



**SUNSHINE COAST REGIONAL DISTRICT
COMMITTEE OF THE WHOLE
AGENDA**

Thursday, April 10, 2025, 9:30 a.m.

IN THE BOARDROOM OF THE SUNSHINE COAST
REGIONAL DISTRICT OFFICES AT 1975 FIELD ROAD, SECHelt, B.C.

Pages

-
1. **CALL TO ORDER**
 2. **AGENDA**
 - 2.1 Adoption of Agenda
 3. **PRESENTATIONS AND DELEGATIONS**
 - 3.1 Water Supply Plan Feasibility Study Long-Term Groundwater Supply Sources Test Well Drilling Program Results 2
 - (i) Presentation: Ineke Kalwij, Ph.D., P.Eng., Project Manager, Senior Hydrogeological Engineer, Kalwij Water Dynamics Inc.
 - (ii) Staff Report: Water Supply Plan Feasibility Study Long-Term Water Supply Sources (Groundwater Investigation Phase 5) Update
 - General Manager, Infrastructure Services
 - Manager, Capital Projects

(Voting - A, B, D, E, F, and Sechelt)
 4. **REPORTS**
 5. **COMMUNICATIONS**
 - 5.1 The Honourable Nathaniel Erskine-Smith, P.C., M.P., Minister of Housing, Infrastructure and Communities, dated March 17, 2025 28

Regarding Baseline Funding Stream of the Canada Public Transit Fund

(Voting – All Directors)
 6. **NEW BUSINESS**
 7. **IN CAMERA**
 8. **ADJOURNMENT**

Sunshine Coast Regional District

Water Supply Plan Feasibility Study Long-Term Ground Water Supply Sources

Test Well Drilling Program Results

Prepared for the SCRD Committee of the Whole, April 10, 2025



Test Well Drilling Locations



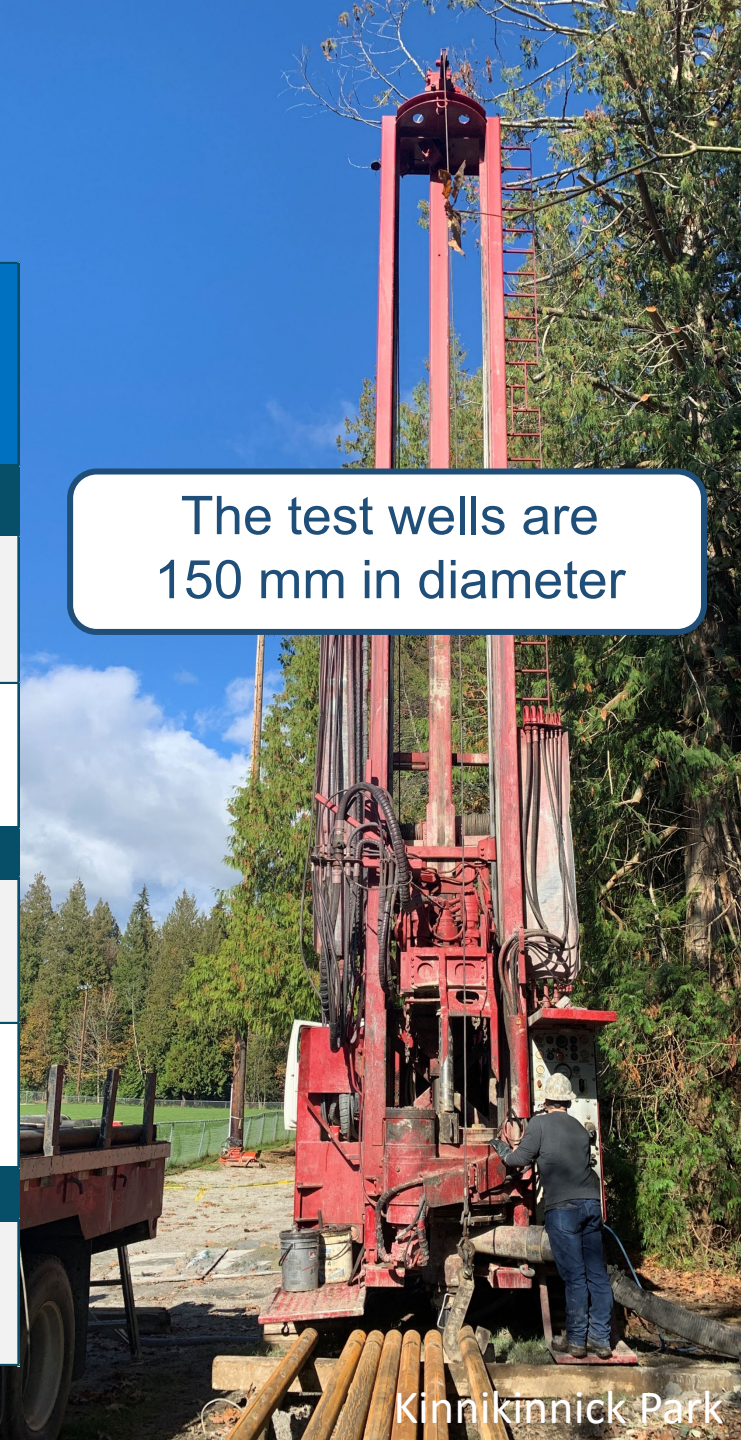
Test Well Drilling & Well Testing

Sep. 3, 2024 – Feb. 21, 2025.

Location	Formation	Drilling	Testing	Well Depth	Depth to bedrock
				m	m
1. RC Fire Hall	rock	Sep. 2024	-	274	0
2. Airport - Hilltop Rd.	sand & gravel, bedrock	Sep. 2024	Nov. 2024	186	34
3. Kinnikinnick Park	sand & gravel, bedrock	Oct. 2024	-	247	73
4. Whitaker Park	sand & gravel, bedrock	Nov. 2024	-	195	89
5. Sechelt shíshálh Hospital	sand & gravel	Jan. 2025	Feb. 2025	83	87

The test wells are
150 mm in diameter

Well drilling contractor: Fyfe Well & Water Services.



Test Well Drilling & Well Testing

Sep. 3, 2024 – Feb. 21, 2025.

Location	Well Name	Aquifer	Est. Yield
			L/s
1. RC Fire Hall	TW-1 (24)	fractured rock	0.95
2. Airport - Hilltop Rd.	TW-2 (24)	fractured rock	*4.6
3. Kinnikinnick Park	TW-3 (24)	<i>fractured rock</i>	1.2
4. Whitaker Park	TW-4 (24)	<i>sand & gravel</i>	2.2
5. Sechelt shíshálh Hospital	TW-5 (25)	sand & gravel	*22+

* Based on pumping tests.



RC Fire Hall



Airport-Hilltop Rd



TW-5(25)



TW-5(25)

TW-5(25)

Sechelt | shíshálh

Hospital

TW-5(25) | Sechelt | shíshálh Hospital Site

Site-Specific Hydrogeology:

✓ Water-bearing zones:

- 24 - 57 m-bgs (*sand and gravel*).
- 64 - 84 m-bgs (*sand and gravel*).

✓ Lower permeable zone:

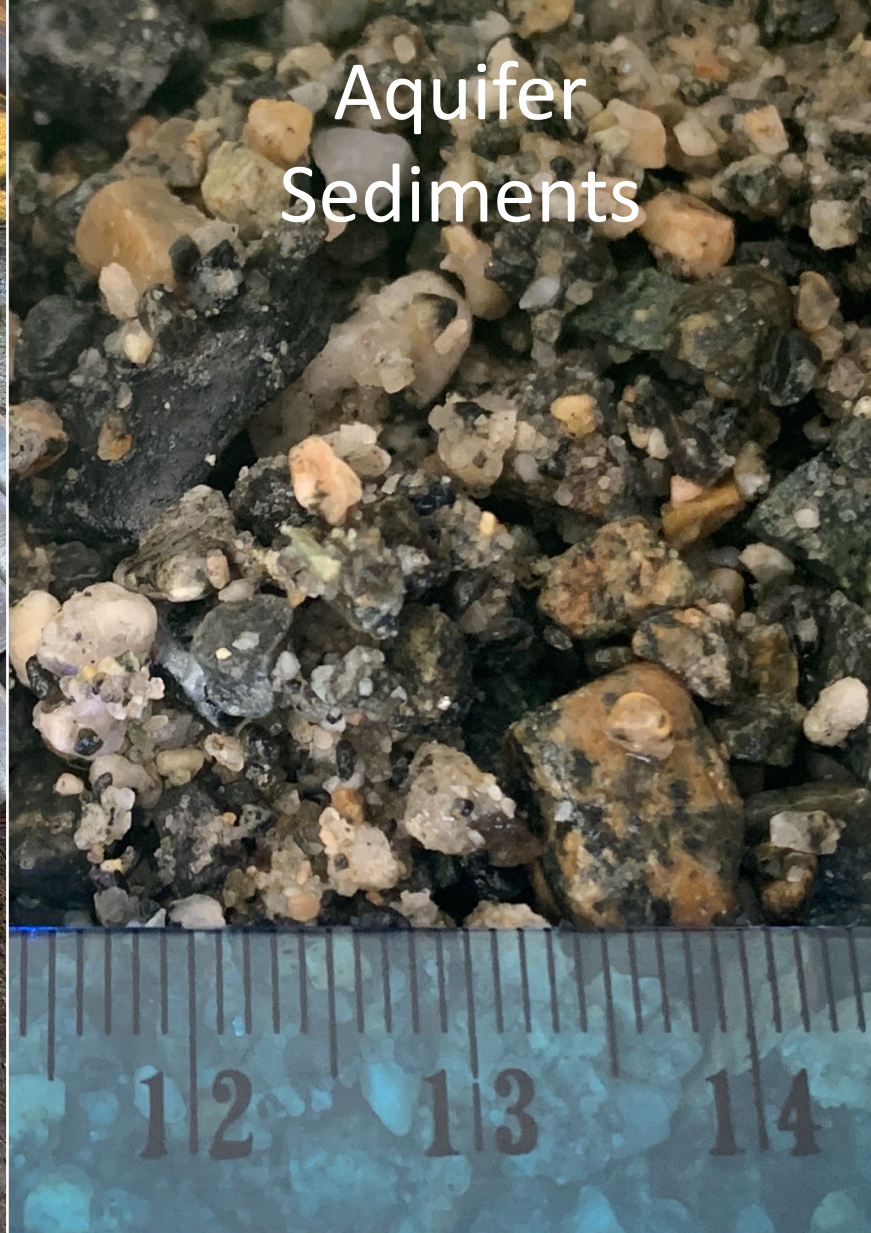
- 57 - 64 m-bgs (*sand, no significant production*).

✓ Bedrock @87.5 m-bgs (granite rock).





Well
Screen



Aquifer
Sediments



Well
Screen

TW-5(25) – Well Screen | Length: 6 m.

72-hour Pumping Test TW-5(25) | Sechelt | shíshálh Site



Key Findings of the 72-hour Pumping Test

- ❑ Average discharge rate: 22.2 L/s*.
- ❑ Production: 5.7 ML over a period of 72 hours.
- ❑ Drawdown: 3.96 m (~ 8% of the available water column).
- ❑ Potentially a very productive aquifer (at the tested location).

** which was the maximum pumping rate possible due to physical limitations of the pump-motor assembly that fits in a 150 mm well.*

Key Findings of the Pumping Test

- ❑ Water quality meets Canadian Drinking Water Quality Guidelines (CDWQG).
- ❑ Selected parameters:
 - ❖ **Arsenic:** 0.0002 mg/L (MAC = 0.01 mg/L)*.
 - ❖ **Iron:** 0.014 mg/L (AO = 0.3 mg/L).
 - ❖ **Manganese:** < 0.001 mg/L (AO = 0.02 mg/L; MAC = 0.12 mg/L).
 - ❖ **Electrical conductivity:** 158 µS/cm.
 - ❖ **Total dissolved solids:** 79 mg/L.

* Health Canada issued a draft revised guideline (issued March 2025) reducing MAC for arsenic to 0.005 mg/L.

Key Findings of the Pumping Test

- ❑ No well interference observed at the monitoring wells (Heidelberg Materials wells).
- ❑ No measurable evidence of saltwater intrusion.
 - ❖ *Based on water quality results.*



Key Findings of the Pumping Test

- ❑ Calculated (theoretical) long-term yield: 187 L/s.
- ❑ To be interpreted with some caution given that results are based on a pumping test rate of 22 L/s, and the aquifer response to higher-capacity pumping is currently unknown.

Expected Wellfield Capacity

- At least: 74 L/s.
- High-capacity testing needed to confirm wellfield capacity & long-term yield.



Proposed Wellfield

TW-5(25)

Wellhead Example

~ 0.6 m

Preliminary Wellfield Design Considerations

- ❑ Production wells: 2.
- ❑ Casing diameter: 400 mm.
- ❑ Well depth: 85 m.
- ❑ Pump station (controls & disinfection) – location TBD.
- ❑ Backup Generator (genset).

Connect to Chapman Water System:
tie-in to existing water main.

Concluding Remarks

- ❑ Expected wellfield capacity of at least 74 L/s.
- ❑ A reasonable assumption, based on the calculated theoretical long-term yield of 187 L/s.
- ❑ High-capacity pumping tests are required to confirm wellfield capacity.
- ❑ Potentially a very productive aquifer at this location.
- ❑ Excellent water quality (meets CDWQG).

Sechelt | shíshálh Hospital Site



Recommendations

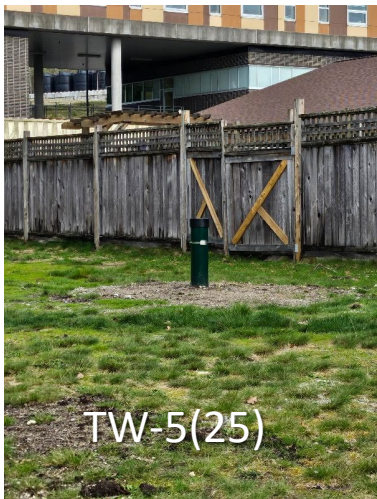
- ❑ Advance to the next phase by drilling two production-sized test wells to facilitate high-capacity pumping tests:
 - ✓ To confirm wellfield capacity, long-term yield, and other considerations (*possible well interference, risk of saltwater intrusion and impact on streams*).
 - ✓ To inform future decisions and provide data for continued engagement with members of shíshálh Nation and VCH, and other stakeholders.

Sechelt | shíshálh Hospital Site



Recommendations (Next Steps)

- ☐ Submit a groundwater licence application for 74 L/s to the Ministry of Water, Land and Resource Stewardship.
- ☐ Design and implement a groundwater monitoring program for TW-5(25) including water quality and groundwater levels.
- ☐ Conduct a Groundwater at Risk of Containing Pathogens (GARP) assessment in support of determining disinfection requirements.
- ☐ Continue engagement with members of shíshálh Nation and Vancouver Coastal Health.





Thank you for your Attention.

Questions?



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Staff Report

Request for Decision

TO: Committee of the Whole – April 10, 2025

AUTHOR: Jesse Waldorf, Manager, Capital Projects
Remko Rosenboom, General Manager, Infrastructure Services

SUBJECT: **Water Supply Plan Feasibility Study Long-Term Ground Water Supply Sources (Groundwater Investigation Phase 5) Update**

OVERVIEW

Purpose of Report:

The purpose of this report is to provide the Board with updated information and options to consider regarding the Water Supply Plan Feasibility Study Long-Term Ground Water Supply Sources (Groundwater Investigation Phase 5) Project and the next steps for the potential development of a new drinking water source. This report requests Board decision to accept, reject, or provide alternate direction with respect to staff's recommendations as presented below.

Recommendation(s):

- 1) THAT the Sunshine Coast Regional District advance engagement with shíshálh Nation and Vancouver Coastal Health, submit a Water License Application, and initiate groundwater monitoring for the Sechelt | shíshálh Hospital test well site;**
 - 2) AND THAT the SCRD enter into an agreement with Vancouver Coastal Health to allow for work on the continued feasibility and potential development of the Sechelt | shíshálh Hospital well;**
 - 3) AND THAT the financial implications associated with further wellfield development at the Sechelt | shíshálh Hospital test well site be presented to the Board at a future Committee;**
 - 4) AND FURTHER THAT staff provide an update on the Strategic Water Supply Expansion Scenarios Analysis to a May 2025 Committee to include the new groundwater and reservoir sources.**
-

BACKGROUND

The Groundwater Investigation Phase 5 Project evaluated options to supplement the Chapman Water System with groundwater to address supply deficits and improve regional resilience, focusing on five sites in the Sechelt area.

In July 2023, the Sunshine Coast Regional District (SCRD) contracted Kalwij Water Dynamics Inc. (KWD) to assess feasibility. At the January 25, 2024 Committee of the Whole meeting, the Board approved drilling at:

- Site 1: Roberts Creek Firehall (RC Firehall)
- Site 2: Airport – Hilltop Road
- Site 3: Kinnikinnick Park
- Site 4: Whitaker Park
- Site 5: Proctor Bike Park

Due to constraints at the original Site 5, the Sechelt | shíshálh Hospital site was selected as an alternate, with support from the shíshálh Nation (sN) and Vancouver Coastal Health (VCH).

Staff from SCRD, the sN, and VCH established a technical working group for the groundwater feasibility study. Preliminary results were shared with sN and VCH technical staff after drilling was completed.

A dedicated Let's Talk page was launched for community updates for this project.

The SCRD is currently evaluating multiple sources for drinking water as outlined in the Strategic Water Supply Expansion Scenarios Analysis report provided in January 2025. An updated version, including the results of the Gray Creek Hydrological Feasibility Study, is being prepared for presentation to a May 2025 Committee of the Whole.

DISCUSSION AND ANALYSIS OF OPTIONS

TEST WELL RESULTS SUMMARY

Five test wells were drilled as part of Phase 5. Only two sites produced sufficient water volumes for pump testing:

Overview of Test Well Drilling Results

Location	Drilling Date	Pumping Test Date	Well Depth (m)	Yield Estimate (L/s)
RC Fire Hall	Sept 2024	-	274	0.95
Airport - Hilltop Road	Sept 2024	Nov 2024	186	4.6*
Kinnikinnick Park	Oct 2024	-	247	1.2
Whitaker Park	Nov 2024	-	195	2.2
Sechelt shíshálh Hospital	Jan 2025	Feb 2025	83	22+*

*Based on a 72-hour pumping test | m = metres; L/s = litres per second

Pumping Test and Water Quality Highlights

- Sechelt | shíshálh Hospital: was the most productive site (22.2 L/s, limited by equipment). Water meets Canadian Drinking Water Quality Guidelines. Only disinfection anticipated, pending VCH confirmation.
- Airport – Hilltop Road: Moderate yield (4.6 L/s). Water exceeds limits for arsenic, fluoride, aluminum, and sulfide.

Due to significantly higher yield and better water quality, staff recommend continuing with feasibility and analysis on only the Sechelt | shíshálh Hospital site as a potential new groundwater source for the Chapman Water System.

Strategic Water Supply Expansion Scenarios Analysis

An updated version of the Strategic Water Supply Expansion Scenarios Analysis, which incorporates the productivity potential of the Sechelt | shíshálh Hospital site, will be brought to the Board once the Gray Creek Hydrological Feasibility Study is complete, anticipated in May 2025. This will also include a high-level analysis of the cost per litre per second for the various additional supply options.

Early findings show the hospital site offers the most promising groundwater yield of all sites tested:

- Expected yield: 74 litres per second (L/s), exceeding the Church Road Wellfield (55 L/s) and matching the proposed Langdale Wellfield (70 L/s).
- Long-term potential: Estimated up to 3 million cubic metres over a six-month drought period.
- Annual contribution: At the current expected yield, the site could supply approximately 1.16 million cubic metres per year.

Development of a wellfield at this site also presents a strategic opportunity for VCH. The infrastructure could be directly connected to the hospital, making it the facility's primary water source during emergencies or supply interruptions in the Chapman system. Further assessment will determine whether the wellfield could also support additional emergency supply areas.

Anticipated Next Phases

To proceed with augmenting the Chapman Water System with the groundwater from the potential wellfield at the Sechelt | shíshálh Hospital site, the following next phases are anticipated.

Phase 1a	Water License Only Phase 1a <ul style="list-style-type: none"> • Seek a Land Use Agreement with VCH. • Submit a Rights and Title Referral to sN. • Water License Application: utilizing the current test well data, prepare and submit a Water License Application, requesting up to 74 L/s. • Continued information sharing and engagement with sN and VCH.
Phase 1b & 1c	Ongoing Feasibility, Analysis Phase 1b <ul style="list-style-type: none"> • Develop and implement a Groundwater Monitoring and Testing Program, to include productivity, long-term yield, water quality, and hydrogeological/environmental impacts. • Drilling of two production sized wells (400 mm). • Conduct a Groundwater at Risk of Containing Pathogens (GARP) assessment in support of determining disinfection requirements. Phase 1c <ul style="list-style-type: none"> • Final design and permitting. • Construction of required infrastructure.
Phase 2	Wellfield Expansion – Water License and Environmental Assessment Certificate <ul style="list-style-type: none"> • Application for Environmental Assessment Certificate. • Submit Rights and Title Referral to sN. • Potential drilling of additional large-diameter production size well(s). • Regulatory requirements related to additional hydrogeological and environmental studies and public engagement. • Preliminary design and engineering for any additional infrastructure. • Final design and amended permitting (including, but not limited to, VCH Permit, Building Permit, and Development Variance Permit). • Construction of connections to existing infrastructure.

OPTION 1 – Advance with the initial steps outlined in Phase 1a: Water License Application, Groundwater Monitoring and Engagement

This option would approve Phase 1a to include the Water License Application, groundwater monitoring of the existing test well, and continued engagement with interested parties including submission of a Rights and Title Referral Application to the sN and initiating discussions with VCH on a Land Use Agreement. Staff recommend moving forward with testing and monitoring as they are best done in the summer which will inform the scope and timelines for the remaining work needed for any possible develop of the wellfield. Phase 1b and C would be subject to further Board approvals including funding decisions as well as approval from the shíshálh Nation and the Province.

Financial Considerations

The financial implications of proceeding with Phase 1a are limited to administrative costs and some additional monitoring. This proposed work could be added as an additional scope to the existing contract with KWD and the associated costs allocated within the existing awarded contract value.

Upon presenting the Gray Creek Project results and the updated Strategic Water Supply Expansion Scenarios Analysis to the Board in May 2025, staff would bring forward a future report on options for the subsequent phases.

Organizational and Intergovernmental Considerations

Staff would be able to advance with the actions recommended in Option 1 (Phase 1a) without any impact to other work priorities.

Throughout this project staff have engaged with the sN, including the drilling program, by providing regular updates and addressing concerns. Active engagement with VCH has occurred since the Sechelt | shíshálh Hospital site was suggested as an alternative test well drilling site. See Attachment A for additional details on the engagement and communication timeline.

As part of further work on this a Land Use Agreement will be required with VCH to support the location of the wells and infrastructure on the Sechelt | shishalh Hospital land.

Staff Recommendation

Staff recommend this option. Should the Committee choose to go with Option 1, a recommendation has been proposed in the Overview section, on page one of this report.

OPTION 2 – Postpone Decision

This option directs staff to take no further action at the Sechelt | shíshálh Hospital Test Well Site until all data from the Gray Creek study and an updated Strategic Water Supply Expansion Scenarios Analysis has been presented to the Board. This delay could impact the timeline for securing an additional water source and may increase costs associated with the remaining phases of the project.

This is not recommended for the following reasons:

- Delay in proceeding with the initial work may delay the future testing beyond the summer season and result in a longer delay.
- There is no additional funding required to continue with the first steps in Option 1.

Financial Considerations

No changes in the budget for the current project are required to proceed with the first four recommended steps of Option 1. The financial implications of proceeding with Option 2 may result in increased costs for any future development that is considered.

Staff Recommendation

Staff do not recommend this option. Should the Committee choose to go with Option 2, a recommendation could be considered, as follows:

THAT the Board reconsider taking further action on the development of new wells on any of the sites assessed as part of the Water Supply Plan Feasibility Study Long-Term Water Supply Sources (Groundwater Investigation Phase 5) Project until data from the Gray Creek study and an updated version of the report titled Strategic Water Supply Expansion Scenarios Analysis have been presented at a future Committee of the Whole meeting.

OPTION 3 – Initiate no further action

This option would have staff conclude the current project and initiate no further actions on the development on any of the test well sites.

Staff Recommendation

Staff do not recommend this option. Should the Committee choose to go with Option 3, a recommendation could be considered, as follows:

THAT staff take no further action on the development of new wells on any of the sites assessed as part of the Water Supply Plan Feasibility Study Long-Term Water Supply Sources (Groundwater Investigation Phase 5) Project.

FINANCIAL IMPLICATIONS

The current contract value with KWD for this project is \$548,355. The Water License Application, groundwater monitoring, and engagement could be funded from the remaining funds available within the existing contract.

Financial summary of current project

Item	Approved Contract Value	Expenditures
Current project scope		\$498,000
Estimate for Water License Application, groundwater monitoring, and continued engagement		\$50,355
Total	\$548,355	\$548,355

Note: Staff propose a Change Order to the contract not to exceed the original value, but to include the first four steps in Phase 1 in the existing scope with KWD.

Based on conversations with the consultant and some very high-level cost estimates, it is anticipated that all activities included in Phase 1 and Phase 2 could be completed for a budget of approximately \$10 million. A refined cost estimate is under development and will be presented to the Board with funding options in May 2025.

Staff would seek grant funding opportunities for the SCRD project and expect VCH will also seek funding for their connection to the source and retrofits needed in the hospital. SCRD staff would engage with VCH and Hospital Board to establish mutual support for grant applications.

LEGISLATIVE IMPLICATIONS

For future planning considerations, the addition of any new buildings or structures on the VCH owned parcel may have Zoning Bylaw implications related to parcel coverage, therefore a Development Variance Permit (DVP) may be required. Staff will work closely with the SCRD Planning Division to ensure all land use requirements are met.

STRATEGIC PLAN IMPLICATIONS

This initiative/proposal can be seen as supporting the Strategic Focus Area of Water Stewardship in the Board's 2023 – 2027 Strategic Plan.

TIMELINE

Following the Boards decision on the recommended options, staff will proceed with the outlined steps in Phase 1 and 2 as directed by the Board. The Strategic Water Supply Expansion Scenarios Analysis and project update for the Gray Creek is planned for Q2 2025. Subsequent decisions on options on financial consideration to proceed with additional test wells for the Sechelt | shíshálh Hospital site.

COMMUNICATIONS

Information will be shared via local media, corporate newsletters, social media, and the SCRD website. Regular updates will continue to be posted to the project's Let's Talk page.

SUMMARY AND CONCLUSION

Five potential test well drilling sites were purposed and investigated showing results of potential high aquifer productivity at the Sechelt | shíshálh Hospital Test Well Site, with an expected wellfield capacity of at least 74 L/s, suitable to be utilized to augment the Chapman Water System. The water quality meets the guidelines for Canadian Drinking Water Quality and it is anticipated that only water disinfection will be required.

Staff recommend proceeding with Option 1a the first four steps of Phase 1. This includes the submission of a Water License Application, groundwater monitoring, and continued engagement with the shíshálh Nation and VCH (including the negotiation of a Land Use Agreement). This work would be funded from the existing Water Supply Plan Feasibility Study Long-Term Groundwater Supply Sources (Groundwater Investigation Phase 5) budget.

ATTACHMENT(S):

Attachment A – Communication Timeline – Groundwater Investigation

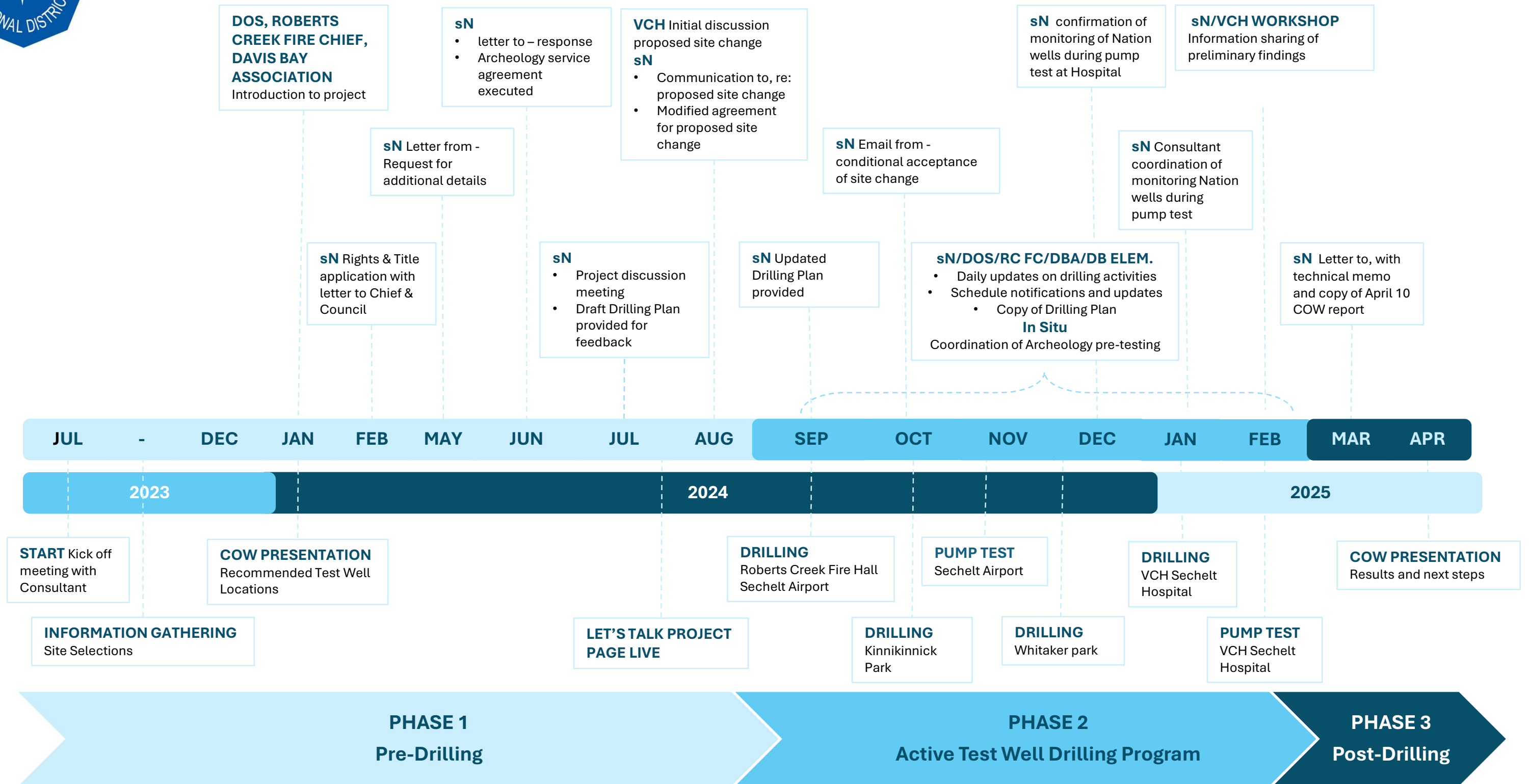
Reviewed by:			
Manager		Finance	X - A. Taylor
GM		Legislative	X – S. Reid
CAO	X – T. Perreault	Other	



COMMUNICATON TIMELINE – GROUNDWATER INVESTIGATION

COMMUNICATION

MILESTONES



VCH – Vancouver Coastal Health
sN – shíshálh Nation

DOS – District of Sechelt
COW – Committee of the Whole

RC FC – Roberts Creek Fire Chief
DBA – Davis Bay Community Association

DB Elem. – Davis Bay Elementary



March 17, 2025

Alton Toth
Board Chair
Sunshine Coast Regional District
alton.toth@scrd.ca

Dear Alton Toth:

I am pleased to inform you that British Columbia Transit (BC Transit) has submitted a successful expression of interest on behalf of your community's transit system under the Baseline Funding stream of the Canada Public Transit Fund (CPTF).

The Baseline Funding stream is an annual envelope of approximately \$500 million that is part of the CPTF. The Sunshine Coast Transit System can benefit from an allocation of up to \$2,233,830 over 10 years beginning in 2026 through BC Transit's Baseline Funding allocation. The allocation from the \$500 million funding envelope was calculated based on a combination of ridership (70 percent) and population (30 percent).

The next steps in the Baseline Funding application process require BC Transit to submit a Capital Plan application and Capital Plan component details. Capital Plan applications will be reviewed and recommended for approval on a rolling basis, ensuring that projects can proceed without potential delays.

Please note that components contained within the Capital Plan application may be subject to environmental assessment and Indigenous consultation requirements, climate resilience, and greenhouse gas assessments. BC Transit will need to work with communities to ensure these requirements are met.

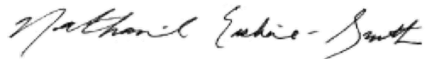
As you may be aware, the 2024 federal budget highlighted that funding through the new CPTF would be conditional on municipalities taking actions that directly unlock housing. This includes the completion of a Housing Needs Assessment for all communities with a population greater than 30,000. I would ask you to work with BC Transit and my staff within Housing, Infrastructure and Communities Canada to ensure that this condition is met.

...2

Thank you for your ongoing partnership and we look forward to continuing our work together to enhance public transit in your communities.

Please accept my best regards.

Sincerely,

A handwritten signature in black ink, reading "Nathaniel Erskine-Smith". The signature is written in a cursive, flowing style.

The Honourable Nathaniel Erskine-Smith, P.C., M.P.
Minister of Housing, Infrastructure and Communities

c.c. Tina Perreault
Chief Administrative Officer – Sunshine Coast Regional District
tina.perreault@scrd.ca