



Galiano Island Local Trust Committee Regular Meeting Agenda

Date: October 8, 2024
Time: 1:00 pm
Location: Lions Park Society
992 Burrill Road, Galiano Island, BC

Pages

1. CALL TO ORDER 1:00 PM - 1:20 PM
2. APPROVAL OF AGENDA
3. TRUSTEE REPORT
4. CHAIR'S REPORT
5. ELECTORAL AREA DIRECTOR'S REPORT
6. FIRST NATION REPORT
7. TOWN HALL AND QUESTIONS 1:20 PM - 1:40 PM
8. COMMUNITY INFORMATION MEETING 1:40 PM - 2:20 PM
 - 8.1 Groundwater Sustainability Project - Proposed Bylaws 283 and 284
9. PUBLIC HEARING 2:20 PM - 3:00 PM
 - 9.1 Groundwater Sustainability Project - Proposed Bylaws 283 and 284
 - 9.1.1 Recess for Public Hearing
 - 9.1.2 Recall to order
10. MEETING BREAK 3:00 PM - 3:10 PM
11. CAPITAL REGIONAL DISTRICT RURAL HOUSING PROGRAM PRESENTATION 3:10 PM - 3:55 PM
12. MINUTES 3:55 PM - 4:00 PM
 - 12.1 Local Trust Committee Minutes Dated September 10, 2024 (for Adoption)
 - 12.2 Section 26 Resolutions Without Meeting Report - None

12.3	Advisory Planning Commission Minutes - None	
13.	BUSINESS ARISING FROM MINUTES	
13.1	Follow-up Action List Dated Oct 2024	12 - 13
14.	DELEGATIONS	
15.	CORRESPONDENCE	
	<i>Correspondence received concerning current applications or projects is posted to the LTC webpage</i>	
16.	MEETING BREAK - COMMUNITY UPDATE	
17.	APPLICATIONS AND REFERRALS	4:00 PM - 4:45 PM
17.1	GL-BP-2024.10 (1724 Sticks Allison) – Release of Covenant - Staff Report (attached)	14 - 49
17.2	GL-SUB-2021.1 (Waterfall) - Acceptance of Covenants/Cash-in-Lieu Amount - Staff Report (attached)	50 - 230
18.	LOCAL TRUST COMMITTEE PROJECTS	4:45 PM - 5:05 PM
18.1	Groundwater Sustainability Project - Proposed Bylaws 283 and 284 - Post Public Hearing Staff Report (attached)	231 - 258
19.	REPORTS	5:05 PM - 5:15 PM
19.1	Work Program Reports (attached)	
19.1.1	<u>Active Projects Report Dated Oct 2024</u>	259 - 259
19.1.2	<u>Future Projects Report Dated Oct 2024</u>	260 - 261
19.2	Applications Report - Verbal Report	
19.3	Trustee and Local Expense Report - None	
19.4	Adopted Policies and Standing Resolutions (attached)	262 - 266
19.5	Local Trust Committee Webpage	
19.6	Islands Trust Conservancy Report - None	
20.	NEW BUSINESS	
21.	UPCOMING MEETINGS	
21.1	Next Regular Meeting Scheduled for November 8, 2024 at the Galiano Lions Club Hall, Galiano Island	

- | | | |
|-----|-----------------------|-------------------|
| 22. | TOWN HALL | 5:15 PM - 5:30 PM |
| 23. | CLOSED MEETING - None | |
| 24. | ADJOURNMENT | 5:30 PM - 5:30 PM |

Galiano Island Local Trust Committee Minutes of Regular Meeting

Date: September 10, 2024
Location: Galiano South Community Hall
141 Sturdies Bay Road, Galiano Island, BC

Members Present: Timothy Peterson, Chair
Ben Mabberley, Local Trustee
Lisa Gauvreau, Local Trustee

Staff Present: Kim Stockdill, Island Planner
Carly Bilney, Recorder (electronic)

Others Present: There were approximately thirteen (13) members of the public present.

1. CALL TO ORDER

Chair Peterson called the meeting to order at 1:00 p.m. He acknowledged that the meeting was being held in territory of the Coast Salish First Nations. He also requested that if members of the public want to personally record the meeting that they ask the Chair before they do so.

2. APPROVAL OF AGENDA

By general consent the agenda was approved as presented.

3. TRUSTEE REPORT

Trustee Gauvreau's report included comments on the following:

- A review of the latest meeting of the Southern Gulf Islands Forum that focused on governance and management of the Salish Sea
- Highlights from a presentation about indigenous cultural safety
- A letter drafted by the Governance Committee that requests a provincial review of the Islands Trust Act to be submitted for consideration at Trust Council
- Three budget requests approved by the Finance Committee for the upcoming fiscal year

Trustee Mabberley's report included comments on the following:

- The parking issue at Montague Harbour Marina which has been progressing incrementally
- Conversations about bike traffic and low-speed vehicles and whether or not they should be licensed on Galiano

4. CHAIR'S REPORT

Chair Peterson made the following comments in his report:

- The Governance Committee completed a package for the Trust Council requesting a review from the Province
- Trust Programs Committee was preparing for the new budget cycle
- The Chief Administrative Officer Hiring Committee had a list of candidates and an announcement is possible by the end of September
- Member of Legislative Assembly Adam Olsen has been a strong advocate for the Gulf Islands and will not be running in the next provincial election
- Islands Trust representatives will be seeking to meet with Ministry staff at the upcoming meeting of the Union of British Columbia Municipalities

5. ELECTORAL AREA DIRECTOR'S REPORT – none

6. FIRST NATION REPORT

Penelakut Councillor Ken Thomas spoke on behalf of Chief Jack who sent her regrets for not being able to attend the meeting. Councillor Thomas made the following comments:

- Penelakut Tribe remained interested in getting parts of their land back
- Penelakut Tribe was grateful to Trustee Mabblerley for attending a recent meeting of Chief of Council
- People were invited to bring questions or concerns they have to Penelakut Tribe
- Penelakut Tribe was willing to communicate neighbour-to-neighbour and to participate in positive solutions
- It is best if we all work together to address shared issues like anchorages, pipelines and boat traffic

7. TOWN HALL AND QUESTIONS

Town hall was held and the following comments were made:

- Disappointment was expressed that Chief Jack's statement at the last meeting was not published verbatim in the formal public record via the meeting minutes or in the island's local publication
- The maps in the staff reports related to District Lots 85 and 86 (GL-RZ-2023.2 (McElhanney) and GL-RZ-2021.2 (Matheson/Bairstow)) lack context of the neighbouring properties
- Trustees were encouraged to request that staff provide one map that presents the entire area encompassing District Lots 85 and 86
- A more detailed site plan that considers uses of land should be produced before proceeding with draft bylaws for GL-RZ-2023.2 (McElhanney) and GL-RZ-2021.2 (Matheson/Bairstow); other areas in the plan may be more suitable for forestry than what has been identified
- Concern was expressed that GL-RZ-2023.2 (McElhanney) and GL-RZ-2021.2 (Matheson/Bairstow) do not follow the 75/25 model because most of the waterfront is

reserved for private use; Trustees were encouraged to request that the applicants reconfigure the lots so the land returned to Penelakut Tribe includes waterfront

- The proposed southern boundary for possible Ministry of Transportation and Infrastructure access in District Lot 85 abuts a community park that has shore access, and the applicants should contact the Galiano Island Parks and Recreation Commission to discuss alternatives
- A question was raised about whether Development Permit Area Exemption 'p' applies to domestic water usage only or also to commercial water use
- Advocating for the adoption of Dark Sky Principles on Galiano should be a very low priority
- Trustees were encouraged to consider a build out map for Galiano as a future project

8. COMMUNITY INFORMATION MEETING – None

9. PUBLIC HEARING – None

10. MINUTES

10.1 Local Trust Committee Minutes Dated July 9, 2024 (for Adoption)

By general consent the Galiano Island Local Trust Committee meeting minutes of July 9, 2024 were adopted.

10.2 Section 26 Resolutions Without Meeting Report – None

10.3 Advisory Planning Commission Minutes – None

11. BUSINESS ARISING FROM MINUTES

11.1 Follow-up Action List Dated Sept 2024

Received for information.

12. DELEGATIONS – none

13. CORRESPONDENCE

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

13.1 Managed Forest Council re Removal of Land from the Managed Forest Program

Island Planner Stockdill noted that staff will remove the subject property from any mapping that shows it as privately management forest land.

14. MEETING BREAK – COMMUNITY UPDATE

The meeting was recessed for a break at 1:47 p.m. and reconvened at 2:00 p.m.

15. APPLICATIONS AND REFERRALS

15.1 GL-RZ-2021.2 (Matheson-Bairstow) – Staff Report

Island Planner Stockdill reviewed the staff report related to GL-RZ-2021.2 (Matheson-Bairstow). Discussion ensued and the following comments were made:

- Staff recommended the proposal be referred to the Galiano Island Parks and Recreation Commission to determine whether the Commission would like to pursue land for a community park or cash-in-lieu, as per subdivision conditions under Section 510 of the *Local Government Act*
- It is incumbent upon the applicant to be aware of all requirements for planning applications when they pursue a subdivision
- The applicants need to discuss their proposed subdivision application with the Ministry of Transportation and Infrastructure including discussion about road requirements and governance
- The map should show the location of the horse stable
- Once the applicants meet with the Ministry of Transportation and Infrastructure there will be greater clarity around the use of the road
- The road should be maintained for safety should there be an emergency
- Interest was expressed in including an observation well in the area
- The applicants were encouraged to discuss the inclusion of an observation well with the Galiano Conservancy Association
- A question was asked about how much money the sale of the amenity lot would generate for affordable housing, and a suggestion was made to keep the amenity lot as a community park instead of selling it
- Archaeological preservation is vital to District Lots 85 and 86 due to their proximity to Dionisio Provincial Park and any development could potentially affect cultural heritage

A motion was made and seconded that the Galiano Island Local Trust Committee direct staff to prepare draft bylaws for rezoning application GL-RZ-2021.2 (Matheson/Bairstow). Discussion on the motion occurred and the following comments were made:

- The site plan should be changed before proceeding to draft bylaws
- If draft bylaws are prepared, the changes to the site plan discussed today will be minor tweaks that can be made without duplicating work

GL-2024-017

It was Moved and Seconded,

that Galiano Island Local Trust Committee direct staff to prepare draft bylaws for rezoning application GL-RZ-2021.2 (Matheson/Bairstow).

CARRIED

Trustee Gauvreau Abstained

GL-2024-018

It was Moved and Seconded,

that Galiano Island Local Trust Committee request staff to refer GL-RZ-2021.2 (Matheson/Bairstow) to the Galiano Island Parks and Recreation Commission.

CARRIED

GL-2024-019

It was Moved and Seconded,

that Galiano Island Local Trust Committee direct staff to schedule a meeting with the Ministry of Transportation and Infrastructure, Penelakut Tribe and the applicant to discuss road access and emergency access for District Lot 86.

CARRIED

15.2 GL-RZ-2023.2 (McElhanney) – Staff Report

Island Planner Stockdill reviewed the staff report related to GL-RZ-2023.2 (McElhanney). Discussion ensued and the following comments were made:

- Applicants must contact the Ministry of Transportation and Infrastructure to determine if a portion of the property that provides access to the water is acceptable to comply with the *Land Title Act*
- Schedule C (Road Network Plan) should be included in the proposal as the road through District Lot 85 is a proposed emergency access road
- The resource zoning should be removed because it is within a proposed nature protection zoned area and is next to a riparian area of high ecological value (not removing the lot from the land transfer to Penelakut Tribe, just the resource zoning)
- Once the Groundwater Sustainability project has completed, District Lot 85 may be subject to its guidelines
- Areas of the proposed properties are flagged as potentially archaeologically valuable and development should be avoided in accordance with the Official Community Plan and the *Heritage Conservation Act*
- The original application was denied and the public should be briefed on how Trustees in the previous term came to their decisions
- The application should be included in discussions with Penelakut Council including what should be done with the Resource lot

A motion was made and seconded that the Galiano Island Local Trust Committee direct staff to prepare draft bylaws for rezoning application GL-RZ-2023.2 (McElhanney).

Discussion on the motion ensued and the following comments were made:

- A Trustee commented that the application was the exact same one that was denied by Trustees in the previous term, and a staff report should detail the reasons for which it was denied

- A Trustee responded that the application was not the same as it was with the previous Local Trust Committee because it involves the local First Nation who is a recipient of land in the proposal

GL-2024-020

It was Moved and Seconded,

that Galiano Island Local Trust Committee direct staff to prepare draft bylaws for rezoning application GL-RZ-2023.2 (McElhanney).

CARRIED

Trustee Gauvreau Opposed

Comments were made about leaving the amenity lot as is until the Galiano Island Parks and Recreation Commission provides input.

GL-2024-021

It was Moved and Seconded,

that Galiano Island Local Trust Committee direct staff to refer GL-RZ-2023.2 (McElhanney) to the Galiano Island Parks and Recreation Commission.

CARRIED

GL-2024-022

It was Moved and Seconded,

that Galiano Island Local Trust Committee direct staff to schedule a meeting with the Ministry of Transportation and Infrastructure, Penelakut Tribe and the applicant to discuss road access and emergency access for District Lot 85.

CARRIED

Island Planner Stockdill commented that she would report back on emergency access via Cook Road.

16. LOCAL TRUST COMMITTEE PROJECTS

16.1 Groundwater Sustainability Project – Staff Memo

Island Planner Stockdill reviewed the Staff Memo regarding the Groundwater Sustainability Project. She noted staff would update the map (Schedule G) that shows Groundwater Recharge Protection Development Permit Area 4 (page 38 of the agenda) to show properties that are exempt from requiring a Development Permit because they have Private Managed Forest Land status.

Comments were made about how the change from ‘rainwater’ to ‘freshwater’ in relation to cistern use allows for a more comprehensive approach to water conservation.

17. REPORTS

17.1 Work Program Reports

17.1.1 Active Projects Report Dated Sept 2024

Received for information.

17.1.2 Future Projects Report Dated Sept 2024

Received for information.

Support was expressed for:

- Pursuing Item 9. – Review APC report in consideration of development of shoreline model protection bylaw
- Item 2. – reviewing existing and potential light industrial zones.
 - Comments were made that some projects inform others and a holistic approach would be beneficial.

17.2 Applications Report – Verbal Update

Island Planner Stockdill noted that a staff report regarding GL-RZ-2014.1 (Crystal Mountain) is planned for the October Local Trust Committee meeting.

17.3 Trustee and Local Expense Report Dated July 2024

Received for information.

17.4 Adopted Policies and Standing Resolutions

Received for information.

17.5 Local Trust Committee Webpage

17.6 Islands Trust Conservancy Report Dated July 2024

Trustee Gauvreau reviewed the report, which was received for information. It was noted that Adam Olsen would be a beneficial addition to the Islands Trust Conservancy.

18. NEW BUSINESS

18.1 Dark Sky Principles Adoption Advocacy Briefing

Trustee Gauvreau summarized the Dark Sky Principles Adoption Advocacy Briefing. Brief discussion ensued and the following comments were made:

- The community should be informed about the many bird species that migrate through Galiano
- Most of the light pollution on Galiano comes from Vancouver

19. UPCOMING MEETINGS

19.1 November 12 meeting date change

GL-2024-023

It was Moved and Seconded,

that Galiano Island Local Trust Committee request staff to reschedule the November 12, 2024 in-person regular business meeting to November 8, 2024.

CARRIED

19.2 Next Regular Meeting Scheduled for October 8, 2024 at the Galiano Lions Club Hall, Galiano Island

20. TOWN HALL

Town hall was held and the following comments were made:

- A meeting between the Islands Trust, Ministry of Transportation and Infrastructure and applicants will likely not happen before October 8
- A Trustee stated that Development Permit Area Exemption 'p' was created because Galiano is within Penelakut traditional territory and First Nations who lived on the land before settlers arrived, who were never consulted when the Islands Trust was created, and who have rights under the Canadian Charter of Rights and Freedoms should be excluded from the zones
- Groundwater protection would be a protection for everybody
- The Dark Sky Principles are not about humans being able to see the stars, but about the insect and bird world; Local Trust Committee meetings should include consideration of more than the human world
- A lot of light pollution on Galiano comes from the east side of Vancouver Island
- Support was expressed for Trustees to meet with Penelakut Council to discuss District Lots 85 and 86, though they would not be meeting as a Local Trust Committee but rather for information-gathering purposes in a non-official manner
- A question was raised about whether Development Permit Area Exemption 'p' would require an amendment to the *Water Sustainability Act*

21. CLOSED MEETING – None

22. ADJOURNMENT

By general consent the meeting was adjourned at 3:49 p.m.

Tim Peterson, Chair

Certified Correct:

Carly Bilney, Recorder

Follow Up Action Report

Galiano Island

11-Jul-2023

Progress	Activity	Responsibility	Dates	Status
0%	1 16.1 Staff to bring forward staff report for public participation options regarding the work program. (ON HOLD until completion of GWS project)	Kim Stockdill	Target: 31-Dec-2024	In Progress

09-Jul-2024

Progress	Activity	Responsibility	Dates	Status
0%	1 15.1 PLRZ20240003 (Palmberg) - Applicant to provide the following information: 1. Scale of proposed uses. 2. Business plan for light industrial and cidery uses. 3. Water management plan 4. Timing/phased approach of development 5. Detailed site plan	Kim Stockdill	Target: 29-Nov-2024	In Progress

Follow Up Action Report

Galiano Island

10-Sep-2024

Progress	Activity	Responsibility	Dates	Status
0%	1 10.1 GL LTC Minutes of July 9, 2024 adopted as is.	Emily Bryant	Target: 20-Sep-2024	Completed
0%	2 11.1 Staff to contact GL APC in regards to the Wise Island referral.	Kim Stockdill	Target: 27-Sep-2024	In Progress
0%	3 15.1 GL-RZ-2021.2 1. Staff to create draft bylaw numbers and templates - Done BLs 292/293 2. Staff to schedule meeting with Penelakut/MOTI/Applicant 3. Staff to send referral to GI Parks & Rec Commission	Jas Chonk Kim Stockdill	Target: 29-Nov-2024	In Progress
0%	4 15.1 GL-RZ-2023.2 1. Staff to create draft bylaw numbers and templates - Done BLs 294/295 2. Staff to schedule meeting with Penelakut/MOTI/Applicant 3. Staff to send referral to GI Parks & Rec Commission 4. Staff to review easement/SRoW from Cook Road to DL 85 (emergency access)	Jas Chonk Kim Stockdill	Target: 29-Nov-2024	In Progress
0%	5 19.1 Staff to change date of GL LTC meeting from November 12 to November 8th.	Emily Bryant Jas Chonk	Target: 20-Sep-2024	Completed
0%	6 Staff to facilitate scheduling a meeting between Penelakut Chief, Council and staff, and the Galiano LTC.	Kim Stockdill	Target: 25-Oct-2024	In Progress
0%	7 16.1 Staff to create DPA map to exclude PMFL lots	Kim Stockdill	Target: 20-Sep-2024	Completed

DATE OF MEETING: October 8, 2024

TO: Galiano Island Local Trust Committee

FROM: Phil Testemale, Planner 2
Southern Team

COPY: Kim Stockdill, Island Planner
William Shulba, Senior Freshwater Specialist

SUBJECT: Release of Sec. 219 Covenant
Applicant: Veronika Florianova and John Zickmantel
Location: 1724 Sticks Allison Road

RECOMMENDATION

1. That the Galiano Island Local Trust Committee approve the release of the Covenant EW62082 (Proof of Potable Water) registered under section 219 of the *Land Title Act* that is Attachment 1 to this report for STRATA LOT 8, DISTRICT LOT 30, GALIANO ISLAND, COWICHAN DISTRICT, STRATA PLAN VIS5536 (PID: 025-936-476).
2. That the Galiano Island Local Trust Committee designate the Chair of the Local Trust Committee to sign the release for the Covenant EW6208.

REPORT SUMMARY

The purpose of this report is for the release of a Section 219 Covenant for proof of potable water (EW62082 – ‘Covenant’ – Attachment 1) to permit Final Occupancy of a dwelling on the subject property.

BACKGROUND

The request is the result of a Preliminary Plan Review (PPR) for construction of a dwelling on the subject property.

The lot was created by a strata subdivision registered in 2004. At that time, wells were drilled for some or all of the thirteen (13) strata lots, but proof of potable water was not provided as per the LUB. The Covenant was registered on the Title with the following single condition:

1. No buildings or structures of any kind shall be occupied on a Lot until a water well has been drilled on the lot and a duly qualified professional engineer has designed water treatment facilities or equipment suitable to provide potable water pursuant to the *Galiano Island Land Use Bylaw, No. 127, 1999* and has advised the Covenantee in writing of such determination. (p.4)

Upon receipt of the PPR, staff requested that the applicants provide a report by an engineer with experience in groundwater hydrology for the lot’s well to satisfy the Covenant condition. The report ‘Groundwater Supply for 1724 Sticks Allison Road, Strata Lot 8, District Lot 30 Galiano Island, Cowichan District, Strata Plan VIS5536, PID

025-936-476' (Alan P. Kohut, P.Eng, Hy-Geo Consulting, June 25, 2024) was submitted to the Islands Trust on July 31, 2024 ('Report' - Attachment 2).

The Report that was reviewed by staff, including William Shulba, Senior Freshwater Specialist, concludes:

"Well WTN 60597 on Lot 8 therefore, is more than capable of meeting the minimum standards of 0.42 USgpm (1.58 L/min) or 2275 L/day for potable water supply under Galiano Island Land Use Bylaw No. 127, 1999, (Galiano Island Local Trust Committee, 2024)." (p.9)

Further, the Report states that normal domestic use would not have any detrimental effect on neighbouring wells or nearby surface water sources, and that the laboratory results ""... confirms the water quality of the subject well met or exceeded the *Guidelines for Canadian Drinking Water-Summary Tables* (Health Canada, 2022) for all parameters analyzed except for elevated levels of Fluoride..." (p.9)

Further, the Report makes recommendations on page 11 for voluntary treatment measures including precautionary treatment for any future potential sources of coliform and elevated fluoride.

Rationale for Recommendation

Based on the conclusions of the Report where proof of potable water for the well has been satisfied pursuant to the *Galiano Island Land Use Bylaw, No. 127, 1999*, staff is of the opinion that the Covenant condition has been satisfied, and, as such, the Covenant should be released from the property's title as recommended on page 1.

Alternatives

1. Request further information

The LTC may request further information prior to making a decision. 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 Galiano Island Local Trust Committee request that the applicant submit to the Islands Trust:
_____.

2. Deny the request

The LTC may deny the request.

Recommended wording for the resolution is as follows:

*That the Galiano Island Local Trust Committee deny the request to release of the Covenant EW62082 for the following reasons:*_____.

Submitted By:	Phil Testemale, Planner 2	September 20, 2024
Concurrence:	Robert Kojima, Regional Planning Manager	September 20, 2024

ATTACHMENTS

1. Sec. 219 Covenant EW62082
2. Groundwater Report

Land Title Act
Form C
(Section 233) / L
Province of
British Columbia

20 MAY 2004 14 30

EW062082

GENERAL INSTRUMENT – PART I (This Area for Land Title Use Only) Page 1 of 6 pages

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

6
7
Allison Oswald, Legal Secretary
ROSBOROUGH & COMPANY
33832 South Fraser Way
Abbotsford, B.C. V2S 2C5
859-7171 (Client No. 010429)
File No. 94-1516 Galiano

Signature of Agent
Allison Oswald

KLA

2. Parcel Identifier(s) and Legal Description(s) of Land:
(PID) (Legal Description)

See Schedule

3. Nature of Interest:

Description

Document Reference
(page and paragraph)

Person Entitled to Interest

01	04/05/20 14:30:40 01 VI	565941
CHARGE		\$60.00

See Schedule

4. Terms: Part 2 of this instrument consists of (select one only)

(a) Filed Standard Charge Terms

D.F. No.

(b) Express Charge Terms

XX

Annexed as Part 2

(c) Release

There is no Part 2 of this instrument

A selection of (a) includes any additional or modified terms referred to in Item 7 or in a schedule annexed to this instrument.
If (c) is selected, the charge described in Item 3 is released or discharged as a charge on the land described in Item 2.

5. Transferor(s): *

See Schedule

6. Transferee(s): (including postal address(es) and postal code(s) and occupation(s):

See Schedule

7. Additional or Modified Terms: * n/a

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

Officer Signature(s)

[Redacted Signature]

(as to both signatures)

MICHAEL BURKE
33832 South Fraser Way,
Abbotsford, B.C.
V2S 2C5

Barrie & Solicitor

Execution Date

Y	M	D
3	5	15

SIGNATURE(S)

G.I.E. 323 ESTATES LTD.

by its authorized signatories:

[Redacted Signature]

FRED THIESSEN

OFFICER'S CERTIFICATION:

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

* If space insufficient, enter "SEE SCHEDULE" and attach Schedule in Form E.

**If space insufficient, continue executions on additional page(s) in Form D.

Land Title Act
Form D
Executions Continued

Page 2 of 6 pages

Officer Signature(s)

[Redacted Signature]

(as to both signatures)

WAYNE QUINN
A COMMISSIONER FOR TAKING
AFFIDAVITS FOR BRITISH COLUMBIA
ISLAND TRUST
SUITE 200, 1007 FORT STREET
VICTORIA BC V8W 2E9

2401-0216

Execution Date

Y	M	D
03	06	16

Transferee(s) Signature(s)

GALIANO ISLAND LOCAL
TRUST COMMITTEE by its
authorized signatory(ies):

[Redacted Signature]

OFFICER'S CERTIFICATION:

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

Land Title Act
Form E
Schedule

Page 3 of 6 pages

Enter the required information in the same order as the information must appear on the Freehold Transfer Form, Mortgage Form or General Document Form.

2. Parcel Identifier(s) and Legal Description(s) of Land:*

**Strata Lots 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 and 13 Galiano Island
Cowichan District Strata Plan VIS ~~VIS~~05536**

3. Nature of Interest:*

Description	Document Reference (page & paragraph)	Person Entitled to Interest
Section 219 Covenant	Page 4 to 6	Transferee

5. Transferor(s):*

G.I.E. 323 ESTATES LTD. (Incorporation No. 411323) of #107, 3600 Townline Road,
Abbotsford, B.C., V2T 5W8

6. Transferee(s): (including postal address(es) and postal codes(s) and occupations(s):*

GALIANO ISLAND LOCAL TRUST COMMITTEE, of 2nd Floor, 1627 Fort Street, Victoria,
B.C., V8R 1H8

TERMS OF INSTRUMENT – PART II

RESTRICTIVE COVENANT

THIS AGREEMENT dated for reference is

BETWEEN:

G.I.E. 323 ESTATES LTD. (Incorporation No. 411323) of #107, 3600
Townline Road, Abbotsford, B.C., V2T 5W8

("Covenantor")

AND:

GALIANO ISLAND LOCAL TRUST COMMITTEE, a corporation
under the *Islands Trust Act* of British Columbia, having an office at 2nd
Floor, 1627 Fort Street, Victoria, B.C., V8R 1H8

("Covenantee")

WHEREAS:

- A. The Covenantor is the owner in fee simple of lands on Galiano Island described as Strata Lots 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 and 13 Galiano Island, Cowichan District Plan VIS 5526 (collectively referred to as the "Lots" and singularly as the "Lot");
- B. The Galiano Island Local Trust Committee requires registration of this Covenant;
- C. The *Land Title Act*, s. 219 provides *inter alia*, that a covenant including provision in respect to the use of land and building on land may be registered as a charge against title to the Lots in favour of the Covenantor;
- D. There are wells drilled (the "Well") to service the Lots, but no proven supply of potable water approved by the Medical Health Officer has been proven from the wells servicing the Lots.

NOW THEREFORE in consideration of the approval of subdivision by the Ministry of Transportation and Highways, the Covenantor pursuant to s. 219 of the *Land Title Act* grants the following covenant to the Covenantee on the terms and conditions herein:

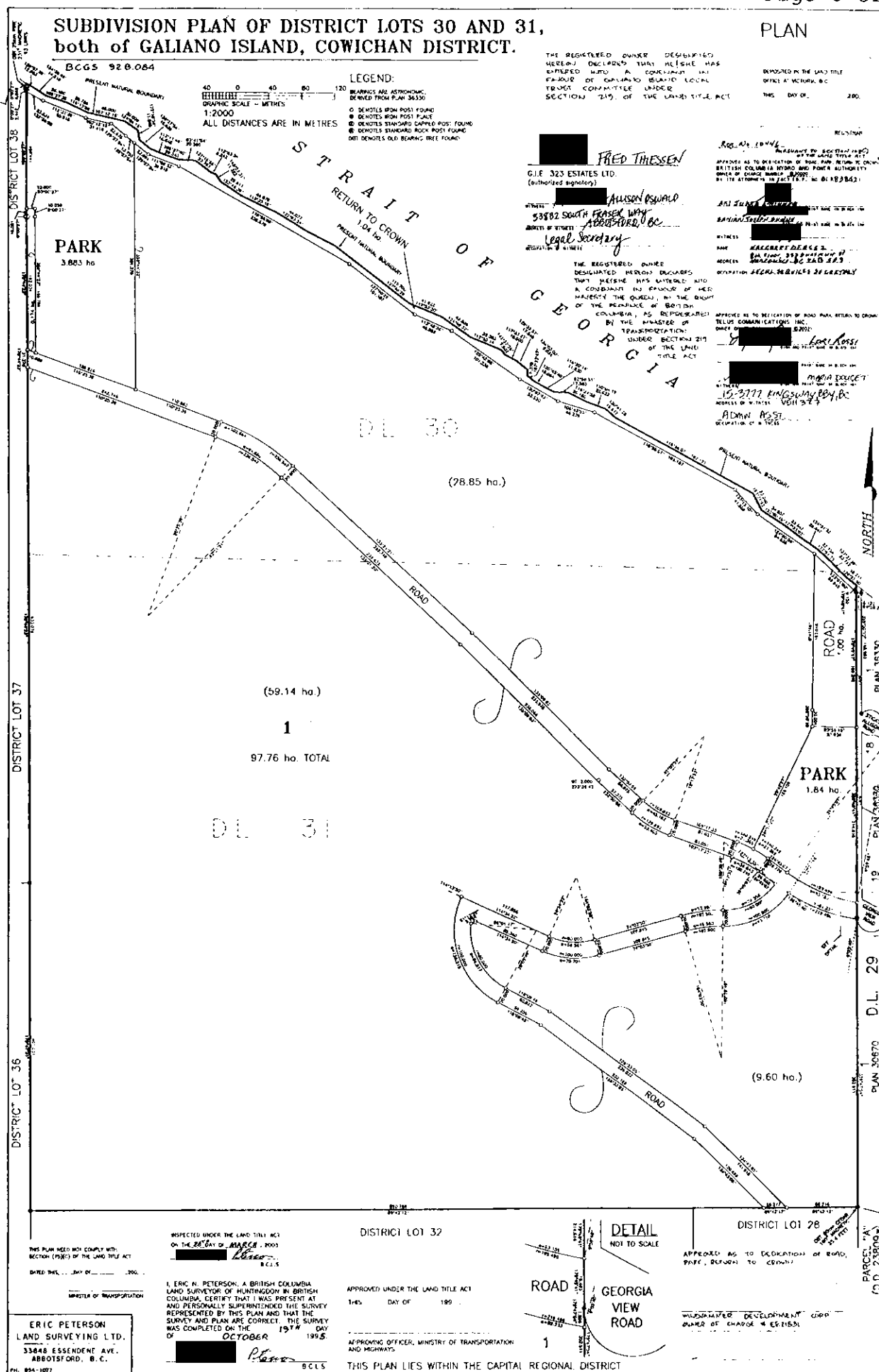
- 1. No buildings or structures of any kind shall be occupied on a Lot until a water well has been drilled on the lot and a duly qualified professional engineer has designed water

treatment facilities or equipment suitable to provide potable water pursuant to the *Galiano Island Land Use Bylaw, No. 127, 1999* and has advised the Covenantee in writing of such determination.

2. IT IS MUTUALLY UNDERSTOOD, agreed and declared by and between the parties hereto that:
- a. nothing contained or implied herein shall prejudice or affect the rights and powers of the Covenantee in the exercise of its functions under any public and private statutes, by-laws, orders and regulations, all of which may be fully and effectively exercised in relation to the said Lots as if this Agreement had not been fully executed and delivered by the Covenantor.
 - b. the covenants set forth herein shall charge the said Lots pursuant to Section 219 of the *Land Title Act* and shall be covenants the burden of which shall run with the said Lots. It is further expressly agreed that the benefit of all covenants made by the Covenantor herein shall accrue solely to the Covenantee and that this Agreement may be modified by agreement of the Covenantee with the Covenantor, or discharged by the Covenantee alone;
 - c. wherever the singular or masculine is used herein, the same shall be construed as meaning the plural, feminine or the body corporate or politic where the context or the parties so require and, where the Covenantor consists of more than one person, the term "Covenantor" shall mean all such persons jointly and severally;
 - d. this Agreement shall enure to the benefit of and be binding upon the parties hereto and their respective heirs, executors, administrators, successors and assigns; and
 - e. the parties hereto shall do and cause to be done all things and execute and cause to be executed all documents which may be necessary to give proper effect to the intention of this Agreement.

This is the instrument creating the condition or covenant entered into under Section 219 of the *Land Title Act* by the registered owner(s) referred to herein and shown on the print of plan annexed hereto and initialed by me.

Approving Officer



194-107



File: 2405011

June 25, 2024

John Zickmantel
Galiano Island BC

Attention: John Zickmantel

**Re: Groundwater Supply for 1724 Sticks Allison Road, Strata Lot 8, District Lot 30
Galiano Island, Cowichan District, Strata Plan VIS5536, PID 025-936-476**

As requested, Hy-Geo Consulting has completed a review of a recent pumping test conducted on an existing 200 foot (60.96 m) deep bedrock well designated as WTN 60597 on the above property. The well appears to be plotted incorrectly in the provincial GWELLS database (Province of British Columbia, 2024a) on the adjacent Lot 9. A copy of the well drilling record for the well is provided in Appendix A. The well was tested to provide evidence of a proven supply of potable water to meet the requirements of *Galiano Island Land Use Bylaw, No. 127, Standards for Potable Water Supply, Sections 13.24 to 13.29* (Galiano Island Local Trust Committee, 2024).

Site Location

The property is situated along the northern coast of Galiano Island approximately 1 km southeast of Cooks Cove (Figure 1). The property gently slopes northeasterly from an elevation of approximately 32 metres along Sticks Allison Road to sea level. It encompasses PID 025-936-476 and occupies approximately 12185 m² in area. Reported nearby well locations mapped under the *British Columbia Water Resources Atlas* (Ministry of Environment, 2024b), are also shown in Figure 1. The well tested under this assessment is situated at an elevation of approximately 22 m (72.18 feet) above sea level based on 2 m contour topography shown in MapIT (Islands Trust, 2024). The bottom of the well is, therefore, completed about 38.96 m (127.82 feet) below sea level within the underlying fractured sedimentary bedrock aquifer.

Climate

The climate of Galiano Island is characterized by cool dry summers and humid mild winters. Based on records from 1951 to 1980 (Environment Canada, 198_) the normal annual precipitation for a climate station on Galiano Island was 33.7 inches (856 mm). More recent precipitation data for the period 1981-2010, reported by Government of Canada (2024a) for a climate station on nearby Mayne Island showed a normal annual precipitation of 842.0 mm. With the absence of a current climate station on Galiano Island, the Mayne Island climate station may be considered representative of the general longer-term (monthly) precipitation patterns on Galiano (Figure 2).

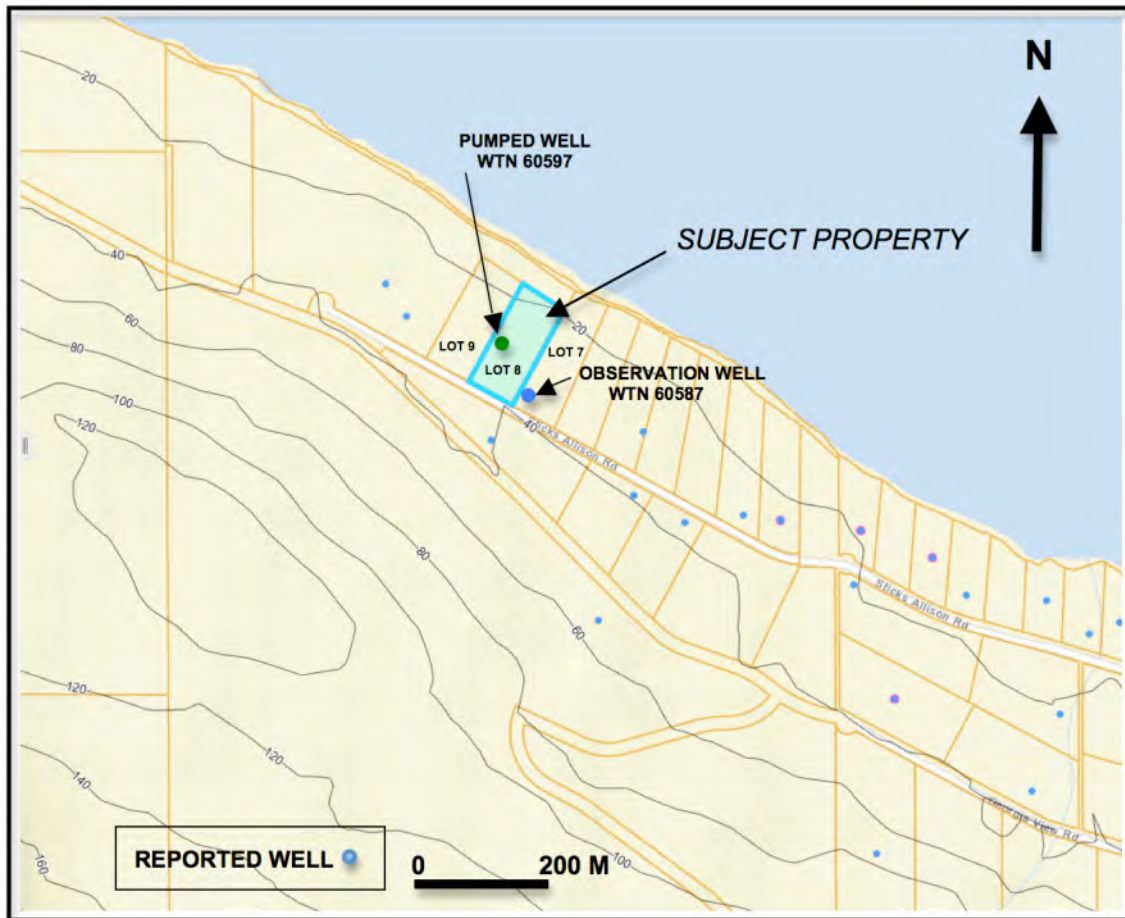


Figure 1. Location of subject property and neighbouring wells. Contour interval is 20 m. Basemap from Province of British Columbia (2024b).

Over 90% of the total annual amount normally falls as rain with over 60% of the total falling during the period from November to February. Precipitation follows a seasonal cycle, with highest rainfall during the fall, winter and early spring months while the summer months are subject to drought conditions. Global climate models (Allen *et al.*, 2008) suggest precipitation may increase slightly in the future, particularly during the winter months.

The most recent (2024) precipitation data for the region is available for climate station 1015638 on North Pender Island (Government of Canada, 2024b). Table 1 shows that the cumulative precipitation for the North Pender climate station from January 2024 to end of May 2024.

Precipitation during the first five months of 2024 was 93.3 percent of normal. For the 10 - day period prior to the pumping test on June 11, 2024, there was 5.8 mm of precipitation recorded. During the day of the pumping test 3.8 mm of precipitation was recorded.

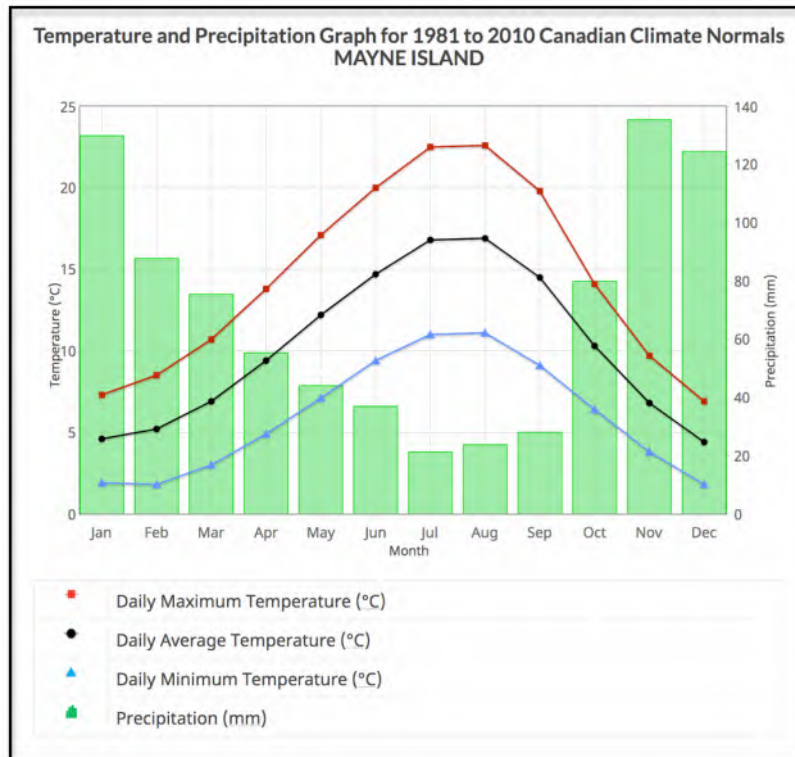


Figure 2. Graph of monthly normal precipitation for Mayne Island Station (Climate ID. 1014931). Graph from Government of Canada (2024a).

Table 1. Monthly precipitation data for North Pender climate station (Climate ID. 1015638) from Jan.1, 2024 to May 31, 2024 compared to Mayne 1981-2010 monthly normals.

Month	Precipitation in 2024 (mm)	Normal Monthly Precipitation (mm)	Percent of Normal	Cumulative Percent of Normal
January	171	129.9	131.6	131.6
February	74.2	87.7	84.6	112.7
March	26.3	75.4	34.9	92.7
April	36.8	55.3	66.5	104.3
May	57.8	44.0	131.4	93.3

Data from Government of Canada (2024a and 2024b).

Hydrogeologic Conditions

The general groundwater conditions of Galiano Island have been reported by Harrison (1994), Kohut and Johanson (1998) and Waterline Resources Inc. (2011). Galiano is comprised of sedimentary clastic rocks belonging to the Nanaimo Group of Late Cretaceous age (Muller and Jeletzky, 1970). The subject property and surrounding region is principally underlain by the Gabriola Formation that is dominantly sandstone with some shale (mudstone) interbeds and conglomerate.

Groundwater on the island is found primarily in open fractures in the bedrock formations. These fractures constitute the major zones for groundwater storage and movement. The subject property lies entirely within the Cook Cove groundwater region as outlined by Kohut and Johanson (1998). In 1998, Kohut and Johanson estimated the demand to groundwater in storage ratio in this region to be relatively low at 0.04. Existing well density at that time was also determined to be very low to low at 0.016 wells/acre. Based on available well records currently in GWELLS (Province of British Columbia, 2024a) there are 23 reported wells in the region. These would have increased the well density to approximately 0.026 wells/acre; still within the very low to low range for this region.

The property is situated in a regional groundwater discharge area along the coast as evidenced by high groundwater levels and flowing artesian conditions in some wells (Kohut and Johanson, 1998).

Regional Water Level Fluctuations

From historic observation well data in the Gulf Islands, groundwater levels in bedrock wells generally rise and fall with the seasons, in response to available precipitation, becoming highest during the late fall and winter months. Water levels then normally decline during the dry summer months reaching seasonal lows in the late fall months (Kohut *et al.*, 1984). Figure 3 shows the groundwater level trend for Provincial Observation Well 258, situated near Sturdies Bay in June 2024 compared to the range of historic maxima and minima levels. The graph indicates that groundwater levels at this site were declining and slightly above the historic median level for this time of year.

Pumped Well WTN 60597

Well WTN 60597 was drilled in July 1994 to a depth of 200 feet (60.96 m) in unspecified bedrock by Ken Smithson. A copy of the well record for Well WTN 60597 is provided in Appendix A. The well was completed before enactment in 2016 of the *Groundwater Protection Regulation* (Province of British Columbia, 2024c) and has a casing stickup of 0.36 m with the 6 inch (15.2 cm) diameter steel casing set to a depth of 22 feet (6.71 m). Bedrock was reported at a depth of 2 feet (0.61 m). It is not known if the well has a bentonite surface seal around the casing. A recent photograph of the wellhead (Figure 4) shows an excavation around the well casing which will need to be filled in with low permeability material. The well record indicates a major water-producing fracture zone at a depth of 190 feet (57.9 m) yielding 5 USgpm (18.93 L/min). Non-pumping water level after drilling was not initially reported.

According to the well record information on file in the GWELLS database, the well was previously pump tested on August 3, 1994 by BC Aquifer at a rate of 3.0 USgpm. Based on the results of the pump testing the well yield was rated at 1.2 USgpm using 70% of the available drawdown in the well to sea level by B. Ingimundson of Thurber Consultants Ltd. Non-pumping water level at the start of the test was 6.45 m below ground.

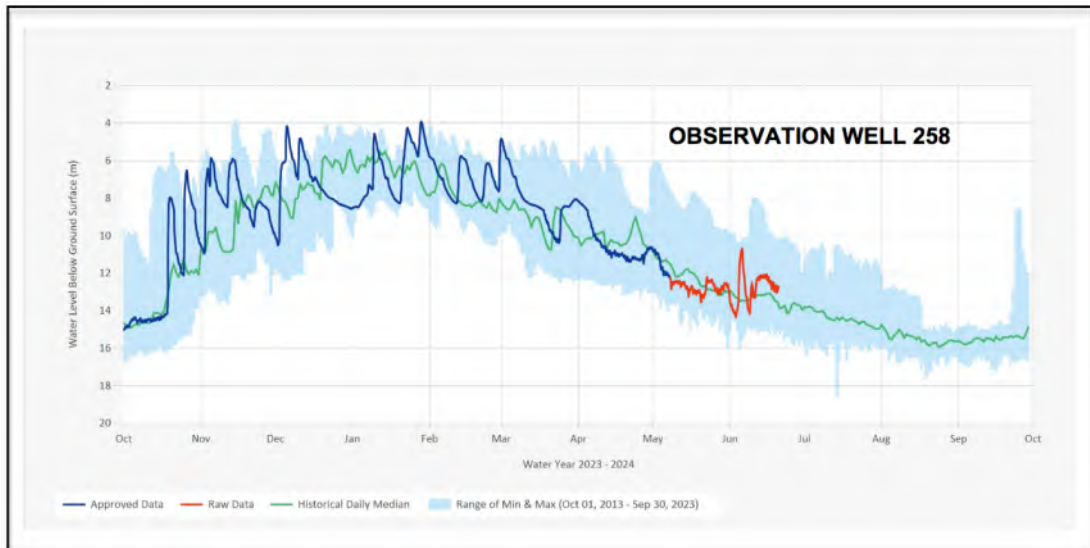


Figure 3. Groundwater level trend in 2023 - 2024 compared to historic maximum, minimum and median data for Observation Well 258. Adapted from Province of British Columbia (2024c).



Figure 4. Photo of wellhead of pumped well taken June 11, 2024 showing excavated area to be filled around the well casing.

Observation Well WTN 60587

Well WTN 60587 is situated 95 m southeast of the pumped well on Lot 7 (Figure 1). The well was drilled in July 1994 to a depth of 230 feet (70.10 m) in unspecified bedrock by Ken Smithson. A copy of the well record for Well WTN 60587 is provided in Appendix A. The well has a casing stickup of 0.41 m with the 6 inch (15.2 cm) diameter steel casing set to a depth of 21 feet (6.40 m). Bedrock was reported at a depth of 4 feet (1.22 m). The well record indicates a major water-producing fracture zone at a depth of 230 feet (70.10 m) yielding 4 USgpm (15.14 L/min). Non-pumping water level after drilling was not initially reported.

According to the well record information on file in the GWELLS database, the well was previously pump tested on July 27, 1994 by BC Aquifer at a rate of 3.0 USgpm. Based on the results of the pump testing the well yield was rated at 3.6 USgpm using 70% of the available drawdown in the well to sea level by B. Ingimundson of Thurber Consultants Ltd. Non-pumping water level at the start of the test was flowing.

2024 Testing Conducted

A pumping test of 12 hours duration is generally considered sufficient for determining the sustainable yield of a domestic residential well where the minimum requirements are 2275 L/day for a single residential use, as set out under *Galiano Island Land Use Bylaw, No. 127, Standards for Potable Water Supply, Sections 13.24 to 13.29* (Galiano Island Local Trust Committee, 2024). This quantity is equivalent to a pumping rate of 0.42 USgpm (1.58 L/min).

A 12 hour constant rate pumping test was subsequently carried out on the subject well on June 11, 2024 at a constant rate of 7.6 L/min (2.0 USgpm). The test was undertaken by Brad Lockett (Certified Well Pump Installer WPI 06040702), utilizing the well owner's submersible pump. Water was discharged 30 m downslope. Manual water level readings were taken in the pumped well during the test at prescribed intervals (Province of British Columbia, 2020). A Diver™ datalogger was installed in the neighbouring well WTN 60587 which was used as an observation well during the pumping test. Upon pump shutdown, recovery in the pumped well was measured at prescribed intervals for 4 hours. A Diver™ barologger was also employed at the site to record changes in barometric pressure and adjust the water level data obtained from the observation well.

Water samples were taken from the pumped well discharge after 7.75 hours of pumping and delivered within 24 hours of sampling with ice packs to the Bureau Veritas laboratory in Esquimalt for analysis of chemical and bacteriological parameters. All samples were unadulterated and taken from the pumped well shown in Figure 1 and delivered to the laboratory by A. Kohut. A slight sulphurous odour was also noticed during sampling indicating the presence of hydrogen sulphide gas (H₂S).

Pump Testing Results

Well test data, drawdown and recovery plots for the subject well are provided in Appendix B. Appendix C contains copies of the analytical laboratory report from Bureau Veritas.

Figure 5 shows the drawdown in the subject well during pumping. At the end of the test, drawdown reached 9.89 m (32.45 feet) below the pre-pumping level of 3.11 m (10.20 feet) below the top of casing, or 2.75 m (9.02 feet) below ground. During the test, 43.3 % of the available drawdown to sea level was utilized. Water level recovery was 56% after 4 hours of the pump shutting down. Indications from the trend of the recovery graph (Figure 6) is that full recovery would occur.

Extrapolation of the drawdown slope to 100 days without recharge indicates the drawdown would reach 20 m (65.62 feet), utilizing 91 % of the available drawdown to sea level if the well was continuously pumped at 7.6 L/min. Based on the specific capacity of 0.38 L/min per metre for the well at 100 days and utilizing only 50 % of the available drawdown of 19.25 m would indicate a potential long-term yield of 3.66 L/min (5270 L/day) or 0.81 USgpm. This yield exceeds the bylaw requirements of 2275 L/day. Operation of the well for domestic purposes would maintain groundwater levels above sea level at the well and minimize any potential risk of sea water intrusion.

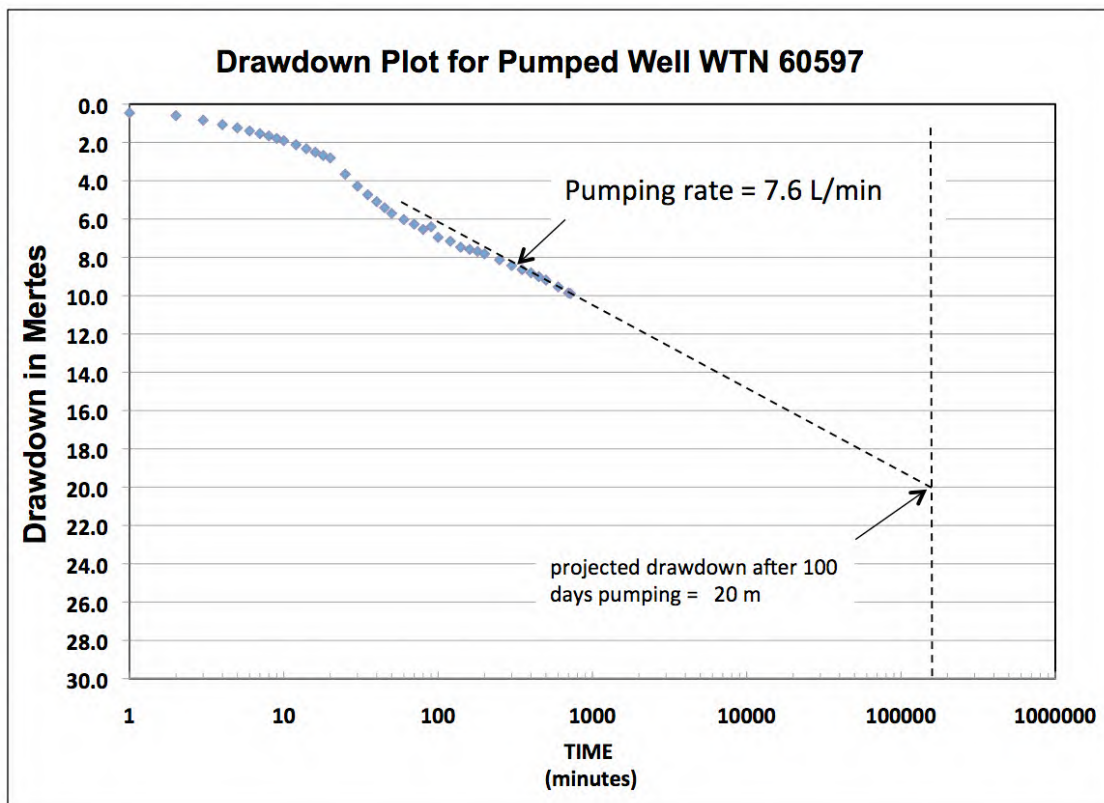


Figure 5. Semi-log drawdown plot for Well WTN 60597 pumping at 7.6 L/min.

Figure 7 is a plot of the water levels in the observation well WTN 60587 prior to, during and after the test pumping of WTN 60597. Prior to the test the water level in the observation well was showing a declining trend. This declining trend continued during the testing of Well WTN 60597 and also after the pumping test was curtailed. The overall decline of about 0.2 m observed is likely related to regional groundwater use in the area. Pumping of WTN 60597 showed no significant effect on the observation well.

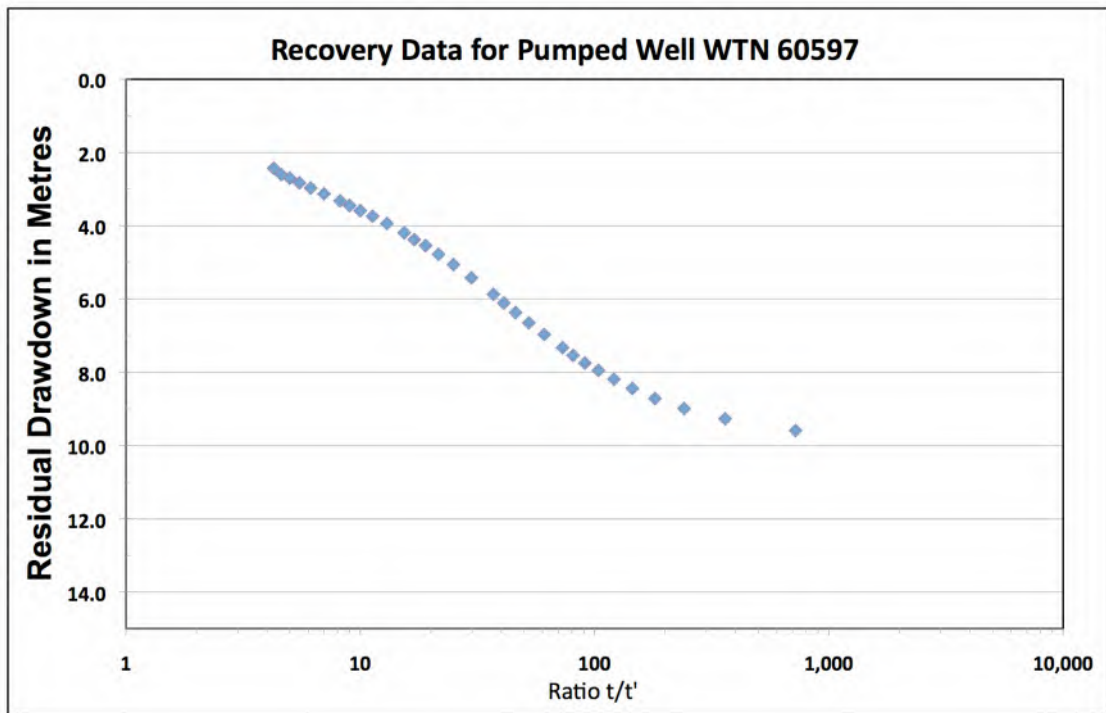


Figure 6. Semi-log recovery plot for Well WTN 60597.

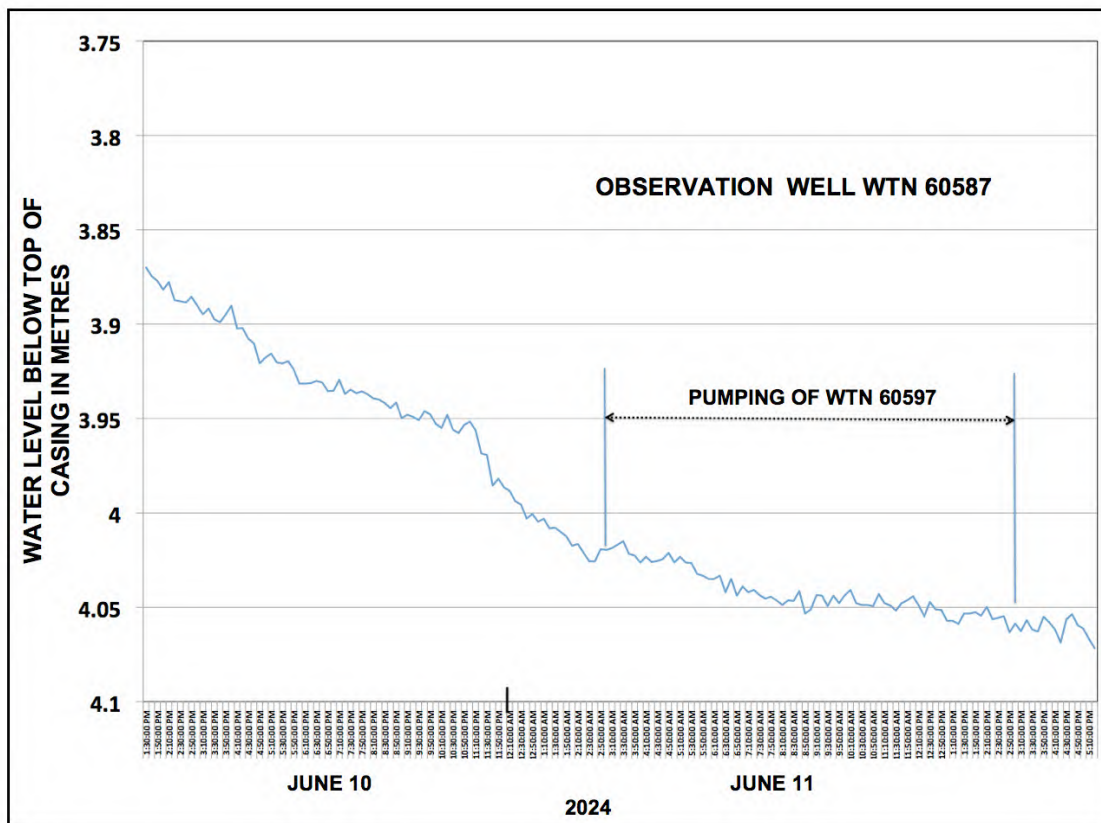


Figure 7. Water level in Observation Well WTN 60587 prior to, during and after pumping of Well WTN 60597.

Water Quality Results

Results of the water quality analyses for Well WTN 60597 are provided in Table 2. Elevated constituents are highlighted in red font. **No Total coliforms or E.Coli bacteria were detected in the sample.** The water quality was excellent with low, total dissolved mineralization (TDS = 200 mg/L).

Based on the laboratory results of the June 11, 2024 sampling, the water quality of the subject well met or exceeded the *Guidelines for Canadian Drinking Water-Summary Table* (Health Canada, 2022) for all parameters analyzed except for elevated levels of:

Fluoride at 2.9 mg/L., above the maximum acceptable concentration of 1.5 mg/L. Elevated levels of fluoride are not a health issue but may cause moderate dental fluorosis which is a cosmetic issue (Health Canada, 2022).

Elevated levels of fluoride may be treated with an appropriately designed and maintained point-of-entry (POE) water treatment system.

Conclusions

Results of the recent pump testing carried out on Well WTN 60597 indicates that the well has a potential long-term yield of 3.66 L/min (5270 L/day) or 0.81 USgpm while not drawing down groundwater levels below sea level. This yield exceeds the bylaw requirements of 2275 L/day. **Well WTN 60597 on Lot 8 therefore, is more than capable of meeting the minimum standards of 0.42 USgpm (1.58 L/min) or 2275 L/day for potable water supply under Galiano Island Land Use Bylaw No. 127, 1999, (Galiano Island Local Trust Committee, 2024).**

Under normal domestic use of the well up to 2275 L/day the well would not have any detrimental effect on neighbouring wells or nearby surface water sources.

Laboratory results of the June 11, 2024 sampling, indicate the water quality of the subject well met or exceeded the *Guidelines for Canadian Drinking Water-Summary Tables* (Health Canada, 2022) for all parameters analyzed except for elevated levels of:

Fluoride at 2.9 mg/L., above the maximum acceptable concentration of 1.5 mg/L. Elevated levels of fluoride may be treated with an appropriately designed and maintained point-of-entry (POE) water treatment system.

No Total coliforms or E.Coli bacteria were detected in the recent sampling.

These results indicate that the water meets the prescribed standards for potable water as set out in Schedule A of the *Drinking Water Protection Regulation* (Province of British Columbia, 2024e).

Table 2. Summary of water quality analyses.

Parameters/Site and Sampling Date	WELL WTN 60597 Lot 8		Canadian DWGuideline 2022	Units
	June 11/24			
PHYSICAL TESTS				
True Colour	4.2		< or =15	TCU
Transmittance at 254nm				%T/cm
Conductivity	400			µS/cm
Total Hardness (CaCO ₃)	34.0			mg/L
pH	8.13		7.0-10.5	pH units
Total Dissolved solids (TDS)	200		< or = 500	mg/L
Turbidity	0.71		<1.0	NTU
ANIONS				
Alkalinity (Total as CaCO ₃)	75			mg/L
Alkalinity (PP as CaCO ₃)	<1.0			mg/L
Bicarbonate	92			mg/L
Carbonate	<1.0			mg/L
Hydroxide	<1.0			mg/L
Chloride	58		< or = 250	mg/L
Fluoride	2.9		1.5	mg/L
Nitrate (N)	<0.020		10	mg/L
Nitrite (N)	<0.0050		1	mg/L
Total Organic Nitrogen (N)				mg/L
Total Ammonia (N)				mg/L
Nitrate plus Nitrite (N)	<0.020			mg/L
Total Nitrogen (N)				mg/L
Total Organic Carbon (C)				mg/L
Total Phosphorus (P)				mg/L
Total Sulphide			0.05	mg/L
Sulphide (as H ₂ S)			0.05	mg/L
Sulphate	8.4		< or =500	mg/L
TOTAL METALS				
Aluminum	15.9		100 and 2900	µg/L
Antimony	<0.50		6	µg/L
Arsenic	<0.10		10	µg/L
Barium	<1.0		2000	µg/L
Beryllium				µg/L
Bismuth				
Boron	1190		5000	µg/L
Cadmium	<0.010		7	µg/L
Chromium	<1.0		50	µg/L
Cobalt	<0.20			µg/L
Copper	<0.50		1000 and 2000	µg/L
Iron	103		< or = 300	µg/L
Lead	<0.20		5	µg/L
Manganese	4.7		20 and 120	µg/L
Mercury	0.0217		1	µg/L
Molybdenum	12.8			µg/L
Nickel	<1.0			µg/L
Selenium	<1.0		50	µg/L
Silicon	5160			µg/L
Silver	<0.020			µg/L
Strontium	16.6		7000	µg/L
Thallium				
Tin				µg/L
Titanium				µg/L
Uranium	<0.10		20	µg/L
Vanadium	<5.0			µg/L
Zinc	<5.0		< or = 5000	µg/L
Zirconium				µg/L
Calcium	13.4			mg/L
Magnesium	0.098			mg/L
Potassium	0.108			mg/L
Sodium	67.2		< or = 200	mg/L
Sulphur	3.2			mg/L
MICROBIOLOGICAL				
Total coliforms	0		ND	CFU/100mL
Escherichia coli (E. coli)	0		ND	CFU/100mL

* Turbidity guideline applies to a surface water source or a groundwater source under the direct influence of surface water.

ND means none detectable.

Exceedances shown in red font.

Recommendations

1. As a precautionary measure against any future potential sources of coliform bacteria, water from the well should be treated with an appropriately designed and maintained ultraviolet irradiation (UV) treatment system.
2. Elevated levels of fluoride may be treated with an appropriately designed and maintained point-of-entry (POE) water treatment system.
3. Further examination of the potential water treatment options for the well water should be considered. Hy-Geo Consulting does not design or install water treatment systems.
4. Generally for low yielding water wells, apart from utilizing a pressure tank for the distribution system, consideration should be given to installing a storage tank e.g. 1000 USgals, on the property to reduce frequent cycling of the well pump during high water use periods and to facilitate aeration of the water to reduce the presence of any hydrogen sulphide that may be present.
5. Consideration should be given to equipping the discharge line from the well with a totalizing water flow meter to monitor and record the well use with time and having a water level sounding tube installed for taking periodic water level measurements in the well.
6. The excavation around the wellhead needs to be filled in with a natural low permeability material, e.g. fine sand mixed with bentonite clay.

Closure

This report was prepared in accordance with generally accepted engineering, hydrogeological and consulting practices. It is intended for the prime use of John Zickmantel in connection with its purpose as outlined under the scope of work for this project. This report is based on data and information available to the author from various sources at the time of its preparation and the findings of this report may therefore be subject to revision. Data and information supplied by others has not been independently confirmed or verified to be correct or accurate in all cases. Any errors, omissions or issues requiring clarification should be brought to the attention of the author. The author and Hy-Geo Consulting accepts no responsibility for damages suffered by any third party as a result of any unauthorized use of this report.

Respectfully submitted,

Alan P. Kohut P.Eng
Principal and Senior Hydrogeologist

HY-GEO CONSULTING
Permit to Practice Number: 1001034

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APPENDIX A

Well Records

WTN 60597

WTN 60587

WATER WELL RECORD

Date 941071/5

[illegible]

Owners Name B Address Galano Properties 411323 ZC L-ra

Legal Description 8 Address

Lat 30 & 31 Well #4

W- / 3^

Descriptive Location

1. TYPE OF WORK	18 New Well 3Q Deepened	2 Reconditioned 4 Abandoned
2. WORK METHOD	1 Cable tool 4 Rotary 5 Other	2 Bored aQmud b 3 air c 3 Jetted reverse
3. WATER WELL USE	153 Domestic 4 Comm. & Ind.	2 Municipal Other
4. DRILLING ADDITIVES		3 Irrigation

9. CASING:		1 ☐ Steel	2 ☐ Galvanized	3 ☐ OWood
Materials		4 ☐ Plastic	5 ☐ Concrete	
		☐ Other		
Hole Diameter				units
Diameter	C.H			ins
from	07			ins
to	22'			ft
Thickness	1.168			ft
Weight				ins
				lb/ft

5. MEASUREMENTS from 1 ground level 2 top of casing
casing height above ground level ft.

Pitless unit _____ ft **1** ☐ above **2** ☐ below ground level
ID Welded **2** ☐ Cemented **3D** Threaded | **1** ☐ New **2** ☐ Used
 Perforations: _____

FROM ft	TO ft	6. WELL LOG DESCRIPTION	SWL ft
		Bedrock at 2 ft. Bottom of casing 22 yd [^]	
		Steady drilling to 190 ft. 2 [^]	
		Fracture at 190 ft. well. approx 5 G.P.M. ^y	
		Bottom of hole 200 ft.	

Shoe (s) _____
Open hole, from _____ to _____ ft Diameter _____ ins
Grout # _____

10. SCREEN: 1 ☐ Nominal (Telescope) 2 ☒ Pipe Size
Type 1 ☐ Continuous Slot 2 ☐ Perforated 3 ☐ Louvre
☐ Other _____
Material 1 ☐ Stainless Steel 2 ☐ Plastic ☐ Other _____
Set from _____ to _____ ft below ground level

RISER, SCREEN & BLANKS							units
Length							ft
Diam. 1 D							ins
Slot Size							ins
from							ft
to							ft

Fittings, top _____ bottom _____
Gravel Pack _____

II. DEVELOPED BY: 1 ☐ Surging 2 ☐ Jetting 3 ☐ OAir
4 ☐ Boiling 5 ☐ Pumping ☐ Other ..

12. TEST 1 ☐ Pump 2 ☐ Boil 3 ☐ Air °te 1 A-1 Jo 1 * J
Rate, _____ USgpm Temp _____ °C SWL before test _____ 2 ft
Water Level _____ ft after test of _____ hrs

[illegible]

13.	RECOMMENDED PGUP TYPE	RECOMMENDED PJM" SFTTGM	RECOMMENDED PUMPVM RATE

14. WATER TYPE '1 Qfresh 2 Dsalty 3 Dcleor 4 Dcloudy
colour _____ smell _____ : gas 1 Dyes 2 Ono

15. WATER ANALYSIS:

1	Hardness	1	mg/L
2	Iron		mg/L
3	Chloride		mg/L
4	pH		

Field Date | | / | | / | |

4 pH Field Date
ID No.  Lab Date 

7 CONSULTANT

Address

8. WELL LOCATION SKETCH

SITE I D No

16. FINAL WELL COMPLETION DATA

Wen Depth 11101010 Well Yield 400 5 US gpm

Static Water Level 1111 ft STI I.L. 1111 US gpm Pressure Head 1111 ft

Back filled _____

Well Head Completion _____

2, DRILLER SURNAME FIRST NAME
PLEASE PRINT Smithson Ken
Signature

18. CONTRACTOR,
Address

Member. BCWWDA Dyes Ono :

Book 69

WATER WELL RECORD

Date 94.07.15

NTS MAP _____ WELL No. _____ ELEV _____ Location _____
 UTM _____ Date 19 _____ Well Type _____ Accuracy _____

Owners Name & Address Galiano Properties 411323 BC LTD

Legal Description & Address

Lat 30° 31' Well #3

Descriptive Location

NO. 1305

1. TYPE OF WORK	1 ☒ New Well 3 ☐ Deepened	2 ☐ Reconditioned 4 ☐ Abandoned	9. CASING: Materials	1 ☐ Steel 4 ☐ Plastic ☐ Other _____	2 ☐ Galvanized 5 ☐ Concrete	3 ☐ Wood	units
2. WORK METHOD	1 ☐ Cable tool 4 ☒ Rotary Other _____	2 ☐ Bored a ☐ mud b ☒ air c ☐ reverse	3 ☐ Jetted c ☐ reverse				ins
3. WATER WELL USE	1 ☒ Domestic 4 ☐ Comm. & Ind.	2 ☐ Municipal ☐ Other _____	3 ☐ Irrigation				ins
4. DRILLING ADDITIVES				Hole Diameter			ins
				Diameter	6"		ins
				from	0'		ft
				to	21'		ft
				Thickness	.188		ins
				Weight			lb / ft

5. MEASUREMENTS from 1 ☐ ground level 2 ☐ top of casing
casing height above ground level _____ ft.

Pitless unit _____ ft 1 ☐ above 2 ☐ below ground level
1 ☐ Welded 2 ☐ Cemented 3 ☐ Threaded | 1 ☐ New 2 ☐ Used

Perforations:

FROM ft	TO ft	6. WELL LOG DESCRIPTION	SWL ft
		Bedrock at 4 ft. Bottom of casing 21 ft.	
		Steady drilling to 230 ft.	
		Fracture at 230 ft with approx 4 G.P.M.	
		Bottom of hole 240 ft.	

Shoe(s) : _____
 Open hole, from _____ to _____ ft Diameter _____ in.
 Grout : _____

10. SCREEN: 1 ☐ Nominal (Telescope) 2 ☐ Pipe Size
Type 1 ☐ Continuous Slot 2 ☐ Perforated 3 ☐ Louvre
☐ Other _____
Material 1 ☐ Stainless Steel 2 ☐ Plastic ☐ Other _____
Set from _____ to _____ ft below ground level

RISER, SCREEN & BLANKS							units
Length							ft
Diam. I D							ins
Slot Size							ins
from							ft
to							ft

Fittings, top _____ bottom _____
Gravel Pack _____

II. DEVELOPED BY: 1 ☐ Surging 2 ☐ Jetting 3 ☐ Air
4 ☐ Boiling 5 ☐ Pumping ☐ Other _____

12. TEST 1 ☐ Pump 2 ☐ Bail 3 ☐ Air Date
Rate USgpm Temp °C SWL before test ft
Water Level ft after test of hrs

[illegible]

13.	RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING ft	RECOMMENDED PUMPING RATE USGpm
-----	-----------------------	--------------------------------	-----------------------------------

14. WATER TYPE: 1 ☐ fresh 2 ☐ salty 3 ☐ clear 4 ☐ cloudy
colour _____ smell _____; gas 1 ☐ yes 2 ☐ no

15. WATER ANALYSIS:

1	Hardness	_ _ _ _	mg/L
2	Iron	_ _ _ _	mg/L
3	Chloride	_ _ _ _	mg/L
4	pH	_ _ _ _	

Field Date |_|_|_|_|

ID No. _____ Lab Date: _____

7. CONSULTANT _____
Address _____

8. WELL LOCATION SKETCH

SITE ID No. Lab Date

16. FINAL WELL COMPLETION DATA

Well Depth	12410 ft	Well Yield	Agree	4 US gpm
Static Water Level		Artisanal Flow		Pressure Head
Back filled				
Well Head Completion				

17. DRILLER PLEASE PRINT SURNAME Smithson FIRST NAME Ken
Signature

18. CONTRACTOR,
Address

Member, ☒ BCWWDA ☐ yes ☐ no ; Boon 6 69

APPENDIX B

Pumping Test Data

APPENDIX B

Pumping Test Data for Subject Well WTN 60597

Project: 1724 Sticks Allison Lot 8
Client: John Zickmantel
Location: Galiano Island
Date of Test: Tuesday, June 11, 2024
Test Conducted by: Brad Lockett

Reference: all readings from top of casing
Stick up: 0.36 m

Observation Wells: WTN 60587 Lot 7
Stick up: 0.41 m

Pumped Well:	60.96 m deep
Pumping Rate:	7.6 L/min
Static Water Level:	3.11 m

Pump Start Time: 3:00 AM June 11, 2024
Pump End Time: 3:00 PM June 11, 2024
Analysis by: A. Kohut, P.Eng.

Drawdown Data:

Recovery Data:

[illegible]

APPENDIX C

Water Quality Analysis



Your Project #: ZICK MANTEL
Your C.O.C. #: WI035172

Attention: AL KOHUT

HY-GEO CONSULTING
4470 Arsens Place
VICTORIA, BC
Canada V8Z 2M9

Report Date: 2024/06/18

Report #: R3515214

Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C442664

Received: 2024/06/11, 14:31

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Alkalinity @25C (pp, total), CO ₃ ,HCO ₃ ,OH	1	N/A	2024/06/12	BBY6SOP-00026	SM 24 2320 B m
Chloride/Sulphate by Auto Colourimetry	1	N/A	2024/06/13	BBY6SOP-00011 / BBY6SOP-00017	SM24-4500-Cl/SO ₄ -E m
Color (True) by Automated Analyzer	1	N/A	2024/06/12	BBY6SOP-00057	SM 24 2120 C m
Conductivity @25C	1	N/A	2024/06/12	BBY6SOP-00026	SM 24 2510 B m
Fluoride	1	N/A	2024/06/13	BBY6SOP-00037	SM 24 4500-F C m
Hardness Total (calculated as CaCO ₃) (1)	1	N/A	2024/06/13	BBY WI-00033	Auto Calc
Mercury (Total) by CV	1	2024/06/12	2024/06/12	BBY7SOP-00032	BCMOE LM 2023 C1.1.3
Na, K, Ca, Mg, S by CRC ICPMS (total)	1	2024/06/12	2024/06/13	BBY WI-00033	Auto Calc
Elements by CRC ICPMS (total)	1	2024/06/12	2024/06/13	BBY7SOP-00003 / BBY7SOP-00002	EPA 6020b R2 m
Nitrate + Nitrite (N)	1	N/A	2024/06/12	BBY6SOP-00010	SM 24 4500-NO ₃ - H m
Nitrite (N) Regular Level Water	1	N/A	2024/06/12	BBY6SOP-00010	SM 24 4500-NO ₂ - m
Nitrogen - Nitrate (as N)	1	N/A	2024/06/13	BBY WI-00033	Auto Calc
pH @25°C (2)	1	N/A	2024/06/12	BBY6SOP-00026	SM 24 4500-H+ B m
Total Dissolved Solids (Filt. Residue)	1	2024/06/13	2024/06/14	BBY6SOP-00033	SM 24 2540 C m
Total Coliform & E.Coli by MF-Chromocult	1	N/A	2024/06/12	BBY4SOP-00143	Merck KGaA Version 1
Turbidity	1	N/A	2024/06/12	BBY6SOP-00027	SM 24 2130 B m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, EPA, APHA or the Quebec Ministry of Environment.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.



Your Project #: ZICK MANTEL
Your C.O.C. #: WI035172

Attention: AL KOHUT

HY-GEO CONSULTING
4470 Arsens Place
VICTORIA, BC
Canada V8Z 2M9

Report Date: 2024/06/18

Report #: R3515214

Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C442664

Received: 2024/06/11, 14:31

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) "Total Hardness" was calculated from Total Ca and Mg concentrations and may be biased high (Hardness, or Dissolved Hardness, calculated from Dissolved Ca and Mg, should be used for compliance if available).

(2) The CCME method requires pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME holding time. Bureau Veritas endeavours to analyze samples as soon as possible after receipt.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:

Michelle Rivest (Hospedales), B.Sc., Customer Solutions Representative

Email: michelle.rivest@bureauveritas.com

Phone# (604) 734 7276

=====

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DW PKG WITH DIGESTED MET (NON-REGULATED)

Bureau Veritas ID		CPC457		
Sampling Date		2024/06/11 10:45		
COC Number		WI035172		
	UNITS	LOT 8 WELL	RDL	QC Batch
ANIONS				
Nitrite (N)	mg/L	<0.0050	0.0050	B399831
Calculated Parameters				
Total Hardness (CaCO ₃)	mg/L	34.0	0.50	B397718
Nitrate (N)	mg/L	<0.020	0.020	B397720
Misc. Inorganics				
Conductivity	uS/cm	400	2.0	B400048
pH	pH	8.13	N/A	B400047
Total Dissolved Solids	mg/L	200	10	B400755
Anions				
Alkalinity (PP as CaCO ₃)	mg/L	<1.0	1.0	B400028
Alkalinity (Total as CaCO ₃)	mg/L	75	1.0	B400028
Bicarbonate (HCO ₃)	mg/L	92	1.0	B400028
Carbonate (CO ₃)	mg/L	<1.0	1.0	B400028
Dissolved Fluoride (F)	mg/L	2.9	0.050	B400074
Hydroxide (OH)	mg/L	<1.0	1.0	B400028
Chloride (Cl)	mg/L	58	1.0	B401467
Sulphate (SO ₄)	mg/L	8.4	1.0	B401467
MISCELLANEOUS				
True Colour	Col. Unit	4.2	2.0	B400044
Nutrients				
Nitrate plus Nitrite (N)	mg/L	<0.020	0.020	B399827
Physical Properties				
Turbidity	NTU	0.71	0.10	B399426
Elements				
Total Mercury (Hg)	ug/L	0.0217	0.0019	B399592
Total Metals by ICPMS				
Total Aluminum (Al)	ug/L	15.9	3.0	B399427
Total Antimony (Sb)	ug/L	<0.50	0.50	B399427
Total Arsenic (As)	ug/L	<0.10	0.10	B399427
Total Barium (Ba)	ug/L	<1.0	1.0	B399427
Total Boron (B)	ug/L	1190	50	B399427
RDL = Reportable Detection Limit N/A = Not Applicable				



DW PKG WITH DIGESTED MET (NON-REGULATED)

Bureau Veritas ID		CPC457		
Sampling Date		2024/06/11 10:45		
COC Number		WI035172		
	UNITS	LOT 8 WELL	RDL	QC Batch
Total Cadmium (Cd)	ug/L	<0.010	0.010	B399427
Total Chromium (Cr)	ug/L	<1.0	1.0	B399427
Total Cobalt (Co)	ug/L	<0.20	0.20	B399427
Total Copper (Cu)	ug/L	<0.50	0.50	B399427
Total Iron (Fe)	ug/L	103	10	B399427
Total Lead (Pb)	ug/L	<0.20	0.20	B399427
Total Manganese (Mn)	ug/L	4.7	1.0	B399427
Total Molybdenum (Mo)	ug/L	12.8	1.0	B399427
Total Nickel (Ni)	ug/L	<1.0	1.0	B399427
Total Selenium (Se)	ug/L	<0.10	0.10	B399427
Total Silicon (Si)	ug/L	5160	100	B399427
Total Silver (Ag)	ug/L	<0.020	0.020	B399427
Total Strontium (Sr)	ug/L	16.6	1.0	B399427
Total Uranium (U)	ug/L	<0.10	0.10	B399427
Total Vanadium (V)	ug/L	<5.0	5.0	B399427
Total Zinc (Zn)	ug/L	<5.0	5.0	B399427
Total Calcium (Ca)	mg/L	13.4	0.050	B399302
Total Magnesium (Mg)	mg/L	0.098	0.050	B399302
Total Potassium (K)	mg/L	0.108	0.050	B399302
Total Sodium (Na)	mg/L	67.2	0.050	B399302
Total Sulphur (S)	mg/L	3.2	3.0	B399302
Microbiological Param.				
Total Coliforms	CFU/100mL	0	N/A	B399316
E. coli	CFU/100mL	0	N/A	B399316
RDL = Reportable Detection Limit N/A = Not Applicable				



Bureau Veritas Job #: C442664
Report Date: 2024/06/18

HY-GEO CONSULTING
Client Project #: ZICK MANTEL

GENERAL COMMENTS

Results relate only to the items tested.



Bureau Veritas Job #: C442664
Report Date: 2024/06/18

QUALITY ASSURANCE REPORT

HY-GEO CONSULTING
Client Project #: ZICK MANTEL

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
B399426	Turbidity	2024/06/12			99	80 - 120	<0.10	NTU	10	20
B399427	Total Aluminum (Al)	2024/06/13	107	80 - 120	105	80 - 120	<3.0	ug/L	1.8	20
B399427	Total Antimony (Sb)	2024/06/13	98	80 - 120	98	80 - 120	<0.50	ug/L	3.3	20
B399427	Total Arsenic (As)	2024/06/13	102	80 - 120	101	80 - 120	<0.10	ug/L	1.4	20
B399427	Total Barium (Ba)	2024/06/13	100	80 - 120	98	80 - 120	<1.0	ug/L	0.32	20
B399427	Total Boron (B)	2024/06/13	105	80 - 120	107	80 - 120	<50	ug/L	NC	20
B399427	Total Cadmium (Cd)	2024/06/13	96	80 - 120	98	80 - 120	<0.010	ug/L	NC	20
B399427	Total Chromium (Cr)	2024/06/13	92	80 - 120	95	80 - 120	<1.0	ug/L	NC	20
B399427	Total Cobalt (Co)	2024/06/13	90	80 - 120	94	80 - 120	<0.20	ug/L	NC	20
B399427	Total Copper (Cu)	2024/06/13	89	80 - 120	94	80 - 120	<0.50	ug/L	NC	20
B399427	Total Iron (Fe)	2024/06/13	NC	80 - 120	103	80 - 120	<10	ug/L	0.66	20
B399427	Total Lead (Pb)	2024/06/13	96	80 - 120	98	80 - 120	<0.20	ug/L	NC	20
B399427	Total Manganese (Mn)	2024/06/13	NC	80 - 120	98	80 - 120	<1.0	ug/L	1.8	20
B399427	Total Molybdenum (Mo)	2024/06/13	101	80 - 120	101	80 - 120	<1.0	ug/L	NC	20
B399427	Total Nickel (Ni)	2024/06/13	92	80 - 120	98	80 - 120	<1.0	ug/L	NC	20
B399427	Total Selenium (Se)	2024/06/13	94	80 - 120	101	80 - 120	<0.10	ug/L	NC	20
B399427	Total Silicon (Si)	2024/06/13	108	80 - 120	108	80 - 120	<100	ug/L	0.70	20
B399427	Total Silver (Ag)	2024/06/13	95	80 - 120	98	80 - 120	<0.020	ug/L	NC	20
B399427	Total Strontium (Sr)	2024/06/13	NC	80 - 120	100	80 - 120	<1.0	ug/L	1.3	20
B399427	Total Uranium (U)	2024/06/13	98	80 - 120	97	80 - 120	<0.10	ug/L	NC	20
B399427	Total Vanadium (V)	2024/06/13	99	80 - 120	98	80 - 120	<5.0	ug/L	NC	20
B399427	Total Zinc (Zn)	2024/06/13	93	80 - 120	99	80 - 120	<5.0	ug/L	1.5	20
B399592	Total Mercury (Hg)	2024/06/12	106	80 - 120	105	80 - 120	<0.0019	ug/L	6.7	20
B399827	Nitrate plus Nitrite (N)	2024/06/12	108	80 - 120	107	80 - 120	<0.020	mg/L	3.3	25
B399831	Nitrite (N)	2024/06/12	103	80 - 120	103	80 - 120	<0.0050	mg/L	NC	20
B400028	Alkalinity (PP as CaCO3)	2024/06/13					<1.0	mg/L	NC	20
B400028	Alkalinity (Total as CaCO3)	2024/06/13			104	80 - 120	<1.0	mg/L	0.34	20
B400028	Bicarbonate (HCO3)	2024/06/13					<1.0	mg/L	0.34	20
B400028	Carbonate (CO3)	2024/06/13					<1.0	mg/L	NC	20
B400028	Hydroxide (OH)	2024/06/13					<1.0	mg/L	NC	20
B400044	True Colour	2024/06/12			101	80 - 120	<2.0	Col. Unit	NC	20
B400047	pH	2024/06/13			100	97 - 103			0.33	N/A
B400048	Conductivity	2024/06/13			101	90 - 110	<2.0	uS/cm	0.18	10



Bureau Veritas Job #: C442664
Report Date: 2024/06/18

QUALITY ASSURANCE REPORT(CONT'D)

HY-GEO CONSULTING
Client Project #: ZICK MANTEL

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
B400074	Dissolved Fluoride (F)	2024/06/13	96	80 - 120	99	80 - 120	<0.050	mg/L	NC	20
B400755	Total Dissolved Solids	2024/06/14	NC	80 - 120	97	80 - 120	<10	mg/L	5.3	20
B401467	Chloride (Cl)	2024/06/13	90	80 - 120	98	80 - 120	<1.0	mg/L	12	20
B401467	Sulphate (SO4)	2024/06/13	77 (1)	80 - 120	97	80 - 120	<1.0	mg/L	4.1	20

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference $\leq 2 \times \text{RDL}$).

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

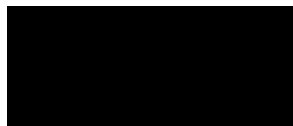


Bureau Veritas Job #: C442664
Report Date: 2024/06/18

HY-GEO CONSULTING
Client Project #: ZICK MANTEL

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:



David Huang, M.Sc., P.Chem., QP, Scientific Services Manager



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File No.: GL-SUB-2021.1
GL-DP-2023.5

DATE OF MEETING: October 8, 2024

TO: Galiano Island Local Trust Committee

FROM: Phil Testemale, Planner 2
Southern Team

COPY: Kim Stockdill, Island Planner

SUBJECT: Report subject Acceptance of Cash-in-Lieu amount and Sec. 219 Covenants(
Applicant: Lawrence Waterfall
Location: 350 Mary Ann Point Rd.

RECOMMENDATION

1. That the Galiano Island Local Trust Committee agrees that, for the purpose of calculating cash-in-lieu for subdivision application GL-SUB-2021.1 (Waterfall), the market value of the land on June 11, 2024 was \$1,515,000.00 as stated in the appraisal report prepared by Katie Snell, ACCI, P.App., dated June 19, 2024 that is Attachment 1 to this report for GL-SUB-2023.1 (Waterfall).
2. That the Galiano Island Local Trust Committee accept the Section 219 Covenant (Strata Lot 4 - Density) that is Attachment 2 to this report for GL-SUB-2023.1 (Waterfall).
3. That the Galiano Island Local Trust Committee accept the Section 219 Covenant (All Strata Lots - Water Treatment) that is Attachment 3 to this report for GL-SUB-2023.1 (Waterfall).
4. That the Galiano Island Local Trust Committee approve the release of the following covenants registered under section 219 of the *Land Title Act* for Lot B, Section 1, Galiano Island, Cowichan District, Plan VIP87346:
 - a. Covenant EF12652 (Density) that is Attachment 4 to this report; and,
 - b. Covenant M58171 (Proof of Potable Water) that is Attachment 5 to this report.
5. That the Galiano Island Local Trust Committee designate the Chair of the Local Trust Committee to sign the two (2) Covenants and the releases for Covenants EF12652 and M58171.

REPORT SUMMARY

The purpose of the report is to present a cash-in-lieu amount, two (2) draft Section 219 Covenants for acceptance by the Local Trust Committee (LTC) and to designate the Chair to sign the covenants and the release of two (2) historic covenants, all in order to allow a subdivision application to be finalized.

BACKGROUND

The 6.13 ha property is zoned Small Lot Residential (SLR) and is located at 350 Mary Ann Point Road and is the subject of strata subdivision application GL-SUB-2021.1 which will create four new (4) strata lots. The proposed subdivision conforms to the use and density provisions of the zone and received a Preliminary Layout Review (PLR) from the Ministry of Transportation and Infrastructure (MoTI) on June 15, 2023. That PLR includes Islands Trust conditions to be met prior to final approval.

One of those conditions was satisfied with the issuance of a delegated Development Permit (GL-DP-2023.5) on October 11, 2023 for subdivision within Development Permit Area (DPA) 2 - Shoreline and Marine and DPA 5 – Sensitive Ecosystems and DPA 7 – Moderate Hazard Slope.

The resolutions on page 1 would complete the remaining PLR conditions as follows:

- Acceptance of a cash-in-lieu amount for required parkland dedication.
- Acceptance of Section 219 Covenant (Density) for ‘no further subdivision’ of proposed Strata Lot 4.
- Acceptance of a Section 219 Covenant (Water Treatment) for all lots to satisfy proof of potable water requirements.
- Approval of the release of two (2) historic Section 219 Covenants that are no longer be relevant with current zoning and with the proposed water treatment covenant.

The foregoing are discussed further in ‘Analysis’ (Below).

In addition to the Attachments included in the resolutions on page 1, the submitted water report ‘Groundwater Well Assessments at 350 Mary Anne Point Road, Galiano Island’ (‘Water Report’ - Alan P. Kohut, P. Eng, Hy-Geo Consulting, April 23, 2023) is Attachment 6. An addendum to that report dated July 15, 2024 is Attachment 7.

Staff have visited the property on numerous occasions since 2021.

FIGURE ONE – SUBJECT PROPERTY

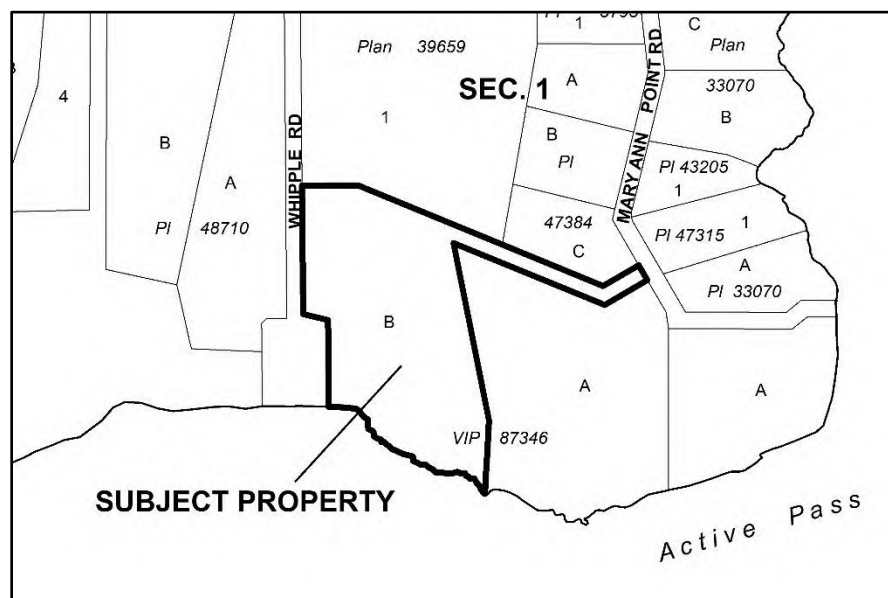
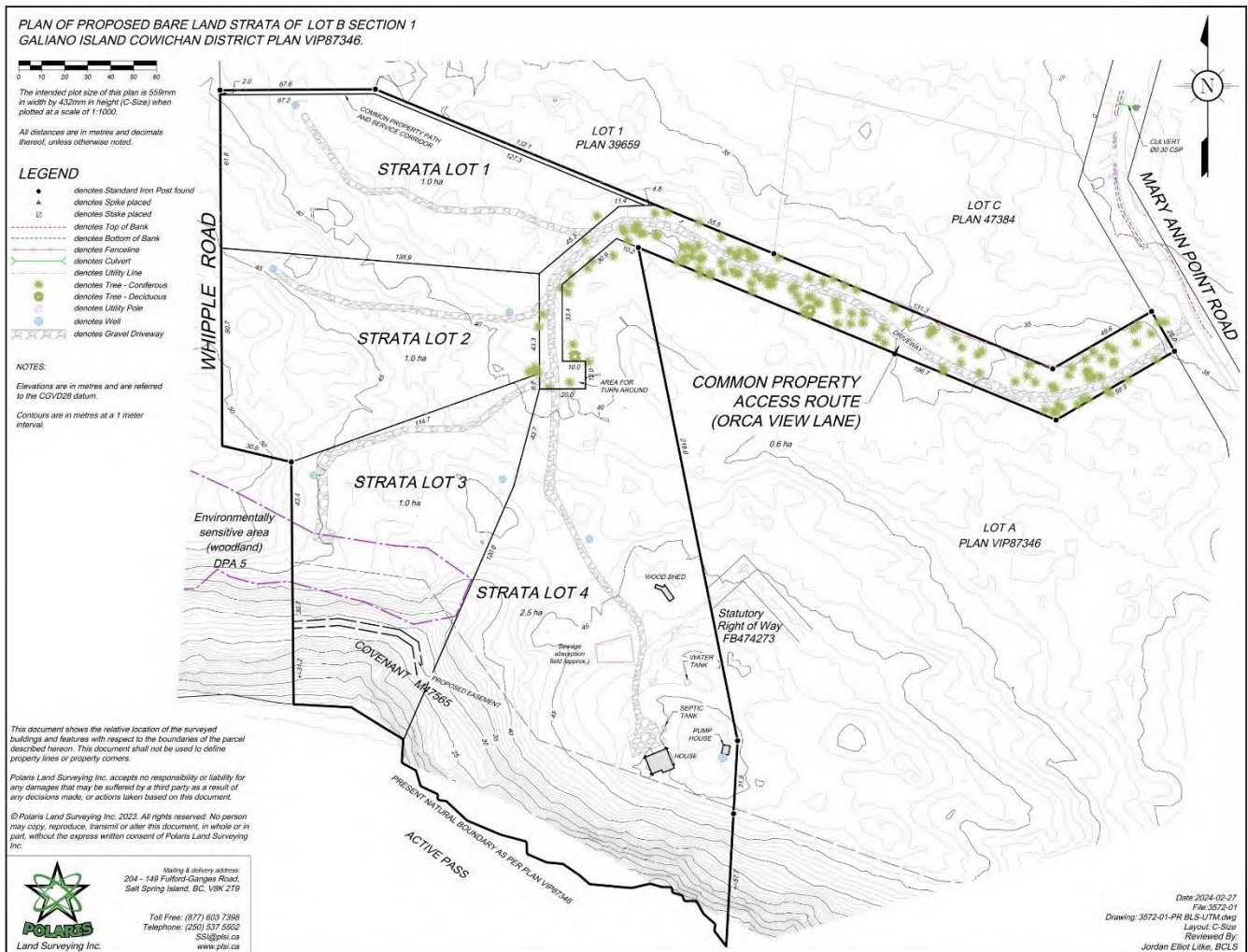


FIGURE TWO – PROPOSED SUBDIVISION LAYOUT PLAN



ANALYSIS

Cash-in-Lieu

Under Section 510 of the *Local Government Act*, it is the owner's option to provide parkland acceptable to the local government or pay a cash-in-lieu amount equivalent to 5% of the land being subdivided agreed by an independent assessment. There is a protocol agreement between the CRD and the Islands Trust that addresses parkland dedication and cash in lieu. The CRD reviews the assessment amount and provides a response to the Islands Trust regarding CRD's opinion of the appraisal, and the CRD Board's acceptance of the proposed allocation of the cash-lieu amount. The monies must be allocated to a parkland acquisition fund which in the Southern Gulf Islands is administered by the CRD. The LTC must accept the amount by resolution.

The owner provided an appraisal to the CRD in August, 2024 with a valuation of \$1,515,000.00 (Attachment 1). The cash-in-lieu amount for that would be \$75,750.00. The appraisal was reviewed by CRD staff and accepted the methodology and appraised amount on August 29, 2024. At the time of writing the schedule for that to be presented to the CRD Board for acceptance of the amount and allocation is still pending.

Staff's recommendation on page 1, is to accept the amount. Staff will withhold providing a final letter of approval to MoTI, pending confirmation of a resolution by the CRD Board. If the amount and allocation are not accepted by the CRD Board, staff will return to the LTC with a resolution to accept a different amount at a subsequent LTC meeting.

Section 219 Covenant (Density)

The proposed subdivision into four (4) Strata lots is the maximum number of lots permitted in the SLR Zone for the 6.25 ha property. Lot averaging is being used which allows a minimum lot size as small as 0.6 ha, however, all lots combined must have an average area of at least 1.2 ha. Proposed Strata Lot 4 would be 2.5 ha in size, which, without a covenant, would be further subdividable. Therefore Section 13.4 of the LUB applies:

If an owner proposes a subdivision that creates a lot that is further subdividable under the minimum lot area regulations of this bylaw, and the area of which is required for compliance of the subdivision with the average lot area regulations of this bylaw, the owner must grant a covenant prohibiting further subdivision and residential development of the lot.

Attachment 2 is the Section 219 Covenant in draft form that has been submitted for consideration of acceptance by the LTC and assignment of the Chair to sign the executable copy.

Section 219 Covenant (Water Treatment)

As required, the Water Report and an Addendum (Attachments 6 and 7) was submitted to Islands Trust to satisfy 13.24 of the LUB, namely proof of potable water (quality and quantity). That report concluded that all of the newly drilled wells for proposed Strata Lots 1 to 3 satisfy the volume requirements, however, the lab results for the wells did not meet the *Guidelines for Canadian Drinking Water Quality*. Therefore, the owner was given the following options:

- Grant a treatment covenant as per Section 13.25 of the LUB;
- Install treatment of the wells in advance and provide follow-up testing that meets the standards; or,
- Apply for a Development Variance Permit for Section 13.24.

The applicant has agreed to provide the Section 219 Covenant which is in draft form (Attachment 3) for consideration of acceptance by the LTC and assignment of the Chair to sign the executable copy.

There are two (2) existing wells on proposed Strata Lot 4 that have been in use for a long period and have an integrated treatment system installed. These were not required to be tested, however there remains the potential for two (2) additional residential densities (a dwelling and a cottage) on that lot. The Water Report recommends:

1. *As a precautionary measure against any future potential sources of coliform bacteria, water from each well should be treated with an appropriately designed and maintained ultraviolet irradiation (UV) treatment system. (p.23)*

Consequently, the proposed covenant includes all four (4) proposed Strata Lots to ensure that any new residential use on Strata Lot 4 would need to meet the following covenant condition before the use commences:

Before using a Well as a source of potable water, the Owner shall construct and maintain a treatment system that is appropriately designed, based on water quality sampling and lab analysis as described in

the Groundwater Report, so that the water from the Well will meet the standards set out in the applicable bylaws of the local government.

Release of Section 219 Covenants

There are two (2) Section 219 Covenants registered on title of the subject property:

- Covenant EF12652 was registered in 1992 and applied to a larger parent parcel (Lot 3, Plan 39369 created in 1983 - next) that was the subject of a two (2) lot subdivision subdivided in 2008 (GL-SUB-2008.1) that created the current subject parcel Lot B and Lot A adjacent to the west. That covenant capped the number of permitted dwellings, and accessory cottages allowed without subdivision. As the current zoning has an equal restriction on dwellings, the covenant is no longer relevant and should be released with the registration of the current subdivision.
- Covenant M58171 was registered in 1983 and applied to Lot 2 and 3 that were subdivided from the (parent) Section 1 parcel. That covenant restricted the maximum dwelling size as proof of potable water was not established at the time. As with the EF12652, this covenant is no longer relevant and should be released with the registration of the current subdivision.

First Nations

The Islands Trust reviews all applications to ensure the preservation and protection of cultural heritage, archaeological sites, and ancestral places. As a subdivision, any duty to consult lies with the provincial approving officer. As reviewed, the application is consistent with respect to LTC Standing Resolutions on reconciliation. To facilitate awareness regarding unknown archaeological areas, the applicants were provided with Islands Trust Chance Find Protocol and the provincial Archaeological Branch guidelines on *Heritage Act* by copy of the initial referral response for the subdivision.

Rationale for Recommendation

In summary, the recommendations on page 1 are supported as:

- Acceptance of the cash-in-lieu amount and two (2) covenants and assignment of the Chair to sign the covenants will allow staff to provide written confirmation from the Islands Trust that the proposed subdivision conforms to all Galiano Island Local Trust Committee Bylaws.
- The Release of the two (2) Section 219 Covenants is reasonable as they are no longer relevant.

ALTERNATIVES

1. Request further information

The LTC may request further information prior to making a decision.

Recommended wording for the resolution is as follows:

That the Galiano Island Local Trust Committee request that the applicant submit to the Islands Trust:_____.

2. Refuse acceptance of the cash-in-lieu amount

The LTC may refuse acceptance of the cash-in-lieu amount. Staff advise that the implications of this alternative would be to trigger a legislated dispute process requiring a second appraisal by a different appraiser agreed to by both parties, with the cost shared by both parties. That would incur a cost and a time delay to the applicant.

Recommended wording for the resolutions is as follows:

That the Galiano Island Local Trust Committee refuses the cash-in-lieu amount as stated in the appraisal report prepared by Katie Snell, ACCI, P.App. dated June 19, 2024 that is Attachment 1 to this report.

3. Refuse the acceptance of the covenant(s)

The LTC may refuse acceptance of one or both of the Section 219 Covenants. If choosing this alternative the LTC should provide the reason(s) and identify changes that would make the covenant(s) acceptable.

Recommended wording for the resolutions is as follows:

That the Galiano Island Local Trust Committee refuses the conditions of the Section 219 Covenant that is Attachment __ to this report for GL-SUB-2023.1 (Waterfall) for the following reasons:_____.

Submitted By:	Phil Testemale, Planner 2	September 26, 2024
Concurrence:	Robert Kojima, Regional Planning Manager	September 27, 2024

ATTACHMENTS

1. Land Appraisal
2. Sec. 219 Covenant (Density – for acceptance)
3. Sec. 219 Covenant (Water Treatment - for acceptance)
4. Sec. 219 Covenant EF12652 (Density – for release)
5. Sec. 219 Covenant M58171 (Proof of Potable Water – for release)
6. Water Report
7. Water Report Addendum

**Appraisal of
350 Mary Ann Point Road
Galiano Island, BC
for
Lawrence R. Waterfall**



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June 19, 2024

Our File: CR24-19084

Lawrence R. Waterfall

287 Active Pass Road
RR#1, S-20, C11
Galiano Island, BC V0N 1P0

Re: 350 Mary Ann Point Road, Galiano Island, BC

At your request, I have completed an appraisal report of the property legally described as: Lot B, Section 1, Galiano Island, Cowichan District, Plan VIP87346 (PID: 028-061-942) for the purpose of estimating the current market value of its fee simple interest.

Based on our research and analyses, it is my opinion that as of June 11, 2024, the market value of the subject property, ***subject to the extraordinary assumptions and hypothetical conditions stated herein***, was:-

ONE MILLION FIVE HUNDRED AND FIFTEEN THOUSAND DOLLARS
(\$1,515,000)

The subject property was inspected on June 11, 2024 and all necessary investigations and analyses were completed. The accompanying report, which forms the basis of my value opinion, subject to the assumptions and limiting conditions contained in the body of this report, is enclosed.

This report has been prepared for **Lawrence R. Waterfall** for determination of cash-in-lieu of parkland dedication purposes only. No other users were authorized, and I deny any liability in this respect.

I hereby certify that I have no interest, present or contemplated, in the subject property.

Yours truly,

CUNNINGHAM & RIVARD APPRAISALS LTD.



Katie Snell, B.Comm.
AACI, P.App.
KS/vw
Encl.

PHOTOGRAPHS OF SUBJECT PROPERTY



STREET / FRONT VIEW



AERIAL PHOTO (2023)

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SUMMARY OF IMPORTANT FACTS AND CONCLUSIONS

Civic Address:	350 Mary Ann Point Road, Galiano Island, BC	
Legal Description:	Lot B, Section 1, Galiano Island, Cowichan District, Plan VIP87346 (PID: 028-061-942)	
Effective Date of Appraisal:	June 11, 2024	
Appraisal Purpose:	To estimate the current market value of the subject property.	
Authorized Use of Appraisal:	For determination of cash-in-lieu of parkland dedication purposes.	
Land Area:	6.13 ha. (15.15 acres)	
Improvements:	Assumed vacant land	
Zoning:	SLR, Small Lot Residential	
Probable Highest and Best Use:	Subdivision and residential development in accordance with the zoning bylaw.	
Assessments (2024):	Land	\$1,894,000
	Improvements	<u>\$718,000</u>
	Total	\$2,612,000
Gross Taxes (2023):	\$7,794	
Estimate of Market Value:	\$1,515,000 <i>*Subject to the extraordinary assumptions and hypothetical conditions stated herein</i>	

DEFINITION OF APPRAISAL PROBLEM AND PERTINENT INFORMATION

Purpose of the Appraisal

The purpose of this appraisal is to estimate the current market value of the subject property.

Definition of Market Value

An accepted Canadian definition of market value, from The Appraisal of Real Estate (4th Canadian Edition, copyright 2023), is as follows:-

“The most probable price, as of a specified date, in cash, or in terms equivalent to cash, or in other precisely revealed terms, for which the specified property rights should sell after reasonable exposure in a competitive market under all conditions requisite to a fair sale, with the buyer and seller each acting prudently, knowledgeably, and for self-interest, and assuming that neither is under undue duress.”

Implicit in this definition is the consummation of a sale as of the specified date and the passing of title from seller to buyer under conditions whereby:-

1. buyer and seller are typically motivated;
2. both parties are well informed or well advised, and acting in what they consider their best interests;
3. a reasonable time is allowed for exposure in the open market;
4. payment is made in terms of cash in Canadian dollars or in terms of financial arrangements comparable thereto; and
5. the price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale.

Definition of Exposure Time

Exposure time is the time a property remains on the market. In an appraisal, the term means the estimated length of time an owner would likely need to market the appraised property interest before the hypothetical consummation of a sale at market value on the effective date of the appraisal. An opinion of exposure time is a retrospective estimate that has its basis in an analysis of past events assuming a competitive and open market.

The period of exposure time occurs immediately before the effective date of the appraisal. The overall concept of reasonable exposure time encompasses not only adequate, sufficient and reasonable time, but also adequate, sufficient and reasonable marketing effort. Exposure time is different for various types of real estate and value ranges and under various market conditions.

Authorized Use of the Appraisal

This appraisal was prepared for use only by **Lawrence Waterfall** for determination of cash-in-lieu of parkland dedication purposes. It was not authorized for use by any others and any liability in this respect is strictly denied. A party receiving a copy of this report does not become an authorized user unless consent is provided by the appraiser.

Scope of the Appraisal

This appraisal encompasses the research and analysis necessary to provide a full estimate of market value for the subject property and meets the requirements of the Canadian Uniform Standards of Professional Appraisal Practice adopted by the Appraisal Institute of Canada effective January 1, 2024. The scope of the analysis is as follows:-

Inspection

I inspected the subject property on June 11, 2024, accompanied by Lawrence Waterfall. Identification of the property also involved a review of mapping prepared by the Islands Trust, Capital Regional District, ParcelMap BC, Google Earth and Davenport Maps Ltd. The photographs appended were taken on June 11, 2024.

Data Research

I received my instructions from the Lawrence Waterfall (authorized client / owner) who also provided information on the property. Publications produced by the Islands Trust provided information on applicable land use controls. Sources of market evidence included the local Real Estate Board, Land Title Office transactions (including those reported by BC Assessment and local assessors) and real estate agents, vendors and purchasers active in the market. BC Land Title and Survey Authority provided information on the state of title.

Audits and Technical Investigations

I did not complete technical investigations such as:

- Detailed inspections or engineering review of the structure, roof or mechanical systems;
- An environmental review of the property;
- A site or building survey;
- Investigations into the bearing qualities of the soils;
- Audits of financial and legal arrangements.

Verification of Third-Party Information

The analysis set out in this report relied on written and verbal information obtained from a variety of sources that were considered reliable. All reasonable efforts have been undertaken to verify this information from primary sources. The mandate for this appraisal did not require a report prepared specifically for in-depth cross-examination within a court or arbitration hearing, so I did not include full documentation, confirmation and/or include the reference material to primary sources for all information reported herein.

Type of Analysis

The research and analysis necessary to provide a full estimate of market value, including formulation of opinion of Highest and Best Use and review of market data necessary to properly apply the approaches to value was undertaken. In this regard, the Direct Comparison Approach has been applied and later reconciled to a final estimate of value.

Extraordinary Assumptions, Limiting Conditions, and Hypothetical Conditions

An *Extraordinary Assumption* refers to a hypothesis, either supposed or unconfirmed, which, if not true, could alter the appraiser's opinions and conclusions. Full disclosure of any *Extraordinary Assumption* must accompany statements of each opinion / conclusion so affected (Appraisal Institute of Canada's Canadian Uniform Standards of Professional Appraisal Practice).

An *Extraordinary Limiting Condition* refers to a necessary modification or exclusion of a Standard Rule. The burden is on the appraiser to explain and justify such necessity in the report, and to conclude before accepting an assignment and invoking an *Extraordinary Limiting Condition* that the scope of work applied will result in opinions / conclusions that are credible (Appraisal Institute of Canada's Canadian Uniform Standards of Professional Appraisal Practice).

Hypothetical Conditions may be used when they are required for legal purposes, for the purpose of reasonable analysis, or for purposes of comparison. For every *Hypothetical Condition*, an *Extraordinary Assumption* is required in the report. The *Hypothetical Condition* must be clearly disclosed in the report, with a description of the hypothesis, the rationale for its use, and its effect on the result of the assignment. An analysis based on a *Hypothetical Condition* must not result in an appraisal report that is misleading (Appraisal Institute of Canada's Canadian Uniform Standards of Professional Appraisal Practice).

The report is subject to the following conditions in addition to those noted on Pages 9 - 11.

- **The subject property is currently improved with a single-family dwelling and partially completed cottage. The purpose of this report is to estimate the market value of the subject property 'as if vacant' for cash-in-lieu of parkland dedication. No consideration is given toward completed civil works and services, existing single-family dwelling and partially completed cottage. The analysis and estimate of value herein addresses land value only.**

Effective Date of Appraisal

June 11, 2024

Litigation and Compliance with Supreme Court Civil Rules

In the event that this appraisal report is used in a civil action, the appraiser is aware of and acknowledges a duty to assist the British Columbia Supreme Court and not be an advocate for any party. This appraisal report is prepared in conformity with the appraiser's duty to the court. If the appraiser is called upon to give oral or written testimony, that testimony will be in conformity with the duty to the court.

Real Property Interest to be Valued

Interests in real property vary so real property is said to include a "bundle of rights" that are inherent in the ownership of real estate. Ownership rights include the right to use real estate, to sell it, to lease it, to give it away or to choose to exercise all or none of these rights.

A person who owns all of the property rights has fee simple title. A fee simple estate implies absolute ownership unencumbered by any other interest or estate. Partial interests in real estate are created by selling, leasing or otherwise limiting the bundle of rights in a fee simple estate. A leased fee estate is an ownership interest held by a landlord with the right of use and occupancy conveyed by lease to others. The rights of the lessor (the leased fee owner) and the leased fee are specified by contract terms contained within the lease or leases.

The interest valued in this report is the fee simple estate.

Possession

Neither possession of this report nor a copy of it carries with it the right of publication. All copyright is reserved to the author and is considered confidential by the author and his client. It shall not be disclosed, quoted from or referred to, in whole or in part, or published in any manner without the express written consent of the appraiser. This is subject only to confidential review by the APPRAISAL INSTITUTE OF CANADA as provided in the Canadian Uniform Standards.

Validity

Because market conditions, including economic, social and political factors change rapidly and, on occasion, without warning, the value expressed as of the date of this appraisal cannot be relied upon to estimate the market value as of any other date except with further advice of the appraiser.

Competency Provision

The Canadian Uniform Standards require that competency for the type of property to be appraised must be demonstrated by the appraiser. In this regard, I advise that I have completed numerous appraisals on similar type properties throughout Vancouver Island and the Gulf Islands and have first-hand knowledge of the issues involved in the valuation of this type of property.

Legal Description

Lot B, Section 1, Galiano Island, Cowichan District, Plan VIP87346 (PID: 028-061-942)

Registered Owner

Lawrence Richard Waterfall and Janusz Marek Kowalski, as joint tenants

Market History

The Canadian Standards require that the appraiser report and analyze any listings or sales of the subject property over the previous three years.

According to the records of the local real estate board, BC Assessment and the BC Land Title and Survey Authority, there has been no listing or sales information relative to the subject property over the past three years.

Title and Encumbrances

TITLE SEARCH PRINT

File Reference: CR24-19084

Declared Value \$930000

2024-06-07, 14:57:09

Requestor: Vicki White

CURRENT INFORMATION ONLY - NO CANCELLED INFORMATION SHOWN

Land Title District	VICTORIA
Land Title Office	VICTORIA
Title Number	CA3430690
From Title Number	CA1360718
Application Received	2013-10-30
Application Entered	2013-11-06
Registered Owner in Fee Simple	
Registered Owner/Mailing Address:	LAWRENCE RICHARD WATERFALL, BUSINESSMAN JANUSZ MAREK KOWALSKI 287 ACTIVE PASS DRIVE R.R. #1, S-20, C11 GALIANO ISLAND, BC V0N 1P0 AS JOINT TENANTS
Taxation Authority	Capital Assessment Area
Description of Land	
Parcel Identifier:	028-061-942
Legal Description:	LOT B SECTION 1 GALIANO ISLAND COWICHAN DISTRICT PLAN VIP87346
Legal Notations	
	THIS TITLE MAY BE AFFECTED BY A PERMIT UNDER PART 26 OF THE LOCAL GOVERNMENT ACT, SEE CA5665739 EXPIRES 2019-11-08
	THIS TITLE MAY BE AFFECTED BY A PERMIT UNDER PART 14 OF THE LOCAL GOVERNMENT ACT, SEE CA8022266 EXPIRES 2021-11-14
	THIS TITLE MAY BE AFFECTED BY A PERMIT UNDER PART 14 OF THE LOCAL GOVERNMENT ACT, SEE CB949638

TITLE SEARCH PRINT

File Reference: CR24-19084

Declared Value \$930000

2024-06-07, 14:57:09

Requestor: Vicki White

Charges, Liens and Interests

Nature: UNDERSURFACE RIGHTS
 Registration Number: E27179
 Registration Date and Time: 1976-02-24 13:20
 Registered Owner: HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF BRITISH COLUMBIA
 Remarks: INTER ALIA
 AFB 38.119.E27179

Nature: COVENANT
 Registration Number: M47565
 Registration Date and Time: 1983-05-18 12:31
 Registered Owner: HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF BRITISH COLUMBIA
 Remarks: INTER ALIA
 SECTION 215 L.T.A.
 PART

Nature: COVENANT
 Registration Number: M58171
 Registration Date and Time: 1983-05-18 12:31
 Registered Owner: HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF BRITISH COLUMBIA
 Remarks: INTER ALIA
 SECTION 215 L.T.A.

Nature: UNDERSURFACE RIGHTS
 Registration Number: S13086
 Registration Date and Time: 1987-02-19 08:56
 Remarks: INTER ALIA
 PURSUANT TO MINERAL LAND TAX ACT, SBC 1979,
 CHAPTER 260 AND AMENDMENTS THERETO, MINERALS
 (EXCEPT COAL, GOLD AND SILVER) HEREIN,
 FORFEITED AND VESTED IN CROWN

Nature: COVENANT
 Registration Number: EF12652
 Registration Date and Time: 1992-02-03 09:48
 Registered Owner: HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF BRITISH COLUMBIA
 Remarks: INTER ALIA
 LAND TITLE ACT, SECTION 215
 INCLUDES INDEMNITY UNDER SECTION 215(2)(A)

TITLE SEARCH PRINT

File Reference: CR24-19084

Declared Value \$930000

2024-06-07, 14:57:09

Requestor: Vicki White

Nature:	MORTGAGE
Registration Number:	CA3430691
Registration Date and Time:	2013-10-30 13:53
Registered Owner:	ROYAL BANK OF CANADA

Duplicate Indefeasible Title	NONE OUTSTANDING
-------------------------------------	------------------

Transfers	NONE
------------------	------

Pending Applications	NONE
-----------------------------	------

Charges on title are briefly discussed as follows:

Undersurface Rights (E27179 / S12086) – These charges were not reviewed and appear to be blanket type charges known to be registered to numerous properties in the region with no discernible impact on value or utility.

Covenant M47565 - This charge was registered in favour of HMTQ in May 1983. This charge was registered to the subject parent parcel, prior to being subdivided into two lots that it is now (Lots A and B). At the time, the parent parcel was proposed to be subdivided into three lots. This covenant prohibits construction of any dwelling on a portion of then proposed Lot 3. The covenant document does not stipulate the specific area on then proposed Lot 3; however, the client has provided a survey for their proposed 4-lot subdivision which shows the covenant area along the cliffs of the waterfrontage of the subject property. It would not be cost-effective to develop on this portion of the land anyways; therefore, this charge is not considered to adversely affect the value / utility of the subject property.

Covenant M58171 – This charge was also registered in favour of HMTQ in May 1983. This charge was registered to the subject parent parcel, prior to being subdivided into two lots that it is now (Lots A and B). At the time, the parent parcel was proposed to be subdivided into three lots however, proposed Lots 2 and 3 did not demonstrate a proven source of 200 gallons of potable water per day. Therefore, the covenant stipulated that the then proposed Lots 2 and 3 could only have a dwelling with a maximum gross floor area of 2,530 sf. It is not known whether or not this covenant is still applicable to the subject property, since it was subdivided from the parent lot and has subsequently been improved with several drilled wells. This report assumes that the subject property has sufficient potable water and that this charge does not adversely affect the value and/or utility of the subject property.

Covenant EF12652 – This charge was registered in favour of HTMQ in February 1992. Again, this charge was registered to the subject parent parcel, prior to being subdivided into two lots that it is now (Lots A and B), comprising of approximately 30.34 acres. This charge permits a maximum of 10 single-family dwellings and 10 guest cabins on the parent parcel. This covenant falls in line with the zoning bylaw and is not considered to adversely affect the utility / value of the subject property.

For purposes of this valuation, we have not considered any financial encumbrances registered on the subject property title. This is not to be construed as a legal opinion of title.

ASSUMPTIONS, LIMITING CONDITIONS, DISCLAIMERS AND LIMITATIONS ON LIABILITY

The certification that appears in this report is subject to compliance with the Personal Information Protection and Electronics Documents Act (PIPEDA), Canadian Uniform Standards of Professional Appraisal Practice ("CUSPAP"), and the following conditions:-

1. This report is prepared only for the client and authorized users specifically identified in this report and only for the specific use identified herein. No other person may rely on this report or any part of this report without first obtaining consent from the client and written authorization from the authors. Liability is expressly denied to any other person and, accordingly, no responsibility is accepted for any damage suffered by any other person as a result of decisions made or actions taken based on this report. Liability is expressly denied for any unauthorized user or for anyone who uses this report for any use not specifically identified in this report. Payment of the appraisal fee has no effect on liability. Reliance on this report without authorization or for an unauthorized use is unreasonable.
2. Because market conditions, including economic, social and political factors, may change rapidly and, on occasion, without warning, this report cannot be relied upon as of any date other than the effective date specified in this report unless specifically authorized by the author(s).
3. The author will not be responsible for matters of a legal nature that affect either the property being appraised or the title to it. The property is appraised on the basis of it being under responsible ownership. No registry office search has been performed and the author assumes that the title is good and marketable and free and clear of all encumbrances. Matters of a legal nature, including confirming who holds legal title to the appraised property or any portion of the appraised property, are outside the scope of work and expertise of the appraiser. Any information regarding the identity of a property's owner or identifying the property owned by the listed client and/or applicant provided by the appraiser is for informational purposes only and any reliance on such information is unreasonable. Any information provided by the appraiser does not constitute any title confirmation. Any information provided does not negate the need to retain a real estate lawyer, surveyor or other appropriate experts to verify matters of ownership and/or title.
4. Verification of compliance with governmental regulations, bylaws or statutes is outside the scope of work and expertise of the appraiser. Any information provided by the appraiser is for informational purposes only and any reliance is unreasonable. Any information provided by the appraiser does not negate the need to retain an appropriately qualified professional to determine government regulation compliance.
5. It is assumed that the property is in full compliance with all applicable federal, provincial, and local environmental regulations and laws unless the lack of compliance is stated, described, and considered in the appraisal report.
6. It is assumed that the property conforms to all applicable zoning and use regulations and restrictions unless a non-conformity has been identified, described and considered in the appraisal report.
7. It is assumed that all required licenses, certificates of occupancy, consents, and other legislative or administrative authority from any local, provincial, or national government or private entity or organization have been or can be obtained or renewed for any use on which the value estimate contained in this report is based.
8. No survey of the property has been made. Any sketch in this report shows approximate dimensions and is included only to assist the reader of this report in visualizing the property. It is unreasonable to rely on this report as an alternative to a survey, and an accredited surveyor ought to be retained for such matters.

9. It is assumed that the use of the land and improvements is confined within the boundaries or property lines of the property described and that there is no encroachment or trespass unless noted in the report.
10. This report is completed on the basis that testimony or appearance in court concerning this report is not required unless specific arrangements to do so have been made beforehand. Such arrangements will include, but not necessarily be limited to: adequate time to review the report and related data, and the provision of appropriate compensation.
11. Unless otherwise stated in this report, the author has no knowledge of any hidden or unapparent conditions (including, but not limited to: its soils, physical structure, mechanical or other operating systems, foundation, etc.) of/on the subject property or of/on a neighbouring property that could affect the value of the subject property. It has been assumed that there are no such conditions. Any such conditions that were visibly apparent at the time of inspection or that became apparent during the normal research involved in completing the report, have been noted in the report. This report should not be construed as an environmental audit or detailed property condition report, as such reporting is beyond the scope of this report and/or the qualifications of the author. The author makes no guarantees or warranties, express or implied, regarding the condition of the property, and will not be responsible for any such conditions that do exist or for any engineering or testing that might be required to discover whether such conditions exist. The bearing capacity of the soil is assumed to be adequate.
12. The author is not qualified to comment on detrimental environmental, chemical or biological conditions that may affect the market value of the property appraised, including but not limited to, pollution or contamination of land, buildings, water, groundwater or air which may include, but are not limited to, moulds and mildews or the conditions that may give rise to either. Any such conditions that were visibly apparent at the time of inspection, or that became apparent during the normal research involved in completing the report, have been noted in the report. It is an assumption of this report that the property complies with all regulatory requirements concerning environmental, chemical and biological matters, and it is assumed that the property is free of any detrimental environmental, chemical and biological conditions that may affect the market value of the property appraised. If a party relying on this report requires information about or an assessment of detrimental environmental, chemical or biological conditions that may impact the value conclusion herein, that party is advised to retain an expert qualified in such matters. The author expressly denies any legal liability related to the effect of detrimental environmental, chemical or biological matters on the market value of the property.
13. The analyses set out in this report relied on written and verbal information obtained from a variety of sources the author considered reliable. Unless otherwise stated herein, the author did not verify client-supplied information, which the author believed to be correct.
14. The term "inspection" refers to observation only as defined by CUSPAP and reporting of the general material finishing and conditions observed for the purposes of a standard appraisal inspection. The inspection scope of work includes the identification of marketable characteristics/amenities offered for comparison and valuation purposes only.
15. The opinions of value and other conclusions contained herein assume satisfactory completion of any work remaining to be completed in a good and workmanlike manner. Further inspection may be required to confirm completion of such work. The author has not confirmed that all mandatory building inspections have been completed to date, nor has the availability/issuance of an occupancy permit been confirmed. The author has not evaluated the quality of construction, workmanship or materials. It should be clearly understood that this visual inspection does not imply compliance with any building code requirements as this is beyond the professional expertise of the author.

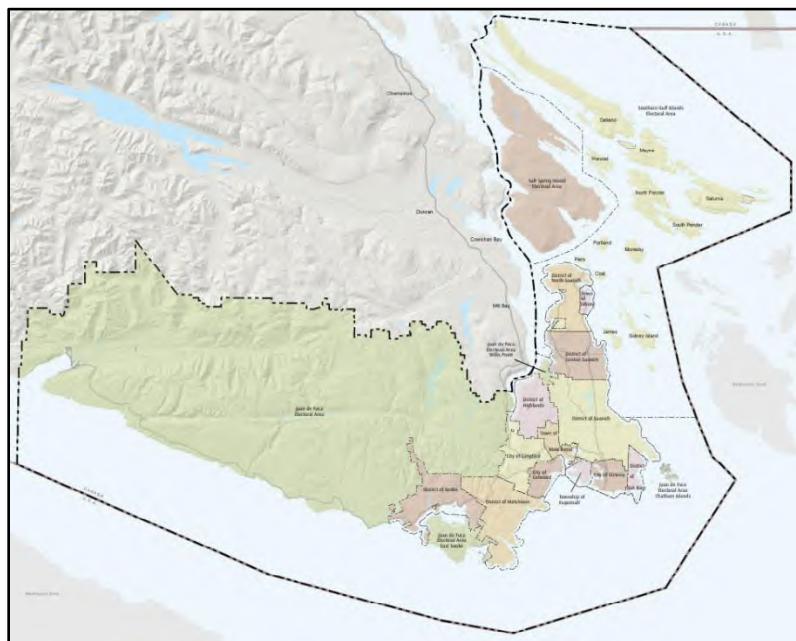
16. The contents of this report are confidential and will not be disclosed by the author to any party except as provided for by the provisions of the CUSPAP and/or when properly entered into evidence of a duly qualified judicial or quasi-judicial body. The author acknowledges that the information collected herein is personal and confidential and shall not use or disclose the contents of this report except as provided for in the provisions of the CUSPAP and in accordance with the author's privacy policy. The client agrees that in accepting this report, it shall maintain the confidentiality and privacy of any personal information contained herein and shall comply in all material respects with the contents of the author's privacy policy and in accordance with the PIPEDA.
17. The author has agreed to enter into the assignment as requested by the client named in this report for the use specified by the client, which is stated in this report. The client has agreed that the performance of this report and the format are appropriate for the authorized use.
18. This report, its content and all attachments/addendums and their content are the property of the author. The client, authorized users and any appraisal facilitator are prohibited, strictly forbidden, and no permission is expressly or implicitly granted or deemed to be granted, to modify, alter, merge, publish (in whole or in part) screen scrape, database scrape, exploit, reproduce, decompile, reassemble or participate in any other activity intended to separate, collect, store, reorganize, scan, copy, manipulate electronically, digitally, manually or by any other means whatsoever this appraisal report, addendum, all attachments and the data contained within, for any commercial, or other, use.
19. This report is valid only if it bears the original signature and seal of the author. Due to the possibility of digital modification, only originally signed reports and those reports sent directly by the author can be reasonably relied upon.
20. As a member of the Appraisal Institute of Canada, the appraiser carries professional liability insurance for errors and omissions in the amount of \$2,000,000 per occurrence and \$2,000,000 in the aggregate annually. In the event that a claim of liability is made against the appraiser and Cunningham & Rivard Appraisals Ltd. pursuant to this report, the client and / or the authorized users of this report agree to limit the claim to a maximum of \$2,000,000.
21. This report form is the property of the Appraisal Institute of Canada (AIC) and for use only by AIC members in good standing. Use by any other person is a violation of AIC copyright.
22. Where the authorized use of this report is for financing or mortgage lending or mortgage insurance, it is a condition of reliance on this report that the authorized user has or will conduct lending, underwriting and insurance underwriting and rigorous due diligence in accordance with the standards of a reasonable and prudent lender or insurer, including but not limited to ensuring the borrower's demonstrated willingness and capacity to service his/her debt obligations on a timely basis, and to conduct loan underwriting or insuring due diligence similar to the standards set out by the Office of the Superintendent of Financial Institutions (OSFI), even when not otherwise required by law. Liability is expressly denied to those that do not meet this condition. Any reliance on this report without satisfaction of this condition is unreasonable.

PROPERTY DESCRIPTION

REGIONAL DESCRIPTION

Capital Regional District

The Capital Regional District was formed in 1966 as a federation of seven municipalities and five electoral areas to provide coordination of regional issues and local government in rural areas in the Greater Victoria region. Currently the CRD is the regional government for the 13 municipalities and three electoral areas that are located on the southern tip of Vancouver Island and includes many of the Gulf Islands, a number of rural municipalities and a vast tract of wilderness that lies along the south-western coast of Vancouver Island.



The CRD encompasses the traditional territories and historic villages of nine principal Coast Salish First Nations (Esquimalt, Songhees, Pauquachin, Tseycum, Tsawout, Tsartlip, Sc'ianew, T'Sou-ke and Malahat) and one Nuu-chah-nulth First Nation (Pacheedaht). It encompasses an area of $\pm 2,341 \text{ km}^2$ (903.91 sq.mi.), which includes the City of Victoria, the Districts of Oak Bay, Saanich, Central Saanich and North Saanich, the Towns of Sidney and View Royal, the Township of Esquimalt, the Cities of Langford and Colwood, the Districts of Metchosin, Highlands and Sooke, as well as the Juan de Fuca Electoral Area and the Electoral Areas of Salt Spring Island and the Southern Gulf Islands.

The CRD is the most heavily populated region of Vancouver Island, with a 2021 Census population of 415,451 (2021 census), up 8.4% from 383,360 in 2016. The City of Victoria along with the District of Saanich, have the highest population density in the region with a combined 2021 census total of 209,876.

The climate is generally warm and temperate with average monthly temperatures ranging from 4°C (39.2°F) in December to 17°C (62.6°F) in July. Average yearly rainfall for the region is 928.3 mm with most precipitation falling in January (based on stats collected during 1992-2021)

Over its history Victoria Harbour has included industries such as ship building and repair, sawmilling and log booming, machine manufacturing, coal gasification, paint manufacturing, tanning, propane tank farm, concrete batch plant and an asphalt plant.

Current key industry and employment sources in the capital region are tourism, technology, health care, education and government services. City of Victoria and the CRD are popular tourist destinations due to the moderate climate, a long and complex coastline, more than 13,300 hectares of natural areas in 33 regional parks and four regional trails plus numerous tourist facilities and attractions. Victoria's tourism industry is estimated to be worth \$16 billion to the economy and generated approximately 171,100 jobs. Data for the year ending September 2023 indicated tourism in Victoria generated \$36.9 billion in total spending.

Greater Victoria is served by three main hospitals plus over 300 health services clinics and facilities including large public and private hospitals, rural and regional health services and specialist hospitals and facilities (mother & child, rehabilitation and psychiatric). The 500-bed Royal Jubilee Hospital, in City of Victoria, is the island's oldest and largest health care centre, employing over 4,300 staff and physicians and occupying a 37-acre site near the heart of Victoria.

The University of Victoria, located in Saanich, is one of Canada's leading research-intensive universities. The facility has over 22,000 students (graduate and undergraduate), 5,000 employees including 900 full time faculty members, 580+ patents filed to date, 1,145+ inventions disclosures, 169 start-up companies and is consistently rated the top university in North America for international research collaboration (2011-2023). The region is also home to Camosun College, with two campus locations, and Royal Roads University.

City of Victoria is the capital city of British Columbia and as such is home to the provincial parliament buildings and numerous government offices, agencies and organizations. The provincial government employs a workforce of approximately 300,000 in 1,800 different departments who deliver services to the public, with 46% of these on Vancouver Island and Coast regions. In the federal sector, the Township of Esquimalt has been home to the Royal Canadian Navy (Maritime Forces Pacific) since 1910. CFB Esquimalt is the second largest military base in Canada with over 6,000 military and civilian personnel and has its own services including police, fire, postal, legal, health, social work and chaplains, among others. Maritime Forces Pacific contribute over half a billion to the local economy annually. There are also several other DND installations and training centres throughout the region including 443 Maritime Helicopter Squadron headquartered in Patricia Bay on the Saanich Peninsula.

Transportation facilities via the CRD include the BC Ferry Corporation, with a major terminal at Swartz Bay at the north end of the Saanich Peninsula, which provides transportation (passengers, cars and freight) to the mainland via Tsawwassen, as well as several smaller ferries providing passenger and car services to the major Gulf Islands.

Downtown Victoria offers the Black Ball (Coho) ferry which takes passengers and vehicles to Port Angeles in Washington State. The Victoria Clipper is a fast ferry service which takes passengers only from Victoria Harbour to downtown Seattle.

The Victoria International Airport (YYJ) is located in North Saanich adjacent to the Town of Sidney and has several service providers who offer flights to Canadian and North American cities as well as numerous international destinations. There is also Harbour Air which flies passengers on seaplanes from Victoria harbour to Vancouver harbour and Helijet which has been offering air service to Vancouver from Ogden Point in downtown Victoria for 38 years.

Further information may be obtained from the following web sites:

www.crd.bc.ca
www.uvic.ca
www.tourismvictoria.com
www.gov.bc.ca
www.canada.ca

Galiano Island

The subject property is situated on Galiano which is one of six main southern Gulf Islands, the others being Salt Spring, North Pender, South Pender, Mayne and Saturna. The southern Gulf Islands are serviced regularly by BC Ferries which provides service connections from Tsawwassen on the mainland and Swartz Bay on Vancouver Island. The six islands have become popular tourist destinations; several lodges, resorts and bed and breakfast facilities have been developed on the islands.

Galiano Island is one of the outer gulf islands located between Mayne Island to the south and Valdes Island to the north and approximately 20 km north of Swartz Bay on the Saanich Peninsula. The island is long and narrow with an area of 6,035 ha. which includes several associated islands. Most of the 1,396 population (2021 census – 33.7% decrease since 2016) is located near Sturdies Bay at the south end on Active Pass, Montague Harbour on the protected southwest coast and scattered along the southwest waterfront side.

The Island is served by BC Ferries from Swartz Bay to Montague Harbour and Tsawwassen to Sturdies Bay. This ready access from Victoria and Vancouver is a major influencing factor on Galiano's recreational land values. Hydro and telephone are available to the populated parts of the island.

Galiano Island falls within the boundaries of the Islands Trust. The principal source of employment is the logging industry.

The Islands Trust Area is located within the treaty lands and territories of the BOKÉĆEN, Cowichan Tribes, K'ómoks, Lyackson, MÁLEXEĒ, Qualicum, scəwəθən, səlilwətał, SEMYOME, shíshálh, Skwxwú7mesh, Snaw-naw-as, Snuneymuxw, Songhees, Spune'luxutth', STÁUTW, Stz'uminus, łaʔəmen, Ts'uubaa-asatx, Wei Wai Kum, We Wai Kai, WJOLÉLP, WSIKEM, Xeláltxw, Xwémalhkwu, Xwsepsum, and xʷməθkʷəy̓əm First Nations.

Islands Trust website: www.islandstrust.bc.ca



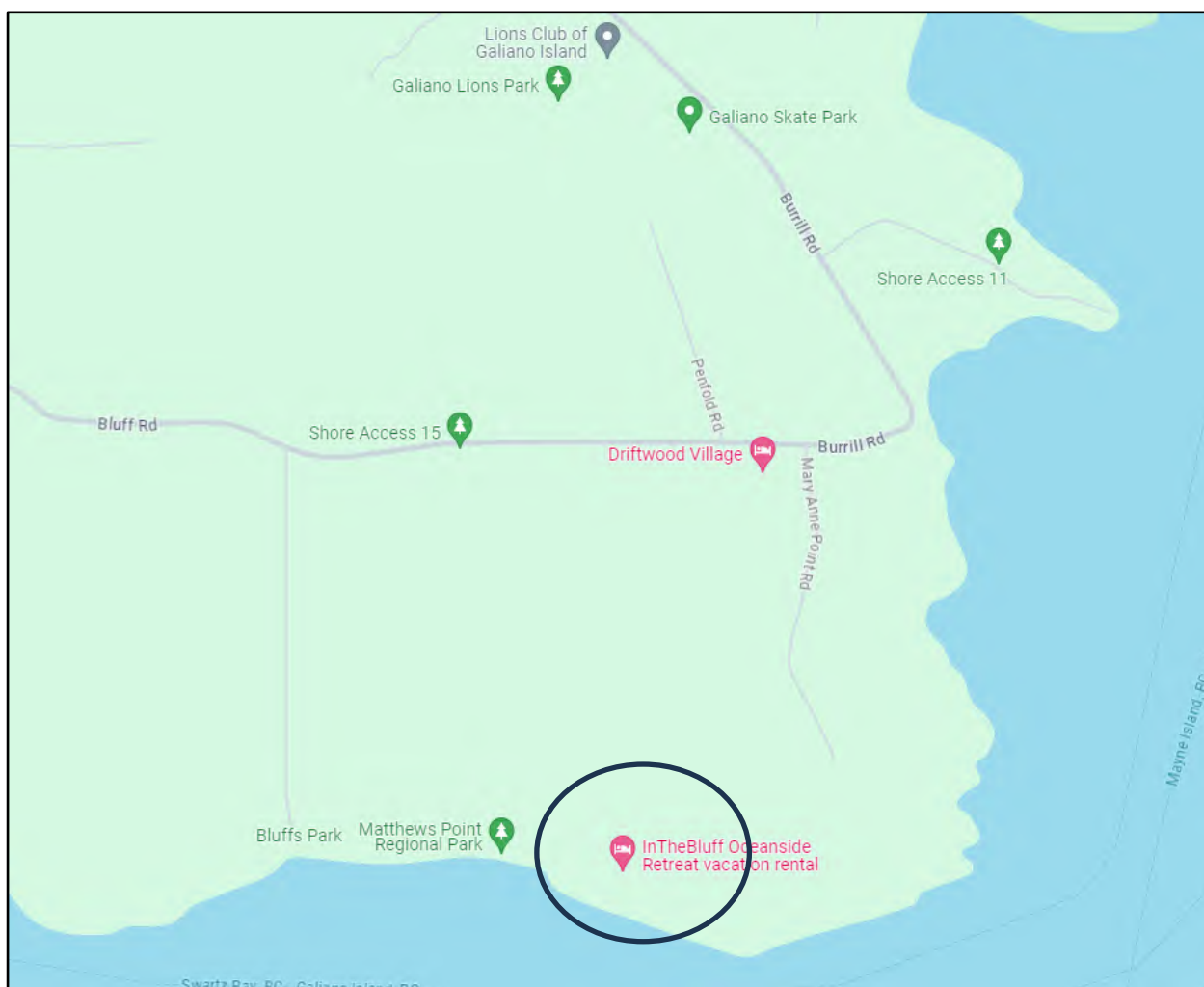
LOCATION DESCRIPTION

The subject property is located off the west end of Mary Ann Point Road, south of Bluff Road, in the southeastern section of Galiano Island, BC.

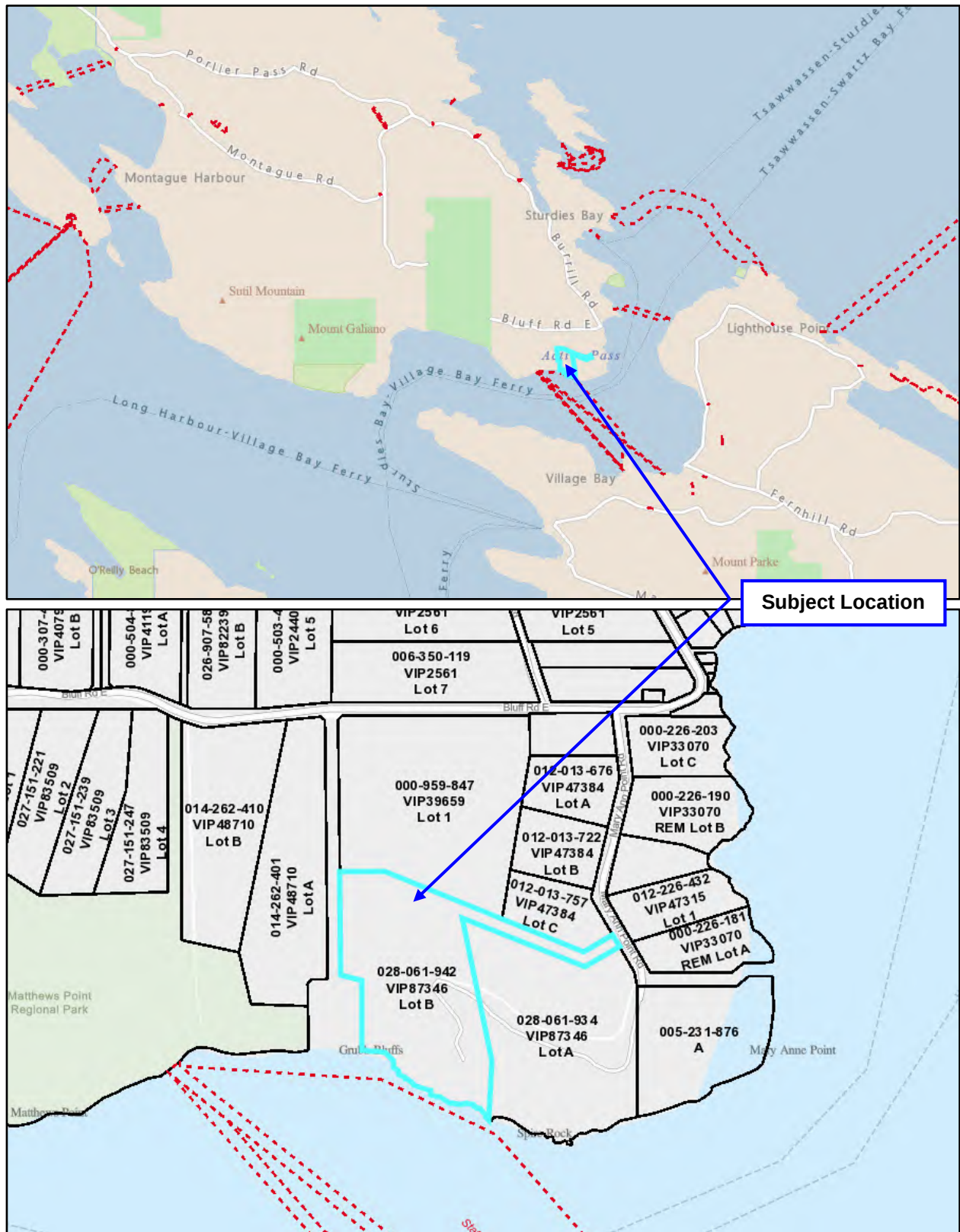
Surrounding properties are mainly small rural residential acreages with some single-family improvements and many in their natural treed state. There is an agricultural acreage directly north of the subject. The properties eastward on Mary Ann Point Road are also water-fronting, with views eastward across Georgia Strait.

Other nearby properties include some small tourist / recreation properties and parkland (Bellhouse Provincial Park, Matthews Point Regional Park & Bluffs Park).

The ferry terminals (to Swartz Bay on Vancouver Island and to Tsawwassen on the mainland) are ± 2.25 km to the north in Sturdies Bay.



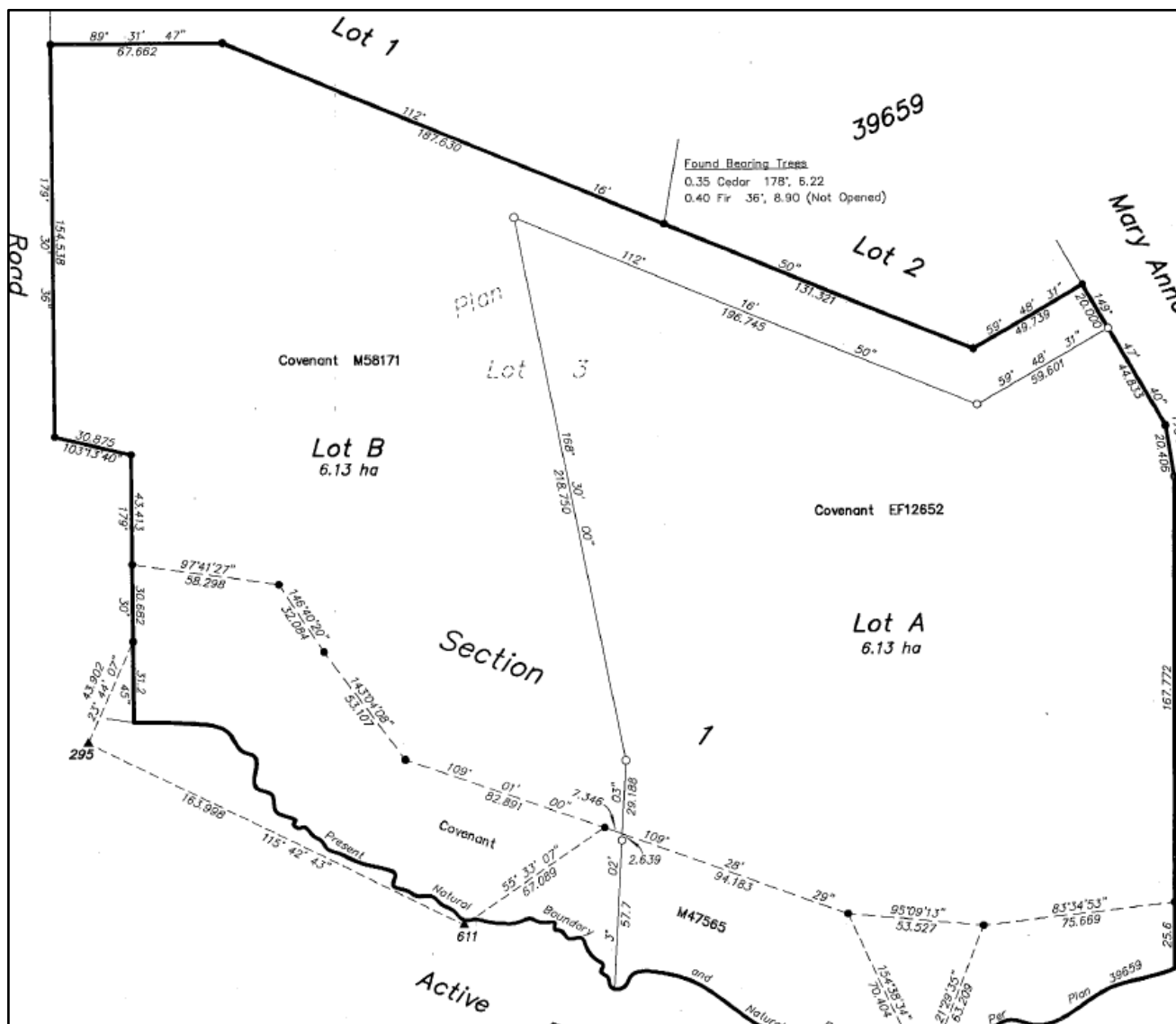
Location Maps



LAND DESCRIPTION

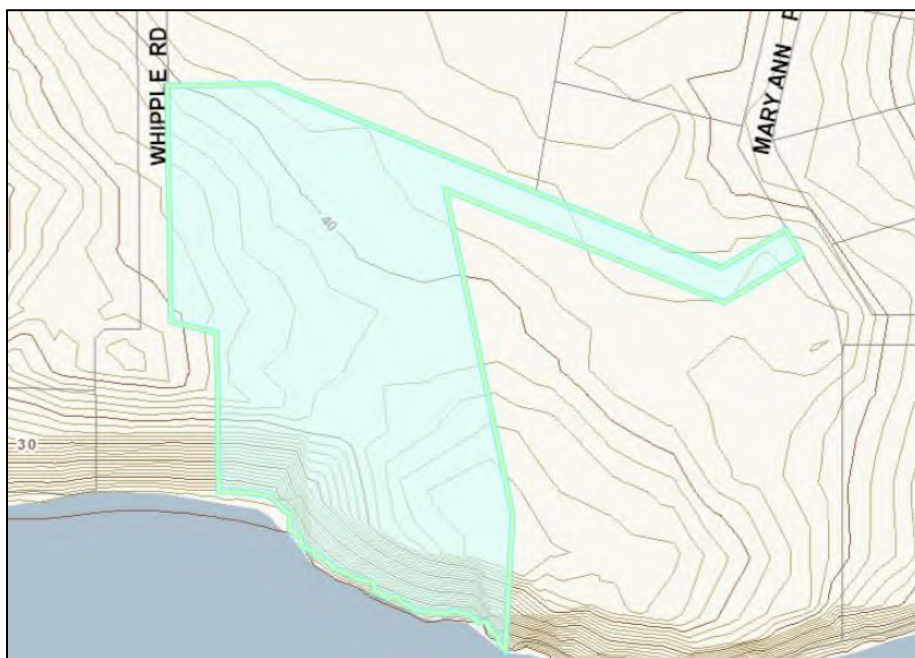
Lot Size and Configuration

The subject is a very irregular shaped panhandle lot, with 20m (65.6 ft) of panhandle frontage to Mary Ann Point Road, ±240 m (787 ft) of high bank waterfrontage and a site area of 6.13 ha. (15.15 acres). Refer to excerpt of Survey Plan VIP87346 shown below.



Topography

The subject property has a varying topography ranging from relatively level potential building sites to steep, high bank waterfrontage. Portions of the waterfrontage comprise sand beach, while other portions are steep rock face. A contour map is illustrated below:



Access

Access is via the panhandle section of the property off of Mary Ann Point Road.

Visibility

The subject property has limited visibility to Mary Ann Point Road.

Street Improvements

Mary Ann Point Road is a two-way, minimally gravel side road with overhead utility lines. There is no street lighting in the area.

Utilities

Electricity, telephone, cable and garbage pickup are available. The subject property is improved with several drilled wells and sewage disposal is by on-site septic system. Fire protection is provided by the North Galiano Island Volunteer Fire Department (on Porlier Pass Road) and police protection is provided by the RCMP.



Environmental Hazards

The appraiser is not aware of any environmental hazards relating to the existing use and is not qualified to comment on the current environmental condition of the property. No hazardous substances were called to the attention of the appraiser, nor did the appraiser become aware of such, during the property inspection. The appraiser has no knowledge of the existence of hazardous substances on or in the property unless otherwise stated. No responsibility is assumed for any such conditions, nor for any expertise or engineering knowledge required to discover them. For the purpose of this report the subject property has been valued assuming that it is free of any environmental hazards or contamination. If any further clarification in this regard is required, it is suggested that an environmental assessment report be prepared.

Site Photographs



ASSESSMENT AND TAXES

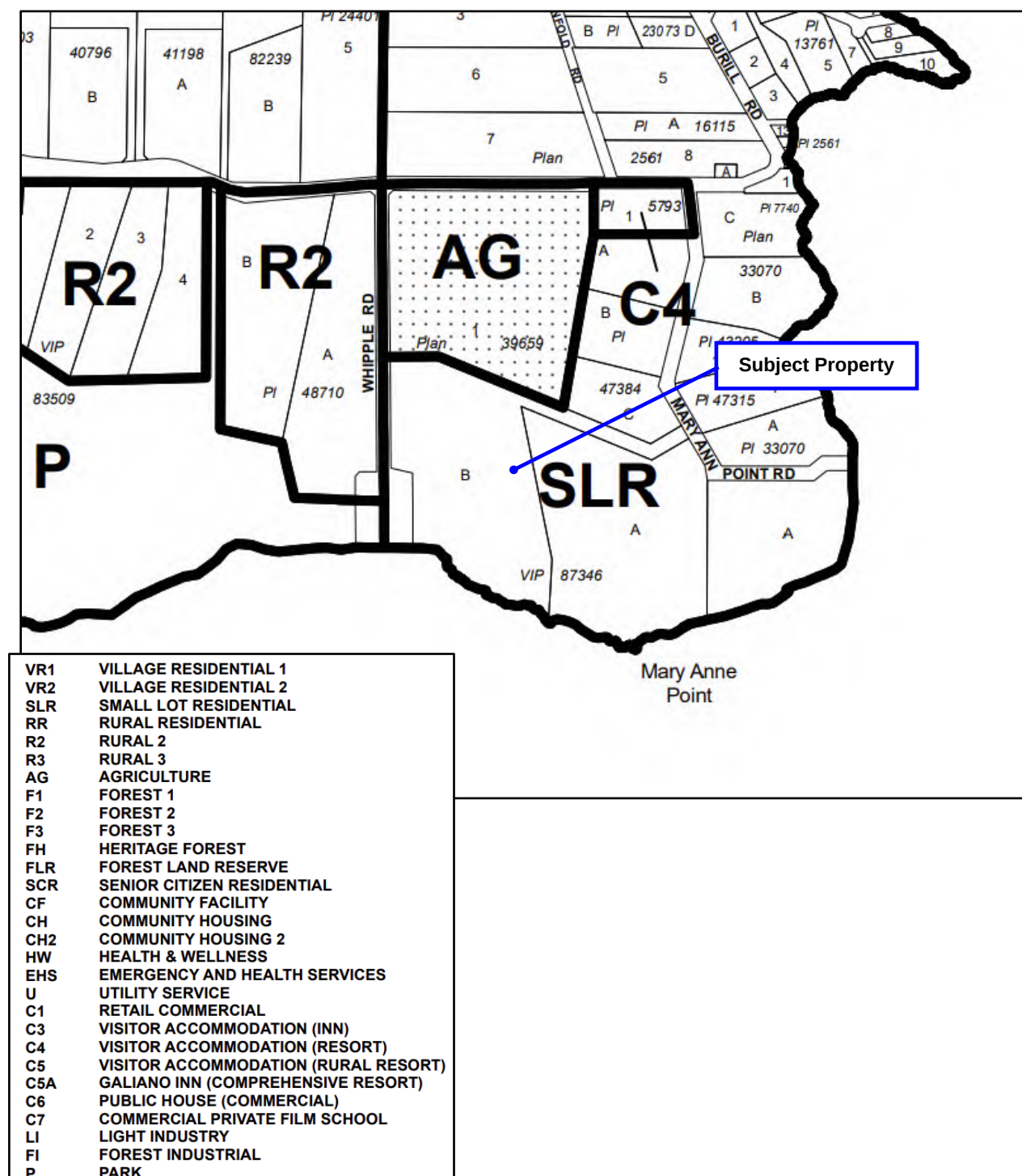
Property Identification & Legal Description 				
Address:	350 MARY ANN POINT RD GALIANO BC V0N 1P0			
Jurisdiction:	Gulf Islands Rural (764)			
Roll No:	2002032	Assessment Area:	1	
PID No:	028-061-942	MHR No:		
Neighbourhood:	Gulf Islands Waterfront			
Legal Unique ID:	D00000620Z			
Legal Description:	LOT B, PLAN VIP87346, SECTION 1, COWICHAN LAND DISTRICT, PORTION GALIANO			
2023 Municipal Taxes				
Gross Taxes:	\$7,794			
2024 Assessed Values				
VALUATION:		Land	Improve	Total
	Value:	\$1,894,000	\$718,000	\$2,612,000
GENERAL:		Land	Improve	Total
	Gross Value:	\$1,894,000	\$718,000	\$2,612,000
	Exempt Value:	\$0	\$0	\$0
	Net Value:	\$1,894,000	\$718,000	\$2,612,000
SCHOOL:		Land	Improve	Total
	Gross Value:	\$1,894,000	\$718,000	\$2,612,000
	Exempt Value:	\$0	\$0	\$0
	Net Value:	\$1,894,000	\$718,000	\$2,612,000
BC TRANSIT:		Land	Improve	Total
	Gross Value:	\$0	\$0	\$0
	Exempt Value:	\$0	\$0	\$0
	Net Value:	\$0	\$0	\$0
Last Three Sales Per BCA				
	Conveyance Date	Price	Document No	Conveyance Type
	2013-10-30	\$930,000	CA3430690	Improved Single Property Transaction
	2009-11-24	\$892,500	CA1360718	Reject - Not Suitable for Sales Analysis
Other Property Information				
Lot SqFt:	659,934	Lot Width:		
Lot Acres:	15.15	Lot Depth:		
Tenure:	Crown-Granted	Actual Use:	2 Acres Or More (Single Family Dwelling, Duplex)	
School District:	Gulf Islands	Manual Class:	1.5 STY SFD - After 1990 - Semi-Custom	
Vacant Flag:	No	Reg District:	Capital	
BC Transit Flag:	No	Reg Hosp Dist:	Capital	
Farm No:		Mgd Forest No:		
DB Last Modified:	2024-01-01	Rec Last Modified:	2024-01-01	
Assessment & Tax History				
	Year	Assessed Value	Gross Taxes	
	2023	\$2,152,000	\$7,794	
	2022	\$2,065,000	\$7,568	
	2021	\$1,512,000	\$6,937	
	2020	\$1,402,000	\$6,576	
	2019	\$1,410,000	\$6,576	

"Actual Value" reflects the opinion of the local Assessment Authority of the market value of the fee simple interest in the property as at July 1, 2023 on the basis of October 31, 2023 physical condition. The Assessment Authority valuations are based on mass appraisal techniques such as multiple regression analysis, and inspection data may be several years old. Actual assessed values, therefore, can be less precise than a full appraisal.

LAND USE CONTROLS

Zoning

The zoning for the subject property has been established from bylaws as they were in effect at the time of the appraisal. Pertinent sections of this bylaw, as they affect the subject property, are included in the following pages. The subject property is zoned SLR, Small Lot Residential as per the Galiano Island Local Trust Committee Land Use Bylaw No. 127, 1999, enacted March 1, 2000 and subsequent amendments.



Zoning Bylaw

5.3 Small Lot Residential Zone - SLR

Permitted Uses

- | | |
|-------|--|
| BL255 | <p>5.3.1 In the Small Lot Residential zone the following uses are permitted, subject to the regulations set out in this section and the general regulations set out in Parts 2 and 3, and all other uses are prohibited.</p> <p style="margin-left: 20px;">5.3.1.1 dwellings</p> <p style="margin-left: 20px;">5.3.1.2 cottages</p> <p style="margin-left: 20px;">5.3.1.3 home occupations</p> <p style="margin-left: 20px;">5.3.1.4 secondary suite</p> |
| BL170 | <p>5.3.2 Despite Subsection 5.3.1 on lands legally described as Lot 1, District Lot 83, Plan 26445, Galiano Island, Cowichan District cottages are not permitted.</p> |
| BL172 | <p>5.3.3 Despite Subsection 5.3.1 on lands legally described as District Lot 145, Cowichan District, the only uses permitted are those in Subsections 2.1.1 and 2.1.2 of this bylaw.</p> |

Permitted Density

- 5.3.4 One dwelling is permitted on each lot, and one additional dwelling is permitted in respect of each 1.2 hectares of lot area over 1.2 hectares.
- 5.3.5 One cottage is permitted on each lot having an area of 0.4 hectares or more, in respect of each permitted dwelling.
- 5.3.6 Lot coverage must not exceed 25% of any lot.

Permitted Height

- | | |
|-------|--|
| BL237 | <p>5.3.7 No building or structure for a use permitted by this section may exceed 9 metres in height. Accessory buildings and structures must not exceed one storey and a height of 5 metres.</p> |
|-------|--|

Minimum Setbacks

- | | |
|-------|---|
| BL170 | <p>5.3.8 Buildings and structures must be sited</p> <p style="margin-left: 20px;">5.3.8.1 at least 7.5 metres from front and rear lot lines;</p> <p style="margin-left: 20px;">5.3.8.2 at least 6 metres from each interior side lot line; and</p> <p style="margin-left: 20px;">5.3.8.3 at least 6 metres from an exterior side lot line.</p> <p>5.3.9 Despite Subsection 5.3.8 on lands legally described as Lot 1, District Lot 83, Plan 26445, Galiano Island, Cowichan District a dwelling may be located as close as 2.2 metres to the property line common with Lot 3, District Lot 83, Plan 23067, Galiano Island, Cowichan District and a second dwelling if permitted by subdivision, may be as close as 2.9 metres to a property line that is common to the two lots created by such a subdivision.</p> <p>5.3.10 Buildings and structures for the accommodation of farm animals including poultry must be sited</p> <p style="margin-left: 20px;">5.3.10.1 at least 7.5 metres from a front lot line;</p> <p style="margin-left: 20px;">5.3.10.2 at least 30 metres from rear and interior side lot lines; and</p> <p style="margin-left: 20px;">5.3.10.3 at least 6 metres from an exterior side lot line.</p> |
|-------|---|

- BL209 5.3.11 Buildings and structures used for human habitation or occupancy and not located within the Agriculture (AG) zone must be sited at least 15 metres from the boundary of the Agriculture (AG) zone.

Minimum Lot Size

- 5.3.12 No lot may be created by subdivision that has an area less than
- 5.3.12.1 0.6 hectares where at least one of the boundaries of the lot is the natural boundary of the sea; and
- 5.3.12.2 0.8 hectares in all other cases.

Average Lot Size

- 5.3.12 No subdivision plan may be approved unless the lots created by the subdivision have an average area of at least 1.2 hectares.
- BL170 5.3.13 Despite Subsection 5.3.12 on lands legally described as Lot 1, District Lot 83, Plan 26445, Galiano Island, Cowichan District no subdivision plan may be approved unless lots created by the subdivision have an average area of at least 1.1 hectare.

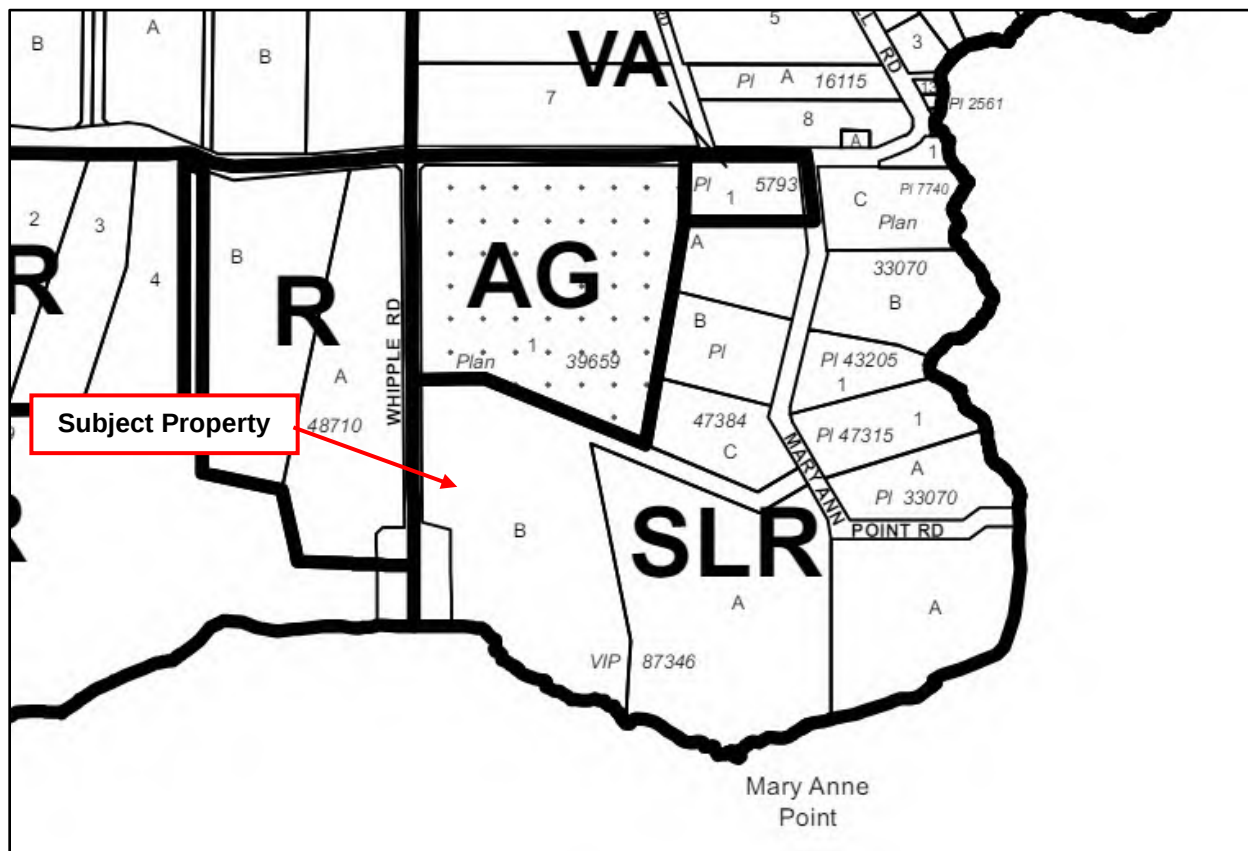
Official Community Plan (OCP)

All local governments are required to ensure that zoning bylaws and new development conform to the OCP. Proposed zoning changes must comply with land uses permitted by the OCP in order to be passed by city council. Proposed rezoning not supported by the OCP requires that the OCP be amended. Such applications are also considered by city council.

In the OCP the subject is designated Small Lot Residential (SLR), consistent with zoning.

The OCP can be accessed at:

<https://islandtrust.bc.ca/document/galiano-ltc-ocp-bylaw-no-108/>



VR1	Village Residential 1	CF/C	Community Facility/Commercial
VR2	Village Residential 2	C	Commercial
SLR	Small Lot Residential	VA	Visitor Accommodation
RR	Rural Residential	LI	Light Industry
R	Rural	U	Utility
AG	Agriculture	PR	Parks & Recreation
F	Forest	NP	Nature Protection
FI	Forest Industry	MP	Marine Protection
CF	Community Facility	MC	Marine Commercial
CH	Community Housing	MS	Marine Service
HF	Health & Wellness Facility	M	Marine

1.3 Small Lot Residential

Small Lot Residential Policies

- | | | |
|-------|----|---|
| | a) | The principal use shall be residential. |
| | b) | One dwelling unit shall be permitted per lot and one additional dwelling shall be permitted for every 1.2 hectares (3 acres) of lot area over 1.2 hectares (3 acres). |
| | c) | On lots 0.4 hectares (1 acre) or more one cottage shall be permitted per dwelling unit permitted. |
| BL215 | d) | The lot size for new subdivision on lots without ocean frontage, shall be at least 0.8 hectare (2 acres) in area. |
| BL215 | e) | The lot size for new subdivision on lots with ocean frontage, shall be at least 0.6 hectare (1 1/2 acres) in area. |
| | f) | The average lot size for new subdivision shall be at least 1.2 hectares (3 acres). |

The subject has areas that are within Development Permit Areas 2 (Shoreline), 5 (Sensitive Ecosystem), and 7 (Steep Slope Hazard Area).



-  DPA # 2 Shoreline
Includes all land 15 metres upland of the natural boundary of the sea, and seaward to the boundary of the area of bylaw application
-  DPA # 4 Elevated Groundwater Catchment
-  DPA # 5 - Sensitive Ecosystems
-  DPA # 6 Commercial & Industrial Form & Character
-  DPA # 7 Steep Slope Hazard Areas

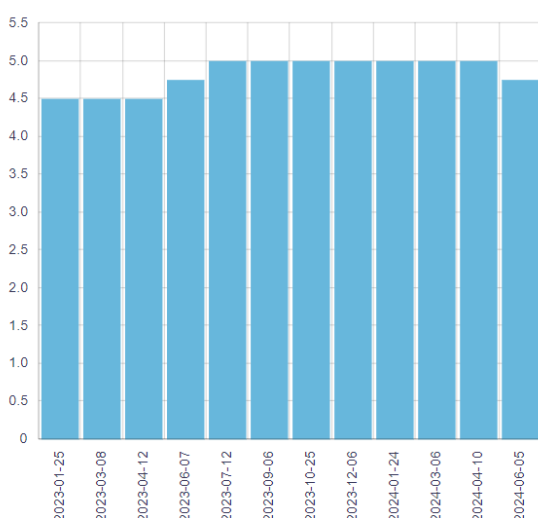
MARKET OVERVIEW

NATIONAL AND PROVINCIAL OVERVIEW

The following statistical data is derived from the Bank of Canada, Canada's Office of the Parliamentary Budget Officer, Statistics Canada, BC Stats, BC Ministry of Finance, CMHC, and the Canadian Real Estate Association.

The Bank of Canada has implemented numerous interest rate hikes since the Spring of 2022. The core objective of the BoC's tightened monetary policy is to combat inflation, which nationally, peaked at 8.1% in June 2022. The BoC policy target is 2.0%. As of April 2024, the inflation rate was 2.7%; continuing to trend downward but remaining above the BoC policy target. Due to recessionary fears, further policy rate hikes by the BoC are no longer anticipated, and in June 2024, the BoC implemented its first rate reduction in four years.

Bank of Canada Overnight Lending Rate Since January 2023



Date*	Target (%)	Change (%)
June 5, 2024	4.75	-0.25
April 10, 2024	5.00	---
March 6, 2024	5.00	---
January 24, 2024	5.00	---
December 6, 2023	5.00	---
October 25, 2023	5.00	---
September 6, 2023	5.00	---
July 12, 2023	5.00	+0.25
June 7, 2023	4.75	+0.25
April 12, 2023	4.50	---
March 8, 2023	4.50	---
January 25, 2023	4.50	+0.25

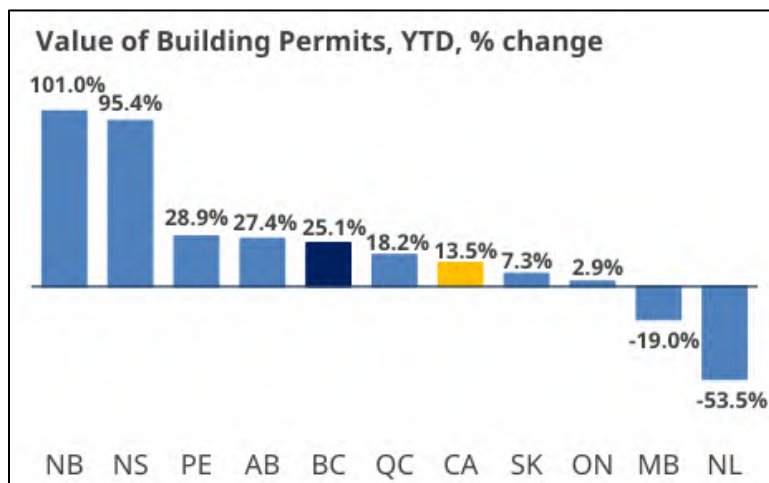
Source: Bank of Canada

Massive forest fires and labour market strikes at 30 ports are among the unexpected events that have impacted the provincial economy this year, and, on top of reduced household spending and capital investment, likely to negatively influence overall growth. Higher interest rates, furthermore, are considered to disproportionately impact British Columbians due to elevated debt levels. The first half of 2023 saw a revival of the provincial housing market due to the Bank of Canada's earlier decision to pause interest rate hikes. Due however, to persistent inflation, interest rates renewed their upward track, testing affordability, and cooling the market into 2024.

Canada's Office of the Parliamentary Budget Officer publishes a semi-annual Economic and Fiscal Outlook report every March and October. According to their March 2024 report, the Canadian economy is expected to remain sluggish through 2024, as the Bank of Canada's restrictive monetary policy is expected to restrain growth in consumer spending in the first half of the year, and dampen residential investment over the course of this year. The provincial economy is expected to trend in a similar manner.

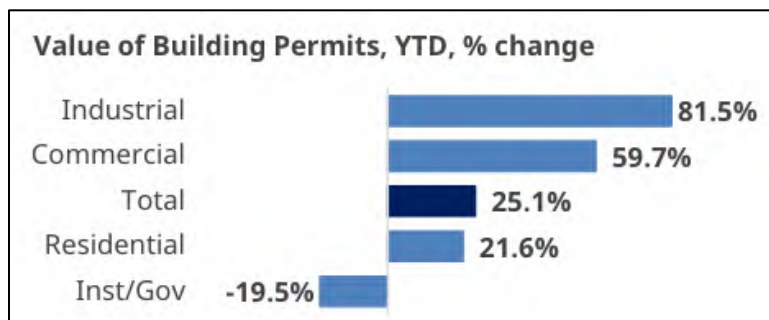
Building Permits:

Nationally, year-to-date building permit values increased by +13.5% in February 2024.



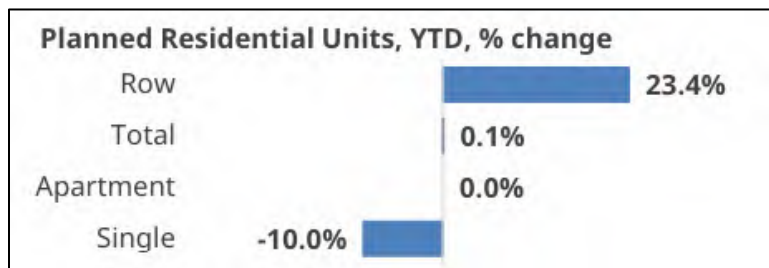
Source: BC Stats

Provincially, year-to-date building permit values increased by +25.1% in February 2024, with industrial projects having the largest increase (+81.5%).



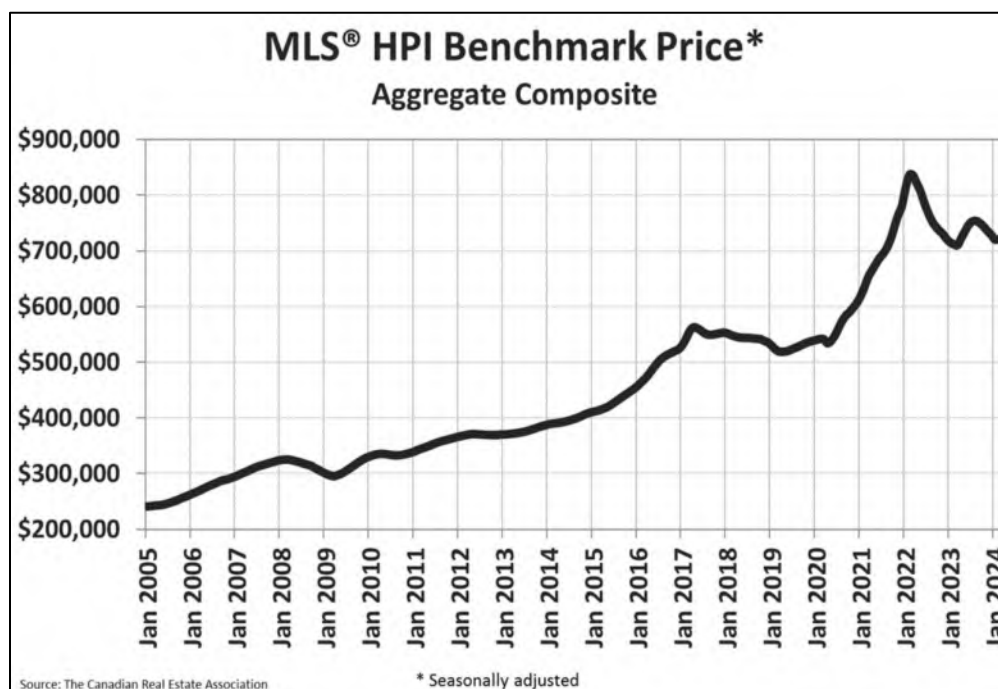
Source: BC Stats

Provincial residential unit building permits increased +0.1% year-to-date in February 2024.



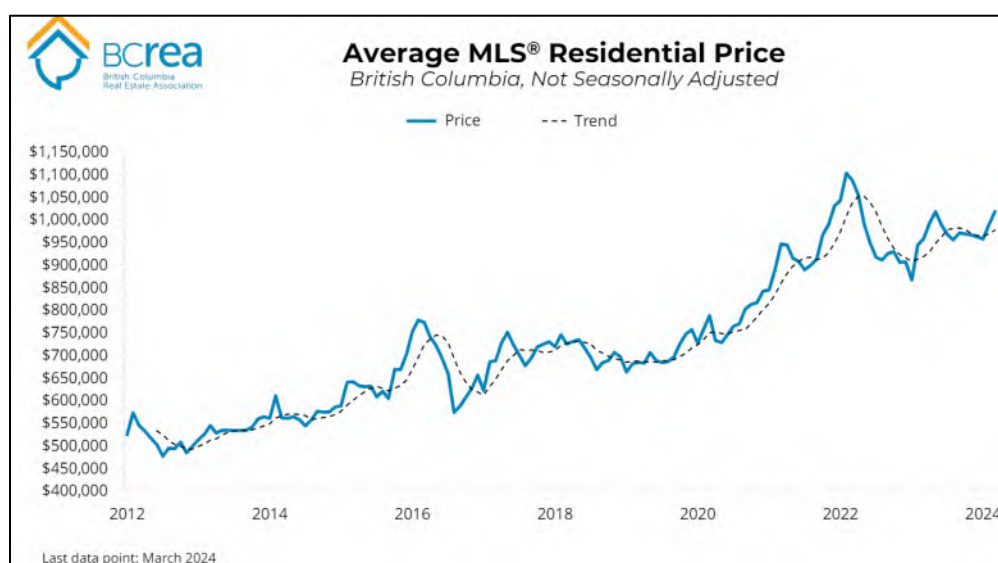
Source: BC Stats

Home Prices



Source: Canadian Real Estate Association

On an annual basis, national home sales totalled 443,511 units in 2023, a decline of 11.1% from 2022. 2023 was technically the lowest annual level for national sales activity since 2008, and close to the levels recorded in each of the five years following the 2008 financial crisis, as well as the first year of the uninsured stress test that was implemented in 2018. According to the Canadian Real Estate Association, while there are expectations that the housing market will pick up this year, home sales and prices were mostly unchanged on a month-over-month basis in March. National home sales edged up 0.5% month-over-month in March, and the MLS Home Price Index (HPI) dropped 0.3% month-over-month, but was up 0.7% year-over-year.



Source: British Columbia Real Estate Association

According to the BC Real Estate Association, provincial home sales in 2023 totalled 73,109 units, down 9.2% from 2022, with the average price declining 2.6% to \$971,144. There was a total of 6,460 units sales in March 2024, a decline of 9.5% from March 2023. The average price was \$1.02 million, up 6.5% from \$958,051 the year before.

Summary

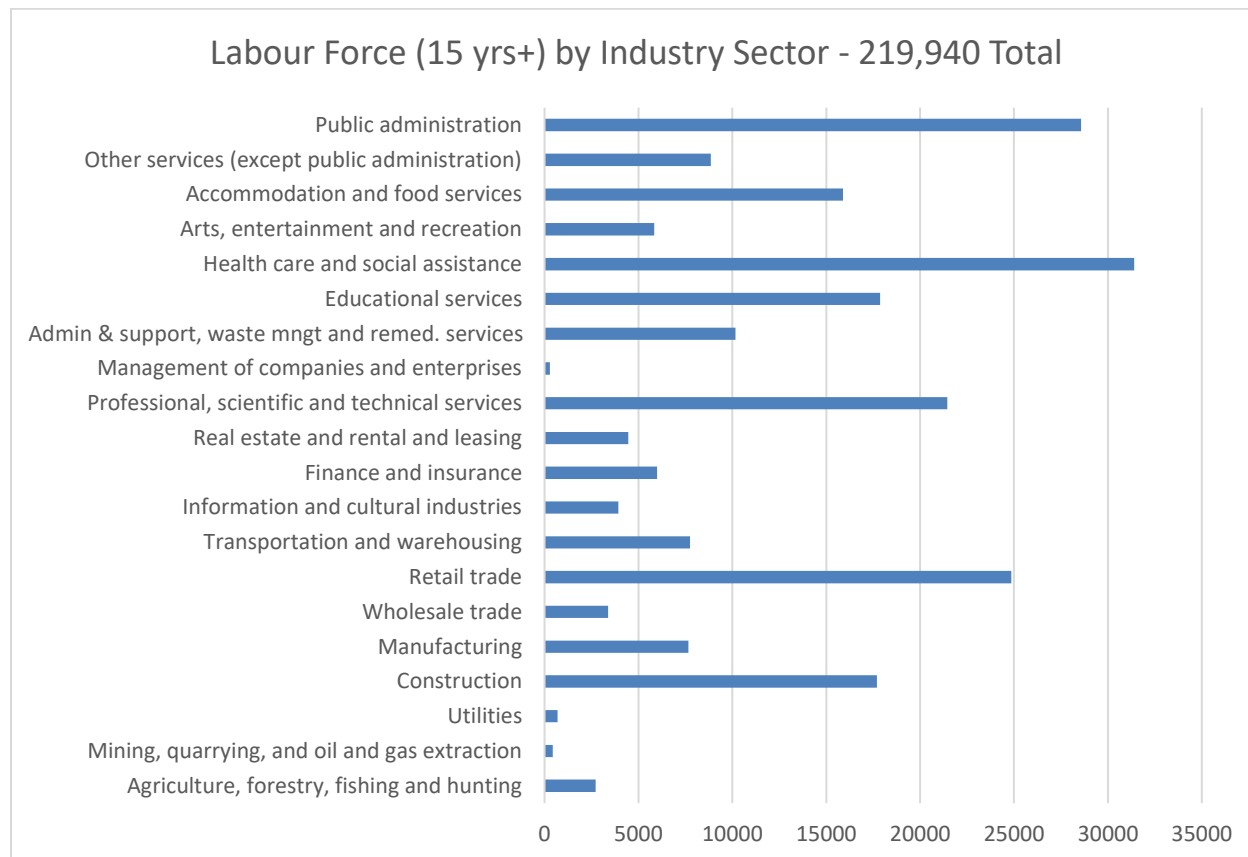
With the Canadian economy having recovered from the effects of the COVID-19 pandemic, new challenges in the form of inflation and higher interest rates have since emerged. Nationally, the Bank of Canada has prioritized controlling inflation ahead of economic growth. From their March 2024 report, Canada's Office of the Parliamentary Budget Officer projects that consumer spending will remain weak through the first half of 2024. As excess supply in the economy increases and commodity prices continue to weaken, the PBO projects that CPI inflation will return to its 2.0% target by the end of 2024. With inflation on track to return to the target rate, the Bank of Canada implemented its first overnight lending rate cut in four years in June, with the PBO projecting the rate to return to its estimated neutral level of 2.5% in Q2 of 2025. Due to a sharp decline in fixed mortgage rates, home sales in BC are now starting to trend higher, with expectations of future BoC rates cuts driving market sentiment drawing potential buyers from the sidelines.

CAPITAL REGIONAL DISTRICT OVERVIEW

The following statistical data is derived from the Statistics Canada, BC Stats, BC Ministry of Finance, CMHC, and the Victoria Real Estate Board.

Economic Base / Services

The Victoria economy is considered diversified with a broad economic base. The industries employing the most people are health and social services, public administration, professional, scientific and technical services, retail, and construction.

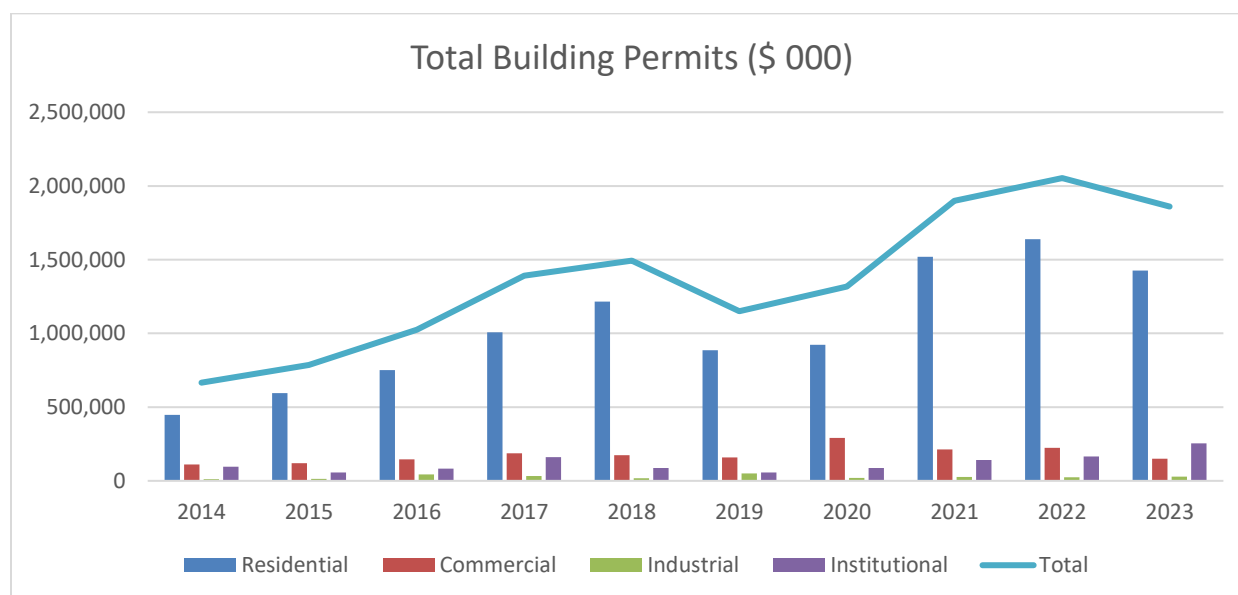
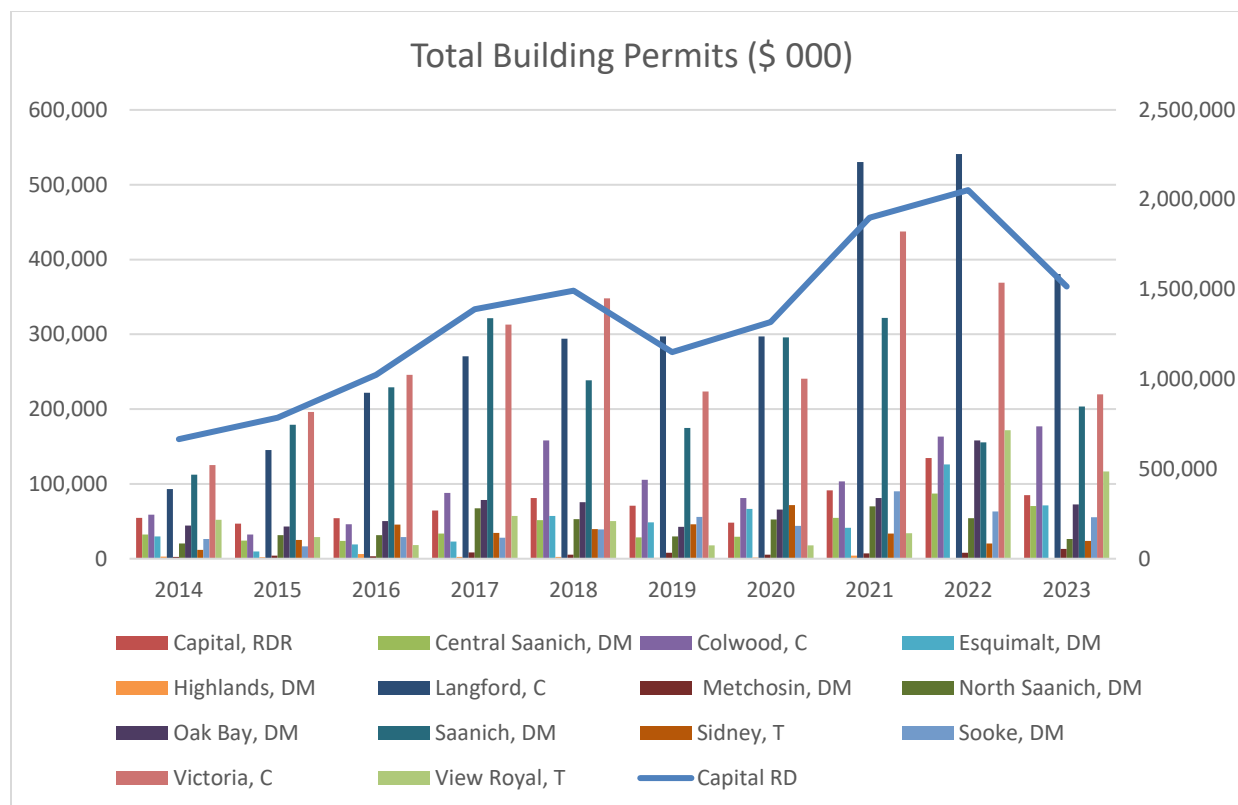


Source: Statistics Canada – 2021 Census

Construction Activity

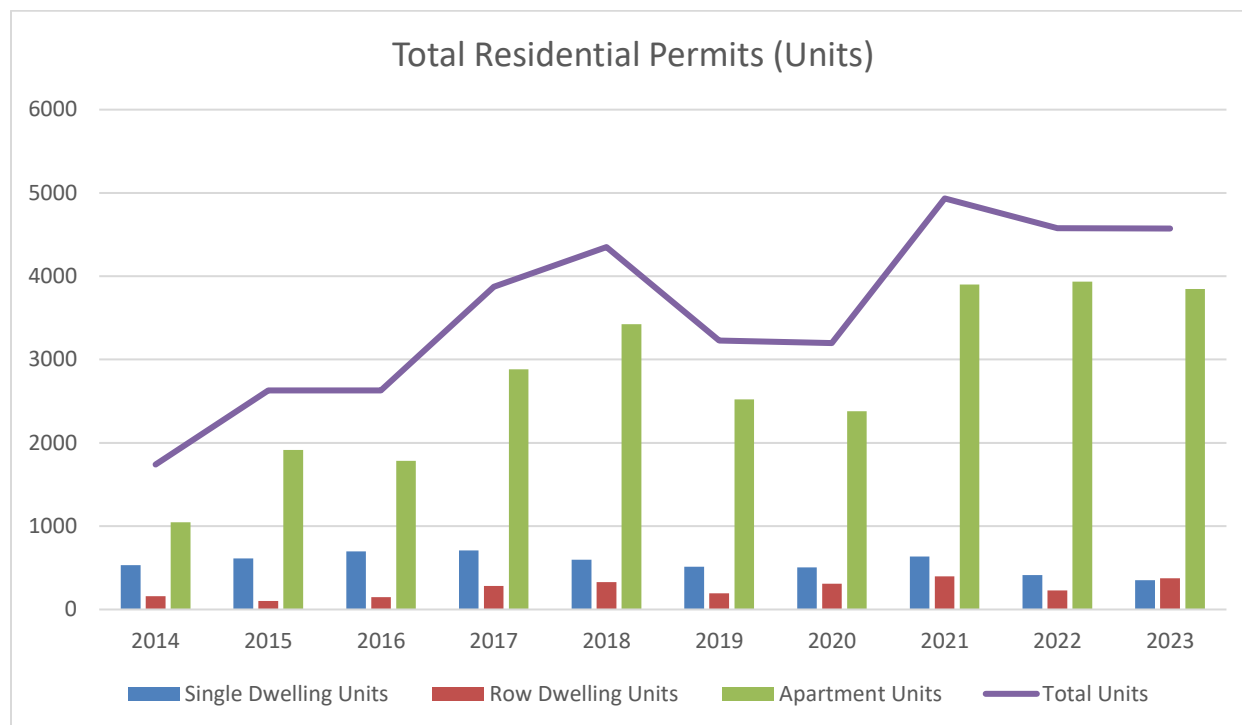
Until 2023, construction activity had consistently trended upward in the Capital Region area over the past several years, primarily driven by the growing population and housing demand. Last year saw a reversal of this trend, reflecting the sharp increase in construction costs and financing.

The following building permit data is inclusive of the City of Victoria, City of Langford, City of Colwood, and the various district municipalities and townships of the Capital Regional District.



Total 2023 building permits (\$) are down 9.4% from 2022, as summarized by the following table:-

Residential	Industrial	Commercial	Inst. / Gov.	Total
-13.0%	-33.1%	+15.5%	+53.8%	-9.4%



Source: BC Stats

Total 2023 residential permits (Units) were effectively unchanged from 2022, as summarized by the following table:-

Single Family	Row Dwelling	Apartment	Total
-14.8%	+64.5%	-2.2%	0.0%

Since 2014 / '15, new apartment construction, particularly purpose-built rentals, has surged. New supply, however, has been unable to keep pace with demand. According to the most recent CMHC rental market survey, the overall rental apartment vacancy rate in the Victoria survey area for October 2023 was 1.6%, slightly higher from 1.5% the year before.

Real Estate Market Overview

The following tables provided by the Victoria Real Estate Board summarize HPI benchmark prices for single-family, apartment condominium, and townhouse dwelling units in Greater Victoria region:-

Single Family Benchmark Price

Benchmark Price by Timeframe and Property Type								
	May 2024	1 Month Ago	3 Months Ago	6 Months Ago	12 Months Ago	3 Years Ago	5 Years Ago	January 2005
Victoria REB – SF-All	\$1,157,000	\$1,147,500	\$1,123,100	\$1,144,900	\$1,153,200	\$1,043,900	\$782,500	\$369,200
Victoria – SF-All	\$1,248,300	\$1,237,700	\$1,212,000	\$1,236,700	\$1,243,500	\$1,110,700	\$900,100	\$386,400
Victoria West – SF-All	\$995,300	\$1,047,900	\$918,400	\$972,500	\$993,400	\$900,500	\$704,800	\$283,300
Oak Bay – SF-All	\$1,866,900	\$1,843,500	\$1,799,800	\$1,819,600	\$1,819,900	\$1,667,400	\$1,286,500	\$598,700
Esquimalt – SF-All	\$1,058,800	\$1,090,500	\$982,700	\$1,031,600	\$1,055,100	\$962,100	\$759,000	\$309,600
View Royal – SF-All	\$1,057,600	\$1,102,300	\$1,017,600	\$1,032,100	\$1,051,900	\$967,100	\$757,800	\$338,200
Saanich East – SF-All	\$1,327,700	\$1,307,000	\$1,275,200	\$1,301,600	\$1,308,300	\$1,180,700	\$930,100	\$413,100
Saanich West – SF-All	\$1,066,500	\$1,064,300	\$1,033,800	\$1,050,200	\$1,046,500	\$964,300	\$748,700	\$322,200
Sooke – SF-All	\$855,100	\$831,000	\$807,900	\$855,700	\$869,300	\$768,200	\$540,500	\$272,100
Langford – SF-All	\$1,066,500	\$1,047,800	\$1,039,800	\$1,053,900	\$1,072,700	\$935,600	\$683,600	\$317,900
Metchosin – SF-All	\$1,306,000	\$1,300,000	\$1,255,600	\$1,271,000	\$1,286,900	\$1,095,000	\$822,700	\$422,700
Colwood – SF-All	\$1,050,700	\$1,057,300	\$1,039,700	\$1,049,700	\$1,023,400	\$916,500	\$679,900	\$329,900
Highlands – SF-All	\$1,481,800	\$1,467,600	\$1,396,000	\$1,507,700	\$1,460,500	\$1,290,600	\$985,900	\$466,100
North Saanich – SF-All	\$1,418,300	\$1,407,700	\$1,366,000	\$1,390,500	\$1,414,800	\$1,260,600	\$949,700	\$465,900
Sidney – SF-All	\$984,200	\$990,100	\$961,900	\$965,800	\$1,001,300	\$915,900	\$694,500	\$304,500
Central Saanich – SF-All	\$1,150,300	\$1,123,100	\$1,139,500	\$1,192,000	\$1,108,900	\$1,037,000	\$815,800	\$357,400
ML Malahat & Area – SF-All	\$884,100	\$872,700	\$853,800	\$875,200	\$869,600	\$806,400	\$572,900	\$286,700
GI Gulf Islands – SF-All	\$734,200	\$734,400	\$753,800	\$734,500	\$723,600	\$685,700	\$520,400	\$296,300

Apartment Condominium Benchmark Price

Benchmark Price by Timeframe and Property Type								
	May 2024	1 Month Ago	3 Months Ago	6 Months Ago	12 Months Ago	3 Years Ago	5 Years Ago	January 2005
Victoria REB – Con	\$568,800	\$563,500	\$556,100	\$569,100	\$563,000	\$487,800	\$413,300	\$171,600
Victoria – Con	\$530,400	\$520,400	\$520,800	\$537,200	\$534,300	\$468,300	\$413,800	\$163,900
Victoria West – Con	\$766,000	\$770,100	\$736,100	\$753,200	\$756,800	\$685,000	\$590,800	\$257,400
Oak Bay – Con	\$717,100	\$708,900	\$728,800	\$762,200	\$720,600	\$601,500	\$577,700	\$231,800
Esquimalt – Con	\$552,000	\$553,900	\$526,700	\$541,100	\$531,800	\$440,600	\$352,800	\$143,500
View Royal – Con	\$574,300	\$576,000	\$568,100	\$566,500	\$594,400	\$532,700	\$437,300	\$182,000
Saanich East – Con	\$588,400	\$575,300	\$571,600	\$595,200	\$565,900	\$466,100	\$378,100	\$144,600
Saanich West – Con	\$540,600	\$531,500	\$510,600	\$525,700	\$510,500	\$433,900	\$365,900	\$135,500
Sooke – Con	\$481,800	\$479,200	\$464,300	\$462,500	\$477,000	\$402,800	\$310,400	\$110,400
Langford – Con	\$545,700	\$544,900	\$535,900	\$533,500	\$555,600	\$470,000	\$371,200	\$148,400
Colwood – Con	\$507,600	\$501,600	\$497,000	\$498,700	\$519,300	\$448,500	\$343,900	\$111,100
North Saanich – Con	\$781,300	\$799,900	\$786,200	\$786,100	\$734,400	\$646,600	\$562,400	\$313,700
Sidney – Con	\$629,600	\$647,500	\$630,600	\$638,700	\$597,500	\$528,600	\$448,600	\$214,700
Central Saanich – Con	\$540,200	\$550,800	\$549,000	\$549,200	\$512,200	\$449,200	\$390,700	\$190,700

Townhouse Benchmark Price

Benchmark Price by Timeframe and Property Type								
	May 2024	1 Month Ago	3 Months Ago	6 Months Ago	12 Months Ago	3 Years Ago	5 Years Ago	January 2005
Victoria REB – Twn	\$786,500	\$780,200	\$758,400	\$763,900	\$773,200	\$685,100	\$558,400	\$262,500
Victoria – Twn	\$850,400	\$845,500	\$790,100	\$822,900	\$845,200	\$772,700	\$632,800	\$299,400
Victoria West – Twn	\$877,700	\$895,800	\$880,200	\$881,200	\$880,100	\$765,200	\$650,700	\$224,600
Esquimalt – Twn	\$767,600	\$759,400	\$753,600	\$751,700	\$740,500	\$646,700	\$554,200	\$213,100
View Royal – Twn	\$829,300	\$813,600	\$819,600	\$812,300	\$789,800	\$669,700	\$584,500	\$249,500
Saanich East – Twn	\$896,200	\$882,200	\$869,900	\$878,700	\$884,800	\$788,600	\$628,300	\$301,700
Saanich West – Twn	\$793,500	\$787,900	\$785,300	\$784,800	\$784,400	\$685,600	\$541,800	\$249,600
Sooke – Twn	\$671,400	\$668,400	\$639,700	\$641,000	\$668,500	\$584,600	\$467,100	\$231,100
Langford – Twn	\$718,000	\$713,900	\$690,200	\$688,100	\$707,700	\$620,900	\$501,400	\$238,700
Colwood – Twn	\$759,100	\$754,300	\$724,200	\$727,700	\$730,900	\$643,900	\$523,400	\$271,200
Sidney – Twn	\$838,800	\$825,400	\$824,800	\$827,100	\$821,100	\$745,900	\$626,900	\$260,800
Central Saanich – Twn	\$708,400	\$708,000	\$702,100	\$710,000	\$712,600	\$627,200	\$475,200	\$220,300
ML Malahat & Area – Twn	\$731,700	\$745,000	\$697,900	\$683,200	\$745,900	\$678,300	\$517,800	\$190,600
GI Gulf Islands – Twn	\$683,900	\$658,300	\$648,600	\$642,800	\$665,100	\$660,600	\$469,600	\$221,000

A total of 763 properties sold in the VREB region in May 2024, 2% less than the 775 properties sold in May 2023 and a 12.5% increase from April 2024. Sales of condominiums were down 5% from May 2023; however, sales of single-family dwellings increased 4% from May 2023. Summarized below are all unit sales (inclusive of commercial sales and leases), average sale prices, and price ratio for all zones within the VREB board area:-

Monthly Comparative Activity By Property Type

Includes All MLS® Property Types

May 2024

Produced: 03-Jun-2024

	This Year	Current Month Last Year	% Change	This Year	Year To Date Last Year	% Change
Grand Totals						
Units Listed	1757	1350	30 %	6735	5120	31 %
Units Sold	763	775	-2 %	2840	2740	4 %
Sell/List Ratio	43 %	57 %		42 %	53 %	
Sales Dollars	\$772,717,036	\$774,999,256	0 %	\$2,745,446,084	\$2,606,219,283	5 %
Average Price / Unit	\$1,012,735	\$999,999	1 %	\$966,706	\$951,175	2 %
Price Ratio	98 %	99 %		98 %	98 %	
Days To Sell	38	34	13 %	44	39	10 %
Active Listings at Month End	3338	2189	52 %			

Commercial and Industrial Market Overview

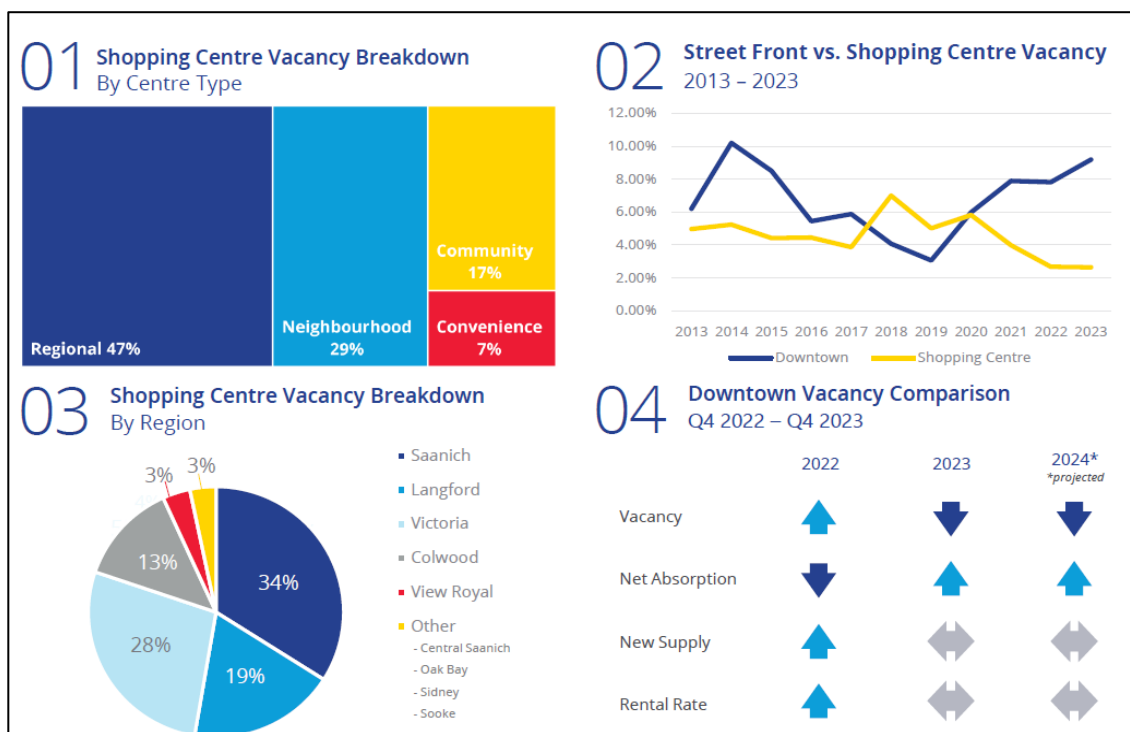
The Greater Victoria office market experienced a relatively stable quarter in Q1 2024. Although vacancy rates have increased, so have asking rents. Like other office markets, the “flight to quality” is a driving factor for office users in Greater Victoria. Tenants are prioritizing high-quality office space located in prime locations with emphasis on technology integration and environmental sustainability. Colliers Q1 2024 Office Report highlights the following statistics:



Due to a large influx of new strata-industrial inventory, Q1 2024 saw industrial vacancy rates increase and asking rental rates decrease. Notwithstanding the influx in supply, Greater Victoria has some of the lowest industrial vacancy rates in the country. Furthermore, despite the current interest rate environment, industrial sales in Greater Victoria have remained strong with sale prices remaining near all-time highs. Colliers Q1 2024 Industrial Report highlights the following statistics:



Again, the Greater Victoria retail market has been relatively stable. Despite increased tourism activity in 2023, downtown Victoria retailers encountered several challenges such as the reduced presence of office workers and a reported increase in incidences such as shoplifting and vandalism. Notwithstanding these challenges, the vacancy rate for downtown retail decreased slightly in Q4 2023 from Q4 2022. Colliers Q4 2023 Retail Report highlights the following statistics:



VALUATION ANALYSIS

HIGHEST AND BEST USE

An accepted definition of highest and best use is:

"That reasonably probable and legal use of vacant land or an improved property which is physically possible, appropriately supported, financially feasible, and that results in the highest value."

The highest and best use of a property is an economic concept that measures the interaction of four criteria: legal permissibility, physical possibility, financial feasibility, and maximum profitability. Determining the highest and best use of a property is a critical appraisal component that provides the valuation framework that market participants and appraisers require to identify and analyze comparable market information for valuation purposes.

The principle of highest and best use is fundamental to the concept of value in real estate and may be further defined as that use which is most likely to produce the greatest net return or risk-adjusted return over a given period of time. Based on the foregoing, and in addition to the property being physically adaptable and suited to a specific use, there must be demand for it, the market must be appropriately supplied, the use must be legally permissible according to zoning ordinances, bylaws, health regulations, and other public or private limitations, the use must be financially feasible, and the maximally productive use that results in the highest value.

In determining the highest and best use of a property, four elements must be considered:

- physically possible and supported uses;
- legally permissible uses;
- financially feasible uses; and
- maximally productive uses.

The highest and best use of land 'as if vacant' and the highest and best use of property 'as improved' are connected but distinctly different concepts and must be considered separately. This is because the highest and best use of the land 'as if vacant' and available for development determines the value of the land, even if the property's existing improvement does not represent the highest and best use of the site. Land that is improved, furthermore, can be made vacant, by demolition of the improvements.

The analysis of land 'as if vacant' analyzes all potential uses of land that meet the elements of highest and best use, seeking to answer several questions including:

- Should the land be developed or left vacant?
- If left vacant, when would future development be financially feasible?
- If developed, what kind of improvements should be built?

In contrast, in the analysis of property 'as improved', the focus on alternative uses considers three possible actions related to the current improvements:

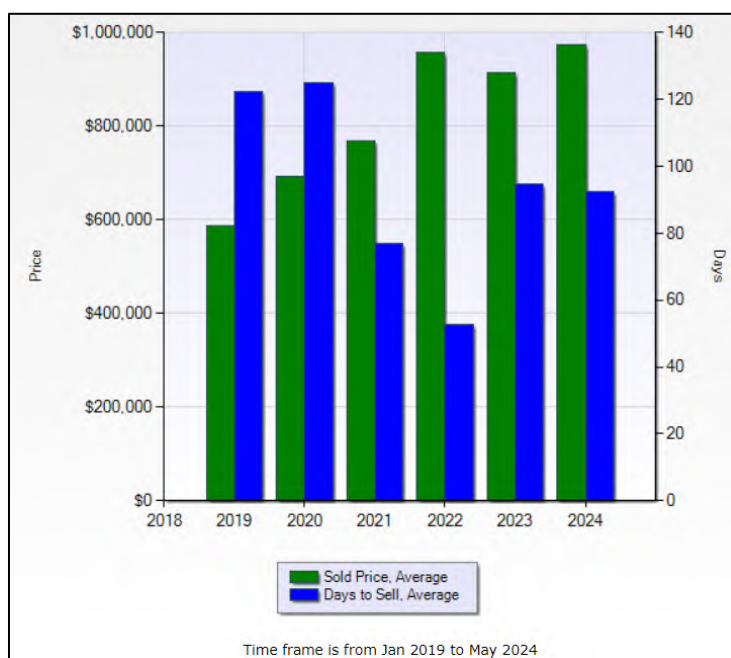
- Retain the improvements.
- Modify the improvements some way, such as conversion, renovation, or alteration.
- Demolish the improvements and redevelop the land.

The subject property is located off the west end of Mary Ann Point Road, south of Bluff Road, in the southeastern section of Galiano Island. Surrounding properties are mainly small rural residential acreages with some single-family improvements and many in their natural treed state. There is an agricultural acreage directly north of the subject. The properties eastward on Mary Ann Point Road are also water-fronting, with views eastward across Georgia Strait. Other nearby properties include some small tourist / recreation properties and parkland (Bellhouse Provincial Park, Matthews Point Regional Park & Bluffs Park). The ferry terminals (to Swartz Bay on Vancouver Island and to Tsawwassen on the mainland) are 2.25 km to the north in Sturdies Bay.

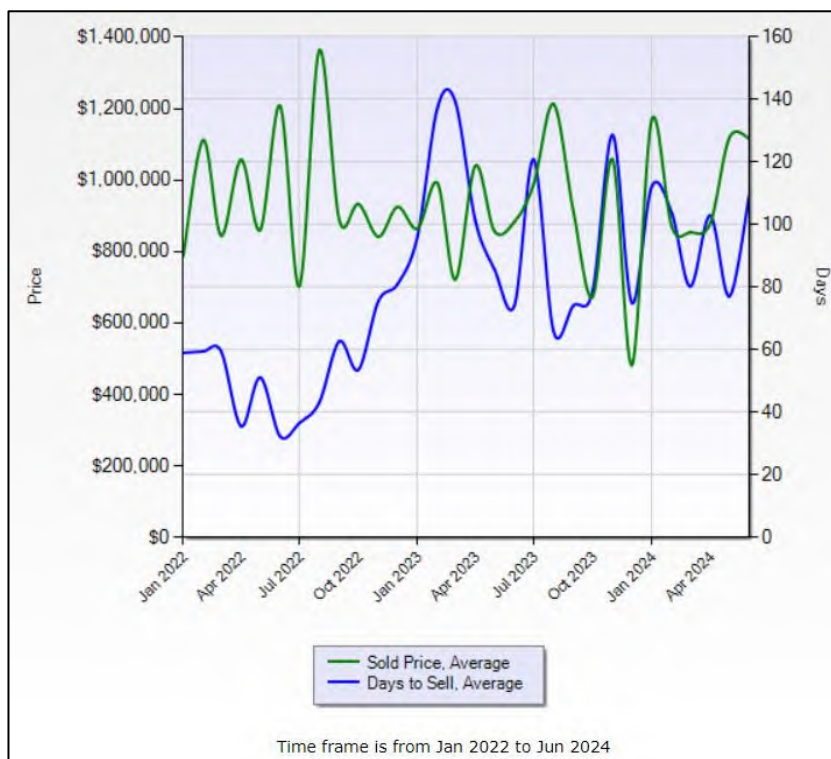
The subject is a very irregular shaped panhandle lot, with 20m (65.6 ft) of panhandle frontage to Mary Ann Point Road, ±240 m (787 ft) of high bank waterfrontage and a site area of 6.13 ha. (15.15 acres). The site has a varying topography ranging from relatively level potential building sites to steep, high bank waterfrontage. Portions of the waterfrontage comprise sand beach, while other portions are steep rock face.

The subject property is zoned SLR (Small Lot Residential) and is also designated 'SLR' within the OCP. The zoning permits dwellings, cottages, home occupations and secondary suite uses. The maximum permitted density is one dwelling on each lot with one additional dwelling permitted in respect to each 1.2 ha (2.97 acres) of lot area over 1.2 ha (2.97 acres). One cottage is also permitted on each lot having an area of 0.4 ha (0.99 acres) or more, in respect of each permitted dwelling. Lot coverage cannot exceed 25%. The minimum lot size for subdivision is 0.6 ha (1.48 acres) where at least one of the boundaries of the lot is the natural boundary of the sea and 0.8 ha (1.98 acres) in all other areas. The average lot size must be at least 1.2 ha (2.97 acres); therefore, the subject property has subdivision potential.

Mortgage rate increases occurring from mid-2021 through mid-2023 have resulted in more balanced residential market conditions as at the effective date of appraisal. The post COVID-19 economic recovery period, characterized by record low borrowing costs, clearly favoured sellers. Due to heightened demand from both local and out-of-market buyers, inventory became suddenly scarce, and prices spiked. MLS statistics for the last five years (January 1, 2019 to May 31, 2024) for residential property sales on the Gulf Islands are illustrated to the right.



More specifically, monthly average sale prices on the Gulf Islands since January 2022 have been cyclical, but relatively stable, illustrated as follows:



On June 5, 2024, the BOC decreased the overnight interest rate by 25 basis points to 4.75% which was the first rate decrease since March 2020. The last increase was by 25 basis points to 5.00% in July 2023. Mortgage rates are projected to remain stable with the potential for further decreases towards Q3 - Q4 of 2024, depending on inflationary pressures. Therefore, in the coming months, the demand for vacant development land may increase with local population projections indicating continued growth, which will also continue to fuel demand for housing.

In summary, the highest and best use of the subject property is concluded to be residential development with potential for subdivision in accordance with zoning and municipal approvals.

APPRAISAL TECHNIQUES

In completing an appraisal assignment and formulating an opinion of the fair market value of a property, consideration must be given to the method of valuation. Over the years, three approaches to value have become basic and are:

Cost Approach

A set of procedures through which a value indication is derived for the fee simple interest in a property by estimating the current cost to construct a reproduction of (or replacement for) the existing structure, including an entrepreneurial profit, deducting depreciation from the total cost, and adding the estimated land value. Adjustments may then be made to the indicated fee simple value of the subject property to reflect the value of the property interest being appraised.

Direct Comparison Approach

A process in which a value indication is derived by comparing the property being appraised to similar properties that have been sold recently, applying appropriate units of comparison, and making adjustments to the sale prices of the comparables based on the elements of comparison. The Direct Comparison Approach may be used to value improved properties, vacant land, or land being considered as though vacant. It is the most common and preferred method of land valuation when comparable sales data is available.

Income Approach

A method through which an appraiser derives a value indication for an income-producing property by converting its anticipated benefits (cash flow and reversion) into property value. This conversion can be accomplished in two ways. One year's (stabilized) income expectancy can be capitalized at a market-derived capitalization rate or at a capitalization rate that reflects a specified income pattern, return on investment, and change in the value of the investment. Alternatively, the annual cash flows for the holding period and the reversion can be discounted at a specified yield rate.

Method(s) Applied

For purposes of this report, the subject property comprises vacant land. Consequently, only the Direct Comparison Approach was employed.

DIRECT COMPARISON APPROACH – VACANT LAND

The Direct Comparison Approach produces an estimate of value of a property by comparing it with similar properties that have been recently sold, on which offers have been made, or are currently offered for sale. The approach involves the gathering, analyzing and comparing of data.

The Direct Comparison Approach is the preferred approach when valuing land because it reflects typical buyer and seller reactions in the marketplace and also the principle of substitution. It involves the gathering and comparing of land sales that are as similar as possible to the subject and have sold recently. An adjustment process to allow for differences between the comparable and the subject results in the comparable becoming a basis for indicating a value for the subject site. This method does have disadvantages, however, and one is the fact that all sales data is historical and time adjustments must be estimated and applied. Another disadvantage is the possible lack of sales data due to a slow market.

Various units of comparison are available under this method and include price per front foot, price per square foot, price per unit, and price per acre for larger sites. When adjusting the comparables to the subject property time, location and physical characteristics would be the main items of adjustment.

The following comparables have been analyzed in support of the estimate of land value:-

1. 630 Dinner Bay Road, Mayne Island, BC

Legal Description: Lot 22, Sections 5 & 6, Mayne Island, Cowichan District, Plan 29750 (PID: 000-085-928)

Instrument Number: Pending

Sale Price: \$1,940,000

Land Residual: \$966,000

Sale Date: May 11, 2024

Conveyance Date: June 26, 2024 – Projected Closing Date

Land Area: 4.1 ha. (10.21 acres)

SP/ha: \$233,794 (\$94,613 per acre) – Based on Land Residual

Days on Market: 22

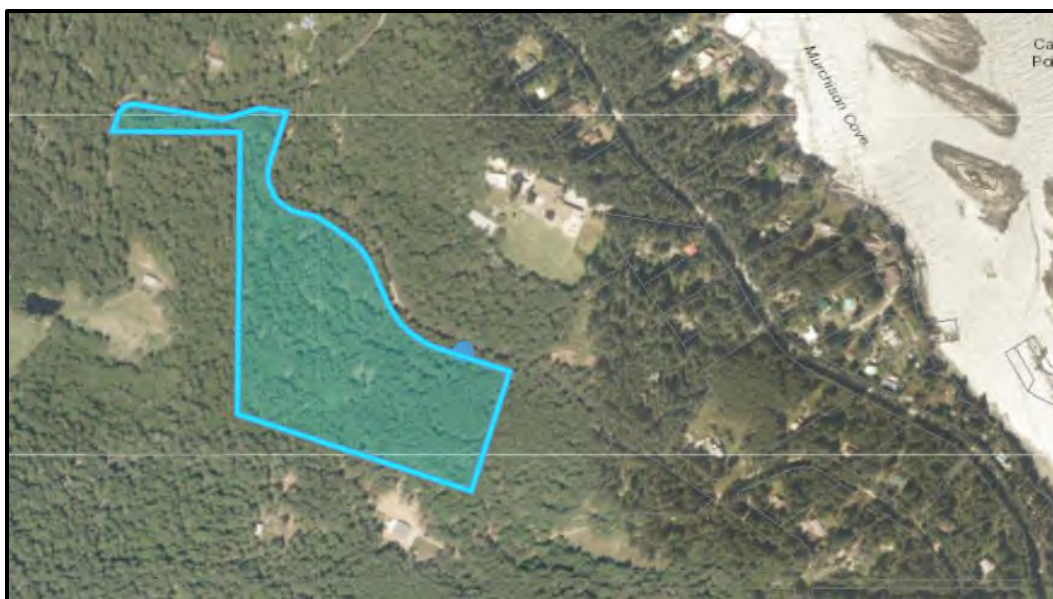
Remarks: An improved C5(a), Country Guest House Commercial zoned, waterfront, property located at the southeastern end of Dinner Bay Road and the south side of East West Road in the southwestern portion of Mayne Island. The property is mostly tree and shrub covered with cleared areas around the improvements. The site has approx. 146 ft of waterfrontage on a small cove.

Improvements comprise a 1976-built, three-storey resort building (addition in 1994) with 3,827 sf main floor, 2,267 sf second floor and 3,920 sf lower floor. The building has 12 bedrooms, each with ensuite bathroom (8 bathrooms total), many with fireplaces and private ocean view decks, various sitting rooms, billiard room, large dining room and commercial quality kitchen. Additionally, there is a 3-bedroom caretakers' home (1,073 sf) plus 240 sf unfinished basement) and detached garage (940 sf). The main building has had minimal updating in the recent past and would need upgrading for hospitality use. Total building area, excluding basement is 1,117 m² (12,027 sf). According to BC Assessment records, the contributory value of the improvements as of July 1, 2023 was \$974,000. Based on the listing photographs, the estimated contributory value of the improvements appears reasonable. Therefore, the estimated land residual sale price is \$966,000.

The C5(a) zoning permits a variety of uses such as guest house, agriculture, accessory dwelling unit, accessory restaurant and riding stables. The maximum allowable site coverage is 10% and the minimum lot area for subdivision is 4 ha (9.88 acres). The maximum number of tourist accommodation units is 12.

This property previously sold in July 2021 for \$1,850,000. This property was listed through the MLS on April 19, 2024 for \$1,950,000.

2. 340 Robson Way, Galiano Island, BC



Legal Description: Strata Lot 14, Section 7, Galiano Island, Cowichan District, Strata Plan VIS1122, Together with an interest in the common property in proportion to the unit entitlement of the strata lot as show on Form 1 (PID: 026-891-719)

Instrument Number: CB661022

Sale Price: \$700,000

Sale Date: April 15, 2023 (106 days on market)

Conveyance Date: June 1, 2023

Land Area: 7.02 ha (17.35 acres)

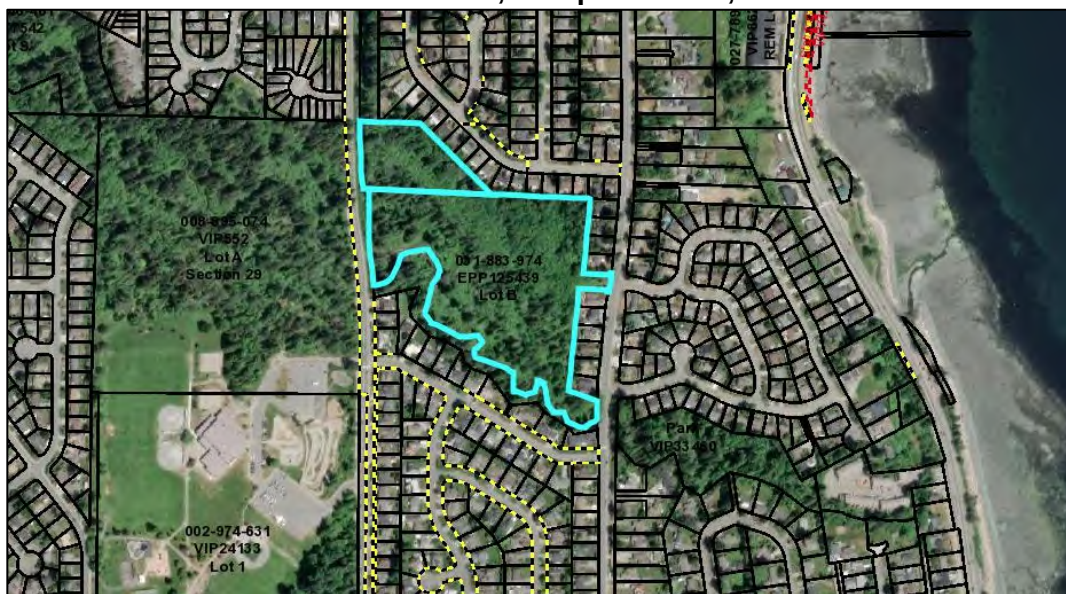
SP/m²: \$99,715 (\$40,369 per acre)

Remarks: A vacant, bare land strata, RR (Rural Residential) zoned site located off of Sturdies Bay Road in the Whaler Bay area of Galiano Island. The site appears to be mostly tree covered with a gently sloping terrain. According to the listing agent, hydro is to the lot line and the property is improved with a drilled well. On-site septic will be required prior to development.

The zoning permits dwellings, cottages, home occupations and secondary suite uses. The maximum permitted density is one dwelling on each lot with one additional dwelling permitted in respect to each 2.0 ha (4.94 acres) of lot area over 2.0 ha (4.94 acres). One cottage is also permitted on each lot having an area of 0.4 ha (0.99 acres) or more, in respect of each permitted dwelling. Lot coverage cannot exceed 25%. The minimum lot size for subdivision is 1.2 ha (2.97 acres), with an average of at least 2.0 ha (4.94 acres); therefore, this property may have subdivision potential.

This property was first listed through the MLS on August 1, 2022 for \$850,000. The asking price was reduced to \$775,000 on August 12, 2022 and that listing was cancelled on December 16, 2022. The property was re-listed on March 17, 2023 for \$799,000 and sold as noted above after 29 days on market. The property previously sold in February 2019 for \$380,000.

3. 0 Alder Street & 1650 Galerno Road, Campbell River, BC



Legal Description: Lot A, Section 29, Township 1, Comox District, Plan EPP125439 (PID: 031-883-966) & Lot B, District Lot 210, Comox District, Plan EPP125439 (PID: 031-883-974)

Instrument Number: CB28913/14

Sale Price: \$3,450,000 (\$1,245,450 + \$2,204,550)

Sale Date: Private

Conveyance Date: June 2022

Land Area: 6.85 ha [16.93 acres (2.87 acres + 14.06 acres)]

SP/m²: \$503,649 (\$203,780 per acre)

Remarks: This sale represents two adjacent RM-1 (Residential Multiple One) zoned properties situated between South Alder Street and Galerno Road in the south Campbell River neighbourhood in the City of Campbell River. The property is located near the Campbell River Sportsplex. The sites have full access to municipal services.

The smaller parcel (Lot A) has frontage along Alder only and slopes up from its road grade in a north-east direction. The larger parcel (Lot B) has substantial frontage along South Alder Street and two panhandle access points off Galerno Road. Topography slopes down from the northeast corner to a watercourse (Simms Creek) which runs along the south property boundary.

The zoning provides for the development of low-rise residences in multiple family complexes within the low or medium density residential designation, typically one and two storey patio homes and townhouses, but may also include lower profile apartment style complexes. Specific uses include single family dwellings without suites, duplexes, triplexes, apartments, social care facilities, and bed & breakfast accommodations. The maximum density permitted is 25 dwelling units per ha prior to density bonus provisions. Maximum site coverage is 50%.

Subsequent to the sale of this property, the developer (WestUrban) applied, in conjunction with 0 Alder Street for a development containing three buildings totaling 200 multi-family units. The proposal received local opposition due to previously undiscovered wetlands and objection to a historically used pedestrian pathway through the private lands.

4. 890 Homewood Road, Campbell River, BC



Legal Description: District lot 1410, Sayward District, Except Part in Plan 32214 (PID: 009-733-787)

Instrument Number: CA9825313

Sale Price: \$1,250,000

Sale Date: February 2022 (392 DOM)

Sale Date: March 2022

Land Area: 4.67 ha (11.54 acres)

SP/m²: \$267,666 (\$108,319 per acre)

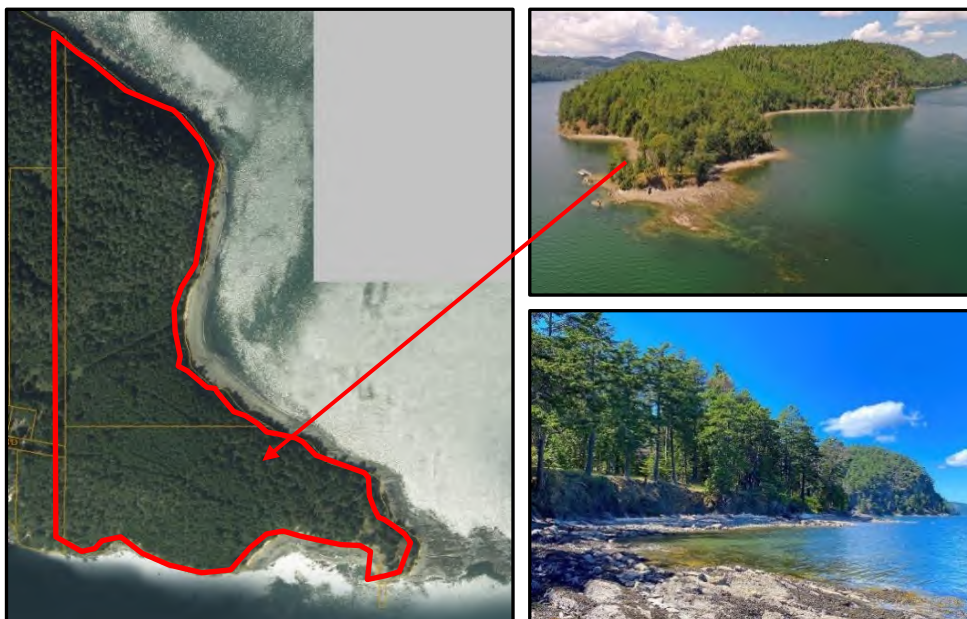
Remarks: This is a RM-1 (Residential Multiple One) zoned property situated within the Central Campbell River neighbourhood of Campbell River. The property is located near the corner of Homewood Road & 9th Avenue.

The site is at road grade to Homewood Road before sloping down toward Nunns Creek which bisects the lower 1/3 and then slopes up again to the rear. Full City servicing is available. The location of the creek will require access to the developable portion of the parcel over an engineered bridge.

The zoning provides for the development of low-rise residences in multiple family complexes within the low or medium density residential designation, typically one and two storey patio homes and townhouses, but may also include lower profile apartment style complexes. Specific uses include single family dwellings without suites, duplexes, triplexes, apartments, social care facilities, and bed & breakfast accommodations. The maximum density permitted is 25 dwelling units per ha prior to density bonus provisions. Maximum site coverage is 50%.

Market History: This parcel was listed for sale on January 5, 2021 at \$1,100,000 and sold as detailed above. The listing realtor reported there were multiple bids to purchase.

5. 6601 Razor Point Road, Pender Island, BC



Legal Description: That Part of the South East ¼ of Section 12, Pender Island Cowichan District, Lying North of Browning Harbour; The North East ¼ of Section 12, Pender Island, Cowichan District (PIDs: 008-942-749/714) & Leasehold Interest in Cowichan District, Unsurveyed Foreshore or Land Covered by Water Being Part of the Bed of Port Browning Cowichan District, 0.40 ha, Lease/Permit/Licence # 113909 & Sites 1 & 2, Containing 0.0058 ha more or less, Lease/Permit/Licence # 113908

Instrument Numbers: CA9851762 / CA9851763
Sale Price: \$7,135,700
Residual Sale Price: \$6,721,700
Sale Date: February 23, 2022 (42 days on market)
Conveyance Date: March 31, 2022
Land Area: 24.334 ha (26.88 acres + 33.25 acres – 60.13 acres)
 0.0048 ha (0.111 acres) – Foreshore
SP/ha: \$293,240 (\$118,671 per acre) – Excluding Foreshore
Residual SP/ha: \$276,227 (\$111,786 per acre) – Excluding Foreshore

Remarks: Two contiguous waterfront parcels situated on 'Razor Point' which is situated on the north-east section of Pender Island, which is situated in the Gulf Islands, BC.

Topography is undulating and sloping down the ocean with relatively flat section at Razor Point with some sandy/rocky beach sections. Leasehold interest in two separate waterlot situated in this area. The sites have ±1,966 m (6,450 ft.) of ocean frontage. Municipal water and sewer are reportedly not available to the sites.

At the time of sale, the lower site was improved with an older single-family dwelling with site improvements including a well and septic as well as a dock. At the time of sale, the improvements were assessed for \$414,000, indicating a residual land value of \$6,721,700 which is considered reasonable.

The northern section is zoned R (Rural) with the remainder zoned RR (Rural Residential). RR zoning allows for single-family, cottage, agricultural and accessory uses and permits subdivision down to 0.8 ha (2 acres) with an average lot size of at least 4 ha (10 acres).

This property was listed through the MLS for \$9,850,000 on January 12, 2022, but was reduced to \$8,350,000 on January 20 2022.

6. 2555 East Wellington Road, Nanaimo, BC



Legal Description: Lot 1, Section 13, Ranges 5 and 6, Mountain District, Plan 28073, Except Part in Plan 2891RW (PID: 002-278-171)

Instrument Number: CA9825635

Sale Price: \$2,150,000

Sale Date: January 2022

Conveyance Date: March 2022

Land Area: 6.37 ha (15.75 acres)

SP/ha: \$337,520 (\$136,508 per acre)

Days on Market: 128

Remarks: A vacant, AR2 (Urban Reserve), zoned property located at the corner of East Wellington Road and Stobart Road, in the rural East Wellington / Jingle Pot area, one block south of Mountain View Elementary School, and approximately 7 km west of the Nanaimo downtown core. The property contains gently undulating terrain that is partially forested. Municipal water service is immediately available but no sewer.

The AR2 zone permits subdivision to minimum lot sizes of 1.0 ha (2.47 acres), indicating that the property is potentially subdividable into 6 lots. In the new City of Nanaimo OCP (adopted July 4, 2022), the property is designated 'Semi-Rural Neighbourhood' which is consistent with zoning but is located within the Urban Containment Boundary.

Market History: This property was listed for sale through VIREB in September 2021 for \$2,150,000, with the listing expiring in December after 105 days on the market. It was relisted in January 2022 for \$2,300,000, before selling after an additional 23 days on the market.

7. **547 Beddis Road, Salt Spring Island, BC**



Legal Description: Lot 4, Sections 14 & 15, Range 6 East, North Salt Spring Island, Cowichan District, Plan 23987 (PID: 002-950-791)
 Instrument Number: Active (MLS 957123)
List Price: \$2,290,000
List Date: August 4, 2023 (+/- 252 days on market)
 Land Area: 9.32 ha (23.03 acres)
LP/m²: \$245,711 (\$99,436 per acre)

Remarks: A vacant R (Rural) zoned property located approximately 4 km south of Ganges Village on Salt Spring Island. The property is partly cleared and appears to have a gently sloping terrain. According to the listing agent, the site has a shallow well. The property has ocean views to the northeast.

R zoning permits a variety of uses such as single-family dwellings, dental and medical offices, veterinary clinics and agriculture. Permitted accessory uses include seasonal cottages and home-based business use. The maximum allowable site coverage is 33%. The minimum lot size for subdivision where there is a sufficient supply of potable water and an on-site septic system, is 0.6 ha (1.48 acres); however, the average lot size must be at least 2 ha (4.94 acres); therefore, this property has subdivision potential.

This property was first listed through the MLS on August 4, 2023 for \$2,200,000; however, the listing expired after 181 days on market on January 31, 2024. The property was re-listed on April 1, 2024 for \$2,290,000 with the listing remaining active as of the effective date of this appraisal with +/- 71 days on market at the current price.

8. 180 Harris Road, Galiano Island, BC

Legal Description: Lot 3, Block 8, District Lot 6, Galiano Island, Cowichan District, Plan 1974, except part in 21961 (PID: 006-621-937)

Instrument Number: Active (MLS R2804486)

List Price: \$1,250,000

List Date: July 12, 2022 (+/- 655 days on market)

Land Area: 4.86 ha (12.00 acres)

LP/m²: \$257,401 (\$104,167 per acre)

Remarks: An improved, SLR (Small Lot Residential) zoned waterfront lot fronting Whaler Bay on Galiano Island. Except for the improved areas, the site is mostly tree covered and is gently sloping. The property has approximately 85 m (279 ft) of low to medium bank waterfrontage.

The property is improved with two older modular homes that are considered to be nearing the end of their economic lives but provide some holding value in preparation for development and/or subdivision.

The zoning permits dwellings, cottages, home occupations and secondary suite uses. The maximum permitted density is one dwelling on each lot with one additional dwelling permitted in respect to each 1.2 ha (2.97 acres) of lot area over 1.2 ha (2.97 acres). One cottage is also permitted on each lot having an area of 0.4 ha (0.99 acres) or more, in respect of each permitted dwelling. Lot coverage cannot exceed 25%. The minimum lot size for subdivision is 0.6 ha (1.48 acres) where at least one of the boundaries of the lot is the natural boundary of the sea and 0.8 ha (1.98 acres) in all other areas. The average lot size must be at least 1.2 ha (2.97 acres); therefore, the property has subdivision potential

This property was first listed through the MLS on July 12, 2022 for \$1,800,000; however, that listing was cancelled after 66 days on market on September 13, 2022. The property was immediately re-listed for \$1,695,000; however, that listing was cancelled after 276 days on market on June 12, 2023. The property was re-listed on August 4, 2023 for \$1,250,000 and remains active as of the effective date of this appraisal with +/- 313 days on market at the current price.

The preceding sales and listings are summarized as follows

No.	Sale Price	Sale Date	Area (Acres)	Zoning	Location	W/F (ft)	SP/Acre
1	\$966,000	May-24	10.21	C5(a)	Mayne	146	\$94,613
2	\$700,000	Apr-23	17.35	RR	Galiano	None	\$40,346
3	\$3,450,000	Jun-22	16.93	RM-1	Campbell River	None	\$203,780
4	\$1,250,000	Feb-22	11.54	RM-1	Campbell River	None	\$108,319
5	\$6,721,700	Feb-22	60.13	R / RR	Pender	6,450	\$111,786
6	\$2,150,000	Jan-22	15.75	AR2	Nanaimo	None	\$136,508
7	\$2,290,000	Active	23.03	R	Salt Spring	None	\$99,436
8	\$1,250,000	Active	12.00	SLR	Galiano	279	\$104,167
Subject			15.15	SLR	Galiano	787	

There have been no recent vacant waterfront land sales with the same zoning as the subject property on Galiano; therefore, research was expanded to include a broader market area, zoning type, upland and waterfront parcels, active listings and the Land Extraction Method was utilized. The Land Extraction Method is a method of estimating land value by extracting the contributory value of the improvements. This method of valuation is often utilized when sales data on similar parcels of vacant land are not available. Indicators 1 through 8 represent a cross-section of acreage sales (listings) located on the Gulf Islands and Vancouver Island and are considered to effectively encapsulate the utility of the subject property. The comparable data demonstrates a sale / list price range of \$700,000 to \$6,721,700 and sold / listed between January 2022 and May 2024.

The Sale (List) Price per Acre (SP/Acre) unit of comparison is identified as the most relevant unit rate in the analysis and ranking of the subject property in relation to the comparable data. The comparable sales demonstrate a SP/Acre range of \$40,346 to \$203,780 per acre; with a group median of \$106,234 per acre.

The comparable sales further demonstrate the influence of property size on a given SP/Acre unit rate. This influence is based on economies of scale and the diminishing marginal return of extra land. As the land sales (listings) indicate, typically for two otherwise identical parcels, except for one being larger than the other, the larger parcel will typically achieve a lesser SP/Acre unit rate.

Analysis of Comparable Sales

Indicator 1 represents the recent sale of an improved waterfront property located on Mayne. This comparable is smaller than the subject; however, has inferior waterfrontage and is not subdividable.

Indicator 2 represents the sale of a vacant bare land strata lot located approximately 4 km north of the subject. This comparable may have subdivision potential; however, is completely upland.

Indicators 3 and 4 represent sales of acreages with subdivision potential located in Campbell River. These are upland lots; however, average sale prices in Campbell River tend to be higher than on Galiano. Furthermore, these comparables have superior zoning.

Indicator 5 represents the sale of a 2-lot holding located on Pender Island. Although larger than the subject, this holding has expansive waterfrontage and sold during stronger market conditions.

Indicator 6 represents the sale of an acreage located within the Nanaimo Urban Containment Boundary. Again, this comparable is an upland parcel; however, is superior in location and sold during stronger market conditions.

Indicator 7 represents an active listing of a larger acreage with ocean views located on Salt Spring Island. Given the exposure to the market, the eventual sale price will likely be lower. Sale prices on Salt Spring tend to be higher than on Galiano.

Indicator 8 represents an active listing of a waterfront parcel located on Galiano with the same zoning as the subject. This comparable has a superior topography than the subject and is slightly smaller; however, is inferior in waterfrontage. Given the extensive market exposure, this comparable will likely sell at a lower price.

Unfortunately, there is very limited comparable market data available with Indicator 8 being the only other waterfront property located on Galiano with the same zoning as the subject property. This comparable is an active listing that has been on the market for nearly two years. Current demand for development land sales in Greater Victoria is somewhat limited as many financial institutions won't even lend for this property type given weaker market conditions and the associated risks. Demand on the Gulf Islands is even more limited. Based on the available market data and weighing factors such as location, site size, topography, zoning and current market conditions, a rate of \$100,000 per acre is considered to best-represent the subject property. Therefore, the estimated market value of the subject land is calculated as follows:

$$15.15 \text{ acres @ } \$100,000 \text{ per acre} = \textbf{\$1,515,000}$$

FINAL ESTIMATE OF VALUE

In the final analysis, based on the data, analyses and conclusions contained herein, the market value of the fee simple interest in the subject property as at June 11, 2024, ***subject to the extraordinary assumptions and hypothetical conditions stated herein***, is estimated at:-

ONE MILLION FIVE HUNDRED AND FIFTEEN THOUSAND DOLLARS

(\$1,515,000)

Exposure Time

Exposure time is the time a property remains on the market. In an appraisal, the term means the estimated length of time an owner would likely need to market the appraised property interest before the hypothetical consummation of a sale at market value on the effective date of the appraisal. An opinion of exposure time is a retrospective estimate that has its basis in an analysis of past events assuming a competitive and open market.

The period of exposure time occurs immediately before the effective date of the appraisal. The overall concept of reasonable exposure time encompasses not only adequate, sufficient and reasonable time, but also adequate, sufficient and reasonable marketing effort. Exposure time is different for various types of real estate and value ranges and under various market conditions.

In my view, the subject property ought to trade within a time typical for its market. On the current market, this exposure time would be in the order of a minimum of 6 to 12 months for the subject property assuming that it was reasonably priced and professionally marketed. This estimate does not include the time for typical due diligence and closing time subsequent to an agreement in principle.

CERTIFICATION

I certify to the best of my knowledge and belief, that:-

1. The statements of fact contained in this report are true and correct;
2. The reported analyses, opinions and conclusions are limited only by the reported assumptions and limiting conditions, and are my personal impartial, and unbiased professional analysis, opinions and conclusions;
3. I have no present or prospective interest in the property that is the subject of this report, and no personal interest with respect to the parties involved;
4. I have no bias with respect to the property that is the subject of this report or to the parties involved with this assignment;
5. My engagement in and compensation for this assignment were not contingent upon developing or reporting predetermined results, the amount of the value estimate, or a conclusion favouring the client;
6. My analyses, opinions, and conclusions were developed, and this report has been prepared, in conformity with the *Canadian Uniform Standards of Professional Practice of the Appraisal Institute of Canada*;
7. I have the knowledge and experience to complete the assignment competently;
8. No one provided significant professional assistance to the person signing this report;
9. As of the date of this report, the undersigned has fulfilled the requirements of the Appraisal Institute of Canada's Continuing Professional Development Program;
10. The undersigned personally inspected the subject property, legally described as: Lot B, Section 1, Galiano Island, Cowichan District, Plan VIP87346 (PID: 028-061-942) on June 11, 2024.

Based on the data, analyses and conclusions contained herein, the market value of the fee simple interest in the subject property, as of June 11, 2024, ***subject to the extraordinary assumptions and hypothetical conditions stated herein***, was estimated at:-

ONE MILLION FIVE HUNDRED AND FIFTEEN THOUSAND DOLLARS

(\$1,515,000)

June 19, 2024



Katie Snell, B.Comm.
AACI, P.App.

QUALIFICATIONS OF APPRAISER

Katie Snell, B.Comm., AACI, P.App.

Education and Memberships

Bachelor of Commerce, Real Estate University of British Columbia,
Vancouver Campus 2010

Post Graduate Certificate in Valuation..... University of British Columbia,
Vancouver Campus 2012

Accredited Appraiser and
Professional Appraiser Appraisal Institute of Canada
..... AACI, P.App – November 21, 2013

Environment and Climate Change Canada
Ecological Gifts Program Appraiser Workshop – November 2023

Experience

I have been employed in the appraisal profession since 2010 with experience in fee appraisal, as well as in mass appraisal with BC Assessment. I have extensive experience dealing with comprehensive appraisals of residential, commercial, and industrial properties for sale, purchase, mortgage, taxation, litigation, expropriation, ecological gift donation and other purposes. With other appraisal assignments that include highest and best use analysis, feasibility studies, rental and vacancy surveys and various related assignments.

Completed Appraisal and Related Assignments for:-

Greater Victoria Harbour Authority	City of Langford
City of Victoria	Property Assessment Appeal Board
BC Assessment Authority	Property Assessment Review Panel
Public Works and Government Services Canada	BC Housing Corporation
Business Development Bank of Canada	Municipality of North Cowichan
Environment and Climate Change Canada	BC Parks Foundation
Nature Conservancy of Canada	Capital Regional District
District of Saanich	Township of Esquimalt
Cowichan Valley Regional District	City of Colwood
Municipality of North Cowichan	City of Duncan
Galiano Conservancy Association	Islands Trust Council
Islands Trust Conservancy	Mayne Island Conservancy
Jawl Properties	Island Savings Credit Union
Coast Capital Savings	First National Bank
Bank of Montreal	HSBC
Scotiabank	Coastal Community Credit Union
Vancity Credit Union	Canadian Western Bank
TD Canada Trust	Royal Bank of Canada
Ashdown Capital	Various Strata Corporations
Various Commercial Corporations	Various Law Corporations

PART 2 - TERMS OF INSTRUMENT

DENSITY

SECTION 219 COVENANT

This Agreement dated for reference _____ is between:

[NAME]

[ADDRESS]

(the “**Grantor**”)

AND:

GALIANO ISLAND LOCAL TRUST COMMITTEE, a corporation under the *Island Trust Act*, R.S.B.C. 1996, c. 239, having an office at Suite 200, 1627 Fort Street, Victoria, British Columbia, V8R 1H8

(the “**Local Trust Committee**” and the “**Grantee**”)

GIVEN THAT:

- A. The Grantor is the registered owner (the “**Owner**”) in fee simple of lands on Galiano Island, British Columbia, described as:

PID:

[Legal description for Strata Lot 4]

(the “**Land**”);

- B. If a subdivision is proposed that yields the maximum number of lots permitted by the applicable minimum and average lot areas specified by the Land Use Bylaw, and one or more of the lots being created has an area equal to or greater than twice the applicable average lot area, the applicant must grant a covenant complying with Section 13.4 of the Land Use Bylaw for every such lot, prohibiting further subdivision of the lot.

- C. The Land has an area equal to or greater than twice the applicable average lot area.
- D. Section 219 of the *Land Title Act* (British Columbia) provides that there may be registered as a charge against the title to land a covenant, whether of a negative or positive nature, in respect of the use of land, the building on land, the subdivision of land and the preservation of land or a specified amenity on the land.

This Agreement is evidence that in consideration of the premises and covenants herein contained, the payment of two dollars (\$2.00) by the Local Trust Committee to the Owner, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties agree as follows:

Restriction on Use

- 1. The Land may not be further subdivided.

No Effect On Laws or Powers

- 2. This Agreement does not
 - (a) affect or limit the discretion, rights, duties or powers of the Transferees under any enactment or at common law, including in relation to the use or subdivision of the Land;
 - (b) impose on the Transferees any duty of care or other legal duty of any kind to the Owner or to anyone else;
 - (c) oblige the Transferees to enforce this Agreement, which is a policy matter within the sole discretion of the Transferees;
 - (d) affect or limit any enactment relating to the use or subdivision of the Land;
 - (e) relieve the Owner from complying with any enactment, including in relation to the use or subdivision of the Land.

Limitation on Obligations

- 3. The Owner is only liable for breaches of this Agreement caused or contributed to by the Owner, or which the Owner permits or allows, in respect of the Owner's particular lot or lots. The Owner is liable only for the covenants and obligations contained in this Agreement and breaches of this Agreement which occur while the Owner is the registered owner of any interest in the Land and then only to the extent of that interest.

Indemnity

4. The Owner hereby indemnifies and saves harmless the Transferees, and their respective elected and appointed officials, officers, employees and agents, from and against all loss, damage, cost, actions, suits, debts, expenses and harm of any kind whatsoever which the Owner may at any time suffer or incur arising out of or related to this Agreement or any breach of it.

No Liability in Tort

5. The parties agree that this Agreement creates only contractual obligations. The parties agree that no tort obligations or liabilities of any kind exist between the parties in connection with the performance of or any default under or in respect of this Agreement. The intent of this section is to exclude tort liability of any kind and to limit the parties to their rights and remedies under the law of contract.

Covenant Runs With the Land

6. Every obligation and covenant of the Owner in this Agreement constitutes both a contractual obligation and a covenant granted under section 219 of the *Land Title Act* (British Columbia) in respect of the Land. This Agreement burdens the Land and runs with it and binds the successors in title to the Land. This Agreement burdens and charges all of the Land and any parcel into which it is subdivided by any means and any parcel into which the Land is consolidated.

Registration

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

Waiver

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

Severance

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

No Other Agreements

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

it terminates and supersedes all other agreements and arrangements regarding its subject.

Binding of Successors

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

Further Acts

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

Deed and Contract

13. By executing and delivering this Agreement the Owner intends to create both a contract and a deed executed and delivered under seal.

Execution Using Form C

14. As evidence of their agreement to be bound by the terms of this instrument, the parties each have executed the Land Title Office Form C which is attached hereto and which forms part of this Agreement.

[Priority Agreement to be Added if Mortgage registered on title at time of registration of this covenant.]

PART 2 - TERMS OF INSTRUMENT

WATER TREATMENT

SECTION 219 COVENANT

This Agreement dated for reference _____ is between:

[NAME]
[ADDRESS]

(the “**Grantor**”)

AND:

GALIANO ISLAND LOCAL TRUST COMMITTEE, a corporation under the *Island Trust Act*, R.S.B.C. 1996, c. 239, having an office at Suite 200, 1627 Fort Street, Victoria, British Columbia, V8R 1H8

(the “**Local Trust Committee**”)

AND:

CAPITAL REGIONAL DISTRICT, of
625 Fisgard Street, Victoria, British Columbia, V8W 1R7

(the “**CRD**”)

(the Local Trust Committee and CRD are each a “**Grantee**” and together the “**Grantees**”)

GIVEN THAT:

- A. The Grantor is the registered owner (the “**Owner**”) in fee simple of lands on Galiano Island, British Columbia, described as:

PID:

[Legal description for Strata Lot]

(the “**Land**”);

- B. There is a well or wells drilled to service the Land, and the Groundwater Report recommends, among other things, that a well on the Land should be treated as a precautionary measure against coliform bacteria.
- C. Section 219 of the *Land Title Act* (British Columbia) provides that there may be registered as a charge against the title to land a covenant, whether negative or positive nature, in respect of the use of land.

- D. The Grantor wishes to grant and the Grantees wish to accept this covenant over the Lots to restrict the development of the Land until water supply standards are met.

This Agreement is evidence that in consideration of the premises and covenants herein contained, the payment of two dollars (\$2.00) by the Trust Committee to the Owner, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties agree pursuant to s. 219 of the *Land Title Act* as follows:

Definitions

1. In this Agreement:
 - (a) "**Groundwater Report**" means the report submitted by Hy-Geo consulting and dated April 23, 2023, including an Addendum dated July 15, 2024) a copy of which is attached to this Agreement as Schedule A;
 - (b) "**Well**" means a well located on the Land if such well is intended to be used for potable water, including wells shown on the Site Plan attached as Schedule B.

Approvals

2. Where this Agreement requires the approval of the Local Trust Committee, approval may be given by the Islands Trust's Regional Planning Manager, Southern Team and must, if given, be in writing.

Restriction on the use of the Land

3. The Owner shall not use any building or structure for any residential or domestic purpose on the Land unless the Owner is in full compliance with this Covenant.

Water Treatment System

4. Before using a Well as a source of potable water, the Owner shall construct and maintain a treatment system that is appropriately designed, based on water quality sampling and lab analysis as described in the Groundwater Report, so that the water from the Well will meet the standards set out in the applicable bylaws of the local government.

No Effect On Laws or Powers

5. This Agreement does not:
 - (a) affect or limit the discretion, rights, duties or powers of the Trust Committee or the Capital Regional District under any enactment or at common law, including in relation to the use or subdivision of the Land;
 - (b) impose on the Trust Committee or the Capital Regional District any duty of care or other legal duty of any kind to the Owner or to anyone else;

- (c) oblige the Trust Committee to enforce this Agreement, which is a policy matter within the sole discretion of the Trust Committee;
- (d) affect or limit any enactment relating to the use or subdivision of the Land;
- (e) relieve the Owner from complying with any enactment, including in relation to the use or subdivision of the Land.

Limitation on Obligations

6. The Grantor is only liable for breaches of this Agreement caused or contributed to by the Grantor or which the Grantor permits or allows. The Grantor is not liable for the consequences of the requirements of any enactments or law or any order, directive, ruling or government action thereunder. The Grantor is liable only for breaches of this Agreement which occur while the Grantor is the registered Grantor of any interest in the Land and then only to the extent of that interest.

Indemnity

7. Pursuant to section 219(6) of the Land Title Act, the Owner hereby indemnifies and saves harmless the Trust Committee and its elected and appointed officials, officers, employees and agents, from and against all loss, damage, cost, actions, suits, debts, expenses and harm of any kind whatsoever which the Trust Committee may at any time suffer or incur arising out of or related to this Agreement or any breach of it.

Disposition of Land

8. The Owner will not sell, transfer, lease, rent or otherwise dispose of the Land or propose to do any of them without giving all affected persons written notice of this Covenant

No Liability in Tort

9. The parties agree that this Agreement creates only contractual obligations. The parties agree that no tort obligations or liabilities of any kind exist between the parties in connection with the performance of or any default under or in respect of, this Agreement. The intent of this section is to exclude tort liability of any kind and to limit the parties to their rights and remedies under the law of contract.

Covenant Runs With the Land

10. Unless it is otherwise expressly provided in this Agreement, every obligation and covenant of the Grantor in this Agreement constitutes a personal covenant and also a covenant granted under s. 219 of the Land Title Act (British Columbia) in respect of the Land. This Agreement burdens the Land and runs with it and binds the successors in title to the Land. This Agreement burdens and charges all of the Land and the parcels for Lot 2 into which it is subdivided by any means and any parcel into which the Land is consolidated.

Registration and Release

11. The Grantor agrees to do everything necessary at the Grantor's expense to ensure that this Agreement is registered against title to the Land with priority over all financial charges, liens and encumbrances registered or pending registration in the Land Title Office at the time of application for registration of this Agreement.
12. Upon permission to occupy a dwelling on the Land being issued, including confirmation of a potable water supply that meets the standards set out in the local government bylaw, the Grantees shall, upon request from the Owner, execute and make available to the Owner a release of this covenant.

Waiver

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

Severance

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

No Other Agreements

15. This Agreement is the entire agreement between the parties regarding its subject and it terminates and supersedes all other agreements and arrangements regarding its subject.

Binding of Successors

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

Deed and Contract

16. By executing and delivering this Agreement the Owner intends to create both a contract and a deed executed and delivered under seal.

As evidence of their agreement to be bound by the terms of this instrument, the parties each have executed the Land Title Office Form C which is attached hereto and which forms part of this Agreement.

Execution Using Form C

17. As evidence of their agreement to be bound by the above terms, the parties each have executed and delivered this Agreement by executing Part 1 of the Land Title Act Form C to which this Agreement is attached and which forms part of this Agreement.

[Priority Agreement to be Added if Mortgage registered on title at time of registration of this covenant.]

Land Title Act

FORM C

(Section 219.9)

Province of British Columbia

GENERAL DOCUMENT

92FE-3 09 48 8

RECEIVED
LAND TITLE OFFICE
VICTORIA

EF012652

Page 1 of 4 pages

1. APPLICATION: DANIELLE DESCHAMPS-CARLSON, FREEMAN CARLSON,
Barristers & Solicitors, 222 - 1077 - 56 Street, Delta, B.C.

V4L 2A2 942 2316
c/o West Coast Title Search Ltd.

(Applicant's Solicitor)

2. (a) PARCEL IDENTIFIER AND LEGAL DESCRIPTION OF LAND: * 02/03/92 A9436a CHG FREE .00

(PID)

000-959-855

(LEGAL DESCRIPTION)

L.3 Sec.1 Galiano Island

Cowichan District Plan 39659

FORM 1 (Section 35)
MEMORANDUM OF REGISTRATION
Registered on application received on
the day and time written hereon
K.D. JACQUES, Registrar of the
Victoria Land Title Office

3. NATURE OF INTEREST:

Description

Document reference

Person entitled to interest

page and paragraph

Restrictive Covenant

pages 2 to 4 incl.

transferee

4. TRANSFEROR(S): BARRY LUDWIG MICHELITSCH, BETTE-JANE MICHELITSCH,
GARY RAYMOND CULLEN and KAROLINE ROSE CULLEN

5. TRANSFEREE(S): HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE
OF BRITISH COLUMBIA represented by the Ministry of Municipal
Affairs, Recreation and Housing, on behalf of the Island
Trust, having an address at Second Floor, 1627 Fort Street,
Victoria, B.C. V8R 1H8

6. EXECUTION(S):** By signing this document you are affecting the land in the
manner described in item 3.

Officer Signature(s)

Execution Date

Transferor(s) Signature(s)

[Redacted Signature]

Y	M	D
92	1	30

[Redacted Signature]

Barry Ludwig Michelitsch

[Redacted Signature]

Bette-Jane Michelitsch

[Redacted Signature]

Gary Raymond Cullen

[Redacted Signature]

Karoline Rose Cullen

DANIELLE D. CARLSON

Barrister & Solicitor

222-1077-56th STREET

DELTA, B.C. V4L 2A2

TEL. 934-2316 FAX 934-2314

"AS TO ALL SIGNATURES"

OFFICER CERTIFICATION: Your signature constitutes a representation that you
are a solicitor, notary public or other person authorized by the Evidence
Act, R.S.B.C. 1979, c. 116, to take affidavits for use in British Columbia
and certifies the matters set out in Part 5 of the Land Title Act as they
pertain to the execution of this instrument.

2

Page 2

THIS INDENTURE made the day of January 1992.

BETWEEN:

BARRY LUDWIG MICHELITSCH
BETTE JANE MICHELITSCH
GARY RAYMOND CULLEN
KAROLINE ROSE CULLEN

(Hereinafter called the "Grantor")

AND:

HER MAJESTY THE QUEEN IN RIGHT OF THE
PROVINCE OF BRITISH COLUMBIA as represented
by the Ministry of Municipal Affairs, Recreation and
Housing, on behalf of the Island Trust, having an address
at Second Floor, 1627 Fort Street, Victoria, B.C. V8R 1H8

(Hereinafter called the "Grantee")

WHEREAS:

A. The Grantor is the owner in fee-simple of lands legally
described as: Parcel Identifier 000-959-855
 Lot 3 Section 1 Galiano Island
 Cowichan District Plan 39659

which land is zoned Rural Residential (RR) under Galiano Island
Trust Committee By-Law No.5 cited as "Zoning By-Law, Galiano Island
and Area, 1978."

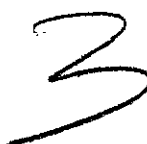
B. Section 7.6 of the said By-Law provides for a maximum
density of one one family dwelling per parcel in zone rural
residential unless a restrictive covenant is registered against the
parcel, in which case a maximum density of one one family dwelling
per three acres is permitted.

C. The land comprises not less than 30.34 acres.

D. Section 7.2 of the said By-Law permits one guest cabin
not exceeding 500 square feet in size for the accommodation of
guests in conjunction with each one family dwelling permitted.

E. The grantor wishes to construct up to ten (10) one family
dwellings and up to ten (10) guest cabins (one guest cabin not
exceeding 500 square feet in size may be permitted for the
accommodation of guests in conjunction with each one family
dwelling permitted).

F. Section 215 of the Land Title Act R.S.B.C. 1979, c.219



Page 3

permits the registration of a covenant, whether of a negative or positive nature, in respect of the use of land or providing that land is not to be built on, in favour of the grantee, which may be registered as a charge against the title to the land and is enforceable against the Grantor and his successors in title even if the covenant is not annexed to land owned by the Grantee.

G. The Grantee, as a condition of giving its approval to a maximum density of ten (10) one family dwellings and ten (10) guest cabins (one guest cabin not exceeding 500 square feet in size may be permitted for the accommodation of guests in conjunction with each one family dwelling permitted) on the land, has requested that the Grantor enter into the covenant hereinafter contained pursuant to Section 215 of the said Act.

NOW THEREFORE THIS INDENTURE WITNESSES that in consideration of the sum of one dollar (\$1.00) of lawful money of Canada paid by the Grantee to the Grantor (the receipt and sufficiency of which are hereby acknowledged), the Grantor hereby covenants and agrees with the Grantee as follows:

1. No more than ten (10) one family dwellings (as defined in Section 2.1 of the said By-Law) and ten (10) guest cabins (one guest cabin not exceeding 500 square feet in size may be permitted for the accommodation of guests in conjunction with each one family dwelling permitted) will be constructed on the land, including those already constructed on the land as of the date of this agreement.
2. The grantor shall indemnify the Grantee for any loss or claim, whether known or unknown, which has arisen or may arise by virtue of the existence, granting or registration of this agreement.
3. If for any reason the land is built on in violation of any term or condition of this agreement, the Grantor shall:
 - a) forthwith remove whatever has been so built; and
 - b) pay to the Grantee as liquidated damages for any such breach the sum of \$500.00, these monies being paid in addition to any other remedy that may be ordered from time to time by a Court having jurisdiction.
4. If the Grantor neglects or refuses to remedy any violation as aforesaid within 30 days of being notified in writing by the Grantee to so do, the Grantee is hereby authorized to enter the land and remedy the violation if in its sole discretion it decides to do so in which event the Grantor shall forthwith

4

Page 4 of 4

reimburse the Grantee for all monies the Grantee spends in so doing.

5. This agreement shall run with the land.

6. The Grantor for itself and its successors and assigns covenants and agrees with the Grantee that it will at all times perform and observe the restrictions herein set out and that this covenant shall be binding upon the Grantor only during the period of its ownership of any interest in the land.

The words "Grantor" and "Grantee", wherever used in this agreement, shall include the parties hereto and their respective successors and assigns.

IN WITNESS WHEREOF the Grantor has executed this agreement on the date first above written.

SIGNED, SEALED AND DELIVERED)
by Barry Ludwig Michelitsch,)
Bette Jane Michelitsch, Gary)
Raymond Cullen and Karoline)
Rose Cullen in the presence)
of:)

[Redacted Signature]

DANIELLE D. CARLSON
Barrister & Solicitor
222-1077-56th STREET
DELTA, B.C. V4L 2A2
TEL 934-2316 FAX 934-2314
(As to all Signatures)

[Redacted Signature]

Barry Ludwig Michelitsch

[Redacted Signature]

Bette Jane Michelitsch

[Redacted Signature]

Gary Cullen

[Redacted Signature]

Karoline Rose Cullen

END OF DOCUMENT

Status: Registered

Doc #: EF12652

RCVD: 1992-02-03 RQST: 2021-06-23 15.02.15

CANADA
PROVINCE OF
BRITISH COLUMBIA

5 92 FE -3 09 49 0 EF012652
RECEIVED
) IN THE MATTER OF:
) LAND TITLE OFFICE
) Lot 3 Section 1 Galiano Island
) Cowichan District Plan 39659

I, Barry Ludwig Michelitsch, of 5655 Greenland Dr., Delta, British Columbia, DO SOLEMNLY DECLARE:

1. That attached hereto and marked exhibit A to this statutory declaration is a copy of the state of title certificate for the following property:

Lot 3 Section 1 Galiano Island
Cowichan District Plan 39659

2. That my name is spelled incorrectly on the said state of title certificate as my name is BARRY LUDWIG MICHELITSCH.

3. Attached hereto and marked exhibit B is a copy of my driver's license showing the correct spelling of my middle name.

4. That I believe that the error was made by the solicitor who attended to the conveyance when I purchase the property, together with the other joint owners.

AND I make this solemn declaration conscientiously believing it to be true and knowing that it is of same force and effect as if made under oath.

DECLARED BEFORE ME at the Municipality of
Delta, in the Province of British
Columbia, this 30 day of January 1992


A Commissioner for taking Affidavits
for British Columbia


Barry Ludwig Michelitsch

DANIELLE D. CARLSON
Barrister & Solicitor
222-1077-56th STREET
DELTA, B.C. V4L 2A2
TEL. 934-2316 FAX 934-2314



LAND TITLE ACT
STATE OF TITLE CERTIFICATE

TO:

TERRY D. MILLICHAMP
BARRISTER & SOLICITOR
SUITE 2, 1323 - 56TH STREET,
DELTA, B.C.
V4L 2A6

This is Exhibit "A" referred to in
the affidavit of Barry Ludwig Michelitsch
sworn before me at Delta
British Columbia, this 30 day
of March A.D. 1992

A Commissioner for taking
Affidavits for British Columbia.

LAND TITLE OFFICE, VICTORIA BRITISH COLUMBIA

CERTIFICATE NO: ED27133 TITLE NO.: ED27133

THIS IS TO CERTIFY THAT AT 10:11 ON 21 MARCH, 1990,
THE STATE OF THE TITLE TO THE LAND DESCRIBED HEREIN IS AS STATED AND IS SUBJECT
TO THE NOTATIONS APPEARING BELOW. THIS CERTIFICATE IS TO BE READ SUBJECT TO THE
PROVISIONS OF SECTION 23(1) OF THE LAND TITLE ACT AS AMENDED AND THE LAND ACT
SECTIONS 47, AND 52-57 (SEE R.S.B.C. 1979, CHAPTER 214).

REGISTRAR

APPLICATION FOR REGISTRATION RECEIVED ON: 08 MARCH, 1990
ENTERED: 21 MARCH, 1990

REGISTERED OWNER IN FEE-SIMPLE:

BARRY LUWIG MICHELITSCH, HOLOGRAPHER, AND
BETTE-JANE MICHELITSCH, HOLOGRAPHER,
995 PACIFIC DRIVE,
DELTA, B.C.
V4M 2K2
AS JOINT TENANTS
AS TO AN UNDIVIDED 1/2 INTEREST
AND

GARY RAYMOND CULLEN, HOLOGRAPHER, AND
KAROLINE ROSE CULLEN, HOLOGRAPHER,
995 PACIFIC DRIVE,
DELTA, B.C.
V4M 2K2
AS JOINT TENANTS
AS TO AN UNDIVIDED 1/2 INTEREST

DESCRIPTION OF LAND:

SAANICH/CAPITAL ASSESSMENT AREA

PARCEL IDENTIFIER 000-959-855
LOT 3, SECTION 1, GALIANO ISLAND, COWICHAN DISTRICT, PLAN 39659

LEGAL NOTATIONS: NONE

CHARGES, LIENS, AND INTERESTS:

NATURE OF CHARGE	CHARGE NUMBER	DATE AND TIME OF APPLICATION
COVENANT	M47565	18/05/1983 12:31
REGISTERED OWNER OF CHARGE: HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF BRITISH COLUMBIA		

Status: Registered

Doc #: EF12652

RCVD: 1992-02-03 RQST: 2021-06-23 15.02.15

HOLUCRHFIS

FAX 604-946-1648

PAGE 03

PAGE: 2



LAND TITLE ACT

STATE OF TITLE CERTIFICATE

LAND TITLE OFFICE, VICTORIA BRITISH COLUMBIA

CERTIFICATE NO: ED27133

TITLE NO.: ED27133

CHARGES, LIENS, AND INTERESTS:NATURE OF CHARGE
CHARGE NUMBER

DATE AND TIME OF APPLICATION

REMARKS: SECTION 215 L.T.A.
PART**COVENANT**

M58171

18/05/1983

12:31

REGISTERED OWNER OF CHARGE:

HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF BRITISH COLUMBIA

REMARKS: SECTION 215 L.T.A. INTER ALIA

UNDERSURFACE RIGHTS

S13086

19/02/1987

08:56

REMARKS: PURSUANT TO MINERAL LAND TAX ACT, SBC 1979,
CHAPTER 260 AND AMENDMENTS THERETO, MINERALS
(EXCEPT COAL, GOLD AND SILVER) HEREIN,
FORFEITED AND VESTED IN CROWN**UNDERSURFACE RIGHTS**

E27179

24/02/1976

13:20

REGISTERED OWNER OF CHARGE:

HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF BRITISH COLUMBIA

REMARKS: AFB 38.119.E27179

"CAUTION - CHARGES MAY NOT APPEAR IN ORDER OF PRIORITY. SEE SECTION 27, L.T.A."

DUPLICATE INDEFEASIBLE TITLE: NONE

TRANSFERS: NONE

NOTATIONS

AMENDMENTS: NONE

CORRECTIONS: NONE

PENDING APPLICATIONS: NONE

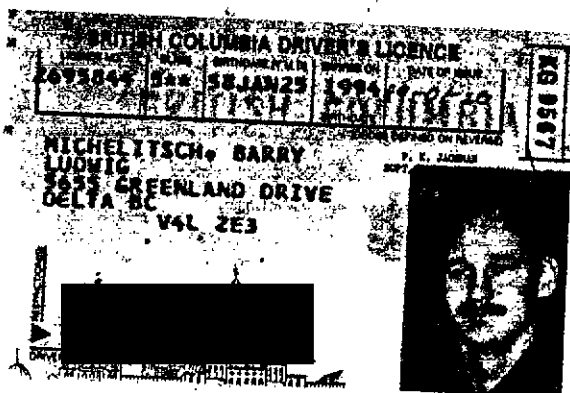
Status: Registered

Doc #: EF12652

RCVD: 1992-02-03 RQST: 2021-06-23 15.02.15

8

EF12652



This is Exhibit "B" referred to in
the affidavit of Barry Ludwig Michelitsch
sworn before me at Delta
British Columbia, this 30 day
of January A.D. 19 92

A Commissioner for taking
Affidavits for British Columbia.

Attachment 5

Status: Registered

Doc #: M58171

RCVD: 1983-05-18 RQST: 2021-06-23
15.02.15LAND TITLE ACT **58171**

Form 17

Application

Date: May 17, 1983

Declared Value: \$1.00

Telephone No. 537-5502

Nature of Interest: Covenant

Applicant as Agent: A.R. Hardie, B.C.L.S.

Address: P.O. Box 3, Ganges, B.C. V0S 1E0
This Agreement made this 4 day of March
A.D. 1983

BETWEEN: SOUTHWOOD HOLDINGS LTD. (Incorporation Number
620 - 789 West Pender Street, Vancouver, B.C., a company
duly incorporated under the laws of the Province of
British Columbia
(hereinafter called the Grantor)

OF THE FIRST PART

AND: HER MAJESTY THE QUEEN, IN RIGHT of the Province of British
Columbia, as represented by the ISLANDS TRUST
(Hereinafter called the Grantee)

OF THE SECOND PART

WHEREAS the Grantor is the Registered Owner of all those certain
parcels or tracts of land situate, lying and being in the Gulf Islands
Assessment District, and more particularly known and described as: FORM 1

(Section 36)

Section 1, Galiano Island, Cowichan District, EXCEPT GRANDUM OF REGISTRATION
Parcel "A" (DD 38007-I) and EXCEPT Plans 5793, 7740, registered on application
and 25673 the day and time which
(hereinafter called the Lands)

A. HOOPER, Registrar of the
Land Title Office

WHEREAS the Grantor has applied to the Approving Officer for
approval to create three lots by way of a plan of subdivision of the Lands
completed by Allan R. Hardie, B.C.L.S., on the 21st day of January 1983
(a copy of said plan of subdivision being annexed hereto);

AND WHEREAS a proven source of 200 gallons of potable water per
day has not been demonstrated for Lots 2 and 3 of the said plan of
subdivision as required by Section 8.1 of Galiano Island Trust Committee
Bylaw No. 6;

RCVD: 1983-05-18 RQST: 2021-06-23
15.02.15

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Page 2 of 4
Page 2 of 4

Status: Registered

Doc #: M58171

RCVD: 1983-05-18 RQST: 2021-06-23
15.02.15

BANK

FORM NO. LTA 6

LAND TITLE ACT

Form 6
(Section 46)

3

58171

PROOF OF EXECUTION BY CORPORATION

I CERTIFY that on the 4th day of March, 1983,
at Victoria, in British Columbia,

~~† whose identity has been proved by the evidence on oath of~~ Edith Margaret Prior

who is) personally known to me, appeared before me and acknowledged to me that he/she is the authorized

signatory of Southwood Holdings Ltd.

and that he/she is the person who subscribed his/her name and affixed the seal of the corporation to the instrument, that he/she was authorized to subscribe his/her name and affix the seal to it, †(and that the corporation existed at the date the instrument was executed by the corporation.)

IN TESTIMONY of which I set my hand and seal of office,

at Victoria, B.C.,

this 4th day of March, 1983.


A Commissioner for taking Affidavits
within British Columbia

*Where the person making the acknowledgment is personally known to the officer taking it, strike out these words in brackets.

†These words in brackets may be added, if the applicant wishes the registrar to exercise his discretion under section 162(5) not to call for further evidence of the existence of the corporation.

‡Write name and qualifications under section 48, e.g., A Commissioner for Taking Affidavits for British Columbia

Status: Registered

Doc #: M58171

RCVD: 1983-05-18 RQST: 2021-06-23
15.02.15



Government of British Columbia

File No. M 58171

☐ Not available at time of filming.

☒ Plan not suitable for filming, see VAULT CLERK

☐ See _____

☐ _____

CM 51

DO NOT PHOTOCOPY

April 23, 2023

Lawrence Waterfall
350 Mary Ann Point Rd
Galiano Island BC
V0N 1P0

Attention: Lawrence Waterfall

Re: Groundwater Well Assessments at 350 Mary Anne Point Road, Galiano Island

As requested, Hy-Geo Consulting has completed a review of five recent pumping tests conducted at the above property on the following bedrock wells:

WID 70268 (WTN 127329),
WID 70269 (WTN 127330), two tests,
WID 70270 (WTN 127332), and
WID 70275 (WTN 127333).

The pumping tests were conducted in order to meet the requirements of *Standards for Potable Water Supply, Sections 13.24 to 13.29* under *Galiano Island Land Use Bylaw, No. 127, 1999* (Galiano Island Local Trust Committee, 2023). The minimum requirements are 2275 L/day for a single residence. This quantity is equivalent to a pumping rate of 0.417 USgpm (1.58 L/min). Two additional wells namely WTN 119924 and WTN 59257 serving an existing residence and cottage situated on proposed Lot 4 of the property were not pump tested. Another well WID 70271 (WTN 127331) was drilled as part of this assessment but was not tested due to its poor yield. An additional well WTN 119996, is reported in the provincial WELLS database (Province of British Columbia, 2023a) to be on the property but it appears to have been mislocated.

Site Location

The property being proposed for subdivision into 4 lots, is situated at the southeastern end of Galiano Island approximately 1.6 kilometres southwest of Sturdies Bay (Figures 1 and 2). The property currently comprises PID 28061942. The property is situated along a plateau that slopes gently towards the northeast from 50 to 48 metres above sea while falling off abruptly to sea level along Active Pass to the south (Figure 3). Reported well locations mapped under the *British Columbia Water Resources Atlas* (Province of British Columbia, 2023a), are shown in Figure 4. There are no reported surface water sources on or in close proximity to the property. The property is situated within the *South Galiano Groundwater Region* delineated by Kohut and Johanson (1998).

Climate

The climate of Galiano Island is characterized by cool dry summers and humid mild winters. With the absence of a current climate station on Galiano Island, the Saturna Campon climate station (ID 1017098) may be considered representative of the general longer-term (monthly) precipitation patterns on Galiano having an annual normal precipitation amount of 812.2 mm based on the 1981-2010 period (Figure 5). The active climate station on Saturna is now the Saturna Campon CS station (ID 1017099). Table 1 indicates that the cumulative precipitation for the Saturna Campon CS station during the six-month period from October 2022 to end of March 2023 climate station was 102.6 percent of normal. While the overall annual precipitation was close to normal, there was significant variability among the months, e.g. 60.1% of normal in November 2022 and 251.2 % of normal in December 2022.

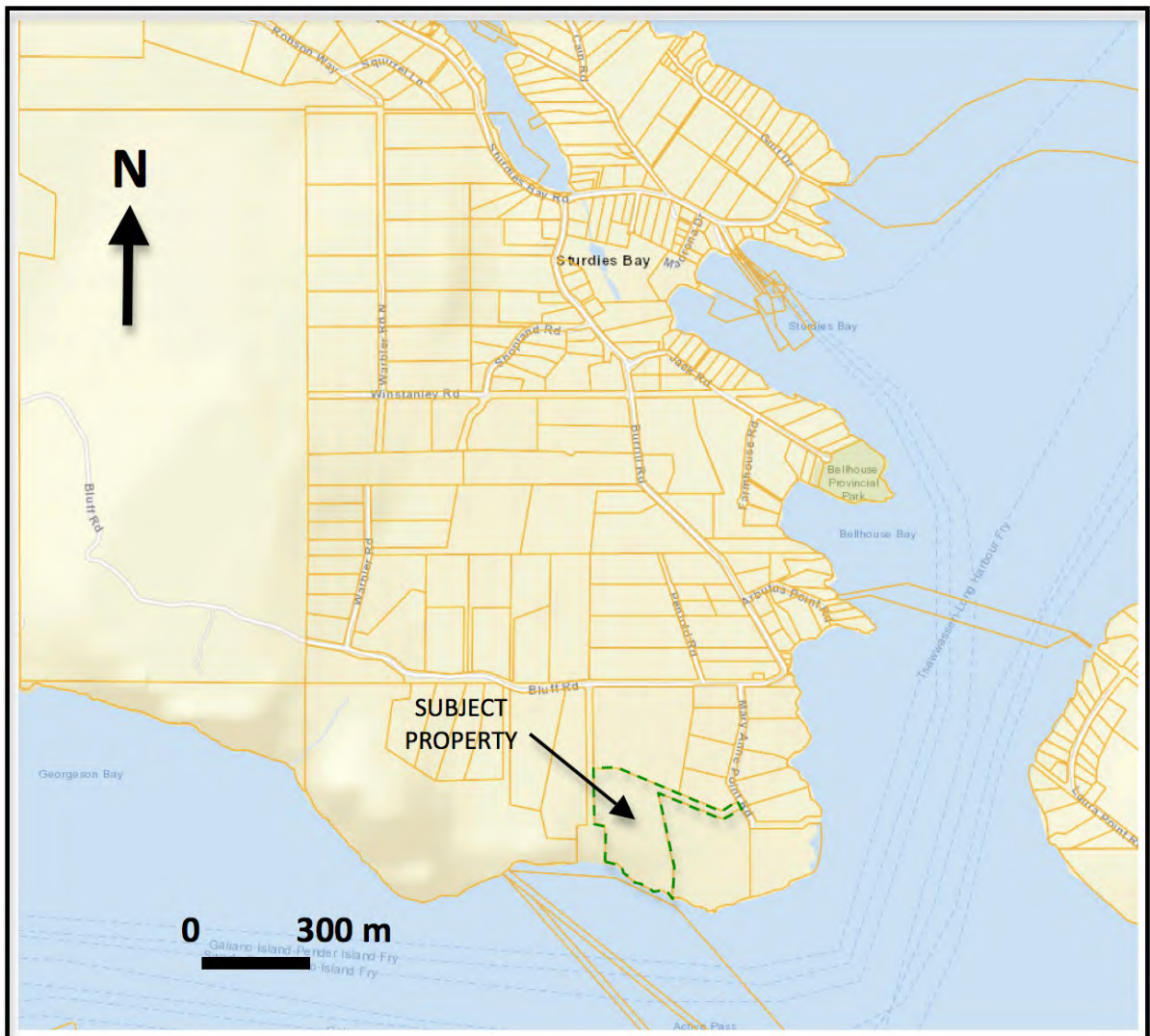


Figure 1. Location of subject property. Basemap from Province of British Columbia (2023a).

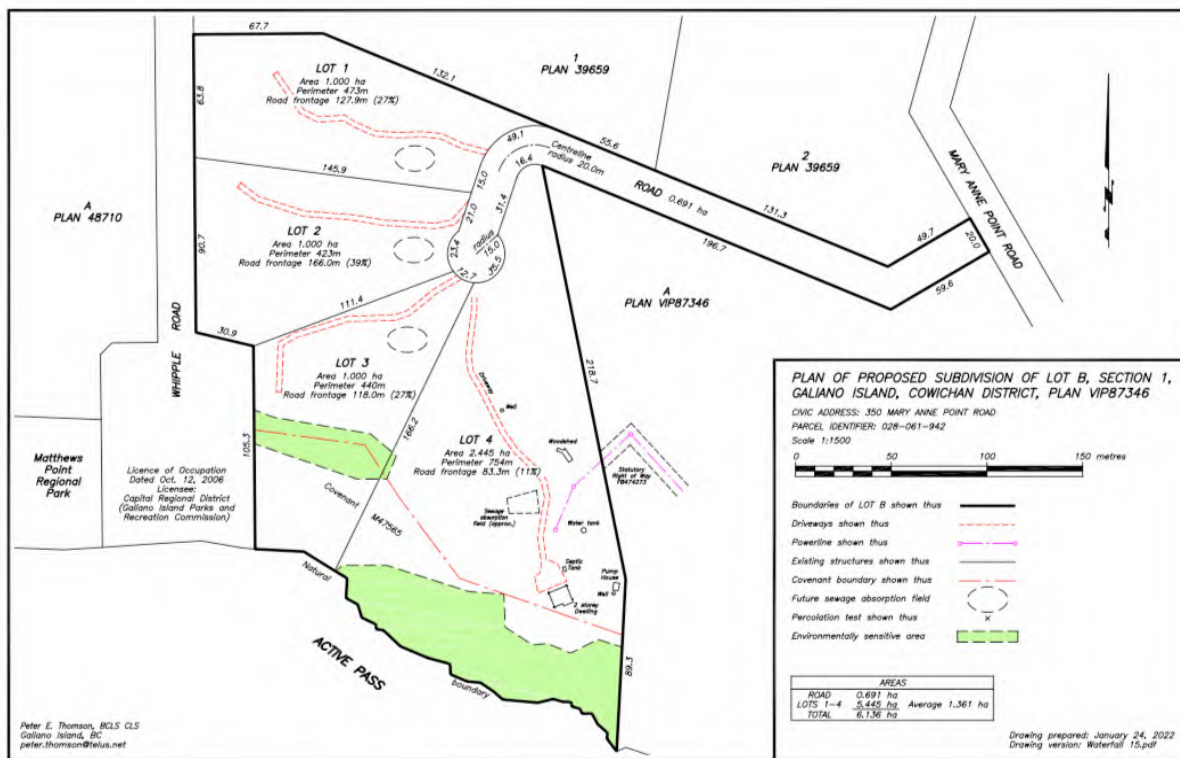


Figure 2. Outline of proposed subdivision, from Thomson (2022).

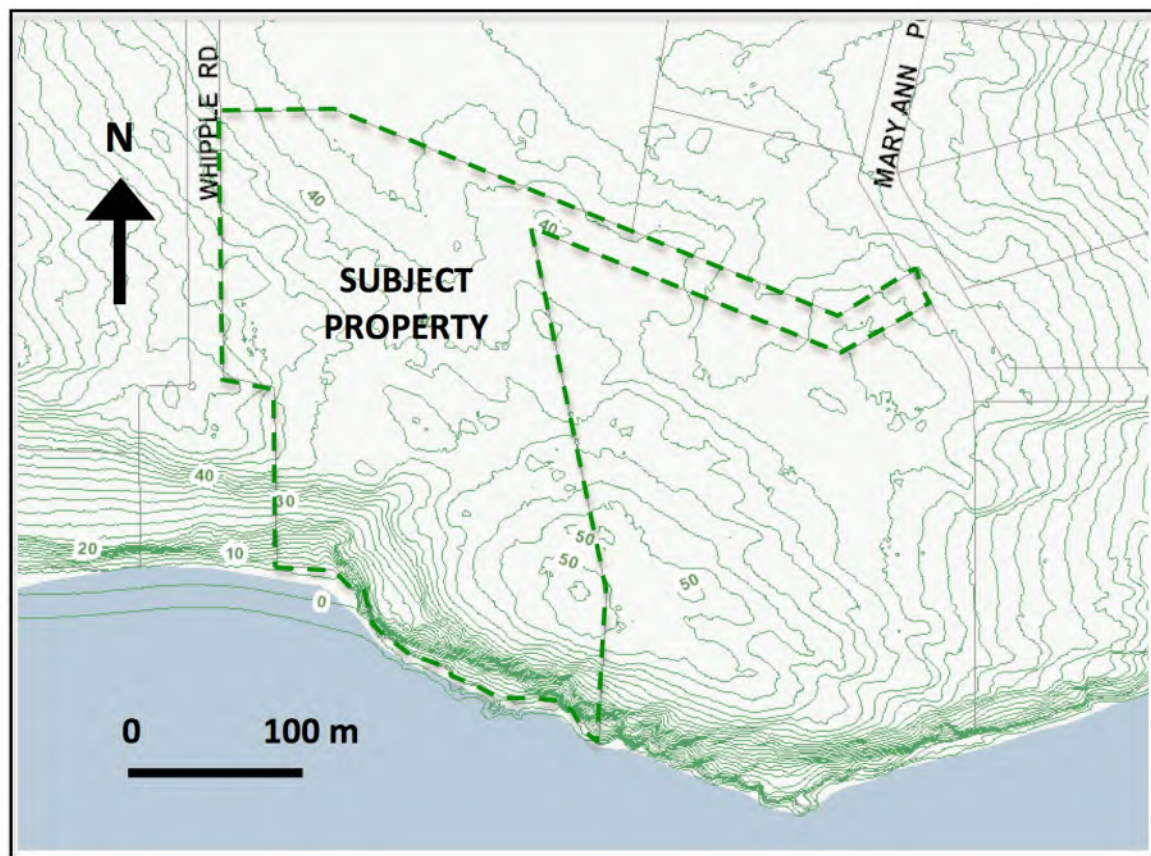


Figure 3. Topographic site conditions. Contour interval = 2 m.
 Basemap from Islands Trust (2023).

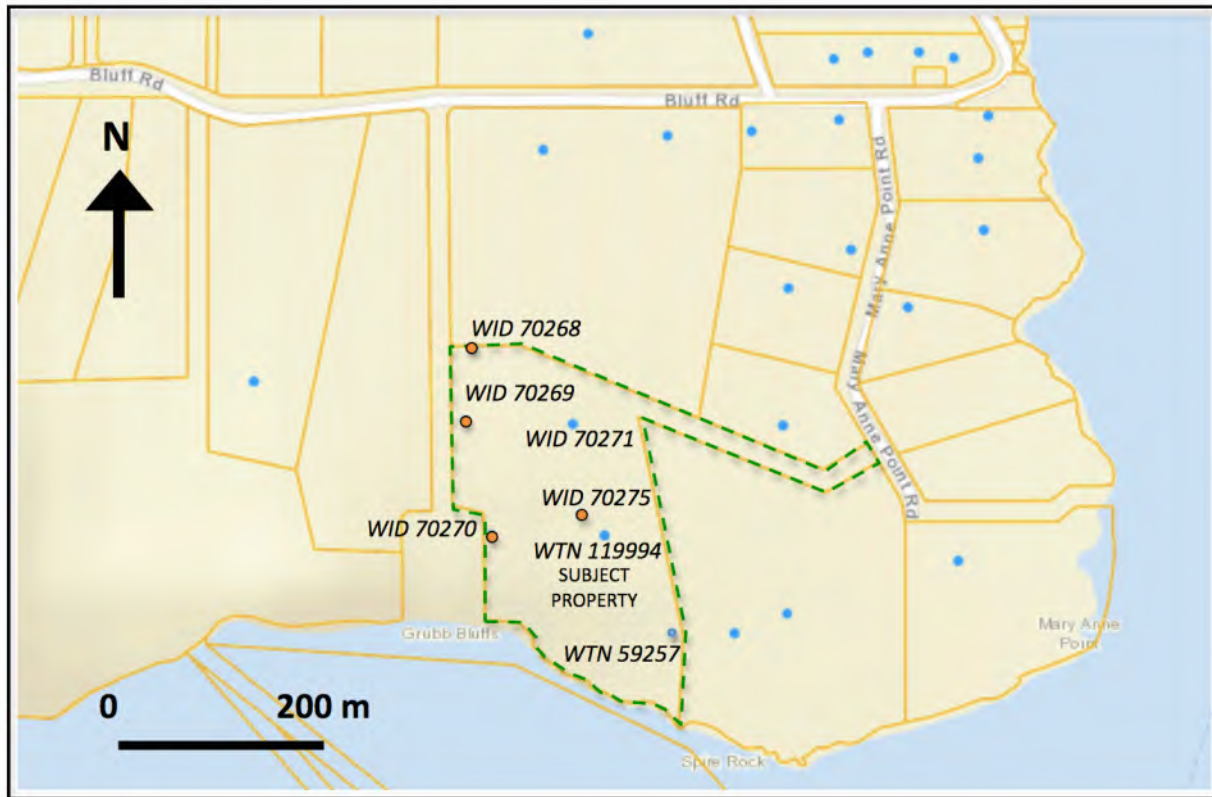


Figure 4. Location of pump tested wells (red dots) and neighbouring wells (blue dots). Basemap from Province of British Columbia (2023a).

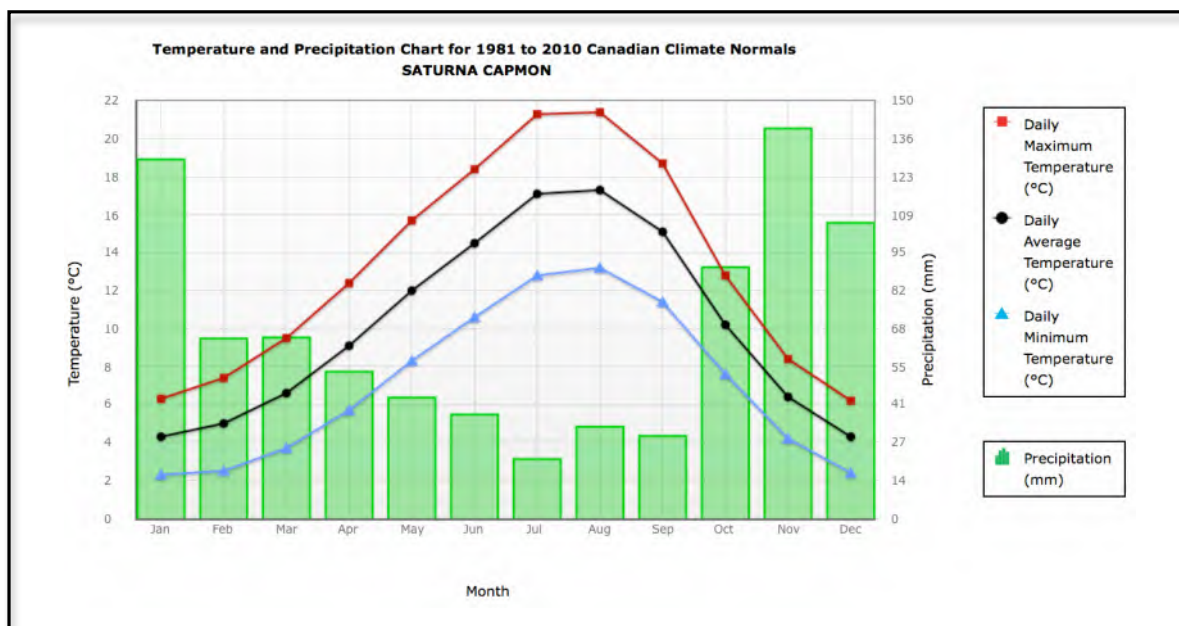


Figure 5. Graph of monthly normal precipitation for Saturna Campon station (Climate ID. 1017098). Graph from Government of Canada (2023a).

Table 1. Monthly precipitation data for Saturna Campon CS climate station (Climate ID. 1017099) in 2022-23 compared to 1981-2010 normals.

Month	Precipitation in 2022-23 (mm)	Monthly Precipitation Normal (mm)	Percent of Normal	Cumulative Percent of Normal
October	100.2	90.2	111.1	111.1
November	84.2	140.1	60.1	80.1
December	266.8	106.2	251.2	134.1
January	66.6	129.0	51.6	111.2
February	62	64.6	96.0	109.4
March	31	65.0	47.7	102.6
Total:	610.8	595.1	102.6	

Data from Government of Canada (2023b).

Hydrogeologic Setting

The general groundwater conditions of Galiano Island have been reported by several authors including Harrison (1994), Kohut and Johanson (1998) and Waterline Resources Inc. (2011). Galiano is comprised of sedimentary clastic rocks belonging to the Nanaimo Group of Late Cretaceous age (Muller and Jeletzky, 1970). These consist of alternating interbeds of sandstone, mudstone, siltstone, shale and conglomerate. Groundwater on the island is found primarily in open fractures in the bedrock formations as they are encountered during drilling of water wells. These fractures constitute the major zones for groundwater storage and movement.

From historic observation well data in the Gulf Islands, groundwater levels in bedrock wells generally rise and fall with the seasons, in response to available precipitation, becoming highest during the late fall and winter months. Water levels then normally decline during the dry summer months reaching seasonal lows in the late fall months (Kohut *et al.*, 1984). Figure 6 shows the available reported groundwater level trend data to March 8, 2023 for Provincial Observation Well 258, situated near Sturdies Bay during 2022 - 2023. Historically, water levels during February-March are seasonally high, i.e., closer to the land surface. During early February 2023, groundwater levels in the observation well were below average while they rose significantly during early March 2023 close to maximum levels for the time of year.

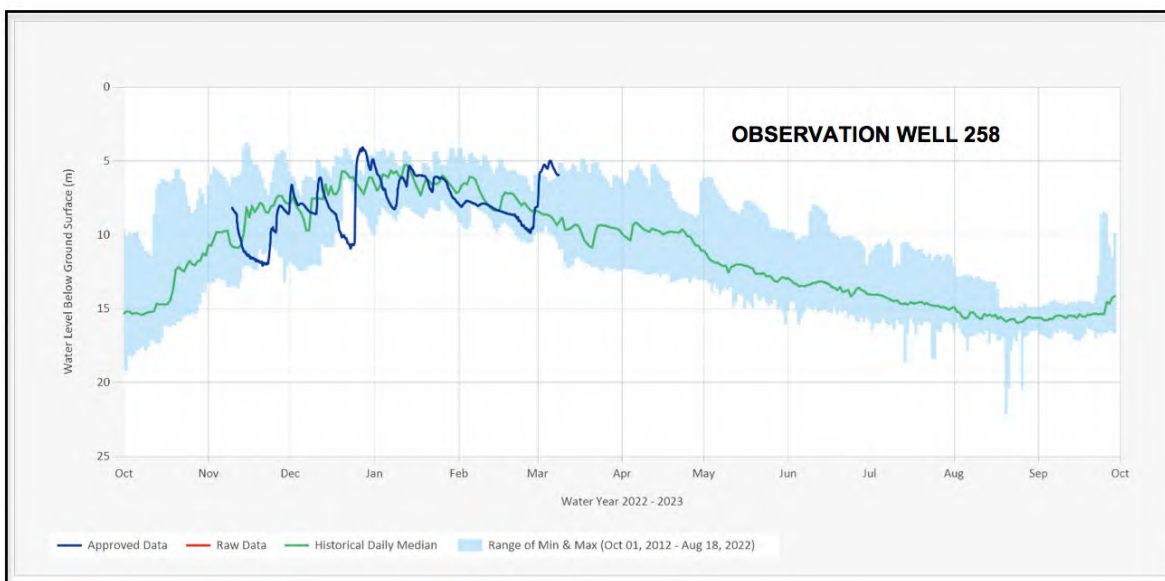


Figure 6. Groundwater level trend in 2022-2023 compared to historic maximum, minimum and median data for Observation Well 258. Adapted from Province of British Columbia Environment (2023b).

Description of Wells on the Property

Well WID 70268

Well WID 70268 (WTN 127329) was drilled on November 22, 2022 by Red Williams Well Drilling Ltd., to a depth of 245 feet (74.68 m) and completed in grey hard sandstone underlying conglomerate. Location of water-bearing fractures were not reported but would be below at 183 feet (55.78 m). Reported well yield after 1 hour of airlifting was 8 USgpm (30.28 L/min). Elevation of the wellhead is at approximately 40 m above mean sea level. A copy of the original well record is provided in Appendix A. While the final well depth was completed approximately 113.78 feet (34.68 m) below sea level, the non-pumping (static) water level on November 22, 2022 was reported at 34 feet (10.36 m) or approximately 97.24 feet (29.64 m) above sea level. Well WID 70268 (WTN 127329) is likely completed within interbedded sandstone layers of the Geoffrey Formation (Muller and Jeletzky, 1970).

Well WID 70269

Well WID 70269 (WTN 127330) was drilled on November 24, 2022 by Red Williams Well Drilling Ltd., to a depth of 405 feet (123.44 m) and completed in grey shaley sandstone underlying conglomerate. Location of water-bearing fractures were not reported but may be below 365 feet (111.25 m). Reported well yield after 2 hour of airlifting was 6 USgpm (22.71 L/min). Elevation of the wellhead is at approximately 45 m (147.64 feet) above mean sea level. A copy of the original well record is provided in Appendix A. While the final well depth was completed approximately 257.36 feet (78.44 m) below sea level, the non-pumping (static) water level on November 24, 2022 was reported at 10 feet (3.05 m) or approximately 137.64 feet (41.95 m) above sea level. Well WID 70269 (WTN 127330) is likely completed within interbedded sandstone layers of the Geoffrey Formation (Muller and Jeletzky, 1970).

Well WID 70270

Well WID 70270 (WTN 127332) was drilled on November 28, 2022 by Red Williams Well Drilling Ltd., to a depth of 405 feet (123.44 m) and completed in grey shaley sandstone. Location of water-bearing fractures were not reported but would be below 245 feet (74.68 m). Reported estimated well yield after 3 hour of airlifting was 10 USgals per hour (0.63 L/min). The yield is reported incorrectly at 10 USgpm on the well record currently on file in the province's WELLS database. Elevation of the wellhead is at approximately 46 m (150.92 feet) above mean sea level with the final well depth completed approximately 254.07 feet (77.44 m) below sea level. A copy of the original well record is provided in Appendix A. Well WID 70270 (WTN 127332) is likely completed within interbedded sandstone layers of the Geoffrey Formation (Muller and Jeletzky, 1970).

Well WID 70271

Well WID 70271 (WTN 127331) was drilled on November 30, 2022 by Red Williams Well Drilling Ltd., to a depth of 405 feet (123.44 m) and completed in grey shaley sandstone underlying conglomerate. Location of water-bearing fractures were not reported but would be below 245 feet (74.68 m). Reported estimated well yield after 4 hour of airlifting was 0 USgpm. A copy of the original well record is provided in Appendix A. Well WID 70271 (WTN 127331) is likely completed within interbedded sandstone layers of the Geoffrey Formation (Muller and Jeletzky, 1970).

Well WID 70275

Well WID 70275 (WTN 127333) was drilled on December 16, 2022 by Red Williams Well Drilling Ltd., to a depth of 405 feet (123.44 m) and completed in grey shaley sandstone. Underlying conglomerate. Location of water-bearing fractures were not reported but would be below 240 feet (73.15 m). Reported well yield after 5 hours of airlifting was 1.5 USgpm (5.68 L/min). Elevation of the wellhead is at approximately 44m (144.36 feet) above mean sea level with the final well depth completed approximately 254.07 feet (79.44 m) below sea level. the non-pumping (static) water level on December 16, 2022 was reported at 54 feet (16.46 m) or approximately 90.35 feet (27.54 m) above sea level. A copy of the original well record is provided in Appendix A. Well WID 70275 (WTN 127333) is likely completed within interbedded sandstone layers of the Geoffrey Formation (Muller and Jeletzky, 1970).

Well WTN 119994

Well WTN 119924 (WID 43822) was drilled on November 28, 2019 by Red Williams Well Drilling Ltd., to a depth of 400 feet (121.92 m) and completed in sandstone. Location of Water-bearing fractures were reported at 226 to 228 feet yielding 0.5 gpm and 320 to 360 feet yielding 0.25 gpm for a total estimated well yield of 0.75 USgpm (2.84 L/min). Elevation of the wellhead is at approximately 44m (144.36 feet) above mean sea level with the final well depth completed approximately 255.64 feet (77.92 m) below sea level. A copy of the original well record is provided in Appendix A. WTN 119994 (WID 43822) is likely completed within interbedded sandstone layers of the Geoffrey Formation (Muller and Jeletzky, 1970).

Well WTN 59297

Well WTN 59297 was drilled on April 5, 1990 by Island Well Drilling Ltd., to a depth of 500 feet (152.40 m) and completed in black shaley sandstone underlying conglomerate. The driller reported a water-bearing fracture at 275 feet producing 0.25 gpm. The *British Columbia Water Resources Atlas* (Province of British Columbia, 2023a) currently shows the well plotted in error on the neighbouring land parcel to the east. Elevation of the wellhead is at approximately 50 m (164.04 feet) above mean sea level with the final well depth completed approximately 335.96 feet (102.40 m) below sea level. A copy of the original well record is provided in Appendix A. WTN 59297 is likely completed within interbedded sandstone layers of the Geoffrey Formation (Muller and Jeletzky, 1970). Hodge (2009) pump tested the well in April 2009 and rated its yield at 2562 L/day.

Well Testing of Well WID 70268

A pumping test of 12 hours duration is generally considered sufficient for determining the sustainable yield of a domestic residential well where the minimum requirements are 2275 L/day for a single residence, as set out under *Galiano Island Land Use Bylaw No. 127, 1999*, (Galiano Island Local Trust Committee, 2023).

A 12 hour constant rate pumping test was subsequently carried out on Well WID 70268 on February 8-9, 2023 at an average rate of 2.34 USgpm (8.86 L/min) based on flow metre readings. The test was undertaken by Red Williams Well Drilling and Pump Installations Ltd., with a submersible pump set in the well at a depth of 243 feet (74.07 m). Pumped water was discharged 150 feet (45.72 m) away from the wellhead towards the south. Manual water level readings were taken during the test at prescribed intervals (Province of British Columbia, 2010). A Heron™ Instruments Inc., *dipperLog* datalogger was set in the pumped well to record water levels at one minute intervals. Pumping was followed by manually measuring the recovery water levels at prescribed intervals for 4 hours. A second Heron™ Instruments Inc., datalogger was also employed in Well WID 70269 utilized as an observation well during the test. A Heron™ Instruments Inc., barologger was also employed at the site to record changes in barometric pressure and to adjust the water level data obtained from the pumped well.

During the days of the test, 2.0 mm of precipitation was recorded at the Saturna Campon climate station (Climate ID. 1017099) and 19.2 mm of precipitation was recorded during the 5 days prior to the start of the test. It is unlikely these amounts of precipitation would have significantly affected water levels in the relatively deep well.

Water samples were taken from the Well WID 70268 on February 13 after pumping the well for several hours. Samples were delivered within 24 hours of sampling with ice packs to the Bureau Veritas Ltd., laboratory in Esquimalt for analysis of chemical and bacteriological parameters. All samples were unadulterated and taken from Well WID 70268 and delivered to the laboratory by A. Kohut.

Results of Pump Testing Well WID 70268

Pump testing data for Well WID 70268 are provided in Appendix B. Appendix C contains copies of the analytical laboratory reports from Bureau Veritas Ltd. Figure 7 shows the drawdown in Well WID 70268 during pumping. At the end of the test, drawdown reached

21.83 m (71.62 feet) below the pre-pumping level of 5.23 m (17.16 feet) below the top of casing, or 21.33 m (69.98 feet) below ground. Water level recovery was 54.0% after 4 hours of the pump shutting down and 68.0 % after 1 day of shutdown (Figure 8).

Water levels in observation well WID 70269 during the testing of WID 70268 showed no evidence of any significant well interference effects (Figure 9).

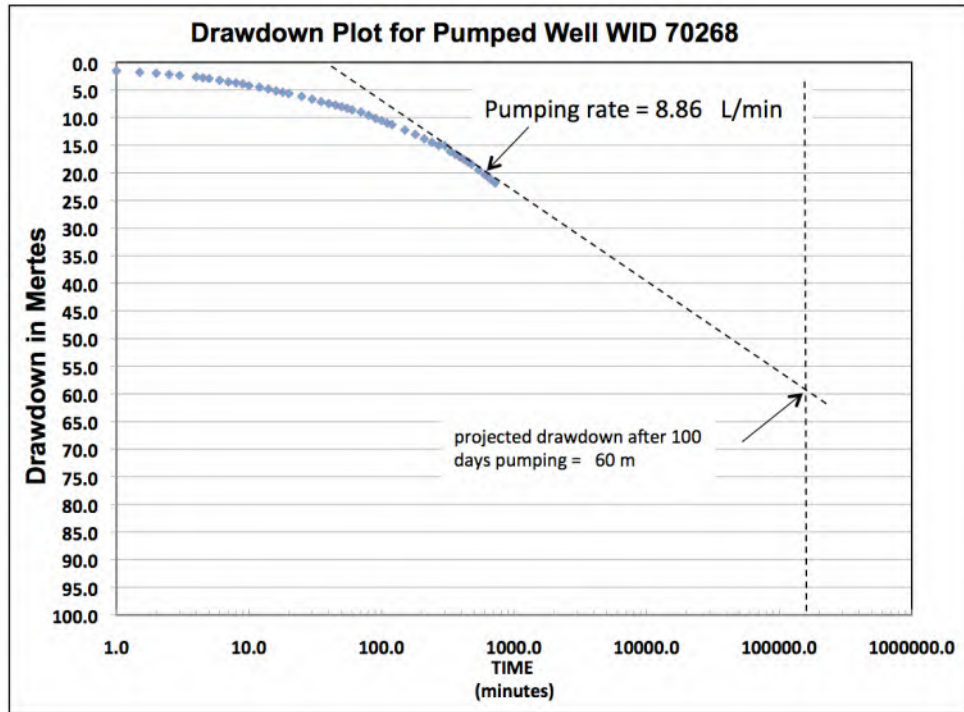


Figure 7. Semi-log drawdown plot for Well WID 70268 pumping at 8.86 L/min.

Extrapolation of the drawdown curve to 100 days without recharge indicates the drawdown would reach 60 m (196.85 feet) at a pumping rate of 8.86 L/min. Given the relatively high non-pumping water level and large depth of the well, utilizing 60 percent of the minimum available drawdown of 50.55 m would provide for a 40% drawdown safety factor. Utilizing the projected specific capacity of 0.1477 L/min per metre at 100 days, and 60% of the estimated minimum available drawdown of 50.55 m indicates that the well would be capable of yielding 4.48 L/min or approximately 2.8 times the minimum standard of 1.58 L/min (2275 L/day) for potable water supply under Bylaw No. 127. Use of the well for domestic purposes should not result in any excessive drawdowns below sea level that may cause sea water intrusion.

Based on the testing results, Well WID 70268 therefore, is more than capable of meeting the minimum standard of 0.417 USgpm (1.58 L/min) or 2275 L/day for potable water supply under *Galiano Island Land Use Bylaw No. 127, 1999*, (Galiano Island Local Trust Committee, 2023).

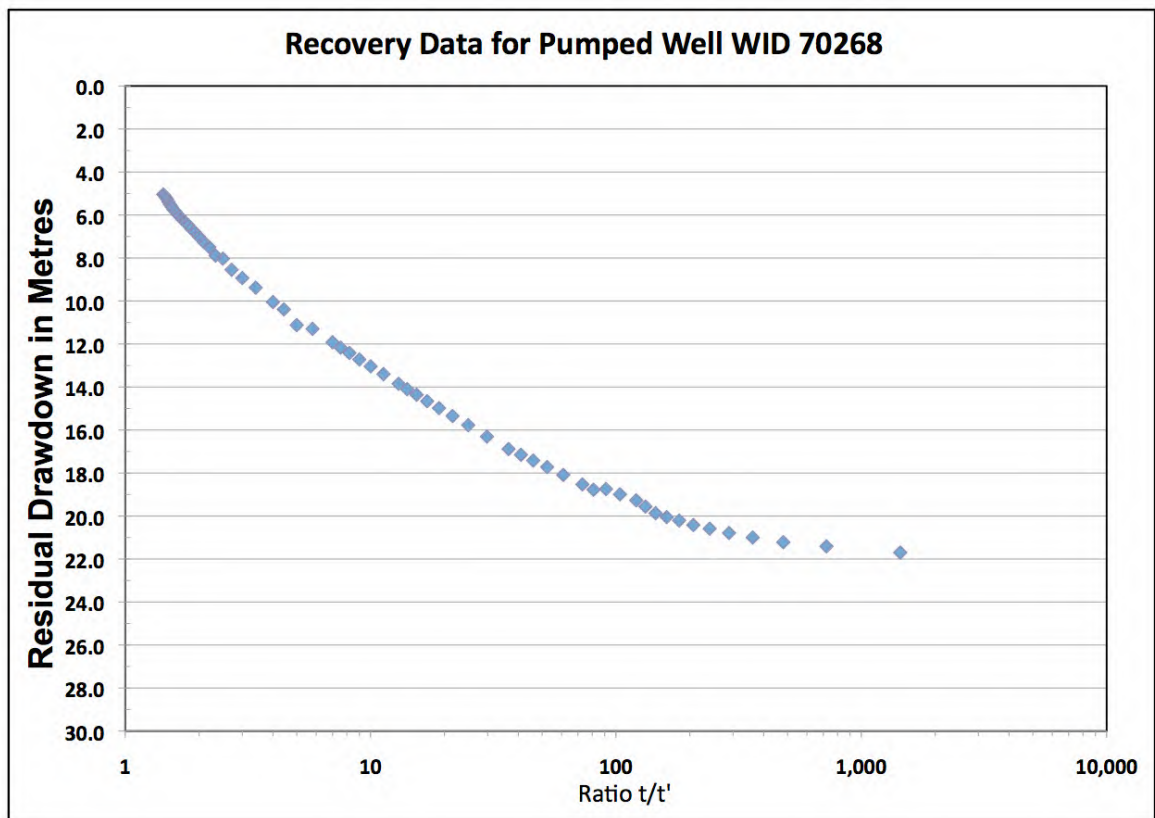


Figure 8. Semi-log drawdown recovery plot for Well WID 70268.

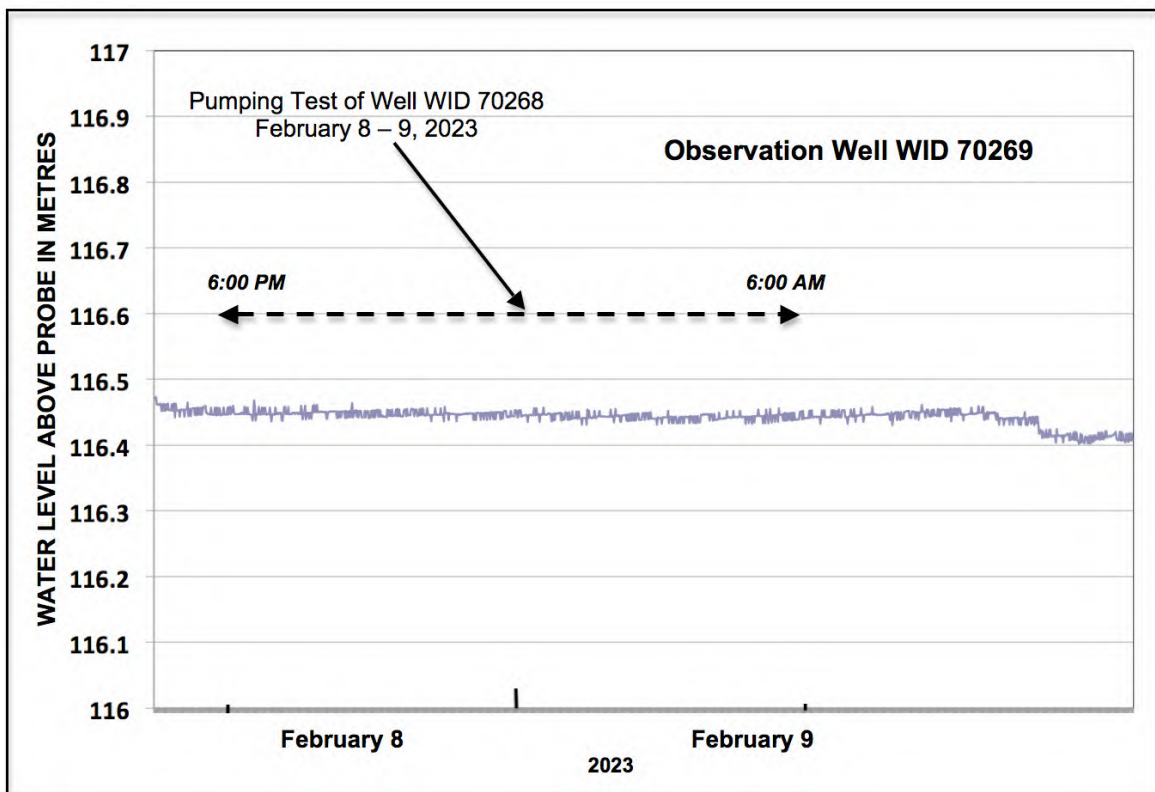


Figure 9. Water level fluctuations in WID 70269 during pumping of WID 70268.

Water Quality of Well WID 70268

Results of the February 13, 2023 water quality analyses are provided in Table 2. The water quality is moderate in dissolved mineralization with TDS of 200 mg/L. Sample results met or exceeded the *Guidelines for Canadian Drinking Water-Summary Table* (Health Canada, 2022) for all parameters analyzed except for elevated levels of turbidity at 11 NTU, total aluminum at 507 µg/L, total iron at 509 µg/L, total manganese at 61 µg/L and total coliforms at 12 CFU/100mL. No E. coli bacteria were detected.

Elevated turbidity is only a potential issue in cases of a surface water source or groundwater source under the direct influence of surface water. It is not uncommon for groundwater to contain elevated levels of turbidity from suspended particulate matter such as clays and silts. This can also contribute to elevated total aluminum, total iron and total manganese levels. Manganese above 20 µg/L and total iron above 300 µg/L are of aesthetic concern and may result in staining of laundry and/or toilet fixtures. These parameters may decrease with time as the well is pumped and may be reduced with conventional filtering and other on site water treatment systems. Elevated coliforms, however, are of a health concern and indicate disinfection treatment may be required. The coliform levels detected could also be natural as a result of decaying organic matter. There are no potential sources of contamination from animal wastes in proximity to the well.

Well Testing of Well WID 70269 (First Test)

While a 12 hour duration test was intended, a 5 hour constant rate pumping test was carried out on Well WID 70269 on February 13-14, 2023 at an average rate of 2.45 USgpm (9.27 L/min) before it became apparent that the well would not sustain the pumping at that rate. The test was undertaken by Red Williams Well Drilling and Pump Installations Ltd., with a submersible pump set in the well at a depth of 401.8 feet (122.48 m). Pumped water was discharged 200 feet (60.96 m) away from the wellhead towards the south. Manual water level readings were taken during the test at prescribed intervals (Province of British Columbia, 2010). A Heron™ Instruments Inc., *dipperLog* datalogger was set in the pumped well to record water levels at one minute intervals. Pumping was followed by manually measuring the recovery water levels at prescribed intervals for 4 hours. A second Heron™ Instruments Inc., datalogger was also employed in Well WID 70268 utilized as an observation well during the test. A Heron™ Instruments Inc., barologger was also employed at the site to record changes in barometric pressure and to adjust the water level data obtained from the pumped well.

During the days of the test, 0.4 mm of precipitation was recorded at the Saturna Campon climate station (Climate ID. 1017099) and 4.5 mm of precipitation was recorded during the 5 days prior to the start of the test. It is unlikely these amounts of precipitation would have significantly affected water levels in the relatively deep well.

Water samples were taken from the Well WID 70269 on February 15 after pumping the well for several hours. Samples were delivered within 24 hours of sampling with ice packs to the Bureau Veritas Ltd., laboratory in Esquimalt for analysis of chemical and bacteriological parameters. All samples were unadulterated and taken from Well WID 70269 and delivered to the laboratory by A. Kohut.

Results of Initial Pump Testing Well WID 70269

Pump testing data for Well WID 70269 are provided in Appendix B. Appendix C contains copies of the analytical laboratory reports from Bureau Veritas Ltd. Figure 10 shows the drawdown in Well WID 70269 during pumping. At the end of the test, drawdown reached 107.81 m (353.71 feet) below the pre-pumping level of 13.19 m (43.27 feet) below the top of casing or 121.00 m (396.98 feet) below ground. Water level recovery was 52.0% after 5 hours of the pump shutting down and 86.0 % after 1000 minutes of shutdown (Figure 11).

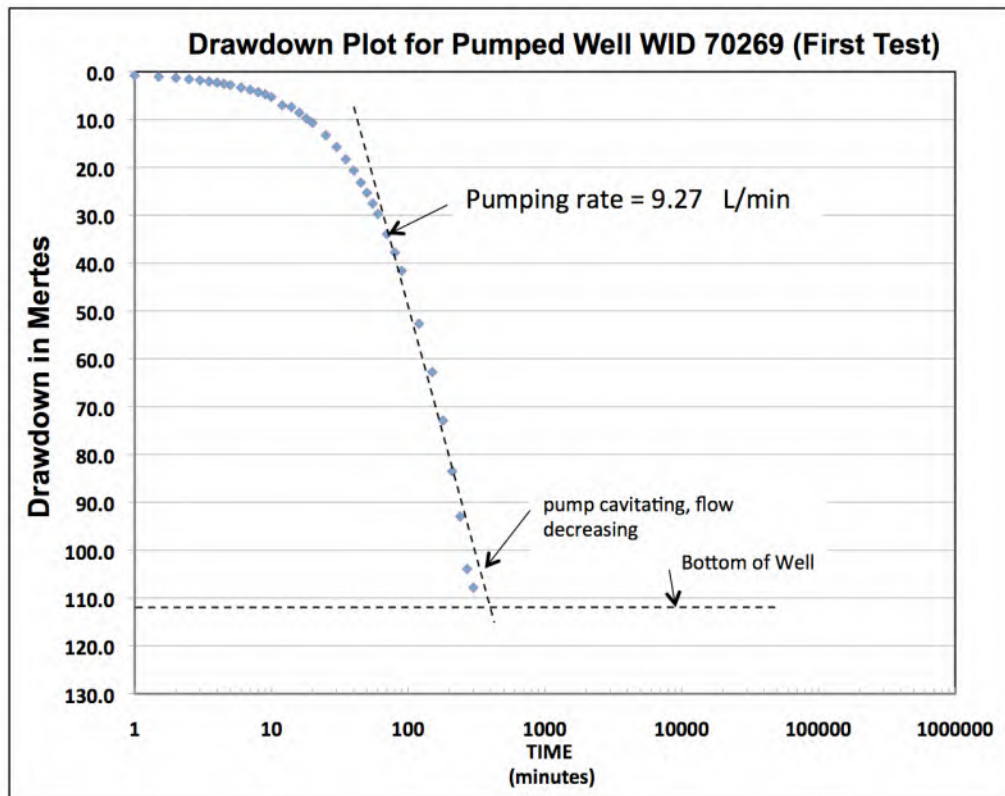


Figure 10. Semi-log drawdown plot for Well WID 70269 pumping at 9.27 L/min.

It became apparent that testing well WID 70269 at a rate of 9.27 L/min was resulting in over pumping of the well. A second test was therefore scheduled to pump the well at a more reduced rate.

The second test was conducted on February 15-16, 2023 at an average rate of 0.55 USgpm (2.08 L/min) based on flow metre readings. The test was undertaken by Red Williams Well Drilling and Pump Installations Ltd., with a submersible pump set in the well at a depth of 401.8 feet (122.48 m). Pumped water was discharged 200 feet (60.96 m) away from the wellhead towards the south. Manual water level readings were taken during the test at prescribed intervals (Province of British Columbia, 2010). A Heron™ Instruments Inc., *dipperLog* datalogger was set in the pumped well to record water levels at one minute intervals. Pumping was followed by manually measuring the recovery water levels at prescribed intervals for 4 hours. A second Heron™ Instruments Inc., datalogger was also employed in Well WID 70268 utilized as an observation well during the test. A Heron™ Instruments Inc., barologger was also employed at the site to record changes in barometric pressure and to adjust the water level data obtained from the pumped well.

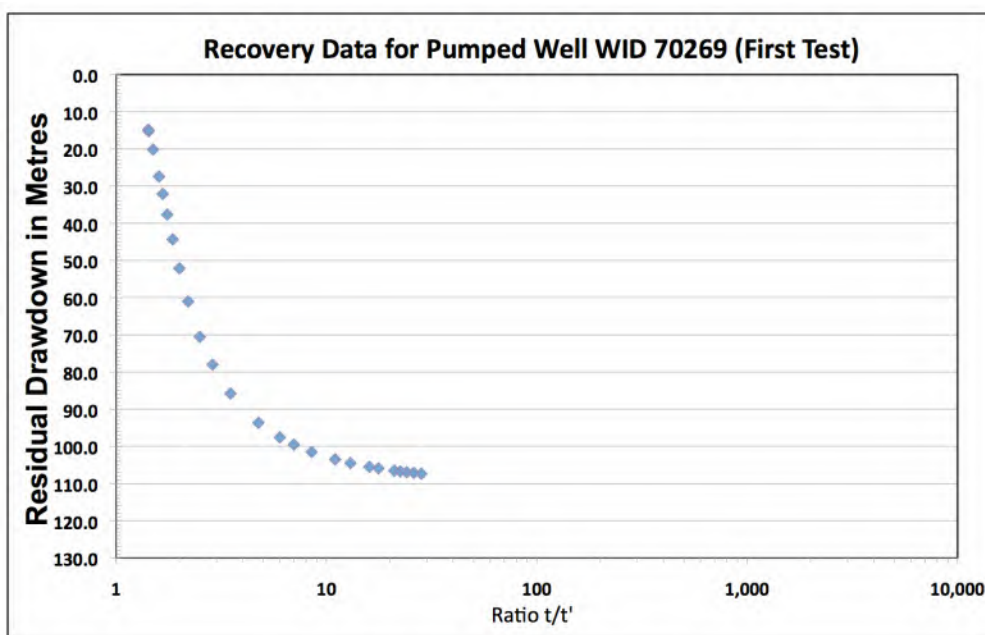


Figure 11. Semi-log drawdown recovery plot for Well WID 70269, first test.

During the days of the test, 0.2 mm of precipitation was recorded at the Saturna Campon climate station (Climate ID. 1017099) and 2.9 mm of precipitation was recorded during the 5 days prior to the start of the test. It is unlikely these amounts of precipitation would have significantly affected water levels in the relatively deep well.

Results of Second Pump Testing Well WID 70269

Pump testing data for Well WID 70269 are provided in Appendix B. Appendix C contains copies of the analytical laboratory reports from Bureau Veritas Ltd. Figure 12 shows the drawdown in Well WID 70269 during the pumping. At the end of the test, drawdown reached 26.86 m (88.12 feet) below the pre-pumping level of 21.74 m (71.33 feet) below the top of casing, or 47.94 m (157.28 feet) below ground. It should be noted that the water level had not yet fully recovered from the initial testing of the well when the second test was started. Water level recovery was 67.0% after 4 hours of the pump shutting down and fully recovered after 8 hours of shutdown (Figure 13).

Extrapolation of the drawdown curve to 100 days without recharge indicates the drawdown would reach 75 m (246.06 feet) at a pumping rate of 2.08 L/min. Given the relatively high non-pumping water level and large depth of the well, utilizing 60 percent of the minimum available drawdown of 98.06 m would provide for a 40% drawdown safety factor. Utilizing the projected specific capacity of 0.02773 L/min per metre at 100 days, an estimated minimum available drawdown of 98.06 m and utilizing 60 % of the drawdown indicates that the well would be capable of yielding 1.63 L/min, slightly above the minimum standard of 1.58 L/min for potable water supply under Bylaw No. 127. Use of the well for domestic purposes should not result in any excessive drawdowns below sea level that may cause sea water intrusion.

Based on the testing results, Well WID 70269 therefore, is capable of meeting the minimum standard of 0.417 USgpm (1.58 L/min) or 2275 L/day for potable water supply under *Galiano Island Land Use Bylaw No. 127, 1999*, (Galiano Island Local Trust Committee, 2023).

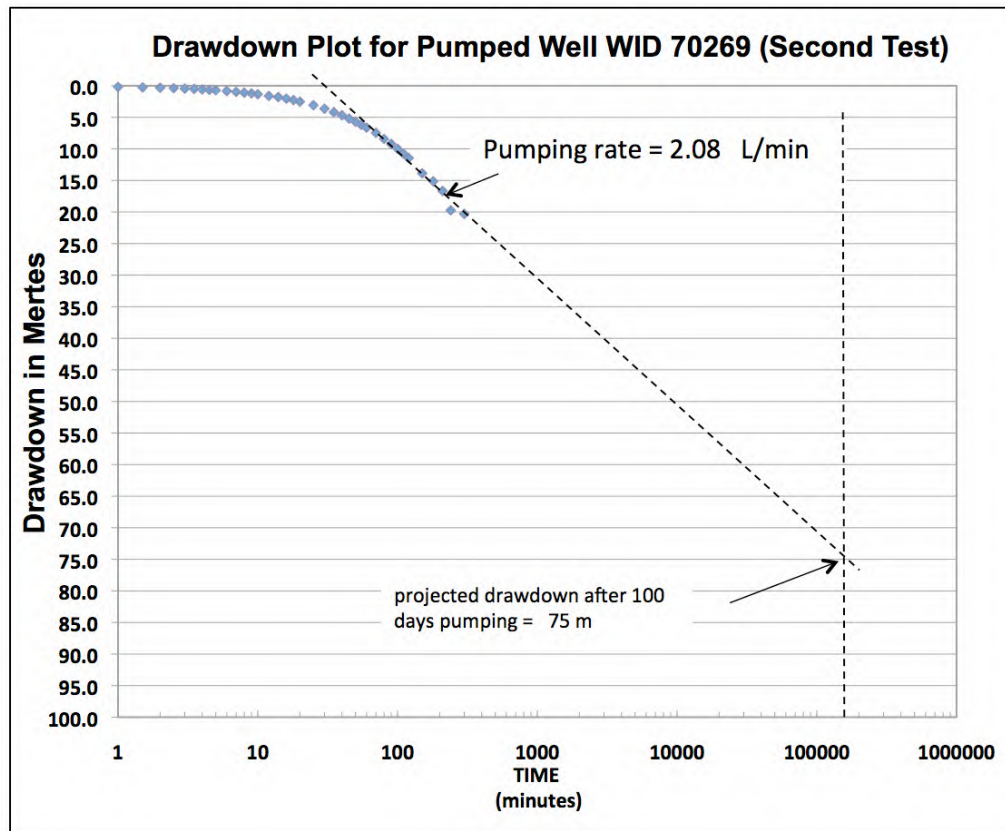


Figure 12. Semi-log drawdown plot for Well WID 70269 pumping at 2.08 L/min.

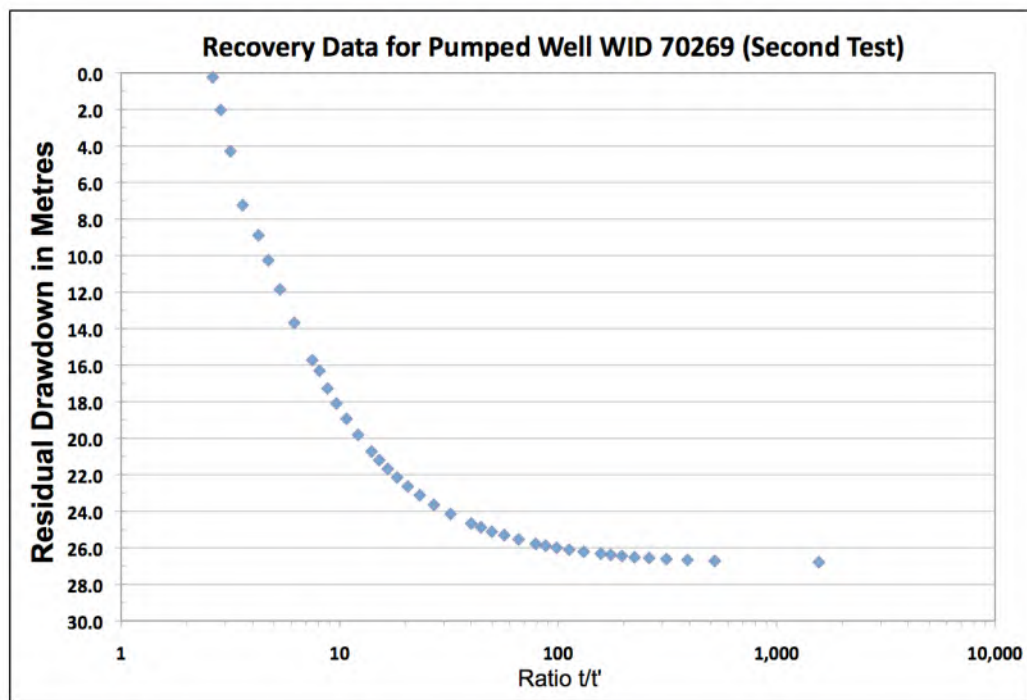


Figure 13. Semi-log drawdown recovery plot for Well WID 70269, second test.

Water Quality of Well WID 70269

Results of the February 15, 2023 water quality analyses are provided in Table 2. The water quality is moderate in dissolved mineralization with TDS of 280 mg/L. Sample results met or exceeded the *Guidelines for Canadian Drinking Water-Summary Table* (Health Canada, 2022) for all parameters analyzed except for elevated levels of turbidity at 42 NTU, total aluminum at 1930 µg/L, total iron at 2190 µg/L, and total manganese at 101 µg/L. **No total coliforms or E. coli bacteria were detected.**

Elevated turbidity is only a potential issue in cases of a surface water source or groundwater source under the direct influence of surface water. It is not uncommon for groundwater to contain elevated levels of turbidity from suspended particulate matter such as clays and silts. This can also contribute to elevated total aluminum, total iron and total manganese levels. Manganese above 20 µg/L and total iron above 300 µg/L are of aesthetic concern and may result in staining of laundry and/or toilet fixtures. These parameters may decrease with time as the well is pumped and may be partly reduced with conventional filtering and other on site treatment systems. These parameters may decrease with time as the well is pumped and may be reduced with conventional filtering and other water treatment systems.

Well Testing of Well WID 70270

Well WID 70270 was pump tested on February 20-21, 2023 for 12 hours at an initial constant pumping rate of 3.86 L/min (1.02 USgpm) based on flow metre readings. During the last 40 minutes of the test, the rate was reduced to approximately 1.89 L/min (0.50 USgpm) as the pump was cavitating. The test was undertaken by Red Williams Well Drilling and Pump Installations Ltd., with a submersible pump set in the well at a depth of 404 feet (123.13 m). Pumped water was discharged 115 feet (35.05 m) away from the wellhead towards the east. Manual water level readings were taken during the test at prescribed intervals (Province of British Columbia, 2010). A Heron™ Instruments Inc., *dipperLog* datalogger was set in the pumped well to record water levels at one minute intervals. Pumping was followed by manually measuring the recovery water levels at prescribed intervals for 4 hours. A Heron™ Instruments Inc., barologger was also employed at the site to record changes in barometric pressure and to adjust the water level data obtained from the pumped well.

During the days of the test, 0.2 mm of precipitation was recorded at the Saturna Campon climate station (Climate ID. 1017099) and 2.9 mm of precipitation was recorded during the 5 days prior to the start of the test. It is unlikely these amounts of precipitation would have significantly affected water levels in the well.

Water samples were taken from Well WID 70270 on February 21 near the end of the pump test. Samples were delivered within 24 hours of sampling with ice packs to the Bureau Veritas Ltd., laboratory in Esquimalt for analysis of chemical and bacteriological parameters. All samples were unadulterated and taken from Well WID 70270 and delivered to the laboratory by A. Kohut.

Results of Pump Testing Well WID 70270

Pump testing data for Well WID 70270 are provided in Appendix B. Appendix C contains copies of the analytical laboratory reports from Bureau Veritas Ltd. Figure 14 shows the drawdown in Well WID 70270 during pumping. At the end of the test, drawdown reached 97.34 m (319.36 feet) below the pre-pumping level of 24.37 m (79.95 feet) below the top of casing, or 120.95 m (396.82 feet) below ground and close to the bottom of the well. Water level recovery was only 19.8 0% after 4 hours of the pump shutting down and only 50.2 % after a day after shutdown (Figure 15). **It is evident from these results that the well was being over pumped at a rate of 3.86 L/min (1.02 USgpm) and would not be capable of meeting the standard of 1.58 L/min (2376 L/day).**

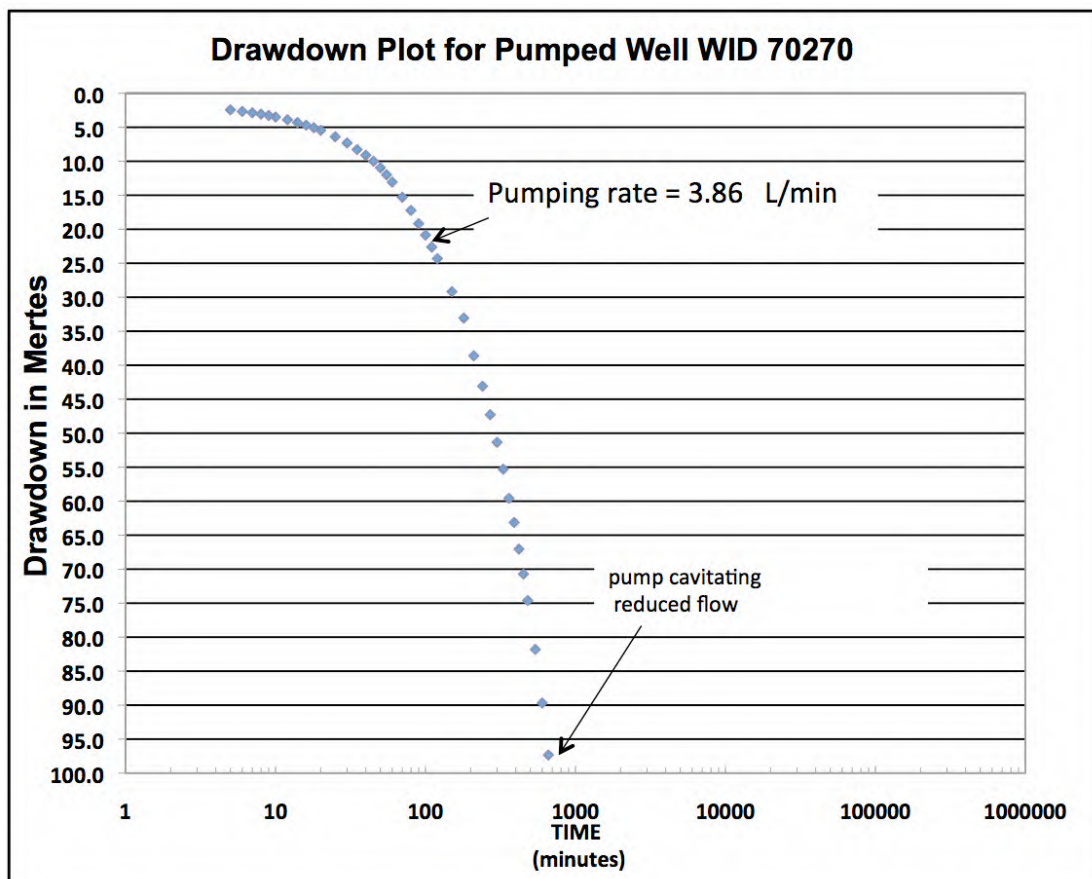


Figure 14. Semi-log drawdown plot for Well WID 70270 pumping at 3.86 L/min.

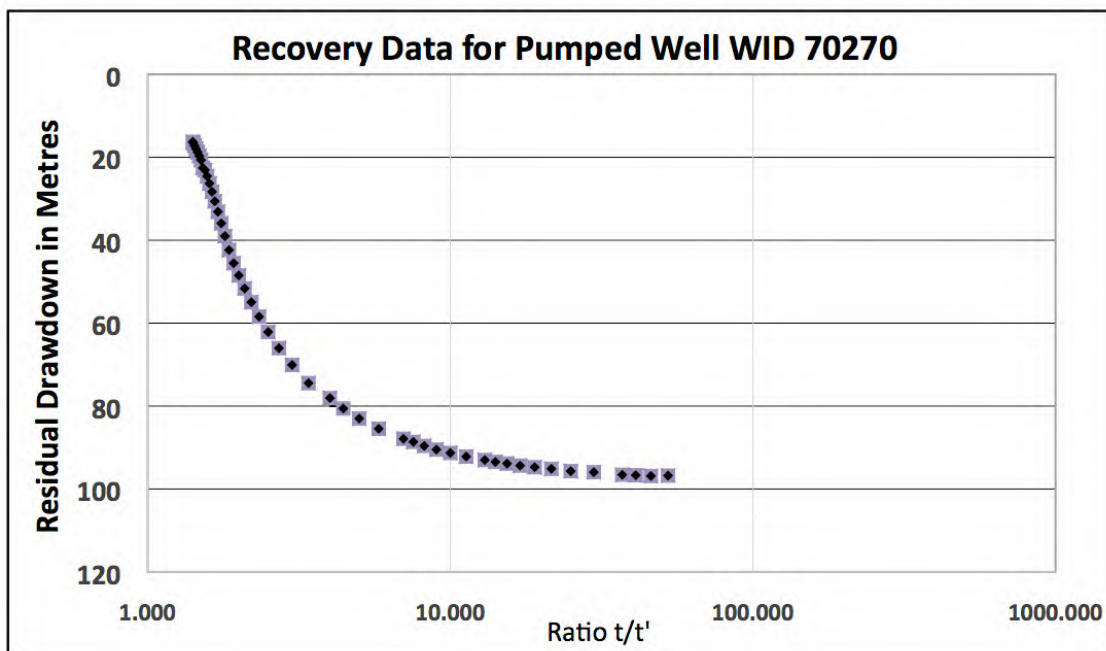


Figure 15. Semi-log drawdown recovery plot for Well WID 70270.

Water Quality of Well WID 70270

Results of the February 21, 2023 water quality analyses are provided in Table 2. The water quality is moderate in dissolved mineralization with TDS of 300 mg/L. Sample results met or exceeded the *Guidelines for Canadian Drinking Water-Summary Table* (Health Canada, 2022) for all parameters analyzed except for elevated levels of turbidity at 22 NTU, total aluminum at 1160 µg/L, total iron at 2360 µg/L, and total manganese at 170 µg/. **No total coliforms or E. coli bacteria were detected.**

Elevated turbidity is only a potential issue in cases of a surface water source or groundwater source under the direct influence of surface water. It is not uncommon for groundwater to contain elevated levels of turbidity from suspended particulate matter such as clays and silts. This can also contribute to elevated total aluminum, total iron and total manganese levels. Manganese above 20 µg/L and total iron above 300 µg/L are of aesthetic concern and may result in staining of laundry and/or toilet fixtures. Manganese in water above 120 µg/L is a health concern and cause effects on neurological development and behaviour deficits in memory, attention, and motor skills and pose a risk to infants if used to prepare formula. These parameters may decrease with time as the well is pumped and may be partly reduced with conventional filtering and other on site treatment systems.

Well Testing of Well WID 70275

Well WID 70275 was pump tested on March 14 -15, 2023 for 12 hours at a constant pumping rate of 2.35 L/min (0.62 USgpm) based on flow metre readings. The test was undertaken by Red Williams Well Drilling and Pump Installations Ltd., with a submersible pump set in the well at a depth of 394.06 feet (120.11 m). Pumped water was discharged

115 feet (35.05 m) away from the wellhead towards the northeast. Manual water level readings were taken during the test at prescribed intervals (Province of British Columbia, 2010). A Heron™ Instruments Inc., *dipperLog* datalogger was set in the pumped well to record water levels at one minute intervals. Pumping was followed by manually measuring the recovery water levels at prescribed intervals for 4 hours. A Heron™ Instruments Inc., barologger was also employed at the site to record changes in barometric pressure and to adjust the water level data obtained from the pumped well.

During the days of the test, 0.8 mm of precipitation was recorded at the Saturna Campon climate station (Climate ID. 1017099) and 17.5 mm of precipitation was recorded during the 5 days prior to the start of the test. It is unlikely these amounts of precipitation would have significantly affected water levels in the relatively deep well.

Water samples were taken from Well WID 70275 on March 16 after several hours of pumping. Samples were delivered within 24 hours of sampling with ice packs to the Bureau Veritas Ltd., laboratory in Esquimalt for analysis of chemical and bacteriological parameters. All samples were unadulterated and taken from Well WID 70269 and delivered to the laboratory by A. Kohut.

Results of Pump Testing Well WID 70275

Pump testing data for Well WID 70275 are provided in Appendix B. Appendix C contains copies of the analytical laboratory reports from Bureau Veritas Ltd. Figure 16 shows the drawdown in Well WID 70275 during pumping. At the end of the test, drawdown reached 24.82 m (81.43 feet) below the pre-pumping level of 9.81 m (32.19 feet) below the top of casing or 34.10 m (111.88 feet) below ground. Water level recovery was only 43.3 % after 4 hours of the pump shutting down and 74.6 % a day after shutdown (Figure 17).

Water levels in observation well WID 70269 during the testing of WID 70275 showed no evidence of any significant well interference effects (Figure 18).

Extrapolation of the drawdown plot to 100 days without recharge indicates the drawdown would reach 55 m (180.45 feet) at a pumping rate of 2.35 L/min (0.62 USgpm). Given the relatively high non-pumping water level and large depth of the well, utilizing 60 percent of the minimum available drawdown of 61.65 m would provide for a 40% drawdown safety factor. Utilizing the projected specific capacity of 0.04273 L/min per metre at 100 days, an estimated minimum available drawdown of 61.65 m and 60 % of the drawdown would indicate that the well would be capable of yielding 1.58 L/min., thereby just meeting the the standard of 1.58 L/min or 2275 L/day for potable water supply under *Galiano Island Land Use Bylaw No. 127, 1999*, (Galiano Island Local Trust Committee, 2023). Use of the well for domestic purposes should not result in any excessive drawdowns below sea level that may cause sea water intrusion.

Based on the testing results, Well WID 70275 therefore, is capable of meeting the minimum standard of 0.417 USgpm (1.58 L/min) or 2275 L/day for potable water supply under *Galiano Island Land Use Bylaw No. 127, 1999*, (Galiano Island Local Trust Committee, 2023).

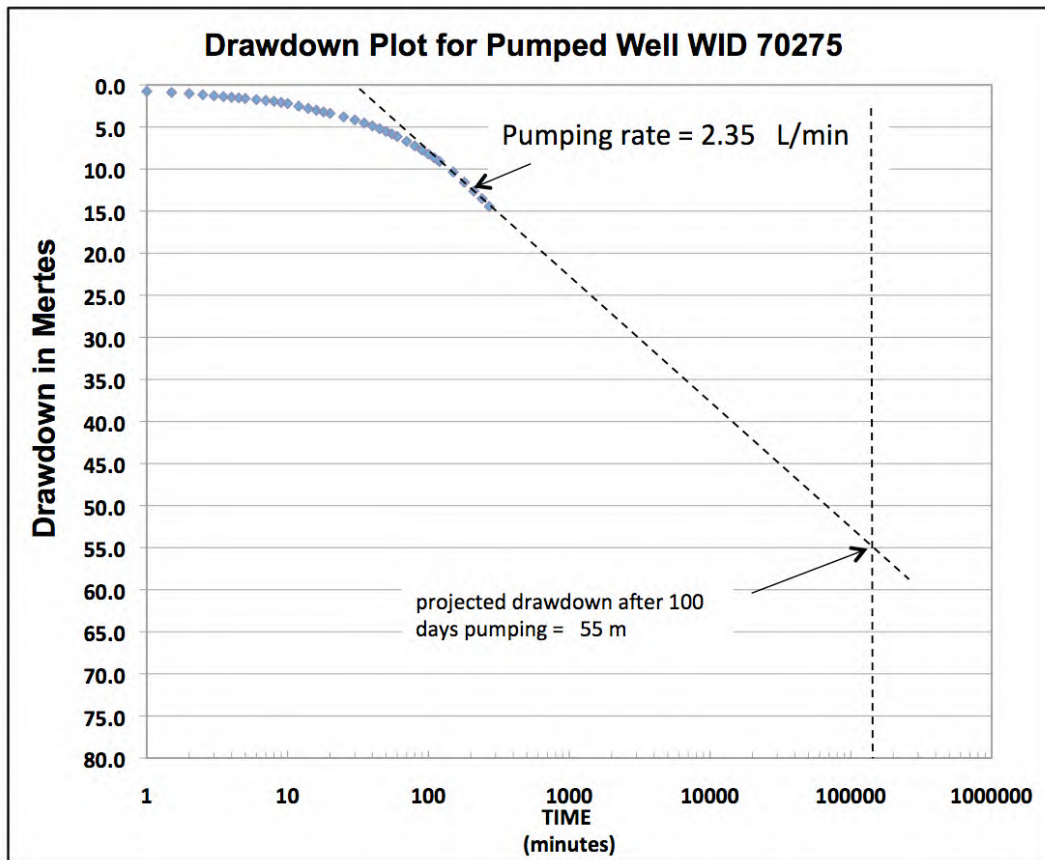


Figure 16. Semi-log drawdown plot for Well WID 70275 pumping at 2.35 L/min.

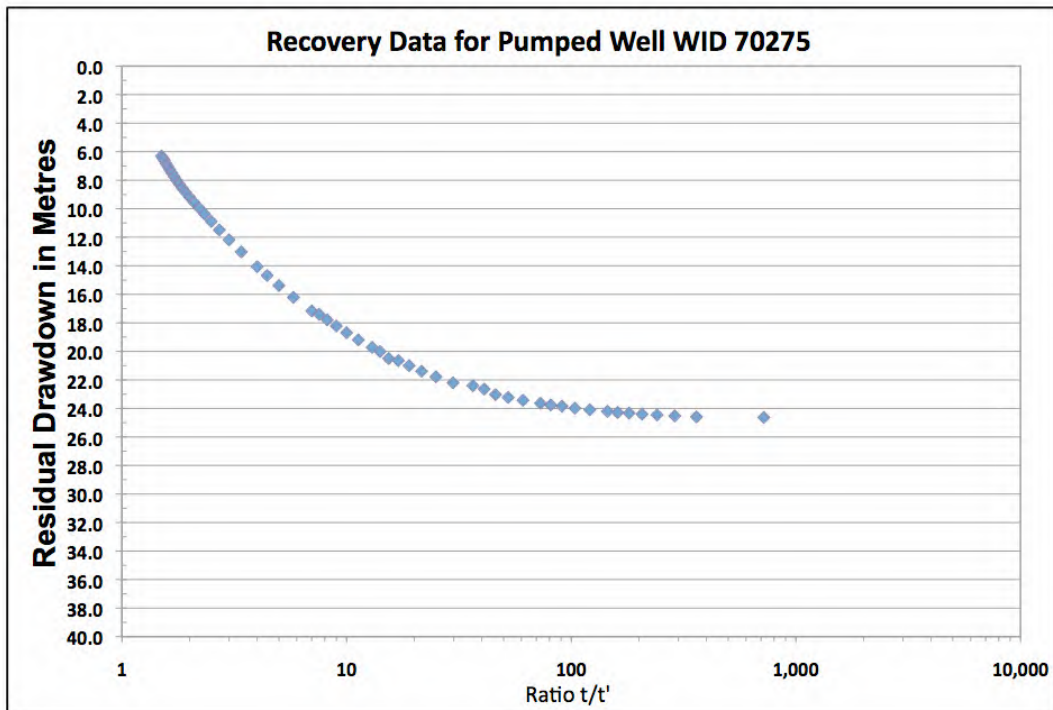


Figure 17. Semi-log drawdown recovery plot for Well WID 70275.

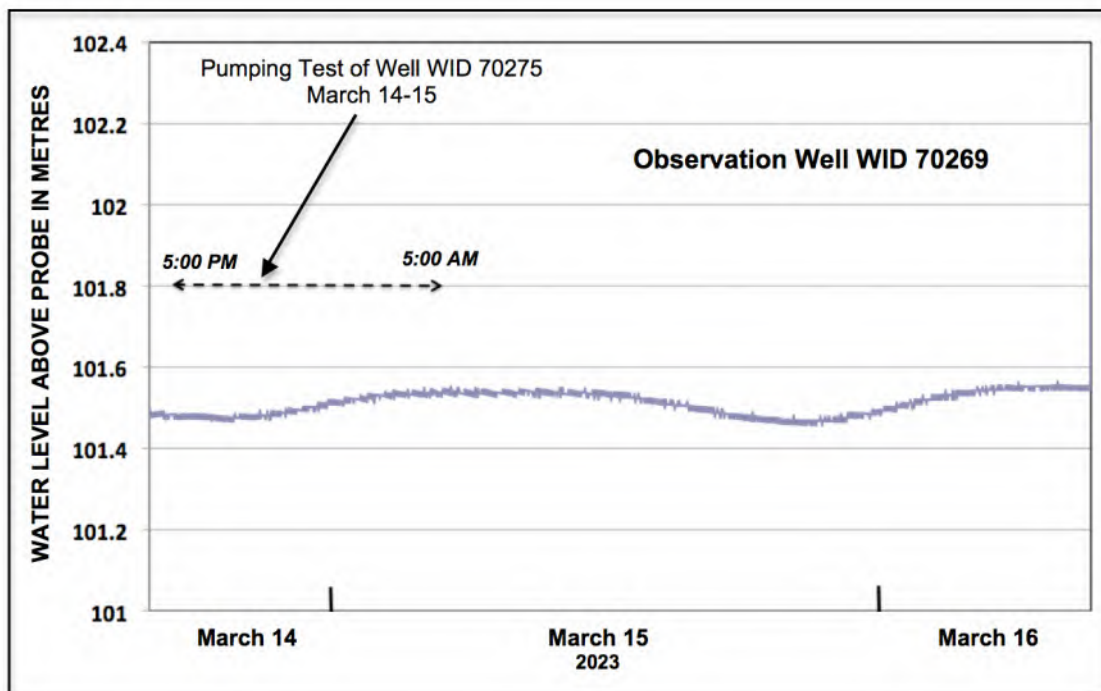


Figure 18. Water level fluctuations in WID 70269 during pumping of WID 70275.

Water Quality of Well WID 70275

Results of the March 16, 2023 water quality analyses are provided in Table 2. The water quality is moderate in dissolved mineralization with TDS of 260 mg/L. Sample results met or exceeded the *Guidelines for Canadian Drinking Water-Summary Table* (Health Canada, 2022) for all parameters analyzed except for elevated levels of turbidity at 30 NTU, total aluminum at 1110 µg/L, total iron at 1070 µg/L, and total manganese at 106 µg/L. **No total coliforms or E. coli bacteria were detected.**

Elevated turbidity is only a potential issue in cases of a surface water source or groundwater source under the direct influence of surface water. It is not uncommon for groundwater to contain elevated levels of turbidity from suspended particulate matter such as clays and silts. This can also contribute to elevated total aluminum, total iron and total manganese levels. Manganese above 20 µg/L and total iron above 300 µg/L are of aesthetic concern and may result in staining of laundry and/or toilet fixtures. These parameters may decrease with time as the well is pumped and may be partly reduced with conventional filtering and other on site treatment systems.

Table 2. Summary of water quality analyses.

Parameters/Site and Sampling Date	WELL WID 70268 Lawrence Feb 13/23	WELL WID 70269 Lawrence Feb 15/23	WELL WID 70270 Lawrence Feb 21/23	WELL WID 70275 Lawrence Mar 16/23	Canadian DWGuideline 2022	Units
PHYSICAL TESTS						
True Colour	<5.0	<5.0	7.9	<5.0	15.0	TCU
Conductivity	350	390	480	460		µS/cm
Total Hardness (CaCO ₃)	66.7	89.2	25.0	82.0		mg/L
pH	8.16	8.05	8.41	8.2	7.0-10.5	pH units
Total Dissolved solids (TDS)	200	280	300	260	500	mg/L
Turbidity	11	42	22	30	<1.0	NTU
ANIONS						
Alkalinity (Total as CaCO ₃)	150	170	180	210		mg/L
Alkalinity (PP as CaCO ₃)	<1.0	<1.0	3.2	<1.0		mg/L
Bicarbonate	190	210	220	250		mg/L
Carbonate	<1.0	<1.0	3.8	<1.0		mg/L
Hydroxide	<1.0	<1.0	<1.0	<1.0		mg/L
Chloride	7.4	14	23	12	250	mg/L
Fluoride	0.31	0.15	0.74	0.15	1.5	mg/L
Nitrate (N)	<0.020	<0.020	0.057	<0.020	10	mg/L
Nitrite (N)	0.0052	0.0064	<0.0050	0.0141	1	mg/L
Total Organic Nitrogen (N)	0.311	0.065	0.087	0.055		mg/L
Total Ammonia (N)	<0.015	<0.015	<0.015	<0.015		mg/L
Nitrate plus Nitrite (N)	<0.020	<0.020	0.057	<0.020		mg/L
Total Nitrogen (N)	0.311	0.065	0.144	0.055		mg/L
Total Organic Carbon (C)	0.51	2.5	1.9	1.9		mg/L
Total Phosphorus (P)						mg/L
Total Sulphide	0.0036	0.022	0.0070	<0.0018	0.05	mg/L
Sulphide (as H ₂ S)	0.0039	0.023	0.0074	<0.0020	0.05	mg/L
Sulphate	20	13	28	19	500	mg/L
TOTAL METALS						
Aluminum	507	1930	1160	1110	2900 and 100	µg/L
Antimony	<0.50	0.67	1.08	<0.50	6	µg/L
Arsenic	0.44	1.41	4.84	1.13	10	µg/L
Barium	5.6	20.5	13.6	14.1	2000	µg/L
Beryllium	<0.10	<0.10	<0.10	<0.10		µg/L
Bismuth	<1.0	<1.0	<1.0	<1.0		µg/L
Boron	263	179	768	137	5000	µg/L
Cadmium	<0.010	<0.010	0.039	<0.010	7	µg/L
Chromium	1.2	7.0	19.7	4.3	50	µg/L
Cobalt	0.21	0.87	1.93	0.60		µg/L
Copper	1.35	26.6	11.3	27.8	2000 and 1000	µg/L
Iron	509	2190	2360	1070	300	µg/L
Lead	<0.20	0.36	1.10	0.31	5	µg/L
Manganese	61	101	170	106	120 and 20	µg/L
Mercury	<0.0019	<0.0019	0.0019	0.0024	1	µg/L
Molybdenum	2.0	1.5	3.1	1.0		µg/L
Nickel	2.1	5.8	9.7	3.1		µg/L
Selenium	<0.10	<0.10	0.40	<0.10	50	µg/L
Silicon	7420	11000	7320	9310		µg/L
Silver	<0.020	<0.020	<0.020	<0.020		µg/L
Strontium	132	167	75.7	188	7000	µg/L
Thallium	<0.010	<0.010	0.019	<0.010		µg/L
Tin	<5.0	<5.0	<5.0	<5.0		µg/L
Titanium	27.0	108	48.6	76.1		µg/L
Uranium	0.16	0.34	0.19	0.46	20	µg/L
Vanadium	<5.0	5.3	5.2	<5.0		µg/L
Zinc	<5.0	16.4	10.3	14.0	5000	µg/L
Zirconium	0.22	0.89	0.44	0.27		µg/L
Calcium	22.3	30.3	8.16	26.3		mg/L
Magnesium	2.66	3.30	1.12	3.99		mg/L
Potassium	0.324	0.535	0.491	0.603		mg/L
Sodium	53.3	46.7	106	65.3	200	mg/L
Sulphur	6.1	3.6	10.2	5.7		mg/L
MICROBIOLOGICAL						
Total coliforms	12	0	0	0	ND	CFU/100mL
Escherichia coli (E. coli)	0	0	0	0	ND	CFU/100mL

* Turbidity guideline applies to a surface water source or a groundwater source under the direct influence of surface water.

ND means none detectable.

Exceedances shown in red font.

Conclusions

Three deep bedrock wells, **Well WID 70268, WID 70269 and WID 70275** were recently pump tested for a minimum of 12 hours each in February and March 2023 for the proposed subdivision of PID 28061942 at 350 Mary Anne Point Road on Galiano Island. Results of the pump testing indicates that each well is capable of meeting the minimum standard of 0.417 USgpm (1.58 L/min) or 2275 L/day for potable water supply under *Galiano Island Land Use Bylaw No. 127, 1999*, (Galiano Island Local Trust Committee, 2023). Based on the drawdowns observed during the pump testing, use of the wells for domestic residential purposes should have no measureable adverse effects on neighbouring water sources or cause sea water intrusion into the bedrock aquifer.

Water quality results for **Well WID 70268** met or exceeded the *Guidelines for Canadian Drinking Water-Summary Table* (Health Canada, 2022) for all parameters analyzed except for elevated levels of turbidity at 11 NTU, total aluminum at 507 µg/L, total iron at 509 µg/L, total manganese at 61 µg/L and total coliforms at 12 CFU/100mL. **No E. coli bacteria were detected.** Manganese above 20 µg/L and total iron above 300 µg/L are of aesthetic concern and may result in staining of laundry and/or toilet fixtures. These parameters may decrease with time as the well is pumped and may be reduced with conventional filtering and other on site water treatment systems. Elevated coliforms, however, are of a health concern and indicate disinfection treatment may be required. The coliform levels detected could also be natural as a result of decaying organic matter. There are no potential sources of contamination from animal wastes in proximity to the well.

Water quality results for **Well WID 70269** results met or exceeded the *Guidelines for Canadian Drinking Water-Summary Table* (Health Canada, 2022) for all parameters analyzed except for elevated levels of turbidity at 42 NTU, total aluminum at 1930 µg/L, total iron at 2190 µg/L, and total manganese at 101 µg/L. **No total coliforms or E. coli bacteria were detected.** Manganese above 20 µg/L and total iron above 300 µg/L are of aesthetic concern and may result in staining of laundry and/or toilet fixtures. These parameters may decrease with time as the well is pumped and may be partly reduced with conventional filtering and other on site treatment systems. These parameters may decrease with time as the well is pumped and may be reduced with conventional filtering and other water treatment systems.

Water quality results for **Well WID 70275** met or exceeded the *Guidelines for Canadian Drinking Water-Summary Table* (Health Canada, 2022) for all parameters analyzed except for elevated levels of turbidity at 30 NTU, total aluminum at 1110 µg/L, total iron at 1070 µg/L, and total manganese at 106 µg/L. **No total coliforms or E. coli bacteria were detected.** Manganese above 20 µg/L and total iron above 300 µg/L are of aesthetic concern and may result in staining of laundry and/or toilet fixtures. These parameters may decrease with time as the well is pumped and may be partly reduced with conventional filtering and other on site treatment systems.

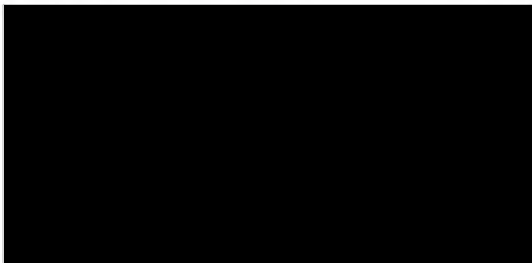
Recommendations

1. As a precautionary measure against any future potential sources of coliform bacteria, water from each well should be treated with an appropriately designed and maintained ultraviolet irradiation (UV) treatment system.
2. Given the close proximity of the wells to the ocean it would be prudent to not over pump the wells at any time. Generally for low-yielding water wells, apart from utilizing a pressure tank for the water distribution system, consideration should be given to using a pump timer and installing a storage tank e.g. 1000 USgals, to reduce frequent cycling of the well pump during high water use periods.
3. Given their relatively low yields, the wells should be used judiciously for domestic purposes only and any extensive use for irrigation or swimming pools, for example, should be avoided.
4. Pump settings for the wells should not be excessively deep to facilitate efficient cooling of the submersible pump motor. Initial settings of about 50 to 55 m below ground, for example, should be considered.
5. Consideration should be given to equipping the discharge line from each well with a totalizing water flow meter to monitor and record well use with time and having a water level sounding tube installed for taking periodic water level measurements in each well. This information would be valuable in the event any future maintenance of the well or pumping system may be required.
6. Further water quality sampling and laboratory analysis of selected parameters should be considered before designing any specific water treatment systems for any of the wells. It would be beneficial, for example, to field filter samples before analysis of dissolved metals to preclude any particulate matter contributing to elevated metal concentrations.
7. Under Sections 69, and 71 of the *Groundwater Protection Regulation*, Wells WID 70271 and WID 70270 would need to be decommissioned and filled with a sealant if they are not going to be used. Decommissioning needs to be carried out by a registered well driller. As an alternative, consideration should be given to using the wells as observation wells or closed-loop geoexchange wells.

Closure

This report was prepared in accordance with generally accepted engineering, hydrogeological and consulting practices. It is intended for the prime use of Lawrence Waterfall in connection with its purpose as outlined under the scope of work for this project. This report is based on data and information available to the author from various sources at the time of its preparation and the findings of this report may therefore be subject to revision. Data and information supplied by others has not been independently confirmed or verified to be correct or accurate in all cases. Any errors, omissions or issues requiring clarification should be brought to the attention of the author. The author and Hy-Geo Consulting accepts no responsibility for damages suffered by any third party as a result of any unauthorized use of this report.

Respectfully submitted,



Alan P. Kohut P.Eng
Principal and Senior Hydrogeologist

HY-GEO CONSULTING
EGBC Permit to Practice Number 1001034

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Appendix A
Well Drilling Records



☒ Well Construction Report
☐ Well Alteration Report

RED WILLIAMS WELL DRILLING LTD
380 PRATT RD. GULFPORT BEACH BC V9K 1W5
phone/fax/email here, if desired.
(250) 248-5552

Ministry Well ID Plate Number: 70268
Where ID Plate is attached: CASING
Ministry Well Tag Number: _____

See reverse for notes & definitions of abbreviations.

Well Class: Class of well (see note 2): WATER SUPPLY Sub-class of well: DOMESTIC
Water supply wells: indicate intended water use ☒ private domestic ☐ water supply system ☐ irrigation ☐ commercial or industrial ☐ other (specify):
Start date of work (YYYY/MM/DD): 2022/11/21 End date of work (YYYY/MM/DD): 2022/11/22

Person Responsible for Work (print clearly): Name (first, last) (see note 3): ROBERT PARKER
Person who completed the work: ROBERT PARKER Registration no. (see note 4): WD05051901

Consultant (if applicable; name and company):

DECLARATION: Well construction, well alteration or well decommission, as the case may be, has been done in accordance with the requirements in the Water Sustainability Act and the Ground Water Protection Regulation.

Signature of Person Responsible PER ROBERT PARKER

Owner name: LAWRENCE R WATERFALL and JANUSZ M KONIALSKI
Mailing address: 287 ACTIVE PASS RD. Town GALIANO ISLAND Prov. BC Postal Code V0P 1P0
Well Location (see note 6): Address: Street no. 350 Street name MARY ANNE POINT RD Town GALIANO ISLAND
☒ Legal description: Lot 1 Plan VIP87246 Block _____ Sec. 1 Twp. _____ Rg. _____ Land District 16
☒ PID: _____ ☒ Description of well location (attach sketch, if nec.): WITHIN PROPERTY BOUNDARIES

Well Location:

NAD 83: Zone: 10 ☒ UTM Easting: 476412 m ☒ Latitude (see note 8): _____
(see note 7) UTM Northing: 5412470 m ☒ Longitude: _____

Method of drilling ☒ air rotary ☐ dual rotary ☐ cable tool ☐ mud rotary ☐ auger ☐ driving ☐ jetting ☐ other (specify): Accupac
Orientation of well: ☒ vertical ☐ horizontal Ground elevation: 4' ft (asl) Method (see note 9): CPS HAND HELD 4'

Lithologic description (see notes 10-15)

From ft (bgl)	To ft (bgl)	Material Description	Moisture			Colour								Hardness								Observations (e.g. other geological materials (e.g. boulders), est. water bearing flow (USgpm))			
			Dry	Damp	Moist	Wet	Black	Blue	Brown	Green	Grey	Var-coloured	Red	Tan	White	Dense	Hard	Loose	Medium	Soft	Stiff		Very Hard	Very Soft	
0	1																								Boulders
1	8	SILTY SAND/GRAVEL						✓											✓						
8	11	SILTY SAND/GRAVEL								✓															
11	183	CONGLOMERATE								✓						✓									
183	245	SANDSTONE								✓						✓									

Casing Details:

Type: ☐ Surface ☐ Production ☐ Open Hole ☐ Steel Removed

From ft (bgl)	To ft (bgl)	Dia in	Casing Material/Open Hole (see note 16)	Wall Thickness in	Drive Shoe
0	18'	6	STEEL	.219	-

Surface seal: Type: BEDONITE Depth: 18' ft
Method of installation: ☒ Poured ☐ Pumped Thickness: 2" in
Backfill: Type: _____ Depth: _____ ft
Liner: ☐ PVC ☐ Other (specify): _____
Diameter: _____ in Thickness: _____ in
From: _____ ft (bgl) To: _____ ft (bgl)
Perforated: From: _____ ft (bgl) To: _____ ft (bgl)

Screen details:

From ft (bgl)	To ft (bgl)	Dia in	Type (see note 17)	Slot Size

Intake: ☐ Screen ☐ Open bottom ☐ Uncased hole
Screen type: ☐ Telescope ☐ Pipe size
Screen material: ☐ Stainless steel ☐ Plastic ☐ Other (specify): _____
Screen opening: ☐ Continuous slot ☐ Slotted ☐ Perforated pipe
Screen bottom: ☐ Bail ☐ Plug ☐ Plate ☐ Other (specify): _____
Filter pack: From: _____ ft To: _____ ft Thickness: _____ in
Type and size of material: _____

Developed by: ☒ Air lifting ☐ Bailing ☐ Jetting ☐ Pumping ☐ Surging ☐ Other (specify): _____ Total duration: 1 hrs

Well yield estimated by: ☐ Pumping ☒ Air lifting ☐ Bailing ☐ Other (specify): _____
Rate: 8 USgpm Duration: 1 hrs SWL before test: 34' ft (btoc) Drawdown: _____ ft (btoc)

Hydro-fracturing: ☐ Yes ☐ No Increase in Well Yield due to Hydro-fracturing: _____ USgpm

Water Quality: Water sample collected: ☐ Yes ☐ No
Date (YYYY/MM/DD): _____ Water quality odour: _____
Characteristics: ☐ Clear ☐ Cloudy ☒ Fresh ☐ Gas ☐ Salty ☐ Sediment ☐ Other (specify): _____
Colour: ☐ Black ☐ Black flecks ☐ Brown ☒ Clear/none ☐ grey
☐ Slight colour/milky ☐ Orange ☐ Other (specify): _____

Comments: _____

Final well completion data:

Total depth drilled: 245' ft Finished well depth: 245' ft (bgl)
Final casing stick up: 24" in Depth to bedrock: 11 ft (bgl)
SWL: 34' ft (btoc) Estimated well yield: 8 USgpm
Artesian flow: _____ USgpm, or Artesian pressure: _____ ft
Type of well cap: VERMIN Well disinfected: ☒ Yes ☐ No

☐ Confirmation/alternative specs. attached
☐ Original well construction report atts

PLEASE NOTE: The information recorded in this well report describes the works and hydrogeologic conditions at the time of construction or alteration, as the case may be. Well yield, well performance and water quality are not guaranteed as they are influenced by a number of factors, including natural variability, human activities and condition of the works, which may change over time.

white: Customer copy
canary: Driller copy
pink: Ministry copy

Sheet 1



☒ Well Construction Report
☐ Well Alteration Report

RED WILLIAMS WELL DRILLING LTD
380 PATTY RD QUADON BEACH BC V9K 1W5
phone/fax/email here, if desired.
(250) 740-5552

Ministry Well ID Plate Number: 70269
Where ID Plate is attached: CASING
Ministry Well Tag Number: _____

See reverse for notes & definitions of abbreviations.

Well Class: Class of well (see note 2): WATER SUPPLY Sub-class of well: DOMESTIC
Water supply wells: indicate intended water use: ☒ private domestic ☐ water supply system ☐ irrigation ☐ commercial or industrial ☐ other (specify): _____
Start date of work (YYYY/MM/DD): 2022/11/22 End date of work (YYYY/MM/DD): 2022/11/24

Person Responsible for Work (print clearly): Name (first, last) (see note 3): ROBERT PARKER
Person who completed the work: ROBERT PARKER Registration no. (see note 4): WD 05051901
Consultant (if applicable; name and company): _____

DECLARATION: Well construction, well alteration or well decommission, as the case may be, has been done in accordance with the requirements in the Water Sustainability Act and the Ground Water Protection Regulation.

Signature of Person Responsible: per ROBERT PARKER

Owner name: LAWRENCE R WATERFALL and JANUSZ M KOWALSKI
Mailing address: 287 ACTIVE PASS RD. Town: GALIANO ISLAND Prov. BC Postal Code: V0P 1P0
Well Location (see note 6): Address: Street no. 350 Street name: MARY ANNE POINT RD Town: GALIANO ISLAND
☒ Legal description: Lot 2 Plan VIP87346 Block _____ Sec. _____ Twp. _____ Rg. _____ Land District 16
☒ PID: _____ and Description of well location (attach sketch, if nec.): WITHIN PROPERTY BOUNDARIES
WELL 1

Well Location:
NAD 83: Zone: 10 (and) UTM Easting: 476404 m ☒ Latitude (see note 8): _____
(see note 7) UTM Northing: 5412394 m ☒ Longitude: _____

Method of drilling: ☒ air rotary ☐ dual rotary ☐ cable tool ☐ mud rotary ☐ auger ☐ driving ☐ jetting ☐ other (specify): _____
Orientation of well: ☒ vertical ☐ horizontal Ground elevation: 262' ft (asl) Method (see note 9): GPS HAND HELD 4' ACCURACY

Lithologic description (see notes 10-15)

Lithologic Description (see notes 3-15)			Moisture			Colour							Hardness							Observations (e.g. other geological materials (e.g. boulders), est. water bearing flow (USgpm))				
From ft (bgl)	To ft (bgl)	Material Description	Dry	Damp	Moist	Wet	Black	Blue	Brown	Green	Grey	Var-coloured	Red	Tan	White	Dense	Hard	Loose	Medium		Soft	Stiff	Very Hard	Very Soft
0	5	SILT/GRAVEL							✓															
5	9	CONGLOMERATE							✓															
9	80	CONGLOMERATE										✓												
80	265	SANDSTONE										✓												
265	298	CONGLOMERATE										✓												
298	365	SANDSTONE										✓												
365	405	SHALEY SANDSTONE										✓												

Casing Details:

Type: ☐ Surface ☐ Production ☐ Open Hole ☐ Steel Removed

From ft (bgl)	To ft (bgl)	Dia in	Casing Material/Open Hole (see note 16)	Wall Thickness in	Drive Shoe
0	19'	6	STEEL	.219	-

Surface seal: Type: BENTONITE Depth: 18' ft
Method of installation: ☒ Poured ☐ Pumped Thickness: 2" in
Backfill: Type: _____ Depth: _____ ft
Liner: ☐ PVC ☐ Other (specify): _____
Diameter: _____ in Thickness: _____ in
From: _____ ft (bgl) To: _____ ft (bgl)
Perforated: From: _____ ft (bgl) To: _____ ft (bgl)

Screen details:

From ft (bgl)	To ft (bgl)	Dia in	Type (see note 17)	Slot Size
------------------	----------------	-----------	-----------------------	-----------

Intake: ☐ Screen ☐ Open bottom ☐ Uncased hole
Screen type: ☐ Telescope ☐ Pipe size
Screen material: ☐ Stainless steel ☐ Plastic ☐ Other (specify): _____
Screen opening: ☐ Continuous slot ☐ Slotted ☐ Perforated pipe
Screen bottom: ☐ Bail ☐ Plug ☐ Plate ☐ Other (specify): _____
Filter pack: From: _____ ft To: _____ ft Thickness: _____ in
Type and size of material: _____

Developed by: ☒ Air lifting ☐ Bailing ☐ Jetting ☐ Pumping ☐ Surging ☐ Other (specify): _____ Total duration: 2 hrs
Notes: _____

Well yield estimated by: ☐ Pumping ☒ Air lifting ☐ Bailing ☐ Other (specify): _____
Rate: 6 USgpm Duration: 2 hrs SWL before test: 10' ft (btoc) Drawdown: _____ ft (btoc)
Hydro-fracturing: ☐ Yes ☐ No Increase in Well Yield due to Hydro-fracturing: _____ USgpm

Water Quality: Water sample collected: ☐ Yes ☐ No
Date (YYYY/MM/DD): _____ Water quality odour: _____
Characteristics: ☐ Clear ☐ Cloudy ☒ Fresh ☐ Gas ☐ Salty ☐
Sediment: ☐ Other (specify): _____
Colour: ☐ Black ☐ Black flecks ☐ Brown ☒ Clear/none ☐ grey
☐ Slight colour/milky ☐ Orange ☐ Other (specify): _____

Comments: _____

Final well completion data:

Total depth drilled: 405' ft Finished well depth: 405' ft (bgl)
Final casing stick up: 24" in Depth to bedrock: 5' ft (bgl)
SWL: 10' ft (btoc) Estimated well yield: 6 USgpm
Artesian flow: _____ USgpm, or Artesian pressure: _____ ft
Type of well cap: VERMIN PROOF Well disinfected: ☒ Yes ☐ No

☐ Confirmation/alternative specs. attached
☐ Original well construction report attached

PLEASE NOTE: The information recorded in this well report describes the works and hydrogeologic conditions at the time of construction or alteration, as the case may be. Well yield, well performance and water quality are not guaranteed as they are influenced by a number of factors, including natural variability, human activities and condition of the works, which may change over time.

white: Customer copy
canary: Driller copy
pink: Ministry copy
Sheet 1 of 1



☒ Well Construction Report
☐ Well Alteration Report

RED WILLIAMS WELL DRILLING LTD
Start-up phone: (250) 448-5552
Fax: (250) 448-5552
Email: info@redwilliams.com

Ministry Well ID Plate Number: 70270
Where ID Plate is attached: CASING
Ministry Well Tag Number: _____

See reverse for notes & definitions of abbreviations

Well Class: Class of well (see note 2): WATER SUPPLY Sub-class of well: DOMESTIC
Water supply wells: indicate intended water use ☒ private domestic ☐ water supply system ☐ irrigation ☐ commercial or industrial ☐ other (specify): _____
Start date of work (YYYY/MM/DD): 2022/11/24 End date of work (YYYY/MM/DD): 2022/11/28

Person Responsible for Work (print clearly): Name (first, last) (see note 3): ROBERT PARKER
Person who completed the work: ROBERT PARKER Registration no. (see note 4): WD 05051901
Consultant (if applicable; name and company): _____

DECLARATION: Well construction, well alteration or well decommission, as the case may be, has been done in accordance with the requirements in the Water Sustainability Act and the Ground Water Protection Regulation.

Signature of Person Responsible: PER ROBERT PARKER

Owner name: LAWRENCE 2 WATERFALL & JANUSZ M KOWALSKI
Mailing address: 287 ACTIVE PASS RD Town: GALIANO ISLAND Prov: BC Postal Code: V0N 1P0
Well Location (see note 6): Address: Street no. 350 Street name: MARY ANNE POINT RD Town: GALIANO ISLAND
☒ Legal description: Lot 3 Plan VIP87346 D.L. _____ Block _____ Sec. 1 Twp. _____ Rg. _____ Land District 16
☒ PID: _____ ☒ Description of well location (attach sketch, if nec.): WITHIN PROPERTY BOUNDARIES
WELL 1

Well Location:
NAD 83: Zone: 10 (and) UTM Easting: 476429 m ☒ Latitude (see note 8): _____
(see note 7) UTM Northing: 5412283 m ☒ Longitude: _____
Method of drilling: ☒ air rotary ☐ dual rotary ☐ cable tool ☐ mud rotary ☐ auger ☐ driving ☐ jetting ☐ other (specify): _____
Orientation of well: ☒ vertical ☐ horizontal Ground elevation: 150' ft (asl) Method (see note 9): GPS HAND HELD 10'

Lithologic description (see notes 10-15)

From ft (bgl)	To ft (bgl)	Material Description	Moisture			Colour								Hardness								Observations (e.g. other geological materials (e.g. boulders), est. water bearing flow (USgpm))		
			Dry	Damp	Moist	Wet	Black	Blue	Brown	Green	Grey	Var-coloured	Red	Tan	White	Dense	Hard	Loose	Medium	Soft	Stiff		Very Hard	Very Soft
0	1	SILT							✓															
1	155	CONGLOMERATE								✓						✓								
155	245	SANDSTONE								✓						✓								
245	405	SHALFY SANDSTONE								✓						✓								

Casing Details:

Type: ☒ Surface ☐ Production ☐ Open Hole ☐ Steel Removed

From ft (bgl)	To ft (bgl)	Dia in	Casing Material/Open Hole (see note 16)	Wall Thickness in	Drive Shoe
<u>0</u>	<u>18'</u>	<u>6</u>	<u>STEEL</u>	<u>.219</u>	<u>-</u>

Surface seal: Type: BENTONITE Depth: 18' ft
Method of installation: ☒ Poured ☐ Pumped Thickness: 2" in
Backfill: Type: _____ Depth: _____ ft
Liner: ☐ PVC ☐ Other (specify): _____
Diameter: _____ in Thickness: _____ in
From: _____ ft (bgl) To: _____ ft (bgl)
Perforated: From: _____ ft (bgl) To: _____ ft (bgl)

Screen details:

From ft (bgl)	To ft (bgl)	Dia in	Type (see note 17)	Slot Size
------------------	----------------	-----------	-----------------------	-----------

Intake: ☐ Screen ☐ Open bottom ☐ Uncased hole
Screen type: ☐ Telescope ☐ Pipe size
Screen material: ☐ Stainless steel ☐ Plastic ☐ Other (specify): _____
Screen opening: ☐ Continuous slot ☐ Slotted ☐ Perforated pipe
Screen bottom: ☐ Bail ☐ Plug ☐ Plate ☐ Other (specify): _____
Filter pack: From: _____ ft To: _____ ft Thickness: _____ in
Type and size of material: _____

Developed by: ☒ Air lifting ☐ Bailing ☐ Jetting ☐ Pumping ☐ Surging ☐ Other (specify): _____ Total duration: 3 hrs
Notes: _____

Well yield estimated by: ☐ Pumping ☒ Air lifting ☐ Bailing ☐ Other (specify): _____
Rate: 10 USgpm Duration: 3 hrs SWL before test: _____ ft (btoc) Drawdown: _____ ft (btoc)
Hydro-fracturing: ☐ Yes ☐ No Increase in Well Yield due to Hydro-fracturing: _____ USgpm

Water Quality: Water sample collected: ☐ Yes ☐ No
Date (YYYY/MM/DD): _____ Water quality odour: _____
Characteristics: ☐ Clear ☐ Cloudy ☒ Fresh ☐ Gas ☐ Salty ☐ Sediment ☐ Other (specify): _____
Colour: ☐ Black ☐ Black flecks ☐ Brown ☒ Clear/none ☐ grey
☐ Slight colour/milky ☐ Orange ☐ Other (specify): _____

Comments: _____

Final well completion data:

Total depth drilled: 405' ft Finished well depth: 405' ft (bgl)
Final casing stick up: 24" in Depth to bedrock: 1 ft (bgl)
SWL: _____ ft (btoc) Estimated well yield: 10 USgpm
Artesian flow: _____ USgpm, or Artesian pressure: _____ ft
Type of well cap: VELEMID Well disinfected: ☒ Yes ☐ No

PROOF
☐ Confirmation/alternative specs. attached
☐ Original well construction report attached

PLEASE NOTE: The information recorded in this well report describes the works and hydrogeologic conditions at the time of construction or alteration, as the case may be. Well yield, well performance and water quality are not guaranteed as they are influenced by a number of factors, including natural variability, human activities and condition of the works, which may change over time.

white: Customer copy
canary: Driller copy
pink: Ministry copy

Sheet 1 of 1

See reverse for notes & definitions of abbreviations

Well Class: Class of well (see note 2): WATER supply Sub-class of well: DOMESTIC
Water supply wells: indicate intended water use: ☒ private domestic ☐ water supply system ☐ irrigation ☐ commercial or industrial ☐ other (specify): _____
Start date of work (YYYY/MM/DD): 2022/11/28 End date of work (YYYY/MM/DD): 2022/11/30

Person Responsible for Work (print clearly): Name (first, last) (see note 3): ROBERT PARKER
 Person who completed the work: ROBERT PARKER Registration no. (see note 4): WD 05051901
 Consultant (if applicable; name and company): _____

DECLARATION: Well construction, well alteration or well decommission, as the case may be, has been done in accordance with the requirements in the Water Sustainability Act and the Ground Water Protection Regulation.

Signature of Person Responsible DER ROBERT PARKER

Owner name: LAWRENCE B WATERFALL & JANUSZ M KONALSKI
Mailing address: 237 ACTIVE PASS RD. Town GALIANO ISLAND Prov. PC Postal Code V0N 1P0
Well Location (see note 6): Address: Street no. 350 Street name MARY ANNE POINT Town GALIANO ISLAND
(or) Legal description: Lot 2 Plan VIP 87340 L. Block Sec. 1 Trp. Rg. Land District 16
(or) PID: and Description of well location (attach sketch, if nec.): WITHIN PROPERTY BOUNDARIES

Well Location: NAD 83: Zone: 10 (and) UTM Easting: 476509 m (of) Latitude (see note 8): _____
(see note 7) UTM Northing: 5412390 m Longitude: _____
Method of drilling: ☒ air rotary ☐ dual rotary ☐ cable tool ☐ mud rotary ☐ auger ☐ driving ☐ jetting ☐ other (specify): _____
Orientation of well: ☒ vertical ☐ horizontal Ground elevation: 145' ft (asl) Method (see note 9): GPS HAND HELD Accuracy: 4'

Lithologic description (see notes 10-15)

		Material Description	Moisture			Colour							Hardness							Observations (e.g. other geological materials (e.g. boulders), est. water bearing flow (USgpm))				
From # (tgr)	To # (tgr)		Dry	Damp	Moist	Wet	Black	Blue	Brown	Green	Grey	Vari-coloured	Red	Tan	White	Dense	Hard	Loose	Medium		Soft	Slit	Very Hard	Very Soft
0	1	SILT							✓															ORGANICS
1	7	CONGLOMERATE						✓									✓							
7	85	SANDSTONE								✓							✓							
85	170	CONGLOMERATE								✓							✓							
170	405	SHALEY SANDSTONE								✓							✓							

Casing Details:

Type: ☐ Surface ☐ Production ☐ Open Hole ☐ Steel Removed

From ft (bgl)	To ft (bgl)	Dia in	Casing Material/Open Hole (see note 16)	Wall Thickness in	Drive Shoe
0	20	6	STEEL	.219	—

Surface seal: Type: BENTONITE Depth: 20' ft
Method of installation: ☒ Poured ☐ Pumped Thickness: 2" in
Backfill: Type: _____ Depth: _____ ft
Liner: ☐ PVC ☐ Other (specify): _____
Diameter: _____ in Thickness: _____ in
From: _____ ft (bgl) To: _____ ft (bgl)
Perforated: From: _____ ft (bgl) To: _____ ft (bgl)

Screen details:

[illegible]

Intake: ☐ Screen ☐ Open bottom ☐ Uncased hole
Screen type: ☐ Telescope ☐ Pipe size
Screen material: ☐ Stainless steel ☐ Plastic ☐ Other (specify): _____
Screen opening: ☐ Continuous slot ☐ Slotted ☐ Perforated pipe
Screen bottom: ☐ Bail ☐ Plug ☐ Plate ☐ Other (specify): _____
Filter pack: From: _____ ft To: _____ ft Thickness: _____ in
Type and size of material:

Developed by: ☒ Air lifting ☐ Bailing ☐ Jetting ☐ Pumping ☐ Surging ☐ Other (specify): _____ Total duration: 4 hrs

Well yield estimated by: ☐ Pumping ☒ Air lifting ☐ Bailing ☐ Other (specify): _____

Rate: 0 USgpm Duration: 4 hrs SWL before test: _____ ft (btoc) Drawdown: _____ ft (btoc)

Hydro-fracturing: ☐ Yes ☐ No Increase in Well Yield due to Hydro-fracturing: _____ USgpm

Water Quality: Water sample collected: ☐ Yes ☐ No
Date (YYYY/MM/DD) _____ Water quality odour: _____
Characteristics: ☐ Clear ☐ Cloudy ☒ Fresh ☐ Gas ☐ Salty ☐
Sediment ☐ Other (specify): _____
Colour: ☐ Black ☐ Black flecks ☐ Brown ☒ Clear/none ☐ grey
☐ Slight colour/milky ☐ Orange ☐ Other (specify): _____

Comments:

Final well completion data:

Final well completion: 405' ft
Total depth drilled: 405' ft Finished well depth: 405' ft (bgl)
Final casing stick up: 36" in Depth to bedrock: 1 ft (bgl)
SWL: _____ ft (btoc) Estimated well yield: 0 USgpm
Artesian flow: _____ USgpm, or Artesian pressure: _____ ft
Type of well cap: VEBmin Well disinfected: ☒ Yes ☐ No

☐ Confirmation/alternative specs. attached

☐ Original well construction report attached

PLEASE NOTE: The information recorded in this well report describes the works and hydrogeologic conditions at the time of construction or alteration, as the case may be. Well yield, well performance and water quality are not guaranteed as they are influenced by a number of factors, including natural variability, human activities and condition of the works, which may change over time.

white: Customer copy
canary: Driller copy
pink: Ministry copy



☒ Well Construction Report
☐ Well Alteration Report

RED WILLIAMS WELL DRILLING LTD
Stamp company (address and phone number) here, if desired.
(250) 248-3552

Ministry Well ID Plate Number: 70275
Where ID Plate is attached: CASING
Ministry Well Tag Number: _____

See reverse for notes & definitions of abbreviations.

Well Class: Class of well (see note 2): WATER SUPPLY Sub-class of well: DOMESTIC
Water supply wells: indicate intended water use: ☒ private domestic ☐ water supply system ☐ irrigation ☐ commercial or industrial ☐ other (specify): _____
Start date of work (YYYY/MM/DD): 2022/12/13 End date of work (YYYY/MM/DD): 2022/12/16

Person Responsible for Work (print clearly): Name (first, last) (see note 3): ROBERT PARKER
Person who completed the work: ROBERT PARKER Registration no. (see note 4): WPD05051901
Consultant (if applicable; name and company): _____

DECLARATION: Well construction, well alteration or well decommission, as the case may be, has been done in accordance with the requirements in the Water Sustainability Act and the Ground Water Protection Regulation.

Signature of Person Responsible: per ROBERT PARKER

Owner name: LAWRENCE R WATERFALL and JANUSZ M KOWALSKI
Mailing address: 287 ACTIVE PASS RD. Town: GALIANO ISLAND Prov. BC Postal Code: V0P 1P0
Well Location (see note 6): Address: Street no. 350 Street name: MARYANNE POINT Town: GALIANO ISLAND
☒ Legal description: Lot 3 Plan VIP 87340 L. _____ Block _____ Sec. 1 R. _____ Rg. _____ Land District 16
☒ PID: _____ and Description of well location (attach sketch, if nec.): WITHIN PROPERTY BOUNDARIES
WELL 2

Well Location:
NAD 83: Zone: 10 and UTM Easting: 476516 m ☒ UTM Northing: 5412302 m ☒ Latitude (see note 8): _____
(see note 7) Longitude: _____

Method of drilling: ☒ air rotary ☐ dual rotary ☐ cable tool ☐ mud rotary ☐ auger ☐ driving ☐ jetting ☐ other (specify): _____
Orientation of well: ☒ vertical ☐ horizontal Ground elevation: 100' ft (asl) Method (see note 9): GPS HAND HELD Accuracy: 4'

Lithologic description (see notes 10-15)

From ft (bgl)	To ft (bgl)	Material Description	Moisture			Colour										Hardness							Observations (e.g. other geological materials (e.g. boulders, est. water bearing flow (USgpm))
			Dry	Damp	Wet	Black	Blue	Brown	Green	Grey	Var-coloured	Red	Tan	White	Dense	Hard	Loose	Medium	Soft	Slit	Very Hard	Very Soft	
0	3	SILT/GRAVEL																					ORGANICS
3	130	CONGLOMERATE																					
130	225	SANDSTONE																					
225	240	CONGLOMERATE																					
240	405	SHALEY SANDSTONE																					

Casing Details:

Type: ☐ Surface ☐ Production ☐ Open Hole ☐ Steel Removed

From ft (bgl)	To ft (bgl)	Dia in	Casing Material/Open Hole (see note 16)	Wall Thickness in	Drive Shoe
0	18'	6	STEEL	.219	—

Surface seal: Type: BENTONITE Depth: 18' ft
Method of installation: ☒ poured ☐ pumped Thickness: 2" in
Backfill: Type: _____ Depth: _____ ft
Liner: ☐ PVC ☐ Other (specify): _____
Diameter: _____ in Thickness: _____ in
From: _____ ft (bgl) To: _____ ft (bgl)
Perforated: From: _____ ft (bgl) To: _____ ft (bgl)

Screen details:

From ft (bgl)	To ft (bgl)	Dia in	Type (see note 17)	Slot Size
------------------	----------------	-----------	-----------------------	-----------

Intake: ☐ Screen ☐ Open bottom ☐ Uncased hole
Screen type: ☐ Telescope ☐ Pipe size
Screen material: ☐ Stainless steel ☐ Plastic ☐ Other (specify): _____
Screen opening: ☐ Continuous slot ☐ Slotted ☐ Perforated pipe
Screen bottom: ☐ Ball ☐ Plug ☐ Plate ☐ Other (specify): _____
Filter pack: From: _____ ft To: _____ ft Thickness: _____ in
Type and size of material: _____

Developed by: ☒ Air lifting ☐ Bailing ☐ Jetting ☐ Pumping ☐ Surging ☐ Other (specify): _____ Total duration: 5 hrs
Notes: _____

Well yield estimated by: ☐ Pumping ☒ Air lifting ☐ Bailing ☐ Other (specify): _____
Rate: 1.5 USgpm Duration: 5 hrs SWL before test: 54' ft (btoc) Drawdown: _____ ft (btoc)
Hydro-fracturing: ☐ Yes ☐ No Increase in Well Yield due to Hydro-fracturing: _____ USgpm

Water Quality: Water sample collected: ☐ Yes ☐ No
Date (YYYY/MM/DD): _____ Water quality odour: _____
Characteristics: ☐ Clear ☐ Cloudy ☒ Fresh ☐ Gas ☐ Salty ☐ Sediment ☐ Other (specify): _____
Colour: ☐ Black ☐ Black flecks ☐ Brown ☒ Clear/none ☐ grey
☐ Slight colour/milky ☐ Orange ☐ Other (specify): _____

Comments: _____

Final well completion data:

Total depth drilled: 405' ft Finished well depth: 405' ft (bgl)
Final casing stick up: 24" in Depth to bedrock: 3' ft (bgl)
SWL: 54' ft (btoc) Estimated well yield: 1.5 USgpm
Artesian flow: _____ USgpm, or Artesian pressure: _____ ft
Type of well cap: VERMIN Well disinfected: ☒ Yes ☐ No

PROOF
☐ Confirmation/alternative specs. attached
☐ Original well construction report attached

PLEASE NOTE: The information recorded in this well report describes the works and hydrogeologic conditions at the time of construction or alteration, as the case may be. Well yield, well performance and water quality are not guaranteed as they are influenced by a number of factors, including natural variability, human activities and condition of the works, which may change over time.

white: Customer copy
canary: Driller copy
pink: Ministry copy
Sheet 1 of 1

Red lettering indicates minimum mandatory information. See reverse for notes & definitions of abbreviations.

Owner name: LAWRENCE R. WATERFALL and JANUSZ M. KOWALSKI
 Mailing address: 237 ACIVE PASS DRIVE Town GALIANO ISLAND Prov. B.C. Postal Code V0N 1P0
 Well Location (see note 2): Address: Street no. 350 Street name MARY ANN POINT ROAD Town GALIANO ISLAND
 (a) Legal description: Lot B Plan VR87346 D.L. _____ Block _____ Sec. 1 Twp. _____ Rg. _____ Land District 16
 (a) PID: 028-061-942 (and) Description of well location (attach sketch, if nec.): WITHIN PROPERTY BOUNDARIES

NAD 83: Zone: 10 (and) UTM Easting: 476539 m (or) Latitude (see note 4): _____
(see note 3) UTM Northing: 5412282 m Longitude: _____

Method of drilling: ☒ air rotary ☐ dual rotary ☐ cable tool ☐ mud rotary ☐ auger ☐ driving ☐ jetting ☐ other (specify): _____

Orientation of well: ☒ vertical ☐ horizontal Ground elevation: 157 ft (asi) Method (see note 5): GPS - Handheld ^{Accuracy} +/- 21'

Class of well (see note 6): Water Supply Sub-class of well: Domestic

Water supply wells: indicate intended water use: ☒ private domestic ☐ water supply system ☐ irrigation ☐ commercial or industrial ☐ other (specify): _____

Lithologic description (see notes 8-13) or closure description (see notes 14 and 15)

[illegible]

Casing details

From ft (bgl)	To ft (bgl)	Die in	Casing Material/Open Hole (see note 17)	Wall Thickness in	Drive Shoe
0	18	6	STEEL	.219	—

Surface seal: Type: BENTONITE Depth: 13 ft
Method of installation: ☒ Poured ☐ Pumped Thickness: 2 in
Backfill: Type: _____ Depth: _____ ft
Liner: ☐ PVC ☐ Other (specify): _____
Diameter: _____ in Thickness: _____ in
From: _____ ft (gal) To: _____ ft (gal) Perforated: From: _____ ft (gal) To: _____ ft (gal)

Screen details

[illegible]

Intake: ☐ Screen ☐ Open bottom ☐ Uncased hole

Screen type: ☐ Telescope ☐ Pipe size

Screen material: ☐ Stainless steel ☐ Plastic ☐ Other (specify): _____

Screen opening: ☐ Continuous slot ☐ Slotted ☐ Perforated pipe

Screen bottom: ☐ Bail ☐ Plug ☐ Plate ☐ Other (specify): _____

Filter pack: From: _____ ft To: _____ ft Thickness: _____ in

Type and size of material:

Developed by:

☒ Air lifting ☐ Surging ☐ Jetting ☐ Pumping ☐ Bailing
 Other (specify): _____ Total duration: 2.0 hrs
 Notes: _____

Well yield estimated by:

☐ Pumping ☒ Air lifting ☐ Bailing ☒ Other (specify): ST TEST
 Rate: 0.75 USgpm Duration: 1.0 hrs
 SWL before test: ft (btoc) Pumping water level: ft (btoc)

Obvious water quality characteristics:

☒ Fresh ☐ Salty ☒ Clear ☐ Cloudy ☐ Sediment ☐ Gas
Colour/odour: _____ Water sample collected: ☐

Well driller (print clearly):

Name (first, last) (see note 19): Travis Johnson
Registration no. (see note 20): WD 0604 1901
Consultant (if applicable: name and company): _____

DECLARATION: Well construction, well alteration or well closure, as the case may be, has been done in accordance with the requirements in the Water Act and the Ground Water Protection Regulation.

Signature of
Driller Responsible Travis Johnson

PLEASE NOTE: The information recorded in this well report describes the works and hydrogeologic conditions at the time of construction, alteration or closure, as the case may be. Well yield, well performance and water quality are not guaranteed as they are influenced by a number of factors, including natural variability, human activities and condition of the works, which may change over time.

Final well completion data:

Total depth drilled: 400 ft Finished well depth: 400 ft (bgl)
Final stick up: 24 in Depth to bedrock: 4 ft (bgl)
SWL: 60 ft (btoc) Estimated well yield: 0.75 USgpm
Artesian flow: _____ USgpm, or Artesian pressure: _____ ft
Type of well casing: Nasmin Paces Well disinfected: ☒ Yes ☐ No
Where well ID plate is attached: STRAINED TO CASING

Well closure information:

Reason for closure: _____
 Method of closure: ☐ Poured ☐ Pumped
 Sealant material: _____ Backfill material: _____
 Details of closure (see note 16): _____

Date of work (YYYY/MM/DD):

Started: 2019/11/27 Completed: 2019/11/28

Comments:

white: Customer copy
canary: Driller copy
pink: Ministry copy

Sheet 1 of 2

WATER WELL RECORD

Date 90 | 4 | 5

N T S MAP WELL No. ELEV Location Accuracy

U Y Z E N U Date 19 Well Type

Owners Name & Address GARY CULLEN, BOX 1035, DELTA B.C. V4M 3T2

Legal Description & Address

Descriptive Location W. END OF MARI-ANNE ROAD, GALLIANO IS., BC.

1. TYPE OF WORK	1 ☒ New Well	2 ☐ Reconditioned	9. CASING: Materials	1 ☒ Steel	2 ☐ Galvanized	3 ☐ Wood
	3 ☐ Deepened	4 ☐ Abandoned		4 ☐ Plastic	5 ☐ Concrete	
2. WORK METHOD	1 ☐ Cable tool	2 ☐ Bored	3 ☐ Jetted	Other _____ units		
	4 ☒ Rotary	a ☐ mud	b ☒ air	c ☐ reverse		
	Other _____					
3. WATER WELL USE	1 ☒ Domestic	2 ☐ Municipal	3 ☐ Irrigation			
	4 ☐ Comm. & Ind.	Other _____				
4. DRILLING ADDITIVES						

5. MEASUREMENTS from 1 ☐ ground level 2 ☐ top of casing
casing height above ground level _____ ft.

6. WELL LOG DESCRIPTION

FROM	TO		SWL
------	----	--	-----

Pitless unit _____ ft 1 ☐ above 2 ☐ below ground level
☒ Welded 2 ☐ Cemented 3 ☐ Threaded | 1 ☐ New 2 ☐ Used
Perforations:

FROM ft	TO ft	6. WELL LOG DESCRIPTION	SWL ft
0	16	FAULTY CONGLOMERATE	
16	220	GREY CONGLOMERATE	

220500 BLACK, SHALEY SANDSTONE

SOURCE OF WATER:-

IO. SCREEN: 1 ☐ Nominal (Telescope) 2 ☐ Pipe Size
Type 1 ☐ Continuous Slot 2 ☐ Perforated 3 ☐ Louvre
☐ Other _____
Material 1 ☐ Stainless Steel 2 ☐ Plastic ☐ Other _____
Set from _____ to _____ ft below ground level

[illegible]

	Fittings, top	bottom
	Gravel Pack	

II. DEVELOPED BY: 1 ☐ Surging 2 ☐ Jetting 3 ☐ Air
4 ☐ Bailing 5 ☐ Pumping ☐ Other _____

12. TEST 1 ☐ Pump 2 ☐ Bail 3 ☐ Air Date YR MO DT
Rate USgpm Temp °C SWL before test
Water Level ft after test of hrs

[illegible]

13.	RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
		ft	USGAL

14. WATER TYPE: 1 ☒ fresh 2 ☐ salty 3 ☐ clear 4 ☒ cloudy
colour smell *N/A* ; gas 1 ☐ yes 2 ☒ no

7. CONSULTANT _____

Address _____

15. WATER ANALYSIS:

1 Hardness _____ mg/L

2 Iron _____ mg/L

3 Chloride _____ mg/L

4 pH _____

Field Date _____

8. WELL LOCATION SKETCH

SITE ID No

Lab Date

16. FINAL WELL COMPLETION DATA

Well Depth	510.0 ft	Well Yield	1.5	US gpm
Static Water Level	131.0 ft	Artisan Flow		US gpm
Back filled	FROM SURFACE	Pressure Head		
Well Head Completion				

17. DRILLER	WILLIAMS	SURNAME	BEA	FIRST NAME
-------------	----------	---------	-----	------------

Signature _____

18. CONTRACTOR _____

Address ISLAND WIRE DRINKING LTD,
R.R.1,
LADYSMITH B.C.

Member, BCWWDA ☐ yes ☐ no : _____

Appendix B
Pumping Test Results

APPENDIX B

Pumping Test Data for Subject Well WID 70268

Project: WID 70268
Client: Lawrence Waterfall
Location: Galiano Island
Date of Test: Feb 8 and 9/23
Test Conducted by: Red Williams Well Drilling

Reference: all readings from top of sounding tube

Stick up: 0.50 m
Observation Wells: WID 70269

Pumped Well: 74.68 m deep
Pumping Rate: 8.86 L/min (2.34 Usgpm)
Static Water Level: 5.23 m

Pump Start Time: 6:00 PM Feb. 8, 2023
Pump End Time: 6:00 AM Feb. 9, 2023
Analysis by: A. Kohut, P.Eng.

Drawdown Data:

Recovery Data:

Time (minutes)	Water Level (m)	Drawdown (m)	Time t (minutes)	Time t' (minutes)	Water Level (m)	t/t'	Residual Drawdown (m)
0.5	6.69	1.46	720.5	0.5	26.93	1441.00	21.70
1.0	6.80	1.57	721	1	26.64	721.00	21.41
1.5	7.04	1.81	721.5	1.5	26.45	481.00	21.22
2.0	7.22	1.99	722	2	26.23	361.00	21.00
2.5	7.42	2.19	722.5	2.5	26.02	289.00	20.79
3	7.59	2.36	723	3	25.82	241.00	20.59
4	7.89	2.66	723.5	3.5	25.65	206.71	20.42
4.5	8.04	2.81	724	4	25.44	181.00	20.21
5	8.18	2.95	724.5	4.5	25.28	161.00	20.05
6	8.48	3.25	725	5	25.10	145.00	19.87
7	8.79	3.56	725.5	5.5	24.79	131.91	19.56
8	8.94	3.71	726	6	24.50	121.00	19.27
9	9.15	3.92	727	7	24.22	103.86	18.99
10	9.45	4.22	728	8	23.975	91.00	18.75
12	9.72	4.49	729	9	24.007	81.00	18.78
14	10.06	4.83	730	10	23.76	73.00	18.53
16	10.39	5.16	732	12	23.32	61.00	18.09
18	10.67	5.44	734	14	22.95	52.43	17.72
20	10.88	5.65	736	16	22.65	46.00	17.42
25	11.41	6.18	738	18	22.38	41.00	17.15
30	11.91	6.68	730	20	22.115	36.50	16.89
35	12.38	7.15	745	25	21.54	29.80	16.31
40	12.69	7.46	750	30	21.002	25.00	15.77
45	12.98	7.75	755	35	20.58	21.57	15.35
50	13.28	8.05	760	40	20.21	19.00	14.98
55	13.55	8.32	765	45	19.89	17.00	14.66
60	13.84	8.61	770	50	19.59	15.40	14.36
70	14.24	9.01	775	55	19.33	14.09	14.10
80	14.83	9.60	780	60	19.08	13.00	13.85
90	15.37	10.14	790	70	18.63	11.29	13.40
100	15.79	10.56	800	80	18.27	10.00	13.04
110	16.20	10.97	810	90	17.95	9.00	12.72
120	16.52	11.29	820	100	17.65	8.20	12.42
150	17.49	12.26	830	110	17.40	7.55	12.17
180	18.28	13.05	840	120	17.15	7.00	11.92
210	19.07	13.84	870	150	16.525	5.80	11.30
240	19.73	14.50	900	180	16.35	5.00	11.12
270	20.30	15.07	930	210	15.62	4.43	10.39
300	20.30	15.07	960	240	15.28	4.00	10.05
330	21.36	16.13	1020	300	14.61	3.40	9.38
360	21.88	16.65	1080	360	14.16	3.00	8.93
390	22.36	17.13	1140	420	13.78	2.71	8.55
420	22.82	17.59	1200	480	13.26	2.50	8.03
450	23.27	18.04	1260	540	13.12	2.33	7.89
480	23.70	18.47	1320	600	12.72	2.20	7.49
540	24.71	19.48	1380	660	12.49	2.09	7.26

Drawdown Data:**Recovery Data:**

Time (minutes)	Water Level (m)	Drawdown (m)	Time t (minutes)	Time t' (minutes)	Water Level (m)	t/t'	Residual Drawdown (m)
600	25.57	20.34	1440	720	12.25	2.00	7.02
660	26.37	21.14	1500	780	12.04	1.92	6.81
720	27.06	21.83	1560	840	11.87	1.86	6.64
			1620	900	11.69	1.80	6.46
			1680	960	11.55	1.75	6.32
			1740	1020	11.42	1.71	6.19
			1800	1080	11.30	1.67	6.07
			1860	1140	11.19	1.63	5.96
			1920	1200	11.07	1.60	5.84
	Data from datalogger		1980	1260	10.97	1.57	5.74
			2040	1320	10.85	1.55	5.62
			2100	1380	10.74	1.52	5.51
			2160	1440	10.62	1.50	5.39
			2220	1500	10.49	1.48	5.26
			2280	1560	10.42	1.46	5.19
			2340	1620	10.33	1.44	5.10
			2400	1680	10.28	1.43	5.05

APPENDIX B

Pumping Test Data for Subject Well WID 70269 (First Test)

Project: WID 70269
Client: Lawrence Waterfall
Location: Galiano Island
Date of Test: Feb 13 and 14/23
Test Conducted by: Red Williams Well Drilling

Reference: all readings from top of sounding tube

Stick up: 0.66 m
Observation Wells:

Pumped Well: 123.44 m deep
Pumping Rate: 9.27 L/min (2.45 Usgpm)
Static Water Level: 13.19 m

Pump Start Time: 10:00 PM Feb. 13, 2023
Pump End Time: 3:00 AM Feb. 14, 2023
Analysis by: A. Kohut, P.Eng.

Drawdown Data:

Recovery Data:

Time (minutes)	Water Level (m)	Drawdown (m)	Time t (minutes)	Time t' (minutes)	Water Level (m)	t/t'	Residual Drawdown (m)
0.5	13.83	0.64	310	10	120.72	31.000	107.53
1	14.01	0.82	311	11	120.534	28.273	107.344
1.5	14.25	1.06	312	12	120.318	26.000	107.128
2	14.49	1.3	313	13	120.122	24.077	106.932
2.5	14.76	1.57	314	14	119.924	22.429	106.734
3	14.97	1.78	315	15	119.719	21.000	106.529
3.5	15.24	2.05	318	18	119.099	17.667	105.909
4	15.47	2.28	320	20	118.686	16.000	105.496
4.5	15.73	2.54	325	25	117.675	13.000	104.485
5	15.98	2.79	330	30	116.675	11.000	103.485
6	16.51	3.32	340	40	114.695	8.500	101.505
7	16.97	3.78	350	50	112.726	7.000	99.536
8	17.46	4.27	360	60	110.755	6.000	97.565
9	17.91	4.72	380	80	106.827	4.750	93.637
10	18.47	5.28	420	120	98.981	3.500	85.791
12	20.20	7.01	460	160	91.210	2.875	78.02
14	20.58	7.39	500	200	83.742	2.500	70.552
16	21.75	8.56	550	250	74.227	2.200	61.037
18	22.94	9.75	600	300	65.306	2.000	52.116
20	23.90	10.71	650	350	57.526	1.857	44.336
25	26.47	13.28	700	400	50.828	1.750	37.638
30	28.93	15.74	750	450	45.303	1.667	32.113
35	31.49	18.3	800	500	40.602	1.600	27.412
40	33.84	20.65	900	600	33.359	1.500	20.169
45	36.37	23.18	1000	700	28.412	1.429	15.222
50	38.50	25.31	1010	710	28.032	1.423	14.842
55	40.74	27.55					
60	42.92	29.73					
70	47.15	33.96					
80	50.98	37.79					
90	54.79	41.6					
120	65.86	52.67					
150	75.96	62.77			Data from datalogger		
180	86.10	72.91					
210	96.68	83.49					
240	106.14	92.948					
270	117.09	103.903					
300	121.00	107.809					

APPENDIX B

Pumping Test Data for Subject Well WID 70269 (Second Test)

Project: WID 70269
Client: Lawrence Waterfall
Location: Galiano Island
Date of Test: Feb 15 and 16/23
Test Conducted by: Red Williams Well Drilling

Reference: all readings from top of sounding tube

Stick up: 0.66 m
Observation Wells:

Pumped Well: 123.44 m deep
Pumping Rate: 2.08 L/min (0.55 USgpm)
Static Water Level: 21.74 m

Pump Start Time: 10:00 PM Feb. 15, 2023
Pump End Time: 10:59 AM Feb. 16, 2023
Analysis by: A. Kohut, P.Eng.

Drawdown Data:

Recovery Data:

Time (minutes)	Water Level (m)	Drawdown (m)	Time t (minutes)	Time t' (minutes)	Water Level (m)	t/t'	Residual Drawdown (m)
0.5	21.85	0.11	780.5	0.5	48.53	1561.00	26.79
1	21.93	0.19	781.5	1.5	48.46	521.00	26.72
1.5	22.00	0.26	782	2	48.41	391.00	26.67
2	22.05	0.31	782.5	2.5	48.36	313.00	26.62
2.5	22.13	0.39	783	3	48.3	261.00	26.56
3	22.20	0.46	783.5	3.5	48.26	223.86	26.52
3.5	22.25	0.51	784	4	48.19	196.00	26.45
4	22.33	0.59	784.5	4.5	48.13	174.33	26.39
4.5	22.40	0.66	785	5	48.06	157.00	26.32
5	22.46	0.72	786	6	47.96	131.00	26.22
6	22.58	0.84	787	7	47.85	112.43	26.11
7	22.71	0.97	788	8	47.74	98.50	26
8	22.84	1.10	789	9	47.63	87.67	25.89
9	22.95	1.21	790	10	47.53	79.00	25.79
10	23.09	1.35	792	12	47.28	66.00	25.54
12	23.36	1.62	794	14	47.05	56.71	25.31
14	23.54	1.80	796	16	46.86	49.75	25.12
16	23.79	2.05	798	18	46.62	44.33	24.88
18	24.02	2.28	800	20	46.41	40.00	24.67
20	24.27	2.53	805	25	45.89	32.20	24.15
25	24.82	3.08	810	30	45.39	27.00	23.65
30	25.38	3.64	815	35	44.86	23.29	23.12
35	25.93	4.19	820	40	44.385	20.50	22.645
40	26.42	4.68	825	45	43.89	18.33	22.15
45	26.95	5.21	830	50	43.42	16.60	21.68
50	27.44	5.70	835	55	42.94	15.18	21.2
55	27.94	6.20	840	60	42.47	14.00	20.73
60	28.38	6.64	850	70	41.56	12.14	19.82
70	29.20	7.46	860	80	40.68	10.75	18.94
80	30.16	8.42	870	90	39.84	9.67	18.1
90	30.95	9.21	880	100	39.02	8.80	17.28
100	31.74	10.00	890	110	38.05	8.09	16.31
110	32.48	10.74	900	120	37.47	7.50	15.73
120	33.19	11.45	930	150	35.43	6.20	13.69
150	35.60	13.86	960	180	33.6	5.33	11.86
180	36.87	15.13	990	210	32.002	4.71	10.262
210	38.40	16.66	1020	240	30.63	4.25	8.89
240	41.47	19.73	1080	300	28.98	3.60	7.240
300	42.03	20.29	1140	360	26.028	3.17	4.288
330	42.710	20.97	1200	420	23.771	2.86	2.031
360	43.270	21.53	1260	480	21.984	2.63	0.244
390	43.770	22.03					
420	41.700	19.96					
450	42.240	20.50					
480	42.920	21.18					

Drawdown Data:
Recovery Data:

Time (minutes)	Water Level (m)	Drawdown (m)	Time t (minutes)	Time t' (minutes)	Water Level (m)	t/t'	Residual Drawdown (m)
540	44.570	22.83		Data from datalogger			
600	45.850	24.11					
660	46.960	25.22					
720	47.860	26.12					
780	48.600	26.86					

APPENDIX B

Pumping Test Data for Subject Well WID 70270

Project: WID 70270
Client: Lawrence Waterfall
Location: Galiano Island
Date of Test: Feb 20 and 21/23
Test Conducted by: Red Williams Well Drilling

Reference: all readings from top of sounding tube

Stick up: 0.76 m
Observation Wells:

Pumped Well: 123.44 m deep
Pumping Rate: 3.86 L/min (1.02 USgpm)
Static Water Level: 24.37 m

Pump Start Time: 10:00 PM Feb. 20, 2023
Pump End Time: 10:00 AM Feb. 21, 2023
Analysis by: A. Kohut, P.Eng.

Drawdown Data:

Recovery Data:

Time (minutes)	Water Level (m)	Drawdown (m)	Time t (minutes)	Time t' (minutes)	Water Level (m)	t/t'	Residual Drawdown (m)
0.5	25.14	0.77	734	14	121.15	52.429	96.78
1	25.30	0.93	736	16	121.24	46.000	96.87
1.5	25.57	1.20	738	18	121.05	41.000	96.68
2	25.73	1.36	740	20	120.94	37.000	96.57
2.5	25.92	1.55	745	25	120.32	29.800	95.95
3	26.17	1.80	750	30	120.06	25.000	95.69
3.5	26.38	2.01	755	35	119.5	21.571	95.13
4	26.54	2.17	760	40	119.11	19.000	94.74
4.5	26.68	2.31	765	45	118.73	17.000	94.36
5	26.81	2.44	770	50	118.24	15.400	93.87
6	27.04	2.67	775	55	117.83	14.091	93.46
7	27.24	2.87	780	60	117.38	13.000	93.01
8	27.44	3.07	790	70	116.55	11.286	92.18
9	27.64	3.27	800	80	115.67	10.000	91.3
10	27.87	3.50	810	90	114.87	9.000	90.5
12	28.27	3.90	820	100	113.97	8.200	89.6
14	28.67	4.30	830	110	113	7.545	88.63
16	29.06	4.69	840	120	112.26	7.000	87.89
18	29.44	5.07	870	150	109.84	5.800	85.47
20	29.82	5.45	900	180	107.39	5.000	83.02
25	30.76	6.39	930	210	104.95	4.429	80.58
30	31.68	7.31	960	240	102.44	4.000	78.07
35	32.64	8.27	1020	300	98.837	3.400	74.467
40	33.49	9.12	1080	360	94.449	3.000	70.079
45	34.37	10.00	1140	420	90.394	2.714	66.024
50	35.33	10.96	1200	480	86.5	2.500	62.13
55	36.35	11.98	1260	540	82.805	2.333	58.435
60	37.44	13.07	1320	600	79.311	2.200	54.941
70	39.66	15.29	1380	660	76.003	2.091	51.633
80	41.60	17.23	1440	720	72.864	2.000	48.494
90	43.55	19.18	1500	780	69.901	1.923	45.531
100	45.23	20.86	1560	840	66.729	1.857	42.359
110	46.99	22.62	1620	900	63.375	1.800	39.005
120	48.68	24.31	1680	960	60.289	1.750	35.919
150	53.55	29.18	1740	1020	57.497	1.706	33.127
180	57.44	33.07	1800	1080	54.964	1.667	30.594
210	62.98	38.61	1860	1140	52.679	1.632	28.309
240	67.45	43.08	1920	1200	50.67	1.600	26.300
270	71.65	47.28	1980	1260	48.924	1.571	24.554
300	75.71	51.34	2040	1320	47.439	1.545	23.069
330	79.67	55.30	2100	1380	46.946	1.522	22.576
360	83.94	59.57	2160	1440	45.026	1.500	20.656
390	87.50	63.13	2220	1500	44.028	1.480	19.658
420	91.41	67.04	2280	1560	43.126	1.462	18.756
450	95.08	70.71	2340	1620	42.319	1.444	17.949

Drawdown Data:
Recovery Data:

Time (minutes)	Water Level (m)	Drawdown (m)	Time t (minutes)	Time t' (minutes)	Water Level (m)	t/t'	Residual Drawdown (m)
480	98.98	74.61	2400	1680	41.574	1.429	17.204
540	106.18	81.81	2460	1740	40.894	1.414	16.524
600	114.06	89.69	2483	1763	40.635	1.408	16.265
660	121.71	97.34					
				Data from datalogger			

APPENDIX B

Pumping Test Data for Subject Well WID 70275

Project: WID 70275
Client: Lawrence Waterfall
Location: Galiano Island
Date of Test: March 14 and 15/23
Test Conducted by: Red Williams Well Drilling

Reference: all readings from top of sounding tube

Stick up: 0.53 m
Observation Wells: 70269

Pumped Well: 123.44 m deep
Pumping Rate: 2.35 L/min (0.62 USgpm)
Static Water Level: 9.81 m

Pump Start Time: 5:00 PM Mar. 14, 2023
Pump End Time: 5:00 AM Mar. 15, 2023
Analysis by: A. Kohut, P.Eng.

Drawdown Data:

Recovery Data:

Time (minutes)	Water Level (m)	Drawdown (m)	Time t (minutes)	Time t' (minutes)	Water Level (m)	t/t'	Residual Drawdown (m)
0.5	10.42	0.61	720.5	0.5	34.51	1441.00	24.7
1	10.57	0.76	721	1	34.44	721.00	24.63
1.5	10.70	0.89	722	2	34.4	361.00	24.59
2	10.83	1.02	722.5	2.5	34.33	289.00	24.52
2.5	10.97	1.16	723	3	34.27	241.00	24.46
3	11.10	1.29	723.5	3.5	34.21	206.71	24.4
3.5	11.19	1.38	724	4	34.14	181.00	24.33
4	11.27	1.46	724.5	4.5	34.09	161.00	24.28
4.5	11.35	1.54	725	5	34.01	145.00	24.2
5	11.42	1.61	726	6	33.91	121.00	24.1
6	11.55	1.74	727	7	33.79	103.86	23.98
7	11.65	1.84	728	8	33.65	91.00	23.84
8	11.75	1.94	729	9	33.57	81.00	23.76
9	11.89	2.08	730	10	33.45	73.00	23.64
10	12.02	2.21	732	12	33.24	61.00	23.43
12	12.33	2.52	734	14	33.04	52.43	23.23
14	12.60	2.79	736	16	32.84	46.00	23.03
16	12.82	3.01	738	18	32.45	41.00	22.64
18	13.02	3.21	730	20	32.22	36.50	22.41
20	13.19	3.38	745	25	32.01	29.80	22.2
25	13.61	3.80	750	30	31.59	25.00	21.78
30	13.97	4.16	755	35	31.2	21.57	21.39
35	14.34	4.53	760	40	30.81	19.00	21
40	14.68	4.87	765	45	30.46	17.00	20.65
45	15.01	5.20	770	50	30.31	15.40	20.5
50	15.33	5.52	775	55	29.82	14.09	20.01
55	15.64	5.83	780	60	29.53	13.00	19.72
60	15.94	6.13	790	70	29	11.29	19.19
70	16.52	6.71	800	80	28.5	10.00	18.69
80	17.06	7.25	810	90	28.03	9.00	18.22
90	17.56	7.75	820	100	27.6	8.20	17.79
100	18.04	8.23	830	110	27.21	7.55	17.4
110	18.48	8.67	840	120	26.976	7.00	17.166
120	18.92	9.11	870	150	26.022	5.80	16.212
150	20.17	10.36	900	180	25.192	5.00	15.382
180	21.38	11.57	930	210	24.485	4.43	14.675
210	22.43	12.62	960	240	23.873	4.00	14.063
240	23.32	13.51	1020	300	22.832	3.40	13.022
270	24.26	14.45	1080	360	21.986	3.00	12.176
300	24.910	15.10	1140	420	21.293	2.71	11.483
330	26.080	16.27	1200	480	20.702	2.50	10.892
360	27.010	17.20	1260	540	20.190	2.33	10.38
390	27.900	18.09	1320	600	19.739	2.20	9.929
420	28.650	18.84	1380	660	19.351	2.09	9.541
450	27.360	17.55	1440	720	18.993	2.00	9.183

Drawdown Data:
Recovery Data:

Time (minutes)	Water Level (m)	Drawdown (m)	Time t (minutes)	Time t' (minutes)	Water Level (m)	t/t'	Residual Drawdown (m)
480	30.040	20.23	1500	780	18.668	1.92	8.858
540	31.320	21.51	1560	840	18.364	1.86	8.554
600	32.550	22.74	1620	900	18.091	1.80	8.281
660	33.610	23.80	1680	960	17.817	1.75	8.007
720	34.630	24.82	1740	1020	17.551	1.71	7.741
			1800	1080	17.305	1.67	7.495
			1860	1140	17.069	1.63	7.259
			1920	1200	16.836	1.60	7.026
		Date from datalogger	1980	1260	16.642	1.57	6.832
			2040	1320	16.439	1.55	6.629
			2100	1380	16.263	1.52	6.453
			2160	1440	16.118	1.50	6.308

Appendix C

Laboratory Water Quality Sampling Results



Your Project #: LAWRENCE
Your C.O.C. #: WI034308

Attention: AL KOHUT

HY-GEO CONSULTING
4470 Arsens Place
VICTORIA, BC
Canada V8Z 2M9

Report Date: 2023/02/22
Report #: R3302372
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C310206

Received: 2023/02/13, 14:26

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Alkalinity @25C (pp, total), CO ₃ ,HCO ₃ ,OH	1	N/A	2023/02/15	BBY6SOP-00026	SM 23 2320 B m
Chloride/Sulphate by Auto Colourimetry	1	N/A	2023/02/15	BBY6SOP-00011 / BBY6SOP-00017	SM23-4500-Cl/SO ₄ -E m
Colour (True) by Kone Lab	1	N/A	2023/02/14	BBY6SOP-00057	SM 23 2120 C m
Conductivity @25C	1	N/A	2023/02/15	BBY6SOP-00026	SM 23 2510 B m
Fluoride	1	N/A	2023/02/15	BBY6SOP-00048	SM 23 4500-F C m
Sulphide (as H ₂ S) (1)	1	N/A	2023/02/15		Auto Calc
Hardness Total (calculated as CaCO ₃) (3)	1	N/A	2023/02/17	BBY WI-00033	Auto Calc
Mercury (Total) by CV	1	2023/02/15	2023/02/15	AB SOP-00084	BCMOE BCLM Oct2013 m
Heterotrophic Plate Count (MF) in Water	1	N/A	2023/02/14	BBY4SOP-00003	SM 23 9215
Iron Related Bacteria (4)	1	N/A	2023/02/14	BBY4SOP-00004	BI BART User Manual
Na, K, Ca, Mg, S by CRC ICPMS (total)	1	N/A	2023/02/17	BBY WI-00033	Auto Calc
Elements by CRC ICPMS (total)	1	N/A	2023/02/16	BBY7SOP-00003 / BBY7SOP-00002	EPA 6020b R2 m
Nitrogen (Total)	1	N/A	2023/02/15	BBY6SOP-00016	SM 24 4500-N C m
Ammonia-N (Total)	1	N/A	2023/02/15	AB SOP-00007	SM 23 4500 NH ₃ A G m
Nitrate + Nitrite (N)	1	N/A	2023/02/16	BBY6SOP-00010	SM 23 4500-NO ₃ - I m
Nitrite (N) by CFA	1	N/A	2023/02/16	BBY6SOP-00010	SM 23 4500-NO ₃ - I m
Nitrogen - Nitrate (as N)	1	N/A	2023/02/17	BBY WI-00033	Auto Calc
Nitrogen (Tot. Organic) Calculation	1	N/A	2023/02/17	BBY WI-00033	Auto Calc
pH @25°C (5)	1	N/A	2023/02/15	BBY6SOP-00026	SM 23 4500-H+ B m
Sat. pH and Langelier Index (@ 4.4C)	1	N/A	2023/02/17	BBY WI-00033	Auto Calc
Sat. pH and Langelier Index (@ 60C)	1	N/A	2023/02/17	BBY WI-00033	Auto Calc
Total Sulphide (1)	1	N/A	2023/02/15	AB SOP-00080	SM 23 4500 S ₂ -A D Fm
Sulphate Reducing Bacteria (4)	1	N/A	2023/02/14	BBY4SOP-00004	BI BART User Manual
Total Dissolved Solids (Filt. Residue)	1	2023/02/16	2023/02/17	BBY6SOP-00033	SM 23 2540 C m
Total Coliform & E.Coli by MF-Chromocult	1	N/A	2023/02/14	BBY4SOP-00143	Merck KGaA Version 1
Carbon (Total Organic) (6)	1	N/A	2023/02/14	BBY6SOP-00053	SM 23 5310 B m
Turbidity	1	N/A	2023/02/14	BBY6SOP-00027	SM 23 2130 B m
UV Transmittance (2)	1	2023/02/16	2023/02/16	CAM SOP-00459	SM 23 5910 m

Remarks:



Your Project #: LAWRENCE
Your C.O.C. #: WI034308

Attention: AL KOHUT

HY-GEO CONSULTING
4470 Arsens Place
VICTORIA, BC
Canada V8Z 2M9

Report Date: 2023/02/22

Report #: R3302372

Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C310206

Received: 2023/02/13, 14:26

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Bureau Veritas Calgary, 4000 - 19 St. , Calgary, AB, T2E 6P8

(2) This test was performed by Bureau Veritas Campobello, 6740 Campobello Road , Mississauga, ON, L5N 2L8

(3) "Total Hardness" was calculated from Total Ca and Mg concentrations and may be biased high (Hardness, or Dissolved Hardness, calculated from Dissolved Ca and Mg, should be used for compliance if available).

(4) Presence/Absence Method. Number is an estimate.

(5) The CCME method requires pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME holding time. Bureau Veritas endeavours to analyze samples as soon as possible after receipt.

(6) TOC present in the sample should be considered as non-purgeable TOC.



Your Project #: LAWRENCE
Your C.O.C. #: WI034308

Attention: AL KOHUT

HY-GEO CONSULTING
4470 Arsens Place
VICTORIA, BC
Canada V8Z 2M9

Report Date: 2023/02/22
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Received: 2023/02/13, 14:26

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:
Customer Solutions, Western Canada Customer Experience Team
Email: customersolutionswest@bureauveritas.com
Phone# (604) 734 7276

=====

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Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Raphael Kwan, Senior Manager, BC and Yukon Regions responsible for British Columbia Environmental laboratory operations.



VIHA PKG, WELLS/SPRINGS - BURNABY (WATER)

Bureau Veritas ID		BLT760		
Sampling Date		2023/02/13 09:50		
COC Number		WI034308		
	UNITS	WID 70268	RDL	QC Batch
ANIONS				
Nitrite (N)	mg/L	0.0052	0.0050	A885175
Calculated Parameters				
Total Hardness (CaCO ₃)	mg/L	66.7	0.50	A880395
Nitrate (N)	mg/L	<0.020	0.020	A880485
Total Organic Nitrogen (N)	mg/L	0.311	0.020	A881094
Sulphide (as H ₂ S)	mg/L	0.0039	0.0020	A880038
Misc. Inorganics				
Conductivity	uS/cm	350	2.0	A882881
pH	pH	8.16	N/A	A882872
Total Organic Carbon (C)	mg/L	0.51	0.50	A882123
Total Dissolved Solids	mg/L	200	10	A884366
Anions				
Alkalinity (PP as CaCO ₃)	mg/L	<1.0	1.0	A882869
Alkalinity (Total as CaCO ₃)	mg/L	150	1.0	A882869
Bicarbonate (HCO ₃)	mg/L	190	1.0	A882869
Carbonate (CO ₃)	mg/L	<1.0	1.0	A882869
Dissolved Fluoride (F)	mg/L	0.31	0.050	A882807
Hydroxide (OH)	mg/L	<1.0	1.0	A882869
Total Sulphide	mg/L	0.0036	0.0018	A882972
Chloride (Cl)	mg/L	7.4	1.0	A882198
Sulphate (SO ₄)	mg/L	20	1.0	A882198
MISCELLANEOUS				
True Colour	Col. Unit	<5.0	5.0	A881775
Transmittance at 254nm	%T/cm	86	N/A	A883720
Nutrients				
Total Ammonia (N)	mg/L	<0.015	0.015	A882802
Nitrate plus Nitrite (N)	mg/L	<0.020	0.020	A885173
Total Nitrogen (N)	mg/L	0.311	0.020	A881607
Physical Properties				
Turbidity	NTU	11	0.10	A882191
Elements				
Total Mercury (Hg)	ug/L	<0.0019	0.0019	A882678
RDL = Reportable Detection Limit N/A = Not Applicable				



VIHA PKG, WELLS/SPRINGS - BURNABY (WATER)

Bureau Veritas ID		BLT760		
Sampling Date		2023/02/13 09:50		
COC Number		WI034308		
	UNITS	WID 70268	RDL	QC Batch
Total Metals by ICPMS				
Total Aluminum (Al)	ug/L	507	3.0	A883192
Total Antimony (Sb)	ug/L	<0.50	0.50	A883192
Total Arsenic (As)	ug/L	0.44	0.10	A883192
Total Barium (Ba)	ug/L	5.6	1.0	A883192
Total Beryllium (Be)	ug/L	<0.10	0.10	A883192
Total Bismuth (Bi)	ug/L	<1.0	1.0	A883192
Total Boron (B)	ug/L	263	50	A883192
Total Cadmium (Cd)	ug/L	<0.010	0.010	A883192
Total Chromium (Cr)	ug/L	1.2	1.0	A883192
Total Cobalt (Co)	ug/L	0.21	0.20	A883192
Total Copper (Cu)	ug/L	1.35	0.20	A883192
Total Iron (Fe)	ug/L	509	5.0	A883192
Total Lead (Pb)	ug/L	<0.20	0.20	A883192
Total Manganese (Mn)	ug/L	61.0	1.0	A883192
Total Molybdenum (Mo)	ug/L	2.0	1.0	A883192
Total Nickel (Ni)	ug/L	2.1	1.0	A883192
Total Selenium (Se)	ug/L	<0.10	0.10	A883192
Total Silicon (Si)	ug/L	7420	100	A883192
Total Silver (Ag)	ug/L	<0.020	0.020	A883192
Total Strontium (Sr)	ug/L	132	1.0	A883192
Total Thallium (Tl)	ug/L	<0.010	0.010	A883192
Total Tin (Sn)	ug/L	<5.0	5.0	A883192
Total Titanium (Ti)	ug/L	27.0	5.0	A883192
Total Uranium (U)	ug/L	0.16	0.10	A883192
Total Vanadium (V)	ug/L	<5.0	5.0	A883192
Total Zinc (Zn)	ug/L	<5.0	5.0	A883192
Total Zirconium (Zr)	ug/L	0.22	0.10	A883192
Total Calcium (Ca)	mg/L	22.3	0.050	A880484
Total Magnesium (Mg)	mg/L	2.66	0.050	A880484
Total Potassium (K)	mg/L	0.324	0.050	A880484
Total Sodium (Na)	mg/L	53.3	0.050	A880484
Total Sulphur (S)	mg/L	6.1	3.0	A880484
RDL = Reportable Detection Limit				



VIHA PKG, WELLS/SPRINGS - BURNABY (WATER)

Bureau Veritas ID		BLT760		
Sampling Date		2023/02/13 09:50		
COC Number		WI034308		
	UNITS	WID 70268	RDL	QC Batch
Microbiological Param.				
Heterotrophic Plate Count	CFU/mL	70	1	A881997
Iron Bacteria	CFU/mL	150	25	A881999
Sulphate reducing bacteria	CFU/mL	<75	75	A882001
Total Coliforms	CFU/100mL	12	N/A	A881995
E. coli	CFU/100mL	0	N/A	A881995
Calculated Parameters				
Langelier Index (@ 4.4C)	N/A	-0.239	N/A	A881095
Langelier Index (@ 60C)	N/A	0.802	N/A	A881096
Saturation pH (@ 4.4C)	N/A	8.40	N/A	A881095
Saturation pH (@ 60C)	N/A	7.36	N/A	A881096
RDL = Reportable Detection Limit				
N/A = Not Applicable				



Bureau Veritas Job #: C310206
Report Date: 2023/02/22

HY-GEO CONSULTING
Client Project #: LAWRENCE

GENERAL COMMENTS

Sample BLT760 [WID 70268] : Sample was analyzed past recommended hold time for Heterotropic Plate Count (MF) in Water. Sample was analyzed past recommended hold time for Iron Related Bacteria. Sample was analyzed past recommended hold time for Sulphate Reducing Bacteria.

Results relate only to the items tested.



Bureau Veritas Job #: C310206
Report Date: 2023/02/22

QUALITY ASSURANCE REPORT

HY-GEO CONSULTING
Client Project #: LAWRENCE

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
A881607	Total Nitrogen (N)	2023/02/15	115	80 - 120	98	80 - 120	<0.020	mg/L	3.2	20
A881775	True Colour	2023/02/14			100	80 - 120	<5.0	Col. Unit	4.3	20
A882123	Total Organic Carbon (C)	2023/02/14	100	80 - 120	102	80 - 120	<0.50	mg/L	2.2	20
A882191	Turbidity	2023/02/14			96	80 - 120	<0.10	NTU	0.93	20
A882198	Chloride (Cl)	2023/02/15	101	80 - 120	102	80 - 120	<1.0	mg/L	0.54	20
A882198	Sulphate (SO4)	2023/02/15	96	80 - 120	97	80 - 120	<1.0	mg/L	NC	20
A882678	Total Mercury (Hg)	2023/02/15	104	80 - 120	118	80 - 120	<0.0019	ug/L	NC	20
A882802	Total Ammonia (N)	2023/02/15	92	80 - 120	95	80 - 120	<0.015	mg/L	NC	20
A882807	Dissolved Fluoride (F)	2023/02/15	100	80 - 120	96	80 - 120	<0.050	mg/L	NC	20
A882869	Alkalinity (PP as CaCO3)	2023/02/15					<1.0	mg/L	NC	20
A882869	Alkalinity (Total as CaCO3)	2023/02/15	NC	80 - 120	97	80 - 120	<1.0	mg/L	1.0	20
A882869	Bicarbonate (HCO3)	2023/02/15					<1.0	mg/L	1.0	20
A882869	Carbonate (CO3)	2023/02/15					<1.0	mg/L	NC	20
A882869	Hydroxide (OH)	2023/02/15					<1.0	mg/L	NC	20
A882872	pH	2023/02/15			102	97 - 103			0.37	N/A
A882881	Conductivity	2023/02/15			100	80 - 120	<2.0	uS/cm		
A882972	Total Sulphide	2023/02/15	109	80 - 120	108	80 - 120	<0.0018	mg/L	NC	20
A883192	Total Aluminum (Al)	2023/02/16	94	80 - 120	95	80 - 120	<3.0	ug/L	0.98	20
A883192	Total Antimony (Sb)	2023/02/16	98	80 - 120	97	80 - 120	<0.50	ug/L		
A883192	Total Arsenic (As)	2023/02/16	98	80 - 120	98	80 - 120	<0.10	ug/L		
A883192	Total Barium (Ba)	2023/02/16	94	80 - 120	96	80 - 120	<1.0	ug/L		
A883192	Total Beryllium (Be)	2023/02/16	98	80 - 120	97	80 - 120	<0.10	ug/L		
A883192	Total Bismuth (Bi)	2023/02/16	91	80 - 120	96	80 - 120	<1.0	ug/L		
A883192	Total Boron (B)	2023/02/16	102	80 - 120	102	80 - 120	<50	ug/L		
A883192	Total Cadmium (Cd)	2023/02/16	95	80 - 120	98	80 - 120	<0.010	ug/L		
A883192	Total Chromium (Cr)	2023/02/16	95	80 - 120	98	80 - 120	<1.0	ug/L		
A883192	Total Cobalt (Co)	2023/02/16	92	80 - 120	95	80 - 120	<0.20	ug/L		
A883192	Total Copper (Cu)	2023/02/16	92	80 - 120	96	80 - 120	<0.20	ug/L		
A883192	Total Iron (Fe)	2023/02/16	101	80 - 120	101	80 - 120	<5.0	ug/L		
A883192	Total Lead (Pb)	2023/02/16	95	80 - 120	97	80 - 120	<0.20	ug/L		
A883192	Total Manganese (Mn)	2023/02/16	95	80 - 120	98	80 - 120	<1.0	ug/L		
A883192	Total Molybdenum (Mo)	2023/02/16	97	80 - 120	97	80 - 120	<1.0	ug/L		
A883192	Total Nickel (Ni)	2023/02/16	93	80 - 120	98	80 - 120	<1.0	ug/L		



QUALITY ASSURANCE REPORT(CONT'D)

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
A883192	Total Selenium (Se)	2023/02/16	100	80 - 120	100	80 - 120	<0.10	ug/L		
A883192	Total Silicon (Si)	2023/02/16	102	80 - 120	108	80 - 120	<100	ug/L		
A883192	Total Silver (Ag)	2023/02/16	96	80 - 120	99	80 - 120	<0.020	ug/L		
A883192	Total Strontium (Sr)	2023/02/16	NC	80 - 120	97	80 - 120	<1.0	ug/L		
A883192	Total Thallium (Tl)	2023/02/16	93	80 - 120	95	80 - 120	<0.010	ug/L		
A883192	Total Tin (Sn)	2023/02/16	96	80 - 120	95	80 - 120	<5.0	ug/L		
A883192	Total Titanium (Ti)	2023/02/16	94	80 - 120	96	80 - 120	<5.0	ug/L		
A883192	Total Uranium (U)	2023/02/16	99	80 - 120	102	80 - 120	<0.10	ug/L		
A883192	Total Vanadium (V)	2023/02/16	97	80 - 120	98	80 - 120	<5.0	ug/L		
A883192	Total Zinc (Zn)	2023/02/16	95	80 - 120	100	80 - 120	<5.0	ug/L		
A883192	Total Zirconium (Zr)	2023/02/16	96	80 - 120	99	80 - 120	<0.10	ug/L		
A883720	Transmittance at 254nm	2023/02/16			100	97 - 103			0.010	25
A884366	Total Dissolved Solids	2023/02/17	101	80 - 120	96	80 - 120	<10	mg/L	2.9	20
A885173	Nitrate plus Nitrite (N)	2023/02/16	111	80 - 120	109	80 - 120	<0.020	mg/L	NC	25
A885175	Nitrite (N)	2023/02/16			101	80 - 120	<0.0050	mg/L		

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference $\leq 2 \times \text{RDL}$).



VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

David Huang, M.Sc., P.Chem., QP, Scientific Services Manager

Anastassia Hamanov, Scientific Specialist



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Your Project #: LAWRENCE
Your C.O.C. #: WI032343

Attention: AL KOHUT

HY-GEO CONSULTING
4470 Arsens Place
VICTORIA, BC
Canada V8Z 2M9

Report Date: 2023/02/24
Report #: R3303527
Version: 2 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C310923

Received: 2023/02/15, 14:08

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Alkalinity @25C (pp, total), CO ₃ ,HCO ₃ ,OH	1	N/A	2023/02/16	BBY6SOP-00026	SM 23 2320 B m
Chloride/Sulphate by Auto Colourimetry	1	N/A	2023/02/17	BBY6SOP-00011 / BBY6SOP-00017	SM23-4500-Cl/SO ₄ -E m
Colour (True) by Kone Lab	1	N/A	2023/02/16	BBY6SOP-00057	SM 23 2120 C m
Conductivity @25C	1	N/A	2023/02/16	BBY6SOP-00026	SM 23 2510 B m
Fluoride	1	N/A	2023/02/17	BBY6SOP-00048	SM 23 4500-F C m
Sulphide (as H ₂ S) (1)	1	N/A	2023/02/19		Auto Calc
Hardness Total (calculated as CaCO ₃) (3)	1	N/A	2023/02/17	BBY WI-00033	Auto Calc
Mercury (Total) by CV	1	2023/02/16	2023/02/16	AB SOP-00084	BCMOE BCLM Oct2013 m
Heterotrophic Plate Count (MF) in Water	1	N/A	2023/02/16	BBY4SOP-00003	SM 23 9215
Iron Related Bacteria (4)	1	N/A	2023/02/16	BBY4SOP-00004	BI BART User Manual
Na, K, Ca, Mg, S by CRC ICPMS (total)	1	N/A	2023/02/17	BBY WI-00033	Auto Calc
Elements by CRC ICPMS (total)	1	2023/02/16	2023/02/17	BBY7SOP-00003 / BBY7SOP-00002	EPA 6020b R2 m
Nitrogen (Total)	1	N/A	2023/02/17	BBY6SOP-00016	SM 24 4500-N C m
Ammonia-N (Total)	1	N/A	2023/02/16	AB SOP-00007	SM 23 4500 NH ₃ A G m
Nitrate + Nitrite (N)	1	N/A	2023/02/18	BBY6SOP-00010	SM 23 4500-NO ₃ - I m
Nitrite (N) by CFA	1	N/A	2023/02/18	BBY6SOP-00010	SM 23 4500-NO ₃ - I m
Nitrogen - Nitrate (as N)	1	N/A	2023/02/18	BBY WI-00033	Auto Calc
Nitrogen (Tot. Organic) Calculation	1	N/A	2023/02/18	BBY WI-00033	Auto Calc
pH @25°C (5)	1	N/A	2023/02/16	BBY6SOP-00026	SM 23 4500-H+ B m
Sat. pH and Langelier Index (@ 4.4C)	1	N/A	2023/02/17	BBY WI-00033	Auto Calc
Sat. pH and Langelier Index (@ 60C)	1	N/A	2023/02/17	BBY WI-00033	Auto Calc
Total Sulphide (1)	1	N/A	2023/02/19	AB SOP-00080	SM 23 4500 S ₂ -A D Fm
Sulphate Reducing Bacteria (4)	1	N/A	2023/02/16	BBY4SOP-00004	BI BART User Manual
Total Dissolved Solids (Filt. Residue)	1	2023/02/21	2023/02/22	BBY6SOP-00033	SM 23 2540 C m
Total Coliform & E.Coli by MF-Chromocult	1	N/A	2023/02/16	BBY4SOP-00143	Merck KGaA Version 1
Carbon (Total Organic) (6)	1	N/A	2023/02/16	BBY6SOP-00053	SM 23 5310 B m
Turbidity	1	N/A	2023/02/16	BBY6SOP-00027	SM 23 2130 B m
UV Transmittance (2)	1	2023/02/19	2023/02/19	CAM SOP-00459	SM 23 5910 m

Remarks:



Your Project #: LAWRENCE
Your C.O.C. #: WI032343

Attention: AL KOHUT

HY-GEO CONSULTING
4470 Arsens Place
VICTORIA, BC
Canada V8Z 2M9

Report Date: 2023/02/24

Report #: R3303527

Version: 2 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C310923

Received: 2023/02/15, 14:08

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Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

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Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Bureau Veritas Calgary, 4000 - 19 St. , Calgary, AB, T2E 6P8

(2) This test was performed by Bureau Veritas Campobello, 6740 Campobello Road , Mississauga, ON, L5N 2L8

(3) "Total Hardness" was calculated from Total Ca and Mg concentrations and may be biased high (Hardness, or Dissolved Hardness, calculated from Dissolved Ca and Mg, should be used for compliance if available).

(4) Presence/Absence Method. Number is an estimate.

(5) The CCME method requires pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME holding time. Bureau Veritas endeavours to analyze samples as soon as possible after receipt.

(6) TOC present in the sample should be considered as non-purgeable TOC.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:

Customer Solutions, Western Canada Customer Experience Team

Email: customersolutionswest@bureauveritas.com

Phone# (604) 734 7276

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Total Cover Pages : 2

Page 2 of 9



ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Bureau Veritas ID		BLY422		
Sampling Date		2023/02/15 10:00		
COC Number		W1032343		
	UNITS	WID 70269	RDL	QC Batch
Total Metals by ICPMS				
Total Aluminum (Al)	ug/L	1930	3.0	A885139
Total Antimony (Sb)	ug/L	0.67	0.50	A885139
Total Arsenic (As)	ug/L	1.41	0.10	A885139
Total Barium (Ba)	ug/L	20.5	1.0	A885139
Total Beryllium (Be)	ug/L	<0.10	0.10	A885139
Total Bismuth (Bi)	ug/L	<1.0	1.0	A885139
Total Boron (B)	ug/L	179	50	A885139
Total Cadmium (Cd)	ug/L	<0.010	0.010	A885139
Total Chromium (Cr)	ug/L	7.0	1.0	A885139
Total Cobalt (Co)	ug/L	0.87	0.20	A885139
Total Copper (Cu)	ug/L	26.6	0.50	A885139
Total Iron (Fe)	ug/L	2190	10	A885139
Total Lead (Pb)	ug/L	0.36	0.20	A885139
Total Manganese (Mn)	ug/L	101	1.0	A885139
Total Molybdenum (Mo)	ug/L	1.5	1.0	A885139
Total Nickel (Ni)	ug/L	5.8	1.0	A885139
Total Selenium (Se)	ug/L	<0.10	0.10	A885139
Total Silicon (Si)	ug/L	11000	100	A885139
Total Silver (Ag)	ug/L	<0.020	0.020	A885139
Total Strontium (Sr)	ug/L	167	1.0	A885139
Total Thallium (Tl)	ug/L	<0.010	0.010	A885139
Total Tin (Sn)	ug/L	<5.0	5.0	A885139
Total Titanium (Ti)	ug/L	108	5.0	A885139
Total Uranium (U)	ug/L	0.34	0.10	A885139
Total Vanadium (V)	ug/L	5.3	5.0	A885139
Total Zinc (Zn)	ug/L	16.4	5.0	A885139
Total Zirconium (Zr)	ug/L	0.89	0.10	A885139
RDL = Reportable Detection Limit				

VIHA PKG, WELLS/SPRINGS - BURNABY (WATER)

Bureau Veritas ID		BLY422		
Sampling Date		2023/02/15 10:00		
COC Number		WI032343		
	UNITS	WID 70269	RDL	QC Batch
ANIONS				
Nitrite (N)	mg/L	0.0064	0.0050	A886990
Calculated Parameters				
Total Hardness (CaCO ₃)	mg/L	89.2	0.50	A882605
Nitrate (N)	mg/L	<0.020	0.020	A882688
Total Organic Nitrogen (N)	mg/L	0.065	0.020	A883501
Sulphide (as H ₂ S)	mg/L	0.023	0.0020	A882435
Misc. Inorganics				
Conductivity	uS/cm	390	2.0	A885734
pH	pH	8.05	N/A	A885721
Total Organic Carbon (C)	mg/L	2.5	0.50	A884255
Total Dissolved Solids	mg/L	280	10	A888143
Anions				
Alkalinity (PP as CaCO ₃)	mg/L	<1.0	1.0	A885733
Alkalinity (Total as CaCO ₃)	mg/L	170	1.0	A885733
Bicarbonate (HCO ₃)	mg/L	210	1.0	A885733
Carbonate (CO ₃)	mg/L	<1.0	1.0	A885733
Dissolved Fluoride (F)	mg/L	0.15	0.050	A885799
Hydroxide (OH)	mg/L	<1.0	1.0	A885733
Total Sulphide	mg/L	0.022	0.0018	A886702
Chloride (Cl)	mg/L	14	1.0	A886071
Sulphate (SO ₄)	mg/L	13	1.0	A886071
MISCELLANEOUS				
True Colour	Col. Unit	<5.0	5.0	A884655
Transmittance at 254nm	%T/cm	66	N/A	A887211
Nutrients				
Total Ammonia (N)	mg/L	<0.015	0.015	A884460
Nitrate plus Nitrite (N)	mg/L	<0.020	0.020	A886989
Total Nitrogen (N)	mg/L	0.065	0.020	A884269
Physical Properties				
Turbidity	NTU	42	0.10	A884864
Elements				
Total Mercury (Hg)	ug/L	<0.0019	0.0019	A884182
RDL = Reportable Detection Limit N/A = Not Applicable				



VIHA PKG, WELLS/SPRINGS - BURNABY (WATER)

Bureau Veritas ID		BLY422		
Sampling Date		2023/02/15 10:00		
COC Number		WI032343		
	UNITS	WID 70269	RDL	QC Batch
Total Metals by ICPMS				
Total Calcium (Ca)	mg/L	30.3	0.050	A882913
Total Magnesium (Mg)	mg/L	3.30	0.050	A882913
Total Potassium (K)	mg/L	0.535	0.050	A882913
Total Sodium (Na)	mg/L	46.7	0.050	A882913
Total Sulphur (S)	mg/L	3.6	3.0	A882913
Microbiological Param.				
Heterotrophic Plate Count	CFU/mL	<1	1	A884553
Iron Bacteria	CFU/mL	<25	25	A884555
Sulphate reducing bacteria	CFU/mL	<75	75	A884556
Total Coliforms	CFU/100mL	0	N/A	A884557
E. coli	CFU/100mL	0	N/A	A884557
Calculated Parameters				
Langelier Index (@ 4.4C)	N/A	-0.175	N/A	A883504
Langelier Index (@ 60C)	N/A	0.866	N/A	A883505
Saturation pH (@ 4.4C)	N/A	8.23	N/A	A883504
Saturation pH (@ 60C)	N/A	7.18	N/A	A883505
RDL = Reportable Detection Limit				
N/A = Not Applicable				



Bureau Veritas Job #: C310923
Report Date: 2023/02/24

HY-GEO CONSULTING
Client Project #: LAWRENCE

GENERAL COMMENTS

Sample BLY422 [WID 70269] : Sample was analyzed past recommended hold time for Heterotropic Plate Count (MF) in Water. Sample was analyzed past recommended hold time for Iron Related Bacteria. Sample was analyzed past recommended hold time for Sulphate Reducing Bacteria.

Results relate only to the items tested.



Bureau Veritas Job #: C310923
Report Date: 2023/02/24

QUALITY ASSURANCE REPORT

HY-GEO CONSULTING
Client Project #: LAWRENCE

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
A884182	Total Mercury (Hg)	2023/02/16	89	80 - 120	107	80 - 120	<0.0019	ug/L	NC	20
A884255	Total Organic Carbon (C)	2023/02/16	104	80 - 120	103	80 - 120	<0.50	mg/L	NC	20
A884269	Total Nitrogen (N)	2023/02/17	103	80 - 120	103	80 - 120	<0.020	mg/L	NC	20
A884460	Total Ammonia (N)	2023/02/16	100	80 - 120	102	80 - 120	<0.015	mg/L	NC	20
A884655	True Colour	2023/02/16			98	80 - 120	<5.0	Col. Unit	NC	20
A884864	Turbidity	2023/02/16			101	80 - 120	<0.10	NTU	4.4	20
A885139	Total Aluminum (Al)	2023/02/17	98	80 - 120	99	80 - 120	<3.0	ug/L	NC	20
A885139	Total Antimony (Sb)	2023/02/17	103	80 - 120	102	80 - 120	<0.50	ug/L	NC	20
A885139	Total Arsenic (As)	2023/02/17	107	80 - 120	102	80 - 120	<0.10	ug/L	4.4	20
A885139	Total Barium (Ba)	2023/02/17	105	80 - 120	101	80 - 120	<1.0	ug/L	4.6	20
A885139	Total Beryllium (Be)	2023/02/17	100	80 - 120	103	80 - 120	<0.10	ug/L	NC	20
A885139	Total Bismuth (Bi)	2023/02/17	96	80 - 120	99	80 - 120	<1.0	ug/L	NC	20
A885139	Total Boron (B)	2023/02/17	93	80 - 120	103	80 - 120	<50	ug/L	9.1	20
A885139	Total Cadmium (Cd)	2023/02/17	100	80 - 120	103	80 - 120	<0.010	ug/L	2.8	20
A885139	Total Chromium (Cr)	2023/02/17	98	80 - 120	102	80 - 120	<1.0	ug/L	NC	20
A885139	Total Cobalt (Co)	2023/02/17	94	80 - 120	99	80 - 120	<0.20	ug/L	NC	20
A885139	Total Copper (Cu)	2023/02/17	94	80 - 120	101	80 - 120	<0.50	ug/L	NC	20
A885139	Total Iron (Fe)	2023/02/17	NC	80 - 120	106	80 - 120	<10	ug/L	4.6	20
A885139	Total Lead (Pb)	2023/02/17	99	80 - 120	100	80 - 120	<0.20	ug/L	5.9	20
A885139	Total Manganese (Mn)	2023/02/17	NC	80 - 120	102	80 - 120	<1.0	ug/L	5.9	20
A885139	Total Molybdenum (Mo)	2023/02/17	NC	80 - 120	104	80 - 120	<1.0	ug/L	5.5	20
A885139	Total Nickel (Ni)	2023/02/17	96	80 - 120	102	80 - 120	<1.0	ug/L	NC	20
A885139	Total Selenium (Se)	2023/02/17	95	80 - 120	104	80 - 120	<0.10	ug/L	11	20
A885139	Total Silicon (Si)	2023/02/17	119	80 - 120	112	80 - 120	<100	ug/L	2.8	20
A885139	Total Silver (Ag)	2023/02/17	100	80 - 120	103	80 - 120	<0.020	ug/L	NC	20
A885139	Total Strontium (Sr)	2023/02/17	NC	80 - 120	100	80 - 120	<1.0	ug/L	5.9	20
A885139	Total Thallium (Tl)	2023/02/17	100	80 - 120	99	80 - 120	<0.010	ug/L	5.9	20
A885139	Total Tin (Sn)	2023/02/17	101	80 - 120	101	80 - 120	<5.0	ug/L	NC	20
A885139	Total Titanium (Ti)	2023/02/17	101	80 - 120	102	80 - 120	<5.0	ug/L	NC	20
A885139	Total Uranium (U)	2023/02/17	106	80 - 120	101	80 - 120	<0.10	ug/L	4.3	20
A885139	Total Vanadium (V)	2023/02/17	101	80 - 120	103	80 - 120	<5.0	ug/L	NC	20
A885139	Total Zinc (Zn)	2023/02/17	98	80 - 120	104	80 - 120	<5.0	ug/L	7.1	20
A885139	Total Zirconium (Zr)	2023/02/17	106	80 - 120	101	80 - 120	<0.10	ug/L	NC	20



QUALITY ASSURANCE REPORT(CONT'D)

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
A885721	pH	2023/02/16			102	97 - 103			0.13	N/A
A885733	Alkalinity (PP as CaCO ₃)	2023/02/16					<1.0	mg/L	NC	20
A885733	Alkalinity (Total as CaCO ₃)	2023/02/16	NC	80 - 120	98	80 - 120	<1.0	mg/L	2.0	20
A885733	Bicarbonate (HCO ₃)	2023/02/16					<1.0	mg/L	2.0	20
A885733	Carbonate (CO ₃)	2023/02/16					<1.0	mg/L	NC	20
A885733	Hydroxide (OH)	2023/02/16					<1.0	mg/L	NC	20
A885734	Conductivity	2023/02/16			101	80 - 120	<2.0	uS/cm	0.24	10
A885799	Dissolved Fluoride (F)	2023/02/17	97	80 - 120	94	80 - 120	<0.050	mg/L	NC	20
A886071	Chloride (Cl)	2023/02/17	NC	80 - 120	100	80 - 120	<1.0	mg/L		
A886071	Sulphate (SO ₄)	2023/02/17	NC	80 - 120	98	80 - 120	<1.0	mg/L	2.0	20
A886702	Total Sulphide	2023/02/19	92	80 - 120	99	80 - 120	<0.0018	mg/L	8.8	20
A886989	Nitrate plus Nitrite (N)	2023/02/18	109	80 - 120	106	80 - 120	<0.020	mg/L	0.53	25
A886990	Nitrite (N)	2023/02/18	101	80 - 120	106	80 - 120	<0.0050	mg/L	3.1	20
A887211	Transmittance at 254nm	2023/02/19			101	97 - 103			0.058	25
A888143	Total Dissolved Solids	2023/02/22	100	80 - 120	108	80 - 120	<10	mg/L	NC	20

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).



VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

David Huang, M.Sc., P.Chem., QP, Scientific Services Manager

Anastassia Hamanov, Scientific Specialist



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Your Project #: LAWRENCE
Your C.O.C. #: WI034329

Attention: AL KOHUT

HY-GEO CONSULTING
4470 Arsens Place
VICTORIA, BC
Canada V8Z 2M9

Report Date: 2023/03/08

Report #: R3307845

Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C312010

Received: 2023/02/21, 14:22

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Alkalinity @25C (pp, total), CO ₃ ,HCO ₃ ,OH	1	N/A	2023/02/22	BBY6SOP-00026	SM 23 2320 B m
Chloride/Sulphate by Auto Colourimetry	1	N/A	2023/02/22	BBY6SOP-00011 / BBY6SOP-00017	SM23-4500-Cl/SO ₄ -E m
Colour (True) by Kone Lab	1	N/A	2023/02/22	BBY6SOP-00057	SM 23 2120 C m
Conductivity @25C	1	N/A	2023/02/22	BBY6SOP-00026	SM 23 2510 B m
Fluoride	1	N/A	2023/02/22	BBY6SOP-00048	SM 23 4500-F C m
Sulphide (as H ₂ S) (1)	1	N/A	2023/02/23		Auto Calc
Hardness Total (calculated as CaCO ₃) (3)	1	N/A	2023/02/24	BBY WI-00033	Auto Calc
Mercury (Total) by CV	1	2023/02/22	2023/02/22	AB SOP-00084	BCMOE BCLM Oct2013 m
Heterotrophic Plate Count (MF) in Water	1	N/A	2023/02/22	BBY4SOP-00003	SM 23 9215
Iron Related Bacteria (4)	1	N/A	2023/02/22	BBY4SOP-00004	BI BART User Manual
Na, K, Ca, Mg, S by CRC ICPMS (total)	1	N/A	2023/02/24	BBY WI-00033	Auto Calc
Elements by CRC ICPMS (total)	1	N/A	2023/02/23	BBY7SOP-00003 / BBY7SOP-00002	EPA 6020b R2 m
Nitrogen (Total)	1	N/A	2023/02/24	BBY6SOP-00016	SM 24 4500-N C m
Ammonia-N (Total)	1	N/A	2023/02/22	AB SOP-00007	SM 23 4500 NH ₃ A G m
Nitrate + Nitrite (N)	1	N/A	2023/02/22	BBY6SOP-00010	SM 23 4500-NO ₃ - I m
Nitrite (N) by CFA	1	N/A	2023/02/22	BBY6SOP-00010	SM 23 4500-NO ₃ - I m
Nitrogen - Nitrate (as N)	1	N/A	2023/02/22	BBY WI-00033	Auto Calc
Nitrogen (Tot. Organic) Calculation	1	N/A	2023/02/24	BBY WI-00033	Auto Calc
pH @25°C (5)	1	N/A	2023/02/22	BBY6SOP-00026	SM 23 4500-H+ B m
Sat. pH and Langelier Index (@ 4.4C)	1	N/A	2023/02/24	BBY WI-00033	Auto Calc
Sat. pH and Langelier Index (@ 60C)	1	N/A	2023/02/24	BBY WI-00033	Auto Calc
Total Sulphide (1)	1	N/A	2023/02/23	AB SOP-00080	SM 23 4500 S ₂ -A D Fm
Sulphate Reducing Bacteria (4)	1	N/A	2023/02/22	BBY4SOP-00004	BI BART User Manual
Total Dissolved Solids (Filt. Residue)	1	2023/02/22	2023/02/23	BBY6SOP-00033	SM 23 2540 C m
Total Coliform & E.Coli by MF-Chromocult	1	N/A	2023/02/22	BBY4SOP-00143	Merck KGaA Version 1
Carbon (Total Organic) (6)	1	N/A	2023/02/22	BBY6SOP-00053	SM 23 5310 B m
Turbidity	1	N/A	2023/02/22	BBY6SOP-00027	SM 23 2130 B m
UV Transmittance (2)	1	2023/02/24	2023/02/24	CAM SOP-00459	SM 23 5910 m

Remarks:



Your Project #: LAWRENCE
Your C.O.C. #: WI034329

Attention: AL KOHUT

HY-GEO CONSULTING
4470 Arsens Place
VICTORIA, BC
Canada V8Z 2M9

Report Date: 2023/03/08

Report #: R3307845

Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C312010

Received: 2023/02/21, 14:22

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

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Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Bureau Veritas Calgary, 4000 - 19 St. , Calgary, AB, T2E 6P8

(2) This test was performed by Bureau Veritas Campobello, 6740 Campobello Road , Mississauga, ON, L5N 2L8

(3) "Total Hardness" was calculated from Total Ca and Mg concentrations and may be biased high (Hardness, or Dissolved Hardness, calculated from Dissolved Ca and Mg, should be used for compliance if available).

(4) Presence/Absence Method. Number is an estimate.

(5) The CCME method requires pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME holding time. Bureau Veritas endeavours to analyze samples as soon as possible after receipt.

(6) TOC present in the sample should be considered as non-purgeable TOC.



Your Project #: LAWRENCE
Your C.O.C. #: WI034329

Attention: AL KOHUT

HY-GEO CONSULTING
4470 Arsens Place
VICTORIA, BC
Canada V8Z 2M9

Report Date: 2023/03/08
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CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C312010

Received: 2023/02/21, 14:22

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:
Customer Solutions, Western Canada Customer Experience Team
Email: customersolutionswest@bureauveritas.com
Phone# (604) 734 7276

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VIHA PKG, WELLS/SPRINGS - BURNABY (WATER)

Bureau Veritas ID					BMF736		
Sampling Date					2023/02/21 09:30		
COC Number					WI034329		
	UNITS	MAC	AO	OG	70270	RDL	QC Batch
ANIONS							
Nitrite (N)	mg/L	1	-	-	<0.0050	0.0050	A889878
Calculated Parameters							
Total Hardness (CaCO3)	mg/L	-	-	-	25.0	0.50	A887773
Nitrate (N)	mg/L	10	-	-	0.057	0.020	A887947
Total Organic Nitrogen (N)	mg/L	-	-	-	0.087	0.020	A888547
Sulphide (as H2S)	mg/L	-	0.05	-	0.0074	0.0020	A887738
Misc. Inorganics							
Conductivity	uS/cm	-	-	-	480	2.0	A890632
pH	pH	-	-	7.0:10.5	8.41	N/A	A890624
Total Organic Carbon (C)	mg/L	-	-	-	1.9	0.50	A889804
Total Dissolved Solids	mg/L	-	500	-	300	10	A888454
Anions							
Alkalinity (PP as CaCO3)	mg/L	-	-	-	3.2	1.0	A890630
Alkalinity (Total as CaCO3)	mg/L	-	-	-	180	1.0	A890630
Bicarbonate (HCO3)	mg/L	-	-	-	220	1.0	A890630
Carbonate (CO3)	mg/L	-	-	-	3.8	1.0	A890630
Dissolved Fluoride (F)	mg/L	1.5	-	-	0.74	0.050	A889702
Hydroxide (OH)	mg/L	-	-	-	<1.0	1.0	A890630
Total Sulphide	mg/L	-	0.05	-	0.0070	0.0018	A890552
Chloride (Cl)	mg/L	-	250	-	23	1.0	A889832
Sulphate (SO4)	mg/L	-	500	-	28	1.0	A889832
MISCELLANEOUS							
True Colour	Col. Unit	-	15	-	7.9	5.0	A889517
Transmittance at 254nm	%T/cm	-	-	-	68	N/A	A892229
Nutrients							
Total Ammonia (N)	mg/L	-	-	-	<0.015	0.015	A889538
Nitrate plus Nitrite (N)	mg/L	-	-	-	0.057	0.020	A889875
Total Nitrogen (N)	mg/L	-	-	-	0.144	0.020	A890044
Physical Properties							
Turbidity	NTU	see remark	see remark	see remark	22	0.10	A889852
Elements							
Total Mercury (Hg)	ug/L	1	-	-	0.0028	0.0019	A889056
No Fill	No Exceedance						
Grey	Exceeds 1 criteria policy/level						
Black	Exceeds both criteria/levels						
RDL = Reportable Detection Limit							
N/A = Not Applicable							



VIHA PKG, WELLS/SPRINGS - BURNABY (WATER)

Bureau Veritas ID					BMF736		
Sampling Date					2023/02/21 09:30		
COC Number					WI034329		
	UNITS	MAC	AO	OG	70270	RDL	QC Batch
Total Metals by ICPMS							
Total Aluminum (Al)	ug/L	2900	-	100	1160	3.0	A890555
Total Antimony (Sb)	ug/L	6	-	-	1.08	0.50	A890555
Total Arsenic (As)	ug/L	10	-	-	4.84	0.10	A890555
Total Barium (Ba)	ug/L	2000	-	-	13.6	1.0	A890555
Total Beryllium (Be)	ug/L	-	-	-	<0.10	0.10	A890555
Total Bismuth (Bi)	ug/L	-	-	-	<1.0	1.0	A890555
Total Boron (B)	ug/L	5000	-	-	768	50	A890555
Total Cadmium (Cd)	ug/L	7	-	-	0.039	0.010	A890555
Total Chromium (Cr)	ug/L	50	-	-	19.7	1.0	A890555
Total Cobalt (Co)	ug/L	-	-	-	1.93	0.20	A890555
Total Copper (Cu)	ug/L	2000	1000	-	11.3	0.20	A890555
Total Iron (Fe)	ug/L	-	300	-	2360	5.0	A890555
Total Lead (Pb)	ug/L	5	-	-	1.10	0.20	A890555
Total Manganese (Mn)	ug/L	120	20	-	170	1.0	A890555
Total Molybdenum (Mo)	ug/L	-	-	-	3.1	1.0	A890555
Total Nickel (Ni)	ug/L	-	-	-	9.7	1.0	A890555
Total Selenium (Se)	ug/L	50	-	-	0.40	0.10	A890555
Total Silicon (Si)	ug/L	-	-	-	7320	100	A890555
Total Silver (Ag)	ug/L	-	-	-	<0.020	0.020	A890555
Total Strontium (Sr)	ug/L	7000	-	-	75.7	1.0	A890555
Total Thallium (Tl)	ug/L	-	-	-	0.019	0.010	A890555
Total Tin (Sn)	ug/L	-	-	-	<5.0	5.0	A890555
Total Titanium (Ti)	ug/L	-	-	-	48.6	5.0	A890555
Total Uranium (U)	ug/L	20	-	-	0.19	0.10	A890555
Total Vanadium (V)	ug/L	-	-	-	5.2	5.0	A890555
Total Zinc (Zn)	ug/L	-	5000	-	10.3	5.0	A890555
Total Zirconium (Zr)	ug/L	-	-	-	0.44	0.10	A890555
Total Calcium (Ca)	mg/L	-	-	-	8.16	0.050	A888139
Total Magnesium (Mg)	mg/L	-	-	-	1.12	0.050	A888139
Total Potassium (K)	mg/L	-	-	-	0.491	0.050	A888139
Total Sodium (Na)	mg/L	-	200	-	106	0.050	A888139
Total Sulphur (S)	mg/L	-	-	-	10.2	3.0	A888139
No Fill	No Exceedance						
Grey	Exceeds 1 criteria policy/level						
Black	Exceeds both criteria/levels						
RDL = Reportable Detection Limit							



VIHA PKG, WELLS/SPRINGS - BURNABY (WATER)

Bureau Veritas ID					BMF736		
Sampling Date					2023/02/21 09:30		
COC Number					W1034329		
	UNITS	MAC	AO	OG	70270	RDL	QC Batch
Microbiological Param.							
Heterotrophic Plate Count	CFU/mL	-	-	-	<1	1	A889524
Iron Bacteria	CFU/mL	-	-	-	500	25	A889547
Sulphate reducing bacteria	CFU/mL	-	-	-	<75	75	A889562
Total Coliforms	CFU/100mL	0	-	-	0	N/A	A889526
E. coli	CFU/100mL	0	-	-	0	N/A	A889526
Calculated Parameters							
Langelier Index (@ 4.4C)	N/A	-	-	-	-0.364	N/A	A888548
Langelier Index (@ 60C)	N/A	-	-	-	0.677	N/A	A888549
Saturation pH (@ 4.4C)	N/A	-	-	-	8.77	N/A	A888548
Saturation pH (@ 60C)	N/A	-	-	-	7.73	N/A	A888549
No Fill	No Exceedance						
Grey	Exceeds 1 criteria policy/level						
Black	Exceeds both criteria/levels						
RDL = Reportable Detection Limit							
N/A = Not Applicable							



GENERAL COMMENTS

Sample BMF736 [70270] : Sample was analyzed past recommended hold time for Heterotropic Plate Count (MF) in Water. Sample was analyzed past recommended hold time for Iron Related Bacteria. Sample was analyzed past recommended hold time for Sulphate Reducing Bacteria.

MAC,AO,OG: The guidelines that have been included in this report have been taken from the Canadian Drinking Water Quality Summary Table, September 2020.

Criteria A = Maximum Acceptable Concentration (MAC) / Criteria B = Aesthetic Objectives (AO) / Criteria C = Operational Guidance Values (OG)

It is recommended to consult these guidelines when interpreting your data since there are non-numerical guidelines that are not included on this report.

Turbidity Guidelines:

1. Chemically assisted filtration: less than or equal to 0.3 NTU in 95% of the measurements or 95% of the time each month. Shall not exceed 1.0 NTU at any time.
2. Slow sand / diatomaceous earth filtration: less than or equal to 1.0 NTU in 95% of the measurements or 95% of the time each month. Shall not exceed 3.0 NTU at any time.
3. Membrane filtration: less than or equal to 0.1 NTU in 99% of the measurements made or at least 99% of the time each calendar month. Shall not exceed 0.3 NTU at any time.
4. To ensure effectiveness of disinfection and for good operation of the distribution system, it is recommended that water entering the distribution system have turbidity levels of 1.0 NTU or less.

Measurement of Uncertainty has not been accounted for when stating conformity to the selected criteria, where applicable.

Results relate only to the items tested.



Bureau Veritas Job #: C312010
Report Date: 2023/03/08

QUALITY ASSURANCE REPORT

HY-GEO CONSULTING
Client Project #: LAWRENCE

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
A888454	Total Dissolved Solids	2023/02/23	101	80 - 120	100	80 - 120	<10	mg/L	2.6	20
A889056	Total Mercury (Hg)	2023/02/22	105	80 - 120	106	80 - 120	<0.0019	ug/L	NC	20
A889517	True Colour	2023/02/22			97	80 - 120	<5.0	Col. Unit	16	20
A889538	Total Ammonia (N)	2023/02/22	99	80 - 120	100	80 - 120	<0.015	mg/L	0.48	20
A889702	Dissolved Fluoride (F)	2023/02/22	97	80 - 120	100	80 - 120	<0.050	mg/L	NC	20
A889804	Total Organic Carbon (C)	2023/02/22	102	80 - 120	101	80 - 120	<0.50	mg/L	7.3	20
A889832	Chloride (Cl)	2023/02/22	NC	80 - 120	100	80 - 120	<1.0	mg/L	0.35	20
A889832	Sulphate (SO4)	2023/02/22	NC	80 - 120	97	80 - 120	<1.0	mg/L	0.83	20
A889852	Turbidity	2023/02/22			104	80 - 120	<0.10	NTU	0.79	20
A889875	Nitrate plus Nitrite (N)	2023/02/22	103	80 - 120	106	80 - 120	<0.020	mg/L	1.8	25
A889878	Nitrite (N)	2023/02/22	102	80 - 120	105	80 - 120	<0.0050	mg/L	0.44	20
A890044	Total Nitrogen (N)	2023/02/24	98	80 - 120	99	80 - 120	<0.020	mg/L	2.7	20
A890552	Total Sulphide	2023/02/23	115	80 - 120	108	80 - 120	<0.0018	mg/L	15	20
A890555	Total Aluminum (Al)	2023/02/23	96	80 - 120	100	80 - 120	<3.0	ug/L	NC	20
A890555	Total Antimony (Sb)	2023/02/23	96	80 - 120	99	80 - 120	<0.50	ug/L	NC	20
A890555	Total Arsenic (As)	2023/02/23	96	80 - 120	99	80 - 120	<0.10	ug/L	0.64	20
A890555	Total Barium (Ba)	2023/02/23	99	80 - 120	101	80 - 120	<1.0	ug/L	1.7	20
A890555	Total Beryllium (Be)	2023/02/23	95	80 - 120	99	80 - 120	<0.10	ug/L	NC	20
A890555	Total Bismuth (Bi)	2023/02/23	94	80 - 120	98	80 - 120	<1.0	ug/L	NC	20
A890555	Total Boron (B)	2023/02/23	110	80 - 120	109	80 - 120	<50	ug/L	NC	20
A890555	Total Cadmium (Cd)	2023/02/23	96	80 - 120	99	80 - 120	<0.010	ug/L	NC	20
A890555	Total Chromium (Cr)	2023/02/23	95	80 - 120	98	80 - 120	<1.0	ug/L	NC	20
A890555	Total Cobalt (Co)	2023/02/23	91	80 - 120	95	80 - 120	<0.20	ug/L	NC	20
A890555	Total Copper (Cu)	2023/02/23	89	80 - 120	94	80 - 120	<0.20	ug/L	0.52	20
A890555	Total Iron (Fe)	2023/02/23	101	80 - 120	102	80 - 120	<5.0	ug/L	0.035	20
A890555	Total Lead (Pb)	2023/02/23	95	80 - 120	98	80 - 120	<0.20	ug/L	NC	20
A890555	Total Manganese (Mn)	2023/02/23	96	80 - 120	99	80 - 120	<1.0	ug/L	1.2	20
A890555	Total Molybdenum (Mo)	2023/02/23	100	80 - 120	102	80 - 120	<1.0	ug/L	NC	20
A890555	Total Nickel (Ni)	2023/02/23	94	80 - 120	98	80 - 120	<1.0	ug/L	NC	20
A890555	Total Selenium (Se)	2023/02/23	98	80 - 120	100	80 - 120	<0.10	ug/L	1.4	20
A890555	Total Silicon (Si)	2023/02/23	NC	80 - 120	106	80 - 120	<100	ug/L	0.17	20
A890555	Total Silver (Ag)	2023/02/23	95	80 - 120	98	80 - 120	<0.020	ug/L	NC	20
A890555	Total Strontium (Sr)	2023/02/23	100	80 - 120	101	80 - 120	<1.0	ug/L	0.97	20



QUALITY ASSURANCE REPORT(CONT'D)

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
A890555	Total Thallium (Tl)	2023/02/23	96	80 - 120	98	80 - 120	<0.010	ug/L	NC	20
A890555	Total Tin (Sn)	2023/02/23	97	80 - 120	99	80 - 120	<5.0	ug/L	NC	20
A890555	Total Titanium (Ti)	2023/02/23	96	80 - 120	99	80 - 120	<5.0	ug/L	NC	20
A890555	Total Uranium (U)	2023/02/23	97	80 - 120	101	80 - 120	<0.10	ug/L	NC	20
A890555	Total Vanadium (V)	2023/02/23	97	80 - 120	100	80 - 120	<5.0	ug/L	NC	20
A890555	Total Zinc (Zn)	2023/02/23	94	80 - 120	101	80 - 120	<5.0	ug/L	2.6	20
A890555	Total Zirconium (Zr)	2023/02/23	98	80 - 120	99	80 - 120	<0.10	ug/L	NC	20
A890624	pH	2023/02/22			101	97 - 103			0.28	N/A
A890630	Alkalinity (PP as CaCO ₃)	2023/02/22					<1.0	mg/L	NC	20
A890630	Alkalinity (Total as CaCO ₃)	2023/02/22	NC	80 - 120	93	80 - 120	<1.0	mg/L	1.0	20
A890630	Bicarbonate (HCO ₃)	2023/02/22					<1.0	mg/L	1.0	20
A890630	Carbonate (CO ₃)	2023/02/22					<1.0	mg/L	NC	20
A890630	Hydroxide (OH)	2023/02/22					<1.0	mg/L	NC	20
A890632	Conductivity	2023/02/22			99	80 - 120	<2.0	uS/cm	0.18	10
A892229	Transmittance at 254nm	2023/02/24			99	97 - 103			0.017	25

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).



VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

David Huang, M.Sc., P.Chem., QP, Scientific Services Manager

Anastassia Hamanov, Scientific Specialist

Mauro Oselin, Team Leader



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Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by {0}, {1} responsible for {2} {3} laboratory operations.



Your Project #: LAWRENCE
Your C.O.C. #: W034332

Attention: AL KOHUT

HY-GEO CONSULTING
4470 Arsens Place
VICTORIA, BC
Canada V8Z 2M9

Report Date: 2023/03/28

Report #: R3315629

Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C318465

Received: 2023/03/16, 14:27

Sample Matrix: Drinking Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Alkalinity @25C (pp, total), CO ₃ ,HCO ₃ ,OH	1	N/A	2023/03/21	BBY6SOP-00026	SM 23 2320 B m
Chloride/Sulphate by Auto Colourimetry	1	N/A	2023/03/21	BBY6SOP-00011 / BBY6SOP-00017	SM23-4500-Cl/SO ₄ -E m
Colour (True) by Kone Lab	1	N/A	2023/03/17	BBY6SOP-00057	SM 23 2120 C m
Conductivity @25C	1	N/A	2023/03/21	BBY6SOP-00026	SM 23 2510 B m
Fluoride	1	N/A	2023/03/22	BBY6SOP-00048	SM 23 4500-F C m
Sulphide (as H ₂ S) (1)	1	N/A	2023/03/21		Auto Calc
Hardness Total (calculated as CaCO ₃) (3)	1	N/A	2023/03/21	BBY WI-00033	Auto Calc
Mercury (Total) by CV	1	2023/03/17	2023/03/17	AB SOP-00084	BCMOE BCLM Oct2013 m
Heterotrophic Plate Count (MF) in Water	1	N/A	2023/03/17	BBY4SOP-00003	SM 23 9215
Iron Related Bacteria (4)	1	N/A	2023/03/17	BBY4SOP-00004	BI BART User Manual
Na, K, Ca, Mg, S by CRC ICPMS (total)	1	2023/03/17	2023/03/21	BBY WI-00033	Auto Calc
Elements by CRC ICPMS (total)	1	2023/03/20	2023/03/20	BBY7SOP-00003 / BBY7SOP-00002	EPA 6020b R2 m
Nitrogen (Total)	1	N/A	2023/03/22	BBY6SOP-00016	SM 24 4500-N C m
Ammonia-N (Total)	1	N/A	2023/03/17	AB SOP-00007	SM 23 4500 NH ₃ A G m
Nitrate + Nitrite (N)	1	N/A	2023/03/17	BBY6SOP-00010	SM 23 4500-NO ₃ - I m
Nitrite (N) by CFA	1	N/A	2023/03/17	BBY6SOP-00010	SM 23 4500-NO ₃ - I m
Nitrogen - Nitrate (as N)	1	N/A	2023/03/20	BBY WI-00033	Auto Calc
Nitrogen (Tot. Organic) Calculation	1	N/A	2023/03/22	BBY WI-00033	Auto Calc
pH @25°C (5)	1	N/A	2023/03/21	BBY6SOP-00026	SM 23 4500-H+ B m
Sat. pH and Langelier Index (@ 4.4C)	1	N/A	2023/03/22	BBY WI-00033	Auto Calc
Sat. pH and Langelier Index (@ 60C)	1	N/A	2023/03/22	BBY WI-00033	Auto Calc
Total Sulphide (1)	1	N/A	2023/03/19	AB SOP-00080	SM 23 4500 S ₂ -A D Fm
Sulphate Reducing Bacteria (4)	1	N/A	2023/03/17	BBY4SOP-00004	BI BART User Manual
Total Dissolved Solids (Filt. Residue)	1	2023/03/20	2023/03/21	BBY6SOP-00033	SM 23 2540 C m
Total Coliform & E.Coli by MF-Chromocult	1	N/A	2023/03/17	BBY4SOP-00143	Merck KGaA Version 1
Carbon (Total Organic) (6)	1	N/A	2023/03/17	BBY6SOP-00053	SM 23 5310 B m
Turbidity	1	N/A	2023/03/17	BBY6SOP-00027	SM 23 2130 B m
UV Transmittance (2)	1	2023/03/21	2023/03/21	CAM SOP-00459	SM 23 5910 m

Remarks:



Your Project #: LAWRENCE
Your C.O.C. #: W034332

Attention: AL KOHUT

HY-GEO CONSULTING
4470 Arsens Place
VICTORIA, BC
Canada V8Z 2M9

Report Date: 2023/03/28

Report #: R3315629

Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C318465

Received: 2023/03/16, 14:27

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

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Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Bureau Veritas Calgary, 4000 - 19 St. , Calgary, AB, T2E 6P8

(2) This test was performed by Bureau Veritas Campobello, 6740 Campobello Road , Mississauga, ON, L5N 2L8

(3) "Total Hardness" was calculated from Total Ca and Mg concentrations and may be biased high (Hardness, or Dissolved Hardness, calculated from Dissolved Ca and Mg, should be used for compliance if available).

(4) Presence/Absence Method. Number is an estimate.

(5) The CCME method requires pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME holding time. Bureau Veritas endeavours to analyze samples as soon as possible after receipt.

(6) TOC present in the sample should be considered as non-purgeable TOC.



Your Project #: LAWRENCE
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Attention: AL KOHUT

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4470 Arsens Place
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CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C318465

Received: 2023/03/16, 14:27

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:
Customer Solutions, Western Canada Customer Experience Team
Email: customersolutionswest@bureauveritas.com
Phone# (604) 734 7276

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Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Raphael Kwan, Senior Manager, BC and Yukon Regions responsible for British Columbia Environmental laboratory operations.



ELEMENTS BY ATOMIC SPECTROSCOPY (DRINKING WATER)

Bureau Veritas ID					BNP963		
Sampling Date					2023/03/16 10:00		
COC Number					W034332		
	UNITS	MAC	AO	OG	70275	RDL	QC Batch
Total Metals by ICPMS							
Total Aluminum (Al)	ug/L	2900	-	100	1110	3.0	A913725
Total Antimony (Sb)	ug/L	6	-	-	<0.50	0.50	A913725
Total Arsenic (As)	ug/L	10	-	-	1.13	0.10	A913725
Total Barium (Ba)	ug/L	2000	-	-	14.1	1.0	A913725
Total Beryllium (Be)	ug/L	-	-	-	<0.10	0.10	A913725
Total Bismuth (Bi)	ug/L	-	-	-	<1.0	1.0	A913725
Total Boron (B)	ug/L	5000	-	-	137	50	A913725
Total Cadmium (Cd)	ug/L	7	-	-	<0.010	0.010	A913725
Total Chromium (Cr)	ug/L	50	-	-	4.3	1.0	A913725
Total Cobalt (Co)	ug/L	-	-	-	0.60	0.20	A913725
Total Copper (Cu)	ug/L	2000	1000	-	27.8	0.50	A913725
Total Iron (Fe)	ug/L	-	300	-	1070	10	A913725
Total Lead (Pb)	ug/L	5	-	-	0.31	0.20	A913725
Total Manganese (Mn)	ug/L	120	20	-	106	1.0	A913725
Total Molybdenum (Mo)	ug/L	-	-	-	1.0	1.0	A913725
Total Nickel (Ni)	ug/L	-	-	-	3.1	1.0	A913725
Total Selenium (Se)	ug/L	50	-	-	<0.10	0.10	A913725
Total Silicon (Si)	ug/L	-	-	-	9310	100	A913725
Total Silver (Ag)	ug/L	-	-	-	<0.020	0.020	A913725
Total Strontium (Sr)	ug/L	7000	-	-	188	1.0	A913725
Total Thallium (Tl)	ug/L	-	-	-	<0.010	0.010	A913725
Total Tin (Sn)	ug/L	-	-	-	<5.0	5.0	A913725
Total Titanium (Ti)	ug/L	-	-	-	76.1	5.0	A913725
Total Uranium (U)	ug/L	20	-	-	0.46	0.10	A913725
Total Vanadium (V)	ug/L	-	-	-	<5.0	5.0	A913725
Total Zinc (Zn)	ug/L	-	5000	-	14.0	5.0	A913725
Total Zirconium (Zr)	ug/L	-	-	-	0.27	0.10	A913725
Total Calcium (Ca)	mg/L	-	-	-	26.3	0.050	A912265
Total Magnesium (Mg)	mg/L	-	-	-	3.99	0.050	A912265
Total Potassium (K)	mg/L	-	-	-	0.603	0.050	A912265
Total Sodium (Na)	mg/L	-	200	-	65.3	0.050	A912265
Total Sulphur (S)	mg/L	-	-	-	5.7	3.0	A912265
No Fill	No Exceedance						
Grey	Exceeds 1 criteria policy/level						
Black	Exceeds both criteria/levels						
RDL = Reportable Detection Limit							

**VIHA PKG, WELLS/SPRINGS - BURNABY (DRINKING WATER)**

Bureau Veritas ID					BNP963		
Sampling Date					2023/03/16 10:00		
COC Number					W034332		
	UNITS	MAC	AO	OG	70275	RDL	QC Batch
ANIONS							
Nitrite (N)	mg/L	1	-	-	0.0141	0.0050	A912894
Calculated Parameters							
Total Hardness (CaCO3)	mg/L	-	-	-	82.0	0.50	A912264
Nitrate (N)	mg/L	10	-	-	<0.020	0.020	A912266
Total Organic Nitrogen (N)	mg/L	-	-	-	0.055	0.020	A912280
Sulphide (as H2S)	mg/L	-	0.05	-	<0.0020	0.0020	A912066
Misc. Inorganics							
Conductivity	uS/cm	-	-	-	460	2.0	A916655
pH	pH	-	-	7.0:10.5	8.20	N/A	A916652
Total Organic Carbon (C)	mg/L	-	-	-	1.9	0.50	A912875
Total Dissolved Solids	mg/L	-	500	-	260	10	A914108
Anions							
Alkalinity (PP as CaCO3)	mg/L	-	-	-	<1.0	1.0	A916653
Alkalinity (Total as CaCO3)	mg/L	-	-	-	210	1.0	A916653
Bicarbonate (HCO3)	mg/L	-	-	-	250	1.0	A916653
Carbonate (CO3)	mg/L	-	-	-	<1.0	1.0	A916653
Dissolved Fluoride (F)	mg/L	1.5	-	-	0.15	0.050	A916472
Hydroxide (OH)	mg/L	-	-	-	<1.0	1.0	A916653
Total Sulphide	mg/L	-	0.05	-	<0.0018	0.0018	A913429
Chloride (Cl)	mg/L	-	250	-	12	1.0	A915867
Sulphate (SO4)	mg/L	-	500	-	19	1.0	A915867
MISCELLANEOUS							
True Colour	Col. Unit	-	15	-	<5.0	5.0	A912571
Transmittance at 254nm	%T/cm	-	-	-	88	N/A	A915240
Nutrients							
Total Ammonia (N)	mg/L	-	-	-	<0.015	0.015	A912482
Nitrate plus Nitrite (N)	mg/L	-	-	-	<0.020	0.020	A912890
Total Nitrogen (N)	mg/L	-	-	-	0.055	0.020	A915304
Physical Properties							
Turbidity	NTU	see remark	see remark	see remark	30	0.10	A912574
Elements							
Total Mercury (Hg)	ug/L	1	-	-	0.0024	0.0019	A912876
No Fill	No Exceedance						
Grey	Exceeds 1 criteria policy/level						
Black	Exceeds both criteria/levels						
RDL = Reportable Detection Limit							
N/A = Not Applicable							



VIHA PKG, WELLS/SPRINGS - BURNABY (DRINKING WATER)

Bureau Veritas ID					BNP963		
Sampling Date					2023/03/16 10:00		
COC Number					W034332		
	UNITS	MAC	AO	OG	70275	RDL	QC Batch
Microbiological Param.							
Heterotrophic Plate Count	CFU/mL	-	-	-	4	1	A912592
Iron Bacteria	CFU/mL	-	-	-	<25	25	A912597
Sulphate reducing bacteria	CFU/mL	-	-	-	<75	75	A912599
Total Coliforms	CFU/100mL	0	-	-	0	N/A	A912601
E. coli	CFU/100mL	0	-	-	0	N/A	A912601
Calculated Parameters							
Langelier Index (@ 4.4C)	N/A	-	-	-	-0.00600	N/A	A912281
Langelier Index (@ 60C)	N/A	-	-	-	1.04	N/A	A912282
Saturation pH (@ 4.4C)	N/A	-	-	-	8.21	N/A	A912281
Saturation pH (@ 60C)	N/A	-	-	-	7.17	N/A	A912282
No Fill	No Exceedance						
Grey	Exceeds 1 criteria policy/level						
Black	Exceeds both criteria/levels						
RDL = Reportable Detection Limit							
N/A = Not Applicable							



GENERAL COMMENTS

Sample BNP963 [70275] : Sample was analyzed past recommended hold time for Heterotropic Plate Count (MF) in Water. Sample was analyzed past recommended hold time for Iron Related Bacteria. Sample was analyzed past recommended hold time for Sulphate Reducing Bacteria.

MAC,AO,OG: The guidelines that have been included in this report have been taken from the Canadian Drinking Water Quality Summary Table, September 2020.

Criteria A = Maximum Acceptable Concentration (MAC) / Criteria B = Aesthetic Objectives (AO) / Criteria C = Operational Guidance Values (OG)

It is recommended to consult these guidelines when interpreting your data since there are non-numerical guidelines that are not included on this report.

Turbidity Guidelines:

1. Chemically assisted filtration: less than or equal to 0.3 NTU in 95% of the measurements or 95% of the time each month. Shall not exceed 1.0 NTU at any time.
2. Slow sand / diatomaceous earth filtration: less than or equal to 1.0 NTU in 95% of the measurements or 95% of the time each month. Shall not exceed 3.0 NTU at any time.
3. Membrane filtration: less than or equal to 0.1 NTU in 99% of the measurements made or at least 99% of the time each calendar month. Shall not exceed 0.3 NTU at any time.
4. To ensure effectiveness of disinfection and for good operation of the distribution system, it is recommended that water entering the distribution system have turbidity levels of 1.0 NTU or less.

Measurement of Uncertainty has not been accounted for when stating conformity to the selected criteria, where applicable.

Results relate only to the items tested.



Bureau Veritas Job #: C318465
Report Date: 2023/03/28

QUALITY ASSURANCE REPORT

HY-GEO CONSULTING
Client Project #: LAWRENCE

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
A912482	Total Ammonia (N)	2023/03/17	103	80 - 120	103	80 - 120	<0.015	mg/L	1.1	20
A912571	True Colour	2023/03/17			102	80 - 120	<5.0	Col. Unit	NC	20
A912574	Turbidity	2023/03/17			103	80 - 120	<0.10	NTU	6.4	20
A912875	Total Organic Carbon (C)	2023/03/17	100	80 - 120	102	80 - 120	<0.50	mg/L	NC	20
A912876	Total Mercury (Hg)	2023/03/17	90	80 - 120	98	80 - 120	<0.0019	ug/L	NC	20
A912890	Nitrate plus Nitrite (N)	2023/03/17	95	80 - 120	102	80 - 120	<0.020	mg/L	NC	25
A912894	Nitrite (N)	2023/03/17	87	80 - 120	95	80 - 120	<0.0050	mg/L	7.3	20
A913429	Total Sulphide	2023/03/19	NC	80 - 120	98	80 - 120	<0.0018	mg/L	16	20
A913725	Total Aluminum (Al)	2023/03/20	105	80 - 120	98	80 - 120	<3.0	ug/L	19	20
A913725	Total Antimony (Sb)	2023/03/20	106	80 - 120	103	80 - 120	<0.50	ug/L	NC	20
A913725	Total Arsenic (As)	2023/03/20	110	80 - 120	102	80 - 120	<0.10	ug/L	NC	20
A913725	Total Barium (Ba)	2023/03/20	NC	80 - 120	102	80 - 120	<1.0	ug/L	2.2	20
A913725	Total Beryllium (Be)	2023/03/20	98	80 - 120	97	80 - 120	<0.10	ug/L	NC	20
A913725	Total Bismuth (Bi)	2023/03/20	97	80 - 120	99	80 - 120	<1.0	ug/L	NC	20
A913725	Total Boron (B)	2023/03/20	101	80 - 120	100	80 - 120	<50	ug/L	NC	20
A913725	Total Cadmium (Cd)	2023/03/20	99	80 - 120	99	80 - 120	<0.010	ug/L	5.0	20
A913725	Total Chromium (Cr)	2023/03/20	95	80 - 120	97	80 - 120	<1.0	ug/L	NC	20
A913725	Total Cobalt (Co)	2023/03/20	92	80 - 120	96	80 - 120	<0.20	ug/L	2.4	20
A913725	Total Copper (Cu)	2023/03/20	89	80 - 120	93	80 - 120	<0.50	ug/L	2.9	20
A913725	Total Iron (Fe)	2023/03/20	103	80 - 120	99	80 - 120	<10	ug/L	NC	20
A913725	Total Lead (Pb)	2023/03/20	101	80 - 120	101	80 - 120	<0.20	ug/L	NC	20
A913725	Total Manganese (Mn)	2023/03/20	NC	80 - 120	97	80 - 120	<1.0	ug/L	2.0	20
A913725	Total Molybdenum (Mo)	2023/03/20	NC	80 - 120	103	80 - 120	<1.0	ug/L	1.6	20
A913725	Total Nickel (Ni)	2023/03/20	93	80 - 120	95	80 - 120	<1.0	ug/L	2.6	20
A913725	Total Selenium (Se)	2023/03/20	103	80 - 120	98	80 - 120	<0.10	ug/L	NC	20
A913725	Total Silicon (Si)	2023/03/20	105	80 - 120	108	80 - 120	<100	ug/L	4.7	20
A913725	Total Silver (Ag)	2023/03/20	96	80 - 120	96	80 - 120	<0.020	ug/L	NC	20
A913725	Total Strontium (Sr)	2023/03/20	NC	80 - 120	101	80 - 120	<1.0	ug/L	1.9	20
A913725	Total Thallium (Tl)	2023/03/20	98	80 - 120	99	80 - 120	<0.010	ug/L	NC	20
A913725	Total Tin (Sn)	2023/03/20	93	80 - 120	100	80 - 120	<5.0	ug/L	NC	20
A913725	Total Titanium (Ti)	2023/03/20	111	80 - 120	101	80 - 120	<5.0	ug/L	NC	20
A913725	Total Uranium (U)	2023/03/20	105	80 - 120	100	80 - 120	<0.10	ug/L	1.6	20
A913725	Total Vanadium (V)	2023/03/20	99	80 - 120	97	80 - 120	<5.0	ug/L	NC	20



QUALITY ASSURANCE REPORT(CONT'D)

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
A913725	Total Zinc (Zn)	2023/03/20	NC	80 - 120	98	80 - 120	<5.0	ug/L	0.94	20
A913725	Total Zirconium (Zr)	2023/03/20	107	80 - 120	101	80 - 120	<0.10	ug/L	NC	20
A914108	Total Dissolved Solids	2023/03/21	98	80 - 120	99	80 - 120	<10	mg/L	3.6	20
A915240	Transmittance at 254nm	2023/03/21			102	97 - 103				
A915304	Total Nitrogen (N)	2023/03/22	NC	80 - 120	100	80 - 120	<0.020	mg/L	2.5	20
A915867	Chloride (Cl)	2023/03/21	NC	80 - 120	99	80 - 120	<1.0	mg/L	0.13	20
A915867	Sulphate (SO4)	2023/03/21	NC	80 - 120	99	80 - 120	<1.0	mg/L	0.45	20
A916472	Dissolved Fluoride (F)	2023/03/22	104	80 - 120	102	80 - 120	<0.050	mg/L	0	20
A916652	pH	2023/03/21			102	97 - 103			0.27	N/A
A916653	Alkalinity (PP as CaCO3)	2023/03/21					<1.0	mg/L	NC	20
A916653	Alkalinity (Total as CaCO3)	2023/03/21	NC	80 - 120	96	80 - 120	<1.0	mg/L	0.27	20
A916653	Bicarbonate (HCO3)	2023/03/21					<1.0	mg/L	0.27	20
A916653	Carbonate (CO3)	2023/03/21					<1.0	mg/L	NC	20
A916653	Hydroxide (OH)	2023/03/21					<1.0	mg/L	NC	20
A916655	Conductivity	2023/03/21			100	80 - 120	<2.0	uS/cm	0.83	10

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).



VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Cristina Carriere, Senior Scientific Specialist

David Huang, M.Sc., P.Chem., QP, Scientific Services Manager



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July 15, 2024

Lawrence Waterfall
350 Mary Ann Point Rd
Galiano Island BC
V0N 1P0

Attention: Lawrence Waterfall

Re: Addendum to April 23, 2023 report on Groundwater Well Assessments at 350 Mary Anne Point Road, Galiano Island

The following addendum to the above report discusses the water level recovery data observed following pump testing of three water supply wells proposed for the subdivision namely:

WID 70268,
WID 70269, and
WID 70275.

Pumping tests on each of the wells was carried out in general accordance with the provincial *Guide to Conducting Well Pumping Tests* (Province of British Columbia, 2010).

Background

The *Guide to Conducting Well Pumping Tests* recommends that “a professional design, perform or direct and interpret pumping tests in the following situations:

- where a pumping test for a well is required by an approving agency; or
- where the yield of the well needs to be maximized: or
- when data needs to be interpreted, for example:
 - when there is a need to assess the impact of the pumping well on nearby surface and ground-water resources; and
 - when estimates of an aquifer’s properties are required.

Recovery Procedures in the Guide

With regard to recovery procedures, the guide states:

“Monitoring recovery after the well pump has been stopped is important because it aids the interpretation of the pumping test.”

The guide further states that:

“Typically, the duration of the recovery test is directed by the qualified professional. At a minimum, recovery water levels in the well should be monitored for the same duration of the pumping test or at least until 90 per cent recovery has been achieved.

The pump should not be removed from the well until the water level has returned to 85-90 per cent of the pre-pumping or static water level or until the supervising qualified professional indicates the pump can be removed. However, generally for a 24-hour pumping test, 90 per cent recovery occurs within two to three hours after the pump is stopped and the pump can then be removed. This event should be recorded on the data sheet. If the water does not recover within the same time duration of the pumping test (e.g., 24 hours) the water level should be monitored daily for an additional week.

If the water does not return to 90-95 per cent of the starting water level after a week, the test pumping rate is likely higher than the aquifer’s capacity to sustain this rate and further testing (i.e., longer pumping time and lower pumping rate) may be required. If this happens, a qualified professional should interpret the pumping test and recovery data and recommend a course of action.”

Todd *et al.*, 2020, in *Guidance for Technical Assessments in Support of an Application for Groundwater Use in British Columbia, Version 2*. recommend that, “For recovery tests, collect water level data for at least the same length of time as the pumping test or until the well has recovered to within 90% of the pre-test static water levels, whichever comes first.”

Limitations of the Guide

While the guide provides general information and guidance on best practices for pumping tests for well drillers and well pump installers it does not provide specific recovery procedures pertaining to:

- (a) fractured bedrock wells versus wells completed in unconsolidated deposits,
- (b) lined and screened wells versus open borehole wells,
- (c) individual residential wells versus larger capacity commercial wells,
- (d) well tests for periods of less than 24 hours,
- (e) proximity of a well to a source of recharge, pond or stream,
- (f) other factors that may affect recovery, e.g. pumping of neighbouring wells, tidal influence,
- (g) practical and economic considerations.

Fractured Bedrock Wells

For the most part, fractured bedrock wells in the Gulf Islands are completed as open boreholes and occasionally lined to prevent collapse of unstable portions of the borehole. Drilling may encounter one or more water-bearing fractures zones in the borehole. The resultant water level in the well will be the result of the combined water pressure heads of the various water-bearing zones. When deep bedrock wells are pumped, shallow water-bearing fracture zones may be temporarily dewatered. Each water-bearing zone will also have its own hydraulic conductivity that may vary among the zones. Given the potential fracture variability in a bedrock well, water level recovery after pumping will depend upon a

number of factors likely based, for example, on the initial pumping rate, duration of pumping, number, location and hydraulic conductivity of the water-bearing fracture zones.

Based on a selection of 14 bedrock wells (Table 1), each pump tested for 12 hours in the Gulf Islands with the results reviewed by the author, it is evident that recovery rates can vary significantly. Arbitrarily setting a requirement of 90 percent recovery for a 12 hour, relatively low rate, pumping test in bedrock is not based on the observed recovery responses of bedrock wells in the region. The attached Figure 1 based on the recovery results of the pumping tests of 14 bedrock wells, indicates recovery, for example, varying from 43 to 100 percent after 4 hours. For pump shutdowns of 12 hours, recoveries of 50 to 91 percent are indicated. Pump shutdowns close to 24 hours show recoveries in the range 68 to 99 percent. A 24 recovery period after a 12 hour pumping test does not necessarily guarantee that 90 percent recovery would be achieved.

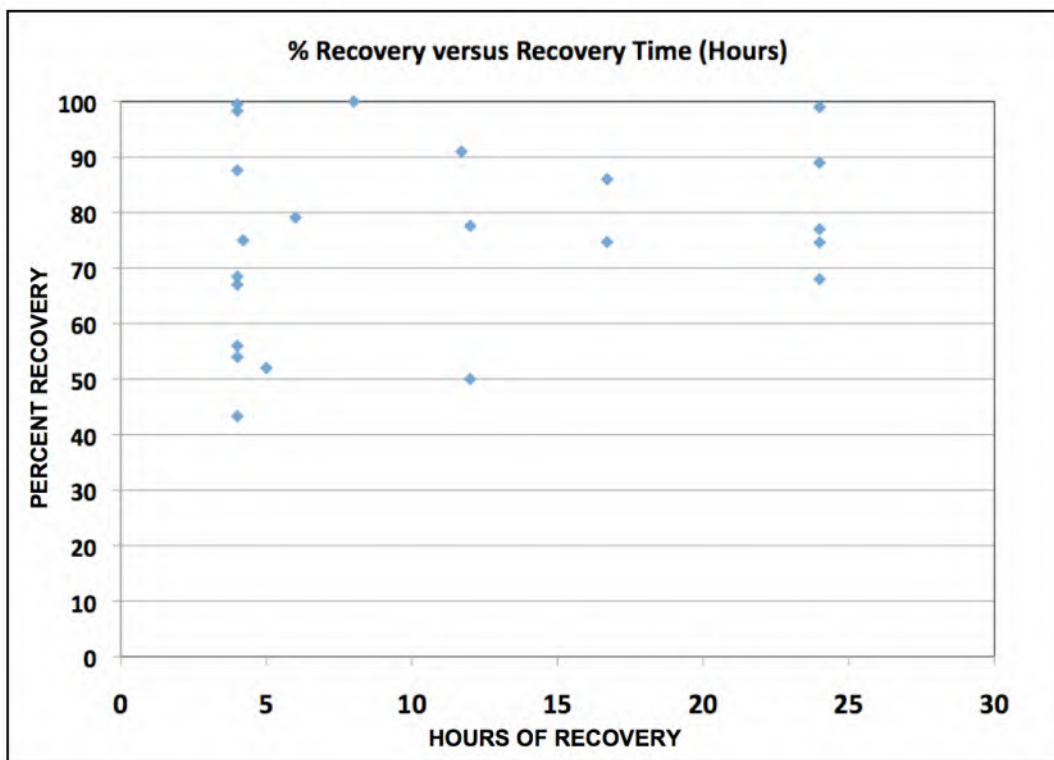


Figure 1. Observed recovery percentages for 14 fractured bedrock wells based on a 12 hour pumping period and various hours of recovery.

In the cases of the three bedrock water supply wells pump tested for 12 hours the following recovery rates were observed:

WID 70268, 54 percent recovery after 4 hours and 68 percent after 24 hours

WID 70269, 52 percent recovery after 5 hours and 86 percent after 16.7 hours (First Test)

WID 70269, 67 percent recovery after 4 hours and 100 percent after 8 hours (Second Test)

WID 70275, 43.3 percent recovery after 4 hours and 74.6 percent after 24 hours.

All of the recovery tests satisfy the recovery recommendations of *Guidance for Technical Assessments in Support of an Application for Groundwater Use in British Columbia, Version 2*, (Todd et al., 2020), in that the recovery period was greater than the pumping period or 90% recovery occurred prior to 12 hours.

In the 1999 guidance document *Evaluating Long-Term Capacity for a Certificate of Public Convenience and Necessity* (Province of British Columbia, 1999) the following figure indicates how to check if recovery would be complete for an “ideal aquifer”.

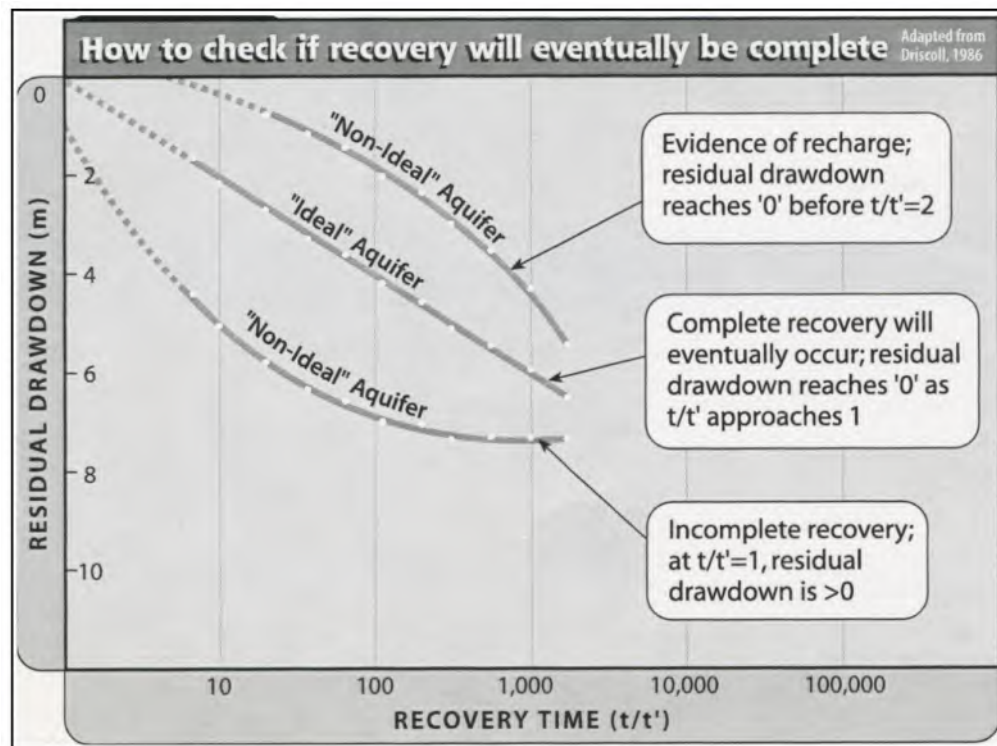


Figure 2. Checking recovery data. Adapted from Figure 6 (Province of British Columbia (1999), and Driscoll (1986)).

Conclusions

- (1) While the recovery rates observed for the 12 hour pumping tests on the three water supply wells proposed for the subdivision did not all meet the suggested requirements of 90 percent as outlined in the *Guide to Conducting Well Pumping Tests*, the results are not considered entirely unusual for fractured bedrock wells in the region.
- (2) All of the recovery tests satisfy the recovery recommendations of *Guidance for Technical Assessments in Support of an Application for Groundwater Use in British Columbia, Version 2*, (Todd et al., 2020).
- (3) Indications from the semi-log recovery plots for each of the wells shows the water level trending towards full recovery (Figure 8rev, Figure 11rev, Figure 13rev and Figure 17rev).

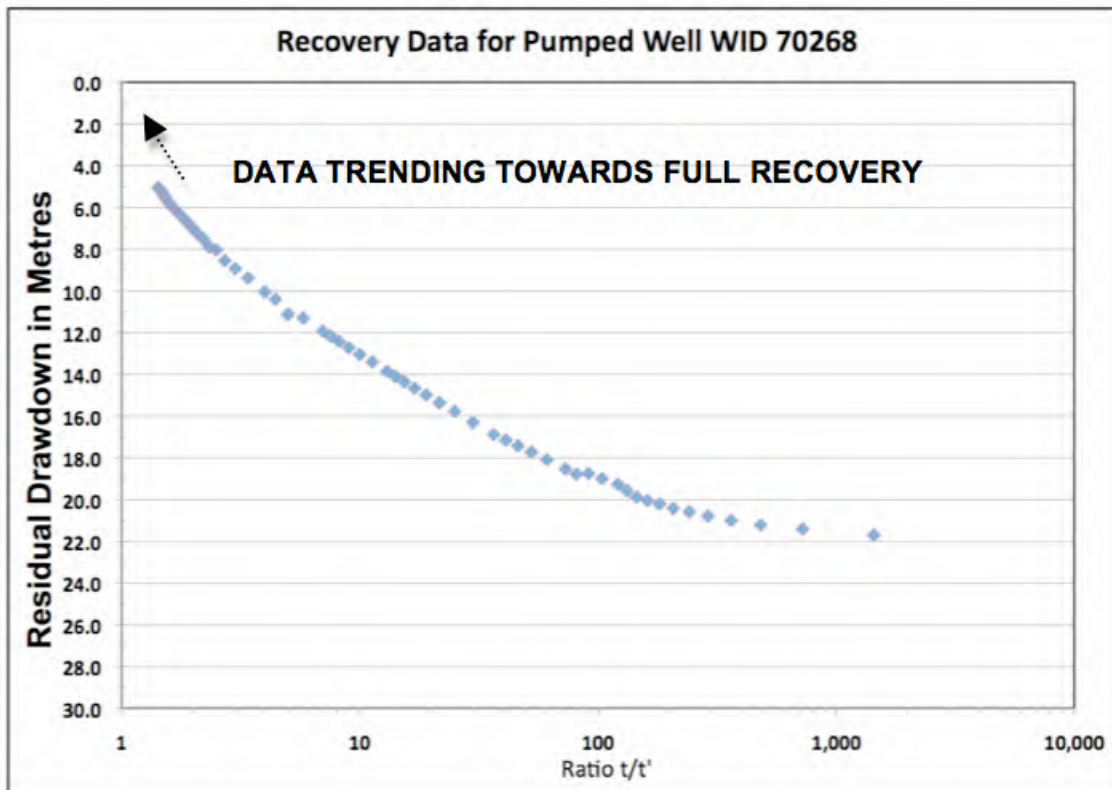


Figure 8rev. Semi-log drawdown recovery plot for Well WID 70268.

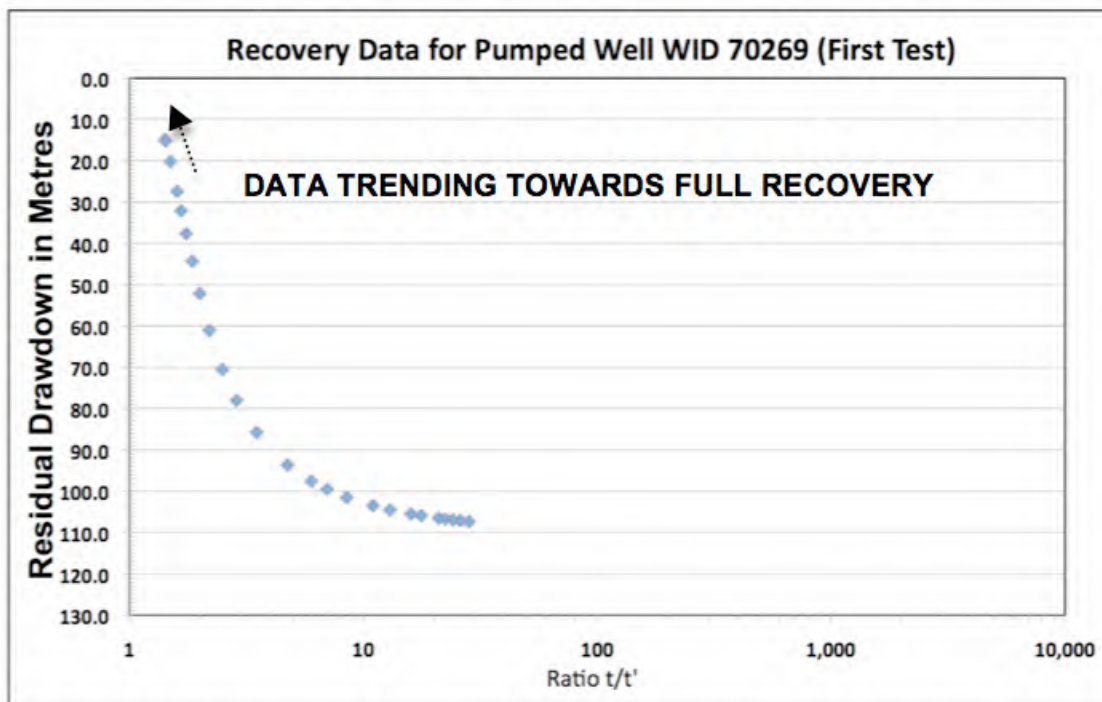


Figure 11rev. Semi-log drawdown recovery plot for Well WID 70269, first test.

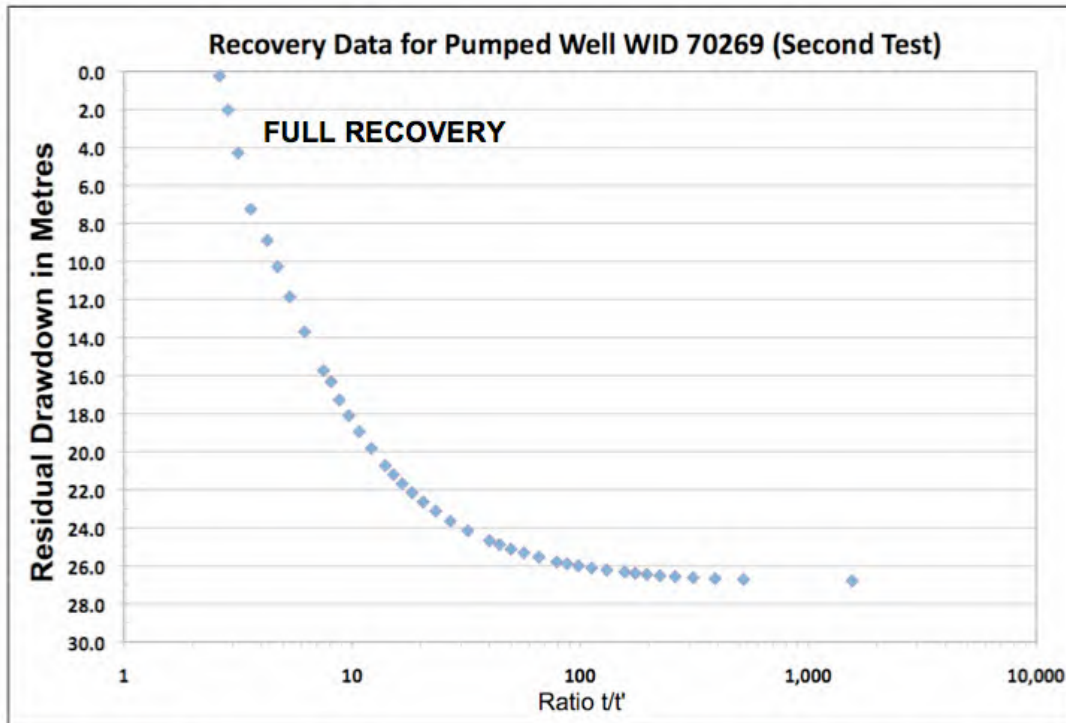


Figure 13rev. Semi-log drawdown recovery plot for Well WID 70269, second test.

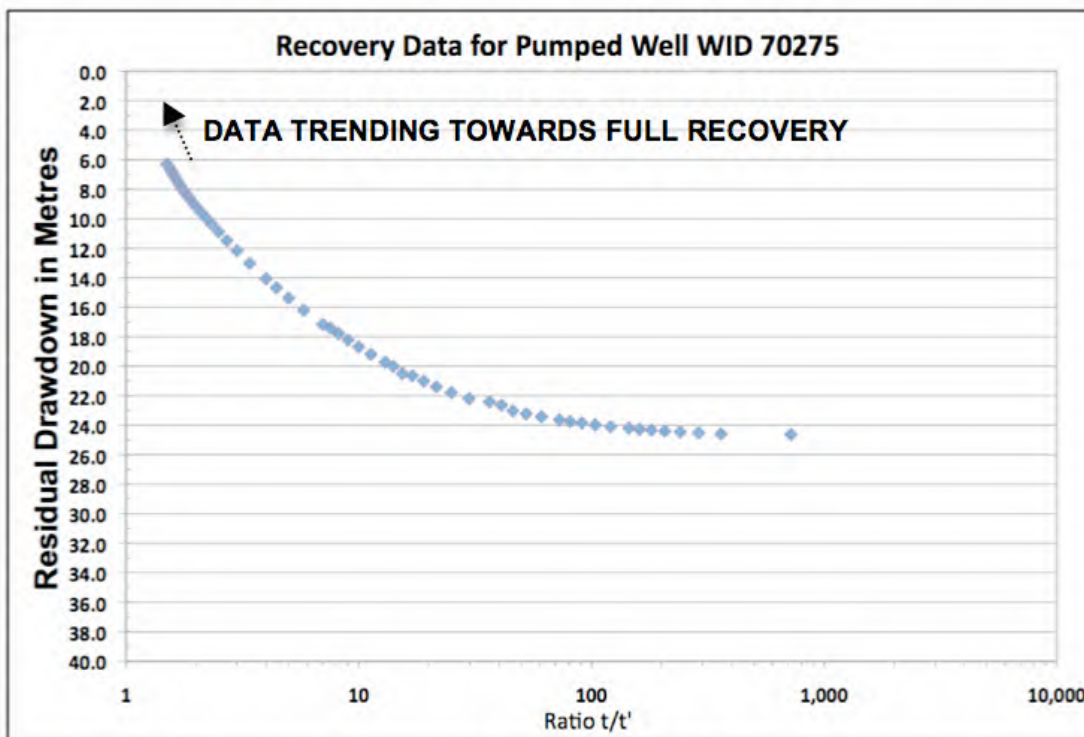


Figure 17rev. Semi-log drawdown recovery plot for Well WID 70275.

Table 1. Comparison of recovery responses in 14 fractured bedrock wells after pumping for 12 hours.

Location	Well Tag No. or WID	Depth (feet)	Depth (metres)	Geologic Formation	Date of Test dd / mm / yy	Pumping Rate (Usgpm)	Pumping Rate (L / m)	Duration (hours)	Ratio of Pumping Rate to Bylaw Requirements	Available Drawdown (metres below ground)	Percent Available Drawdown Utilized during test	Recovery I Duration (hours)	Recovery I %	Recovery II Duration (hours)	Recovery II %	Comments
Galiano Island	WID 70268	245	74.68	Geoffrey	08/02/2023	2.34	8.86	12	5.6	50.55	43	4	54	24	68	on trend for full recovery
Galiano Island	WID 70269	405	123.44	Geoffrey	13/02/23	2.45	9.27	5	5.9	98.06	>100	5	52	16.7	86	first tes, on trend for full recoveryt
					15/02/23	0.55	2.08	12	1.3	98.06	27	4	67	8	100	second test
Galiano Island	WID 70275	405	123.44	Geoffrey	14/03/23	0.62	2.35	12	1.49	>48.33	50	4	43.3	24	74.6	on trend for full recovery
North Pender Island	122655	565	172.31	Decourcy	15/04/24	0.5	1.89	12.5	1.2	89.1	21	12	50	24	77	affected by nearby well pumping
Galiano Island	60597	200	60.96	Gabriola	11/06/2024	2	7.6	12	4.8	19.25	43.3	4	56			on trend for full recovery, available drawdown limited by sea level
Galiano Island	69176	305	92.96	Gabriola	10/07/2023	1.1	4.16	12	2.6	59.9	25	4	68.5	12	77.6	affected by nearby well pumping
Galiano Island	69177	205	62.48	Gabriola	11/07/2023	1.01	3.823	12	2.4	46.2	18	4	98.3			
Galiano Island	63345	360	109.73	Gabriola	21/02/23	1.026	3.88	12.5	2.5	30.81	21	6	79.1			on trend for full recovery
Galiano Island	57017	485	147.83	Geoffrey	06/02/2023	2.5	9.46	12	6.0	120.1	<1	4	99.5			
Galiano Island	125852	260	79.25	Geoffrey	07/02/2023	2.539	9.047	12	5.7	34.46	24	4	87.6			on trend for full recovery
Galiano Island	unknown	142	43.28	Gabriola	20/04/20	1.14	4.33	12	2.7	unkown	29.1	24	89			on trend for full recovery
Galiano Island	WID 16482	500	152.4	Geoffrey	09/10/2019	0.80	3.03	12	1.9	118.388	20	24	99			
Galiano Island	WID 16462	520	158.496	Geoffrey	19/08/2017	0.53	2.00	12	1.3	118.388	15	4.2	75	11.7	91	on trend for full recovery
Galiano Island	WID 48318	143	43.59	Gabriola	07/06/2015	2.11	8	12	5.1	31.66	42.1	16.7	74.7			on trend for full recovery, affected by tidal variations

Note: Proposed water supply wells for 350 Mary Point Road subdivision highlighted in green.

Closure

This report was prepared in accordance with generally accepted engineering, hydrogeological and consulting practices. It is intended for the prime use of Lawrence Waterfall in connection with its purpose as outlined under the scope of work for this project. This report is based on data and information available to the author from various sources at the time of its preparation and the findings of this report may therefore be subject to revision. Data and information supplied by others has not been independently confirmed or verified to be correct or accurate in all cases. Any errors, omissions or issues requiring clarification should be brought to the attention of the author. The author and Hy-Geo Consulting accepts no responsibility for damages suffered by any third party as a result of any unauthorized use of this report.

Respectfully submitted,

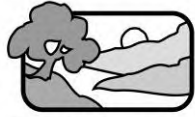


Alan P. Kohut P.Eng
Principal and Senior Hydrogeologist

HY-GEO CONSULTING
EGBC Permit to Practice Number 1001034

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<https://a100.gov.bc.ca/pub/acat/public/viewReport.do?reportId=50847>



DATE OF MEETING: October 8, 2024
TO: Galiano Island Local Trust Committee
FROM: Kim Stockdill, Island Planner
Victoria Office
SUBJECT: Groundwater Sustainability Project - Bylaw Nos. 283 and 284 – Post Public Hearing

RECOMMENDATION

1. That Galiano Island Local Trust Committee proposed Bylaw No. 283, cited as “Galiano Island Official Community Plan Bylaw No. 108, 1995, Amendment No. 1, 2022” be amended as follows:
 - By amending Section 10 to add the following wording after Exemption ‘g’ to include a new Development Permit Area exemption ‘h’:
“Cutting and removal of trees with a trunk diameter less than 20 centimeters measured 1.5 metres above the ground.”
 - By replacing Plan No. 2 ‘Schedule G – Development Permit Area 4: Groundwater Recharge Protection’ with an updated map attached to staff report dated October 8, 2024.
2. That the Galiano Island Local Trust Committee proposed Bylaw No. 283, cited as “Galiano Island Official Community Plan Bylaw No. 108, 1995, Amendment No. 1, 2022” be read a Second time as amended.
3. That the Galiano Island Local Trust Committee proposed Bylaw No. 284, cited as “Galiano Island Land Use Bylaw No. 127, 1999, Amendment No. 1, 2022” be read a Second time as amended.
4. That the Galiano Island Local Trust Committee proposed Bylaw No. 283, cited as “Galiano Island Official Community Plan Bylaw No. 108, 1995, Amendment No. 1, 2022” be read a Third time.
5. That the Galiano Island Local Trust Committee proposed Bylaw No. 284, cited as “Galiano Island Land Use Bylaw No. 127, 1999, Amendment No. 1, 2022” be read a Third time.
6. That the Galiano Island Local Trust Committee proposed Bylaw Nos. 283 and 284 be forwarded to the Secretary of the Islands Trust for Executive Committee Approval.
7. That the Galiano Island Local Trust Committee proposed Bylaw No. 283 be forwarded to the Minister of Municipal Affairs for approval.

BACKGROUND

In February 2021 the Galiano LTC received a report on the preliminary results of the mapping and data analysis phases of the Groundwater Sustainability Project and subsequently endorsed the project charter. The draft Bylaw Nos. 283 and 284 were first presented to the Galiano Island LTC in May 2022. Over the course of a year, the draft bylaws were amended further and currently comprise:

- **Bylaw 284 - Amendments to the Land Use Bylaw (LUB)**
 - New definitions

- Cistern Requirements for all new builds (18,000 litres). An increase in cistern size for secondary suites to 18,000 litres. Captured and stored water is not required to be connected to the dwelling except in the Water Management Areas as per existing regulation 13.23
- References to “rainwater” with respect to cisterns has been changed to “freshwater” to support the capture and retention of groundwater as well as rainwater
- Updates to regulations related to proof of water for subdivision based on provisions developed for the North Pender LUB.
- **Bylaw 283 - General Amendments to Official Community Plan (OCP)**
 - Minor changes to Official Community Plan (OCP) language
 - Updates to relevant policies and objectives to ensure consistency with revised language, the new Groundwater Recharge Protection DPA, and other proposed changes to the OCP and the LUB
 - Replacement of Schedule D – Water Resources, with a new Schedule D – Groundwater Regions
 - Replacement of Schedule G – DPA Area 4: Elevated Groundwater Catchment, with a new DPA 4: Groundwater Recharge Protection
- **Bylaw 283- A Groundwater Recharge Protection Development Permit Area**
 - New Critical Aquifer Recharge Development Permit Area (DPA) guidelines which would amend the current Galiano Elevated Groundwater Catchment DPA. Amendments include: reference to 2021 mapping of recharge areas, additional exemptions (forest fire protection measures and land owned by persons with federal Indigenous status), changes consistent with introduction of cistern requirements for new builds, and changing the name of the DPA
 - The draft Bylaw includes the schedule map for the 5 hectare critical aquifer coverage option with the parks and protected areas taken out. This is the DPA option that had been endorsed by the previous LTC

Draft bylaws and background related to the bylaws can be found posted on the [Galiano projects webpage](#).

At the September 10, 2024, a Trustee requested a map showing the new DPA 4 area and indicate which of those lots have Managed Forest status. As shown on Attachment No. 4, there are 21 properties located in the DPA with Managed Forest status.

AMENDMENTS

The following are amendments to Bylaw No. 283 for the LTC’s consideration:

- **Section 10** – To add a new exemption following Exemption ‘g’ that reads:
“h) Cutting and removal of trees with a trunk diameter less than 20 centimeters measured 1.5 metres above the ground.”
 The proposed bylaw current exempts the cutting and removal of 5 trees per hectare (with a trunk diameter greater than 20 centimetres measured 1.5 metres above the ground) within a 12-month period per lot, but does not exempt the cutting or removal of trees with less than a trunk diameter of less than 20 centimeters. If the proposed bylaw is not amended to include this new exemption, the removal of one small tree within the DPA would require the issuance of a Development Permit.
- **Plan No. 2** – To update Schedule G – Development Permit Area 4: Groundwater Recharge Protection map to remove a Nature Protection zoned lot from the new DPA as shown on Attachment No. 5.

PUBLIC HEARING

A public hearing is a quasi-judicial process during which specific procedures must be followed. Following the hearing, the LTC may choose to give further readings to a bylaw, defeat a bylaw, or alter a bylaw within certain parameters. The procedural steps following the close of the hearing are as follows:

1. Consideration of Second Reading (this may include amendments to alter a bylaw).
2. Consideration of Third Reading.
3. Forwarding of the bylaw to Executive Committee for approval.
4. Forwarding of the bylaw to the Minister's office for approval (OCP amendment bylaws only).
5. Reconsideration and adoption.

Following the close of the hearing, the LTC may not hear further submissions without holding a new hearing. The principle is that if new information is considered by the LTC, all other interested parties also need the opportunity to consider any new relevant material and further representations to the LTC. The courts have clarified that this does not open the door to endless public hearings: a local government body can legitimately decide that after a hearing it wishes to hear further from staff on issues raised during the hearing.

A bylaw may be altered after the hearing, based on information received or heard by the LTC at any point prior to the close of the hearing, provided that the amendments do not alter use or increase density, or decrease density without a landowner's consent.

If the Executive Committee and Minister approve the bylaw, the next step for the LTC would be to adopt the bylaw.

ALTERNATIVES

1. Place staff report on next LTC meeting agenda

If the LTC requires more time to consider the Public Hearing submissions, the staff report can be placed on the next LTC meeting's agenda.

Resolution:

That Galiano Island Local Trust Committee request staff to place the Groundwater Sustainability Project staff report dated October 8, 2024 on the November 8, 2024 regular Galiano LTC meeting agenda.

2. Proceed no further with bylaw(s)

The LTC may decide to proceed no further with Bylaw Nos. 283 and 284.

Resolution:

That the Galiano Island Local Trust Committee proceed no further with Bylaw Nos. 283 and 284.

3. Receive for information

The LTC may receive the report for information

NEXT STEPS

Staff will amend bylaws (if direction given by the LTC) and send to Executive Committee for approval.

Submitted By:	Kim Stockdill, Island Planner	September 24, 2024
Concurrence:	Robert Kojima, Regional Planning Manger	September 24, 2024

ATTACHMENTS

1. Proposed Bylaw No. 283
2. Proposed Bylaw No. 284
3. Referral Responses
4. Map – DPA & PMFL Lots
5. Updated Schedule G – Development Permit Area 4: Groundwater Recharge Protection map

PROPOSED

GALIANO ISLAND LOCAL TRUST COMMITTEE BYLAW NO. 283

A BYLAW TO AMEND GALIANO ISLAND OFFICIAL COMMUNITY PLAN BYLAW NO. 108, 1995

The Galiano Island Local Trust Committee in open meeting assembled enacts as follows:

1. CITATION

This Bylaw may be cited for all purposes as “Galiano Island Official Community Plan Bylaw No. 108, 1995, Amendment No. 1, 2022”.

2. SCHEDULES

Galiano Island Official Community Plan No. 108, 1995 is amended as shown on Schedule 1, attached to and forming part of this bylaw.

3. SEVERABILITY

If any provision of this Bylaw is for any reason held to be invalid by a decision of any Court of competent jurisdiction, the invalid provision must be severed from the Bylaw and the decision that such provision is invalid must not affect the validity of the remaining provisions of the Bylaw.

READ A FIRST TIME THIS	14 TH	DAY OF	MARCH	2023.
PUBLIC HEARING HELD THIS	_____	DAY OF	_____	20____
READ A SECOND TIME THIS	_____	DAY OF	_____	20____
READ A THIRD TIME THIS	_____	DAY OF	_____	20____
APPROVED BY THE EXECUTIVE COMMITTEE OF THE ISLANDS TRUST THIS	_____	DAY OF	_____	20____
APPROVED BY THE MINISTER MUNICIPAL AFFAIRS THIS	_____	DAY OF	_____	20____
ADOPTED THIS	_____	DAY OF	_____	20____

CHAIR

SECRETARY

**GALIANO ISLAND LOCAL TRUST COMMITTEE
BYLAW NO. 283**

SCHEDULE 1

The Galiano Island Official Community Plan No. 108, 1995, is amended as follows:

1. Table of Contents Section V is amended by deleting “4. Development Permit Area 4 – Elevated Groundwater Catchment Areas” and replacing it with “4. Development Permit Area 4 – Groundwater Recharge Protection”.
2. Section II Land Use, Residential Policy “o)” is amended by deleting “Community, Sport and Cultural Development” and replacing it with “Municipal Affairs”.
3. Section II Land Use, Subsection 5.4 Light Industry, Light Industry Advocacy Policy “m)” is amended by inserting “recharge and” after “groundwater” and before “catchment areas”.
4. Section III Services, Subsection 2 Water Supply, Water Supply Objectives is amended by deleting Objectives 1-4 in entirety and replacing with:
 - “1) to ensure an adequate supply of potable freshwater to all users now and into the future,
 - 2) to ensure that groundwater use, and alteration to the land does not pollute or otherwise increase the vulnerability of groundwater regions,
 - 3) to protect critical groundwater recharge areas by evaluating land use decision based on available groundwater vulnerability data and applying the precautionary principle to land use decisions, and
 - 4) to consider and address climate change impacts on freshwater supply and quality.”
5. Section III Services, Subsection 2 Water Supply, Water Supply Policies is amended by deleting policy “a)” in its entirety and replacing it with:
 - “a) Areas identified to be key areas for water supply, fresh water catchment, storage and recharge shall be preserved and protected.

Land identified through groundwater recharge mapping to have significant recharge potential shall be designated as a development permit area for the protection of the watershed.”

6. Section III Water Supply, Water Supply Policy “b) vi)” is amended by deleting “elevated groundwater catchment” and replacing it with “groundwater recharge protection”.
7. Section III Water Supply, Water Supply Policies is amended by removing policy “c)” in its entirety and replacing it with “c) Regulations may require new developments to provide cisterns.”
8. Section IV Conservation and Environment is amended by deleting all instances of “Fresh Water” and replacing them with “Freshwater”.
9. Section IV Conservation and Environment, Freshwater Advocacy Policies is amended by deleting “and the Provincial Ministry of Environment, Ministry of Transportation and Infrastructure, and Ministry of Forests, Lands and Natural Resource Operations” and replacing it with “and relevant Provincial Ministries”.
10. Section V Development Permit Areas is amended by deleting subsection “4. Development Permit Area 4-Elevated Groundwater Protection” in its entirety and replacing it with:

“4. Development Permit Area 4 – Groundwater Recharge Protection

4.1 Description of Area

Development Permit Area 4 includes critical groundwater recharge areas identified on Schedule G. Critical groundwater recharge areas contain hydrogeological conditions that facilitate aquifer recharge and/or transmit contaminants to an underlying aquifer. Factors considered in the identification of critical aquifer recharge areas include topography, remote sensing, satellite multispectral analysis depth to water table, presence of highly permeable soils, land-cover analysis, structural geology, presence of flat terrain, and the presence of more permeable surficial geology.

4.2 Authority

The Groundwater Recharge Protection Development Permit Area is designated a development permit area pursuant to Section 488(1)(a) of the *Local Government Act* for the protection of the natural environment, its ecosystems and biological diversity and Section 488(1)(i) of the *Local Government Act* for the establishment of objectives to promote water conservation.

4.3 Special Conditions and Objectives that Justify the Designation

It is the Object of the Islands Trust to “Preserve and protect the Trust Area and its unique amenities and environment of the Trust Area for the benefit of the residents of the Trust Area, and of British Columbia generally, in cooperation with municipalities, regional districts, improvement districts, other persons and organizations and the government of British Columbia.”

It is Provincial legislation in Section 473(1)(d) of the *Local Government Act* that an official community plan must include statements and map designations for the area covered by the Plan respecting restrictions on the use of land that is environmentally sensitive to development.

The Islands Trust Council has committed to identifying, protecting and, where possible, restoring or rehabilitating groundwater recharge areas in the Trust Area.

It is policy of the Islands Trust Council that Local Trust Committees address measures that ensure:

- neither the density nor intensity of land use is increased in areas which are known to have a problem with the quality or quantity of the supply of freshwater, and
- the quality and quantity of drinking water sources for current and future Trust Area residents is preserved and protected, and
- the overall health of watersheds and ground water in the Islands Trust Area is protected.

Mapping of recharge and water balance completed in 2021 for Galiano Island identifies that the island has a number of areas of critical concern with respect to groundwater vulnerability.

The Objectives of the development permit area are:

- to protect and sustain access to a reliable and safe supply of drinking water for groundwater wells
- to protect and sustain the quality and supply of surface and groundwater necessary to the provision of ecological services
- to mitigate the impacts of development and climate change on groundwater supplies

4.4 Development Approval Information

The Groundwater Recharge Protection DPA is also designated an area for which development approval information (DAI) may be required according to Section 485(1) of the *Local Government Act*. The designation of these areas for this purpose is based on the special conditions or objectives supporting the designation of the DPA. Development approval information means information on the anticipated impact of the proposed activity or development on the community or the natural environment.

4.5 Applicability

A development permit is required for the subdivision of land, construction of, addition to or alteration of a building or other structure, or land alteration, including the cutting of trees, unless exempted below.

4.6 Development Permit Exemptions

The following activities are exempt from any requirement for a development permit:

- a) Development for which Islands Trust has been provided with a written statement from a registered professional hydrogeologist with relevant experience certifying that the proposed would have no impact on critical groundwater recharge.

- b) Repair, maintenance, alteration, additions to, or reconstruction of existing lawful buildings, structures or utilities, including those that are lawfully non-conforming (a building permit may still be required).
- c) Dwellings, cottages, accessory buildings and structures, and associated land alteration that are clustered within a residential home plate not exceeding an area of 1000m², and one access driveway and overhead utility lines and poles outside of the residential home plate.
- d) Land that is subject to a conservation covenant under section 219(4) of the *Land Title Act* in relation to natural, environmental, wildlife or plant life value relating to the land, granted to the Local Trust Committee or a covenantee designated under section 219(3)(c) of the *Land Title Act*.
- e) Repair and maintenance of existing roads, driveways, paths and trails, provided there is no expansion of the width or length of the road, driveway, path or trail, and no creation of additional impervious surfacing, including paving asphaltting or similar surfacing.
- f) Removal of invasive species.
- g) Cutting and removal of up to 5 trees per hectare (with a trunk diameter greater than 20 centimetres measured 1.5 metres above the ground) within a 12-month period on any one lot.
- h) Removal of trees that have been examined by an arborist and certified to pose an immediate threat to life or property.
- i) Farm operations as defined in the *Farm Practices Protection (Right to Farm) Act* and farm uses as defined in Section 2(2), (3), (4) and (5) of the Agricultural Land Reserve Use, Subdivision, and Procedure Regulation.
- j) Forest management activities, as defined in the Private Managed Forest Land Regulation, on land classified as managed forest land under the *Private Managed Forest Land Act*.
- k) The construction of an accessory building or structure with a lot coverage of less than 100m².
- l) Construction of trails or fences that does not alter contours of the land.
- m) Emergency actions required to prevent, control or reduce an immediate threat to human life, the natural environment or public or private property including:
 - i. Forest fire protection measures;
 - ii. Flood and erosion protection works;
 - iii. Protection, repair or replacement of public facilities;
 - iv. Clearing of an obstruction from a bridge, culvert, dock wharf or stream; or
 - v. Bridge repairs.
- n) Works undertaken by a local government or a body established by a local government.
- o) Works authorized under a provincial statute.

- p) Land owned by a person with federal Indigenous status living in their traditional territory with proof of Indigenous family lineage.

4.7 Guidelines

The *Local Government Act* prohibits construction of buildings and structures and the alteration of land and subdivision in Development Permit Area 4 unless the owner first obtains a development permit. Development permits will be issued in accordance with the following guidelines.

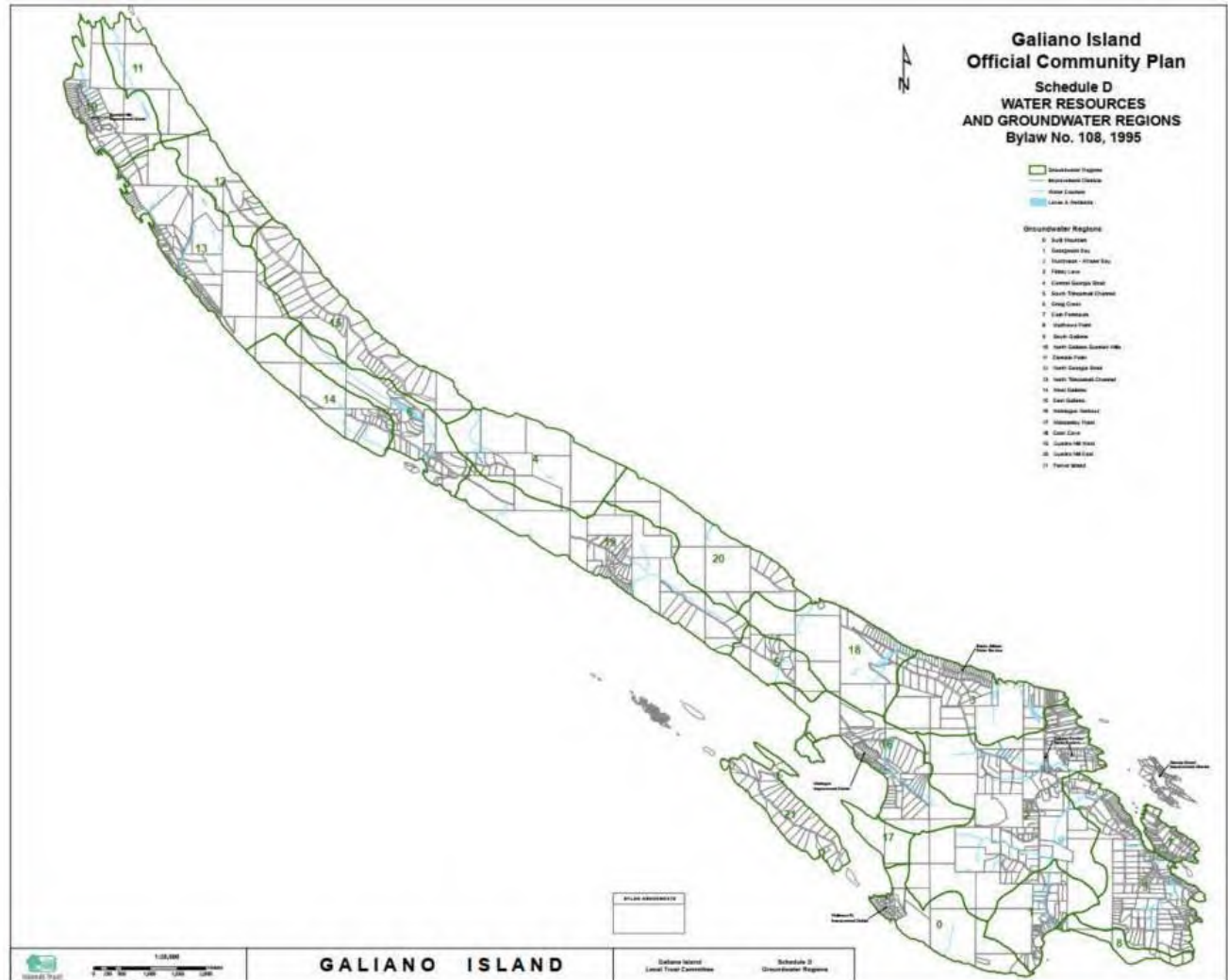
1. In general, development should minimize negative impacts on the quality and quantity of subsurface water supplies.
2. Where a qualified professional hydrogeologist or engineer has made recommendations for mitigation measures, the permit conditions may include a requirement for security in the form of an irrevocable letter of credit, to ensure the protection of groundwater supply quality or quantity consistent with the measures and recommendations described in the report.
3. Where the qualified professional hydrogeologist or engineer's report describes an area as suitable for development with special mitigating measures, the development permit should only allow the development to occur in compliance with the measures described in the report. Monitoring and regular reporting by a hydrogeologist or other professional at the applicant's expense may be required during construction and development phases, as specified in a development permit.
4. Where an application involves the subdivision of land, layout of the subdivision should be, to the greatest extent possible, designed to:
 - a) replicate the function of a naturally vegetated watershed;
 - b) maintain the hydraulic regime of surface and groundwater pre-development flow rates;
 - c) minimize interference with groundwater recharge;
 - d) not introduce or remove material where it would cause erosion of or the filling in of natural watercourses or wetlands.
5. Where freshwater collection and storage cisterns are required as a condition of the construction of a building, impervious surfaces should be minimized.
6. Where freshwater collection cisterns are required as a condition of construction of a building, the LTC may require that all new dwelling units include:
 - i. External equipment for collecting and distributing rainwater from the dwelling unit roof;
 - ii. A pumping system;
 - iii. An overflow handling system.
7. The use of impervious paved driveways shall be discouraged.
8. Where tree removal is not exempt from the requirement for a permit:
 - a. Removal of trees from steep slopes should only be allowed where necessary and where

replacement vegetation / erosion control measures are established. Plans delineating extent of vegetation / tree removal and location of proposed construction, excavation and / or blasting, may be required.

- b. All development should be undertaken and completed in such a manner as to prevent the release of sediment to any watercourse. An erosion and sediment control plan, including actions to be taken prior to land clearing and site preparation and the proposed timing of development activities to reduce the risk of erosion, may be required as part of the development permit application.
 - c. Existing, native trees should be retained wherever possible and trees to be retained near development should be clearly marked prior to development, and temporary fencing installed at the drip line to protect them during clearing, grading and other development activities.
 - d. If the area has been previously cleared of trees, or is cleared during the process of development, replanting requirements may be specified in the development permit. Areas of undisturbed bedrock exposed to the surface or natural sparsely vegetated areas should not require planting.
 - e. Tree species used in replanting, restoration or enhancement should be selected to suit the soil, light and groundwater conditions of the site, should preferably be native to the area, and should be selected for erosion control and/or wildlife habitat values as needed. Suitably adapted, non-invasive, non-native trees may also be considered acceptable.
 - f. All replanting should be maintained by the property owner for a minimum of 2 years from the date of completion of the planting to ensure survival. This may require removal of invasive, non-native weeds (e.g., Himalayan blackberry, Scotch broom, English ivy) and irrigation. Unhealthy, dying or dead trees should be replaced at the owner's expense in the next regular planting season. Permits may include, as a condition, the provision of security to guarantee the performance of terms of the permit.
9. Roads, driveways, trails and pathways should follow the contours of the land and appropriately manage drainage. The construction of roads and utility corridors and other activities involving the disturbance of the soil, must be conducted in such a manner that the productivity of the local groundwater recharge area is not impaired through soil compaction, altered surface drainage patterns, siltation, erosion, or salt water intrusion.
 10. Parking areas should be located and constructed so as to minimize erosion and water pollution by controlling storm runoff. Structural measures such as catch basins, oil separators, bio- filtration trenches or swales, unpaved or permeable all-weather surfaces should be considered for this purpose.
 11. Permits may include minor variances to subdivision or building and structure siting or size regulations to meet the objectives of the development permit area."
 12. Section VI Development Approval Information, Subsection 2. Special Conditions "ii" is amended by deleting "elevated groundwater catchments" and replacing it with "groundwater recharge".

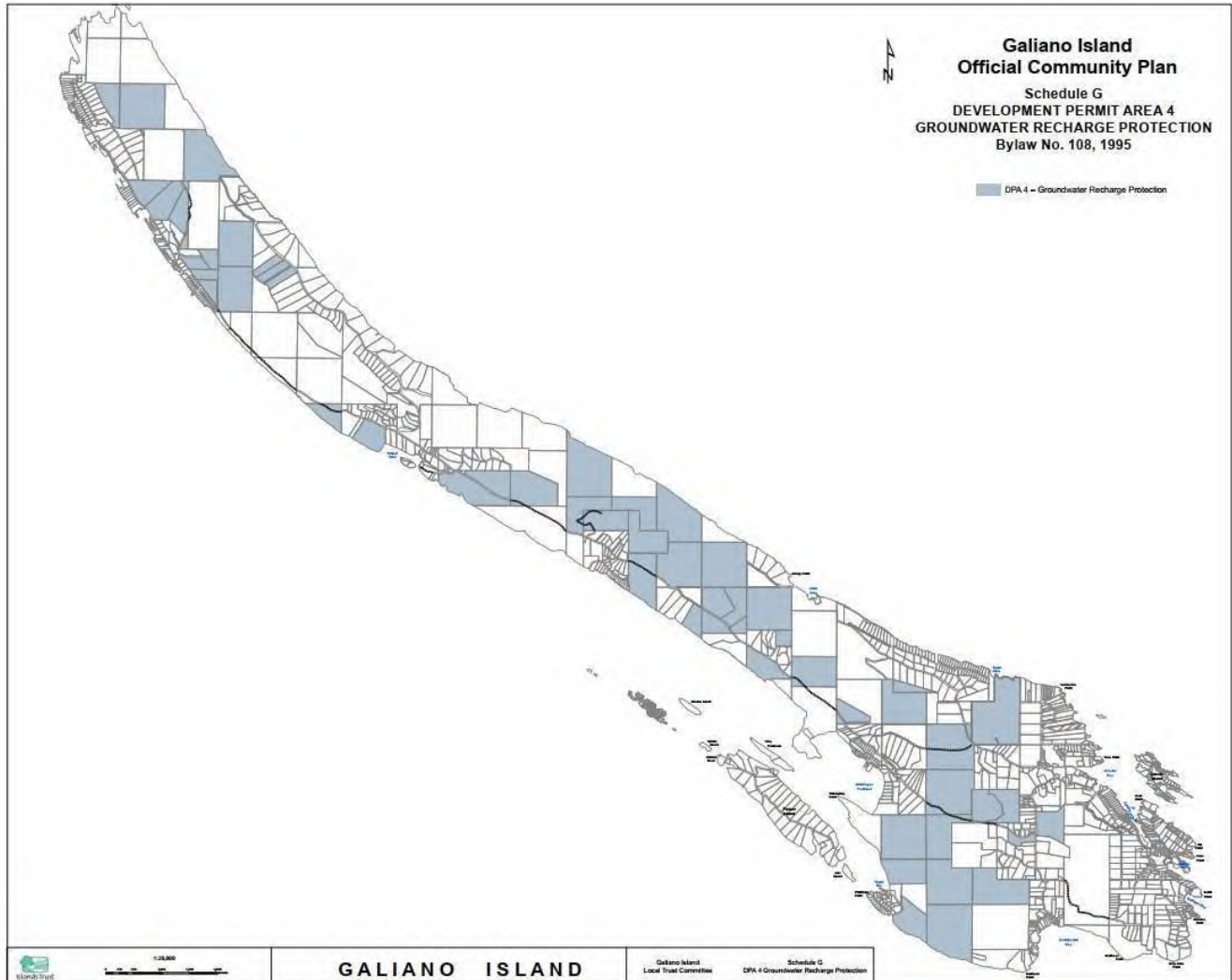
13. Schedule "D – Water Resources" is removed and replaced with Schedule "D – Groundwater Regions" as shown on Plan No. 1 attached and forming part of this bylaw.
14. Schedule "G – Development Permit Area 4: Elevated Groundwater Catchment" is removed and replaced with Schedule "G – Development Permit Area 4: Groundwater Recharge Protection" as shown on Plan No. 2 attached and forming part of this bylaw.

GALIANO ISLAND LOCAL TRUST COMMITTEE
BYLAW NO. 283
Plan No. 1



GALIANO ISLAND LOCAL TRUST COMMITTEE
BYLAW NO. 283
Plan No. 2

Schedule G – Development Permit Area 4: Groundwater Recharge Protection



GALIANO ISLAND LOCAL TRUST COMMITTEE BYLAW NO. 284

A BYLAW TO AMEND GALIANO ISLAND LAND USE BYLAW, NO. 127, 1999

The Galiano Island Local Trust Committee, being the Local Trust Committee having jurisdiction in respect of the Galiano Island Local Trust Area under the *Islands Trust Act*, enacts as follows:

1. Citation

This bylaw may be cited for all purposes as “Galiano Island Land Use Bylaw No. 127, 1999, Amendment No. 1, 2022”.

2. Galiano Island Local Trust Committee Bylaw No. 127, cited as “Galiano Island Land Use Bylaw No. 127, 1999,” is amended as follows:

2.1 Section 2 General Regulations, Subsection 2.28– Secondary Suites is amended by removing 2.28.6 in entirety and replacing it with “2.28.6 A building permit for a property outside a water service area shall not be issued for a secondary suite unless a freshwater catchment and storage system having a capacity of at least 18,000 litres is installed on the property.”

2.2 Section 2 General Regulations is amended by inserting “Cistern Requirements” as a new heading under Section 2.28.

2.3 Section 2 General Regulations is amended by inserting, under the heading “Cistern Requirements” the following:

“2.29 A building permit for a property outside a water service area shall not be issued for a new building to be used as a dwelling, including a cottage, unless a cistern (or combination of cisterns) for the storage of freshwater having a capacity of at least 18,000 litre is installed on the property.

2.30 The floor area occupied by any cistern located in a building and the housing provided for such cistern is excluded from the calculation of the floor area of the building and the lot coverage of the lot on which it is located.”

2.4 Section 13 Subdivision and Development Regulations 13.23 is amended by removing “16,000” and replacing it with “18,000”.

2.5 Section 13 Subdivision and Development Regulations is amended by deleting 13.24 through 13.29 in its entirety and replacing it with the following and by making such consequential numbering alterations to effect this change.

“Standards for Potable Water Supply

Information Note: If more than one dwelling unit is connected to the same source of water, the water system may be subject to the Drinking Water Protection Act, the Water Utility Act or other regulations pertaining to water supply systems.

Information Note: Water obtained from a stream, or non-domestic groundwater use requires a licence under the Water Sustainability Act.

- 13.24 Where potable water is proposed to be supplied to lots in a subdivision by an established community water system, the applicant for subdivision must provide written confirmation from the community water system that it is able to supply potable water for the permitted principal use and density to each lot.
- 13.25 Where potable water is proposed to be supplied to lots in a subdivision by creating a community water system, the applicant for subdivision must provide proof of all authorizations required under the *Drinking Water Protection Act*, the *Water Utility Act* or any other enactment pertaining to water supply systems.
- 13.26 Where potable water is proposed to be supplied to lots in a subdivision from a stream, the applicant for subdivision must provide proof of authorization in the form of a water licence confirming that the total volume of water granted to the licence holder is able to supply potable water for domestic uses at the volume specified in Table 1 to each lot.
- 13.27 Where potable water is proposed to be supplied to lots in a subdivision by drilled wells the applicant for subdivision must provide written certification under seal of a hydrogeologist that:
 - a. Each well has been constructed in accordance with the *Groundwater Protection Regulation*;
 - b. Each well has been constructed in accordance with Sections 13.29, 13.30 and 13.31;
 - c. Each well has sufficient available groundwater to provide the daily required volume of potable water for the permitted domestic uses on each lot in accordance with Table 1;
 - d. Each well for which a water licence has not been issued has sufficient available groundwater volume for all permitted non-domestic, non-agricultural, non-park, non-conservation area principal uses for each lot at the permitted density of use; and
 - e. Includes recommendations for mitigation measures, if applicable, to ensure long-term sustainable yield of the drilled well.

TABLE 1 DOMESTIC POTABLE WATER SUPPLY STANDARDS FOR SUBDIVISION	
USE	VOLUME (litres per day)
<i>Per lot (including one dwelling)</i>	2000
<i>Each additional permitted dwelling and cottage per lot</i>	2000

- 13.28 Where the potable water is proposed to be supplied to lots in a subdivision by drilled wells, for any well where a water licence has not been issued the applicant for subdivision must also provide written certification under seal of a hydrogeologist:
- Results of a water quality analysis, completed by an accredited laboratory;
 - A plan of the proposed subdivision indicating the location where each water sample was taken;
 - A statement that the water samples upon which the water quality analysis was performed were unadulterated samples taken from the locations indicated on the plan.
 - Confirmation, based on the accredited laboratory water quality analysis, that each proposed water supply source is potable, or can be made potable, with a treatment system; and
 - Confirmation, based on the accredited laboratory water quality analysis of chloride concentrations, that each drilled well is not likely to be affected by the intrusion of saline groundwater or sea water in accordance with the Province of British Columbia guidance documents.
- 13.29 Where a water license has not been issued and where potable water is proposed to be supplied to lots in a subdivision by a drilled well, a pumping test shall be carried out on each well in a proposed subdivision by:
- pumping groundwater, at a constant rate, for a minimum period of 12 hours; and
 - withdrawing the total daily required volume specified in section 13.27 over a maximum period of 24 hours; and
 - monitoring groundwater levels continuously during the pumping test and during the recovery period.
- 13.30 Where potable water is to be supplied by a drilled well a sounding tube or wellhead port must be installed to enable the insertion of water level monitoring equipment.
- 13.31 Drilled wells used for the purposes of subdivision must not be located within 50 metres of the natural boundary of the sea.
- 13.32 If the daily required volume of potable water cannot be supplied in accordance with Section 13.24 or if the certification in Subsections 13.27(c) and 13.27(d) cannot be made, the Approving Officer may nonetheless approve the subdivision provided that the applicant grants a s.219 covenant to the Galiano Island Local Trust Committee and the Capital Regional District that restricts the development of the subdivision to the uses or density of the uses for which a certification has been made under

Sections 13.24 or 13.27.

- 13.33 Where the certification under subsection 13.28(d) states that a water supply is not potable but can be made potable with a treatment system, the Approving Officer may approve subdivision provided that the applicant grants a s. 219 covenant under the *Land Title Act* to the Galiano Island Local Trust Committee and the Capital Regional District that requires on-going treatment of the water to potable water standards recommended by a hydrogeologist.
- 13.34 For the purposes of subdivision, drilled wells impacted by seawater intrusion or whose operation is likely to cause seawater intrusion are not permitted sources of potable water.
- 13.35 For the purposes of subdivision, alternative potable water supplies including, but not limited to, shallow dug wells, rainwater catchment and desalination are not permitted sources of potable water.
- 13.36 The requirements of Sections 13.24-13.35 do not apply where the proposed subdivision is a boundary adjustment that does not result in an increase in the number of lots or permitted dwelling units, provided that all lots in the subdivision are currently serviced by existing wells, community water system connection or water licence.

- 2.6 Section 17 Interpretation, Subsection 17.1 Definitions, is amended by inserting the following in alphabetical order:

“aquifer” means a geological formation; or a group of geological formations, or a part of one or more geological formations that is groundwater bearing and capable of storing, transmitting and yielding groundwater.

“groundwater” means water naturally occurring below the surface of the ground.

“Hydrogeologist” means an engineer or geoscientist with competency in the field of hydrogeology, regulated under the *Professional Governance Act*, Engineers and Geoscientists Regulation.

“potable” means water that is safe to drink, fit for domestic purposes and meets the Health Canada Guidelines for Canadian Drinking Water Quality or any guidance documents or legislation which may be enacted in substitution.

“pumping test” means a flow test to determine the long-term sustainable yield of a well, conducted under supervision of a hydrogeologist, and that is consistent with the British Columbia Guide to Conducting Pumping Tests, Guidance for Technical Assessments in Support of an Application for Groundwater Use in British Columbia, other guidance documents which may be issued, applicable legislation, and consists of pumping groundwater from a well typically for 12 to 72 hours depending on aquifer characteristics.

- 2.7 Section 17 Interpretation, Subsection 17.1 Definitions, is amended by removing the definition of “community water system” in its entirety and replacing it with:

““community water system” means a system of waterworks that serves more than one lot and is owned, operated and maintained by an improvement district, a regional district, a water utility, a society, or a water supplier.”

- 2.8 Section 17 Interpretation, Subsection 17.1 Definitions, is amended by adding the following in alphabetical order:

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“groundwater” means water naturally occurring below the surface of the ground.

“Hydrogeologist” means an engineer or geoscientist with competency in the field of hydrogeology, regulated under the *Professional Governance Act*, Engineers and Geoscientists Regulation.

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““community water system” means a system of waterworks that serves more than one lot and is owned, operated and maintained by an improvement district, a regional district, a water utility, a society, or a water supplier.”

3. SEVERABILITY

If any provision of this Bylaw is for any reason held to be invalid by a decision of any Court of competent jurisdiction, the invalid provision must be severed from the Bylaw and the decision that such provision is invalid must not affect the validity of the remaining provisions of the Bylaw.

READ A FIRST TIME THIS	14 TH	DAY OF	MARCH	2023.
PUBLIC HEARING HELD THIS	_____	DAY OF	_____	20____
READ A SECOND TIME THIS	_____	DAY OF	_____	20____
READ A THIRD TIME THIS	_____	DAY OF	_____	20____
APPROVED BY THE EXECUTIVE COMMITTEE OF THE ISLANDS TRUST THIS	_____	DAY OF	_____	20____
ADOPTED THIS	_____	DAY OF	_____	20____

CHAIR

SECRETARY

Referrals: Bylaw GL-283

Agency	Sent	Received
Bylaw Enforcement <i>Islands Trust: Warren Dingman</i>	07-Feb-2023	
Capital Regional District - All Referrals Aggie Chan and Jessica Arnet <i>625 Fisgard Street: Aggie Chan</i> <i>Comment: Integrated Water Services - The Bylaw update applies to the CRD water service area on Galliano Island (Stick Allison area). CRD Integrated Water Services wants to ensure the update takes into account the CRD water service supply. Has the CRD water supply for the Sticks Allison water service area on Galiano been considered in this bylaw amendment? Please confirm why the land where the water supply well sits, and is adjacent to, was not categorized as a Development Permit Area critical groundwater recharge area? CRD Building Inspection Dept. -Plumbing Permits will be required for plumbing systems or alterations to a plumbing system on site.</i>	07-Feb-2023	08-Mar-2023
Cowichan Tribes <i>5760 Allenby Rd: Tracey Flemming</i> <i>Comment: No Comment Received</i>	07-Feb-2023 22-Mar-2023 25-Jul-2024	
Halalt First Nation <i>7973 Chemainus Rd: Raven August</i> <i>Comment: No Comment Received</i>	07-Feb-2023 22-Mar-2023 25-Jul-2024	
Lake Cowichan First Nation <i>313B Deer Road: Carole Livingstone</i> <i>Comment: Ts'uubaa-asatx Nation does not have any comments to provide at this time regarding this application proceeding. Please note that this "no comment" response is specifically intended for this application and is without prejudice to all future consultation with our Nation regarding not only the renewal of this application but any other application or decision within the Ts'uubaa-asatx Nation traditional territory. Furthermore, we may choose in the future to address the issues of Aboriginal rights and/or title infringement and compensation through the treaty process, the courts or other dispute resolution processes. We also reserve the right to raise objections if any cultural use, archaeological sites or environmental impacts are identified when the above development is being carried out or if we discover impacts on our rights or interest that we had not foreseen.</i>	07-Feb-2023 22-Mar-2023 25-Jul-2024	20-Mar-2023
Lyackson First Nation <i>8017 Chemainus Road: Linda Aidnell</i> <i>Comment: No Comment Received</i>	07-Feb-2023 22-Mar-2023 25-Jul-2024	
Malahat First Nation <i>110 Thunder Road, RR4: Heather Adams</i>	07-Feb-2023 22-Mar-2023	06-Apr-2023

Referrals: Bylaw GL-283

Agency	Sent	Received
<i>Comment:</i> Malahat Nation notes that the proposed activity falls outside of core Malahat traditional territory, and as such we acknowledge and respect the local First Nation(s)' opportunity to act as primary correspondents in this case. However, in the event they do not, or are unable to respond we reserve our right to consultation and engagement, and continue to require disclosure on an ongoing basis regarding these draft bylaws.	25-Jul-2024	26-Sep-2024
Mayne Island Local Trust Committee <i>Islands Trust:</i> Jas Chonk <i>Comment:</i> Interests unaffected by bylaw.	07-Feb-2023	27-Mar-2023
Ministry of Environment, Water Stewardship Division - Water Protection & Sustainable Branch <i>PO Box 9362:</i> No Contact Name Groundwater Section	07-Feb-2023	
Ministry of Municipal Affairs and Housing <i>Planning and Land Use Management:</i> Ron Burleson	07-Feb-2023	
Ministry of Transportation and Infrastructure <i>Ministry of Transportation and Infrastructure:</i> Owen Page <i>Comment:</i> The Ministry has no objections to the proposed changes to the OCP.	07-Feb-2023	01-Mar-2023
Musqueam Nation <i>6735 Salish Dr.:</i> Referrals Coordinator <i>Comment:</i> Thank you for reaching out to Musqueam Indian Band. Our referrals team has reviewed the document for Galiano Island Local Trust Committee Draft Bylaws 283 and 284. We defer this referral to other closely affected First Nations.	07-Feb-2023 22-Mar-2023 25-Jul-2024	11-Apr-2023
Pauquachin First Nation <i>9010 West Saanich Road:</i> Darlene Henry <i>Comment:</i> No Comment Received	07-Feb-2023 22-Mar-2023 25-Jul-2024	
Penelakut Tribe <i>Box 360:</i> Denise James <i>Comment:</i> No Comment Received	07-Feb-2023 22-Mar-2023 24-Jul-2024	
Salt Spring Island Local Trust Committee <i>1 - 500 Lower Ganges Road:</i> Peter Luckham	07-Feb-2023	
Semiahmoo First Nation <i>16049 Beach Rd:</i> Chief & Council <i>Comment:</i> No Comment Received	07-Feb-2023 22-Mar-2023 25-Jul-2024	
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Stz'uminus First Nation	07-Feb-2023	

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12611A Trans Canada Hwy: Chenoa Akey <i>Comment:</i>	22-Mar-2023 25-Jul-2024	
Thetis Island Local Trust Committee <i>Northern Office:</i> Laura Patrick <i>Comment:</i> Interests unaffected by bylaw.	07-Feb-2023	28-Feb-2023
Tsartlip First Nation <i>PO Box 70:</i> Karen Harry <i>Comment:</i> No Comment Received	07-Feb-2023 22-Mar-2023 25-Jul-2024	
Tsawout First Nation <i>Box 121:</i> Cathy Webster <i>Comment:</i> No Comment Received	07-Feb-2023 22-Mar-2023 25-Jul-2024	
Tsawwassen First Nation <i>1926 Tsawwassen Drive:</i> Victoria Williams <i>Comment:</i> Tsawwassen First Nation (TFN) has no concerns regarding this file, at this time. However, TFN requests all copies of interim and final environmental and archaeological reports produced for this project.	07-Feb-2023 22-Mar-2023 25-Jul-2024	21-Aug-2024
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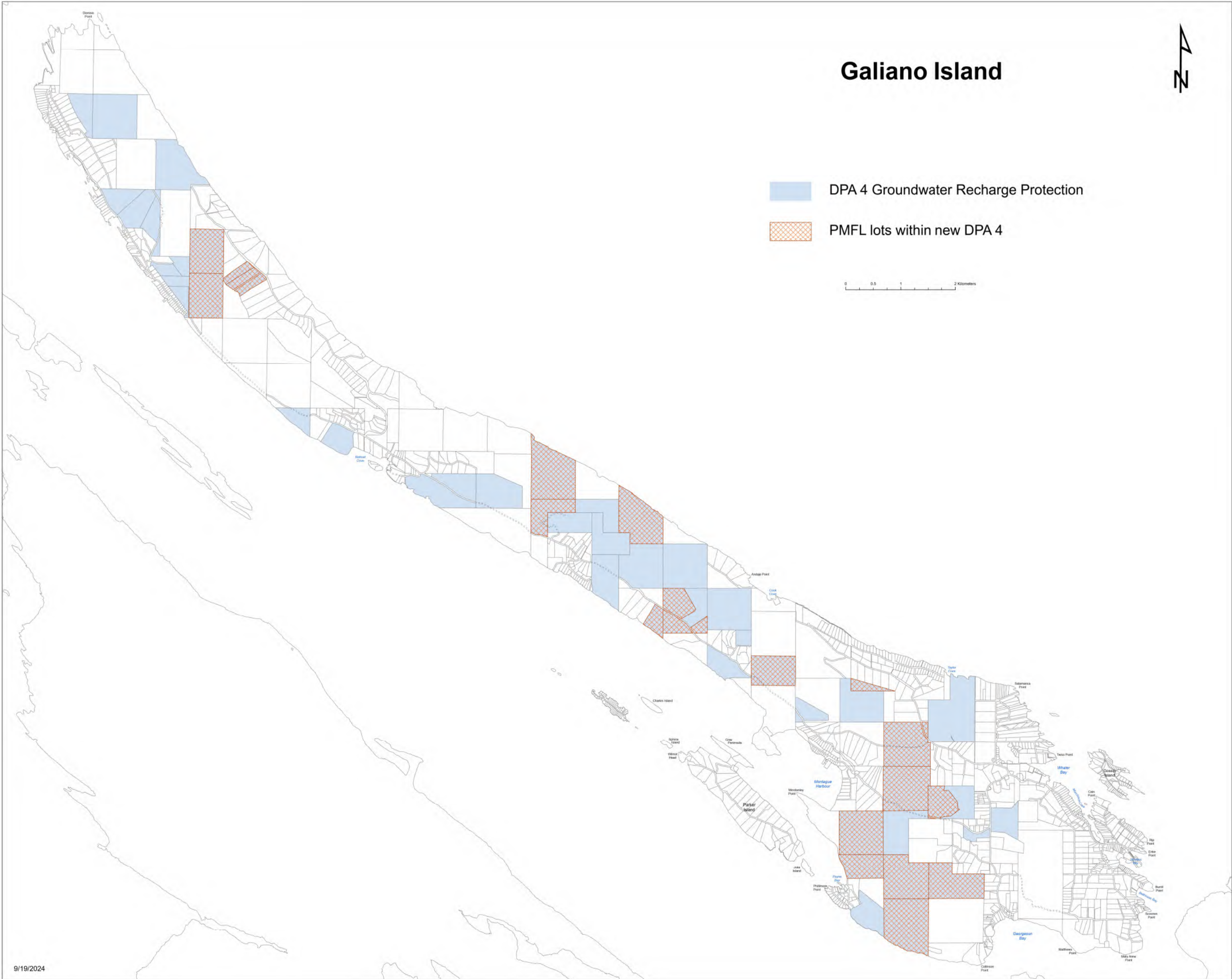
Referrals: Bylaw GL-284

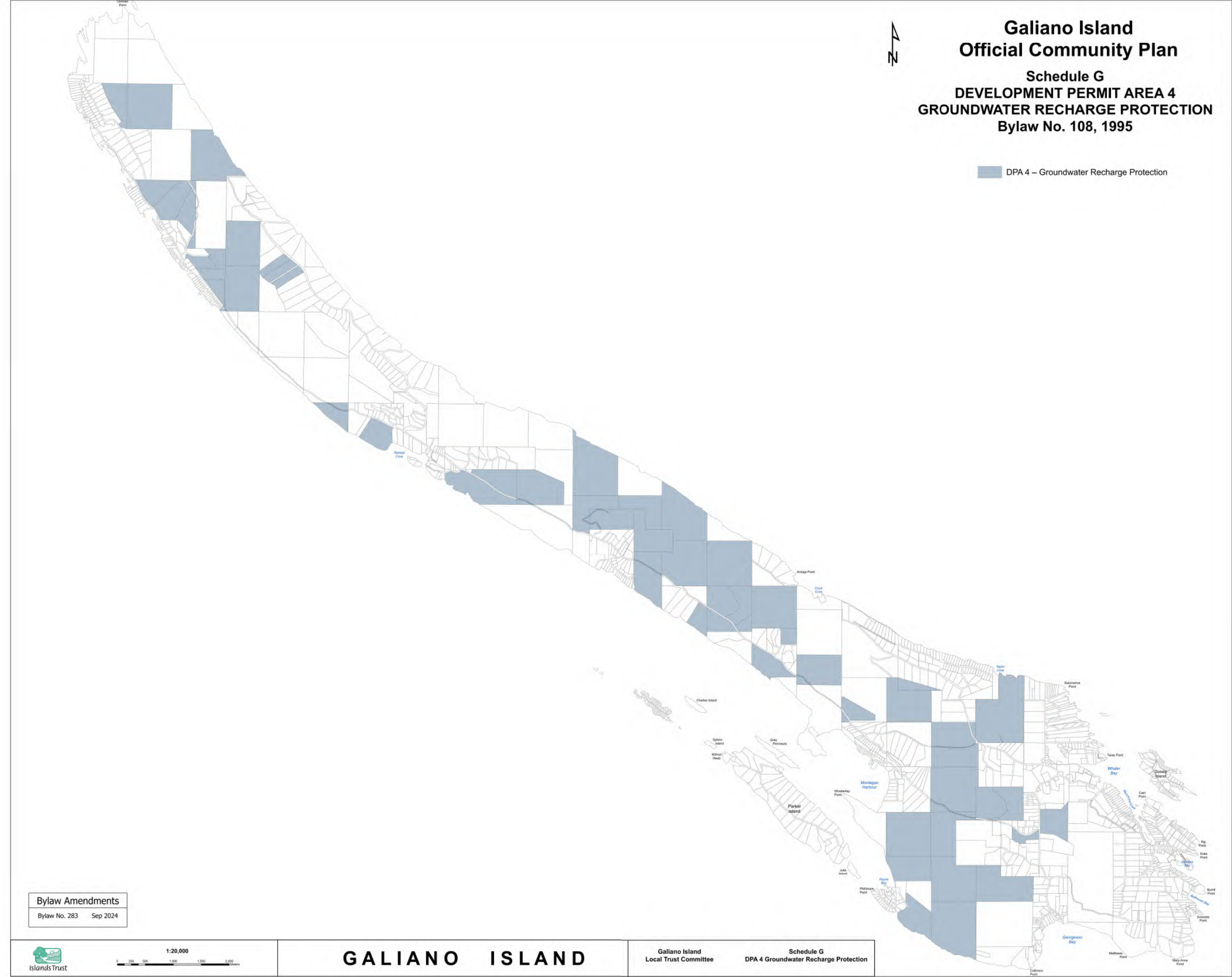
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Galiano Island



- DPA 4 Groundwater Recharge Protection
- PMFL lots within new DPA 4





Active Projects Report

Galiano Island

1. *Minor Project - Groundwater Sustainability*

Responsible

Dates

Activity:

Kim Stockdill

Rec'd: 02-Apr-2019

Phase 1 and 2: mapping and data analysis - Completed

Target: 30-Sep-2023

Phase 3: Implementation of mapping and data analysis

Future Projects Report

Galiano Island

1. *Parking Issues*

Responsible

Date Received

Issue for discussion with MoTI and public parking issues generated from associated islands.

23-Jul-2012

(see correspondence from P. Midgely on agenda of Apr/12)

2. *Light Industrial Zoning*

Responsible

Date Received

A review and inventory assessment of existing and potential light industrial zones.

18-Nov-2013

3. *Coastal Douglas-Fir Protection*

Responsible

Date Received

Review 'Protection of the Coastal Douglas-fir and Associated Ecosystems: An Islands Trust Tool Kit (2018)' and provide recommendations from toolkit.

04-Feb-2019

- LPC is intending to develop a model bylaw in 2021-22.

Include review the Contiguous Forest Mapping in the Islands Trust Area Report.

4. *Cannabis Retail and production*

Responsible

Date Received

Consider review of policies and regulations to address cannabis retail sales and production

05-Mar-2019

Future Projects Report

Galiano Island

5. *Emergency Access Planning*

Responsible

Date Received

Follow-up from CRD emergency planning process - include consideration of developing driveway guidelines for emergency access within land use bylaw

02-Apr-2019

6. *Review of Road Network Plan*

Responsible

Date Received

Review of Road Network Plan - include December 11th APC memo in review process - meet with MOTI

02-Mar-2020

7. *Review of LUB tiny home/trailer regulations, maximum house sizes and lot coverage*

Responsible

Date Received

01-Jun-2021

8. *Wise Island bylaw review*

Responsible

Date Received

Review of Wise Island bylaws and potentially other islands with water access only

06-Sep-2022

9. *Shoreline model protection bylaw*

Responsible

Date Received

Review APC report in consideration of development of shoreline model protection bylaw

06-Sep-2022

Standing Resolutions Log

Galiano Island

Resolution Number	Action	Date
2023-015 (Standing) First Nations Reconciliation That the Galiano Island Local Trust Committee seek to engage in reconciliation with local First Nations, governments and island community by honouring the Truth and Reconciliation Commission (TRC) Calls to Action, the United Nations Declaration on Rights of Indigenous Peoples, draft principles that guide the Province of British Columbia's relationship with Indigenous Peoples and Islands Trust First Nations engagement principles. The Galiano Island Local Trust Committee endeavour to: a. Annually write a letter to all First Nations knowledge holders introducing Trustees and staff and provide a schedule of known Local Trust Committee meetings for the upcoming year, as well as provide an update of current projects and advocacy activities; b. For various Local Trust Committee meetings, invite local First Nations and knowledge holders to attend meetings, as well as provide a traditional welcome to the Territory if they would like; c. Work with Local First Nations Governments and knowledge holders on cooperative initiatives, including but not limited to, language, place names, territorial acknowledgements and community education on Coast Salish and local First Nations cultural heritage and history; d. Work with Local First Nation Governments and knowledge holders on engagement principles for inclusive land use, marine use and climate change planning advocacy, protection and stewardship and knowledge and information sharing protocols; and e. Establish and maintain government to government dialogue with Local First Nations and knowledge holders now and into the future based on respect and recognition of Aboriginal Rights and Titles, Treaty Rights, and First Nations Traditional Territories within the Islands Trust Area.	Carried	14-Mar-2023
2020-042 (Standing) Use of Development Permits for Variances That the Galiano Island Local Trust Committee request that development permit applications where a variance is requested be processed as a combined application with both a development permit and a development variance permit.	Carried	08-Sep-2020

Standing Resolutions Log

Galiano Island

Resolution Number	Action	Date
2020-041 (Standing) Unlawful Land Uses and Planning Applications that the Galiano Island Local Trust Committee adopt the following policy on unlawful land uses and planning applications: a. Where an application is received and a use is continuing in contravention of a land use bylaw, staff are directed to request that the applicant cease the use prior to processing the application, and that staff are directed to continue with enforcement until the use is ceased. b. The applicant may request that the Local Trust Committee proceed with consideration of the application while the use is continuing; and, where the Local Trust Committee considers there is a community need to process the application while the prohibited use is continuing, the Local Trust Committee may direct that bylaw enforcement actions, including the issuing of notices, cease. c. Where the Local Trust Committee does not consider that there is a community need, or the applicant has not made such a request of the Local Trust Committee; bylaw enforcement actions, including the issuing of notices, will continue. d. In deciding whether to grant land use approval for a use that was commenced in contravention of a land use bylaw, the Local Trust Committee may consider whether the applicant has suspended the prohibited land use pending a decision on the application.	Carried	06-Jul-2020
2020-013 (Standing) Advisory Planning Commission that the Galiano Island Local Trust Committee request that prior to expiration of Advisory Planning Commission members terms of office, staff write to commissioners asking if they wish to be reappointed and also advertise for expressions of interest for new commissioners.	Carried	03-Feb-2020

Standing Resolutions Log

Galiano Island

Resolution Number	Action	Date
2019-014 (Standing)	Carried	04-Mar-2019
13.1 Cannabis Retail - Staff Report that the Galiano Local Trust Committee adopt the following standing resolution with respect to the processing of non-medicinal cannabis retail license applications: - Proposed or amended licenses for non-medicinal cannabis retail establishments require an application to the local trust committee. - The application process shall comprise a public consultation component, which includes at least one notification to neighbours, one public meeting, posting of public notices and one advertisement in a local periodical. - The public consultation process shall be determined by the local trust committee after initial review of the proposal. - However, as a minimum, the local trust committee will mail or otherwise deliver a notice to all owners and residents of properties within a 500 metre radius of the subject property where the establishment is proposed at least 10 days before adoption of a resolution providing comment on the application. The required notice shall include the following information: - o Name of the applicant and a description of the proposal in general terms - o The location of the proposed establishment and the subject site - o The place where, and date and time when, both a public meeting will be held and a resolution of the local trust committee considered. - o The name and contact information of the Islands Trust planning staff member who can provide copies of the proposed or amended license application - o How public comments may be submitted to the local trust committee.		
2018-064 (Standing)	Carried	04-Jun-2018
11.1 Telecommunication Strategy Project - Staff Report that the Galiano Island Local Trust Committee endorses the Telecommunication strategy Project Charter dated June 22, 2016		
2014-029 (Standing)	Carried	07-Apr-2014
Community Wells as a Community Benefit That the Galiano Island Local Trust Committee will consider as a community benefit for all rezoning applications where there is an increase in density, the establishment of an instrumented observation well.		

Standing Resolutions Log

Galiano Island

Resolution Number	Action	Date
2014-000 (Standing)	Carried	03-Feb-2014

On properties where there is an open bylaw enforcement file, planning staff should refer planning applications to the Bylaw Enforcement Manager for comment where one or more of the following circumstances exist:

1. There have been significant delays or longer than typical timelines in the enforcement process
2. The LTC is considering on-going, relevant policy or regulatory changes that could impact enforcement
3. Litigation has been recommended
4. Legal counsel has been involved (beyond providing a basic interpretation)
5. There has been enforcement action beyond seeking voluntary compliance (e.g. a BEN warning or ticket, adjudication, a compliance agreement negotiated, etc.)
6. There has been, or is an expectation of, joint enforcement with other jurisdictions
7. There is potential for impact on other related enforcement files.

2011-205 (Standing)	Carried	17-Oct-2011
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Special Occasion Liquor Licenses

That where a Liquor Control and Licensing Branch Special Occasion License referral relates to a property on which Galiano Island Land Use Bylaw No. 127, 1999 permits public assembly uses, such as restaurants or community halls, and where there have been no issues related to parking or past complaints for the preceding three years, staff may approve the Special Occasion License without referral to the Local Trust Committee. All other Special Occasion License referrals are to be referred to the Local Trust Committee for consideration.

2010-115 (Standing)	Carried	18-Oct-2010
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Publishing Notices beyond legal requirements

That the Galiano Island Local Trust Committee will advertise Public Hearing Notices in the Active Page Magazine in addition to the legally required advertising in the Driftwood Newspaper.



Standing Resolutions Log

Galiano Island

Resolution Number	Action	Date
2009-085 (Standing)	Carried	11-May-2009
Parks Commission Referral		
That staff refer all applications adjacent to a park or ocean access to the Galiano Island Parks and Recreation Commission for comment		