



File No.: DE-RZ-2024.1 (Triple Rock
Land Cooperative)

DATE OF MEETING: June 4, 2024

TO: Denman Island Local Trust Committee

FROM: Marlis McCargar, Island Planner
Northern Team

SUBJECT: Application to amend the OCP and LUB to allow for additional density
Applicant: Laura Busheikin on behalf of Triple Rock Land Cooperative
Location: 5201 Denman Road, Denman Island
PID 028-101-677

RECOMMENDATION

1. That the Denman Island Local Trust Committee request staff to prepare a draft bylaw to amend Denman Island Land Use Bylaw, 2008 to rezone Lot A, Section 17, Denman Island, Nanaimo District, Plan VIP87456.
2. That the Denman Island Local Trust Committee request the applicant for DE-RZ-2024.1 (Triple Rock Land Cooperative) to submit the following to the Local Trust Committee prior to Second Reading being considered:
 - a) Confirmation from a qualified professional that the subject property has adequate conditions to support wastewater systems, compliant with the BC Sewerage System Regulation under the *Health Act* for the proposed increase in density; and
 - b) A Water Management Plan to address:
 - i. minimum onsite storage capacity for potable water; and
 - ii. treatment, maintenance plan and delivery system for potable water;
 - c) A Fire Suppression Plan to address:
 - i. water needs and types of storage being considered; and
 - ii. emergency considerations should temporary water demand be greater than designed storage or well capacity.
3. That the Denman Island Local Trust Committee request the applicant for DE-RZ-2021.1 (Triple Rock Land Cooperative) enter into a cost recovery agreement with the Islands Trust for the purposes of drafting an amended housing agreement.
4. That the Denman Island Local Trust Committee request staff to send an early referral of DE-RZ-2024.1 (Triple Rock Land Cooperative) to the Denman Island Fire Department and Islands Trust Freshwater Specialist for comment.

REPORT SUMMARY

The staff report provides the Denman Island Local Trust Committee (LTC) with a preliminary overview of the proposal; identifies land use planning issues associated with the application; and seeks direction from the LTC on next steps.

This application proposes amendments to the Denman Island [Land Use Bylaw](#) (LUB) to increase the number of units on the subject property by four and permit secondary suites in all units. The current zoning allows 15 dwelling units on the subject property and with this amendment request, the applicant is asking for a total of 19 units and up to a maximum of 19 secondary suites permitted in all dwellings. In addition, the applicant is proposing to increase the maximum gross floor area of the single family dwellings to allow for secondary dwellings (from 139.4 m² to 186 m²). Also proposed is an increase in maximum floor area for outbuildings to meet ongoing needs and to support new units (from 1275m² to 2174 m²).

The applicant has provided a comprehensive summary document as part of the bylaw amendment application (Attachment 4). The application addresses a number of OCP policies (Attachment 3). However, information pertaining to adequate water and sewage disposal for secondary suites have not yet been submitted.

Staff recommends the LTC request the information specified by the OCP policies identified in this report and request draft amendments to the LUB be prepared for LTC consideration.

BACKGROUND

The application proposes to amend the LUB to increase the number of dwelling units permitted at the Triple Rock Land Cooperative (TRLC). The applicant has provided a summary of their intended changes as part of the bylaw amendment application (Attachment 4).

All relevant professional reports and background information are posted to the [Islands Trust applications page](#).

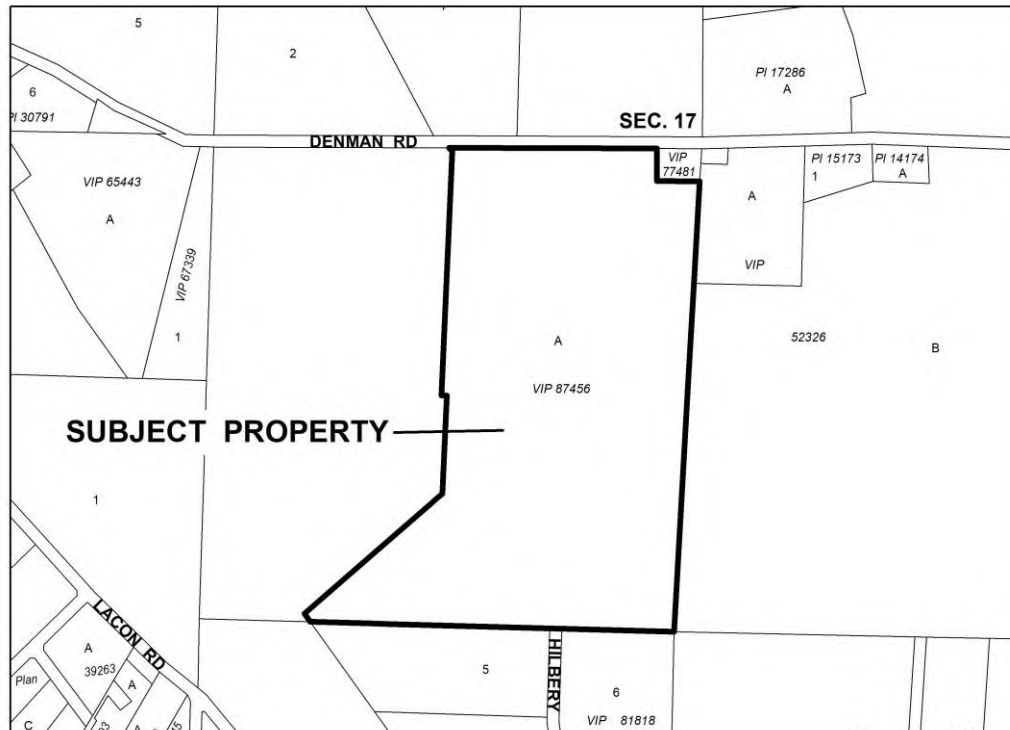


Figure 1: Subject Property Map – 5201 Denman Road, Denman Island

Project Rationale

Renters, seniors, and families are at high risk of falling into core housing need, with affordability and inadequate living conditions being major concerns. According to the Denman Housing Association, 80 residents are currently either unhoused or insecurely housed.

Cohousing developments, like TRLC, provide a unique housing option that addresses the gap in home ownership and affordable rentals. These communities emphasize supportive, inter-generational living, shared facilities, and a consensus-based decision-making process involving all members. They foster a strong sense of community and mutual support among residents.

Applicant Project Rationale

The following section presents a summary of the information provided by the applicant.

The TRLC, known as CoHo Landing, is a non-profit land cooperative consisting of 15 single family dwellings. It is financed and managed by members.

In October, 2008, the TRLC property was rezoned from Forestry to a new site-specific zone, Co-housing (R3), which permitted 15 affordable units, regulated by a housing agreement. The portion of the property which is in the Agricultural Land Reserve (ALR) was rezoned to a site specific Agriculture (5) zone, which does not permit any dwellings.

The project is considered a success by everyone involved in it. It provides stable, affordable housing for 15 households, people who otherwise would be reliant on the unpredictable and often unaffordable rental market. With intentions to expand, the project aims to enhance vibrancy, sustainability, and diversity, while addressing

the critical need for affordable housing. The expansion project is “shovel-ready” for new units, and the secondary suites would be created through strategic renovations or modest additions.

This application would create four new units of affordable housing as well as potential for up to 19 affordable secondary suites which could be used to house extended family members, caregivers, other cooperative members, or participants in the cooperative (people who participate but are not members). The suites would be the only secondary units on Denman Island *required* to be affordable (via a Housing Agreement).

Pending approval, the project does not anticipate further land approvals to moving ahead – no need for subdivision, land acquisition, or grant procurement. TRLC has an established structure for membership and proven strategies for infrastructure.

Pre-application Community Meeting

The applicant held an independently facilitated Community Information Meeting (CIM) on March 21, 2023 on Denman Island. A summary report of the proceedings was provided with the application and is available in Attachment 4.

Executive Committee Fee Sponsorship

The Islands Trust Executive Committee (EC) passed the following resolution on January 17, 2024 to approve a development application fee sponsorship for this bylaw amendment application:

EC-2024-009

It was MOVED and SECONDED,

that the Executive Committee approve financial sponsorship for the \$1,530.00 application fee for rezoning application DE-RZ-2024.1 from the Triple Rock Land Cooperative.

CARRIED

ANALYSIS

Policy/Regulatory

A comprehensive site context analysis is provided in Attachment 1. There are a number of Islands Trust policies, OCP policies and LUB regulations that are pertinent to the consideration of this proposal, detailed in Attachments 2 and 3 and summarized as follows.

Islands Trust Policy Statement:

Staff note that an ITPS Checklist (Directives Only) will be completed at the time that draft bylaw amendments are presented to the LTC. Attachment 2 outlines Islands Trust Policy Statement (ITPS) directive policies that are relevant to the application for early consideration by the LTC.

Official Community Plan:

Attachment 3 of this report provides a comprehensive overview of relevant OCP policies related to this application. The subject property is split designated as ‘Sustainable Resources’ and ‘Agriculture’ in the OCP and does not require an OCP amendment.

There are several policies in the OCP that are applicable to the application, including addressing climate change, transportation, water management, waste management and housing needs. A number of OCP policies support this proposal in principle (Section C.4 Climate Change Adaptation and Mitigation and E.1 Housing Policies); still,

there are policies that are not addressed by the application and additional information is recommended to support the application.

Concurrently with this application, staff are working on a minor project for the Denman LTC that will remove the density bank and Housing Policy 12 regarding the five percent allowable density increase from the OCP, as an OCP amendment. If this project proceeds as anticipated, there will be no requirement to amend the OCP to withdraw four densities from the density register (OCP Appendix D Density Banking Policy 2; Housing Policy 12).

Land Use Bylaw:

The subject property requires rezoning with site specific regulations to address density, accessory uses and floor area.

Covenant:

The Covenant currently attached to the property restricts tree cutting within 30 metres of the eastern, western and southern property boundaries effectively creating a buffer area for development. The covenant also stipulates that each dwelling unit must have one cistern with a minimum capacity of 4546 litres (1000 gallons). The LTC can consider amending the covenant to require additional cistern capacity or other requirements.

Housing Agreement:

Amendments to the housing agreement will be required to ensure the affordability of the secondary suite rental units is protected in perpetuity.

Issues and Opportunities

All professional reports submitted by the applicant have been posted to the [application page](#). Staff have identified the following preliminary issues and opportunities, discussed in more detail below and in Attachment 3 (Relevant OCP policies):

- Density
- Wastewater Systems
- Groundwater Management
- Rainwater Collection/Harvesting

Density

The applicant requests an increase in the density, adding four units to the 15 units that are currently permitted by zoning. Additionally, the applicant requests that secondary suites be permitted in all dwellings. According to the OCP, secondary suites do not count towards the density calculation. Therefore, if approved, this request would allow a total of up to 19 units and introduce a new permitted use for secondary suites.

The secondary suites would be included in the maximum number of dwelling units allowed on the property. There are two potential OCP policies that would support this request; however, as mentioned above, the LTC has endorsed a minor project which will eliminate the density bank and Housing Policy 12. The following two OCP policies are relevant for the LTC to consider in the event that the minor project does not proceed. However, they are not being applied to this rezoning at this time due to the concurrent minor project, which aims to eliminate these policies from the OCP.

1. Housing – Policies, Use and Density Policy 12 – this allows an increase in density on Denman Island of five percent to accommodate affordable housing from the existing residential density beyond that permitted by existing zoning on the date of the OCP. This rezoning proposal seeks to add four new densities to the subject property, the LTC is contemplating eliminating this policy from the OCP; however, it is relevant to mention here in the event the minor project does not move forward.
2. Appendix D – Density Banking – The use of the density bank is reserved for affordable housing. As referenced above, staff are working on a minor project concurrently that would eliminate the density banking policy. If the minor project does not proceed and the LTC wishes to withdraw densities from the bank for this application, an OCP amendment would be required by the applicant.

Staff anticipate this application can move forward concurrently with the minor project. The LTC-initiated minor project eliminates the need for an OCP amendment for this rezoning. However, the timing of bylaw readings for this rezoning may be affected and will be determined by further staff analysis.

Wastewater Systems

The applicant has provided a report prepared by a qualified professional on the feasibility of additional wastewater systems on the property (Attachment 5). The report states that there is adequate space and suitable soils for up to five additional wastewater systems. More information is needed to determine if each dwelling site has a wastewater system (including greywater tank and dispersal field capacity) that can accommodate a secondary suite.

LTC Direction: Staff recommend requesting further information from a qualified professional regarding the feasibility of accommodating wastewater systems for up to 19 secondary suites.

Groundwater Management

As per OCP Section D.3 Water Management Policy 6, the LTC should consider implementing measures to conserve water and protect groundwater resources in areas with limited groundwater supply. OCP Section E.1 Housing policy 29 states that the LTC should require affordable housing proposals to demonstrate an adequate potable water supply. The groundwater supply status in the area where the applicant proposes an increase in density is unknown. However, the current dwellings rely on rainwater catchment and do not use the groundwater supply, nor do they have the infrastructure to connect to it. Currently, groundwater is only used for watering the common garden.

LTC direction is needed to determine whether the applicant must provide a hydrogeological assessment of the groundwater supply, considering the proposed development expansion and potential impacts on the water supply if the dwellings need to connect to the groundwater.

Rainwater Collection/Harvesting

OCP Section C.2 Freshwater Policy 9 stipulates that zoning regulations should encourage rainwater collection. Section D.3 Water Management Policy 6, stipulates that zoning changes should require mitigating measures to conserve water. The applicant has indicated that rainwater harvesting, collection, treatment and use for potable water supply will be the only source of water for residential dwellings. Draft zoning regulations or a covenant for all permitted dwelling units can include specific requirements for minimum cistern capacity, water treatment, maintenance plan, etc. at the time a Siting and Use Permit is requested.

The applicant is proposing up to 19 secondary suite rental units. According to Section 7 of the Public Health Act's Health Hazards Regulation, landlords cannot rent a domestic rental unit that lacks a connection to a water supply

system unless they can provide tenants with potable water for domestic use. As such, more information is needed to determine the applicant's potable water plan. Specifically, information is required on how each rental unit will be equipped with a system for rainwater storage, treatment, and delivery to ensure a potable water supply.

LTC direction is needed to determine if the applicant will be required to provide a water management plan. Staff recommend that the plan should address the minimum onsite storage capacity, treatment, maintenance and delivery for potable, non-potable rainwater. Additionally, the plan should cover onsite storage capacity for fire suppression and emergency measures should temporary demand exceed the designed storage or well capacity.

Timeline

As the project will likely not involve an OCP amendment, the LTC is not required by the *Local Government Act* to consider opportunities for consultation with persons, organizations and authorities it considers will be affected. However, in the spirit of relationship building, this is considered to be good practice. The LTC should consider if it wishes to undertake additional consultation and direct staff accordingly.

Decision to Not Hold a Public Hearing

The LTC is prohibited from holding a Public Hearing under Sections 464(3) of the *Local Government Act* that states:

A local government must not hold a public hearing on a proposed zoning bylaw if

- a) an official community plan is in effect for the area that is the subject of the zoning bylaw,*
- b) the bylaw is consistent with the official community plan,*
- c) the sole purpose of the bylaw is to permit a development that is, in whole or in part, a residential development, and*
- d) the residential component of the development accounts for at least half of the gross floor area of all buildings and other structures proposed as part of the development.*

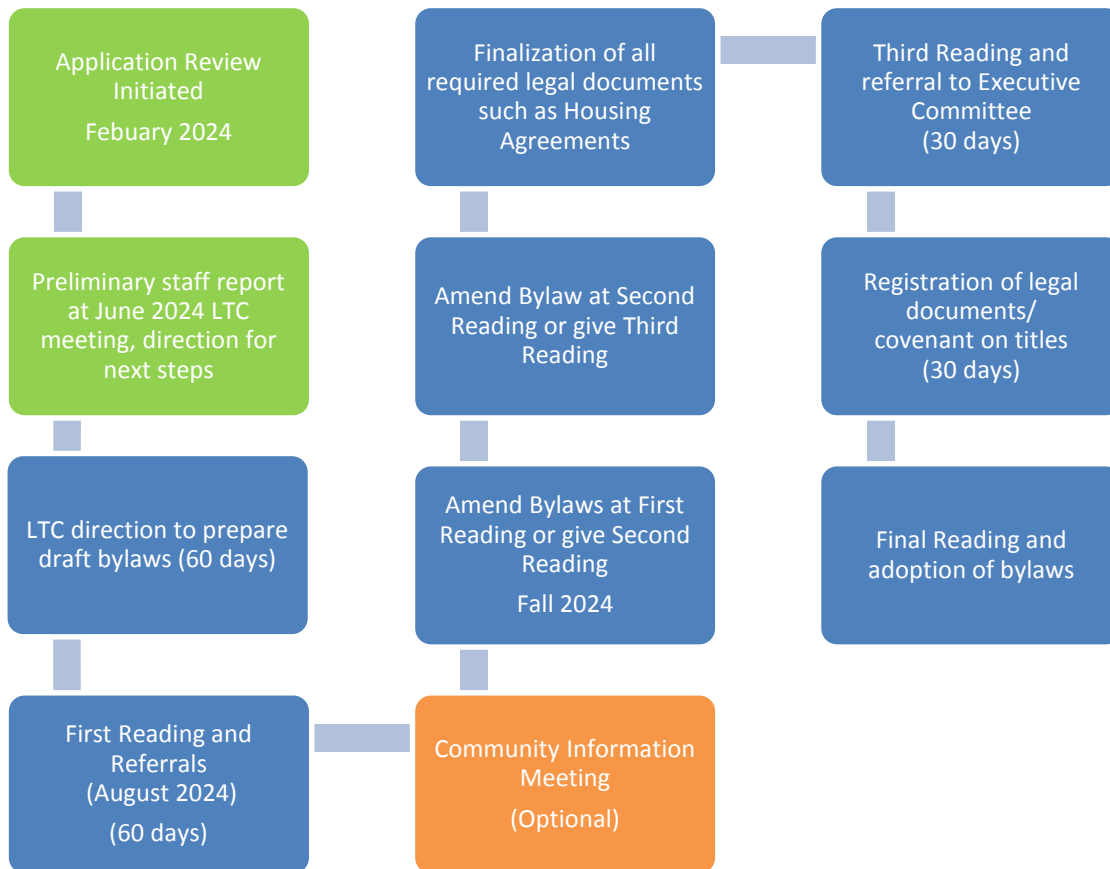
As a separate OCP amendment, staff are working on a minor project that would eliminate the need for an OCP amendment. If the minor project does not proceed, an OCP amendment would be required through the applicant and thus a Public Hearing would need to be held.

Protocols

Protocols and agreements exist and are relevant to the consultation/engagement process for this file with the K'ómoks First Nation, Comox Valley Regional District and adjacent (Hornby Island) LTC.

Application Process Steps and Timing

The following process steps and approximate timelines may assist in managing applicant and community expectations in how a LUB amendment application such as this, can be processed:



Rationale for Recommendation

Staff is recommending a number of key information pieces to support advancement of the application and to inform the development and timing of draft bylaws.

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 Denman Island Local Trust Committee request that the applicant submit to the Islands Trust an Assessment Report, completed by a Professional Engineer, which identifies the potential impacts of the proposed development on local pedestrian and vehicular transportation routes and patterns.

2. Hold the application in abeyance

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

3. Receive for information

The LTC may receive the report for information

NEXT STEPS

Should the LTC move forward with staff recommendations, staff will advise the applicant of necessary next steps and prepare a draft bylaw and amended Housing Agreement for LTC consideration.

Submitted By:	Marlis McCargar, Island Planner	May 16, 2024
Concurrence:	Renée Jamurat, RPP MCIP, Regional Planning Manager	May 17, 2024

ATTACHMENTS

1. Site Context
2. Relevant ITPS Policies
3. Relevant OCP Policies
4. TRLC Supporting Document
5. Feasibility of Wastewater Systems
6. Rainwater Catchment Information

ATTACHMENT #1 – SITE CONTEXT

FILE NO.: DE-RZ-2024.1 (TRIPLE ROCK COOPERATIVE)

LOCATION

Legal Description	LOT A SECTION 17 DENMAN ISLAND NANAIMO DISTRICT PLAN VIP87456
PID	028-101-677
Civic Address	5201 Denman Rd, Denman Island


LAND USE

Current Land Use	Residential; agricultural
Surrounding Land Use	Vacant forested, agriculture (ALR), residential

HISTORICAL ACTIVITY

File No.	Purpose
DE-ALR-2004.1	To create a one acre lot to expand the existing fire hall site on Denman Road.
DE-ALR-2009.2	To subdivide to 2 properties. 35.5 hectares to become co-housing for 15 families - that will farm the ALR portion Lot A. The other 27.5 hectares to be single family residential and will include portion of ALR.
DE-RZ-2004.2	Proposed ambulance station.
DE-RZ-2006.2	Co-housing project.
DE-SUB-2004.1	Three lot residential subdivision.
DE-SUB-2008.5	To create two parcels.
DE-SUP-2010.5	1 Common House and 15 small dwelling units.

POLICY/REGULATORY

Official Community Plan Designations	Sustainable Resources (SR) - large forested and agriculture lots No DPAs
Land Use Bylaw	R3 and A(5) split zone
Other Regulations	ALR in the north portion of the lot 
Covenants	EJ49175 Undersurface Rights

	EM21741 Undersurface Rights FB315901 Easement FB326319 Statutory Right of Way FB326320 Statutory Right of Way FB326547 Covenant with DELTC CA3198134 Statutory Right of Way CA3198135 Statutory Right of Way FB269464 Housing Agreement
Bylaw Enforcement	None.

SITE INFLUENCES

Regional Conservation Strategy	
Species at Risk	None mapped.
Sensitive Ecosystems	None mapped. Young Forest.
Hazard Areas	None mapped.
Archaeological Sites	<p>No archaeological sites are noted within the property or within 100 metres.</p> <p>Notwithstanding the foregoing, and by copy of this report, the owners and applicant should be aware that there is still a chance that the lot may contain previously unrecorded archaeological material that is protected under the <i>Heritage Conservation Act</i>. If such material is encountered during development, all work should cease and Archaeology Branch should be contacted immediately as a <i>Heritage Conservation Act</i> permit may be needed before further development is undertaken. This may involve the need to hire a qualified archaeologist to monitor the work.</p>
Climate Change Adaptation and Mitigation	No anticipated climate-change induced hazards on the proposed development.
Shoreline Classification	Not Applicable
Shoreline Data in TAPIS	Not Applicable

ATTACHMENT 2 – ITPS POLICIES DE-RZ-2024.1 (TRIPLE ROCK COOPERATIVE)

ISLANDS TRUST POLICY STATEMENT

ITPS Policy	Complies	Planner Comments
4.1.6 Local trust committees and island municipalities shall, in their official community plans and regulatory bylaws, address the use of adjacent properties to minimize any adverse affects on agricultural land.	YES	Portion of the property in the ALR. Site-specific Agriculture zone that does not permit residential dwellings. No new development being proposed with current application.
4.4.2 Local trust committees and island municipalities shall, in their official community plans and regulatory bylaws, address measures that ensure: <ul style="list-style-type: none"> 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, water quality is maintained, and existing, anticipated and seasonal demands for water are considered and allowed for. 	Pending receipt of additional information from the applicant	Existing dwellings on rainwater only. Proposed new development to operate with rainwater catchment only. LTC can request a water management plan that outlines rainwater collection methods (storage, treatment, maintenance and delivery system). The LTC can request the rainwater harvesting system plans be certified by an ASSE-certified designer, professional engineer or geoscientist
4.4.3 Local trust committees and island municipalities shall, in their official community plans and regulatory bylaws, address measures that ensure water use is not to the detriment of in-stream uses.	YES	Existing dwellings on rainwater only. Proposed new development to operate with rainwater catchment only.
5.2.3 Local trust committees and island municipalities shall, in their official community plans and regulatory bylaws, address policies related to the aesthetic, environmental and social impacts of development.	YES	Application addresses positive social impacts of development through provision of affordable rental housing.
5.2.4 Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address any potential growth rate and strategies for growth management that ensure that land use is compatible with preservation and protection of the environment, natural amenities, resources and community character.	YES	Young forest, applicant is currently working with forest management practices to maintain undeveloped areas as forested.
5.2.5 Local trust committees and island municipalities shall, in their official community plans and regulatory bylaws, address means for achieving efficient use of the land base without exceeding any density limits defined in their official community plans.	Pending LTC decision.	LTC has initiated a minor project that would eliminate density limits. If this application proceeds concurrently with the minor OCP amendment project, there will be no density limit. Density increase is balanced with maximum gross floor area limitations.

ITPS Policy	Complies	Planner Comments
5.3.7 Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the development of land use patterns that encourage establishment of bicycle paths and other local and inter-community transportation systems that reduce dependency on private automobile use.	YES	Development located relatively close to village (within 2km).
5.6.2 Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the identification, protection, preservation and enhancement of local heritage.	YES	Proposed development provides an opportunity for LTC and K'omoks First Nation consideration.
5.7.2 Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address economic opportunities that are compatible with conservation of resources and protection of community character.	YES	
5.8.6 Local trust committees and island municipalities shall, in their official community plans and regulatory bylaws, address their community's current and projected housing requirements and the long-term needs for educational, institutional, community and health-related facilities and services, as well as the cultural and recreational facilities and services.	YES	Proposal seeks to address community's current and projected housing requirements for affordable housing.

ATTACHMENT 3 –OCP POLICIES DE-RZ-2024.1 (TRIPLE ROCK LAND COOPERATIVE)

DENMAN ISLAND OFFICIAL COMMUNITY PLAN BYLAW No. 185, 2008

OCP Objective/Policy	Complies	Planner Comments
C.2 Freshwater Policy 9 - Zoning regulations should encourage rainwater collection to reduce consumption of groundwater resources; however, adequate controls should be in place to ensure above ground storage tanks are not unsightly.	Yes and pending further application review	<p>Dwellings on the subject property currently rely on 100% rainwater with an individual rainwater harvesting, collection, storage, treatment and use systems. The Cooperative provides one cistern per dwelling. Rezoning process can identify options to ensure this is a requirement of new construction for all dwellings.</p> <p>Given the applicant is proposing affordable rental units, there is special consideration for how the applicant will be providing potable water to the tenants. Landlords are legislated by the Public Health Act's Health Hazards Regulation to provide potable water to tenants. As such, more information is needed confirm water storage capacity, water treatment, maintenance and delivery of potable water.</p> <p>The property has a well which, at the time of the rezoning in 2006, was tested for quality and quantity and proven to be sufficient for the requested density at that time. The groundwater is currently only used to water the common garden.</p>
C.4 Climate Change Policy 2 - The Local Trust Committee should consider energy efficiency attributes, the reduction of greenhouse gas emissions, and climate change adaptation and impacts mitigation in all rezoning applications that propose an increase in density or change of use.	Yes and pending further application review	<p>Current development operates on a sustainability model with a concerted effort to reduce water usage, common garden for local food production, natural habitat preservation and effective waste management. The common house has shared laundry facilities and kitchen.</p> <p>Rezoning process can identify options to ensure specific standards of construction for energy efficiency is a requirement of new construction.</p>
C.4 Climate Change Policy 4 - The Local Trust Committee should support zoning amendment applications for affordable housing that incorporate climate change adaptation and mitigation measures, such as energy efficiency and shared facilities.	Yes	See above.
D.2 Transportation and Utilities Policy 8 - When considering zoning changes, the Local Trust Committee should ensure that the proposed zoning change supports non-automotive transportation.	Pending further application review	Rezoning process can identify options to ensure non automotive transportation is adequately incorporated into the proposal (i.e. requirements for bicycle parking)

<p>D.3 Water Management Policy 6 -When considering a zoning amendment application in an area of scarce ground water supply, the Local Trust Committee should consider requiring mitigating measures to conserve water and protect the ground water resource.</p>	<p>Pending LTC direction</p>	<p>The applicant is proposing that all additional dwellings will be 100% rainwater catchment and therefore, will not impact the ground water.</p> <p>LTC can request adequate groundwater data from the applicant in the form of a groundwater assessment report.</p> <p>LTC can request a water management plan that outlines rainwater collection methods (storage, treatment, maintenance and delivery system). The LTC can request the rainwater harvesting system plans be certified by an ASSE-certified designer, professional engineer or geoscientist.</p>
<p>D.4 Waste Management Policy 5 - Community sewage treatment should be required for any zoning amendment where the sewage disposal capability of a lot is inadequate for the proposed use.</p>	<p>Yes and pending further application review</p>	<p>As per Coho Bylaws, all residential toilets must be composting toilets. Applicant has provided a wastewater system report for 5201 Denman Road; however, the report only identifies up to five more wastewater systems on the subject property. There is no information on how the current wastewater systems will be impacted or adapted to allow for secondary suites.</p> <p>LTC can request adequate data from the applicant on sewage disposal capability and conditions to support up to 19 secondary suites. More information is needed to determine if each dwelling site has a greywater system (tank and dispersal field capacity) that can accommodate a secondary suite.</p>
<p>E.1 Housing Policy 12 - The overall residential density on Denman Island should generally not increase beyond that permitted by existing zoning on the date this Plan was adopted except that an increase of approximately 5 percent may be permitted to accommodate zoning amendments for special needs and affordable housing, secondary dwelling units approved by the Denman Island Local Trust Committee under a Temporary Use Permit and site-specific zoning amendment applications under Policy 27, 28 and 29 of this Section.</p> <p>Notwithstanding the foregoing, secondary suites contained within the footprint of conforming dwelling units are not deemed to contribute to density calculations for the purposes of this policy.</p>	<p>Pending LTC direction</p>	<p>Four additional units are proposed. The secondary suites do not count towards the density calculation.</p> <p>This policy allows an increase of five percent to accommodate affordable housing from the existing residential density beyond that permitted by existing zoning on the date of the OCP.</p> <p>LTC has initiated a minor project that would eliminate this 5% allotment and the density bank. If this application proceeds concurrently with the minor OCP amendment project, there will be no need to address this OCP policy in the context of this rezoning application.</p>
<p>E.1 Housing Policy 14 - In the Sustainable Resource designation, zoning regulations should permit one dwelling including a secondary suite per parcel.</p>	<p>Pending LTC direction</p>	<p>The subject property has a split designation of 'Sustainable Resource' and 'Agriculture'.</p> <p>The decision was made during the previous rezoning to keep the subject property as 'Sustainable Resource' likely due to the portion</p>

		<p>that is agricultural and the rest being a forested, large lot. With the recent adoption of Bylaw No. 228, a new Agricultural (A) designation was created and all parcels in the ALR were re-designated to 'A'. This has resulted in a split designation on the subject parcel. However, there still is not another land designation that would be better fit.</p> <p>The LTC can consider re-designating the southern portion of the subject property to 'Rural' or 'Residential', but those designations are also intended for single family residential. As such, this is not recommended by staff.</p>
E.1 Housing Policy 17 - Landowners are encouraged to cluster houses and buildings accessory to a residential use to leave areas of undeveloped space.	Yes	Applicant's site plan attempts to cluster new housing units near other dwellings and common house.
E.1 Housing Policy 18 - The Local Trust Committee should encourage the establishment and work of non-profit land trusts for affordable housing.	Yes	LTC and Executive Committee have supported the financial sponsorship of the bylaw amendment fees for the application.
<p>E.1 Housing Policy 24 - Zoning regulations should establish sufficient setbacks for septic disposal systems:</p> <ul style="list-style-type: none"> to ensure that the waste water has been cleaned before entering the sea, wetlands, lakes and other watercourses; and to protect adjacent properties from effluent or odours. 	Pending further application review	<p>Applicant has provided a report prepared by a qualified professional regarding the feasibility of additional wastewater systems on the subject property. However, the report stipulates that there is adequate space and soils for up to five additional waste water systems.</p> <p>LTC can request further information regarding the feasibility of the wastewater systems and ability to accommodate up to 19 secondary suites.</p>
E.1 Housing Policy 25 - Setbacks from lot lines should be sensitive to the nature of the use and its potential negative impact on the neighbouring properties.	Yes	Already addressed with previous rezoning.
E.1 Housing Policy 26 - The Local Trust Committee should not approve a zoning amendment application that could fragment large areas of forested or agricultural land.	Yes	The portion of the property in the ALR will remain undeveloped and continues to remain in the ALR and protected by site specific Agricultural zoning which prohibits residential use.
<p>E.1 Housing Policy 29 - The Local Trust Committee should consider zoning amendment applications for affordable housing projects provided:</p> <ul style="list-style-type: none"> that the proposal is not located in a connectivity area identified on Schedule D; that the proposal does not impact negatively on adjacent properties; that the proposal is small-scale; that the proposal is clustered and the siting and height are sensitive to surrounding land uses; 	Yes and pending further application review	<p>Adequate volume of water has not been provided as the proposal is operating with rainwater catchment. The quality of rainwater will be maintained through individual treatment systems.</p> <p>LTC can request a water management plan that outlines rainwater collection methods (storage, treatment, maintenance plan and delivery system). The LTC can request the rainwater harvesting system plans be certified by an ASSE-certified designer, professional engineer or geoscientist.</p>

<ul style="list-style-type: none"> that the proposal proves an adequate supply of potable water and an adequate sewage disposal system; that any environmentally sensitive areas on the lot are identified and the applicant undertakes a conservation covenant to protect such areas; that the proposed development will not place a strain on existing public services and infrastructure. 		
E.2 Economic Activities Policy 6 - The Local Trust Committee encourages applicants applying for zoning amendments to permit new construction to meet or exceed the Canadian Green Building Council certification, or to provide details on green technology alternatives if meeting the certification requirements is not possible.	Pending further application review	<p>Applicant has not provided details on green technology or green building.</p> <p>The LTC can request that new building meet or exceeds Canadian Green Building Council certification or other green technology alternatives. For example, the LTC can request a restrictive covenant registered on title for compliance with BC Energy Step Code.</p>
E.4 Resource Policy 9 - The area designated Sustainable Resource in this Plan are designated to ensure that land uses involving renewable resources are sustainable and compatible with the small-scale rural character of the Island. The objectives of the designation of this area as an area within which development approval information may be required, include protecting the Agricultural Land Reserve; encouraging diverse agricultural activities; promoting employment through agricultural activities that have minimal negative environmental impact; promoting local employment through sustainable, ecologically sensitive silvaculture; and fostering sustainable use of resources. Development approval information may be required to help the Local Trust Committee to determine appropriate uses, density and siting of development in the Sustainable Resource designation.	Pending LTC direction	<p>As mentioned above, the 'Sustainable Resource' designation is likely the best fit for this land use.</p> <p>See comments above regarding ALR.</p> <p>Denman does not currently have a DAI Bylaw.</p>
Appendix D Density Banking Policy 2 - The Local Trust Committee may consider applications for transfer of banked densities providing the land receiving the densities will be used for affordable housing and a suitable mechanism is in place ensuring this use is maintained over time. For the purpose of the density bank, affordable housing means adequate, suitable housing that is available to meet a continuum of needs including housing for the homeless and/or special needs; housing for those at risk of homelessness;	Pending LTC decision	The LTC has given staff direction to remove the density bank as part of the Housing Review TUP minor project. It is anticipated that this minor project will proceed concurrently with the rezoning application and therefore the application, will not require an OCP amendment.

housing with rental assistance; and entry level ownership opportunities.		
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Triple Rock Land Cooperative rezoning supporting document

Purpose: to add four new densities + secondary suites for all dwellings



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Introduction

The Triple Rock Land Cooperative (TRLC), commonly known as CoHo Landing, is a non-profit land cooperative with 15 households. It is financed and managed by members.

In October, 2008, the TRLC property was upzoned from F (allowing one dwelling unit) to a new site-specific zone, R3, which permitted 15 affordable units, regulated by a housing agreement. The portion of the split-zoned property which is in the Agricultural Land Reserve was rezoned to a unique A3 zone, which does not allow any dwellings. Development took place gradually. For the last decade or so, the cooperative has been operating as a self-managed “village” based on principles of reciprocity, living lightly on the land, and balancing collective values and practices with individual self-determination. Decisions are made by consensus and the members work together to plan, problem-solve, create policy, manage finances, and build and maintain buildings and infrastructure.

The TRLC property was heavily logged 20-30 years ago and the forest around the housing cluster is regrowing. Buffer zones of 30 metres from neighbouring lot lines, enshrined in a covenant, protect much of this forest. There are no riparian areas or environmentally sensitive features on the land. The proposed new units are within or adjacent to the area already developed. The project includes composting toilets, rainwater catchment, homes of up to 139 m², and a limit on floor area of outbuildings, creating an environmentally sustainable approach to increased density.

The project is considered a success by everyone involved in it. It provides stable, affordable housing for 15 households, people who otherwise would be reliant on the unpredictable and often unaffordable rental market. The property has been on the Denman Island sustainability tour, has been studied by academics, hosted a Land Share Summit in 2022, and has hosted Uvic Environmental Studies students as part of their summer field school for the past two years.

The TRLC is ready to grow—partly to enhance the vibrancy, sustainability, and diversity of the project, and partly to offer more opportunities for affordable housing at a time when this is so direly needed. If the rezoning goes ahead, the project would be “shovel-ready” for new units, and the suites could be created through strategic renovations or modest additions.

Proposed new uses

In the R3 zone

- Four more single family homes
- Option of secondary suites for all dwellings, to be used for extended family, caregivers, and cooperative members/prospective members. These will be contained within the main dwelling
- Increased maximum floor area for homes (from 139.4 m²– 186 m²) to support secondary suites
- Increased maximum floor area for outbuildings (to meet ongoing needs and to support new units) from 1275 m² to 2174 m²

TRLC rezoning at a glance		
	Current	After rezoning
Number of units	15	19
Dwelling type	Single family	Single family + optional secondary suites
Maximum floor area—each dwelling	139.4 m ²	186 m ²
Maximum floor area—all outbuildings	1275 m ²	2174 m ²

Regulatory amendments requested

Official Community Plan amendment requested

Withdraw four densities from the density bank (Appendix D of the OCP) or clarify that the four additional units will come from the 5% as per OCP Policy E1 11 (we understand that the secondary suites, like other secondary suites on Denman, do not count as densities for the purposes of the density cap).

Land Use Bylaw amendments requested

- Change section 3.3, Table 3, line three, under R(3), to read 19 instead of 15
- Change section 3.3, Table 1, line nine, under R(3), to include a tick mark, with text to clarify that only secondary suites that are within the main dwelling are permitted
- Change section 3.3, Table 6, so that
 - line 3, column 3 (R3) (dwelling maximum gross floor area) changes from 139.4 m² to 186 m²
 - line 6, column 3 (R3) m² (maximum gross floor area of all accessory buildings and structures) changes from 1275 m² to 2174 m²

Housing agreement amendments requested

- In item 1.a., change number of units from 15 to 19 and include provisions for attached secondary suites in each dwelling unit
- In item 7, if necessary, include “a family member or caregiver of the co-op member or a participant in the cooperative” (although perhaps the existing language suffices)
- In item 9, which deals with purchase price, include language specifying that the total purchase price of a housing unit and shares cannot exceed the maximum cap as indicated in the

cooperative's resale policy (this is not essential for this rezoning but is a bit of housekeeping to bring the document in alignment with TRLC policies and increase long-term affordability)

- If appropriate, include provisions to ensure secondary suites remain low-impact and affordable, such as
 - Guidelines for who can occupy a secondary suite (a family member of, or a caregiver for, the cooperative member; someone who wishes to participate in cooperative activities and culture; or a cooperative member)
 - A requirement that cooperative members apply to the cooperative whenever they want to have a resident in a suite
 - A prohibition on advertising availability of a secondary suite
 - A guideline for affordability for suites (the TRLC Rules of Association and Memorandum of Understanding, registered with the B.C. Corporate Registry, require the cooperative to provide "affordable housing" and the suites will not be used for commercial rentals, so an affordability provision in the housing agreement is not necessary, but if needed can provide certainty for the LTC)

To expedite the process, CoHo Landing could take on amending the **housing agreement**, working with our lawyer, and presenting the amended version to the LTC for review and endorsement.

It is our understanding that the **covenant** (also registered on title) will not need to be changed.

As well, the TRLC will need to update its **Rules of Agreement** to reflect the increased density, include criteria for occupancy of secondary suites, and include guidelines for the use of secondary suites. This is not within the jurisdiction of the LTC, but since the Rules of Agreement are attached to the Housing Agreement and play a key role in ensuring affordability, it needs to be amended at the same time or immediately after the rezoning.

Existing uses of the land

In the R3 zone:

- 14 single family homes of no more than 139.4 m² each
- One inhabited travel trailer (temporary)
- One common house of 209 m²
- Three electricity metering station sheds, 5.6 m² each
- Five workshop/studios, 28 – 74 m² each, personal use (art, woodworking, etc) (serviced with Hydro; no running water or plumbing; not residential)
- 16 woodsheds, approx. 167 m² combined
- Total outbuilding floor area: 866 m²

In the A3 zone (ALR):

- A fenced garden and orchard
- A garden shed, 9 m²



Family dwelling

Existing water and sewage disposal infrastructure

Water: Homes rely 100% on rainwater. Each household is responsible for their own catchment, filtration, and treatment system. The cooperative provides one cistern per home and members can add more storage capacity if needed. Homes have opportunity to increase catchment surface by also collecting from outbuildings. There is considerable combined expertise on rainwater catchment and treatment in the group and members help each other with design, construction, and maintenance. See attached rainwater catchment report for more detail.

The Common House water is supplied by four 5000-gallon cisterns. The Common House rainwater catchment system is maintained by members of the cooperative (gutter cleaning and repair, preventing freezing, filtration, monitoring).

The property has a well which, at the time of the initial rezoning, was tested for quality and quantity and proven to be sufficient for the current density. **This well is not used by residences** and currently there is no infrastructure in place that would enable that. The well is used to water the common garden.

Sewage: Each home has a composting toilet. Maintenance of the toilet and proper treatment of the resulting material is the responsibility of the cooperative member resident in the home. Each home has a greywater treatment septic system designed by H2O Environmental Ltd in accordance with Ministry of Health standards (some systems are still under construction). Each treatment system has its own dispersal field on the ½ acre of land connected to the house.

The Common House has a flush toilet and a type-one septic system designed by H2O Environmental Ltd.

Photos: Common House cisterns (20,000 gallons in total), individual septic field under construction with family home behind it, metering station (for B.C. hydro)



Uses of land and buildings on adjacent properties

The property directly to the west has a sauna and walking trails, used for pleasure, and a single family dwelling under construction. The Denman Ambulance Station and the Fire Hall also share property lines with the subject property. Other adjacent properties are used for single family dwellings, and some are used for farming.

Reasons in support of proposed amendments

Denman Island's housing needs are urgent and varied, as evidenced by the Islands Trust Northern Region Housing Needs Assessment and many other studies. The housing crisis is rampant in most of BC and Canada and shows no signs of abating.

The Northern Region Housing Needs Assessment says about Denman Island, "Based on the population projections, there could be a need for potentially 165 residential units in the next 25 years. ...Based on the population growth projected for 165 units and 48% need for affordable rental, Denman Island now requires up to 80 affordable housing units. This translates into three to four units per year."

No new affordable housing has been built on Denman since the report was released five years ago.

This request would create four new units of affordable housing as well as potential for up to 19 affordable secondary suites which could be used to house extended family members, caregivers, other cooperative members, or participants in the cooperative (people who participate but are not members). These suites would be the only secondary units on Denman *required* to be affordable (via multiple levels of regulation).

If these changes go forward, there would be no institutional barriers to moving ahead—no need to subdivide, finalize land purchase, get grants, etc. Time would be needed for the TRLC membership process, but nothing stands in the way of moving forward. TRLC has an established structure for membership and proven strategies for infrastructure. The Northern Region Housing Needs Assessment recommends that LTCs "support the efforts of not-for-profit organizations to increase the amount of safe, secure, appropriate, affordable housing on their islands" (page 131). This rezoning application provides an opportunity to do that.

Studio zone



FAQs

1. How will water, sewage, hydro, and vehicle access be provided to new units?

Water will be provided via water catchment only, as is currently the practice (see above for more info). The rainwater used eventually makes its way back into the aquifer after being treated in the greywater septic systems.

Sewage will be minimal, due to the use of composting toilets and the consistent practice of water conservation which accompanies reliance on water catchment. Each new unit will have a greywater treatment system, as per the current practice. Secondary suites will be attached to current wastewater systems, which may need expansion.

Environmental impact exists because space must be cleared for dispersal fields. However, these are small (approx. 26 m² per house) and are in areas that would likely be cleared to let in light and minimize fire risk for the houses.

Hydro comes up from Denman Road and is distributed through a combination of overhead and underground wires. No new utility corridor will be needed.

Vehicle access is already in place and no new access corridor needs to be created.

2. Will the secondary suites turn the TRLC into a commercial rental housing provider?

No. Secondary suites will be used only for extended family, caregivers, and cooperative members and participants (people involved in the cooperative but not members, including people interested in joining at some point). Residency will not be primarily a commercial arrangement although the resident may be asked to contribute to household costs. Suites must remain affordable, as designated by TRLC policies, by the Housing Agreement registered on title, and by the terms of the cooperative's Memorandum of Association (registered with the Corporate Registry in Victoria and governed by the BC Cooperative Act), which states that the purpose of the TRLC is the provision of affordable housing.

Openings will not be advertised. Cooperative members wanting to build a secondary suite and/or invite a new occupant in a secondary suite will need to bring an application to the cooperative in advance.



Photos: family dwellings

Legal and contractual arrangements for the use of secondary suites could happen in several ways: as part of an employment contract (for a paid caregiver), via a Licence to Occupy (used when occupancy is based on generosity rather than business considerations), or via the Residential Tenancy Act.

Cooperative members are required to understand and be responsible for complying with applicable regulatory requirements.

3. What role does the TRLC play in addressing the housing crisis on Denman Island?

The TRLC, since inception, has provided stable, secure housing with affordability situated approximately in the “community-housing” category of the Canada Housing and Mortgage Corporation’s continuum of affordability. This meets the housing needs of many people who otherwise would be unable to afford home/property ownership, but does not meet all needs on the island. This was clearly stated during the initial rezoning process and received support at the time from many community members and the LTC.

The TRLC does not receive any external funding from grants or government programs but has benefitted from various types of support from community members (a financial gift to help with the initial start-up, buying and holding land during the initial rezoning, volunteer labour).

The secondary suites will provide additional affordable housing for their occupants. As well, having an extended family member to contribute to household costs enhances affordability for cooperative members, which is a key goal for the TRLC.

THE HOUSING CONTINUUM



4. Will this proposal use up available densities in the density bank, taking away opportunity for other much-needed types of affordable housing?

This proposal will remove four densities from either the density bank or the “5%” source of densities available via OCP Policy E1-11. This would leave 43 densities available overall (adding the density bank to the remaining densities in Policy E1-11), according to [Denman LTC reporting](#) (although this reporting does not account for 20 units of affordable housing at the Denman Green project). The TRLC supports the use of these densities for a variety of types of affordable housing.

Neither Policy E1-11 nor the density bank have been reviewed in many years, and they do not reflect current housing and density realities (as, for instance, measured in the Islands Trust Housing Needs

Assessment for the Northern Region, which itself is out of date). The Denman Island LTC may want to adjust the 5% in E1-11 to reflect its own data on housing needs.

5. How do you choose new members?

Like all cooperatives, the TRLC has a membership intake process. Members are chosen via a year-long process that includes educating them on the cooperative, providing options for them to participate, a written application, an interview, and a trial period. The decision process looks at need, support for cooperative goals, experience with groups, contribution to diversity in the group, ability to meet financial needs, connection to Denman Island, ability to work in a consensus process. No one factor is paramount.

This process is structured differently than that of other housing organizations on the island. This is because the TRLC is a self-managed cooperative, whereas other groups are societies with charitable status managed by a board of directors. The TRLC is also unusual among cooperatives because it does not hire a management and maintenance company and did not hire a contractor for development. Rather, members do the physical and administrative work of running the cooperative. This is an essential component of affordability and group cohesion. It also allows the cooperative to customize and keep development small-scale.

For the above reasons, the membership process includes consideration of compatibility with project goals and commitment to the project.

Through fostering and putting into practice cooperative land-based practices, the TRLC is developing skills and capacity for collective, low-impact ways of living. As an example and a repository of skills, the cooperative has a positive impact on the Denman community, supporting various Official Community Plan objectives, such as Guiding Principal 6: “To acknowledge that this community finds its strength in the varied gifts and experiences of its members; and, within the framework of a limitation on population to support and encourage a diverse and self-reliant community,” and Guiding Principal #12, especially “to provide a neighbourly community.”

Photos: Common House septic tanks (under construction); Common House



Denman Island OCP policies that support the rezoning

E1 Housing—Guiding Objective: To encourage housing that accommodates the needs of a variety of families and individuals while protecting the natural environment, the social fabric and the rural character of the community.

Objective 1 To ensure that housing options are sensitive to ground water availability and sewage disposal capability, guard against contamination of ground water and preserve the rural nature of Denman Island

Objective 2 To ensure housing options preserve human diversity in the community

Objective 3 To set the maximum for the overall residential density of the Island as the residential density possible with the zoning regulations in place at the time of adoption of this Plan while providing flexibility for a range of dwelling types

Objective 4 To support the establishment of affordable housing, rental opportunities and special needs housing and provide the opportunity for Island seniors to remain in the community, especially in their own or their families' homes

E1 Housing—Policy 11 The overall residential density on Denman Island should not increase beyond that permitted by existing zoning on the date this Plan was adopted except that an increase of approximately 5 percent may be permitted to accommodate zoning amendments for special needs and affordable housing, secondary dwelling units approved by the Denman Island Local Trust Committee under a Temporary Use Permit and site-specific zoning amendment applications under Policy 29 of this Section.

E1 Housing—Policy 16 Landowners are encouraged to cluster houses and buildings accessory to a residential use to leave areas of undeveloped space.

Notwithstanding the foregoing, secondary suites contained within the footprint of conforming dwelling units are not deemed to contribute to density calculations for the purposes of this policy.

E1 Housing—Policy 23 Zoning regulations should establish sufficient setbacks for septic disposal systems:

- to ensure that the waste water has been cleaned before entering the sea, wetlands, lakes and other watercourses; and
- to protect adjacent properties from effluent or odours.

E1 Housing— Policy 24 Setbacks from lot lines should be sensitive to the nature of the use and its potential negative impact on the neighbouring properties.

E1 Housing— Policy 25 The Local Trust Committee should not approve a zoning amendment application that could fragment large areas of forested or agricultural land.

E1 Housing— Policy 28 The Local Trust Committee should consider zoning amendment applications for affordable housing projects provided:

- that the proposal is not located in a connectivity area identified on Schedule D;
- that the proposal does not impact negatively on adjacent properties;
- that the proposal is small-scale;
- that the proposal is clustered and the siting and height are sensitive to surrounding land uses;

- that the proposal proves an adequate supply of potable water and an adequate sewage disposal system;
- that any environmentally sensitive areas on the lot are identified and the applicant undertakes a conservation covenant to protect such areas;
- that the proposed development will not place a strain on existing public services and infrastructure.

Also, as an innovative project built and managed by members on a voluntary basis, and owned and managed cooperatively, the TRLC fulfills this paragraph of the OCP vision statement:

Islanders historically have been an independent, diverse and creative people with a long history of volunteering for the benefit of the natural environment and the human community. We will be supportive, cooperative and respectful in our interactions. We will use innovative options to promote a diversity of age and financial means within the carrying capacity of the island.

The Islands Trust Policy Statement does not currently have up-to-date policies on housing. Nothing in the proposed uses is in violation with the Islands Trust Policy Statement.

Community, neighbour, Fire Department, and Agricultural Land Commission outreach

March 1, 2023: Letter sent to all adjacent neighbours.

Throughout March: information shared on Facebook

March 21, 2023: Community Information Meeting

Summary of Community Information Meeting

The meeting was advertised via a flyer and articles in local newspapers, posters, email to all neighbours and to groups involved in providing housing on Denman, and an event and postings on Facebook. Approximately 16 members of the public and 12 members of CoHo attended.

People asked about

- Oversight of who will live in secondary suites
- Where densities will come from (density bank or OCP Policy E1, 11)
- Potential to include Indigenous people
- Cost of cooperative membership
- Firefighting plans for the property
- Building permits and building timelines
- Insurance
- Will STVRs be allowed?
- What can and can't happen in the studio zone

No direct objections were raised. Questions suggested some concerns around traffic impacts and regulation of secondary suites to ensure they remain small scale and non-commercial.

Comments were generally positive.

Note: The application has changed slightly since this outreach, based on responses. Changes are as follows:

- No unit in the ALR
- Four more units, not five
- Clarification of use of secondary suites

Email Responses

After the meeting we received one email from the owner of an adjacent property stating that (text slightly paraphrased for clarity):

"We broadly support increasing the density of your development. Our only concern...is the addition of secondary suites. [This] would be a significant change in the neighbourly dynamic that we have.

"Allowing for the provision of 20 rental units has to assume that those 20 rental units will all be occupied...They would be tenants...This would significantly change the cohousing dynamic from property sharing to property monetization..."

We also received an email from a nearby (but not adjacent) property owner, stating that:

"I don't have any problems with you seeking to get [more] dwellings but I totally disagree with secondary dwelling[s] added to each existing and planned dwelling. This would turn your co-op into a commercial land development...It comes down to numbers...When we keep adding more spaces and houses on this Island for people, the beauty of the island that attracted people here in the first place is slowly but continually disappearing. Please try and help keep Denman's population down."

As a result, the original proposal has been amended to clarify the purpose of secondary suites. The TRLC will limit who can occupy secondary suites, prohibit advertising these suites, and ensure no cooperative member is using a suite in a commercial way. See FAQ #2, above, for more detail.

Correspondence with the Agricultural Land Commission

In the early stages, we asked the ALC for input. At that point, our plans included one possible dwelling unit on the ALR portion of the lot. We have since decided not to pursue that. Still, the ALC response is valid because it considered the overall proposal. On Feb 17, 2023, the TRLC sent an email to the ALC outlining all the planned changes. An ALC planner responded via email on Feb 23, 2023, stating that, "The ALC would likely not have an issue with the bylaw amendment," and also that "Prior to adoption of any proposed bylaw amendment, the LTC should forward a copy to ALC.Referrals@gov.bc.ca for official.

Correspondence with the Denman Island Volunteer Fire Department

In October, 2023, we invited the Denman Fire Department to comment on the proposed rezoning. Here is the response:

"Denman Island Fire Department has conducted an assessment of the property and have moved forward with creating a "pre-plan" for the eventuality of a fire incident at Coho.

"While Denman Island does not benefit from pressurized hydrants systems, Denman Island Fire Rescue is "Superior Shuttle Accredited" and every unit at Coho benefits from the same level of service as every residence within the 8-kilometer required response distance from the firehall. In fact, Coho happens to be adjacent to the Fire Department.

"The Fire Department does not have any specific concerns with increased development. They just want to be kept abreast of new structures being built and any industrial activities/projects, so they can readjust their "pre-plan."



3060 Lake Road, Denman Island, BC V0R 1T0
Tel: (250) 335-1864 Fax: (250) 335-1846
email: h2oenv@telus.net

March 18, 2023

H₂O File: 23-3

Triple Rock Land Cooperative
Denman Road
Denman Island, BC V0R 1T0

**Re: Feasibility of Additional Wastewater Systems
Triple Rock Land Cooperative Property**

Introduction

H₂O Environmental (H₂O) was asked to assess whether there is adequate space and soils for additional wastewater systems at the Triple Rock Land Cooperative (COHO) property (site). H₂O understands that COHO is planning for additional households that may result in up to five more wastewater systems being installed at the site.

H₂O has designed all the wastewater systems that exist at the site and is familiar with the soil characteristics as they pertain to wastewater dispersal and treatment.

In the bylaws for COHO, all residential toilets must be composting toilets. With this bylaw in place, H₂O can reduce the overall rated outflow from dwellings by 30%, which is the industry accepted value of the contribution to Daily Design Flow of a standard flush toilet.

Wastewater System Design

The general design of the greywater systems consists of a 2 chamber septic/pump tank with an in-ground dispersal field. The first chamber of the tank is used for settlement and the second is used for additional settlement and pumping to the pressurized dispersal field nearby. Tanks are sized in accordance with the BC Manual of Composting Toilet and Greywater Practice. The dispersal fields are designed consistent with the current Sewerage System Standard Practice Manual, Version 3.

The dispersal fields will range in size, depending on the soil characteristics and the daily flow from the dwelling. Generally speaking, the fields will consist of two or three PVC laterals with drilled orifices of specific diameter, placed on top of aggregate that is approximately 15 to 20 centimetres (cm) deep. These PVC lines are used to uniformly spread the effluent over the entire field area at every dose.

The systems are set to be socially controlled. That is, when a specific level of effluent is reached in the tank, a pump cycle occurs which transfers effluent from the tank to the dispersal field. The specific level in the tank is calculated for an 8 dose/day frequency, based on the Daily Design Flow. A generalized view of a wastewater system dispersal field is attached to this letter as Figure 1.

In previous work, the soils at the site were found to be loam to sandy loam with depths to bedrock varying from 80 cm to 100 cm below grade. The topographical grades vary throughout the site. These types of soil are very conducive to proper treatment and final polishing of the effluent. The moderate permeability rates, the speed with which the effluent moves through the soil, ensure that the effluent will have time to be adequately treated before moving horizontally down gradient.

Discussion

The COHO bylaw that limits use to composting toilets reduces the overall use of water in the dwelling. This, in turn, reduces the size of the tanks and dispersal fields necessary to safely treat and disperse the greywater.

Additionally, using the in-ground wastewater system model, which returns the treated water to the ground, where it is polished by the soil and returned to the local aquifer, the overall impact of water use is greatly reduced.

Soils vary in all locations. Generally speaking, during a review of the designs for other dwellings on the site, the soils were fairly consistent, with depth to bedrock varying the most. While this is no guarantee of similar soils in the new areas, H₂O is confident that greywater wastewater systems can be installed in the new areas of residence.

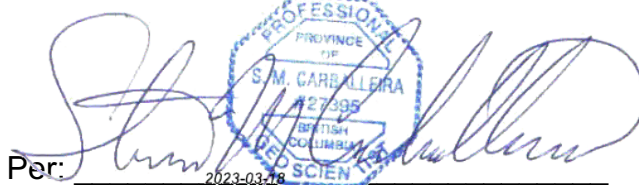
Conclusions

H₂O believes that the additional dwellings being proposed for the overall site can be serviced by greywater systems that will safely treat and disperse the effluent back into the environment.

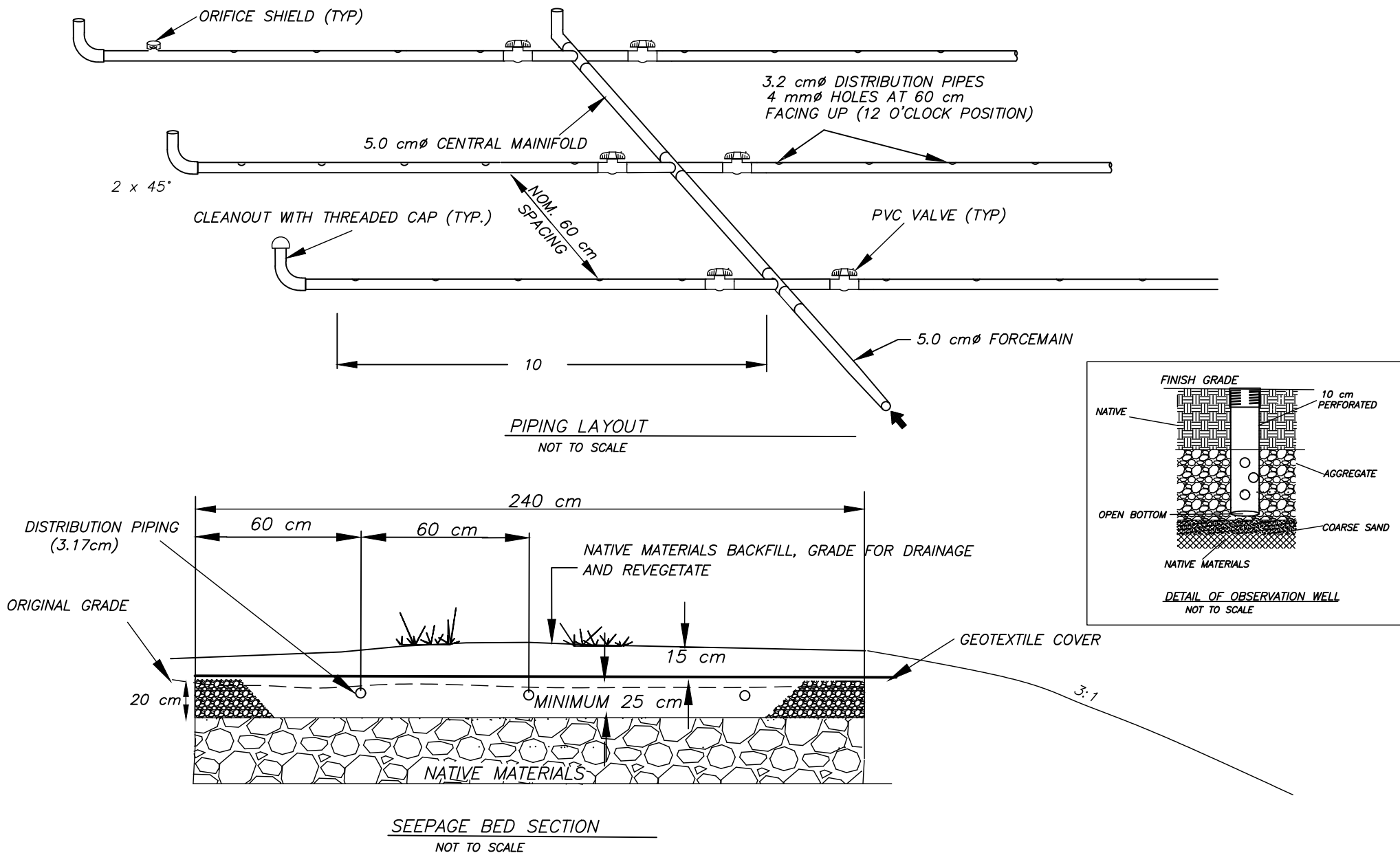
H₂O recommends that a certified maintenance provider be contracted who will regularly inspect and, if necessary, repair the greywater systems on the site. Regular maintenance is critical for safe, sustainable operation of wastewater systems.

Sincerely,

H₂O Environmental Ltd.

Per: 

Steven M. Carballeira, P. Geo.
Permit to practice #1001460



NOTES:

1. In case of discrepancies between drawings and specifications, specifications will govern.
2. All measurements in metres, except as noted.

TITLE: SHALLOW SEEPAGE BED PLAN

PROJECT: GREYWATER SYSTEM DESIGN

CLIENT:

DATE:

DESIGN BY: SMC

DRAWN BY: SMC

SCALE: NTS

PROJECT NO.:

H₂O ENVIRONMENTAL LTD.

FIGURE 1



Triple Rock Land Cooperative—rainwater catchment information

TRLC is committed to the use of rainwater catchment for all household needs, both inside and outside the house. Also, the common house relies solely on water catchment.

Reasons for this policy

- Protect groundwater and the health of the ecosystem
- Encourage a culture and mindset of careful resource use
- Encourage communal rather than individual activities (gardening, laundry, meals)
- Avoid the costs, environmental impacts, potential for personal conflict, and ongoing administration needs connected to building a communal water system
- Support adaptability to varying household sizes and a changing climate by adding or removing storage and catchment capacity

Overview

The system has been functioning well for 12 years. Some members have at times bought water, but this practice is diminishing as households add cisterns and/or catchment surfaces, and as common facilities and activities increase. The TRLC project is a complex organism of interrelated parts—the water catchment system is dependent on other elements of the project being in place. The past five years has brought major garden and orchard expansion, shared laundry facilities, a flush toilet, and a functional kitchen. As a result, members are letting individual gardens rewild, doing laundry at the common house, and attending common meals several times a week, thus cutting down on private water use.

Details

There are 98,850 gallons of rainwater catchment at the TRLC. Based on a survey of TRLC residents:

- Average water use per household: 14 gallons/day (winter)/44 (summer)
- Average water use per resident: 8 gallons/day (winter)/26 gallons/day (summer)
- Average water use per resident (average over the year): 15.5 gallons

Provincial average per person (average over the year): 82 gallons/day gallons

(<https://waterplanninglab.sites.olt.ubc.ca/files/2016/03/BC-Municipal-Water-Survey-2016.pdf>)

Each household is provided with one 1000-gallon cistern from the common budget, and otherwise is responsible for their whole system, including filtration and maintenance. Households use composting toilets (which they are responsible for), which cuts down household water use by approximately 1/3, according to standard estimate.