



**INFRASTRUCTURE COMMITTEE MEETING
OF THE VILLAGE OF LIONS BAY
HELD ON TUESDAY, JANUARY 14, 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) – left the meeting at 18:35 pm.
 Committee Member Anthony Greville (ASG)
 Committee Member Mark Ignas (MI)
 Committee Member Hilary Monfared (HM)
 Committee Member Brian Ulrich (BU)

Absent with regrets :

Absent : Councillor Jaime Cunliffe (JC)

Staff : Director of Operations Karl Buhr (DOO)

1. Call to Order

The Chair called the Infrastructure Committee Meeting to order at 18:02 pm.

2. Appointment of Recorder

ASG was appointed recorder this meeting.

3. Approval of the Agenda

Moved/Seconded

THAT the agenda of Tuesday 14, 2025, Infrastructure Committee be adopted as amended.

Amendment; Add Section 5.1 Councillor Abbott Comments

 Add Section 6.1 – DOO Buhr Comments

CARRIED.

4. Public Questions & Comments

- A. Resident Karen Dyer asked if there would be any discussion on the recent landslides and if the I.C. had been asked to conduct a technical review and offer recommendations to Council.

NTA responded; at the current time this subject is still considered to be a Council and Staff matter, and as of yet, nothing has been requested of the I.C. It was also noted that the I.C. has not discussed land stability within Lions Bay as there is no subject matter expertise on the Committee, nor has the I.C. been asked to offer comment/recommendation to Council since the Committee's inception in 2011.

5. Approval of Minutes

- A. Infrastructure Committee Meeting Minutes – November 13, 2024
THAT the Infrastructure Committee Meeting Minutes of November 13, 2024 be approved as circulated.

CARRIED.

- B. Infrastructure Committee Meeting Minutes – November 28, 2024
THAT the Infrastructure Committee Meeting Minutes of November 28, 2024 be approved as circulated. Two minor changes (non substantive) were requested, which received unanimous agreement.

CARRIED.

6. Business Arising from the Minutes

Universal Water Metering – The DOO reported that a grant application/request for \$4.8 M (out of a pool of \$50 M) will be submitted on or about 16 January. The closing date for applications is 31 January. See below for further notes.

Portable Potable Water Treatment Plant – NTA reported he does not feel any L.B. motion to request the Province inventory portable potable WTP will receive much support at the LMLGA Conference in May as most of these municipalities have filtration systems or get water from Metro and would be unaffected. The Committee agreed we should target the UCBM and look for municipalities or regional districts in other local government associations to join in with L.B. We should also reach out to other organisations that could be supporters such as First Nations Emergency Services Society (FNESS), First Nation Health Authority (FNHA), the ISC Circuit Rider programme were some suggestions. See notes section for other options and further details.

Bridge End Corrosion Analysis – DOO Buhr reported the planned December inspection of three bridge ends had not occurred, however, it has been rescheduled for late January. The DOO repeated the position of the Ministry of Transportation and Transit (MOTT) Inspector that water pooling (especially salt brine) has caused surface corrosion of the steel support bars at the bridge ends and it is believed this is only surface corrosion and not full weakening of said supports.

7. Unfinished Business

23112 – No action has been taken with this action step in over a year. However, it was agreed that long term planning beyond the end of the current Council term is essential, and this item must remain on the "To Do List".

23117 – There is little to report in terms of I.C. activity, however, much has happened at the PWD level. See 24113 and the Notes below.

23121 – No action so far; this project is determined by the Village budget approval process.

24044 – This item is now complete, especially as raw water flow is now known and 2025 is not currently (but things can change) considered to be a low snow pack year.

24073 – To be combined with 24081, so considered complete.

24072 – No action to date; however some level of coordination between the FAC and the I.C. is still deemed to be beneficial to the Village and should occur prior to the 2026 budget cycle.

24081 – Still an on-going project, and has been combined with 24072.

24111 – This Action step is now complete and has been superseded by 24114..

24112 – The grant has closed, and Lions Bay did not apply. It was agreed that Lions Bay does require a valid Transportation Action Plan. See below for further potential Action Steps.

24113 – This Action Step ties in with 23117. With the installation of a UVT meter at the Magnesia Creek in-take, this action step is still very much active. The DOO's comment was "coming, but not today"!

24114 – The Lions Bay Long Term Water Supply Strategy spreadsheet has been up-dated in terms of weightings, but still requires the CAPX and OPX inserts – an on-going project. The next step is for review and analysis and follow up work before preparing a recommendation for Council. Once the 2025/6 I.C. Mandate is understood, this work can continue.

24114 – This item is complete and a budget recommendation for treated water pH adjustment has been included in the 2025 Village CAPX budget request from the PWD.

8. New Business

A. pH Adjustment to the potable water supply.

NTA noticed that the pH Adjustment recommendation/request in the upcoming Council discussion paper had dropped down a priority category. NTA committed to bringing this change up at the forthcoming Council Meeting and reinstating pH adjustment as a top priority item.

B. CUBB.3 Project.

The DOO has requested input from the I.C. at to Materials of Construction should the CUBB.3 Project receive approval from Council. See below for further notes.

9. Public Questions & Comments

- A. Resident Marek Sredzki asked a question about any potential operational cost increases in the water budget should universal metering be instituted. Mr. Sredzki also asked about potential cost increases to the property owners after water meters are in place.

The DOO explained the operational cost expectations, confirming that any cost increases will be offset by the savings realized from reduced leak detection expenses.

There was further discussion about achievements of the leak detection program to date and expectation into 2025 and beyond. For further explanation of these topics see detailed notes.

10. Adjournment

Moved/Seconded

THAT the Infrastructure Committee Meeting be adjourned.

CARRIED

The meeting adjourned at 19:54.

11. Next Meeting

Next meeting of the Infrastructure Committee was scheduled for February 11 2025.



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Discussion and Background Notes

Contributions by : Anthony Greville (ASG)

Also in attendance : Councillor Neville Abbott (NTA) – Chair
Mayor Ken Berry (KB)
Councillor Michael Broughton (MB) – left the meeting at 18:35 pm.
Committee Member Mark Ignas (MI)
Committee Member Hilary Monfared (HM)
Committee Member Brian Ulrich (BU)

Absent with regrets :

Absent : Councillor Jaime Cunliffe (IC)

Staff : Director of Operations Karl Buhr (DOO)

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	
24044	NTA to contact Staff to gain access to the 2015 water supply and tank fill time data and analysis and allow for joint review of improved real time data in 2024.	NTA	✓
24072	BU requested that all water quantity and quality reports (Wells, water analyses etc.) be forwarded to him so a library, with everything in one place, can be maintained.	All	✓
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	
24111	Committee Members to review the Lions Bay Long Term Water Supply Strategy spreadsheet and provide any weighting adjustments to BU.	All	✓
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	
24121	ASG to source a quotation for the installation of a sodium hydroxide feed system suitable for pH adjustment (corrosion control) in the two water distribution systems.	ASG	✓
25011	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 fo forest fires in their watersheds.	ASG/MI	

NOTES:

Universal Water Metering – The B.C. Government has opened a \$50 M grant to examine the benefits of water metering. Lions Bay is the only Lower Mainland Municipality likely to apply, and is of “the perfect size” for the evaluation process. As a cost of \$6 K per meter (and averaged price) which is higher than a previous budget estimate figure, L.B. will be submitting a request for \$4.8 M in support of a fully funded universal metering programme. In addition to installing of the meters, the grant application highlights several other benefits, including WTP effluent metering at the plants, zone metering, and overnight system wide pressure reduction to lower water leak volumes. To assist in the water metering evaluations, the grants is requesting 50% electro magnetic flow meters (mag meters) and 50% pressure transducers. The application is expected to be submitted on 16 January, ahead of the 31 January deadline.

The DOO clarified the anticipated operational costs associated with water metering, battery replacements after 15 – 20 years (the meter hardware has an extended life and does not require replacement after 10 years, as had been previously reported) and the administration related costs of preparing and issuing quarterly invoices to the property owners. The DOO believes these cost increases will be readily offset by the savings realized by significantly reducing the labour requirements for leak detection (currently 2 operators required to find a leak).

As for long term billing costs to residents, the DOO reported the current council rejected the proposed Bylaw outlining the case for volume-based billing, for which will need to be revisited.

It is generally agreed by all at the I.C., that the primary advantage of water metering in LB is to quickly identify any leaks (public or private) in order to ensure consumer demand is at expected levels during the low raw water supply flow summer months.

It was further commented that water demand flow for the 13 January 2025 was 200,000 usg, opposite the nearly 400,000 usg last January (a 50% reduction in demand) and during the peak summer demand season in 2024, demand was 400,000 usg, not the 700,000 usg of previous years. This reduction in demand is mainly due to leak detection and repair, and this initiative must continue. Water metering is a key component of this initiative, as after the 2015 drought year, demand was low for 2016, and then increased back up to unacceptable levels withing 3 years

Portable Potable Water Treatment Plant – It was suggested that no other Lower Mainland Municipality would likely support a portable potable water treatment plant inventory by the B.C. Government since all other municipalities either purchase filtered water from M.V.’s SCFP supply, or treat their own water (membrane filtration in Abbotsford etc.) To that end, a presentation to the LMLGA Conference would likely not achieve the desired result.

Other bodies that might support our initiative would include the ISC Circuit Rider members, and First Nation Health Authority (FNHA - <https://www.fnha.ca/what-we-do/environmental-health/drinking-water-safety-program>), and the First Nations Emergency Services Society (FNESS). Upon reflection, the smaller communities on Vancouver Island and the Southern Interior of B.C. could be contacted through their associations, including B.C. Small Water Systems, The Coastal Water Suppliers Association (CWSA – Vancouver Island) and The Water Supply Association of British Columbia, representing southern and central B.C. Interestingly, Ray Crampton of the Ministry of Forests spoke at the October 2024 WSABC AGM at Sun Peaks.

At our next meeting all possible groups should be identified, and responsibility to contact same should be assigned throughout the Committee.

SCADA, UVT and ENSuRe – A \$23 K UVT analyzer has been installed at the Magnesia Creek Intake, well above the plant. The objective is for water that does not meet the UVT parameters to be rejected at the intake, and not accumulate in either the lines to the plant or with the reservoirs after treatment.

Of note; the UVT set point for the reactor lamps is defined at 90% UVT, while the programming was set at 80%! Should the reactors be set to 90%, there will be a need to increase lamp intensity, and also such a change will result in increased raw water being rejected. The right thing to do!

Also of note; the UV dosage has been set at 26.25 mJ/cm². The normally acceptable dosage for UV radiation in a drinking water setting is 40 mJ/cm². The DOO has asked for input from Committee Members in setting the proper operational parameters and writing a SCADA control protocol. This also ties in with the ENSuRe project. This overall project should be complete once the hardware is fully functional, but before the summer high demand season.

Further input from the I.C. has been requested to review the recent 12 hour E.Coli spike on Harvey Creek (all tied in with UVT and Chlorine residual). So far, the chlorine analyzer at the K.G. WWTP has provided reliable information, and shows perhaps marginally low chlorine residual concentrations. Most certainly this meter can assist with chlorine additions at the treatment plants. Two more chlorine analyzers are planned; one for the end of Lions Bay Avenue and one for Brunswick Beach.

The I.C. can assist the Village in understanding the information provided from both the UVT analyzers and the chlorine residual analyzers, setting up the process control loops, for both and ENSuRe and assisting with SCADA.

Plenty to do to assist the Village PWD over the next 6 months.

Active Transport Plan – It was reported that Lions Bay had not submitted an application for full funding for an Active Transport Plan. It was confirmed that such a plan would be very useful, especially as parking, public transport and general overcrowding on weekends is a significant concern within the Village. Any future density increases will most certainly have to have a full transportation plan in place before ground is broken.

It was reported that for smaller communities such as Lions Bay, full funding for such a plan can frequently be 100%. The Village must be vigilant in looking for all future funding opportunities for an Active Transportation Plan.

CUBB.3 Project - The DOO requested input in terms of materials of construction should the CUBB.3 Project be approved by Council. The connections either end of the section requiring replacement are ductile iron. An initial comment from the majority was HDPE was likely the best choice, although C-PVC should not be discounted as its selection might offer some cost savings. The I.C. can provide assistance as and when required.

HDPE pipes are highly resistant to chemical and environmental corrosion, making them suitable for use in aggressive soil and water conditions. HDPE is more flexible allowing for large radius bends to be installed without connection fittings, but it requires specialized equipment and training for fusing (heat welded connections). Small diameter thin wall (large DR rating #) pipe can be supplied in rolls, but for this project the 150 mm diameter pipe will be supplied in lengths, fused together on site before being placed in the trench.

PVC piping is rigid and requires cemented fittings (glued couplings & bends) for all changes in direction or joining lengths together. This methodology is well understood, and most civil or plumbing contractors are qualified to do these installations.

Chlorinated treated water can be successfully transferred through C-PVC pipes. C-PVC delivers superior resistance to degradation and provides a long service lifespan when compared to either PEX or PVC.