Salt Spring Island Watershed Protection Alliance

TECHNICAL WORKING GROUP MEETING
1:00 – 3:00 pm Thursday August 26th, 2021
Live with Web Conferencing Option

AGENDA

1. CALL TO ORDER

2. APPROVAL OF AGENDA

3. APPROVAL OF MINUTES

Draft Minutes of the Regular Meeting of the Salt Spring Island Watershed Protection Alliance (SSIWPA) Technical Working Group (TWG) held June 8, 2021 – attached pp.3-6

4. BUSINESS ITEMS

4.1 SSIWPA Workplan Projects and TWG Actions

4.1.1 Weston Lake Water Availability Project – status update (Member Green)

4.1.2 Mapping products discussion

Define and name each of the coordinated mapping projects and discuss technical recommendations for their optimum impact on water resource management, including integration/other **[45-60 mins]**

4.1.3 Public Education

4.1.3.1 Draft Rainwater Harvesting Messaging – attached pp. 7-14

4.1.3.2 Groundwater Public Education Product #2 (may be linked to 4.1.2)

4.1.4 Transition Salt Spring & Ecological Research Network Stewardship Video Project – status update (Member Millson)

4.1.5 Proof of Water at Time of Subdivision – Memo pp. 15-16 and Appendices pp. 17-39 (Planner Youmans)

4.1.6 TWG review priorities and steering committee direction as per Terms of Reference – a discussion

4.2 Review Action List

4.3 Other Projects

4.3.1 Freshwater Catalogue Project – WPS – Chair Millson

5. OTHER BUSINESS

5.1 Report out to Steering Committee

5.2 Comments or questions from observers

6. NEXT MEETING

Tuesday November 16, 2021 1:00 – 3:00 pm

7. ADJOURNMENT

TWG ACTION LIST – June 2021

ACTION: The following members agreed to form a subcommittee to work on this [Groundwater #2] educational content [and format] outside of TWG meetings: **Member Shulba, Member Peace, Member Millson, Member Lussenburg. IN PROCESS**
ACTION: TWG members agreed to submit any comments [about Water Systems Survey Report] in written format by Monday June 14th. **COMPLETED**

ACTION: Member Shulba agreed to create a brief memo to describe the Watershed Resiliency Mapping project that TWG Chair might use in the TWG report to SSIWPA-SC, in time for the SSIWPA-SC package assembly Monday June 14, 2021. **ACTIONED**

ACTION: Coordinator will take action to develop the first draft [of the rainwater public education materials, including a decision tree, etc.]. **IN PROCESS**
By general consent, It was agreed that the TWG would recommend to Steering Committee that the "Key Messages" are indeed a public education data gap and that TWG be directed to advise on the technical content and format for public education about rainwater system permitting messaging as noted in the memo dated May 2021. - COMPLETED

By general consent, the Technical Working Group agreed to recommend that the SSIWPA Steering Committee add Watershed Ecosystem Resilience Mapping and investigation of integration with Dr. Tara Martin's Priority Mapping at UBC as a project on the 2021-22 SSIWPA Workplan. **– COMPLETED**

April 2021:
ACTION: William Shulba will bring maps to June TWG meeting for discussion of next pamphlet (for maps). **IN PROCESS**
ACTION: Dale Green will report out on Land Cover Classification report by CRD. **IN PROCESS TO REPORT OUT END SEPTEMBER 2021**

***Draft Minutes* of the**
Salt Spring Island Watershed Protection Alliance (SSIWPA)
TECHNICAL WORKING GROUP (TWG) MEETING

Date of Meeting: Tuesday, June 8, 2021, 1:00 – 3:00 pm
Location: via Zoom web conferencing

Members Present: Dale Green, Capital Regional District
John Millson, Chair
Jos Lussenburg, Member at-large
Ian Peace, Member at-large
William Shulba, Islands Trust Senior Freshwater Specialist

Regrets: Ian deBie, Member at-large
Robin Annschild, Member at-large

Staff Present: Shannon Cowan, Coordinator, Recorder (via web conferencing)

Others Present: Sylvia Barroso, SSIWPA Member and Regional Hydrogeologist (FLNR)
Alex Hedley, Watershed Ecosystems Technologist (Islands Trust, Student)

These minutes follow the order of the agenda although the sequence may have varied.

1. The meeting was called to order at 1:06 pm.
2. The agenda was approved as presented.
3. **By general consent**, the draft minutes of the meeting of the Salt Spring Island Watershed Protection Alliance Technical Working Group held April 06, 2021 were approved.
4. **BUSINESS ITEMS**

4.1 SSIWPA Workplan Projects and TWG Actions

4.1.1 Public Education Materials

4.1.1.1 The first of two groundwater education brochures is live on the website and stacks of brochures have been distributed to local government offices in Ganges.

4.1.1.2 Groundwater brochure #2 was discussed as a "watershed-oriented" messaging item.

ACTION: The following members agreed to form a subcommittee to work on this brochure content outside of TWG meetings: Member Shulba, Member Peace, Member Millson and Member Lussenburg.

The following suggestions were raised:

- Watersheds map
- Refer to some of the concepts in https://www.rdn.bc.ca/wellsmart
- Cultural knowledge could be presented. Ie. Indigenous seasonal calendar from Australia: https://www.csiro.au/en/research/natural-environment/land/about-the-calendars
- Water availability and the affects of drought on supply
- Surface culture/vegetation and impact on groundwater and runoff
- Avoid overlap with Transition Salt Spring materials but web postings could point to their education materials on watersheds and forests.
- Include evidence of groundwater input to streams and withdrawal from streams can affect groundwater storage

4.1.1.3 The Coordinator presented "Key Messages for Rainwater System Public Education" that was included in the present TWG agenda package.

It was agreed by general consent that the TWG would recommend to Steering Committee that the "Key Messages" are indeed a public education data gap and that TWG be directed to advise on the technical content and format for public education about rainwater system permitting messaging as noted in the memo dated May 2021.

Coordinator will take action to develop the first draft. The following suggestions were noted:

- Building permits are always required for potable rainwater systems.
- Create a decision-tree diagram to guide the reader:
    - If you are already living in a house and wish to install rainwater harvesting system for potable use…

- If you need a building permit and are not already living in your home…

4.1.2 Weston Lake Water Availability Study (CRD)

Member Green provided an update. The Memorandum of Understanding between CRD and IT for funding and data-sharing is nearly completed. The CRD project Request for Proposals DRAFT will be shared with TWG for input and comments within the next three weeks. It was noted that Freshwater Catalogue data collection at Weston Creek outfall, and the dataset is available for this project.

4.1.3 Water System Data Survey Report [DRAFT 2]

The report was discussed in draft form. Some clarifying questions were answered by the Coordinator.

ACTION: TWG members agreed to submit any comments in written format by Monday June 14th.

The following comments were made:

- Setting up a small water systems working group might result in efficiencies and shared tools, as well as enhanced standards of practice.
- TWG will provide further technical review of the Water Systems Survey if given further opportunities to engage.

4.2 Review Action List

The action list was received for information.

4.3 Other Projects

4.3.1 Watershed Resiliency Mapping

Member Shulba and Guest Alex Hedley presented the draft results of mapping work based on 'Precipitation Interception Potential' (PIP).

ACTION: Member Shulba agreed to create a brief memo to describe the Watershed Resiliency Mapping project that TWG Chair might use in the TWG report to SSIWPA-SC, in time for the SSIWPA-SC package assembly Monday June 14, 2021.

4.3.2 Transition Salt Spring – Ecological Research Network Video project

Member Millson briefly explained that two videos/films are in development. The first, "Our SSI Water - a delicate water balance?" – is a "short" film that is currently in development with youth/school groups. Video 2 "SSI Watershed Stewardship" will be presented as a scope of work at the upcoming SSIWPA-SC meeting with a recommendation that SSIWPA-SC direct its TWG to advise on technical development of content, as well as to participate in filming phase for this project once funding is secured.

4.3.3 Southern Gulf Islands Groundwater Sustainability Strategy
The project update was included in the discussion under 4.3.1.

4.3.4 Freshwater Catalogue Project

Member Millson, who is project lead for the Water Preservation Society's Freshwater Catalogue, provided a very brief update and the following points were noted:

- 14 wells have been included now in the project to investigate groundwater signatures in creeks and nearby wells, addressing a recommendation from the 2020 FWC-SFU study
    - basic well water chemistry is being measured with the instrumentation in this volunteer program
- The digital links for viewing data will be shared offline
- A "Freshwater Data Gathering" map was received for information

5. OTHER BUSINESS

5.1 The report to the Steering Committee will be created from notes recorded for agenda items, here above, and will be developed by a liaison between Coordinator and the Chair.

5.2 There were no observers present.

6. MEETING SCHEDULE

Friday Sept 10, 2021.

Tuesday November 16, 2021 1:00 – 3:00 pm

7. ADJOURNMENT

Rainwater Harvesting – Public Messaging DRAFT FOR DISCUSSION ONLY
Purpose: To clarify myths or inconsistent messaging regarding permissions and regulations for installing single family dwelling rainwater harvesting systems on Salt Spring Island

News post #1:

Title: Authorization for Potable Rainwater Systems for Single Family Dwellings

Homeowner in the Gulf Islands exploring rainwater as a potable water source? About to build a home and considering rainwater as a potable water source?

You would do well to consult:

- Rainwater System Design Consultant (A qualified professional) for system scale calculations for your needs, as well as water treatment parameters, design and construction oversight and assistance with regulatory permissions. These professionals are required by law to understand and to apply the B.C. Building Code, the Plumbing Code and they are familiar with the legislation and regulations that will impact your system.

You are required to get:

- A Capital Regional District Building Permit for any Potable Rainwater System

You are responsible for the water quality of your treated rainwater – it is not under the jurisdiction of the local government or the provincial government. Similar to a private groundwater well, you will have to take responsibility to conduct regular (twice annual at a minimum) water quality testing for microbiological and chemical parameters. Health Canada's Guidelines for Canadian Drinking Water Quality is the standard resource to consult.

You are **not required** to get:

- Permission from Island Health (The provincial legislation that guides the work of Island Health is the Drinking Water and Water Protection Act and that legislation covers operating permits for 'water systems' that are defined as multi-user systems and not for single family dwellings.

You are required to consult:

- Islands Trust regarding siting the tank(s) for your single family rainwater system to determine whether the siting will require a variance to the Land Use bylaws about lotline setbacks and height of buildings.
- Islands Trust regarding whether your system will be constructed in a Development Permit Area
- If either of the above applies to you, then you will require the approval of applications for the appropriate Islands Trust permits.

Islands Trust permits?

A development permit may be required by Islands Trust to install onsite rainwater storage systems for both non-potable or potable uses based on the site plan and lot line setbacks. This is separate from the fact that building permits are only required for potable rainwater storage systems, or for any onsite water storage entering the home. Consult with Islands Trust if you plan to install / build rainwater storage on your property.

View the Salt Spring Island Non-Potable Rainwater harvesting Best Practices Guidebook for more tips and tools in system design.

https://www.ssiwpa.org/2020/08/12/salt-spring-island-non-potable-rainwater-harvesting-best-practices-guidebook/

News Post #2:

Title: Facts about rainwater collection, storage and use on your property for non-potable outdoor uses

Installing rainwater collection and storage (any size) for outdoor non-potable uses (not for drinking) as a single-user onsite rainwater system does not require approval or inspection by a provincial ministry, not even the health ministry.

Installing rainwater collection and storage (any size) for outdoor non-potable uses (not for drinking or coming into your home in any way) as a single-user onsite rainwater system does not require a building permit from the Capital Regional District building inspection department. Note: You may still wish to consult a building inspector but you are not required to get an Engineered design approved if your system is for outdoor, non-potable use only.

Water quality:

Removing debris from rainwater before storage, and keeping sunlight and heat from affecting the storage tank is essential to safe uses of rainwater, even for non-potable, outdoor uses on gardens and lawns. Note: It may even be recommended to install further carbon filtration and/or UV treatment. Consider a consultation with a qualified professional specializing in Rainwater System Design.

Water quality for single-user systems is the sole responsibility of the owner under the Drinking Water Protection Act, not the Province.

Islands Trust permits?
A development permit may be required by Islands Trust to install onsite rainwater storage systems for both non-potable or potable uses based on the site plan and lot line setbacks. This is separate from the fact that building permits are only required for potable rainwater storage systems, or for any onsite water storage entering the home. Consult with Islands Trust if you plan to install / build rainwater storage on your property.

View the [Salt Spring Island Non-Potable Rainwater harvesting Best Practices Guidebook] for more tips and tools in system design.

https://www.ssiwpa.org/2020/08/12/salt-spring-island-non-potable-rainwater-harvesting-best-practices-guidebook/

News Post #3:

Title: Purple pipe and using rainwater to flush toilets

Purple pipe systems refer to any light greywater (recycled water that was used once for "grey" uses) and also can be applied to non-potable rainwater from onsite storage coming **into the home** for non-potable use in flushing toilets.

References:
BC Building Code Changes Support Non-Potable Water Use. 2010. Available at waterbucket.ca:
https://www.waterbucket.ca/wcp/sites/wbcwcp/documents/media/118.pdf

https://waterbucket.ca/wcp/2010/05/01/purple-pipes-in-british-columbia-building-code-changes-support-non-potable-water-use/

This non-potable water use in the home requires Dual-plumbing (https://en.wikipedia.org/wiki/Dual_piping) so that there is no possibility of contamination of your potable water with the reclaimed or non-potable rainwater = it's completely separate in its own pipes. It's recommended to consult with a certified plumber early in the design of the system to ensure this will be feasible before you begin the engineered design process.

An engineer's certificate is required for design of single-family rainwater or greywater storage system for non-potable use inside of the home (ie. toilet flushing) (or for potable use within the home). Inquire at the CRD Building Office about qualified professionals for this certification and once submitted, your system may qualify for a Building Permit which is required for legal operation.

View the Salt Spring Island Non-Potable Rainwater harvesting Best Practices Guidebook for more tips and tools in system design.

https://www.ssiwpa.org/2020/08/12/salt-spring-island-non-potable-rainwater-harvesting-best-practices-guidebook/

Islands Trust permits?

A development permit may be required by Islands Trust to install onsite rainwater storage systems for both non-potable or potable uses based on the site plan and lot line setbacks. This is separate from the fact that building permits are only required for potable rainwater storage systems, or for any onsite water storage entering the

home. Consult with Islands Trust if you plan to install / build rainwater storage on your property.

News Post #4:

Title: Rainwater systems for potable use in multi-family dwellings or for multiple homes in a neighbourhood

In September, 2020, the provincial health ministry in British Columbia created a guidance document about the treatment requirements for safety and water quality in multi-connection rainwater systems. The requirements also follow the Canadian Standards Association CSA B805-18/ICC 805-2018.

This means that multi-family housing and new solutions to the housing crisis on Salt Spring Island may consider rainwater as a source. Island Health and CRD Building Inspection officials should be consulted early in the process because the volumes required for multi-family water systems are significant and storage siting and cost for the system size could be prohibitive.

https://www2.gov.bc.ca/assets/gov/environment/air-land-water/water/waterquality/how-drinking-water-is-protected-in-bc/guidance-rainwater-harvesting-for-potable-use.pdf

Islands Trust permits?
A development permit may be required by Islands Trust to install onsite rainwater storage systems for both non-potable or potable uses based on the site plan and lot line setbacks. This is separate from the fact that building permits are only required for potable rainwater storage systems, or for any onsite water storage entering the home. Consult with Islands Trust if you plan to install / build rainwater storage on your property.

View the Salt Spring Island Non-Potable Rainwater harvesting Best Practices Guidebook for more tips and tools in system design.

https://www.ssiwpa.org/2020/08/12/salt-spring-island-non-potable-rainwater-harvesting-best-practices-guidebook/

News Post #5:

Title: Installing a rainwater collection storage tank for non-potable outdoor uses – it can be as easy as 1-2-3!

Myth: I cannot install a tank taller than 4 feet without paying thousands of dollars for an engineered design.

This is not correct!

This is correct: Any resident of the Gulf Islands may install any size of water storage tank where they live in order to store rainwater for non-potable use outdoors (on gardens) without an engineered design or certificate or a building permit.

Remember:

It's important to ensure the collection surface is safe.
It's important to learn how to clean and maintain the system and when to perform each task.
It's important to select opaque tank colours, and to keep the storage tank away from sunlight and high heat.
Refer to: the Salt Spring Island Non-Potable Rainwater harvesting Best Practices Guidebook for more tips and tools in system design.

https://www.ssiwpa.org/2020/08/12/salt-spring-island-non-potable-rainwater-harvesting-best-practices-guidebook/

Please see the attached construction diagram that may serve as a guideline for the appropriate specifications (fill, siting, etc.) for a 3,000 imperial gallon water storage tank.

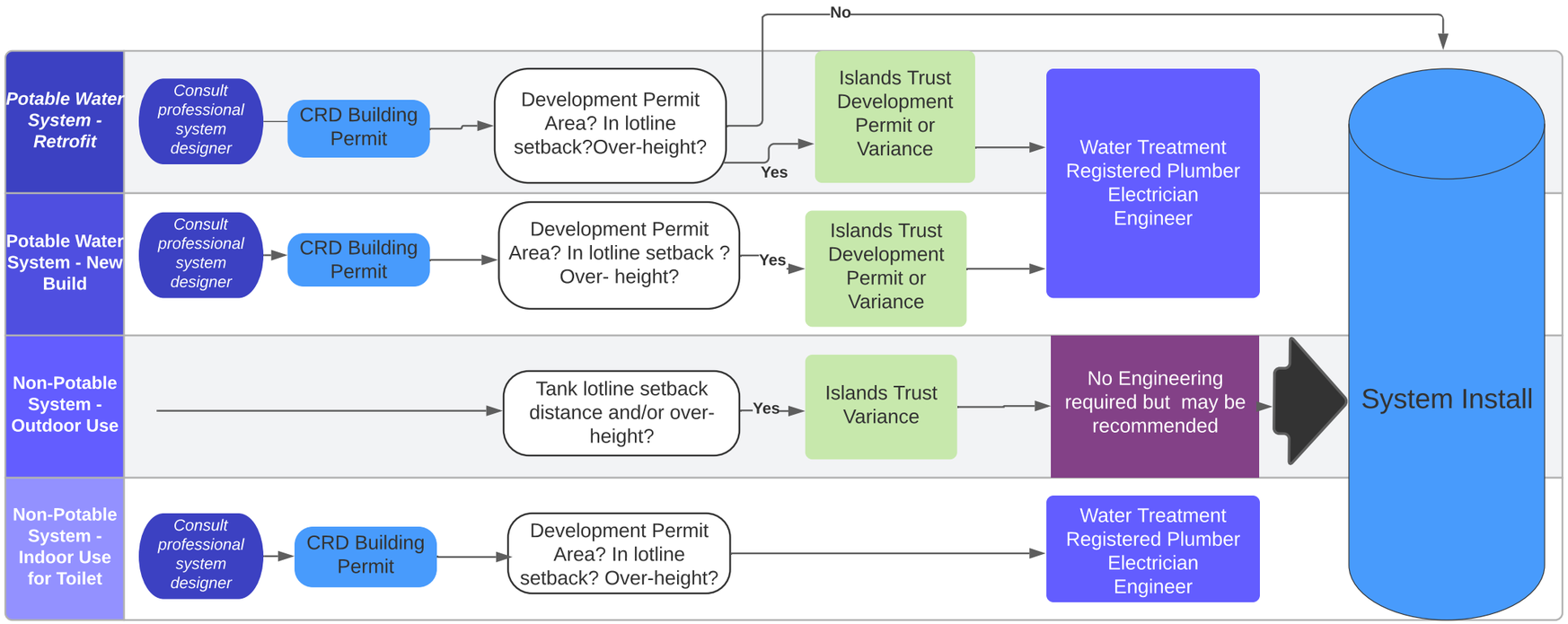
It is recommended that homeowners consult with qualified professionals: plumbing, irrigation design to ensure safety and optimum performance of rainwater system projects, but there is no requirement to pay for an engineer to approve the design.

It is recommended that residents intending to construct non-potable rainwater harvesting storage systems consult the CRD building office if any of the stored water will be used inside of the home/building for any purpose.

News post #6:

A decision-tree diagram as an infographic about the regulatory permissions required for different types of rainwater systems on SSI. See next page.

Rainwater Harvesting: Process for Permitting for Single Family Dwellings



Islands Trust

MEMORANDUM

File No.: 6500-20 – Water Sustainability

DATE OF MEETING:	August 26, 2021
TO:	Technical Working Group – Salt Spring Island Watershed Protection Alliance
FROM:	Jason Youmans, Island Planner, Salt Spring Island Team William Shulba, P. Geo, Senior Freshwater Specialist
SUBJECT:	Proof of Water at Time of Subdivision

PURPOSE

The purpose of this memo is to seek the Salt Spring Island Watershed Protection Alliance (SSIWPA) Technical Working Group's (TWG) review and comment on proposed amendments to Section 5.5 of the Salt Spring Island Land Use Bylaw which addresses provision of potable water at time of subdivision application.

The Salt Spring Island Local Trust Committee (SS LTC) has requested that Islands Trust staff cooperate with the SSIWPA Technical Working Group (TWG) and Government of British Columbia staff in the development of these bylaw amendments.

BACKGROUND

SSIWPA TWG considered this matter and provided advice to staff at its meetings of June 26, 2020 and July 14, 2020. See Attachments 3 and 4 for excerpts of the minutes from those respective meetings.

Ministry of Forests, Lands, Natural Resource Operations and Rural Development (FLNRORD) freshwater staff received an earlier iteration of the proposed bylaw for review and provided extensive comment, elements of which have been incorporated into the revised version attached hereto.

Information about the rationale for undertaking this project can be found in this staff report to the SS LTC. The project charter is available here.

NEXT STEPS

Islands Trust staff would appreciate SSIWPA TWG's review and comment on the proposed bylaw amendments included as Attachment 1. It is highly recommended that the proposed bylaw amendments be read in conjunction with the explanatory document included as Attachment 2.

Submitted By:	Jason Youmans Island Planner	August 19, 2021
Concurrence:	Stefan Cermak Regional Planning Manager	August 19, 2021

/Users/Shannon/Documents/SSIWPA/Working Groups/Technical Working Group/Agendas/2021/August/SSIWPA-TWG_2021-08-26_Proof-of-Water_Memo_DRAFT.docx

ATTACHMENTS

1. Proposed Bylaw Amendments – Proof of Water at Time of Subdivision
2. Explanatory Guide - Proof of Water at Time of Subdivision
3. Minutes of June 26, 2020 SSIWPA TWG Meeting – Excerpt
4. Minutes of July 14, 2020 SSIWPA TWG Meeting

July 30, 2021

PROOF OF WATER: PROPOSED AMENDMENTS TO LAND USE BYLAW NO. 355

Add the following definitions to Part 1.1

"pumping test" means a flow test to determine the sustainable productivity of a well, conducted under supervision of a *hydrogeologist*, and that is consistent with the British Columbia Guide to Conducting Pumping Tests, Groundwater Protection Regulation Handbook, other guidance documents which may be issued, and applicable legislation, and consists of pumping groundwater from a well typically for 24 to 72 hours depending on aquifer characteristics.

"**Hydrogeologist**" means:

a) an engineer or geoscientist- licensed under the *Engineers and Geoscientists Act* or any legislation which may be enacted in substitution; and
b) has competency in the field of hydrogeology.

"stream" means a stream as defined in the *Water Sustainability Act* or any legislation which may be enacted in substitution.

Amend the following definitions in Part 1.1

"community water system" means a system of waterworks that serves more than one lot and is owned, operated and maintained by an improvement district, a regional district, a water utility, a society, or a water supplier.

"potable" means water that is safe to drink, fit for domestic purposes and meets the Heath Canada Guidelines for Canadian Drinking Water Quality or any guidance documents or legislation which may be enacted in substitution.

Delete from Land Use Bylaw No. 355

- Schedule H – Potable Water Quality Standards in its entirety

Replace Section 5.5 in its entirety as follows:

5.5 POTABLE WATER

5.5.1 Each *lot* in a proposed *subdivision* must be supplied with *potable water* in accordance with the *service* requirements specified in Part 9 of this Bylaw.

5.5.2 Each *lot* in a proposed *subdivision* must be supplied with sufficient *potable* water to supply the uses permitted on the *lot* by this Bylaw according to the standards set out in Table 1.

TABLE 1 POTABLE WATER SUPPLY STANDARDS FOR SUBDIVISION	
USE	**VOLUME (litres per day)**
Per lot (including one dwelling unit)	2000
Each additional dwelling unit	2000

Information Note: *If more than one dwelling unit is connected to the same source of water, the water system may be subject to the Drinking Water Protection Act, British Columbia Ministry of Health regulations of water supply systems, and may be subject to the Water Utility Act.*

Information Note: *Non-domestic uses serviced by groundwater or a stream may require a licence under the Water Sustainability Act.*

5.5.3 Where *potable* water is to be supplied by a *community water system*, the *community water system* must provide written confirmation of the volume of water it is able to supply to each *lot*.

5.5.4 Where *potable* water is to be supplied from a *stream*, the applicant for *subdivision* must provide proof of authorization (water licence) indicating the total volume of water granted to the licence holder.

5.5.5 Where a lot proposed to be subdivided contains an existing non-domestic use that requires a licence under the *Water Sustainability Act* or any legislation that may be enacted in substitution, the applicant must provide proof of authorization (water licence).

5.5.6 Where *potable* water is to be supplied by a drilled well, a *pumping test* shall be carried out on each well in a proposed subdivision by:

a. pumping groundwater, at a constant rate, for a minimum period of 12 hours; and
b. withdrawing the daily required volume in accordance with Table 1 within a period of 24 hours; and
c. monitoring the recovery phase until at least 90 per–cent recovery has been achieved.

5.5.7 Where *potable* water is to be supplied by a drilled well in accordance with Subsection 5.5.5, a drop pipe or sounding tube and wellhead port must be installed for future water level monitoring.

5.5.8 Drilled wells used for the purposes of subdivision application must not be located within 50 metres of the natural boundary of the sea.

5.5.9 Where *potable* water is to be supplied by a drilled well in accordance with Subsection 5.5.6., the applicant for subdivision must provide written certification under seal of a *hydrogeologist* that:

a. Each well has been constructed in accordance with the *Groundwater Protection Regulation* or any legislation which may be enacted in substitution;

b. Each well has been constructed in accordance with Subsections 5.5.7 and 5.5.8;
c. Each well has sufficient available groundwater to provide the daily required volume of *potable* water for each lot in accordance with Table 1;
d. Each well recovered to 90 percent of static water level within a period no longer than the duration of the pumping test; and
e. The extraction of groundwater is not likely to adversely affect the quantity or quality of any existing groundwater or streams.

5.5.10 If the daily required volume of *potable* water cannot be supplied in accordance with Subsections 5.5.2 or if the certification referred to in Article 5.5.9(c) cannot be made, the *Approving Officer* may nonetheless approve the *subdivision* if the applicant grants a covenant under the *Land Title Act* to the Salt Spring Island Local Trust Committee that restricts the development of the subdivision to the uses for which there is a sufficient volume of water or commits the applicant to installing a water storage system capable of holding a volume equal to 30 days of the shortfall between the required and available volumes.

5.5.11 Where the *potable* water supply is provided through a drilled well or water licence, a *hydrogeologist* must also provide:
a. Results of a water quality analysis, that includes chloride concentrations, completed by an accredited laboratory;
b. Certification, based on the accredited laboratory water quality analysis, that the proposed water supply source is *potable,* or can be made *potable,* with a treatment system that is customarily used in a *dwelling unit*;
c. Certification that each well is not likely to be affected by the intrusion of saline groundwater or sea water in accordance with Government of British Columbia guidance documents;
d. A plan of the proposed *subdivision* indicating the location where each water sample was taken; and
e. A statement that the water samples upon which the water quality analysis was performed were unadulterated samples taken from the locations indicated on the plan.

5.5.12 If the water to be supplied is not *potable*, but can be made *potable* with a treatment system that is customarily used in a *dwelling unit*, then the *Approving Officer* may nonetheless approve the *subdivision* if the applicant grants a covenant under the *Land Title Act* to the Salt Spring Island Local Trust Committee that requires on-going treatment of the water to ensure that it is *potable.*

5.5.13 Groundwater wells under, or at risk of, saline water intrusion are not permitted sources of potable water for the purposes of subdivision.

5.5.14 Alternative *potable* water supplies including, but not limited to, shallow dug wells, rainwater catchment and desalination are not permitted sources of *potable* water for the purposes of subdivision.

5.5.13 The requirements of Section 5.5 shall not apply where the proposed subdivision is a boundary adjustment that does not result in an increase in the number of lots or permitted dwelling units provided that all lots in the subdivision are currently serviced by existing groundwater wells, community water system connection or water licence.

Amend Schedule F – Campground Layout and Facility Regulations – as follows:

Amend Schedule F, Section 7 as follows:

7. The owner of a *campground* must provide proof of authorization (water licence) or written confirmation from a community water system indicating the total volume of potable water granted to supply the *campground* use in the amounts prescribed below:

Delete Schedule F, Section 8 in its entirety.

July 26, 2021

Water Sustainability Project: Proof of Water – Subdivision

EXPLANATION OF PROPOSED CHANGES

PROJECT PURPOSE

The purpose of this project is to amend the Salt Spring Island Land Use Bylaw to better protect freshwater resources and groundwater users by improving the quality of proof of water information provided by subdivision applicants.

Staff have determined that groundwater information furnished by subdivision applicants is not always consistent with established guidelines from the Province, Engineers and Geoscientists of BC, and associated agencies. This has led to conflicting interpretations of the land use bylaw between staff, applicants and their consulting engineers. Staff believe that greater clarity around required information will minimize conflict.

Additionally, the Salt Spring Island Watershed Protection Alliance (SSIWPA) has identified "Proof of Water" as a priority project to enhance water sustainability on the Island.

SUMMARY OF PROPOSED CHANGES

Staff summarize the major proposed changes to the potable water requirements at time of subdivision under the Salt Spring Island Land Use Bylaw as follows:

- Greater clarity with respect to proof of potable water documentation that subdivision applicants must provide;
- Clear requirements and expectations for professional hydrogeologists to follow;
- Increases the per-dwelling-unit water volume required to harmonize with the Water Sustainability Act;
- Eliminates requirement to demonstrate specific potable water volumes for commercial/industrial uses; defers to Water Sustainability Act licensing requirements

See end of document for current subdivision servicing regulations.

DISCUSSION OF PROPOSED CHANGES

Each of the changes proposed through this bylaw amendment project are described and discussed below.

New Definitions

Pumping Test

"pumping test" means a flow test to determine the sustainable productivity of a well, conducted under supervision of a *hydrogeologist*, and that is consistent with the British Columbia Guide to Conducting

Pumping Tests, Groundwater Protection Regulation Handbook, other guidance documents which may be issued, and applicable legislation, and consists of pumping groundwater from a well typically for 24 to 72 hours depending on aquifer characteristics.

Staff Comment: Staff recommend defining pumping test to ensure that subdivision applicants provide pumping tests, as such term in understood in Government of British Columbia guidance documents, rather than other forms of well investigation, such as historical yields reported in well logs or short term well-yield tests. Pumping tests are carried out over a longer duration than other forms of well testing, are under direct supervision of a professional hydrogeologist, and provide more reliable estimation of a well's long-term capacity.

Hydrogeologist

"**Hydrogeologist**" means:

a) an engineer or geoscientist licensed under the *Engineers and Geoscientists Act* or any legislation which may be enacted in substitution; and
b) has competency in the field of hydrogeology.

Staff Comment: Staff recommend the addition of a definition of a hydrogeologist to ensure that oversight and analysis of pumping tests for the purpose of subdivision is undertaken only by qualified professionals.

Stream

"stream" means a stream as defined in the *Water Sustainability Act* or any legislation which may be enacted in substitution.

Staff Comment: Staff have replaced the word "surface water source" with the word "stream," as this is the term used in the British Columbia *Water Sustainability Act*. Making stream a defined term in the Land Use Bylaw will mean that all instances of the use of stream will take on the new defined meaning.

The *Water Sustainability Act* definition of "Stream" is:

"stream" means

(a) a natural watercourse, including a natural glacier course, or a natural body of water, whether or not the stream channel of the stream has been modified, or

(b) a natural source of water supply,

including, without limitation, a lake, pond, river, creek, spring, ravine, gulch, wetland or glacier, whether or not usually containing water, including ice, but does not include an aquifer;

Amended Definitions

Community Water System

"community water system" means a system of waterworks that serves more than one lot and is owned, operated and maintained by an improvement district, a regional district, a water utility, a society, or a water supplier.

Staff Comment: Staff have added the words "society" and "water supplier" to the current list of potential piped water purveyors in an effort to capture all possible piped water configurations.

Potable

"potable" means water that is safe to drink, fit for domestic purposes and meets the Heath Canada Guidelines for Canadian Drinking Water Quality or any guidance documents or legislation which may be enacted in substitution.

Staff Comment: Staff have amended the Land Use Bylaw definition of "potable" by removing reference to "Schedule H" of the Land Use Bylaw. This effectively removes Salt Spring-specific standards of what constitutes potable water. It is staff's understanding that local water standards were originally included in the subdivision regulations to capture aesthetic qualities beyond those identified by Health Canada. Staff are today satisfied that reliance on the federal standard is sufficient to ensure that drinking water on Salt Spring Island will be safe to drink provided the Section 5 regulations are adhered to.

Deletions

Schedule H – Potable Water Quality Standards

Staff Comment: As noted above under the definition of potable water, staff propose removing the current Island-specific water quality parameters.

5.5 POTABLE WATER

5.5.1 Each *lot* in a proposed *subdivision* must be supplied with *potable* water in accordance with the *service* requirements specified in Part 9 of this Bylaw.

Staff Comment: This provision remains the same as in current land use bylaw.

5.5.2 Each *lot* in a proposed *subdivision* must be supplied with sufficient *potable* water to supply the uses permitted on the *lot* by this Bylaw according to the standards set out in Table 1.

TABLE 1 POTABLE WATER SUPPLY STANDARDS FOR SUBDIVISION	
USE	**VOLUME** **(litres per day)**
Per lot (including one dwelling unit)	2000
Each additional dwelling unit	2000

Information Note: *If more than one dwelling unit is connected to the same source of water, the water system may be subject to the Drinking Water Protection Act, British Columbia Ministry of Health regulations of water supply systems, and may be subject to the Water Utility Act.*

Information Note: *Non-domestic uses serviced by groundwater or a stream may require a licence under the Water Sustainability Act.*

Staff Comment: The revised Section 5.5.2 and revised Table 1 represent a significant departure from the current land use bylaw. Currently, Table 1 provides a list of several different use types and demands that staff then add together to arrive at anticipated water demand for a given property if all permitted uses are exercised simultaneously. Instead, staff propose aligning water requirements with Section 8 of the *Water Sustainability Act* which states:

> (8) Despite subsections (1) to (6), a person to whom section 6 (4) *[use of water — excluded groundwater users]* applies is deemed to have rights that have precedence under those subsections, as if the deemed rights were granted under an authorization that
>
> (a) sets out as the date of precedence the date of first use of the water, and
>
> (b) authorizes the use of the greater of
>
> (i) 2 000 litres of water per day for each private dwelling on a parcel, or
>
> (ii) the amount of water the engineer is satisfied the person has been using for domestic purposes.

The reasons for this proposal are as follows:

First, local water regulations and policy should be generally consistent with the *Water Sustainability Act*. Therefore, staff recommend that Islands Trust align its potable requirement for residential uses to that of the 2,000 litre-per-day deemed right under the WSA.

Second, using groundwater or surface water for non-domestic uses of a property now requires an industrial water licence under the *Water Sustainability Act*. Staff recommend allowing the applicant of a non-residential use to apply for a new industrial water license under the WSA regime at a volume that is needed to fulfil water demand of the use taking place on a property.

2,000 litres per day is an increase of 400 litres per day from 1,600 litres per day per dwelling unit that the Land Use Bylaw currently requires.

While commercial and general employment-zoned land will no longer have to prove a specific volume requirement for those uses, they will have to prove a minimum 2,000 litres per day.

Important aspects to consider in the proposed water use requirements are as follows:

- Secondary suites and seasonal cottages are dwelling units as such term is defined in the Land Use Bylaw. Therefore, properties that permit such uses would be required to demonstrate 2,000 litres per day for each of those uses where permitted;
- Subdivision of land that permits multi-family dwelling units would be required to demonstrate 2,000 litres per day per permitted dwelling unit.

5.5.3 Where *potable* water is to be supplied by a *community water system*, the *community water system* must provide written confirmation of the volume of water it is able to supply to each *lot*.

Staff Comment: Same as in current bylaw, except now the volumes of water that community water systems will be asked to confirm is different.

5.5.4 Where *potable* water is to be supplied from a *stream*, the applicant for *subdivision* must provide proof of authorization (water licence) indicating the total volume of water granted to the licence holder.

Staff Comment: This is generally consistent with the current Land Use Bylaw language although "stream" replaces "surface water source."

5.5.5 Where a lot proposed to be subdivided contains an existing non-domestic use that requires a licence under the *Water Sustainability Act* or any legislation that may be enacted in substitution, the applicant must provide proof of authorization (water licence).

Staff Comment: This new clause will enable staff to leverage the subdivision process to compel commercial/general employment water users to seek the required non-domestic water license required by the *Water Sustainability Act*.

5.5.6 Where *potable* water is to be supplied by a drilled well, a *pumping test* shall be carried out on each well in a proposed subdivision by:

a. pumping groundwater, at a constant rate, for a minimum period of 12 hours; and
b. withdrawing the daily required volume in accordance with Table 1 within a period of 24 hours; and
c. monitoring the recovery phase until at least 90 percent recovery has been achieved.

Staff Comment: This clause is new, and provides a level of prescription not present in the current land use bylaw. These requirements are consistent with professional expectations under current provincial guidance documents and align with the ethical requirements of the *Engineers and Geoscientists Act* and the *Professional Governance Act*. The pumping test parameters described here have been recommended by Islands Trust Senior Freshwater Specialist for the following reasons:

a. With few exceptions. pumping tests by professional hydrogeologists for 2 to 3 lot subdivisions historically were 12 hours or greater.
b. The well must provide the daily demand within a reasonable time.
c. If 90% recovery is not achieved within a reasonable time, the well is not fit for the desired volume and rate

5.5.7 Where *potable* water is to be supplied by a drilled well in accordance with Subsection 5.5.5, a drop pipe or sounding tube and wellhead port must be installed for future water level monitoring.

Staff Comment: This clause is new. Installation of this infrastructure will allow easy access for future well monitoring by land owners.

5.5.8 Drilled wells used for the purposes of subdivision application must not be located within 50 metres of the natural boundary of the sea.

Staff Comment: Wells in close proximity to the natural boundary of the sea are at greater risk of saltwater intrusion. Land owners can apply for a variance permit if required. Note that this will not affect existing lots.

5.5.9 Where *potable* water is to be supplied by a drilled well in accordance with Subsection 5.5.6., the applicant for subdivision must provide written certification under seal of a *hydrogeologist* that:

a. Each well has been constructed in accordance with the *Groundwater Protection Regulation* or any legislation which may be enacted in substitution;
b. Each well has been constructed in accordance with Subsections 5.5.7 and 5.5.8;
c. Each well has sufficient available groundwater to provide the daily required volume of *potable* water for each lot in accordance with Table 1;
d. Each well recovered to 90 percent of static water level within a period no longer than the duration of the pumping test; and
e. The extraction of groundwater is not likely to adversely affect the quantity or quality of any existing groundwater or streams.

Staff Comment: This clause is a combination of current clauses 5.5.5 and 5.5.7 except it enumerates more clearly the specific certifications that must be included in the hydrogeologist's report.

The 90 percent static recovery period is important because it adds interpretation to the pumping test. Recovery data can smooth out variations in pumping rates if they occurred during the test. A 90 percent recovery observation is consistent with guidance documents from the Province and other jurisdictions in Canada.

5.5.10 If the daily required volume of *potable* water cannot be supplied in accordance with Subsections 5.5.2 or if the certification referred to in Article 5.5.9(c) cannot be made, the *Approving Officer* may nonetheless approve the *subdivision* if the applicant grants a covenant under the *Land Title Act* to the Salt Spring Island Local Trust Committee that restricts the development of the subdivision to the uses for which there is a sufficient volume of water or commits the applicant

to installing a water storage system capable of holding a volume equal to 30 days of the shortfall between the required and available volumes.

Staff Comment: This clause is generally consistent with current clause 5.5.6 in the Land Use Bylaw. The primary difference being that the amended Table 1 of water volume requirements means that that applicant can no longer shave off a variety of uses via covenant (bed-and-breakfast bedrooms for example). Instead, the only uses that can be restricted via covenant are the additional dwelling units (secondary suite, seasonal cottage) that may otherwise be permitted. Alternatively, applicants can install a water storage system to offset the shortfall. The covenant cannot compel its use, but can compel its installation by covenant.

5.5.11 Where the *potable* water supply is provided through a drilled well or water licence, a *hydrogeologist* must also provide:

a. Results of a water quality analysis, that includes chloride concentrations, completed by an accredited laboratory;
b. Certification, based on the accredited laboratory water quality analysis, that the proposed water supply source is *potable,* or can be made *potable,* with a treatment system that is customarily used in a *dwelling unit*;
c. Certification that each well is not likely to be affected by the intrusion of saline groundwater or sea water in accordance with Government of British Columbia guidance documents;
d. A plan of the proposed *subdivision* indicating the location where each water sample was taken; and
e. A statement that the water samples upon which the water quality analysis was performed were unadulterated samples taken from the locations indicated on the plan.

Staff Comment: This clause is new, but generally consistent with current clause 5.5.8 of the Land Use Bylaw. It simply enumerates the requirements more clearly.

5.5.12 If the water to be supplied is not *potable*, but can be made *potable* with a treatment system that is customarily used in a *dwelling unit*, then the *Approving Officer* may nonetheless approve the *subdivision* if the applicant grants a covenant under the *Land Title Act* to the Salt Spring Island Local Trust Committee that requires on-going treatment of the water to ensure that it is *potable,* unless the water is confirmed to be under, or at risk of, saline water intrusion.

Staff Comment: This clause is new, but simply breaks out a component of current clause 5.5.8 into its own clause.

5.5.13 Groundwater wells under, or at risk of, saline water intrusion are not permitted sources of potable water for the purposes of subdivision.

Staff Comment: This clause is new. Wells suffering from, or at risk of, saline intrusion should not be used to service new subdivisions as they risk contamination of the greater aquifer and impacts to existing users and ecosystems.

5.5.14 Alternative *potable* water supplies including, but not limited to, shallow dug wells, rainwater catchment and desalination are not permitted sources of *potable* water for the purposes of subdivision.

Staff Comment: This clause is new and based on the following rationale:

- The long-term viability of shallow dug wells under the influence of climate change is difficult to establish;
- Rainwater is too inconsistent a source under the influence of climate change on which to increase lot density; and
- Desalination is environmentally problematic.

Applicants who wish to use one of these sources of water in support of a subdivision application can apply for a variance permit.

5.5.15 The requirements of Section 5.5 shall not apply where the proposed subdivision is a boundary adjustment that does not result in an increase in the number of lots or permitted dwelling units provided that all lots in the subdivision are currently serviced by existing groundwater wells, community water system connection or water licence.

Staff Comment: This clause is new, and predicated on a desire to reduce the regulatory burden on boundary adjustment applicants. Where lot lines are being redrawn and no new lots or dwelling unit opportunities being created as a result, staff recommend that applicants are not required to provide water documentation as such would have been required at time of original subdivision. Applicants must, however, provide appropriate water documentation if any of the lots in the proposed boundary adjustment are not currently serviced with potable water.

……

Amend Schedule F – Campground Layout and Facility Regulations – as follows:

Amend Schedule F, Section 7 as follows:

7. The owner of a *campground* must provide proof of authorization (water licence) or written confirmation from a community water system indicating the total volume of potable water granted to supply the *campground* use in the amounts prescribed below:

Delete Schedule F, Section 8 in its entirety.

Staff Comment: These amendments simply ensure that campgrounds are operating per the non-domestic water license requirements of the *Water Sustainability Act*.

These water requirements are unrelated to subdivision, but staff felt it useful to clean them up while the bylaw was being amended.

……

CURRENT POTABLE WATER SERVICING REGULATIONS AT TIME OF SUBDIVISION

5.5.1 Each lot in a proposed subdivision must be supplied with potable water in accordance with the service levels specified in Part 9 of this Bylaw. Salt Spring Island Local Trust Committee

5.5.2 Each lot in a proposed subdivision must be supplied with sufficient water to supply all uses, buildings and structures permitted on the lot by this Bylaw according to the standards set out in Table 1. Where more than one use is permitted on a lot, the amount of water to be supplied is the sum of the amounts required for each permitted use, calculated separately.

Information Note: If more than one dwelling unit is connected to the same source of water, the water system is subject to Vancouver Island Health Authority regulations of water supply systems, the Drinking Water Protection Act, and may be subject to the Water Utility Act.

5.5.3 Where water is to be supplied by a community water system, the community water system must provide written confirmation of the amount of water it is able to supply to each lot.

5.5.4 Where water is to be supplied from a surface water body, the applicant for subdivision must provide proof of a water license issued after November 30, 1994, that permits the withdrawal of the required amount of water. Information Note: The provincial Water Management Branch completed a study of surface water availability in November of 1994. Water licenses issued before this time may not be a reliable indication that water is actually available in the necessary quantity.

5.5.5 Where water is to be supplied by groundwater, the applicant for subdivision must provide written certification under seal of an engineer with experience in groundwater hydrology that there is sufficient available groundwater to provide the required amount of potable water on a continuous basis, and that the extraction from the groundwater table of that amount of water is not reasonably expected to adversely affect the quantity or quality of water obtainable from any existing well or surface water that is used as a source of potable water.

TABLE 1 POTABLE WATER SUPPLY STANDARDS FOR SUBDIVISION

USE VOLUME (litres per day per lot)

Dwelling unit 1600

Secondary Suite 1200

Seasonal cottage 680

Bed and breakfast home-based business 225/bedroom

Commercial or General Employment use 900

Community hall or church 1590

School 50/classroom

Commercial guest accommodation units 450/unit

Campground 225/campsite

5.5.6 If the required amount of water cannot be supplied or if the certification, water license or confirmation referred to in Subsections 5.5.3, 5.5.4 or 5.5.5 cannot be made, the Approving Officer may nonetheless approve the subdivision if the applicant grants a covenant under the Land Title Act to the Salt Spring Island Local Trust Committee that restricts the development of the subdivision to the buildings, structures and uses for which the required amount of water can be supplied, licensed or certified under Subsections 5.5.3, 5.5.4 or 5.5.5.

5.5.7 For the purposes of the certification referred to in Subsection 5.5.5, the engineer must supply supporting documentation of a pump test conducted by the engineer which must indicate that the test was of sufficient duration to establish the long term reliability of the water supply in accordance with generally acceptable hydrological engineering practices.

5.5.8 Where the water supply is provided through a groundwater well or through a private surface water license, an engineer must also provide a water quality analysis that demonstrates that the surface water or the groundwater from each proposed water supply source or well is potable or can be made potable with a treatment system that is customarily used in a single-family dwelling. The certificate must include a plan of the proposed subdivision indicating each well location where a water sample was taken, and a statement that the water samples upon which the water quality analysis was performed were unadulterated samples taken from the locations indicated on the plan. If the water to be supplied is not potable, but can be made potable with a treatment system that is customarily used in a single-family dwelling, then the Approving Officer may nonetheless approve the subdivision if the applicant grants a covenant under the Land Title Act to the Salt Spring Island Local Trust Committee that requires on-going treatment of the water to ensure that it is potable before it is used as drinking water.

- A number of people who understand the system recommend that we go with the maximum rather than the extremes. Error bounds can be vastly misinterpreted by public domain.
- Staff needs to define the framework instead of sharing the full report.
- "A first iteration of a conceptual framework for management of groundwater on the Gulf Islands."
- Educate that this is not a one-off but a first phase of more thorough work. There is no silver bullet.

By general consent, the TWG agreed to provide a memo back to SSIWPA Steering Committee outlining the TWG review of the Southern Gulf Islands Groundwater Recharge and Availability Mapping.

ACTION: Chair Millson and Member Shulba will develop the memo outlining the TWG review of the Southern Gulf Islands Groundwater Recharge and Availability Mapping for the next SSIWPA Steering Committee meeting.

4.4 Proof of Water At the Time of Subdivision

The issue of pump test length for a proposed change to regulation in the LUB:

- Is it a good idea to provide LTC regulations
- Should we be noting the guidelines from the Province in our Land Use Bylaw for proof of water at time of subdivision?
- Should a 2-Lot subdivision require less pumping time?
    - 72 hours pump test cost is likely prohibitive for a 2-Lot subdivision
    - Costs could be lowered if the local well-driller professional works with a hydrogeologist off-site (ie. send data)
    - A step-wise process could be part of the LUB regulation for 2-Lot subdivision

- Should a aquifer qualities be included?
- Should seasonality restrictions be included in the LUB?
- Professionals have provided pushback to the Islands Trust regulations. The provincial regulations are not in question, but the local regulations are currently not sufficient.

The following points were noted in the discussion:

- peak maximum demand for domestics should be required

- well efficiency and boundary conditions are more important than seasonality
- some might be comfortable with a 12 hour test on a 2-lot subdivision

Wording that could be included in LUB:
"Pump test length must conform to the requirements in the Ministry of Forests, Lands, Natural Resource Operations and Rural Development" (refer to Thompson-Nicola example).

Clarification was provided on types of water supply evidence that is required.

- Rezoning – Increase of density (Unfettered discretion by LTC based on Staff's recommendation or not). The Ministry of Transportation and Infrastructure requirements for "aquifer-scale" sustainability is more applicable.
- Subdivision – A deemed right to subdivide and proof of sustainable water supply lies more within jurisdiction of Islands Trust local planning guidelines. MOTI not involved as much.
- Agreed that following longer provincial pump test requirements is absolutely important.
- Not looking at occupancy vs. the agreed occupancy of Single Family Dwelling or dwelling size.

Intended outcome:
"The Technical Working Group recommends that amendments to the SS LUB regulations for proof of water at the time of subdivision could consider the following:"

By general consent, the SSIWPA-TWG agreed to have a special 2-hour meeting in July to discern the recommended technical requirements for amendments to the SS LUB regulations for proof of water at the time of subdivision.

ACTION: TWG members will review the powerpoint materials provided by Islands Trust planning staff, along with section 5.5 of the Salt Spring Island Land Use Bylaw No. 355 in preparation for the next meeting on the topic of proof of water at the time of subdivision.

ACTION: Coordinator will circulate the powerpoint description of the three types of subdivision with parameters for proof of water, as well as boundary adjustment example presented in this meeting by Planner Mayes to TWG members for their consideration.

4.5 Weston Lake Water Availability Study

***Minutes* of the**
Salt Spring Island Watershed Protection Alliance (SSIWPA)
TECHNICAL WORKING GROUP (TWG) SPECIAL MEETING

Date of Meeting: July 14 2020 3:00 – 5:00 pm
Location: via Zoom web conferencing

Members Present: Dale Green, Capital Regional District Senior Environmental Officer
John Millson, Chair
William Shulba, PGeo, Islands Trust Senior Freshwater Specialist
Ian Peace, Member at-large
Tanya Schulz, Member at-large
Ian deBie, Member at-large
Sylvia Barroso, FLNRORD Hydrogeologist, SSIWPA Ex Officio Member

Regrets: Robin Annschild, Member at-large
Jos Lussenburg, Member at-large
Hugh Greenwood, Guest (GeoScientist)

Staff Present: Shannon Cowan, Coordinator, Recorder (via web conferencing)
Jason Youmans, Islands Trust Planner 1

The special meeting agenda was, informally, the continued discussion of important features in developing a Proof of Water at Time of Subdivision draft bylaw.

The meeting was called to order at 3:00 pm.
The notes to follow are beginning 3:38pm when Shannon joined the meeting.
The entire meeting from the beginning was recorded – there is an audio file available by request.

The following summary of a special meeting of the SSIWPA-TWG held June 26, 2020 were provided to meeting participants via email sent July 13, 2020 by Chair Millson:
- A tailored bylaw(s) around "SSI Proof of Water (at time of subdivision)" is necessary/required.

- Pump testing is a prerequisite for adequate SSI proof of water at all sites; yield tests are [sometimes] not sufficient for proof of water [groundwater, at time of subdivision].
- Other locations have similar (more rigorous) by-laws in place.
- A complete “water plan" may be the best approach to articulating a proposal and achieving sign-off for execution.
- Any bylaws may need to be “scale dependant” (i.e. anticipated changes might be small, incremental; or significant).
- The current professional reliance model may not support SSI proof of water needs, though professional governance act (due 2020/21) may help here?

The following points were noted from a discussion about Land Use Bylaw Proof of Water at Time of Subdivision requirements and potential requirements on Salt Spring Island:

Comments about volume specifications and lot/zoning types:

- It was observed that the Land Use Bylaw (LUB) daily requirement is 1600L/d for single-family dwelling (SFD).
- There was a suggestion to use the Thompson-Nicola subdivision servicing regulations as a model
- There was a suggestion that establishing different proof of water requirements for different categories/scales of subdivisions may be most feasible. Suggestions for how to group those categories included:
    - Zones with similar permitted uses
    - Zones with similar minimum lot sizes (Eg. Forestry/Agriculture 8 ha minimum, Rural Upland 4 ha minimum, Rural 0.6 ha minimum but need 4 ha to subdivide)
        - Most zones that permit residential dwellings are all permitted the same set of uses, except Rural Watershed zones where no cottages are permitted.
    - Area-based regulations based on different groundwater characteristics
- There was a discussion about whether wells should have to demonstrate they can meet “peak demand”
    - There was a suggestion that demonstrating “continuous supply” may be inappropriate
    - Is 0.4 USG/min well appropriate? Not at peak demand time.
- It was noted that use-driven volumes beyond 2,000L/d seems inappropriate for groundwater wells for domestic use, since it is inconsistent with provincial deemed right of 2,000L/d.

- Water for domestic purposes is currently excluded from requirements for a non-domestic groundwater license.
- There was discussion about size of subdivision. Should proof of water should be required for very small subdivisions? i.e. one into two lots
- There was discussion about the need for a development permit area (DPA) for water-challenged areas
    - There was general support for this idea.
- There was an observation that establishing high minimum water quantities requirements might have the unintended consequence of steering people away from a conservation ethic.
- There was a suggestion that a single family dwelling (SFD) on a two lot subdivision should have lower requirements for proof of water than a major subdivision with a major well with a higher volume ask.
- IT staff clarified this project is not about rezoning or other water/use changes to domestic property use as currently laid out – it is only about proof of water at time of subdivision.

Well Pump Test Type Comments:

- There was a discussion that the purpose of the project began as discussion about whether to define pumping tests in the land use bylaw and the following was noted:
    - Such a bylaw could develop a minimum requirement for a small pump test.
    - Such a bylaw could better distribute risk so it rests on the bylaw developer instead of the consultant.
    - It was observed that 72 hour pump test in bedrock wells is the Provincial guidance. It was suggested that this is too much for an average two-lot subdivision.
    - Pumping rate can be really affected by reaching negative head boundary at the “late hour” of 60+ hours into the test that is not seen earlier on.
    - What monitoring/reporting elements should be included?
    - What is appropriate pump test duration: 24 hours?
        - It was observed that 12 hours is common now. With unmanned recovery.
    - There was a suggestion to keeps consultant fees low. A field labourer could email data to a supervisory consultant who emails the local government with the results to “Certify” them but require less/no field cost for the consultant’s time.

- It was observed that well yield over 4 hours is not a proof of water – it would be better to monitor for a year.
- There was discussion about whether we have sufficient information to identify "water stressed areas"?
    - RDN has something in place (Area-based management?)
    - Suggestion that IT develop something similar asap
- There was discussion about whether to push pause on developing a subdivision prood of water bylaw until the different groundwater regions are more characterized for their level of stress? In which case different aquifer understanding could trigger enhanced requirements.
    - There was no general support for this idea; it is more reasonable to continue such work in tandem
- It was observed that area-based regulation or saltwater intrusion risk could trigger enhanced requirements.
    - It was observed that aquifer vulnerability mapping was used for TUP application on N Pender (successfully)There was discussion about what information could drive area-based regulation. Suggestions included:Aquifer Vulnerability – is a rist of contamination/water quality, not quantity
    - Saltwater Intrusion
    - Recharge Mapping
    - Water Balance
- A desire was expressed for a composite map that combines risk to groundwater resources/ water resources.
    - It was observed that such a map would become law (included in the OCP bylaw) so evidence underpinning any map must be sound and vetted and very well reviewed.
- A seasonality of pumping tests discussion included the following observations:
    - If trying to assess impacts on surface water, a winter test is not ideal.
    - In real rainy season, the results are not as useful.
    - The risk of doing the work in the winter is also inserting variables.
    - Best case scenario would be either spring or fall pump tests

Provincial vs. Local aspects of Proof of Water at Time of Subdivision:

- There was a suggestion that subdivisions should not compromise ALR land or their viability to be farmed.
- There was a suggestion that there should be a unified message or consistent requirements across jurisdictions (provincial licensing and Islands Trust for eg.)

- There was a discussion about whether non-residential subdivision applicants should have to demonstrate provincial groundwater licenses as part of subdivision application process, locally?
    - Or maybe submission of application for water license could be a requirement rather than the license itself.
- The Alberta government increases their proof of water data requirements when the volume ask goes up to the next level

_____
John Millson, Chair

CERTIFIED CORRECT:

_____
Shannon Cowan, Recorder

Appendix attached
The appendix includes points that were retrieved by the Coordinator from the Zoom webconferencing audio file from the meeting portion prior to her minute-taking.

Links discussed

http://a100.gov.bc.ca/appsdata/acat/documents/r50847/TechAssess_1473197338159_3194880156.pdf

https://www.rdn.bc.ca/sites/default/files/2019-07/policy_b1-21_groundwater_assessment_requirements_for_rezoning_un-serviced_lands_and_for_development_permits.pdf

https://www.rdn.bc.ca/cms/wpattachments/wpID2245atID4644.pdf

This is an example of groundwater authorization requirements from Alberta:
https://open.alberta.ca/dataset/d399d059-d8b6-4c46-9ff2-ef39f359943a/resource/2f385374-2521-4252-8e46-4b51e61c1e41/download/5612701-2013-alberta-environment-guide-groundwater-authorization.pdf

- See Appendix 4, table in above reference.

Appendix
to SSIWPA Technical Working Group Special Meeting Minutes 2020-07-14

Prior to Coordinator Cowan joining the call, from the Zoom webconferencing audio file, the following points were made on the discussion of development of a revision to the Land Use Bylaw for Proof of Water at Time of Subdivision in the SSI Local Trust Area:

- There was a suggestion to use RDN example as a starting point

- Provincial staff indicated that the Regional District of Nanaimo (RDN) subdivision bylaw has general guidelines and a checklist.

    - It refers to provincial guidelines.

    - If there is no change to existing use on the lot then a desktop study (not hydrogeological assessment) will suffice.

    - In certain areas where there is low water availability, there are enhanced requirements for proof of water at the time of subdivision.

    - In a subdivision does each well need to be proven? Provincial advice says, yes – each new resulting lot is not reliant on the existing lot. However, if there is no increase in water use on the existing lot, maybe it does not need to be pump tested, but a pump test would be required on the new lot that is created by subdivision.

    - Other potable water sources as alternatives to drilled groundwater well or municipal treated water connection: rainwater collection, storage and treatment; a dug Groundwater Well.

- It was noted by IT Freshwater Specialist that all of Black Creek is dug wells because of the Quadra Sands geological formation

- Planning staff suggested one approach to bylaw development was to use a Thompson-Nicola Regional District's subdivision servicing regulations as a basis for development of the SSI bylaw:
    - Very thorough, as prescriptive as found in province related to this issue
    - Pull from Provincial Guidelines and incorporating them into regulations
    - LUB Section 4.5 states dug wells are not ideal but can get a variance and engineer's report to address the areas the bylaw requires of a groundwater source for proof of water at time of subdivision

- IT staff indicated that certain islands in Islands Trust have not been delegated any authority to determine proof of water at time of subdivision. MOTI in those cases takes full responsibility.
- Provincial staff reiterated that asking any applicants to undertake what is above and beyond the provincial guidelines should have evidence-based rationale behind it, with references.