent with the land use designation in the [Gabriola Island Official Community Plan Bylaw No. 166](#) (OCP) (**Attachment 1 – Site Context and Policies**). Further, the subject property is not within any currently enacted Development Permit Areas for Gabriola Island.

Land Use Bylaw (LUB)

The property is currently zoned Small Rural Residential (SRR) under the Gabriola Island Land use Bylaw No.177 (LUB). The LUB requires that a sewage disposal system field must be sited a minimum of 30 metres from the natural boundary of the sea, lake, stream, or wetland.

BC Sewerage System Regulation

Provincial regulation requires sewerage systems to be located a minimum of 30 metres from domestic wells. For mapping of adjacent property wells, see Figure 2 – Area Water Wells, on page 2 of this report.

Setback from wells

3.1 (1) In this section:

"professional" means a professional competent in the area of hydrogeology;

"well" means a well used to supply a domestic water system.

(2) Subject to subsections (3) and (4) (b), a person must not construct

(a) a holding tank less than 15 metres from a well, or

(b) a sewerage system less than 30 metres from a well."

First Nations / Archaeology

The variance requested is within an area of archeological potential, as is the case for much of the Gabriola Island foreshore, but is not in proximity to any currently mapped sites as indicated by the provincial RAAD system. Notwithstanding the forgoing, the owners and applicant should be aware that there is still probability that the lot may contain previously unrecorded archaeological material protected under the *Heritage Conservation Act*. If such material is encountered during development, all work should cease and the provincial Archaeology Branch should be contacted immediately, as a *Heritage Conservation Act* permit may be needed before further development is undertaken. Provincial Chance Find Procedures ¹ are in place and must be followed.

Issues and Opportunities

The requested variance is intended to address the need for required separation from the subject property and neighbouring drinking water wells. Due to site constraints, the footprint of the proposed dwelling, and the location of existing wells (see Figure 2 on page 2 of this report), it appears that the optimal location of the system is in the constructed location.

As mentioned, the proposed sewerage system was designed by a ROWP and the record has been filed and approved with Island Health. Islands Trust is in possession of both the filing and design documents. Since professional responsibility lies with the ROWP for design, performance, and safety of the system rather than with the health authority - as was previously the case - staff defer to the ROWP to ensure that it is adequate for the intended use and sited in an appropriate location.

Despite OCP policies designed for the protection of the marine environment (see **Attachment 1** – Site Context and Policies), the ROWP has ascertained that the proposed location is acceptable and would pose the least risk to drinking water sources and the marine environment due to the more advanced technology of the WBST system. Provided that the system is constructed and maintained in accordance with the ROWP design, there should not be an issue with contamination if the neighbouring unused well was to be reinstated and used at normal pumping volumes as stated in the report by SLR Consulting dated November 12, 2019 (see **Attachment 7**).

The SLR report was commissioned in response to an Island Health Order that compelled the property owner to obtain the hydrogeological engineering report to ascertain how the septic system might affect the aquifer and a nearby water well within the recommended 30 metre limit. The report has since been accepted by the health authority and the order is now rescinded (See **Attachment 5** – Rescinded Island Health Order).

Consultation

No consultation is required or recommended for this application beyond statutory Public Notice as required by the *Local Government Act*. Notice has been distributed to neighbouring property owners (see **Attachment 6** - Statutory Notice) on June 8, 2020 in accordance with *Local Government Act* requirements in order for neighbouring property owners to have the opportunity to comment before consideration of the permit by the LTC.

No formal correspondence had been received at the time of preparing this report, but may be received before or during the LTC meeting on June 25, 2020. All correspondence received on or before the LTC meeting will form

¹ <http://www.frontcounterbc.ca/pdf/ArchaeologicalChanceFindProcedure.pdf>

part of the public record and will be considered by the LTC. Correspondence may be sent to GabriolaIslandLocalTrustCommittee@islandstrust.bc.ca.

Rationale for Recommendation

The proposed development is in accordance with Residential policies in the Gabriola OCP, while the design of the septic system addresses OCP policies related to Marine Resources and Liquid Waste Management protection objectives. As noted on page 1 of this report, staff is recommending that the requested variance be issued as presented in **Attachment 1**.

ALTERNATIVES

1. Request for further information

The LTC may request further information be provided prior to making a decision. If selecting this alternative, the LTC should describe the specific information needed and the rationale for this request.

Resolution: *“That the Gabriola Island Local Trust Committee request further information prior to making a decision on application GB-DVP-2020.3 including [specify information required].”*

2. Deny the application

The LTC may deny the application. If this alternative is selected, the LTC should state the reasons for denial.

Resolution: *“That the Gabriola Island Local Trust Committee deny application GB-DVP-2020.3 for the following reasons [note specific reasons].”*

Submitted By:	Ian Cox Planner 1, Northern Team	June 5, 2020
Concurrence:	Heather Kauer, RPP, MCIP, AICP Regional Planning Manager	June 8, 2020

ATTACHMENTS:

1. Draft Development Variance Permit
2. Septic Filing and System Design
3. Variance Purpose Letter
4. Site Context and Policies
5. Rescinded Island Heath Order
6. Statutory Notice
7. SLR Consulting Report

DRAFT



GABRIOLA ISLAND LOCAL TRUST COMMITTEE DEVELOPMENT VARIANCE PERMIT NO. GB-DVP-2020.3

TO: James and Elaine McCaw

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

PID: 003-969-380

Lot 21, Section 18, Gabriola Island, Nanaimo District, Plan 17698

2. Pursuant to Section 498 of the *Local Government Act*, the *Gabriola Island Land Use Bylaw No. 177, 1999* is varied as follows:

- a) **Part B – GENERAL REGULATIONS, Section B.2 – GENERAL SITING AND HEIGHT PROVISIONS, Subsection B.2.1 – Special Setbacks and Elevations, Article B.2.1.1 – Setbacks and Elevations from Watercourses and the Sea, Clause b. – A septic sewage disposal field must be sited a minimum of 30 metres (98.4 feet) from the natural boundary of the sea, lake, stream or wetland, is varied:**

- **To permit the siting of an approved Type 2 sewerage system at a minimum of 21.4 meters from the natural boundary of the sea.**

Subject to the following conditions:

- The applicant shall operate and maintain the septic system in accordance with the requirements set out in the Septic System Owner's Guide provided by the Registered Onsite Wastewater Practitioner who designed and installed the septic system and the subsequent Record of Sewerage System filing with Island Health.
3. The proposed development shall be consistent with **Schedule "A" – Site Plan** attached to and forming part of this permit. This permit is not a Building Permit or a Siting and Use Permit, and does not remove any obligation on the part of the permittee to comply with all other requirements of the Gabriola Island Land Use Bylaw No. 177, 1999 including use and density, and to obtain other appropriate approvals necessary for completion of the proposed development.

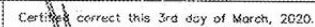
AUTHORIZING RESOLUTION PASSED BY THE GABRIOLA ISLAND LOCAL TRUST COMMITTEE THIS ____ DAY OF _____, 2020.

Deputy Secretary, Islands Trust

Date of Issuance

IF THE DEVELOPMENT DESCRIBED HEREIN IS NOT COMMENCED BY THE ____ DAY OF _____, 2022, THIS PERMIT AUTOMATICALLY LAPSES.

Schedule "A" - Site Plan

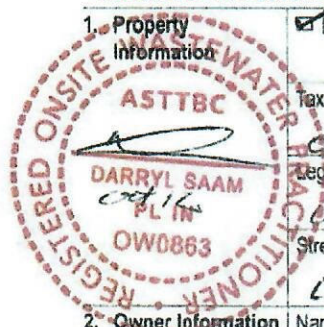


B.C.L.S.

7



RECORD OF SEWERAGE SYSTEM



		Filing # (OFFICE USE ONLY)		NA18/159	
1. Property Information	☒ New Construction	☐ Alteration	☐ Repair	☐ Amendment – Original Filing #	
	Tax Assessment Roll #			PID #	
	04-768 13900 255			003-969-380	
	Legal Description (Plan, Lot, District Lot, Block Numbers)				
	LOT 21 SECTION 18 GARIBOLDI ISL NANAIMO DP 17678				
	Street (Civic) Address or General Location			City	
	LOT 21 THE STRAND			GARIBOLDI	
2. Owner Information	Name of Legal Owner			Mailing Address	
	ELAINE + JAMES McE				
	Phone	City	Prov	Postal Code	
		VANCOUVER	BC	V5Z-3P1	
3. Authorized Person Information	Name of Authorized Person			Mailing Address	
	DARRYL SAAM			2551 QUEENSDALE RD	
	Phone	City	Prov	Postal Code	
	250 713-0481	NANAIMO	BC	V9T-1K4	
	Registration #		Email		
	OW 0863		darryl.discovery@shcd.ca		
4. Structure Information	Sewerage System Will Serve:				
	☒ Single Family Dwelling ☒ Other Structure (specify) GARAGE/SHED ☐ Other Dwelling (specify)				
	The sewerage system is designed for an estimated minimum daily domestic sewage flow of (check one)				
	☒ Less than or equal to 9,100 litres ☐ More than 9,100 litres but less than 22,700 litres				
5. Site Information	Depth of native soil to seasonal high water table or restrictive layer (cm)		Information respecting the type, depth and porosity of the soil is attached		
	192 cm		☒ Yes ☐ No		
	GPS Location of System (decimal degrees)		Latitude 49° 10' 56.21" N Longitude 123° 48' 14.85" W		
	Horizontal Accuracy (m)		☒ Recreational GPS ☐ Differential GPS		
	3				
6. Drinking Water Protection	Will the sewerage system be located less than 30 m from a well? ☐ Yes ☒ No				
	If yes, attach a professional's report and specify the intended distance (m)				
	Distance of proposed sewerage system to the closest body of surface water 38 (m)				
7. System Information	Sewerage treatment method ☐ Type 1 ☒ Type 2 ☐ Type 3				
8. Legal or Regulatory Considerations	☒ Construction of the proposed sewerage system will not conflict with legal instruments registered on the property.			Is this filing submitted as the result of an order from the Health Authority? ☐ Yes (attach a copy of the order) ☒ No	
9. Plot Plan and Specifications	Plot Plan (to scale) and specifications are attached ☒ Yes ☐ No				
	☒ The plans and specifications are consistent with Standard Practice				
	Source of Standard Practice: ☒ Ministry of Health Standard Practice Manual ☐ Other				
10. Authorized Person's Signature	Signature			OFFICE USE ONLY	
				Filing Accepted Date Oct 22/18	
	Date			Receipt Number	
	OCT 12 2018			230906	



DRAIN DOCTOR
Septic Services
#3 - 5144 Metral Drive
Nanaimo, B.C.
250-585-4443
www.draindoctors.ca

Design Date: OCT 12 2018

Proposed Installation Date: N/A

Designed/Installed by: Darryl Saam, PL IN, ROWP 0863

1

PROPERTY INFORMATION

Property address: LOT 21 THE STRAND
Legal Description: LOT 21 SECTION 18 GARIOLA ISL NAN DP17628
PID#: 003969-380
Roll#: 04-768-13800-255

2

CLIENT & HOUSEHOLD INFORMATION

Client Names: ELAINE & JAMES McCAW
Telephone: [REDACTED] Email: N/A
No. Bedrooms: 4 No. Residents: 5
Garbage Disposal: NO Dishwasher: yes
Other Buildings Connected: SWIMMING POOL Jacuzzi/Hot Tub: N/A
High Efficiency Furnace: N/A Water Softener: N/A

*Furnace and water softeners should not be plumbed into the septic system

3

SETBACKS/ELEVATIONS

GPS COORDINATES: 49°10'56.21" N - 123°48'14.85" W

SETBACKS

<u>6</u> m - Tank setback to property line	<u>4</u> m - Drainfield setback to property line
<u>N/A</u> m - Tank setback to nearest building	<u>N/A</u> m - Drainfield setback to building
<u>32</u> m - Tank setback to nearest well	<u>37</u> m - Drainfield setback to nearest well
<u>N/A</u> m - Drainfield setback to public water	<u>N/A</u> m - Tank setback to public water

4

SOIL DATA

Design texture: <u>Silt/clay/loam</u>	Soil Linear Loading Rate: <u>60</u> pd/m ²
Depth of restricting layer: <u>149</u> cm	Elevation at surface: <u>N/A</u> m
Elevation of restricting layer: <u>N/A</u> m	Elevation of bottom of dispersal media: <u>N/A</u>
Soil verification performed: <u>yes</u>	Soil Structure: <u>WEAK - Single Grain</u>
Coarse Fragment: <u>0-5%</u> %	Soil Type: <u>Light-Med Brown</u>
Glazing Depth: <u>192 cm</u> cm	Perk Test Results: <u>6 in AVERAGE</u>

5

SYSTEM TYPE

System Condition: N/ASystem Type: TYPE 2 FLAT BEDSType of Distribution Media: OPONCEL FOAMType of Distribution: SAND/GRAVEL BELOW FLATBEDSType of Soil Treatment and Dispersal Area: CTOS - 35m³ BASIC AREA SAND GRAVELExisting System Abandoned: —Method of Abandonment: —

6

DESIGN FLOW AND TANKS

Number of Septic Tanks: 1Total volume of septic tanks: 4687 LitresNumber of Lift Tanks): 1Total volume of lift tanks: 300 LitresEffluent Screen and Alarm: yes#of compartments in septic tank: 2Pump size: 1/2 hpCover over tank: N/A metersPump manufacture: GiantInsulation on: N/APump alarm: exterior w/lightSchedule 40: 22'Water or Elapsed Time Meter: N/ANumber: N/A hoursEvent Counter: N/ANumber: N/A eventsAir test required: N/A

7

SYSTEM DESIGN TYPE

➤ PRESSURE DISTRIBUTION/PUMP SPECIFICATION (LEAVE BLANK IF NOT PRESSURE)

Number of perforated laterals: 4Perforation spacing: 30 cmLateral length: 9.7 mPerforation size: 1/2" cmPerforations per lateral: 8Total number of perforations: 32 perfsSquirt height: N/A cm**DOSING CHAMBER**Perforation spacing: 1 mDoses per day: — dosesLateral length: — mLitres per dose: — litresPerforation size: — cmAlarm depth: — cm

OW0863

DEMANDPump on: — cm / Pump off: — cmPerforations per lateral: —Set properly: —**TIMER**Time on: — min / Time off: — minCalibrated: —

➤ FLAT BED BIOFILTER SYSTEM (LEAVE BLANK IF NOT FLAT BED)

Pressure: 1/2 hp. Giant PumpSyphon: —Media Filter Type: Absorbent Foam Filter MediumSize of flat beds used: 4x8'Number of flat beds used: 2Daily Designed Flow per flat bed: 840 LPDcBOD5 Percentage Removal: 98%BOD5 Median Concentration: 4 mg/LTSS Percentage Removal: +98%TSS Median Concentration: 4 mg/LFecal Coliforms Percent Removal: +99%Fecal Coliform Concentration: 17,900 cfu/100 ml

DOSING CHAMBERDoses per day: 26 doses

Alarm depth: _____ cm

Litres per dose: 626ml Litres**DEMAND**Pump on: 52 cm / Pump off: 60 cmSet properly: yes**TIMER**

Time on: _____ min / Time off: _____ min

Calibrated: _____

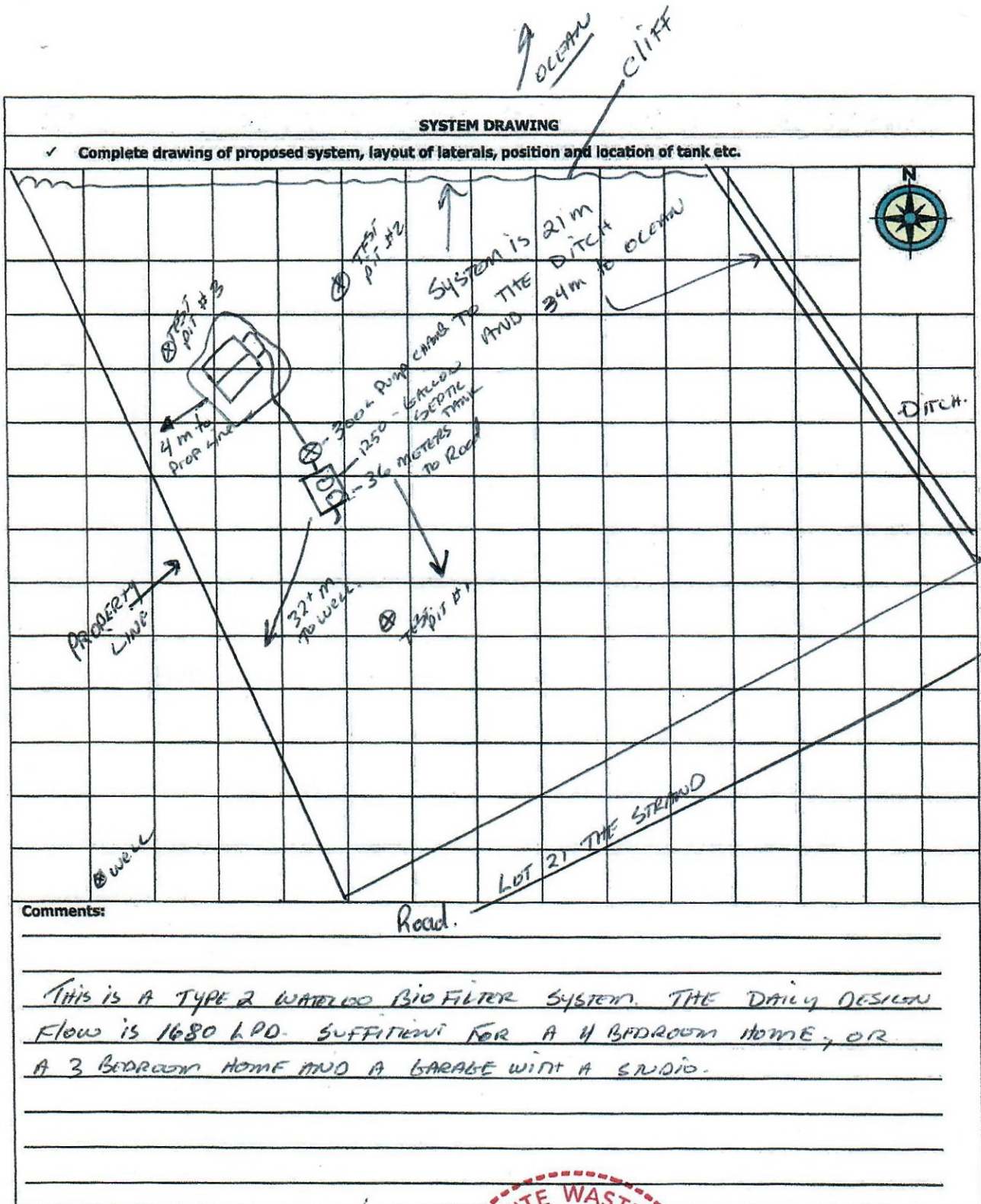
8**MANAGEMENT PLAN REQUIREMENTS**Has the Designer completed a System check? YESHas Septic System Owner's Guide been handed out? YES**9****AUTHORIZATION****DARRYL GEORGE SAAM - Planner/Installer ROWP 0863**

I hereby certify that I have completed this work in full accordance with all of the applicable ordinances, rules and laws contained within the Standards of Practice.

[Signature]
Darryl Saam, PL, IN, ROWP 0863

OCT 12 2012
Date





The purpose of this Development Variance Permit (DVP) is to vary the distance requirement of our septic system from the natural boundary of the sea as our oceanfront lot (Lot 21, The Strand) cannot accommodate the relocation of the already-installed Waterloo Biofilter Septic Treatment (WBST) system given the existing location of nearby wells.

Islands Trust Bylaw 177 (B.2.1.1b) requires a distance of 30 meters from the natural boundary of the sea for a septic field whereas the provincial standards only require a distance of 15 meters from the natural boundary of the sea. The WBST system was installed 19.5 meters from the closest natural boundary of the sea and 21.5 meters from the natural boundary (according to Plan 17698). The WBST system does not, however, require a septic field, as explained below.

After a great deal of research, we chose the WBST system. Prior to the installation of the WBST system, it was certified by Darryl Saam, a Registered Onsite Wastewater Practitioner (ROWP), in compliance with the Sewerage System Standard Practice Manual for B.C. (version 3, volume 2, table II-19), which is the main reference source for B.C. wastewater practitioners responsible for planning, installing, and maintaining onsite sewage systems pursuant to the Sewerage System Regulation and *Public Health Act* of B.C. As noted on the Province of B.C.'s website, "The Ministry of Health has worked with independent contractors, the Applied Science Technologists and Technicians of B.C. (ASTTBC) and industry stakeholders – including registered wastewater practitioners, professional engineers and regional health authority staff – to develop Version 3 of the Sewerage System Standard Practice Manual." These WBST systems are used widely on Vancouver Island and throughout the Gulf Islands.

Prior to the installation of the WBST system, VIHA approved its current location. Subsequent to the installation of the WBST system, we retained Steven Usher, M.Sc., P.Geo. of SLR Consulting (Canada) Ltd., as our neighbor and the owner of Lot 22, The Strand, had filed a complaint with the VIHA regarding the location of the WBST system in relation to a decommissioned well, which was located under a driveway on his property. Mr. Usher conducted an independent and thorough Engineering Hydrogeologic Assessment of Lot 21, The Strand. As a result of Mr. Usher's assessment, VIHA was satisfied that the location of the WBST system posed no problem to nearby water sources with the result that the complaint was found to have no merit.

The WBST system is a "Type 2" septic treatment system, which means that it does not have a traditional septic "field". Effluent is treated and decontaminated prior to reaching the soil. Islands Trust Bylaw 177 expressly references a septic "field", which at the time of enactment was likely the predominant wastewater practice within the local trust area. Since the enactment of Bylaw 177, there has been substantial advancement in wastewater environmental technologies. It appears that the spirit and intention of Bylaw 177 is to ensure high environmental standards within the local trust area; the Type 2 septic system meets or exceeds those environmental standards.

Type 1 vs. Type 2 Septic Systems

- The Type 2 WBST system has a septic tank and a filtration flatbed, not a septic field. Type 1 septic systems have a tank and a septic field of sand and gravel, to decompose the contaminants in the earth.
- The size of the flatbed filtration area of the Type 2 WBST system is 8 feet X 8 feet (64 square feet) whereas a Type 1 septic field would require considerably more ground area (450-900 square feet).
- Effluent from the tank goes into the WBST system's septic filtration flatbed whereby 95-99% of contaminants are removed prior to reaching the soil. Health Canada considers the wastewater from the WBST system to be of a "recreational level", which means that the wastewater is safe to swim in. In contrast, a Type 1 septic tank removes roughly 45% of effluent, leaving the remaining 55% to be dispersed into the ground to be processed in the septic field via layers of sand and gravel.
- The WBST system - a Canadian company, began at Waterloo University, and was forged in 1991 to form what is now considered an internationally acclaimed industry leader in environmental technologies. Benefits, beyond the aforementioned small size requirements and methodology of processing the effluent, include rigorous third-party testing to exceed national (as well as B.C. provincial) standards of decontamination (e.g., removal of nitrogen, which mitigates the propagation of blue green algae and which naturally has an enormous benefit on all nearby water sources).

We have endeavored to set out above some of the key benefits of the Type 2 WBST system; the need for this specific type of septic system in its existing location on our half-acre oceanfront lot; and our rationale supporting the DVP. For decades, Gabriola Island has been a deeply-held dream for our retirement home. From the outset of our building planning process, we have maintained an environmental-first focus, which is in keeping with our core values.

At the start of the planning process, we spoke with Islands Trust by attending the Gabriola office to discuss best practices; attended Green Shores level 1; researched the most environmentally efficient septic system options, which resulted in the choice of a WBST system; and designed a green home, with engineer approval for our single family bungalow with attached garage (e.g., smart wall system, solar panels, milled lumber for building from trees on lot, organic garden/landscape design).

The location of the WBST system on our lot meets approval by provincial standards. An approval to apply for a building permit was issued by the Planning Department of Islands Trust prior to the submission of a second complaint by our neighbor, which has resulted in the DVP process. According to the Official Community Plan, the desire to develop available lots from older subdivisions such as ours, rather than increase subdivision plans, is preferred by the community. We believe the WBST system is a proper and appropriate solution to the limitations of our half-acre lot.

As noted above, there is no alternate location for the WBST system on our oceanfront lot given the existing location of nearby wells. In addition, our oceanfront lot is not large enough to accommodate a traditional septic system with a field. If we are not permitted to proceed with the WBST system, we may not be able to build on this property, which would result in both significant financial and emotional hardship.

If we can provide any additional information in support of the DVP, please feel free to contact us.

We have attached hereto an appendix with supporting information of key points for your information.

ATTACHMENT 4 – SITE CONTEXT AND POLICIES

LOCATION

Legal Description	Lot 21, Plan VIP176698, Section 18, Nanaimo Land District, Gabriola Island
PID	003-969-380
Civic Address	Not yet assigned
Lot Size	0.46 acres 0.19 hectares

LAND USE

Current Land Use	Residential
Surrounding Land Use	Residential

HISTORICAL ACTIVITY

File No.	
GB-BE-2020.3	Complaint: septic disposal field within the setback of the natural boundary of the sea
GB-BP-2020.3	RDN BP referral for SFD

POLICY/REGULATORY

Islands Trust Policy Statement	The proposal is not contrary to or at variance with the ITPS provided that the proposed sewerage system is installed and maintained according to the ROWP design and specifications, including maintenance plan.
Gabriola Island Official Community Plan No. 166, 1997	Land Use Designation: Small Rural Residential (SRR) The subject property is neither within a Development Permit Area, Environmentally Sensitive Area, nor within DPA 6 – Escarpment Areas, but a portion of the parcel where the property boundary abuts the sea is mapped as a moderate to high risk steep slope area. Subject property not within any Development Permit Areas, however, the following objectives and policies from the OCP highlight the need for consideration of the marine environment: Section 6 - As the degree of human activity intensifies so does the threat to permanently alter or destroy valuable environmental features and resource areas. In accommodating future development on Gabriola, care must be taken so as not to irreversibly alter the island's healthy, liveable and aesthetically pleasing upland and marine-based natural areas. Marine Resources Objectives 1. To manage coastal marine resources in keeping with the Islands Trust preserve and protect mandate; 2. To preserve and protect unique, rare, or representative marine plant and animal communities in their natural habitats; 6.2 Marine Resources Background: Marine shorelands and foreshore are highly vulnerable to the effects of development... 7.5 Liquid Waste Management

	Since groundwater from wells is the principle source of drinking water the safe disposal of all effluent is essential. Equally important is the need to prevent sewage seepage into the Island's marine or surface waters. Liquid Waste Management Objectives 1. To ensure that the disposal of sewage does not lead to health hazards through pollution of the groundwater or the marine waters within the Gabriola Planning Area. Liquid Waste Management Policies b) Sewage outfalls into the marine waters of the planning area shall not be permitted unless it may be demonstrated that the resulting effluent has received a tertiary level of treatment to ensure it will not harm the marine environment and the system is adequately maintained in proper working order. For information: Types of Sewage Systems The Sewerage System Regulation lists three types of sewage systems approved for the disposal of wastewater (domestic waste): Type 1: Treatment by a septic tank and dispersal field only. Type 2: Treatment that produces an effluent consistently containing less than 45 mg/L of total suspended solids and having a five-day biochemical oxygen demand of less than 45 mg/L. Type 3: Treatment that produces an effluent consistently containing less than 10 mg/L of total suspended solids and having a five-day biochemical oxygen demand of less than 10 mg/L. A median fecal coliform density of less than 400 Colony Forming Units per 100 mL. Source: Province of BC - https://www2.gov.bc.ca/gov/content/environment/waste-management/sewage/onsite-sewage-systems/onsite-sewage-system-management Liquid Waste Management Advocacy Policies c) The Ministry of Health and Ministry of the Environment shall be encouraged to consider alternative methods of sewage disposal and the beneficial reuse of treated domestic waste water e) All existing septic disposal systems in the planning area should be maintained in proper working order so as to prevent pollution of the fresh, marine and ground waters.
Gabriola Island Land Use Bylaw No. 177, 1999	Current zoning is Small Rural Residential (SRR). Relevant regulations: B.2.1 Special Setbacks and Elevations b. A septic sewage disposal field must be sited a minimum of 30 metres (98.4 feet) from the natural boundary of the sea, lake, stream or wetland. D.1.1.1.a. Permitted Principal Uses i. single family residential D.1.1.2 Buildings and Structures a. Permitted Buildings and Structures i. Maximum of: • one single family dwelling per lot; D.1.1.3 Regulations a. Buildings and Structures Siting Requirements

	i On <i>lots</i> less than 1.0 hectares (2.47 acres), except for a sign, <i>fence</i>, or <i>pump/utility house</i>, the minimum <i>setback</i> of <i>buildings</i> or <i>structures</i> is: • 6.0 metres (19.7 feet) from the <i>front lot line</i>; • 4.5 metres (14.8) from any <i>exterior side lot line</i>; and • 1.5 metres (4.9 feet) from any <i>interior lot line</i>.
BC Sewerage System Regulation, 2010	Setback from wells [This section of the Regulation deals with separation of drinking water wells and septic systems.] 3.1 (1) In this section: "professional" means a professional competent in the area of hydrogeology; "well" means a well used to supply a domestic water system. (2) Subject to subsections (3) and (4) (b), a person must not construct (a) a holding tank less than 15 metres from a well, or (b) a sewerage system less than 30 metres from a well. Offences [This section of the Regulation deals with offences and recourse should a person not comply with operation and maintenance in accordance with the ROWP system design.] 12 A person commits an offence if the person does any of the following: (a) knowingly makes a false or misleading statement (i) in the information submitted or filed under section 4 [permit for holding tank] or 8 [filing], (ii) in providing the information required under section 9 [letter of certification], or (iii) during an inspection for the purposes of this regulation; (b) constructs or maintains a sewerage system without proper qualifications, as set out in section 6 [restriction on construction and maintenance], (c) constructs a holding tank or sewerage system, or fails to repair or maintain a holding tank or sewerage system, in a manner that causes a health hazard; (d) fails to comply with (i) a requirement to file any of the matters described in section 8, (ii) a requirement to provide information or a letter of certification under section 9, or (iii) an order under section 11 of this regulation or section 31 (1) (b) of the Act, made in relation to a holding tank or sewerage system; (e) operates (i) a holding tank for which no permit has been issued under section 4, or (ii) a sewerage system for which no letter of certification has been filed under section 9; (f) contravenes either of sections 3 (1) [discharge of domestic sewage] or 10 (1) [maintenance of sewerage system].

Covenants	Currently none Registered BUILDING SCHEME 312650G and Undersurface Rights
Bylaw Enforcement	See above historical files - GB-BE-2020.3 open until issuance of DVP

SITE INFLUENCES

Islands Trust Conservancy	No referral to the Islands Trust Conservancy is required.
Islands Trust Regional Conservation Plan (2018-2027)	The proposal is not contrary to or at variance with the ITC RCP. Conservation of the Gabriola LTA is a high priority within the context of the RCP.
Species at Risk	None currently mapped
Sensitive Ecosystems	None currently mapped
Hazard Areas	Moderate/High risk steep slope along high bank foreshore boundary. Development not proposed within area.
Archaeological Sites	Potential – see staff report First Nations Archaeology section
Climate Change Adaptation and Mitigation	No potential impacts anticipated beyond what is commensurate with rural residential settlement and land use patterns, particularly personal vehicle use.
Shoreline Classification	Boulder/Cobble Beach
Shoreline Data in TAPIS	Low Rock/Boulder/ Littoral

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VANCOUVER ISLAND HEALTH AUTHORITY

ORDER RESCINDED

**Section 31, Public Health Act, S.B.C. 2008, Chapter 28 and
Section 11 of the Sewerage System Regulation, BC Reg 326/04**

To: Darryl Saam
3-5144 Metral Drive,
Nanaimo BC V9T 2K8

**RE: Section 31, Order to Bring into compliance Lot 21, Section 18, Gabriola Island,
Nanaimo District, Plan 17698 (the "Property") with BC Sewerage System Regulation**

Thank you for your co-operation with the Order pertaining to the above property originally issued on July 22, 2019 which was later varied and re-issued on October 10, 2019.

The following required corrective actions have taken place:

- A professional competent in the area of hydrogeology has assessed and written a report for the proposed sewage system for the Property.
- The profession has determined that the sewerage system installed on the Property will not likely cause a health hazard to existing wells located within 30 meters of it.

The Order is now **rescinded**.

Please ensure any outstanding requirements are met in accordance with any imposed timeframes discussed and/or outlined below:

- Ensure Letter of Certification is submitted as per section 9 in the BC Sewerage System Regulation.
- Ensure system drawing reflects correct as-built distance to property lines, wells, etc.

Please feel free to contact me if you have any further questions.

Dated at 3rd Floor, 6475 Metral Drive, Nanaimo BC this 17 day of December 2019.

Yours truly,

A handwritten signature in blue ink, appearing to read "Jill Lucko".

Jill Lucko, CPHI(C)
Environmental Health Officer

Health Protection & Environmental Services
3rd Floor – 6475 Metral Drive
Nanaimo BC V9T 2L9

Tel: 250.755.6215 Fax: 250.755.3372
islandhealth.ca



NOTICE

GB-DVP-2020.3
GABRIOLA ISLAND LOCAL TRUST COMMITTEE
(McCAW)

NOTICE is hereby given that the Gabriola Island Local Trust Committee will be considering a resolution allowing for the issuance of a Development Variance Permit, pursuant to Section 498 of the *Local Government Act*, varying subsections of the Gabriola Island Land Use Bylaw No. 177, 1999, as follows:

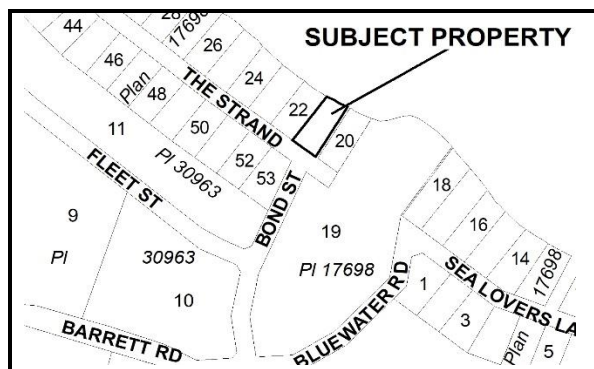
- a) **Part B – GENERAL REGULATIONS, Section B.2 – GENERAL SITING AND HEIGHT PROVISIONS, Subsection B.2.1 – Special Setbacks and Elevations, Article B.2.1.1 – Setbacks and Elevations from Watercourses and the Sea, Clause b. – A septic sewage disposal field must be sited a minimum of 30 metres (98.4 feet) from the natural boundary of the sea, lake, stream or wetland, is varied:**
- **To permit the siting of an approved Type 2 sewerage system at a minimum of 21.4 meters from the natural boundary of the sea.**

The subject property is legally described as:

PID 003-969-380

Lot 21, Section 18, Gabriola Island, Nanaimo District, Plan 17698

The general location of the subject area is shown in the following sketch:



If you have any questions or comments regarding the proposed Permit, please contact Ian Cox, Planner 1, at 250-247-2204; for Toll Free Access, request a transfer via Enquiry BC: in Vancouver 604-660-2421 and elsewhere in BC at 1-800-663-7867.

Written submissions should be sent to:

Mail: Islands Trust, 700 North Road,
Gabriola, BC V0R 1X3;

Fax: 250-247-7514 or

Email: northinfo@islandstrust.bc.ca

A copy of the proposed Permit may be inspected at the Islands Trust Northern Office Bulletin Board, 700 North Road, Gabriola Island, BC, V0R 1X3, and is available on the Islands Trust website <http://www.islandstrust.bc.ca/islands/local-trust-areas/gabriola/current-applications/current-application-documents/> commencing **June 12, 2020** and continuing up to and including **June 24, 2020**. Also, attached for your convenience, is a copy of the proposed Permit.

Following the end of the notice period, the Gabriola Island Local Trust Committee may consider issuance of the proposed Permit at its **Electronic Business Meeting** to be held at **10:30 am, Thursday, June 25, 2020**.

To listen and/ or view the meeting or participate in the Town Hall portion of the Gabriola Island Trust Committee meeting, on June 25, 2020, the public may join the meeting by:

- **Calling:** 855.703.8985 (Toll Free)
- **Logging into:** <https://islandstrust.zoom.us/j/62278378779>

The **Webinar ID number** is: **622 7837 8779**

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

Becky McErlean,
Deputy Secretary

November 12, 2019

Mr. Darryl Saam
0989667BC Ltd.



Project No.: 202.01651.00000

Dear Mr. Saam:

RE: LOT 21, THE STRAND, GABRIOLA ISLAND - HYDROGEOLOGIC ASSESSMENT

We are pleased to present this letter report providing our professional opinion on the above noted lot on Gabriola Island. It is our understanding that the owner has built a septic system and installed a well and wants to ensure that these will not interfere with neighbouring wells in any way. We attended the site on October 2, 2019 to examine the site systems, make observations of neighbouring infrastructure, observe the bedrock outcrops and rock types along the shore. In addition we have examined water well records from this and adjacent lots, examined the provincial geologic mapping of the area and referenced the recent groundwater study undertaken on Gabriola Island by the RDN. For the reasons expressed below, it is our professional opinion that the neighbouring wells will not feel any negative effects (water quantity or water quality) from the operation of the Lot 21 well or septic system as it is presently configured. Please be aware that this is a letter of opinion, and that our analyses are not presented, but have been retained in our files along with the supporting data, should anyone wish to see in detail how our conclusions are supported.

QUALIFICATIONS

This study has been conducted by Steven Usher, M.Sc., P.Geo of SLR. Mr. Usher has 40 years of experience doing hydrogeologic studies, particularly related to water supply. His M.Sc. was conferred by the University of Waterloo in 1986 in Earth Sciences with a emphasis on groundwater flow systems. His undergraduate degree (Queens, 1979) is in geotechnical engineering, with a minor in water resources. Steven is registered as a Professional Geoscientist in BC, Alberta and Ontario. He is registered as a Professional Engineer in Alberta and Ontario, and is in the process of registering in BC. His specialty deals with water supply and contaminant migration.

RESULTS

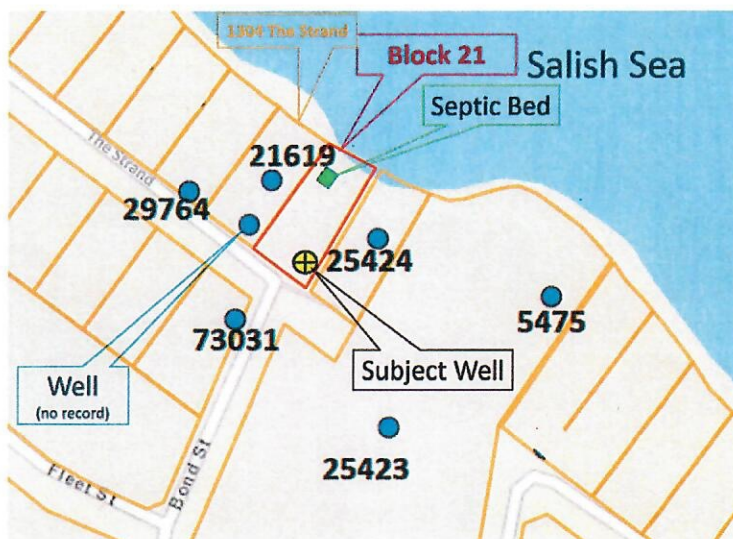
The Lot 21 site lies along the northern shore of Gabriola Island and is an area characterized by the Northumberland Shale bedrock (Reference: Geological Survey of Canada, Paper 69-25). This shale and its interbedded layers of siltstone outcrop along the shore at the northern edge of the site. The overburden consists of silty sand glacial till and appears to be seasonally dry. The photo at right shows the bedrock and overburden outcropping along the shore just below the property. The overburden soils comprise the top third of the photo, and given the steepness of the slope it is clear there is significant internal friction, indicating a glacial till. The overburden is not a viable aquitard and is generally unsaturated. This means that the renovated effluent from the septic system will migrate downwards, and then northerly along the bedrock surface, dropping down into fractures, and on towards the ocean.

The bedrock covers the bottom third of the photograph, but is quite eroded and friable along the outcrop. It is our experience that the bedrock will become quite competent a short distance in from the outcrop, as evidenced by the long term stability of the shoreline. The Northumberland shale is generally of low permeability, however the bedding planes can supply a useable quantity of groundwater, particularly when interconnected by vertical joints

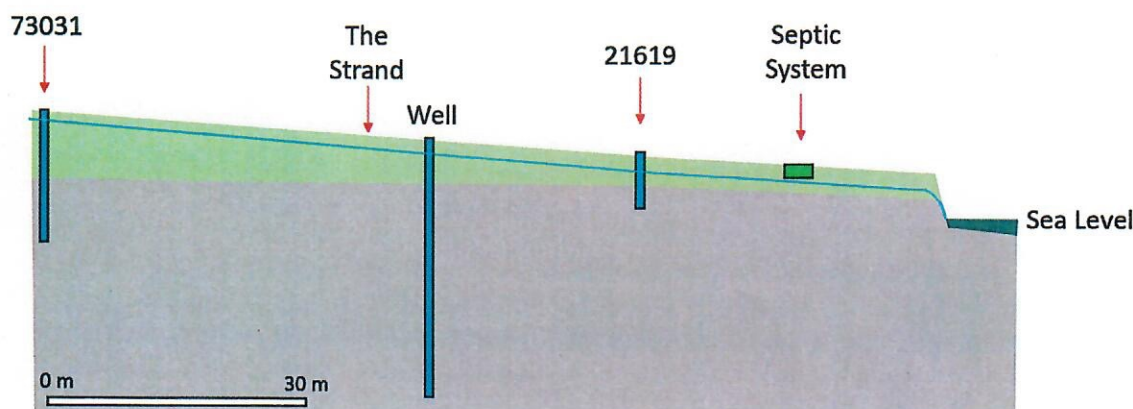


and fractures. Based on the six well records within 200 m of the property, this is the aquifer that all local wells tap. Static water levels in the well casings represent the water pressure in the bedrock, but are just a few metres below ground level. It is expected that the bedding planes in the bedrock conduct groundwater flow but individual shale beds act as an aquitard and thus they act to confine the aquifer.

The water well records for six wells, including the site well have been examined. Their approximate locations and MOE designations are shown on the figure to the right, along with a well with no record on the neighbouring property. Well yields were reported to range from 8 to 30 USGPM with an average of 16 USGPM. Three well records reported pumping and drawdown information, from which specific capacities were calculated here, ranging from 2.4×10^{-5} to $8.2 \times 10^{-5} \text{ m}^2/\text{s}$. This is a very rough estimate of Transmissivity and is typically higher than the actual transmissivity by a modest amount. Transmissivity may be used to estimate the drawdown in adjacent wells using the Theis formulation (Freeze and Cherry, 1979), providing a reasonable estimate of Storativity is used. For this purpose we have estimated Storativity, which is not calculated or reported by the drilling community, to be $10^{-5} \text{ m}^3/\text{m}^2/\text{m}$ for fractured bedrock.

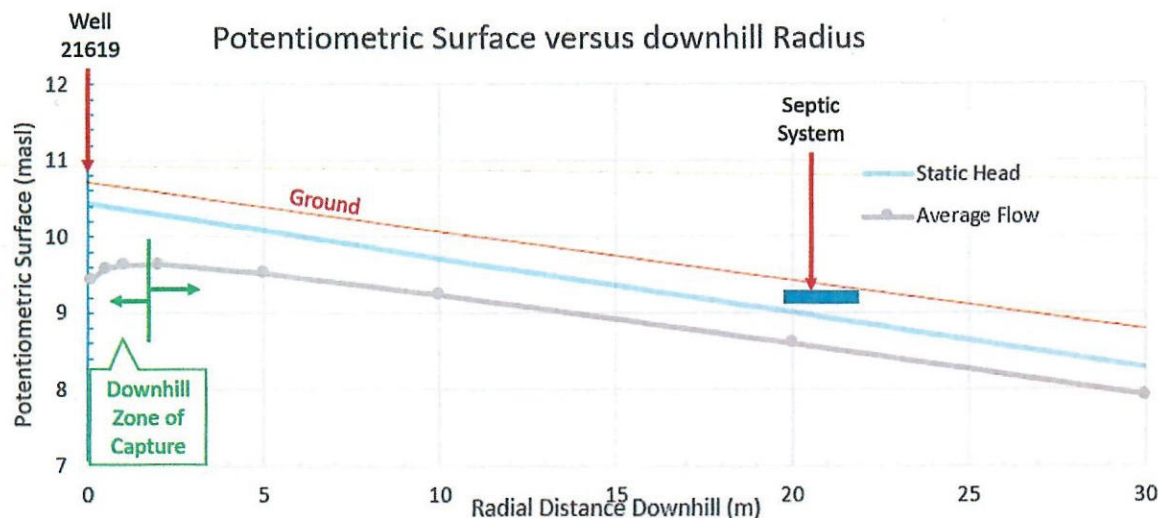


Typically, wells have to be 30 m away from a septic bed. This is the case for all existing and currently used wells. However the owner west of the subject property (1304 The Strand) identified that he has an unused well (MOE# 21619) buried under his laneway that is about 20 m away. To examine if the closest wells might inadvertently draw water back from the subject site's septic disposal area we have prepared the following cross-section. Based on well records 21619 and 73031, the slope of the measured potentiometric surface is about 7.2 % and is conservatively expected to fall about 1.42 m between well 21619 and the septic system. Groundwater flow is naturally from the well towards the septic system.



Based on the above facts, it will be important that the operation of well 21619, should it ever be reinstated, not be able to reverse groundwater flow. Using the above hydraulic information, we used the Theis formulation to examine the shape of the drawdown cone between the well and the position of the septic system which is positioned above the water table.

The Theis calculations are not presented here, but the results are shown schematically below for the case of a conservatively average withdrawal of 1500 L/day for 24 hours.



Using the Theis calculation to determine drawdowns with distance from Well 21619 beneath the neighbour's laneway, the above figure draws the potentiometric surface (in grey). Based on the water well records, the static potentiometric surface is shown in blue. The downhill zone of capture (shown in green) is just under 2 m away. (Substantially more water will be captured from uphill of the well.) The septic system is clearly downhill in the ground flow system under average pumping conditions..

DISCUSSION AND CONCLUSIONS

The well and septic system on the subject property have been previously constructed in recent months. The septic bed is 31.4 m downhill of the existing well currently servicing the neighbouring property at 1304 The Strand. After construction, the neighbour at that property pointed out that he has an unused well beneath his driveway. MOE well records identify that well as Well No. 21619, shown on the above map. This unused well is 19.8 m uphill of the newly constructed septic bed and is within the recommended 30 m limit.

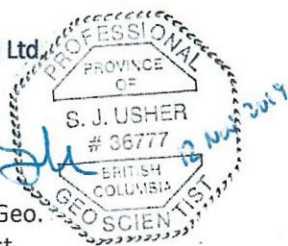
Given this, it was deemed prudent to assess the possibility that the unused well, should it be reinstated, might draw water uphill from the new septic bed. Using parameters derived from the well record itself, and an estimate of water table depth taken from local water well records including No. 21619, we have determined that the zone of capture is foreshortened in the downhill direction and does not reach the septic bed. It is our professional opinion that should the well be put in use at some point in the future, that at normal pumping rates it will not be affected by the septic bed. This is because the bed is downslope in the groundwater flow and actually the renovated effluent will move northerly towards the shore and not back uphill towards the well.

Should you or any other reviewer have any questions, please do not hesitate to contact the undersigned.

Yours sincerely,

SLR Consulting (Canada) Ltd.

[Signature]
Steven Usher, M.Sc., P.Geo.
Principal Hydrogeologist



cc J. McGaw, Owner

SJU/su

SLR

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Islands Trust Conservancy Report to Local Trust Committees and Bowen Island Municipality May, 26 2020

Islands Trust Conservancy Board News

Island Trust Conservancy (ITC) conducted its first public, electronic Zoom meeting as a means of reducing contact during the COVID-19 pandemic. The ITC Board was informed of staff work transitions resulting from the novel virus. All information about ITC's response to COVID-19 is posted to the Islands Trust and Islands Trust Conservancy websites.

Regional Conservation Plan Updates

The science-based and community-informed Regional Conservation Plan guides the work of ITC. The ITC continues to work towards four long-term goals and 25 objectives that further conservation in the entire Trust Area. For more information, visit www.islandstrustconservancy.ca/media/84821/itc_2018-11_rcp-2018-2027-web_final.pdf.

Goal 1 – Science-based Conservation Planning

The ITC Board received the *Climate Projections for Islands Trust Area* report http://www.islandstrustconservancy.ca/media/84991/itc_climateprojectionsreport_final.pdf and approved a Climate Change Project Charter.

ITC staff collaborated with Local Planning Services on the Contiguous Forest Mapping Project. The information was received by Trust Council at its June meeting.

Goal 2 – Strong relationships with First Nations

The ITC Board considered revisions to its Vision Statement to reflect its Reconciliation Declaration. The Board directed staff to bring further revisions to a future meeting and requested that staff also bring the ITC Mission Statement concurrently for consideration.

A/Manager Emmings gave an overview of the staff reconciliation retreat on May 7, 2020 and indicated that staff will meet in the near future to continue to integrate actions into work plans that reflect the Conservancy's commitment to its Reconciliation Declaration.

Goal 3 – Protection of core conservation areas

Property Management

Annual monitoring activities are delayed due to COVID-19. Staff are planning for a reduced monitoring season to accommodate travel restrictions, but visits to most properties will occur.

The ITC Board directed staff to prepare a budget request for the 2021-2022 fiscal year to address management of wildfire risks on ITC conservation properties.

The ITC Board approved nature reserve management plans on Denman Island (see island updates below).

Land Acquisition and Covenants

The ITC Board approved a Natural Area Protection Tax Exemption Program conservation proposal for North Pender Island (see island updates below).

Goal 4 – A strong voice for nature conservation

The ITC Board received a briefing on 30th Anniversary activities. The Islands Trust Conservancy's 30th Anniversary plans will highlight accomplishments and focus on the future and biodiversity.

ITC conservation covenant landowners received the *Caring for Your Conservation Covenant* newsletter and a 'Communications and Engagement Questionnaire'.

ITC, in collaboration with the Coastal Douglas-fir and Associated Ecosystems Partnership (CDFCP), Raincoast Conservation Foundation, and several island conservancies, produced forest ecosystem information sheets for each local trust area. These will be mailed out to 375 owners of forested land in the early summer.

The ITC Board approved its 2019-2020 financial statement and text for its Annual Report and considered a draft agenda for the July 14th ITC / Executive Committee liaison meeting.

Activities by Local Trust Area/Island Municipality

Denman – The ITC Board approved the 2020 updates of the Inner Island Nature Reserve Management Plan and the Lindsay Dickson Nature Reserve Management Plan. The Board also approved the first Valens Brook Nature Reserve Management Plan. Once approved by conservation partners, these will be posted to the Islands Trust Conservancy website at <http://www.islandstrustconservancy.ca/protected-places/caring/>.

The ITC Board approved a \$5,000 Opportunity Fund Grant for the Denman Conservancy Association. Opportunity Fund information is available at <http://www.islandstrustconservancy.ca/initiatives/supporting-local-land-trusts/opportunity-fund-grants/>

Gabriola - Invasive species were managed in Elder Cedar Nature Reserve and one conservation covenant on Gabriola Island.

Galiano - Invasive species were managed in one conservation covenant on Galiano Island.

North Pender – ITC approved a conservation proposal to place a NAPTEP covenant on 3.99 ha on Clam Bay Road, North Pender Island.

Salt Spring - Invasive species were managed in three conservation covenants on Salt Spring Island.

Please feel free to contact the Islands Trust Conservancy for more details.

Kate-Louise Stamford, Chair kstamford@islandstrust.bc.ca

Islands Trust Conservancy itcmail@islandstrust.bc.ca