

Report

Date November 1, 2023

File: 3360-20 23.06

Subject Zoning Amendment Bylaw No. 3937, 2023, for first and second readings

PURPOSE

To introduce Zoning Amendment Bylaw No. 3937, 2023, which proposes to amend Zoning Bylaw No. 2950, 1997, to permit one detached additional dwelling unit at 7475 Bell McKinnon Road.

BACKGROUND

Property Details

The subject property is located at 7475 Bell McKinnon Road and is 1.97 hectares (4.88 acres) in size. It is situated in the Rural (A2) Zone (Attachments 1, 2 & 3), designated as Rural Residential within the Official Community Plan, and outside of the Urban Containment Boundary (UCB). The property contains a newly constructed single-family dwelling, which was given final occupancy in January 2023, and one accessory building (the former single-family dwelling with a secondary suite) decommissioned in February 2022. The original single-family dwelling was decommissioned prior to the issuance of the building permit for the new single-family dwelling to respect zoning limitations for the number of dwellings permitted in the A2 zone.

The property is serviced by municipal water and septic. The predominant land use and zoning surrounding the subject property is rural residential:

- *Residential Rural (R1) zoning (southwest and west),*
- *Rural (A2) zoning (north and south), and*
- *Rural Restricted (A3) zoning (east).*

Proposal

The applicant is requesting a text amendment to the A2 Zone (Attachment 8) to permit the use of two accessory dwelling units (ADUs) in one existing accessory building (the former decommissioned single-family dwelling with suite) adjacent to the newly constructed detached single-family dwelling on the subject property. Both proposed ADUs will be approximately 84 m² in size, resulting in a total ADU area of 168 m². A site plan describing the location of each building and a letter of rationale are available as Attachments 4 and 5, respectively.

The applicants have provided a letter from a Registered Onsite Wastewater Practitioner confirming that the current septic system has been sized to service the new home and one additional dwelling unit (Attachment 7). The Engineering Department has conducted an initial review of the proposal and confirmed municipal water service to be adequate to service three dwellings.

DISCUSSION

Zoning Bylaw No. 2950 – Rural Accessory Dwelling Units and Density

On October 4, 2022, Council adopted Bylaw No. 3876 (Rural Accessory Dwelling Units), which updated Zoning Bylaw No. 2950 to closely align with Agricultural Land Commission regulations for most A-zoned parcels (A1, A2, A3, and A5). The amendment authorized parcels two hectares or larger in area to have a detached accessory dwelling unit of up to 90m² of gross floor area, subject to registration of a covenant prohibiting future stratification of the subject property. This bylaw amendment codified the maximum size of an ADU and how it is measured (i.e., gross floor area).

The applicant requests a zoning amendment to allow for two ADUs to be contained in one detached existing building on the property (additional to the newly constructed detached primary dwelling). Staff note that while the A2 zone allows for two detached dwellings (where the minimum lot size requirement is 2 hectares), the applicant does not meet this requirement for one additional ADU. Nor does the existing A2 zoning accommodate the requested third dwelling in terms of use for this application.

Second Dwelling Rural Lands Policy

On December 4, 2019, Council adopted the Second Dwelling Rural Lands (SDRL) Policy (Attachment 6), which established criteria for staff and Council to review site-specific zoning amendment applications for second dwellings (now referred to as ADUs) outside the UCB. The Policy does not support this application as two ADUs but would support it if only one ADU is proposed. The SDRL Policy supports a second dwelling of 90m² or less on parcels greater than 0.4 hectares serviced by municipal water. As this parcel is just under 2 hectares (1.97ha) in area and on municipal water, the SDRL Policy would support a zoning amendment for one detached ADU. The SDRL Policy obligates the applicant to register a covenant restricting the future stratification of a subject property should Council authorize the ADU.

Official Community Plan No. 3900 (OCP) Designation and Policies

The following OCP policies are applicable to the proposal:

Rural Residential Designation

Policy 3.2.19 The Municipality will strive to:

- c. Configure zoning to maximize housing potential without further subdivision to permit detached accessory dwellings where servicing connections are available, or in the alternative, adequate on-site common septic treatment and water supply can be achieved.*

Diverse Housing Mix

Policy 5.1.2 The Municipality will strive to:

- b. Assess and consider how proposals for new housing meet the needs identified in the most recent Housing Needs Assessment Report.*
- h. Explore and encourage different housing types that are suitable to aging in place...*

ANALYSIS & CONCLUSION

The OCP provides support for additional housing in various forms, and this application is generally compliant with that policy. However, the OCP also intends that growth be primarily directed inside the UCB and does not provide policy support for multiple ADUs on rural properties. The SDRL Policy does not support the proposal due to the number of ADUs requested. Approval of two ADUs is not recommended.

The applicant has advised that if approval of two ADUs is not supported, an alternate approval of one ADU would be acceptable. The lot area is approximately 200 square metres short of the minimum lot area required to allow a total of two detached residential buildings on the property within the A2 zone without rezoning. As the OCP and SDRL Policy support one ADU on the subject property, staff recommend approval of this alternative proposal for one ADU.

The building where the ADU is proposed was previously used as a single-family dwelling with a secondary suite, but the cooking facilities have been removed from both former dwelling units. The gross floor area of the entire building is approximately 168 m², which exceeds the 90 m² maximum for ADUs in the A2 zone and SDRL Policy. One level would need to be restricted to storage to comply with these requirements. As there is currently no internal passage between the upper and lower levels of the building, configuring the building with an ADU on the upper level with storage on the lower level can practically be achieved. If the zoning amendment is adopted, a building permit will be required for the ADU, and the building permit will confirm how the building must be configured and used. The owners will also be required to remove any remaining kitchen facilities from the lower level to demonstrate the intent to use the area for storage.

OPTIONS

1. (Recommended Option) THAT Council:
 - (1) Give first and second readings to Zoning Amendment Bylaw No. 3937, 2023 to permit one detached accessory dwelling unit at 7475 Bell McKinnon Road; and,
 - (2) Authorize a Public Hearing for Zoning Amendment Bylaw No. 3937, 2023.
2. THAT Council deny Zoning Amendment Application ZB000207 to permit a detached building containing two accessory residential dwelling units at 7475 Bell McKinnon Road.
3. THAT Council direct staff to prepare an amendment to Zoning Bylaw No. 2950, 1997, to permit a detached building at 7475 Bell McKinnon Road with a maximum two accessory dwelling units for consideration of first and second reading at a future meeting.

IMPLICATIONS

If Council gives first and second reading to Zoning Amendment Bylaw No. 3937 and forwards the application to a public hearing, owners, and occupants of properties within a 60-metre radius of the subject property will be notified, as per section 4. (a) of Public Notice Bylaw No. 3906, and advertisements will be placed in the local newspaper and social media in accordance with the requirements of the *Local Government Act* and the *Community Charter*. Registration of a Section 219

covenant on title will be required prior to the adoption of the Bylaw should Council choose to support this application.

If the application is denied, the property owner cannot construct a detached accessory dwelling unit.

If Council is supportive of the applicant's request for two ADUs on the subject property, direction should be given to prepare a zoning amendment bylaw, for consideration at a future meeting.

RECOMMENDATION

THAT Council:

- (1) Give first and second readings to Zoning Amendment Bylaw No. 3937, 2023 to permit one detached accessory dwelling unit at 7475 Bell McKinnon Road; and,
- (2) Authorize a Public Hearing for Zoning Amendment Bylaw No. 3937, 2023.

Report prepared by:

Sarah Foulkes


Sarah Foulkes, MCP
Development Planning Coordinator

Report reviewed by:



Rob Conway, MCIP, RPP
Director, Planning and Building

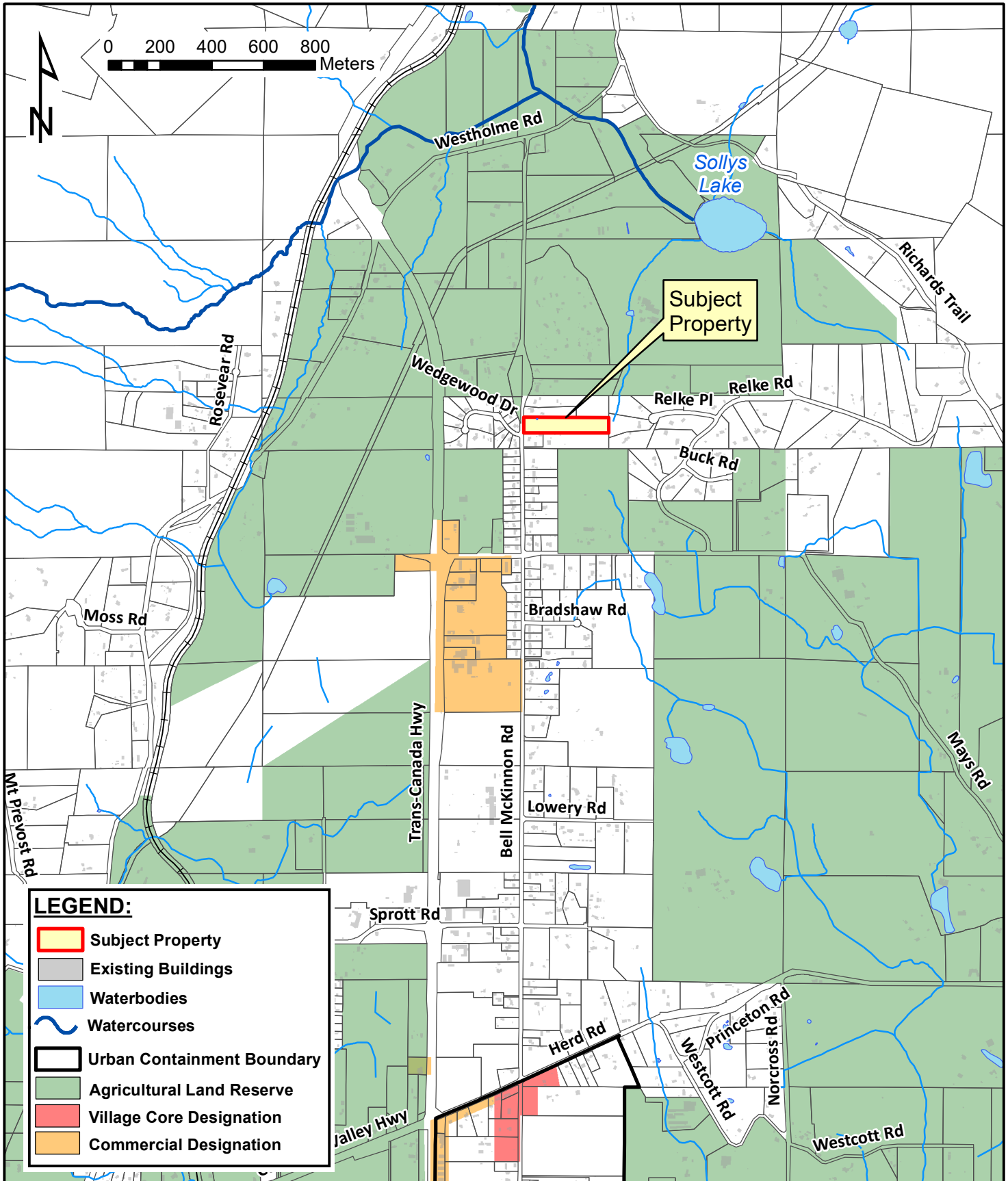
Approved to be forwarded to Council:

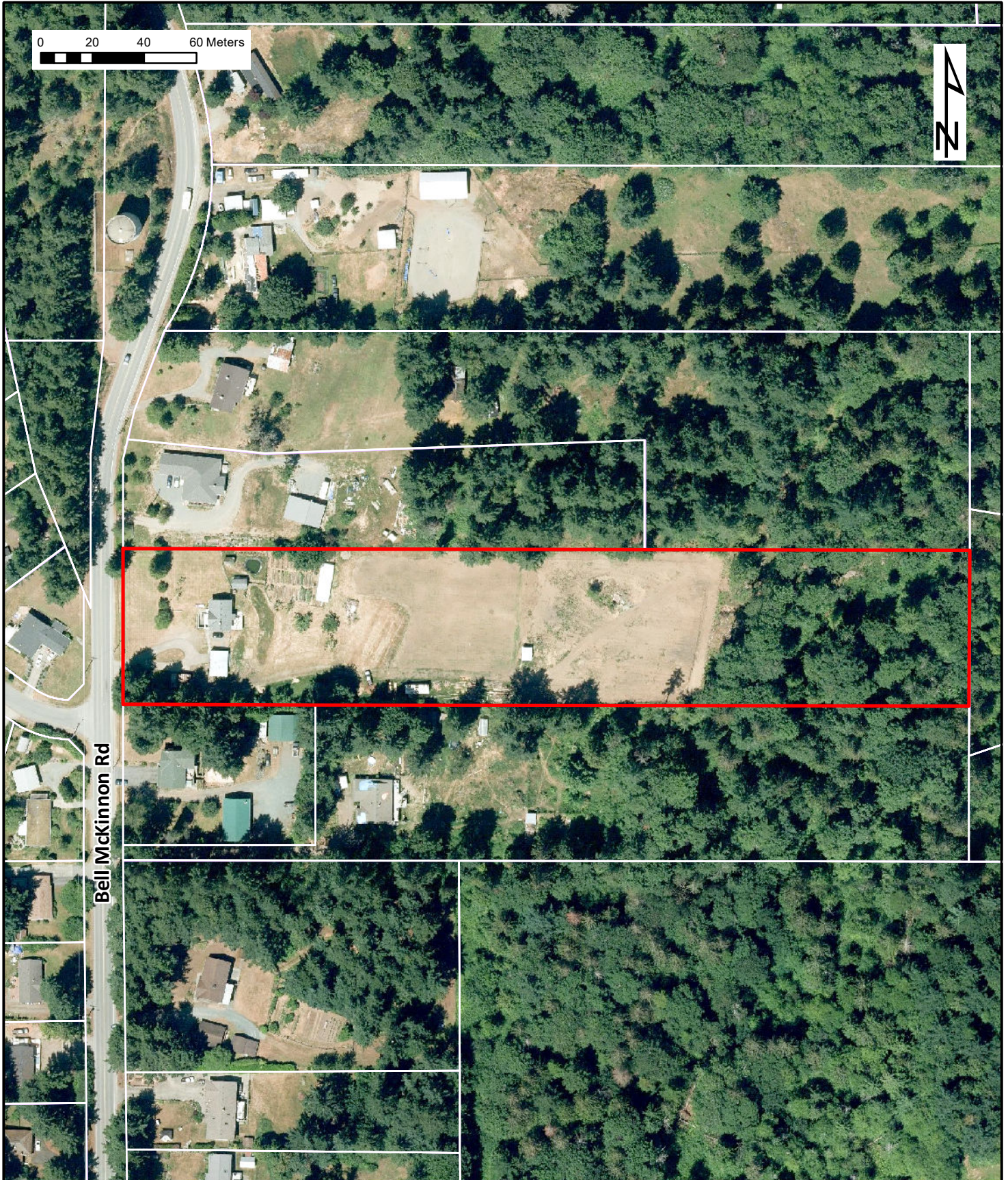



Ted Swabey
Chief Administrative Officer

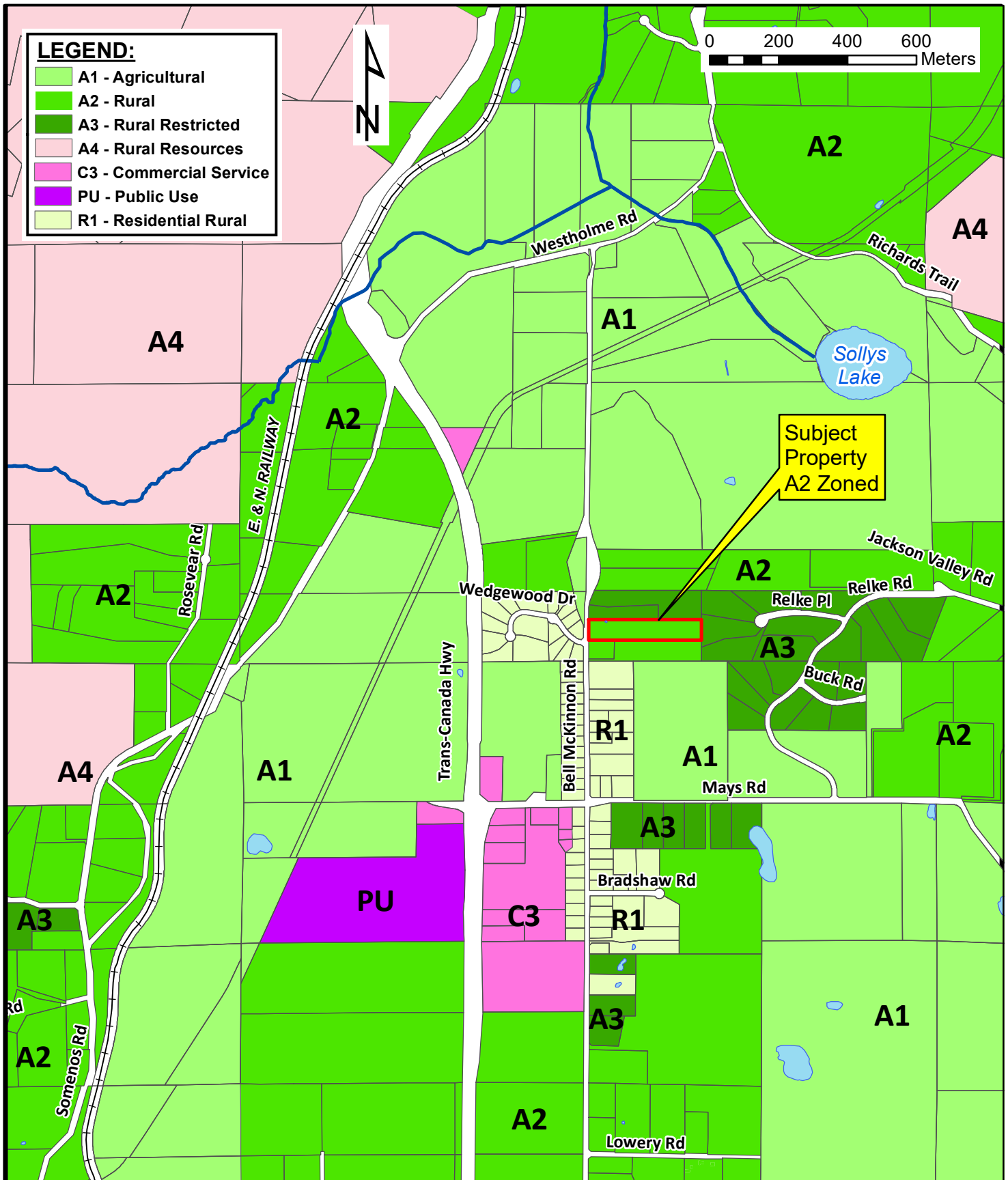
Attachments:

- (1) *Location Map*
- (2) *Orthophoto Map*
- (3) *Zoning Map*
- (4) *Site Plan*
- (5) *Letter of Rationale*
- (6) *Second Dwelling Rural Lands Policy*
- (7) *Letter from Registered Onsite Wastewater Practitioner*
- (8) *Draft Zoning Amendment Bylaw No. 3937, 2023*





	ORTHOPHOTO MAP		DATE:	June 3, 2023
	(Orthophoto is from 2019 aerial photography)		TYPE:	Zoning Amendment
	7475 Bell McKinnon Road		FILE#:	ZB000207



B.C. LAND SURVEYOR'S CERTIFICATE OF LOCATION OF BUILDING ON THE WEST 16.67 CHAINS OF THE SOUTH 6 CHAINS OF SECTION 14, RANGE 6, SOMENOS DISTRICT, EXCEPT PART IN PLAN 33002

P.I.D. 009-785-965



THE INTENDED PLOT SIZE OF THIS PLAN IS 432 mm IN WIDTH BY 280 mm IN HEIGHT (B-SIZE) WHEN PLOTTED AT A SCALE OF 1:1000

CIVIC ADDRESS:
7475 BELL McKINNON ROAD
DUNCAN, B.C.

CLIENT: ALICIA LOEWEN

NOTES:

PARCEL DIMENSIONS ARE DERIVED FROM FIELD SURVEY AND EXISTING LAND TITLE OFFICE RECORDS

OFFSETS TO PROPERTY LINE FROM BUILDING ARE FROM EXTERIOR SHEATHING

ELEVATIONS ARE IN METRES AND GEODETIC BASED ON INTEGRATED CONTROL MONUMENT 4497, ELEVATION = 82.91m, SITE BENCH MARK FIP #109, ELEVATION = 86.43m

DATE OF FIELD SURVEY: JUNE 3, 2022

TITLE SUBJECT TO: NONE

LEGEND:
● DENOTES STANDARD IRON POST FOUND
× 100,00 DENOTES SPOT ELEVATION

THIS PLAN IS PREPARED SOLELY FOR A LIMITED CONTRACTUAL USE BETWEEN McELHANNEY ASSOCIATES AND OUR CLIENT.

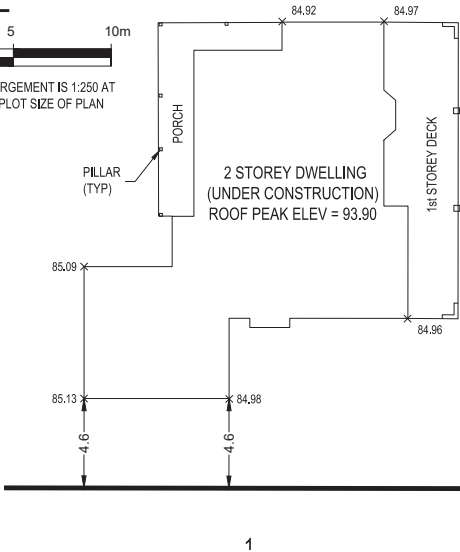
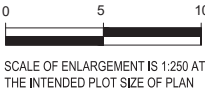
THIS DOCUMENT SHOWS THE RELATIVE LOCATION OF THE SURVEYED STRUCTURES AND FEATURES WITH RESPECT TO THE BOUNDARIES OF THE PARCEL DESCRIBED ABOVE. THIS DOCUMENT SHALL NOT BE USED TO DEFINE PROPERTY LINES OR PROPERTY CORNERS.

THE SIGNATORY ACCEPTS NO RESPONSIBILITY OR LIABILITY FOR ANY DAMAGES THAT MAY BE SUFFERED BY A THIRD PARTY AS A RESULT OF ANY DECISIONS MADE, OR ACTIONS TAKEN BASED ON THIS DOCUMENT.

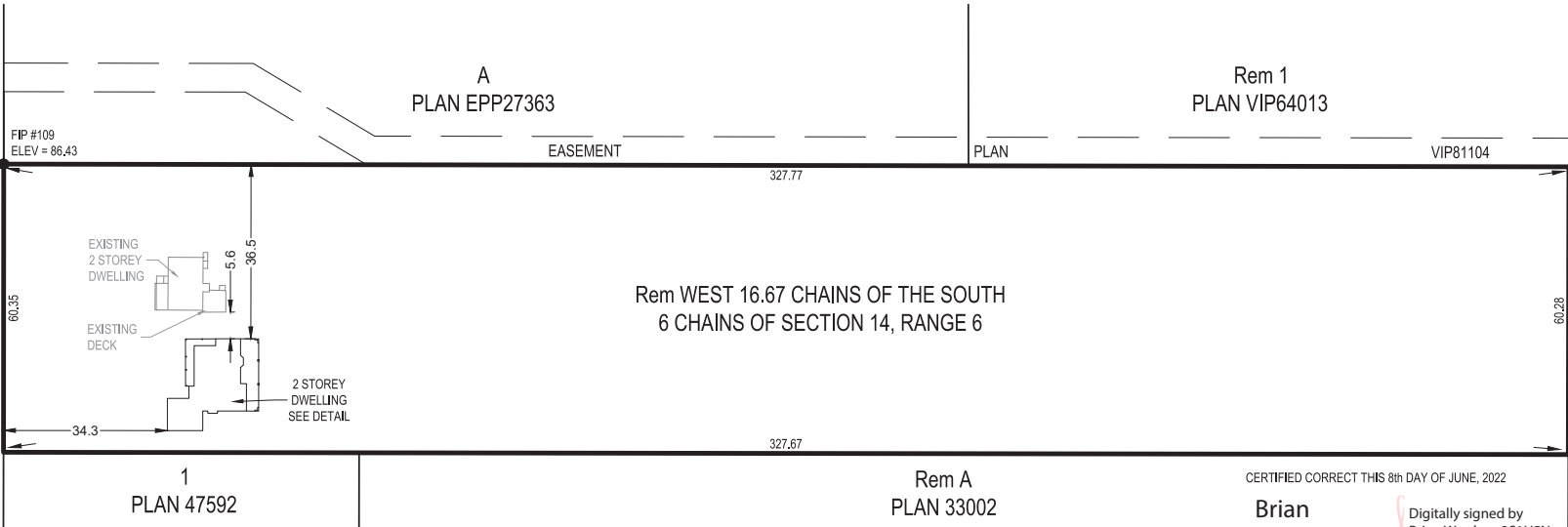
© 2022 McELHANNEY ASSOCIATES LAND SURVEYING LTD. ALL RIGHTS RESERVED. NO PERSON MAY COPY, REPRODUCE, TRANSMIT OR ALTER THIS DOCUMENT IN WHOLE OR IN PART WITHOUT THE CONSENT OF THE SIGNATORY.

ROOF PEAK ELEVATION	93.90 m
AVERAGE GRADE	85.01 m
HEIGHT OF DWELLING	8.89 m

DETAIL



BELL McKINNON ROAD



McELHANNEY ASSOCIATES
LAND SURVEYING LTD.

Suite 107
225 Canada Avenue
Duncan BC
Canada V9L 1T6
Tel 250 748 3335

OUR FILE NO.: 2233-01150-24

DWG NO.: 2233-01150-24-V-4 BLC.dwg

Rem A
PLAN 33002

THIS LOCATION CERTIFICATE IS BASED ON LAND TITLE AND SURVEY AUTHORITY RECORDS AND FIELD SURVEY. UNREGISTERED INTERESTS HAVE NOT BEEN INCLUDED OR CONSIDERED.

CERTIFIED CORRECT THIS 8th DAY OF JUNE, 2022

Brian
Wardrop
2S1H5N

Digitally signed by
Brian Wardrop 2S1H5N
Date: 2022.06.08
11:32:25 -07'00'

BRIAN DAVID WARDROP, BCLS

THIS DOCUMENT IS NOT VALID UNLESS DIGITALLY SIGNED

Feb 20, 2023

RE: Letter of Rationale for Site Specific Zoning Bylaw Amendment

**7475 Bell McKinnon Road
Duncan BC V9L 6A9
PID 009-785-965**

Dear North Cowichan Planning Dept,


We would like to apply for a zoning amendment under our A2 zoning to allow a maximum of two residential buildings with a total combined maximum of 3 dwelling units.

Our land is not within the Agricultural Land Reserve, but our lot size is just under the required 4.94 acres to allow two residential buildings. We had the lot surveyed and it was 4.89 acres. We currently have one single family home and a 2nd building that could be used for 2 residential rental housing suites if allowed. We would like to be able to use the 2nd building as an Accessory Dwelling Unit to provide affordable rental housing to a family member or possibly a farm worker. There may already be a precedent to approve this density as it looks similar to the allowed density at 941 Arbutus Avenue (Lot A, Section 8, Range 5) as noted in A2 Zoning Bylaw 8(e).

Also, we understand that the Province of BC has introduced new legislature under the Rural Lands Act that allows lot sizes above 1 acre to have a secondary dwelling.

Thank you for your attention to this matter. Please contact Alicia Loewen at 1-250-815-5260 with any follow up questions.

Sincerely,


Alicia Loewen (Feb 22, 2023 14:11 PST)

Feb 22, 2023

Alicia Loewen


Adam Loewen (Feb 22, 2023 14:13 PST)

Feb 22, 2023

Adam Loewen


Hans Krueger (Feb 22, 2023 14:16 PST)

Feb 22, 2023

Hans Krueger


Anna Krueger (Feb 22, 2023 14:21 PST)

Feb 22, 2023

Anna Krueger

Alicia & Adam Loewen hold 99% ownership; Hans & Anna Krueger (Alicia's parents) have 1% ownership as guarantors on the mortgage for the property.

COUNCIL POLICY:
SECOND DWELLING RURAL LANDS POLICY

Council Approval
Date: December 4, 2019

Department: Planning

Amended: May 3, 2023

1. PURPOSE

The purpose of the Second Dwelling Rural Lands Policy is to establish criteria for site specific zoning amendment applications for detached second dwellings in areas designated as "Rural" by Bylaw Official Community Plan Bylaw No. 3450.

2. SCOPE

This Policy applies to site specific zoning amendment applications for detached second dwellings on Rural designated lands.

3. POLICY

That all site specific zoning amendment applications requesting the use of a second residence or detached suite, located outside of the Urban Containment Boundary be reviewed by staff with respect to the following criteria:

- a) That size of the proposed second dwelling be restricted by covenant to 90 m² (968.75 ft²) or less of gross floor area;
- b) That subdivision be restricted by covenant to prevent subdivision including strata subdivision;
- c) That the size of the parcel be a minimum of; and
 - i. 1 ha (2.5 acres) where no Municipal sewer or water exists;
 - ii. 0.4 ha (1 acre) where no Municipal sewer exists;
 - iii. 0.2 ha (0.5 acres) where Municipal water and sewer exist; and
- d) That siting of second dwellings on agricultural lands be established and restricted by covenant to preserve agricultural land.



SEWERAGE SYSTEM LETTER OF CERTIFICATION

Filing#: DC21/213 Folio or PID#: 009 - 785 - 965 Date: December 14, 2021
 Civic Address: 7475 Bell McKinnon Road, Duncan, BC
 Legal Description: Section 14, Range 6, Land District 61, Portion SW 10 AC Except Plan 33002

The construction of the proposed sewerage system on the above property was completed on: December 8, 2021

This system was installed:

- ☐ By or under the supervision* of a professional Name: n/a Registration #: _____
- ☒ By a Registered Onsite Wastewater Practitioner Installer Name: Stewart Krumm Registration #: OW0033
- ☐ By the property Owner under the supervision* of Name: n/a Registration #: _____

I am an "Authorized Person" as defined in the Sewerage System Regulation "BC Reg. 326/2004." **The signature and seal of the undersigned on this document certifies that:**

- The Owner has been provided with:
 - A copy of the sewerage system plans and specifications as filed with the Health Authority;
 - A maintenance plan for the sewerage system that is consistent with standard practice;
 - A copy of this Letter of Certification as filed with the Health Authority;
- The sewerage system has been constructed in accordance with standard practice as indicated in the Sewerage System Filing Form filed on (date) October 4, 2021 ;
- The sewerage system has been constructed substantially in accordance with the plans and specifications filed with the Health Authority;
- The estimated daily domestic sewage flow through the sewerage system will be less than 22,700 liters;
- If operated and maintained as set out in the maintenance plan, the sewerage system will not cause or contribute to a health hazard.

* Where the authorized person is a professional, "supervision" means conducting field reviews of the construction of the above system that the professional in his or her professional discretion considers necessary to ascertain whether the construction substantially complies with the plans and specifications filed with the Health Authority.

Appended to this document is a plan of the sewerage system as it was built and a copy of the maintenance plan.

Name (please print): <u>Stewart Krumm</u>	Health Authority Use Only
Signature:	Vancouver Island Health Authority Environmental Health - Duncan DATE RECEIVED <div style="font-size: 1.5em; font-weight: bold; text-align: center;">DEC 14 2021</div> <div style="font-size: 2em; font-weight: bold; text-align: center; color: red;">LS</div> Received By _____ (VHA Staff Signature)
<div style="text-align: center;"> <p>Authorized Person's Seal</p> </div>	

Revised April 2015

N. Cow

FINAL



Office: (250) 746-4277
Fax: (250) 746-4257

Email: skseptics@shaw.ca
Web: www.skseptics.ca

5881 Howard Ave, Duncan B.C. V9L 3N7

Owner's Manual

December 14, 2021

Owner's Responsibilities

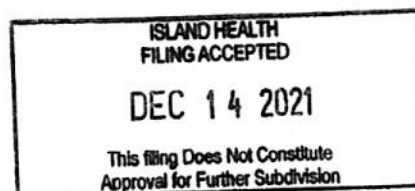
The new Sewerage System Regulations of (2005) require that an owner ensures the following:

- That the system be inspected and maintained in accordance with the maintenance plan included in this final package of documents. The frequency and scope of work are specified in the maintenance plan.
- That only Authorized Persons who are registered and certified as a Professional or a Registered Onsite Wastewater Practitioner construct, repair or maintain the sewerage system.
- That the owner maintains records of maintenance performed over the years.
- The owner does not misuse and neglect the system which will result in health hazards or risks to the environment.

Record Keeping

The owner must keep all records including Health Authority forms, design specifications, record drawings, maintenance plans and owner's manuals. Copies of these documents have been filed with the local Health Authority as required.

- SK Septics has complete documentation pertaining to the entire design and installation process of this sewerage system
- The owner must obtain the appropriate documentation from the maintenance provider as maintenance is performed on the system.



System Summary

4 Bedroom house and a 2 Bedroom house (Residential only)

Total Living Area allowed: 330m² & 240m² (3552 ft² & 2583 ft²)

Daily Design Flow rate 1600 LPD & 1000 LPD = 2600 Litres per day (352 & 220 = 572 GPD)

Total Expected Average Daily flows (50%): 800 LPD & 500 LPD (176 & 110 = 319 GPD)

System: Type 1 Treatment to C-33 sand mound discharge (not modified C-33 sand)

Hydraulic Loading Rate (HLR) for infiltrative surface: 35

LLR: 2600 LPD / 180 LLR = 14.4m (48 feet)

Total bed size = bed width 3m (9.8 feet) X bed length 23.6m (76 feet)

Additional Site Information

- 4.89 acres
- The water provider is North Cowichan
- The property has easy accesses to tank and discharge area
- 10% Lot slope and 5% in the discharge area
- Equipment/aggregate delivery using the driveway

Tanks

The tank excavation area is laid out on the site plan

9092 L (1700 gal) Concrete Two Compartment Tank

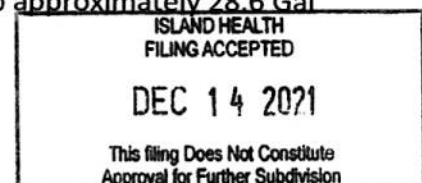
5455 L (1200 G) One Compartment Concrete Pump Tank

Pump and Panel Settings

Rhombus IFS Simplex Electrical Panel with a transducer, high-water alarm, cycle counter, elapsed time meter, and audible / visual alarm are all part of the control panel.

The pump tank has an effluent pump controlled by a transducer set on timed dosing to help space out flow through the day and night. The timer is set to pump approximately 28.6 Gal every 2 hours and 24 minutes to the dispersal area.

The transducer is attached to a 1 ¼ inch PVC pipe.



The alarm high water alarm is set at 26 inches. The high water alarm activates a high level alarm to indicate failure of the pump or other problems causing the liquid level within the pump chamber to rise excessively.

This will allow approximately 340 gallons reserve space in the pump tank. At least 75% of daily design flow

The timer override is set at 24 inches. The override will override timer settings and activate the pump in heavy usage.

The Timer enable float switch is set at 8 inches. The timer enable indicates that no effluent requires pumping.

The redundant off is set at 6 inches. The redundant off will shut off the pump in the unlikely event that the timer enable fails to function. This will prevent the pump from burning out from continuous running.

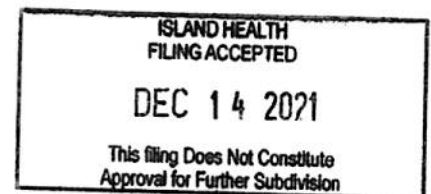
- Design flow rate per minute required is 73 gallons per minute
- Total dynamic head is 42 feet
- The Liberty FL 100 effluent pump will pump 80 gallons per minute in this application.
- Timer is set for pump to run for 22 seconds every 2 hours and 24 minutes
- 1 second = 1.333 gallons
- 22 seconds = approximately 29 gallons per cycle
- 24 hours = approximately 290 gallons per day in 10 cycles

Discharge area

All work to follow the Standard Practice Manual.

Excavation for receiving area, sand mound and pea-gravel bed

- **Total bed size** = bed width 3m (9.8 feet) X bed length 23.6m (77 feet)
- **Scarify basal area and excavate** 13 inches into native soil and place 18 inches of C – 33 sand. Maintain a min. of 12 inches of native soil below sand mound.
- **Place** a minimum of 5 inches of clean 40mm rock on top of the sand for the rock bed area



Rock Bed Size and Piping information

- 4 Laterals that are 77 feet long and center fed
 - 45cm from outside edge to outside laterals
 - 60cm between laterals
- Orifice spacing is 77cm on the pipe (30")
 - 5/32 orifice size
 - Orifice shields cover the drilled holes
 - 2 orifices per 0.56m²
- The manifold is 2 inch PVC
- Flush-outs are installed at the end of each line with two 45° fittings
- 32mm Ball valves to dial down each lateral
- Ensure all flush-outs and valves for the discharge area have proper valve-boxes to cover them in order to provide protection and later access
- Place 7 to 8 inches of sandy soil for cover on top of filter cloth

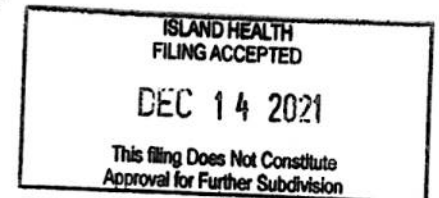
Maintenance

The new (2005) Sewerage System Regulation requires owners to ensure their systems are maintained by authorized persons according to the maintenance plan provided. It is extremely important that regular maintenance and monitoring as specified in the maintenance plan. Potential liability, prevention of sewage backups and ensuring long life of the system to protect your investment are all great reasons to maintain your system.

- The maintenance schedule for your Type 1 System is once a year
- See Maintenance Plan for Maintenance info

Must not overload the system

- Your septic field is designed for peak flow volume of 572 gallons per day of residential sewage. Average flows on any given day should not exceed 50% of the peak volume design flow which is approximately 286 gallons.
- The design flows are a conservative allowance for the expected flow under normal residential use of your 4 & 2 bedroom houses.
- Prolonged flows in excess of this design capacity will overload the system. This can cause premature failure of the system and can cause health hazards to humans and



harm the environment. Health regulation violations and liability can result – with the responsibility on the homeowner.

- Although you are not expected to accurately determine and monitor these flows, you are advised to use a common sense approach to avoid overloading the system. If you make changes to the house or other buildings that will increase the sewage flows then the design must be reviewed and the system enlarged to accommodate the changes. Examples include water filtration systems, additional bedrooms or washrooms, starting Bed and Breakfast operations and other home based business with significant increases to the number of people using the system.
- Introducing high strength sewage (industrial/commercial/strong chemicals) will harm bacteria and severely reduce the treatment ability of the system with potential impacts to public health and the environment. Changes to the strength and characteristics of the sewage require immediate design modifications to accommodate the sewage input change.
- Adding water softener systems, in sink garbage disposal units, operating dark rooms and wine or beer making are examples of activities that will alter the sewage flow anticipated in the original design.
- See the Do and Do Not section for more information on how to avoid misuse of the system.

System Summary

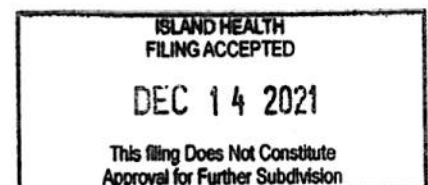
Tanks

The tank excavation area is laid out on the site plan

9092 L (1700 gal) Concrete Two Compartment Tank

5455 L (1200 G) One Compartment Concrete Pump Tank

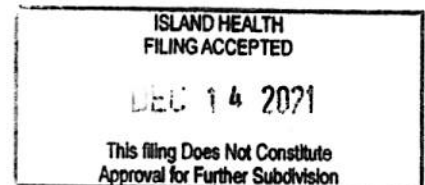
This document contains important information for the homeowner and the maintenance provider that will be inspecting and maintaining the system.



Planned Maintenance and Inspection to include the following checks

Act in accordance to the Standard Practice Manual

- SK Septics has copies of all information pertaining to this sewerage system.
 - Contact before maintenance is performed for answers to any questions or concerns you may have.
 - No structures or heavy traffic, ensure appropriate vegetation and landscaping, no groundwater, pooling or surface flows that could interfere with the dispersal field
 - Check the security and safety of the tank accesses
 - Confirm limited solids carry over to the filter compartment
 - Note the percentage of clogging in the filter and include it in the report
 - Clean the filter thoroughly and replace it
 - Check condition and proper operation of inlet and outlet tees
 - Clean fats, oil and grease from the tees
 - Measure to confirm that tank solids and sludge are under pump out requirements
 - Recommend pump out only if required
 - Check panel
 - Check timer override count
 - Confirm settings of system start-up are still programmed
 - Use the pump and panel settings above in the document
 - Notify SK Septics immediately if flow exceeds the design flow
 - Check connections for signs of corrosion and deterioration
 - Check operation of the pump
 - Check connections corrosion and deterioration
 - Flush the lines and check squirt height with drilled end caps
 - 160cm plume at start-up
 - Check high water alarm for proper settings and function
- Provide customer with a detailed document covering all components of the system including photographs and the Authorized Persons' Seal for the customer's records.



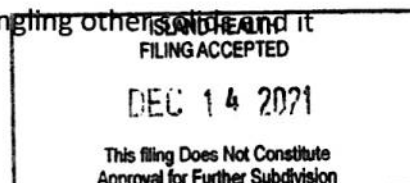
Do and Do Not

Your sewerage system relies on treatment inside the septic tank and in the soil of the distribution field to reduce the harmful qualities of the wastewater. Longevity of the system, preventing health hazards and minimizing impacts on the environment depend on your proper use and maintenance of the system.

- Promoting bacteria growth by avoiding products and chemicals that will reduce or eliminate bacteria growth
- Minimizing non biodegradable materials, fats, oils and grease
- Not overloading the system beyond its capacity to treat the sewage
- Ensuring that regular maintenance is carried out

Tips to Ensure Proper Treatment and Longevity of the System

- Contact SK Septics before planting trees or excavating near the discharge area
- Avoid, reduce and control the use of disinfectants, bleach and anything that kills bacteria
- Do not use Drano or Liquid Plumber style products to clear clogged plumbing because they are very damaging to bacteria
- Do not put the following into the system: lubricating oils, greases, petroleum products, antifreeze, automotive fluids, chemical waste, toxins, paints, solvents, thinners, caustic cleaners, pesticides or herbicides
- Reduce and avoid where possible fats, oils and grease from food preparation because they are very difficult to break down, cause filters to clog and drastically shorten the life of the system by clogging sand and soil in the dispersal area
- Use strategies to reduce like: collecting fat from fried foods, oil from deep fryers etc. and disposing of them in the garbage
- Do not allow non-biodegradable materials to enter the system because quicker buildup of solids will result in higher frequency of pump outs needed
- Do not allow bandages, strings, rags, cotton balls, coffee grinds, paper towels, condoms, disposable diapers, cigarette butts, plastics, metals, kitty litter, feminine products and other materials that do not compose easily
- Do not allow excessive amounts of hair and laundry lint to enter the system because it causes thickening and matting of the scum in the tank by entangling other solids and it can clog filters



- In-sink garbage disposal units increase the organic matter entering the system and should not be used unless the system has been designed and sized to accommodate it
- Do - composting to limit organics from entering
- Do not use septic tank additives as the experts consistently advise against them
- Protect the Distribution Field and the Tanks
- Keep traffic and heavy loads off the distribution area and the tanks
- Grow vegetation with shallow root systems (grass is good - willows are bad)
- Do not build structures over any part of the system
- Keep surface flows of water away from dispersal field and tanks
- Remember that maintenance, troubleshooting and repairs require quick and easy access to tank lids and distribution system valves and cleanouts

Some Maintenance providers

New Water 250 252 2555

Save On Septic 250 474 7867

Vortech 250 746 0706

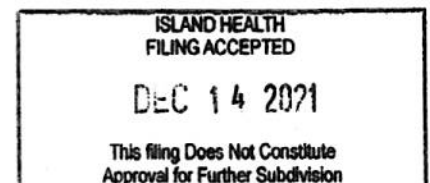
Ace Bobcat 250 709 9643



Please call me with any questions

Stewart Krumm (250) 709-4497 skseptics@shaw.ca

Thank you,

Stewart Krumm



RECORD OF SEWERAGE SYSTEM				FILING # (OFFICE USE ONLY): DC21/213	
1. PROPERTY INFORMATION 	<input checked="" type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> ALTERATION n/a	<input type="checkbox"/> REPAIR n/a	<input type="checkbox"/> AMENDMENT – ORIGINAL FILING #:	
	TAX ASSESSMENT ROLL #: 04-315-05129.000			PID #: 009 - 785 - 965	
	LEGAL DESCRIPTION (PLAN, LOT, DISTRICT LOT, BLOCK NUMBERS): Section 14, Range 6, Land District 61, Portion SW 10 AC Except Plan 33002				
	STREET (CIVIC) ADDRESS OR GENERAL LOCATION: 7475 Bell McKinnon Road			CITY: Duncan	
2. OWNER INFORMATION	NAME OF LEGAL OWNER: Adam and Alicia Loewen			MAILING ADDRESS: 7475 Bell McKinnon Road	
	PHONE: 250 816 5260		CITY: Duncan	PROV: BC	POSTAL CODE: V9L 6A9
3. AUTHORIZED PERSON INFORMATION	NAME OF AUTHORIZED PERSON: Stewart Krumm		REGISTRATION #: OW0033	MAILING ADDRESS: 5881 Howard Ave	
	PHONE: 250 709 4497	EMAIL: skseptics@shaw.ca	CITY: Duncan	PROV: BC	POSTAL CODE: V9L 3N7
4. STRUCTURE INFORMATION	SEWERAGE SYSTEM WILL SERVE:				
	<input checked="" type="checkbox"/> SINGLE FAMILY DWELLING <input type="checkbox"/> OTHER STRUCTURE (SPECIFY) <input type="checkbox"/> OTHER DWELLING (SPECIFY) 4 Bedroom house and a 2 Bedroom house				
5. SITE INFORMATION	DEPTH OF NATIVE SOIL TO SEASONAL HIGH WATER TABLE OR RESTRICTIVE LAYER (cm): 69		INFORMATION RESPECTING THE TYPE, DEPTH AND POROSITY OF THE SOIL IS ATTACHED <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
	GPS LOCATION OF SYSTEM (DECIMAL DEGREES) LATITUDE: <u>48.841037</u> LONGITUDE: <u>123.713345</u>				
	HORIZONTAL ACCURACY (m) <u>8</u> <input checked="" type="checkbox"/> RECREATIONAL GPS <input type="checkbox"/> DIFFERENTIAL GPS				
6. DRINKING WATER PROTECTION	WILL THE SEWERAGE SYSTEM BE LOCATED LESS THAN 30m FROM A WELL? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, ATTACH A PROFESSIONAL'S REPORT AND SPECIFY THE INTENDED DISTANCE <u>n/a</u> (m) DISTANCE OF PROPOSED SEWERAGE SYSTEM TO THE CLOSEST SURFACE WATER <u>40 plus</u> (m)				
7. SYSTEM INFORMATION	SEWERAGE TREATMENT METHOD: <input checked="" type="checkbox"/> TYPE 1 <input type="checkbox"/> TYPE 2 <input type="checkbox"/> TYPE 3				
8. LEGAL OR REGULATORY CONSIDERATIONS	<input checked="" type="checkbox"/> CONSTRUCTION OF THE PROPOSED SEWERAGE SYSTEM WILL NOT CONFLICT WITH LEGAL INSTRUMENTS REGISTERED ON THE PROPERTY.		IS THIS FILING SUBMITTED AS THE RESULT OF AN ORDER FROM THE HEALTH AUTHORITY? <input type="checkbox"/> YES (ATTACH A COPY OF THE ORDER) <input checked="" type="checkbox"/> NO		
9. PLOT PLAN AND SPECIFICATIONS	<input checked="" type="checkbox"/> PLOT PLAN (TO SCALE) AND SPECIFICATIONS ARE ATTACHED <input checked="" type="checkbox"/> THE PLANS AND SPECIFICATIONS ARE CONSISTENT WITH STANDARD PRACTICE SOURCE OF STANDARD PRACTICE: <input checked="" type="checkbox"/> MINISTRY OF HEALTH STANDARD PRACTICE MANUAL <input type="checkbox"/> OTHER				
10. AUTHORIZED PERSON'S SIGNATURE	SIGNATURE: 		OFFICE USE ONLY		
	DATE: September 30, 2021		FILING ACCEPTED DATE: <u>Oct 4/21</u> RECEIPT NUMBER: <u>#200.00</u> <u>#251507</u>		

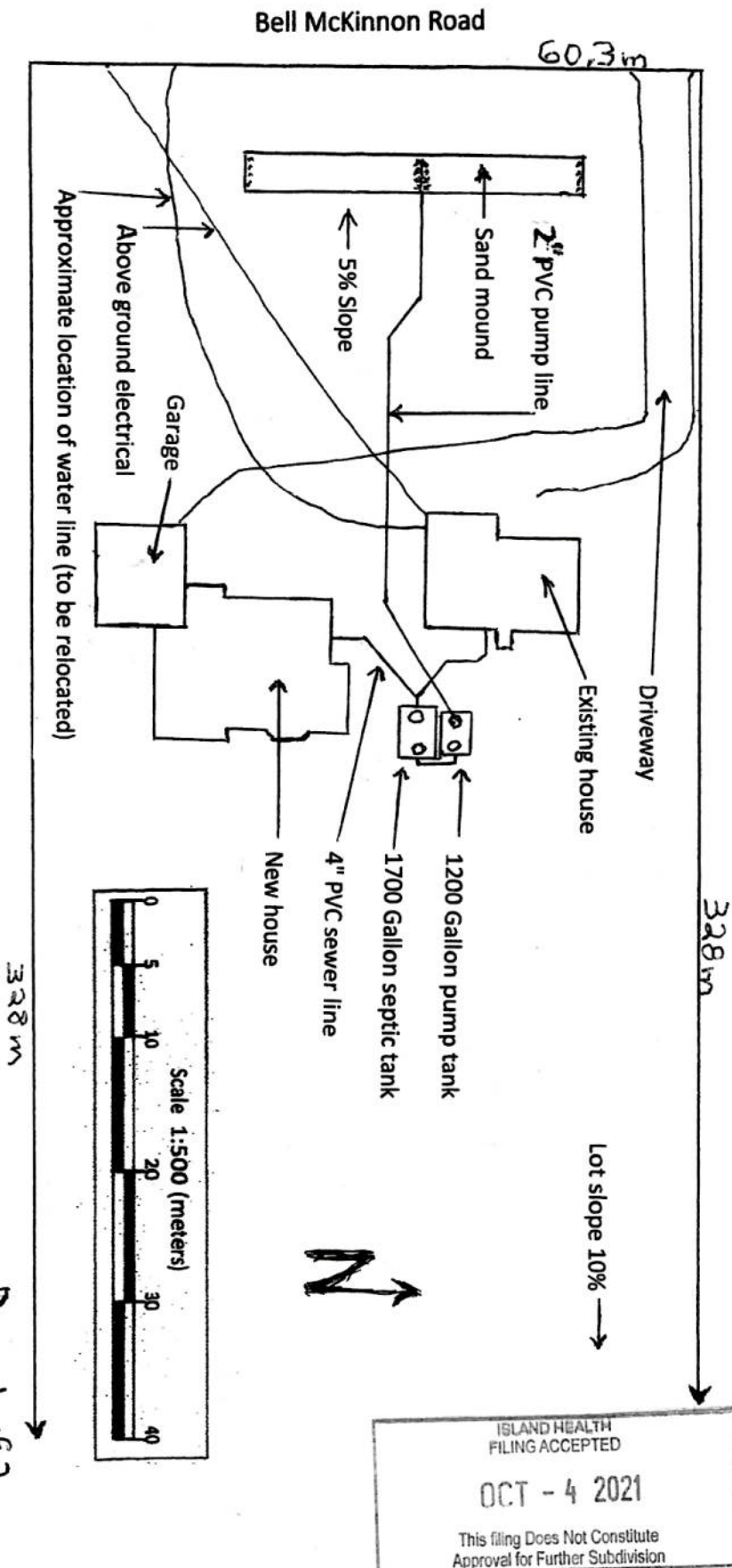



Site Plan of new onsite wastewater system to be installed at

7475 Bell McKinnon Road September 30, 2021

Type 1 System

GPS: Latitude 48.841037 Longitude 123.713345



Page 1 of 2

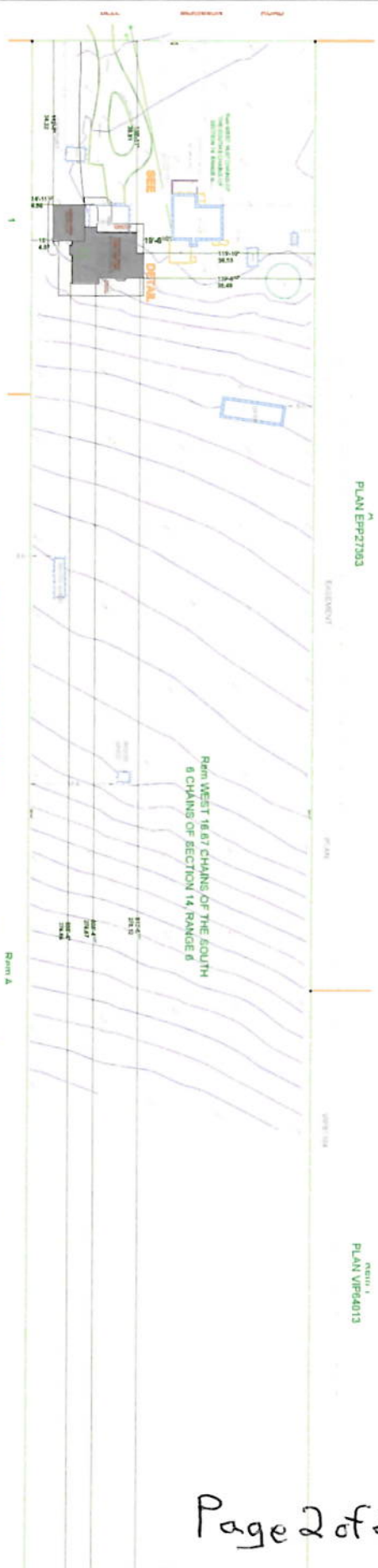
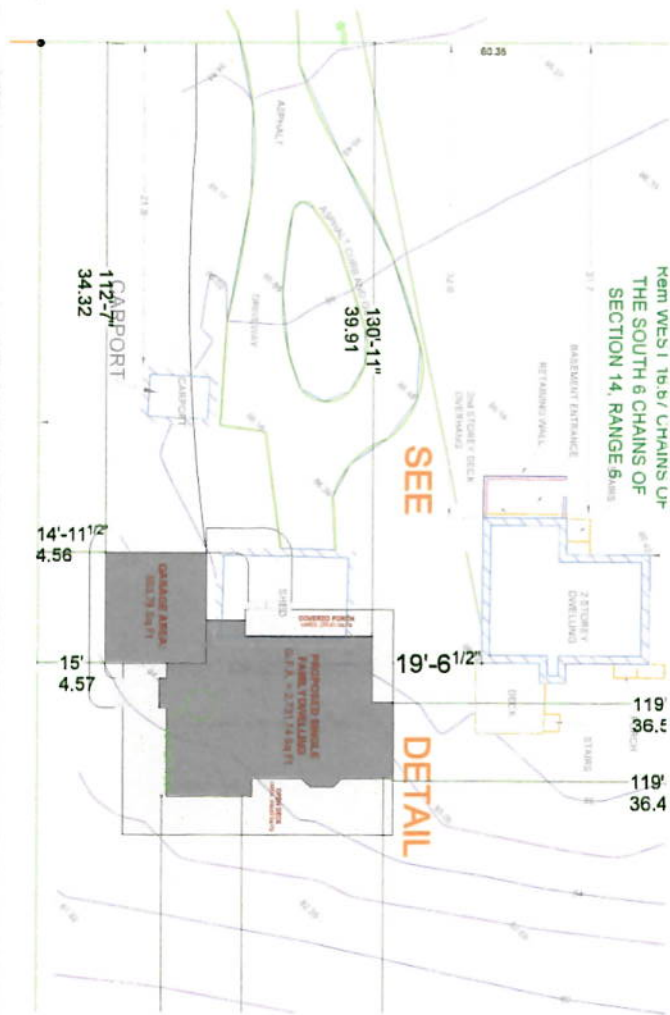
ISLAND HEALTH
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OCT - 4 2021
This filing Does Not Constitute
Approval for Further Subdivision

WATER REQUIREMENTS:
Performance Grade of 30
Water Test Pressure of 260 Pa

ISLAND HEALTH
FILING ACCEPTED
OCT - 4 2021
This filing Does Not Constitute
Approval for Further Subdivision

SITE PLAN
SCALE 1:150

SITE PLAN
SCALE 1:400



PROJECT DATA TABLE - SINGLE FAMILY DWELLING			
Address	7475 Bell McKinnon Road, Duncan		
Lot Size	19,798.13 sq ft (723,760.80 sq ft)		
Zoning	A2		
Lot coverage	2.49 %	13.00 %	
Lot coverage (sq ft)	492.64 sq ft (45,504.18 sq ft)	1,578.61 sq ft (145,718.08 sq ft)	
Front lot line setback	27.00 m	0.00 m (0.00 ft)	
Rear lot line setback	202.52 m	0.00 m (0.00 ft)	
Side lot line setback (Rear)	36.40 m	2.00 m (6.56 ft)	
Side lot line setback (Front)	4.00 m	2.00 m (6.56 ft)	
Building height	8.17 m (26.81 ft)	0.00 m (0.00 ft)	
Floor Area			
Upper floor area	198.26 sq ft (18,431 sq ft)		
Lower floor area	147.47 sq ft (13,687 sq ft)		
Garage	51.46 sq ft (4,783 sq ft)		

NOTES:
1. The owner is responsible for obtaining all necessary permits and approvals from the local authority.
2. The owner is responsible for obtaining all necessary permits and approvals from the local authority.
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9. The owner is responsible for obtaining all necessary permits and approvals from the local authority.
10. The owner is responsible for obtaining all necessary permits and approvals from the local authority.



Office: (250) 746-4277
Fax: (250) 746-4257

Email: skseptics@shaw.ca
Web: www.skseptics.ca

5881 Howard Ave, Duncan B.C. V9L 3N7

Specifications

September 30, 2021

Owners: Adam and Alicia Loewen

Site: 7475 Bell McKinnon Road

Phone: 250 815 5260

Legal Description: Section 14, Range 6, Land District 61, Portion SW 10 AC Except Plan 33002

Parcel Identifier: 009 - 785 - 965

GPS location: Latitude – 48.841037 Longitude – 123.713345

System Summary

4 Bedroom house and a 2 Bedroom house (Residential only)

Total Living Area allowed: 330m² & 240m² (3552 ft² & 2583 ft²)

Daily Design Flow rate 1600 LPD & 1000 LPD = 2600 Litres per day (352 & 220 = 572 GPD)

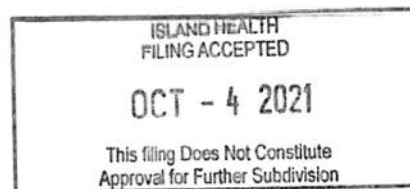
Total Expected Average Daily flows (50%): 800 LPD & 500 LPD (176 & 110 = 319 GPD)

System: Type 1 Treatment to C-33 sand mound discharge (not modified C-33 sand)

Hydraulic Loading Rate (HLR) for infiltrative surface: 35

LLR: 2600 LPD / 180 LLR = 14.4m (48 feet)

Total bed size = bed width 2.9m (9.5 feet) X bed length 25.6m (84 feet)



Specifications for proposed onsite wastewater system to be installed at 7475 Bell McKinnon Road

Site Evaluation

System will be for a 4 bedroom house and a 2 bedroom suite. Due to limited amount of soil a sand mound will work very well on this site. Test pits were excavated and Perc tests were done within the proposed area.

Soil Evaluation

For analyzing the soil texture I did several hand texturing tests following the soils algorithm (flow sheet), provided by Kent Watson, B.Sc, M.Sc Thompson Rivers University. It directed the soil to be Sand. I also compared its characteristics with soils in the Soil Texture Sample Kit (MSU Agronomy Club) and determined the soil to be the same texture. I tested the texture using the guidelines of the USDA for hand texturing. I am confident in my test results and feel it is not necessary to do further laboratory testing.

Saturated Hydraulic Conductivity (Kfs)

Loading rates and (kfs) are calculated and chosen as per guidelines set forth in the Standard Practice Manual.

Kfs = 8200mm/day

Hydraulic loading rate is 35 L / m² / day for C-33 sand

Observation Pit 1

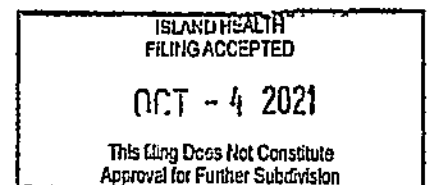
- 0 – 7cm Dark, Organic, Lawn
- 7 – 69cm Light Brown Gray , Few bigger rocks, (6cm to 12cm) weak granular, loose, many roots, no mottles, Sand
- 69cm Grey clay

Observation Pit 2

Same as #1

Additional Site Information

- 4.89 acres
- The water provider is North Cowichan
- The property has easy accesses to tank and discharge area
- 10% Lot slope and 5% in the discharge area
- Equipment/aggregate delivery using the driveway



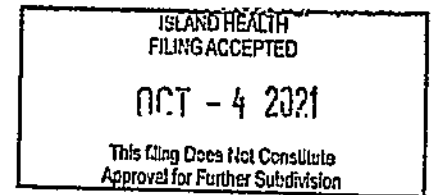
Specifications for proposed onsite wastewater system to be installed at 7475 Bell McKinnon Road

Tanks

The tank excavation area is laid out on the site plan

9092 L (1700 gal) Concrete Two Compartment Tank

5455 L (1200 G) One Compartment Concrete Pump Tank



Pump and Panel Settings

Rhombus IFS Simplex Electrical Panel with a transducer, high-water alarm, cycle counter, elapsed time meter, and audible / visual alarm are all part of the control panel.

The pump tank has an effluent pump controlled by a transducer set on timed dosing to help space out flow through the day and night. The timer is set to pump approximately 28.6 Gal every 2 hours and 24 minutes to the dispersal area.

The transducer is attached to a 1 ¼ inch PVC pipe.

The alarm high water alarm is set at 26 inches. The high water alarm activates a high level alarm to indicate failure of the pump or other problems causing the liquid level within the pump chamber to rise excessively.

This will allow approximately 340 gallons reserve space in the pump tank. At least 75% of daily design flow

The timer override is set at 24 inches. The override will override timer settings and activate the pump in heavy usage.

The Timer enable float switch is set at 8 inches. The timer enable indicates that no effluent requires pumping.

The redundant off is set at 6 inches. The redundant off will shut off the pump in the unlikely event that the timer enable fails to function. This will prevent the pump from burning out from continuous running.

- Design flow rate per minute required is 73 gallons per minute
- Total dynamic head is 42 feet
- The Liberty FL 100 effluent pump will pump 80 gallons per minute in this application.
- Timer is set for pump to run for 22 seconds every 2 hours and 24 minutes
- 1 second = 1.333 gallons
- 22 seconds = approximately 29 gallons per cycle
- 24 hours = approximately 290 gallons per day in 10 cycles

Discharge area

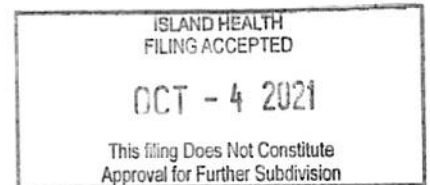
All work to follow the Standard Practice Manual.

Excavation for receiving area, sand mound and pea-gravel bed

- **Total bed size** = bed width 2.9m (9.5 feet) X bed length 25.6m (84 feet)
- **Scarify basal area and excavate** 13 inches into native soil and place 18 inches of C – 33 sand. Maintain a min. of 12 inches of native soil below sand mound.
- **Place** a minimum of 5 inches of clean 40mm rock on top of the sand for the rock bed area

Pea-Gravel Bed Size and Piping information

- 4 Laterals that are 84 feet long and center fed
 - 45cm from outside edge to outside laterals
 - 60cm between laterals
- Orifice spacing is 77cm on the pipe (30")
 - 5/32 orifice size
 - Orifice shields cover the drilled holes
 - 2 orifices per 0.56m²
- The manifold is 2 inch PVC
- Flush-outs are installed at the end of each line with two 45° fittings
- 32mm Ball valves to dial down each lateral
- Ensure all flush-outs and valves for the discharge area have proper valve-boxes to cover them in order to provide protection and later access
- Place 7 to 8 inches of sandy soil for cover on top of filter cloth



Qualified Installer:

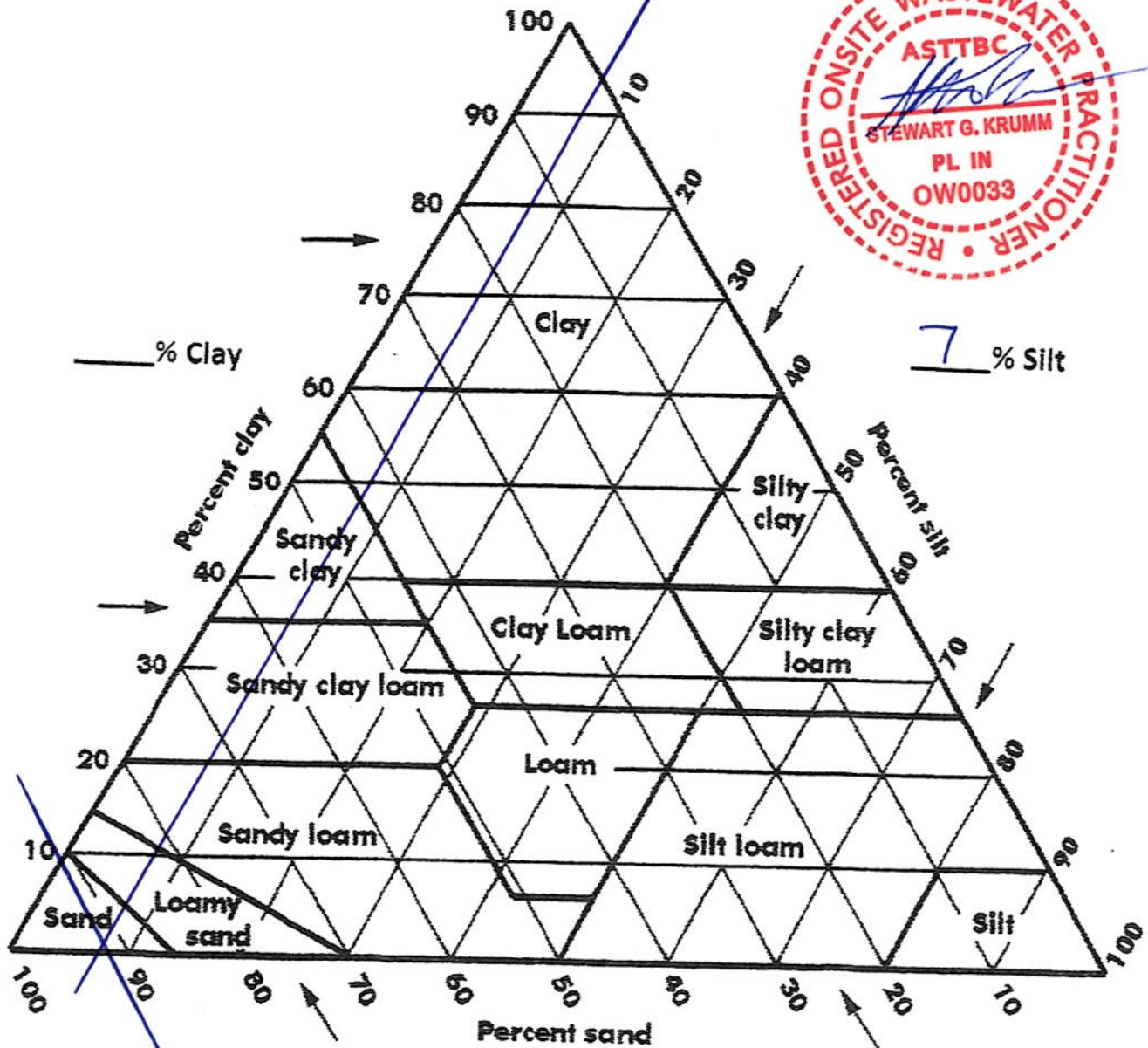
- If Installer is other than Stewart Krumm inspection fees will apply.
- Must contact Stewart Krumm for a required site meeting (contact information at the end of document)
- All work to follow the Standard Practice Manual.
- All PVC pipe must be CSA approved

For answers to any questions of concerns please contact:

Stewart Krumm (250) 709-4497 skseptics@shaw.ca

Specifications for proposed onsite wastewater system to be installed at 7475 Bell McKinnon Road

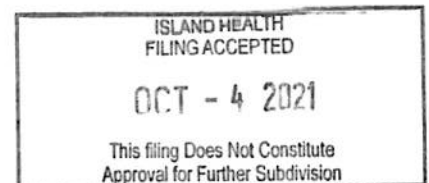
Jar Test Results



93 % Sand

Result Sand

Adam Job



Input Parameters

Orifice Size	5/32	inches
Residual Head at Last Orifice	4.0	feet
Orifice Spacing	2.8	feet
Number of Laterals per Cell	8	
Lateral Length	41.0	feet
Lateral Pipe Class/Schedule	40	
Lateral Line Size	1.25	inches
Distributing Valve Model	None	
Manifold Length	6.0	feet
Manifold Pipe Class/Schedule	40	
Manifold Line Size	2.00	inches
Lift to Manifold	15.0	feet
Transport Length	145.0	feet
Transport Pipe Class/Schedule	40	
Transport Line Size	2.00	inches
Discharge Assembly Size	2.00	inches
Flow Meter	None	inches
'Add-on' Friction Losses	0.0	feet

Calculation

Minimum Flow Rate per Orifice	0.61	gpm
Number of Orifices per Zone	120	
Total Flow Rate per Zone	73.0	gpm
Number of Laterals per Zone	8	
% Flow Differential 1st and Last Orifice	2.0	%

Static Heads

Lift to Manifold	15.0	feet
Residual Head at Last Orifice	4.0	feet

Frictional Head Losses

Head Loss in Laterals	0.2	feet
Head Loss through Distributing Valve	0.0	feet
Head Loss in Manifold	0.1	feet
Head Loss in Transport Pipe	11.8	feet
Head Loss through Discharge	10.6	feet
Head Loss through Flow Meter	0.0	feet
'Add-on' Friction Losses	0.0	feet

Size Pump For

Design Flow Rate	73.0	gpm
Total Dynamic Head	41.7	feet

Distance between orifices in distribution laterals. Typical values range from 2 feet for sand filters up to 6 feet for pressurized drainfields, depending upon soil types and local regulations.

Calculate

Generate Chart

Adam

ISLAND HEALTH
FILING ACCEPTED

OCT - 4 2021

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Approval for Further Subdivision

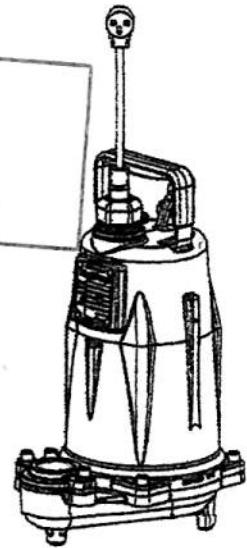


Liberty Pumps®

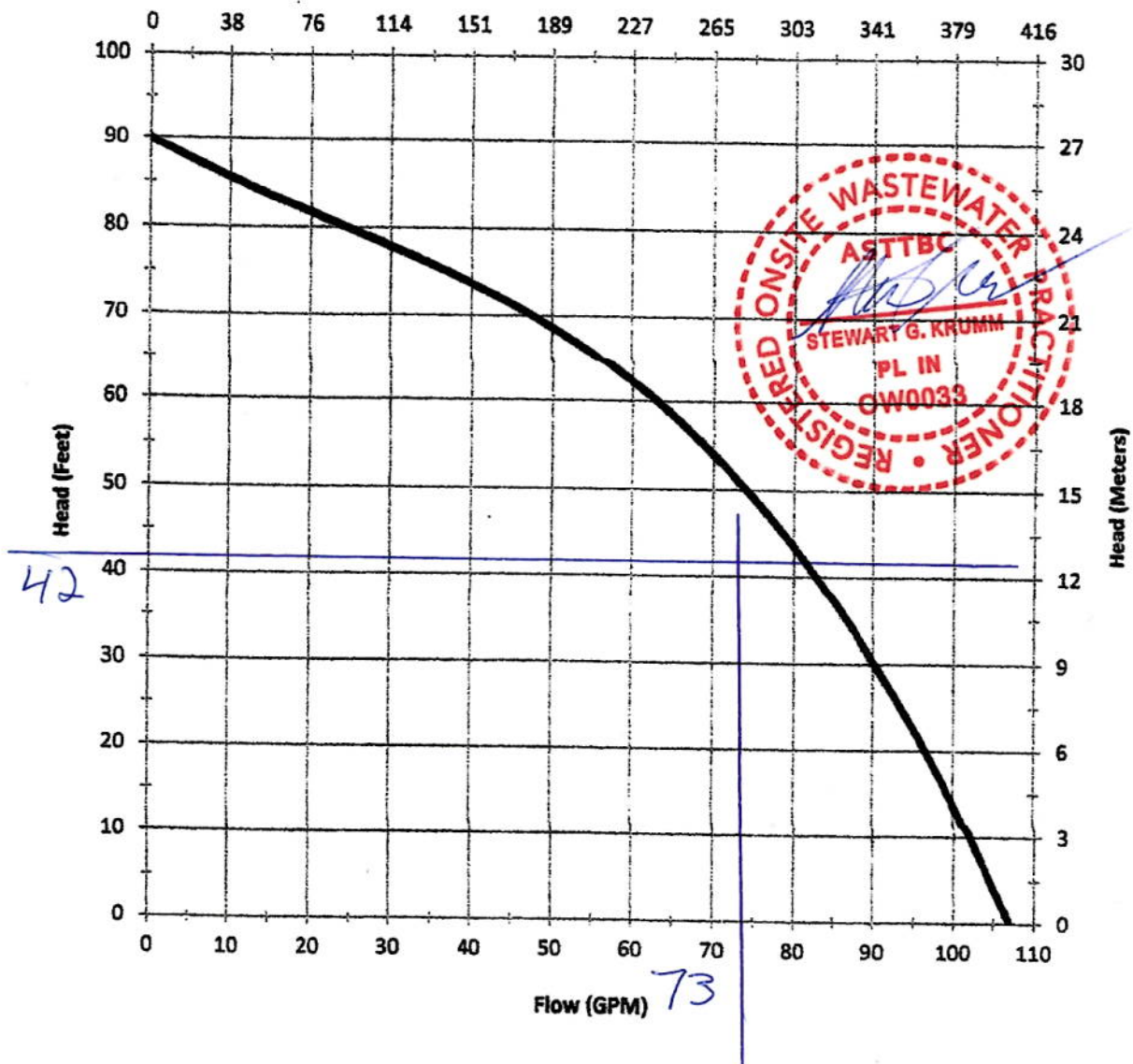
Pump Specifications

FL100 Series Submersible Effluent Pump

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Bob + Adam
Flow (Liters Per Minute)





The Corporation of the District of North Cowichan

Zoning Amendment Bylaw

BYLAW NO. 3937

A bylaw to amend Zoning Bylaw 1997, No. 2950, to permit a total combined maximum of two dwelling units within a maximum of two residential buildings on 7475 Bell McKinnon Road.

The Council of The Corporation of The District of North Cowichan, enacts in open meeting assembled, as follows:

Citation

1. This Bylaw may be cited as "Zoning Amendment Bylaw No. 3937, 2023".

Amendment

2. Zoning Bylaw 1997, No. 2950 section 52(4)(f) [Density in the Rural Zone (A2)] is amended by adding the following as subsection (xxi):

"(xxi) 7475 Bell McKinnon Road (PID 009-785-965)".

READ a first time on

READ a second time on

CONSIDERED at a Public Hearing on

READ a third time on

COVENANT registered on

ADOPTED on

CORPORATE OFFICER

PRESIDING MEMBER