Transition Salt Spring

Responding to climate change. Re-imagining community.

4 June 2024

To: Islands Trust – Salt Spring Island Local Trust Committee
Re: Proposed RFP and Scope for OCP LUB Update (SSI LTC Agenda Item 14, 6 June 2024)

Dear Members of the SSI Local Trust Committee:

I am writing this letter on behalf of Transition Salt Spring (TSS) to voice a number of concerns with respect to the proposed Scope of Services ("Scope") for a consultant who will lead the first significant update to our Official Community Plan and Land-use Bylaw in decades. We also have comments about the Terms or Reference ("ToR") which underpin this exercise.

Transition Salt Spring is actively reaching out to other island groups to make them aware of the significance of this important exercise. As a part of that we will be speaking about what we see as some equally important shortcomings in the design of the exercise that we are concerned will not get us the results we collectively need as climate change accelerates.

All page numbers referenced in the following recommendations are those that appeared in the meeting materials. Transition Salt Spring is open to dialogue on any of these points with any member of the LTC or Trust staff.

1. **GHG Targets, Policies and Actions**: In spite of the stated intent to make this update focussed on housing, the Islands Trust is required under Section 473 of the Local Government Act to include in its "official community plan...targets for the reduction of greenhouse gas emissions in the area covered by the plan, and policies and actions of the local government proposed with respect to achieving those targets." Throughout the ToR and Scope, "climate change resilience" and "ecological integrity" are discussed as subordinate to the stated focus of the update on housing. The Islands Trust is legally required to include the foregoing which means that this update cannot only consider housing as its main focus.

2. **Project Budget:** The project budget is a concern given that this is the first revision or update to the OCP in decades. Housing equity on its own is a major issue, but to give justice to this topic, integrated with the required integration of GHG elements, along

with ecosystem integrity and First Nations reconciliation, we are very concerned that this revision will fail to achieve its stated goals, along with additional required (by law), and necessary goals. The Islands Trust needs to ensure that this critical exercise is properly resourced given the multiple crises we are facing at once. Could the Trust lean on its community more to help achieve a better result? Do we simply need more money for consultants (who are necessary and skillful), or can we perhaps also leverage the collective and diverse wisdom in this community to greater effect?

3. **Project Name and Branding (p31)**: The titles proposed do not represent the legally required incorporation of GHG targets, policies and actions, and fail to recognize the importance of this update in truly integrating housing equity (not simply "housing"), climate justice, climate change mitigation/adaptation and real First Nations reconciliation (the proposed changes to the ToR have lessened even further the role of First Nations in this project). It is acceptable to emphasize housing equity, but any consideration of OCP and LUB changes related to housing equity must be integrated with the foregoing elements. As it stands they are clearly subordinate to the stated focus of the exercise, housing. Transition Salt Spring has raised this issue previously with the ToR, but the lack of integration of these issues is a deep concern.

4. **Housing-focussed Update (p45)**: Change the Scope to read: "Although a focus of this update is housing equity, this update must holistically integrate meaningful and sufficient changes to advance the mandates of:
    - Reconciliation with Indigenous peoples
    - Climate Change resilience and
    - Ecosystem integrity."

    It is unacceptable given the intervals between OCP revisions and the urgency of the many crises facing our world and our island (climate, geopolitics, food security, affordability, income disparities, injustice towards First Nations) that we only focus on housing, or more precisely, housing equity. As stated in item 2, the Islands Trust needs a far bigger budget or some creative thinking on how to secure in-kind resources from this community to achieve a truly holistic update. This need not mean rewriting the OCP and LUB. The Climate Action Plan would cost $250,000 if done by a consultant. It cost that much and more in in-kind and cash, but in cash it only cost $25,000.

5. **Guiding Documents (pp37, 45)**: Ensure consistency in the lists in the ToR and Scope documents particularly as it relates to guiding documents. Given that the Trust does not have a climate action plan of its own, the Transition SS Climate Action Plan needs to be included in the ToR as a guiding document, particularly given the legal requirement for the OCP to integrate GHG targets, policies and actions.

6. **Technical Tasks (p 45):** Technical tasks need to include a requirement for the consultant to become familiar with all of the guiding documents, particularly as they relate to the legal requirement enumerated in item 1 above, and the follow-on need to ensure that our community is safe from the accelerating impacts of climate change, including but not limited to forest fire and drought. Enhancing ecosystem functions that provide water storage functions for example will be critical to support population growth, food production, and mitigate climate change impacts. To that end, TSS recommends adding:

   > "A fact-based analysis of how OCP housing and development-related recommendations strike a reasonable balance between serving the needs of the island's growing population with the accelerating risks of climate change that require GHG reductions (as required under Provincial law), and the protection and restoration of natural systems as a means of preserving and protecting the ecosystems and unique amenities from forest fire, drought, food insecurity, sea level rise, and other known climate risks."

7. **ToR and Scope Alignment on Deliverables (pp. 38, 49, 50)**: Ensure greater consistency between the more fully elaborated elements as described in the ToR and the Scope. As it is, the ToR is light on considerations of GHGs, climate resilience and ecosystem integrity, while the Scope is light on descriptions of items enumerated in the ToR.

8. **Fire Risk & Watershed Protection DPAs (p37)**: Revise to read "Additional development permit areas should be considered, such as high forest fire risk and watershed protection DPAs." These proposed DPAs need to go well beyond landowner education as has been recommended in early conversations about the Wildfire DPA. The Trust needs to direct development away from hard-to-service areas (beyond the easy reach of fire protection), sensitive areas in island watersheds that are important aquifer or surface water recharge zones, or areas that have high fire risk as enumerated in both the CRD's and TSS's fire risk maps.

9. **Scope Project Purpose (p47)**: Amend reference to impacts to read: "Residential land use policies that emerge from this project must also advance the integrated themes [Reconciliation with Indigenous peoples, Climate Change resilience and, Ecosystem integrity] above."

   It is a non-starter in this age of polycrisis to be forwarding housing or other objectives in ways that exacerbate climate impacts, ecosystem dysfunction, and the continued disenfranchisement of Indigenous communities. We can attend to these issues as one. Together. For the benefit of all beings. Please think holistically. Please think systematically.

TSS is committed to supporting this exercise to ensure the long-term resiliency of our community and ecosystems in the face of accelerating climate change threats.

We are eager partners in this process and strongly believe that innovative approaches to well-sited, low embodied energy housing need not be in opposition to climate change mitigation/adaptation or ecosystem integrity goals.

We support economic development that is in accordance with climate and social equity goals as we engage in peaceful, constructive dialogue across our community on these critical issues.

Thank you for offering to engage in dialogue with this community on our Official Community Plan and the Land-use Bylaw.

Sincerely,

Bryan Young, Chair

Copies to:

- Sheila Dobie, President, SSI Farmland Trust
- Elizabeth FitzZaland & Mairi Welman, Co-chairs, SS Solutions
- Bob Mackie, President, Island Pathways
- Patricia Lockie, Governance Team, Positively Forward
- Matthew Quetton, Executive Director, SSI Chamber of Commerce
- Alicia Herbert, Executive Director, IWAV

RECEIVED
JUN 6 2024
BY
LOCAL TRUST COMMITTEE

Responsible Wastewater Systems for Mobile Housing

Maïkan (Forest) Bordeleau

to the Islands Trust - Saltspring Local Trust Commission regular meeting
June 6 2024

Purpose of this study

To help the Saltspring Local Trust Commission (LTC) of the Islands Trust (IT), working in conjunction with the Capital Regional District (CRD) and other relevant authorities, decide if and how mobile housing can be safely legalized for year-round residents. By mobile housing I mean mainly recreational vehicles (RVs) and trailered tiny homes (THs). By safely I mean safe to occupants/neighbours/community/ecology, and to the LTC/CRD/Island Health (IH) in the sense of their potential liability.

I understand the Saltspring LTC is particularly concerned with wastewater management here, so that's where this report focuses.

All other known concerns (building safety, potable water, environmental impact, etc) are addressed in the 50+ page study I was mandated to make as an appointee to the Trust's Housing Action Program Taskforce (HAPTF), based on 15 interviews with staff/officials at all relevant departments at all levels of government, plus industry professionals: https://webfiles.islandstrust.bc.ca/islands/local-trust-areas/salt-spring/current-projects/Housing%20Action%20Program/5.%20Community%20Consultation/2022-09-01%20Task%20Force%20Agenda%20Package.pdf. There is a section in there on wastewater system safety via a Professional Engineer (PEng) or Registered Onsite Wastewater Practitioner (ROWP).

Disclaimer

This is an information and opinion piece, not a manual. As with any text, the reader should look at other sources and make up their own mind. I can't oversee everyone's implementation of the contents so that's at their own risk and they are urged to first get professional help. I've done my best to hold everything to a standard of being safe, functional, and beneficial for first, second, and third parties.

Background

I run an ecological construction company Homes With Love for 11 years. In addition to conventional renos and builds, I've had a specialty in THs. In 2021 I was appointed by the Trust to the HAPTF, serving for 2 years on all issues with a mandate to report specifically on THs in our island context. I've been asked to advise Mayors and Councillors from a few communities in BC, on responsible (safe/effective/affordable) TH legalization given the worker

housing crisis affecting people/families, essential services, businesses, and others across the province, plus contact with the Nova Scotia Department of Municipal Affairs and Housing which has forerun some aspects of TH legalization, and some contact with federal government. I've volunteered 10+ years as an ally to First Nations self-determination, cultural survival, and wellness. I recognize this land as indigenous territory, and the need to find a good way forward, working together where appropriate, for long-term sustainability.

Question 1:
How to outfit a TH to safely connect to septic or sewer?

Plumbing is much the same as for a house, the major difference being that the combined outlet is disconnected and gated during transport, as in a recreational vehicle (RV). An RV-type wastewater holding tank can be added if desired.

Septic/sewer connection has to be graded and thru a no-leak fitting which I'll give a hands-on example of at this meeting.

Holding tank has to be monitored not to overflow, and allows safe pumping to a mobile collection service where local connection is in progress or not possible at reasonable cost to the owner of the unit and/or the land. Typically this is automated through a sensor powered by the unit's battery bank.

Question 2:
What is the relative risk of TH wastewater plumbing compared to foundation (aka fixed) house wastewater plumbing?

Equal per length of pipe and number of joints, over the entire network up to the outlet. In absolute terms, risk is less given shorter pipe/fewer joints, in a scenario where the TH is rarely moved. If moved often/at length, especially over rough terrain, risk is comparable or greater because joints experience vibration they wouldn't in a fixed house, though low in absolute terms when plumbed properly. Subjectively, loose joints/broken pipes is not something I've found in 10+ TH inspections. I have found them in fixed house work but that frequency is biased because I get called for problems not for what's working. THs are more commonly designed to be off-grid-capable, with composting/incinerating toilets, making a lower waterborne biohazard risk. As you can see there are a lot of factors to weigh, the HAPTF report does that in full detail, my opinion is that even being conservative in favour of fixed homes the risk is comparable.

The outlet has comparable safety if plumbed right in an infrequent-move scenario. If the TH is moved often, the outlet fitting needs to be monitored for correct connection/disconnection/ gating, so risk is higher than for a fixed house, low in absolute terms.

The greatest safety risk in principle, study and practice to date is failure of the septic system to which it's connected. So equal risk per dwelling (TH vs fixed house), lower in absolute terms per density for THs given they tend to have fewer inhabitants creating waste than do houses.

I was involved in setting up one multi-family, PEng-approved, permitted composting toilet system on Saltspring, not associated with THs.

Questions 3:
Is it possible to safely triage and process blackwater from some or all greywater in a TH?

Again there are many factors.

The CRD hired Novatec to assess greywater recycling, with a 70+ page report published in 2004:
https://www.crd.bc.ca/docs/default-source/water-pdf/november-2004---greywater-reuse-study-report-cover-page-(novatec-consultants-inc-).pdf.

Water shortage risk was brought to the HAPTF as one of the community's biggest concerns with housing.

Most household wastewater is grey at the moment of release, before waters are combined. The HAPTF report, which details its metadata methods, found 99+% as greywater. Greywater recycling has been done across the world/for centuries, not necessarily always up to our standards here/now, but the technical knowhow exists both traditionally and professionally.

I've visited single- and multi-family greywater recycling setups off-island where I used to live, but haven't been a part of an engineered/permitted operation there or here, so can't comment on how it can/should be done in a TH context. In principle it's doable and simpler than for a fixed house, given the scale of plumbing and volume of water consumed.

Another way to conserve water is rain harvest. In other words, you can reduce the water waste out by recycling it or by reducing the water consumption in.

Environment Canada statistics (see HAPTF report) show the island can meet its needs from rainwater channeling without catchment for 6+ months/year, 12 mo/yr with catchment. Subjectively, in my work for 100+ properties on Saltspring, rainwater collection is a minority practice, in other words big unused potential. I didn't look at studies on the effects on the water table of more people harvesting rain, which should be considered if a lot more people start collecting here.

In 2023 I hired landscape architect Ken Nentwig, who helped write the Canadian Association for Rainwater Management standards (https://eocp.ca/wp-content/uploads/2018/09/Ken-Nentwig-RWH-PRESENTATION-short-version.pdf), to make a set of Code-compliant plans for rainwater harvesting to generate process water (toilet, wash, ornamentals irrigation) and potable water (drinking, food preparation, edibles irrigation) for a single family dwelling. The potable standard being much higher, it can be efficient to begin by dedicating rainwater to the 50+% (see HAPTF report) of home water that goes to non-potable use.

Question 4:
Are there other ways of treating wastewater?

Carrying waste away in water has been common around the world for centuries. (See for example https://www.google.com/url?sa=t&source=web&rct=j&opi=89978449&url=https://www.wiley-vch.de/books/sample/3527312196_c01.pdf&ved=2ahUKEwiDm5jg0OyFAxXV8wIHHd66AkYQFnoECBwQAQ&usg=AOvVaw3mgIALMQiKUvXn48UVHQnn.)

It may especially make sense in cities where adequate waste triage/composting space for the high concentration of dwellings is hard to come by, and more people would be affected by failure of a nearby facility.

Until fairly recently, doing this in open water courses led to disease spread. (See for example https://www.eea.europa.eu/signals-archived/signals-2018-content-list/articles/close-up-2014-water-in.)

The problem is improved by sending it down sealed/protected pipes. There is still risk of pipe/tank rupture. I've just begun to look at metastudies on this, so conservatively would say 10+% of wastewater is being lost (aka "exfiltration") in many larger networks, with potable loss being also 10+%. (See for example https://www.mswmag.com/online_exclusives/2019/04/sewer-exfiltration-the-leaking-enemy_sc_00125 and

https://www.watercanada.net/significant-amount-of-drinking-water-being-wasted-due-to-leaky-pipes-report/.)

Many pathogens (e coli, legionella, etc) multiply in water (see for example https://academic.oup.com/femsre/issue/26/2). The risk would be minimized by removing a portion of greywater, leaving only just enough to combine with blackwater in a way to keep pipes flowing, plus a margin of safety. In principle the volume of blackwater from a typical home can be reduced 90+% by separating out the portion of greywater not needed for conveying the black (see HAPTF report).

Adding excess greywater reduces pathogen concentration at source and along the way as long as waste doesn't sit, in which case they multiple, for example in a holding tank. Flushing blackwater to the ocean (instead of holding/treating) as has been done in places in the CRD/elsewhere hides the problem instead of solving it, and is irresponsible ecologically. No other species point-discharges such concentrations of biological/chemical waste into water, and most land animals avoid discharging into water altogether.

In the countryside, triage/composting have a long/cross-cultural history as does sewage spreading and waste drying/burning. Composting has both traditional and modern safe methods. (See for example https://www.researchgate.net/publication/257368691_Natural_systems_treating_greywater_and_blackwater_on-site_Integrating_treatment_reuse_and_landscaping.) It's the fastest way to neutralize pathogens, more consistent with nature's way than flushing/burning. It saves valuable resources locally more than burning and much more than flushing, reducing the need for fertilizer import & the chain of consequences locally/afar from chemical fertilization. F.H. King (agricultural agronomist at the University of Wisconsin then the US Department of Agriculture) established a century ago that the only societies that have succeeded in sustaining themselves long-term on fixed land, like our island, practice agriculture with crop rotation, blackwater composting, and greywater reuse (the book *Farmers of Forty Centuries* is online at https://www.gutenberg.org/ebooks/5350).

EcoSense in the Highlands is a CRD example of a site that has proofed blackwater composting to the point of safety for food gardens (https://eco-sense.ca/2010/01/26/humanure-used-in-food-gardening/).

I didn't look for safe/modern takes on sewage spreading. They've been a hard sell in many parts of North America, subjectively I sense that would be even harder on Saltspring.

Conclusion

There is proven, affordable, fairly simple technology to plumb mobile housing (RVs, THs) to be as safe as fixed houses, both within the building and through to end wastewater management (sewer/septic/other treatment).

Likewise to triage greywater & blackwater, reuse greywater, and compost blackwater.

Some of these ideas may seem new or risky. We can forget the accepted scientific/political ideas of an era (women/dark-skinned people are inferiors who can't vote/own land, First Nations are savages to be "re-educated", smoking and DDT are safe, tomatoes will kill you, etc.) are not truths but complex mixes of experience, hearsay, study, advertising, humanitarianism, profiteering, etc. that rarely got democratically tested/approved, and were based on what is now a tiny part of the data available.

Nothing in here is actually new science. It's using modern tools and rules to more efficiently live sustainably, which is a survival imperative and what, again subjectively, I've witnessed First Nations do in a rapidly changing world.

Multiplying/exporting toxic waste and importing fertilizer, especially synthetic, is unsustainable economically/ecologically. Wasting water wastes infrastructure and threatens the life of the land. Both reduced consumption and improved collection/reuse are survival imperatives. Everyone in Saltspring as in Canada has equal right to life, no matter how big or small they live. And, for those who choose, small-scale living as in THs/RVs has net environmental benefit for the larger community of people and other species (seee HAPTF report).

Saltspring being an island, may have an opportunity to more clearly track its inputs/outputs and improve efficiency, to the point of developing systems/products to help other communities.

THs, RVs and fixed homes should be under no more burden of proof than each other for plumbing safety. Being approved once (to-Code permitted house, CSA-compliant RV/TH) is not a guarantee the unit is safe in its current condition. There can be errors of fabrication/ use/maintenance/modification/etc. The HAPTF report deals with the tricky issue of how to better prevent/catch/fix problems, for example via incentive-driven voluntary professional inspection, which I've piloted with community members living in fixed and mobile housing.

Thank you for your time and the work you're doing on this issue.