



**INFRASTRUCTURE COMMITTEE MEETING
OF THE VILLAGE OF LIONS BAY
HELD ON TUESDAY, 11 MARCH, 2025 AT 6:00 PM
COUNCIL CHAMBERS, 400 CENTRE ROAD, LIONS BAY
AND VIA ZOOM VIDEO CONFERENCE**

MINUTES

In Attendance : Councillor Neville Abbott (NTA) – Chair
 Mayor Ken Berry (KB)
 Councillor Michael Broughton (MB)
 Committee Member Anthony Greville (ASG)
 Committee Member Brian Ulrich (BU)

Absent with regrets :

Absent : Councillor Jaime Cunliffe (JC)
 Committee Member Mark Ignas (MI)
 Committee Member Hilary Monfared (HM)

Staff : Director of Operations Karl Buhr (DOO)

1. Call to Order

The Chair called the Infrastructure Committee Meeting to order at 18:05 pm.

2. Appointment of Recorder

ASG was appointed recorder this meeting.

3. Approval of the Agenda

Moved/Seconded

THAT the agenda of 11 March, 2025, Infrastructure Committee be adopted as circulated/amended.

Amendment;

CARRIED.

4. Public Questions & Comments

No public comments or delegation were forthcoming.

5. Approval of Minutes

- A. Infrastructure Committee Meeting Minutes – 11 February, 2025
THAT the Infrastructure Committee Meeting Minutes of 11 February, 2025 be approved as circulated.
CARRIED.

6. Business Arising from the Minutes

Snow Pack Accumulations at Palisade Lake – The snow pack continues to be a cause for potential concern and is being properly monitored by all. The DOO made the observation that while snow pack levels are important in planning, the major influence is the amount of rain that falls, and when, during the summer drought months. See notes and graph below.

Training Opportunities – ASG and BU are to meet with the DOO and Staff on Friday 14 March to review the ENSuRe initiative and to determine the best training opportunities and best schedule, including the awarding of CEU for staff.

7. Unfinished Business

24073 – A joint meeting between the I.C. and the A.F.C. did not take place in 2024 prior to the recommendations forwarded to inform the 2025 budget cycle. The I.C. would like to plan such a meeting in September 2025 ahead of the 2026 budget cycle in anticipation that consistent recommendations will be seen as stronger project endorsements.

24113 – A meeting has been scheduled between I.C. members and staff to discuss ENSuRe protocols for Friday 14 March. See the technical notes below.

24114 – A lengthy discussion was undertaken concerning Long Term Water Supply Strategy. For more information, see below under New Business and further below the technical notes.

25011 – Little action was reported during the past month – with the UBCM deadline in May, work needs to be completed in short order. It was requested that NTA, ASG and MI make a full commitment to contact their respective bodies.

8. New Business

- A. **Long Term Water Supply Strategy spreadsheet** – BU presented the revised Long Term Water Strategy Spreadsheet, which included the weightings for each category as suggested by each committee member. There was remarkable consistency in the outcomes, with a pipeline from M.V., well water supply, and a desalination plant universally being the top options. See technical notes below.

9. Public Questions & Comments

No public comments or delegation were forthcoming.

10. Adjournment

Moved/Seconded

THAT the Infrastructure Committee Meeting be adjourned.

CARRIED

The meeting adjourned at 19:33.

11. Next Meeting

Next meeting of the Infrastructure Committee was scheduled for 08 April, 2025.



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Discussion and Background Notes

Contribution by : Anthony Greville (ASG)

Also in attendance : Councillor Neville Abbott (NTA) – Chair
Mayor Ken Berry (KB)
Councillor Michael Broughton (MB)
Committee Member Brian Ulrich (BU)

Absent with regrets :

Absent : Councillor Jaime Cunliffe (JC)
Committee Member Mark Ignas (MI)
Committee Member Hilary Monfared (HM)

Staff : Director of Operations Karl Buhr

Discussion and Background Notes.

Identifier	Description	Responsible	Status
23112	Convene a February I.C. Round Table Meeting to focus on a 10 and 20 year horizon plan to identify the new and replacement infrastructure requirements and related expenses.	NTA/All	

23117	BU will review the SCADA system on behalf of the I.C. and work with the PWM to up-grade the hardware and software. A Requirements Document is anticipated at mid 2024.	BU/PWM	Partial
23121	HM to assist the PWM in preparing REQ/RFP documentation for estimate and work on water main replacement Creekview Place and for the estimate for Highview Place. HM to assist the PWM and CAO in reviewing submissions once received.	HM/PWM	
24073	In light of discussion at the 03 July Finance and Audit Committee Meeting, the documents relating to asset management and asset replacement funding deficiencies need to be up-dated and presented to the F & A C, the CAO and staff and the Village as a whole. This should be an early Fall project for this group.	All	
24081	BU to set up and manage a Google Drive (or similar) to manage the water supply data as it is collected.	BU	
24112	The I.C. should provide direction and support to Staff in order for the Village to prepare an Active Transport Plan. Coordinating same with the Climate Action Committee should be evaluated.	HM	
24113	ASG to work with the DOO and VCH to revise the ENSuRe trigger points and guidelines recommendations.	DOO/ASG	
24114	BU to further up-date the Long Term Water Supply Strategy spreadsheet to separate out CAPX and OPX costs for each raw water source/treatment option to assist in the evaluation process.	BU	✓
25011	NTA, ASG and MI to contact to contact various groups/associations they believe may support Lions Bay in advocating/petitioning higher levels of Governments to inventory portable potable WTP to use should raw water supplies become contaminated as a consequence of forest fires in their watersheds.	NTA/ASG/MI	
25031	An action step resulting from the Long Term Water Supply Strategy discussions, is the I.C. is to work with staff to put forward a recommendation to Council outlining the preferred steps to determine if well water has sufficient supply, recharge capacity and quality to be considered a viable option as a water source for peak shaving application.		
25032	ASG to prepare a training package for staff relating to UVT, chlorine dosage and distribution system residual, disinfection, required Ct, and water storage times as they relate to the ENSuRe protocol (Fall 2025).	DOO/ASG/BU	

25033	ASG to review the options for VoLB to purchase a bench top pH meter. Include standard calibration buffer solutions and an option for magnetic stir bar mixing.	ASG	
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NOTES:

Long Term Water Supply Strategy – BU presented the revised Long Term Water Strategy Spreadsheet, which included the weightings for each category as suggested by each committee member. There was remarkable consistency in the outcomes, with a pipeline from M.V., well water supply, and a desalination plant universally being the top options.

The parameters were that demand is still almost twice what it should be on a per capita basis, but can be considered at least “under control”. Supply is the variable, and it can be influenced by the effects of climate change, geomorphic adjustments (“pinching off the creek water”) and forest fires. Losing total supply due to geomorphic effects is very unlikely, and cannot really be predicted. Climate change is happening, and over time will have an effect, but equally, over time mitigation measures can be put in place. We have already lowered demand somewhat, and increased supply through ASAP. Other measures can be anticipated, such as water metering and wells. Losing water quality (but not quantity) due to forest fires is the most immediate threat to our water supply.

When considering the options, it was acknowledged that further short term strategies are required to bring demand down to 400 lpppd. If this can be accomplished, then the best long term strategy is not total replacement of the water supply, but rather a peak shaving and supply enhancement option. Therefore, the most expensive and difficult option, a pipeline from Metro Vancouver’s SCFP facility was determined to be beyond the scope for the Village for the immediate future.

The peak shaving alternatives are introducing well water or desalination. Desalination is expensive to install and operate, and there are significant issues with the concentrated brine disposal. Desalination does, however, offer an unlimited supply of water (at least for VoLB needs) and land has been purchased by the Village which could be used for a desalination plant at some point in the future.

Activating wells could offer an immediate limited supply for the peak shaving function, and will have an added advantage that well water would not be subject to the quality fluctuations consequent to a forest fire. It is likely there would not be sufficient well water available to supply the entire Village water requirement, but, when combined with the spring like Alberta Creek water source, there may be enough supply for the “necessities of life”.

The main drawbacks associated with wells at this time is that we do not know where to drill, how much water might be available, recharge rate, and most significantly the quality of the water in any well. There is a 2005 (so 20 years old) report from Piteau Associates that offers some insight, especially with respect to potential aquifer locations and cautions surrounding dissolved metals concentrations. 20 years ago, it was suggested that drilling and testing wells in the Lions Bay bedrock would cost between \$109,000 and \$181,000, and would be between 100 m – 140 m deep.

Notwithstanding the above, it was felt that wells should be investigated further, especially due to their resiliency to the effects of forest fire. Unfortunately, the option of piggybacking on a well used for geothermal heating at the community complex has not materialized, so any test wells will have to be specific to water supply. It had been hoped that should a well be dug within the Village boundaries, at least the potential water quality could be analyzed.

The action step left with the I.C. is to put together a meaningful recommendation to Council and staff with respect to drilling at least one test well at an elevation higher than the water treatment plants to determine the volume of water present, flow rate, recharge rate, and its quality. There might be significant costs associated with site preparation, electrical energy supply, and ultimately drilling 150 m through bed rock; and there is the very real risk no water would be found at all, or that it is of such poor quality it cannot be used without significant treatment protocols and expenditures. Careful consideration needs to be included in any such recommendation.

ENSuRe Protocol and Staff Training – As previously discussed, the ENSuRe protocol needs to be put in place to prevent “off spec water” from entering the water treatment intakes and plants. Recent developments include adjustments to the UV lamp operating protocols, new external UVT metering at the raw water in-takes, distribution system in-line chlorine residual monitoring, and other management protocols. Consequently, the ENSuRe trigger protocols have become more sophisticated, but also far more meaningful and robust.

To this end, ASG and BU are to meet with the DOO and staff on Friday 14 March, 2025 to begin the process of writing an ENSuRe trigger protocol. As an initial request, the DOO asked that a recommendation be forwarded to his office in regards to purchasing a bench top pH meter for the PWY laboratory.

Snow Pack Accumulations at Palisade Lake – The snow pack level at Palisade Lake continues to be a cause for concern, although the situation has improved with some early March snow. The B.C. Government *Snow Water Equivalent at B.C. Automated Snow Weather Stations, expressed as Percent of Period-of-Record Median* indicated Palisade Lake was at 13% of normal on 01 March, and still only at 36% of normal for 15 March. Maybe of more significance, the snow pack for this year is below that of last year, which was, in itself, a record low year. Please see the graph below, dated to 19 March.

Lions Bay water demand for 10 March was 370,000 usg, or 1,400,500 L, or 1,000 lpppd. For the month of February, the integrated average demand was shown to be 560 lpppd. This consumption rate is unsustainable, especially when the snow pack is so low. While the one day demand on 10 March is not good, overall the February average, while still high, is an improvement on the average 800 lpppd demand seen in early 2024, prior to the “leak blitz” by the PWD.

Council and Staff members confirmed that investigating all potential water leaks, identifying the exact location, and either repairing, or requiring the property owner to repair, the leak remains a high priority of staff and will continue throughout 2025.



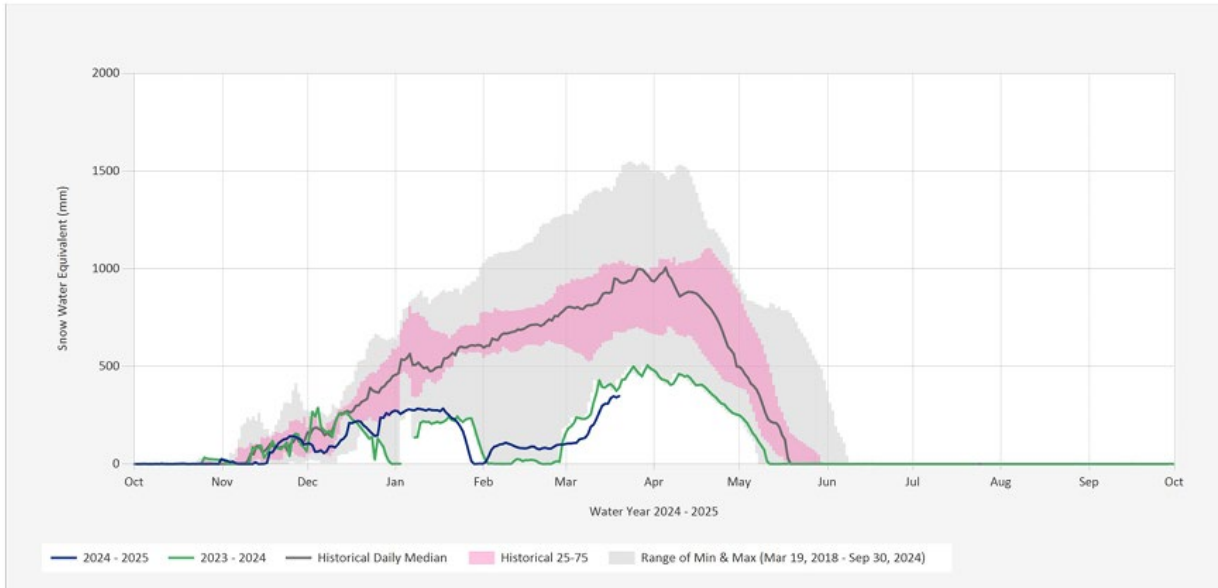
Automated Snow Weather Station Graph

Snow.3A09P.Automated Snow Weather Station Graph

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Source Data: SW.Daily@3A09P

Location: Palisade Lake, Latitude: 49.454444, Longitude: -123.031944, Elevation: : 900 m



Statistics are based on the period of record prior to the current Water Year
Statistics are only displayed for locations with at least two years of data
Automated Snow Weather Station Graph is only available for Active locations

Data last appended: March 19, 2025 16:00 UTC+00:00

Status: Active