

**METRO VANCOUVER REGIONAL DISTRICT
WATER COMMITTEE**

MEETING

Wednesday, November 8, 2023

9:00 am

**Meeting conducted electronically/in-person pursuant to the Procedure Bylaw
28th Floor Boardroom, 4515 Central Boulevard, Burnaby, British Columbia**

Webstream available at <http://www.metrovancover.org>

A G E N D A¹

1. ADOPTION OF THE AGENDA

1.1 November 8, 2023 Meeting Agenda

That the Water Committee adopt the agenda for its meeting scheduled for November 8, 2023 as circulated.

2. ADOPTION OF THE MINUTES

2.1 October 11, 2023 Meeting Minutes

That the Water Committee adopt the minutes of its meeting held October 11, 2023 as circulated.

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3. DELEGATIONS

4. INVITED PRESENTATIONS

5. REPORTS FROM COMMITTEE OR STAFF

5.1 Summer 2023 Water Supply Performance

That the Water Committee receive for information the report dated October 30, 2023, titled "Summer 2023 Water Supply Performance".

pg. 8

5.2 2023 Water Communications and Public Outreach Results

That the Water Committee receive for information the report dated October 26, 2023, titled "2023 Water Communications and Public Outreach Results".

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¹ Note: Recommendation is shown under each item, where applicable.

- 5.3 GVWD Capital Program Expenditure Update to September 30, 2023** *pg. 21*
That the Water Committee receive for information the report dated October 26, 2023, titled “GVWD Capital Program Expenditure Update to September 30, 2023”.
- 5.4 Kennedy Newton Main Phase 3 - Scott Road Section Completion Report** *pg. 33*
That the Water Committee receive for information the report dated October 16, 2023, titled “Kennedy Newton Main Phase 3 – Scott Road Section Completion Report”.
- 5.5 Corrosion Control Program: Copper Pipes Protection Monitoring Update** *pg. 38*
That the Water Committee receive for information the report dated October 24, 2023, titled “Corrosion Control Program: Copper Pipes Protection Monitoring Update”.
- 5.6 Manager’s Report** *pg. 47*
That the Water Committee receive for information the report dated October 27, 2023, titled “Manager’s Report”.
- 6. INFORMATION ITEMS**
- 6.1 Tree Management on Metro Vancouver Lands – Revised Board Policy** *pg. 50*
- 7. OTHER BUSINESS**
- 8. BUSINESS ARISING FROM DELEGATIONS**
- 9. RESOLUTION TO CLOSE MEETING**
That the Water Committee close its meeting scheduled for November 8, 2023 pursuant to section 226 (1) (a) of the Local Government Act and the Community Charter provisions as follows:
90 (1) A part of a council meeting may be closed to the public if the subject matter being considered relates to or is one or more of the following:
(e) the acquisition, disposition or expropriation of land or improvements, if the council considers that disclosure could reasonably be expected to harm the interests of the municipality.
- 10. ADJOURNMENT/CONCLUSION**
That the Water Committee adjourn/conclude its meeting of November 8, 2023.

Membership:

Brodie, Malcolm (C) – Richmond	Cassidy, Laura – Scə́waθən məsteyəx™ (Tsawwassen First Nation)	Little, Mike – North Vancouver District
Sager, Mark (VC) – West Vancouver	Guichon, Alicia – Delta	MacDonald, Nicole – Pitt Meadows
Albrecht, Paul – Langley City	Hodge, Craig – Coquitlam	Stutt, Rob – Surrey
Bell, Don – North Vancouver City	Keithley, Joe – Burnaby	vanPopta, Misty – Langley Township
Bligh, Rebecca – Vancouver		

**METRO VANCOUVER REGIONAL DISTRICT
WATER COMMITTEE**

Minutes of the Regular Meeting of the Metro Vancouver Regional District (MVRD) Water Committee held at 9:01 am on Wednesday, October 11, 2023 in the 28th Floor Boardroom, 4515 Central Boulevard, Burnaby, British Columbia.

MEMBERS PRESENT:

Chair, Mayor Malcolm Brodie*, Richmond
Vice Chair, Mayor Mark Sager*, West Vancouver
Councillor Paul Albrecht*, Langley City
Councillor Don Bell*, North Vancouver City
Councillor Rebecca Bligh*, Vancouver (departed at 9:34 am)
Chief Laura Cassidy*, scəwáθən məsteyəx^w (Tsawwassen First Nation)
Councillor Craig Hodge*, Coquitlam (arrived at 9:03 am)
Councillor Joe Keithley*, Burnaby
Mayor Mike Little*, North Vancouver District (arrived at 9:02 am)
Mayor Nicole MacDonald*, Pitt Meadows
Councillor Rob Stutt, Surrey
Councillor Misty vanPopta*, Langley Township

MEMBERS ABSENT:

Councillor Alicia Guichon, Delta

STAFF PRESENT:

Jerry W. Dobrovolny, Chief Administrative Officer
Marilyn Towill, General Manager, Water Services
Rapinder Khaira, Legislative Services Coordinator, Board and Information Services

1. ADOPTION OF THE AGENDA

1.1 October 11, 2023 Meeting Agenda

It was MOVED and SECONDED

That the Water Committee adopt the agenda for its meeting scheduled for October 11, 2023 as circulated.

CARRIED

*denotes electronic meeting participation as authorized by the *Procedure Bylaw*

2. ADOPTION OF THE MINUTES

2.1 September 13, 2023 Meeting Minutes

It was MOVED and SECONDED

That the Water Committee adopt the minutes of its meeting held September 13, 2023 as circulated.

CARRIED

9:02 am Mayor Little arrived at the meeting.

3. DELEGATIONS

No items presented.

4. INVITED PRESENTATIONS

No items presented.

5. REPORTS FROM COMMITTEE OR STAFF

5.1 2024 - 2028 Financial Plan Overview

Jerry W. Dobrovolny, Commissioner/Chief Administrative Officer and Harji Varn, Chief Finance Officer/General Manager, Financial Services, presented members with an overview of the 2024 – 2028 Financial Plan, including the 2024 budget cycle timeline, its major cost drivers, and the overall household impact.

9:03 am Councillor Hodge arrived at the meeting.

Presentation material titled “2024 – 2028 Financial Plan Overview” is retained with the October 11, 2023 Water Committee agenda.

It was MOVED and SECONDED

That the Water Committee receive for information the presentation titled “2024 – 2028 Financial Plan Overview” by Jerry W. Dobrovolny, Commissioner/Chief Administrative Officer and Harji Varn, Chief Finance Officer/General Manager, Financial Services.

CARRIED

5.2 2024 – 2028 Financial Plan - Water Services

Report dated October 4, 2023, from Marilyn Towill, General Manager, Water Services, presenting the Water Committee with the 2024 – 2028 Financial Plan for Water Services for consideration.

Members were provided with an overview of the 2024 – 2028 Financial Plan for Metro Vancouver’s Water Services, including a breakdown of the 2024 operating budget, capital budget, and funding sources.

9:34 am Councilor Bligh departed the meeting.

Presentation material titled “2024 -2028 Financial Plan – Water Services” is retained with the October 11, 2023 Water Committee agenda.

It was MOVED and SECONDED

That the Water Committee endorse the 2024 - 2028 Financial Plan for Water Services as presented in the report dated October 4, 2023, titled “2024 - 2028 Financial Plan – Water Services”, and forward it to the Metro Vancouver Board Budget Workshop on October 20, 2023 for consideration.

CARRIED

5.3 Development Cost Charge Engagement Update and Proposed Bylaws

Report dated October 5, 2023, from Sonu Kailley, Acting Director, Financial Planning, Financial Services, forwarding the Water Committee the Development Cost Charge Engagement Update and Proposed Rate Bylaws report, being presented at the Finance Committee on October 12, 2023, for information.

Members were provided with an overview on the Board direction on Development Cost Charges (DCCs); project capital expenditures for Water, Liquid Waste, and Regional Parks; DCC engagement feedback; the importance of the growth-pays-for-growth principle; and proposed rates for DCCs.

Presentation material titled “Development Cost Charge Review Process and Rate Bylaw” is retained with the October 11, 2023 Water Committee agenda.

It was MOVED and SECONDED

That the Water Committee receive for information the report dated October 5, 2023, titled “Development Cost Charge Engagement Update and Proposed Rate Bylaws”.

CARRIED

5.4 Seymour Salmonid Society - Contribution Agreement Renewal 2024 - 2026

Report dated September 14, 2023, from Jesse Montgomery, Division Manager, Environmental Management, Water Services, seeking GVWD Board authorization for the renewal of the Contribution Agreement with the Seymour Salmonid Society for a three-year term.

It was MOVED and SECONDED

That the GVWD Board approve the renewal of the Contribution Agreement between the Greater Vancouver Water District and the Seymour Salmonid Society for a three-year term, and annual contribution amounts of \$153,500 (2024), \$156,500 (2025), and \$160,000 (2026), commencing on January 1, 2024 and ending on December 31, 2026.

CARRIED

5.5 Stanley Park Water Supply Tunnel – Stage Gate 3 Report

Report dated September 28, 2023, from Murray Gant, Director, Major Projects, Project Delivery, seeking GVWD Board approval for the Stanley Park Water Supply Tunnel to advance to construction (Stage Gate 3), and providing a progress update on project work done to date.

It was MOVED and SECONDED

That the GVWD Board approve the Stanley Park Water Supply Tunnel advancing to Construction (Stage Gate 3), as described in the report dated September 28, 2023, titled “Stanley Park Water Supply Tunnel – Stage Gate 3 Report”.

CARRIED

5.6 Award of Phase C2 Construction Consulting Engineering Services from RFP No. 16-151 Consulting Engineering Services - Backup Power for Capilano Raw Water Pump Station and Westburnco Pump Stations No. 1 and 2

Report dated September 28, 2023, from George Kavouras, Director, Procurement and Hein Steunenber, Division Manager, Engineering and Construction Treatment and Facilities, Water Services, seeking GVWD Board approval of the award of Phase C2 Construction Consulting Engineering Services from RFP No. 16-151 for Consulting Engineering Services - Backup Power for Capilano Raw Water Pump Station and Westburnco Pump Stations No. 1 and 2 to WSP Canada Inc.

It was MOVED and SECONDED

That the GVWD Board:

- a) approve the award of Phase C2 Construction Consulting Engineering Services from RFP No. 16-151 for Consulting Engineering Services – Backup Power for Capilano Raw Water Pump Station and Westburnco Pump Stations No. 1 and 2, in the amount of up to \$3,577,012 (exclusive of taxes) to WSP Canada Inc., subject to final review by the Commissioner; and
- b) authorize the Commissioner and the Corporate Officer to execute the required documentation once the Commissioner is satisfied that the award should proceed.

CARRIED

5.7 Award of RFP No. 22-514 - Coquitlam Lake Water Supply Project - Project Definition Phase 2 - Geotechnical Investigations

Report dated September 28, 2023, from George Kavouras, Director, Procurement and Real Estate Services and Bob Cheng, Director, Major Projects, Project Delivery, seeking GVWD Board approval of the award of RFP No. 22-514 Coquitlam Lake Water Supply Project – Project Definition Phase 2 – Geotechnical Investigations to WSP Canada Inc.

It was MOVED and SECONDED

That the GVWD Board:

- a) approve award of RFP No. 22-514 Coquitlam Lake Water Supply Project – Project Definition Phase 2 – Geotechnical Investigations, in the amount of up to \$9,260,414 (exclusive of taxes) to WSP Canada Inc., subject to final review by the Commissioner; and
- b) authorize the Commissioner and the Corporate Officer to execute the required documentation once the Commissioner is satisfied that the award should proceed.

CARRIED

5.8 Manager’s Report

Report dated October 3, 2023, from Marilyn Towill, General Manager, Water Services, providing the Water Committee with an update on the recovery costs incurred by Metro Vancouver for Interagency Projects, in accordance with Metro Vancouver Utilities Cost and Charges rate schedule, and the Water Committee 2023 Work Plan.

It was MOVED and SECONDED

That the Water Committee receive for information the report dated October 3, 2023, titled “Manager’s Report”.

CARRIED

6. INFORMATION ITEMS

No items presented.

7. OTHER BUSINESS

No items presented.

8. BUSINESS ARISING FROM DELEGATIONS

No items presented.

9. RESOLUTION TO CLOSE MEETING

No items presented.

10. ADJOURNMENT/CONCLUSION

It was MOVED and SECONDED

That the Water Committee conclude its regular meeting of October 11, 2023.

CARRIED

(Time: 10:09 am)

Rapinder Khaira,
Legislative Services Coordinator
63074722 FINAL

Malcolm Brodie,
Chair

To: Water Committee

From: Linda Parkinson, Director, Planning Policy and Analysis, Water Services
Paul Kohl, Director, Operations and Maintenance, Water Services

Date: October 30, 2023 Meeting Date: November 8, 2023

Subject: **Summer 2023 Water Supply Performance**

RECOMMENDATION

That the Water Committee receive for information the report dated October 30, 2023, titled “Summer 2023 Water Supply Performance”.

EXECUTIVE SUMMARY

The water supply system performed well during the high demand season of 2023 despite the challenges imposed by the significant summer drought. Stage 1 of the Drinking Water Conservation Plan was activated on May 1, 2023 and Stage 2 was implemented on August 4 due to the mid-season long range weather forecast indicating a high likelihood of a continued drought into the fall together with the sustained higher daily demands from May to July. While there were observed reductions in drinking water demands through August and September, the regional data implies that lawn watering was still occurring despite being banned in Stage 2 and that with increased education, enforcement, and progress in universal metering across the region, additional reductions are achievable. The success of water conservation measures will continue to be an essential factor in determining the need for and timing of future system expansion.

PURPOSE

To provide the Water Committee with an overview of water use and water supply system performance during the high demand season (May 1 to October 15) of 2023.

BACKGROUND

Stage 1 of the Drinking Water Conservation Plan (DWCP) was automatically activated on May 1, 2023. The report titled “Water Supply Update for Summer 2023” provided to the Water Committee at the May 17, 2023 meeting included a summary of the state of source water supply, past trends in water use, and an update on plans for operating the source reservoirs and water system during the high demand season.

Stage 2 of the DWCP was activated by the GVWD Commissioner on August 4, 2023 and a report titled “Water Supply Update – Stage 2” was provided at the September 13, 2023 Water Committee meeting. The report provided a summary of the demand trends and the status of available storage in the region’s source reservoirs, based on data available to the end of August 2023.

As per the Committee's 2023 Work Plan, this report provides an overview of the performance of the regional water supply system during the high demand season of 2023. This report is based on data available for the entire high demand season, May 1 to October 15, 2023.

RESERVOIR STORAGE LEVELS

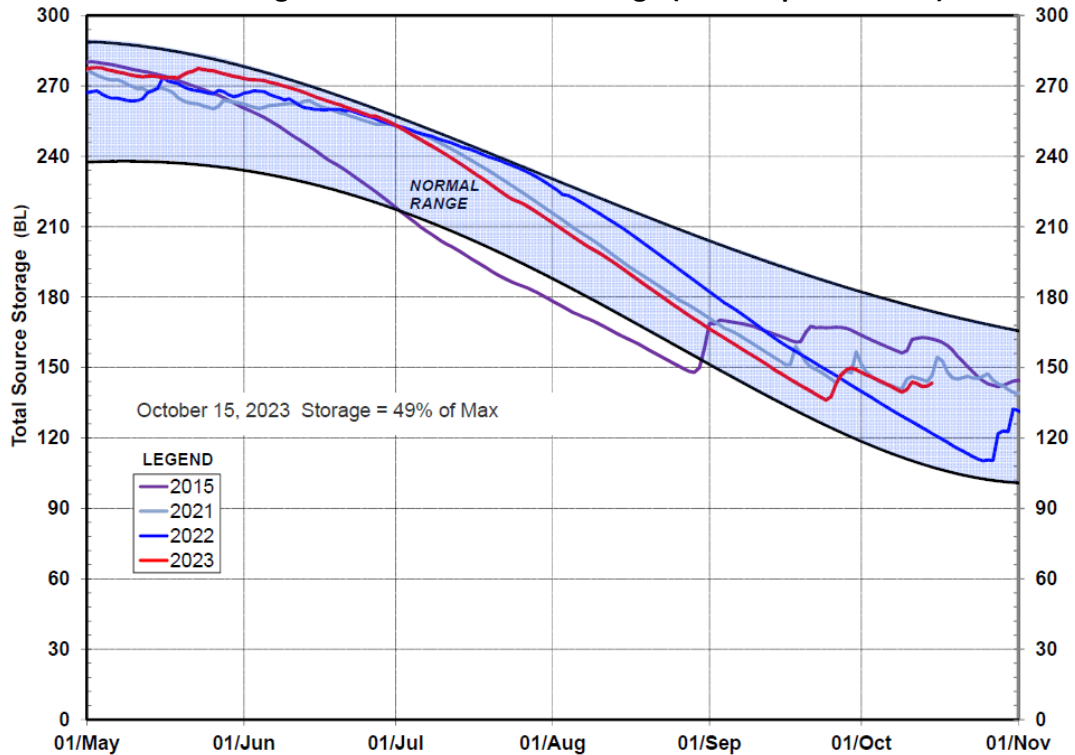
The Metro Vancouver region's collective snowpack was close to historical average levels this past winter. However, the snowpack began to melt rapidly in May when temperatures were almost four degrees warmer than normal. The Lower Mainland (and most of British Columbia) experienced drought conditions through the summer and the Lower Mainland basin moved to drought level five on August 17. The watersheds received approximately 50% of normal precipitation for the period of May 1 to October 1, 2023.

The source reservoirs were proactively managed through the spring and early summer to capture the incoming streamflow to ensure Capilano and Seymour Reservoirs reached their full pool elevations on June 24, 2023 and June 26, 2023, respectively. Palisade Lake was opened on July 14 to supplement Capilano Reservoir and temporarily closed on August 28 for necessary maintenance tasks. Palisade Lake was re-opened on September 11. Burwell Lake was opened on July 26, and Loch Lomond was opened on August 17 to supplement natural flows into Seymour Reservoir. All three alpine lakes are now closed.

Figure 1 illustrates that through the high demand period when the regional drinking water use typically increases above 1.0 billion litres per day (BL/d), the total source storage levels were maintained within the normal range. The high volume of storage at the end of the spring can be attributed to the normal snowpack and increased inflow in the spring due to higher than normal temperatures and the rapidly melting snowpack (which normally occurs over a longer period of time). However, storage volumes started decreasing drastically in early July as the region experienced a significant seasonal drought with high temperatures and no precipitation.

Despite the significant drought that the region experienced, and the resulting increased demands, the source reservoirs were managed to maintain a reliable water supply for the region by closely monitoring the overall system demands, river inflows, and system storage, and by the timely activation of Stage 2 watering restrictions.

Figure 1 - Total Source Storage for Metro Vancouver Usage (Incl. Coquitlam Lake)



DRINKING WATER DEMANDS

As shown in Figure 2, the daily demands in May, June, and first half of July 2023 were consistently higher than in 2022. For May, June, and July, the average daily water demand increased steadily from 1.23 BL/d to 1.35 BL/d to 1.46 BL/d. The peak day consumption in the summer of 2023 was 1.56 BL/d, recorded on Wednesday, July 5. The 2022 peak day consumption was 1.59 BL/d which occurred on Saturday, July 30.

Water consumption was significantly higher in May, June, and July of 2023 than in 2022, leading to rapid drawdown of the reservoirs and ultimately the decision to activate Stage 2 watering restrictions considering the forecast for continued drought conditions into the fall. Overall, in terms of volume, the region used about 5.4% more water during the entire high demand season of 2023 (216.0 billion litres, BL) than that of 2022 (204.9 BL).

Figure 3 compares hourly water use during the week when the peak day occurred in summer 2023 (Saturday, July 1 to Friday, July 7) to the week when the peak day occurred in summer 2022 (Saturday, July 30 to Friday, August 4). During a warm and dry period at the beginning of July this year, the peak hour occurred at 5:00 am on Saturday, July 1, a designated residential lawn watering day (in Stage 1). The peak hour water use in 2022 was also on a designated residential lawn watering day (in Stage 1). The peak hour water use in 2023 was the same as 2022 amounting to 1.96 BL/d.

Figure 2 - Metro Vancouver Daily System Consumption Comparison 2022 and 2023

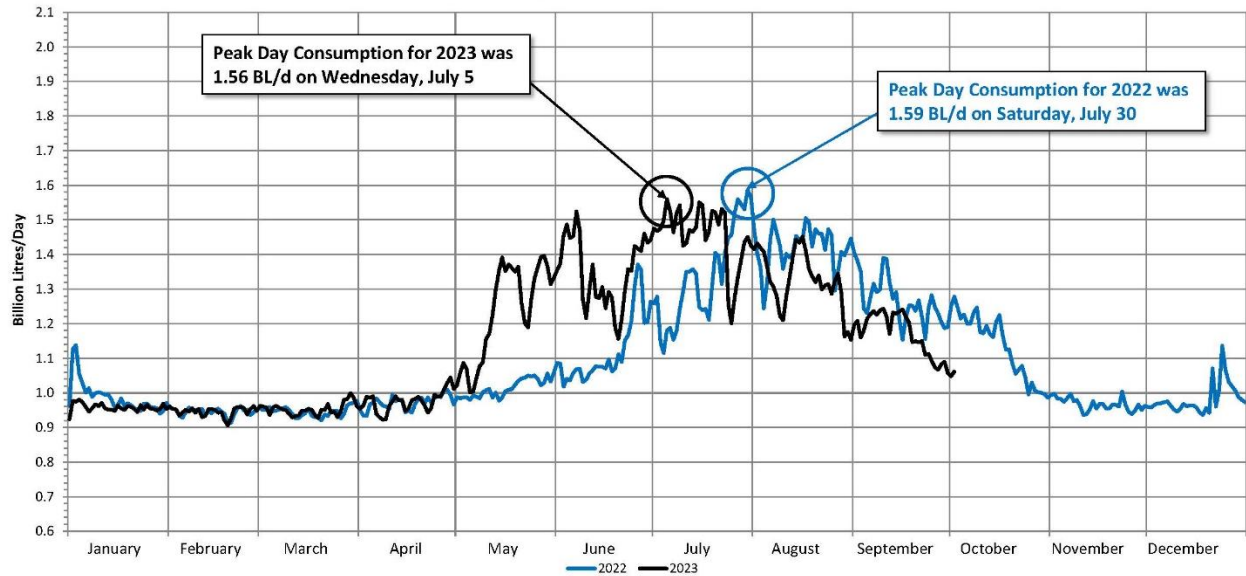
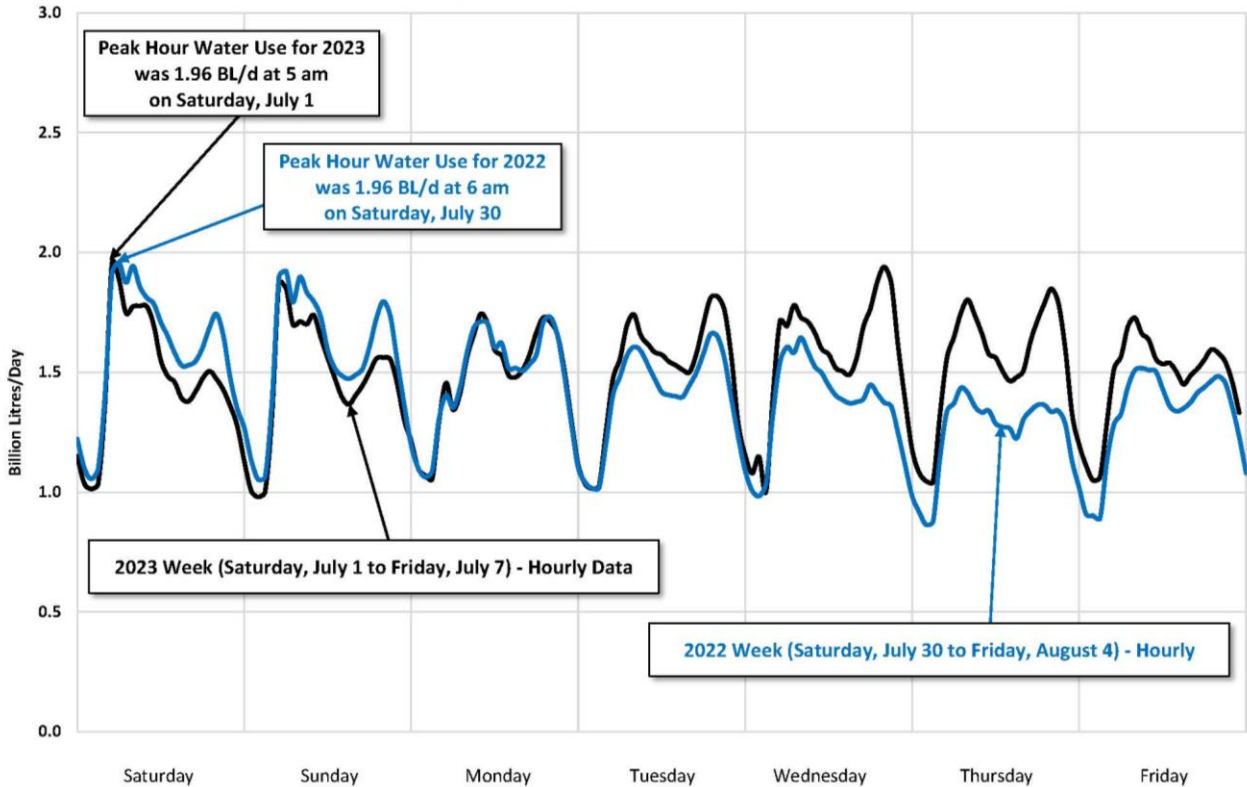


Figure 3 - Comparison of 2023 and 2022 Hourly Water Use



In addition to drinking water needs, Metro Vancouver’s reservoirs must also provide required environmental flows to sustain fish populations. Special downstream environmental flow releases

were conducted from the Cleveland (Capilano) and Seymour Falls Dam facilities on July 20 to 21 and September 12 to 13, respectively. These operations increased flows above the summer minimums and were conducted in coordination with Fisheries and Oceans Canada, First Nations, and stewardship groups, to improve upstream migration conditions for adult Pacific Salmon impeded by drought level flows. This was an important initiative contributing to Pacific Salmon conservation and restoration during the early and extended 2023 summer drought.

WATER CONSERVATION MEASURES

Water supply and system operations can be challenged during the high demand season as drinking water demand typically increases by 50 percent or more compared to winter drinking water demand. Metro Vancouver's water conservation efforts focus on summer discretionary use through the DWCP. In October 2021, the GVWD Board endorsed an update to the DWCP which was first implemented on May 1, 2022. The most significant changes include the reduction of residential and non-residential lawn watering from two days per week to one day per week during Stage 1 and a complete ban on lawn watering in Stage 2 (which was previously implemented in Stage 3).

For May, June, and July, the average daily water demand increased steadily from 1.23 BL/d to 1.35 BL/d to 1.46 BL/d. Following the activation of Stage 2 watering restrictions on August 4, the average daily water demand slightly decreased to 1.33 BL/d in August, 1.17 BL/d in September, and 1.05 BL/d from October 1 to 15. During Stage 2 watering restrictions (August 4 to October 15) there have not been any days with regional water demands over 1.5 BL/d compared to 11 days during Stage 1.

Successful conservation of drinking water during the high demand season requires education and enforcement activities:

- Metro Vancouver undertakes several public education initiatives annually to promote the efficient use of drinking water resources throughout the region. Key initiatives in 2023 included the communication of the region-wide watering restrictions and the initiation of Stage 2 on August 4, the We Love Water campaign, and the Water Wagon Program. These initiatives work together to increase awareness of the drinking water system and the need for residential water conservation.
- In 2022, following the update of the DWCP in November 2021, the Metro Vancouver Summer Support Program (SSP) was developed to help member jurisdictions with the promotion and monitoring of compliance with the regional lawn watering restrictions during the implementation of the updated DWCP. The 2023 SSP ran from July 4 to September 29 and included morning and evening monitoring shifts in 11 participating member jurisdictions on weekday mornings and evenings. Relevant regional communication campaign materials and information about the program was provided to households showing signs of potential non-compliant lawn watering in an attempt to bring them into compliance through targeted education. The addresses and evidential details were provided to member jurisdictions for any subsequent follow-up they wanted to pursue. Preliminary feedback to date indicates that the participating members found the SSP valuable for their enforcement programs, and detailed feedback collection will begin in late October 2023.

- In addition to education, enforcement of watering restrictions by member jurisdictions is essential for successful water conservation in the region. Initial information from member jurisdictions through the advisory committees indicate that many members increased their enforcement efforts during Stage 2 to ensure residents and businesses were complying with the lawn watering ban. This included increased education, enforcement patrols, and ticketing by many members. Those members who are fully metered were able to follow up directly with residents who were identified as high volume users using the metered consumption data. Metro Vancouver staff will continue to liaise with members' staff through the advisory committees to collect data on enforcement activities, including the number of warnings and tickets issued, together with data on the progress of universal metering in the region.

IMPACTS OF WATER CONSERVATION MEASURES

In implementing the findings of the Water Supply Outlook 2120, Metro Vancouver is planning for future scenarios that incorporate variations in climate change impacts, population growth, and water demand patterns. Metro Vancouver is focused on both managing drinking water demand and increasing supply in order to meet the needs of a growing region.

In terms of drinking water demand, Metro Vancouver must focus on decreasing overall water demand (average daily demand), average per capita water use, and peak day demand. Average day demand during the high demand season impacts the available usable water volume in Metro Vancouver's three reservoirs and alpine lakes, while peak day demand impacts the sizing and timing of transmission infrastructure. The success of water conservation measures will continue to be an essential factor in determining the need for and timing of future system expansion.

ALTERNATIVES

This is an information report; no alternatives are presented.

FINANCIAL IMPLICATIONS

Revenues from water sales as of October 10 are 2 percent above budget.

CONCLUSION

Total source storage for Metro Vancouver water usage began the summer in the normal range and was deemed sufficient at the time to provide adequate supply through the summer season as discussed in the report titled "Water Supply Update for Summer 2023" provided to the Water Committee at its May 17, 2023 meeting. However, the region experienced a significant seasonal drought this year and reservoir levels declined drastically as of early July, which ultimately led to the decision to activate Stage 2 of the DWCP. Reservoir inflows and source storage continued to decline, as anticipated; however, the total water storage volume remained within the normal range.

The region's daily water use this summer was higher every day than in 2022, from May 1 to July 23. Peak water use occurred at the beginning of July, which is earlier than most prior years, other than 2021 when the peak use occurred on June 28 due to the heat dome. Influenced by the timely activation of Stage 2 watering restrictions, enhanced education, and enforcement by member jurisdictions, the water supply system performed without significant stress over the 2023 summer.

Summer 2023 was the first time that Stage 2 of the updated DWCP was implemented. Metro Vancouver and member jurisdictions must continue to focus on conservation initiatives, as any sustained reduction in average per capita consumption and peak day consumption will positively impact both system planning and operation.

56006991

To: Water Committee

From: Shellee Ritzman, Division Manager, Corporate Communications, External Relations
Dana Carlson, Project Coordinator, Corporate Communications, External Relations

Date: October 26, 2023 Meeting Date: November 8, 2023

Subject: **2023 Water Communications and Public Outreach Results**

RECOMMENDATION

That the Water Committee receive for information the report dated October 26, 2023, titled “2023 Water Communications and Public Outreach Results”.

EXECUTIVE SUMMARY

Metro Vancouver undertakes annual communications initiatives to support drinking water conservation across the region. These include the *We Love Water* campaign, the Water Wagon program, and communication of lawn watering restrictions in accordance with the Drinking Water Conservation Plan.

The promotional strategy for these initiatives in 2023 included region-wide reach through television, radio, multicultural print, direct mail, online, outdoor digital billboards, and social media. These broadcast and digital promotions delivered a combined total of 59.7 million impressions.

Earned media resulted in a total potential combined reach and impressions of 1.4 billion (compared to 69 million in 2022) with an ad value equivalent of \$52 million. The hot, dry weather and province-wide drought made water conservation and supply top of mind for both residents and the media. The Water Wagon program resulted in 24,104 water bottle refills and fountain uses, and 3,094 engagements with residents about drinking water conservation and quality.

PURPOSE

To update the Committee on regional communications to support the 2023 watering restrictions, the 2023 regional water conservation campaign, and the 2023 Water Wagon program.

BACKGROUND

Metro Vancouver undertakes several communications initiatives annually to help the public understand the importance of their role in ensuring drinking water resources are conserved and efficiently used throughout the region. Communication of the region-wide watering regulations supports the Drinking Water Conservation Plan, which helps manage the outdoor use of drinking water during the high demand period and largely impacts lawn watering.

The regional communications campaign, *We Love Water*, features watering restrictions reminders and provides residents with advice and tips for using less drinking water in their homes. The campaign also works to increase awareness of Metro Vancouver’s water sources, system, and the

need for residential drinking water conservation within the context of a growing population and climate change.

The Water Wagon program promotes the use of tap water and reduces instances of single use water bottles at community events while providing conservation education opportunities with residents across the region.

WATER CONSERVATION COMMUNICATIONS

Communication Approach and Timing

Metro Vancouver began promoting the regional watering regulations with a media release sent on April 5, in advance of the May 1 implementation date. On June 26, the *We Love Water* campaign began. Two additional media releases were distributed in July, urging the public to conserve water in light of the hot weather and above average demand for water. On July 28, Metro Vancouver distributed a media release to inform residents that the region was heightening restrictions to Stage 2 watering restrictions in effect on August 4. The Stage 2 watering restrictions messaging launched August 4 and ran until the campaign ended on September 24, 2023.

Promotions were directed towards homeowners in detached houses, duplexes, and townhouses with lawns, as they are most likely to engage in the outdoor water uses that contribute to higher seasonal water demand. To emphasize the message of water conservation, the creative was changed to reflect lawn sprinklers turned off on dormant brown/golden lawns rather than active watering on green lawns.

Metro Vancouver Member Engagement

Metro Vancouver made communication materials available to all GVWD members for display, distribution, and to supplement members' enforcement programs. Items included social media content, co-branded materials such as posters and rack cards, translated assets, digital billboards, and digital banners upon request.

Evaluation

Website Traffic April 1 to October 2, 2023

- The welovewater.ca website received a total of 66,193 page views – of which 43,492 visits (66%) were during the Stage 1 period, and 22,701 (34%) visits were during Stage 2.
- Inversely, the lawn watering restrictions web page via metrovancover.org/lawns received 59,307 total page views – of which 19,157 (32%) of visits were during Stage 1 and 40,150 (68%) of visits were during Stage 2.
- This increase is partly due to an in-market pivot to promote the Stage 2 watering restrictions and directing web traffic to the watering restrictions web page instead of the campaign website.

Television and Radio

- Two videos and Facebook creative aired on Global BC television resulting in an estimated 8.4 million impressions.
- On Telus and Shaw, a 30 second PSA ran on 14 television networks targeted to the Metro Vancouver region, with a minimum 1,000 estimated airings.

- A 30 second radio ad was featured on seven radio stations, resulting in 11.6 million impressions.

Digital Media

- YouTube advertising reached 489,310 people an average of 3.4 times, for a total of 1.7 million impressions. The average video view rate was 50.8% — above industry benchmarks.
- Social posts (Facebook and Instagram) delivered roughly 6.8 million impressions and were seen on average 10.6 times by over 642,000 residents.
- Online banner ads delivered 7.4 million impressions, and weather-triggered advertising delivered an additional 1.4 million impressions on mobile devices.
- Google Search served 30,602 impressions and generated 11,885 clicks achieving the highest click-through-rate compared to previous years (38.84% in 2023, 37.03% in 2022 and 31.08% in 2021). These numbers were achieved prior to being paused upon the implementation of Stage 2 messaging.

Print

A direct mail postcard outlining the watering restrictions and outdoor water conservation tips was delivered during the first week of July to 537,600 single family homes and townhouses across the region.

Out-of-Home

Campaign messaging achieved 22.3 million impressions through 11 digital, weather triggered billboards located on major traffic routes throughout Metro Vancouver.

Multicultural Media

Digital and print translated ads promoting Stage 1 watering restrictions were published in the first week of May in community and daily newspapers targeting Asian and South Asian communities in Metro Vancouver.

Earned Media

Media coverage of the restrictions and conservation was frequent. All major media outlets picked up the story, along with community papers, newsletters, and smaller publications. Canadian Press mentioned the restrictions and the region's conservation efforts in a number of their wire stories, which were picked up broadly.

- print/online media articles: 700
- broadcast stories: 1,000
- combined reach and impressions: 1.4 billion (compared to 69 million in 2022)
- ad value equivalent: \$52 million (compared to \$610,000 in 2022)

Examples of communication materials and promotions to support the watering restrictions and the *We Love Water* conservation campaign are included in the attachments.

WATER WAGON PROGRAM

Metro Vancouver's Water Wagon and associated Tap Water Team provides free water bottle refills at regional events to highlight our water system, encourage drinking tap water, and reduce single-use bottled water. The outreach team engaged with residents through displays and interactive games to share the 'mountain to tap' story of Metro Vancouver's drinking water.

The Water Wagon was at 18 community events across 11 member jurisdictions between May 13 and September 16, for a total of 34 event days, which includes 15 days at the PNE. New to this year's key messaging was information about the Stage 2 watering restrictions.

The Water Wagon filled 18,413 water bottles and supported 5,691 water fountain uses. The Tap Water Team experienced 3,034 engagements with residents during the events.

ALTERNATIVES

This is an information report. No alternatives are presented.

FINANCIAL IMPLICATIONS

The 2023 budget for watering restrictions communications, the regional *We Love Water* campaign, and the Water Wagon program was \$477,728.

CONCLUSION

Metro Vancouver communicates the watering restrictions through advertising, media engagement, and promotional materials distributed to GVWD members for their public education and enforcement programs. The regional water conservation campaign entered the market June 26 supporting Stage 1 watering restrictions through conservation messaging. Campaign tactics and messaging was updated July 28 to communicate the move to Stage 2 watering restrictions. Campaign advertising appeared on news media, digital billboards across the region, on social media and digital platforms, and through GVWD members' promotional programs.

This year, the Water Wagon travelled to 11 member jurisdictions to participate in community events for a total of 34 event days, which includes 15 days at the PNE. The Water Wagon program promoted the use of tap water through more than 3,000 engagements with residents.

Attachments

1. 2023 Water Conservation Communications Materials
2. 2023 Water Wagon Program Event Schedule

References

1. www.welovewater.ca
2. www.metrovancouver.org/lawns

2023 Water Conservation Materials

We Love Water



Stage 1 Water Restrictions/We Love Water



From left to right: Postcard (front and back), images for social media, and rack cards (front and back)

Stage 2 Water Restrictions



From left to right: poster, images for social media, and rack card (front and back)

ATTACHMENT 2

2023 Water Wagon Program Event Schedule – 34 total event days

Event	Date	Member Jurisdiction	# Days
Centennial May Days	May 13	Port Coquitlam	1
Public Works Open House	May 27	Port Coquitlam	1
Pitt Meadows Day	June 3	Pitt Meadows	1
Langley City Community Day Festival	June 10	City of Langley	1
Splash! Father's Day Fishing (Metro Vancouver)	June 18	District of North Vancouver	1
National Indigenous Peoples Day	June 21	New Westminister	1
Vancouver International Mountain Film Festival	June 24	City of North Vancouver	1
RCMP Musical Ride	June 26	Burnaby	1
Canada Day	July 1	Coquitlam	1
Khatsahlano Street Party	July 8	Vancouver	1
Vancouver Chinatown Festival	July 15 and 16	Vancouver	2
Skwxwú7mesh Days Festival	July 23	West Vancouver	1
Car Free Day	July 29	New Westminister	1
Vancouver International Pride Tennis Tournament	August 5	Vancouver	1
Dr. Bee's Bees and Blueberries Festival	August 12 and 13	Pitt Meadows	2
PNE Fair (Metro Vancouver)	August 19 to Sept 4	Vancouver	15
University Neighbourhood Association Neighbours Day	September 9	Vancouver	1
Geti Fest	September 16	Maple Ridge	1



Canada Day, Coquitlam



Khatsahlano Street Party, Vancouver



Skwxwú7mesh Days Festival, West Vancouver



The Fair at the PNE

To: Water Committee

From: Goran Oljaca, Director Engineering and Construction, Water Services

Date: October 26, 2023 Meeting Date: November 8, 2023

Subject: **GVWD Capital Program Expenditure Update to September 30, 2023**

RECOMMENDATION

That the Water Committee receive for information the report dated October 26, 2023, titled “GVWD Capital Program Expenditure Update to September 30, 2023”.

EXECUTIVE SUMMARY

The capital expenditure reporting process as approved by the Board provides for regular status reports on capital expenditures. This report includes both the overall capital program for the water utility with a multi-year view of capital projects, and the actual capital spending for the 2023 fiscal year to September 30, 2023 in comparison to the prorated annual capital cash flow. In 2023, the annual capital expenditures for the GVWD are \$159.8 million to date compared to a prorated annual capital cash flow of \$300 million. Forecasted expenditures for the current water utility capital program remain within the approved budgets through to completion.

PURPOSE

To report on the status of the GVWD Capital Program and financial performance for the 2023 fiscal year to September 30, 2023.

BACKGROUND

The capital expenditure reporting process provides for regular status reports on capital expenditures. This report covers the GVWD capital projects managed by both the Water Services and the Project Delivery departments.

These reports for 2023 look at both the overall capital program for the water utility with a multi-year view of capital projects and the actual capital spending for 2023 fiscal year to September 30, 2023 in comparison to the annual Capital Cash Flow.

2023 CAPITAL EXPENDITURES

Overall Capital Program

The capital spending on all the GVWD capital projects completed in 2023 or ongoing at some point in 2023 is forecasted to be over the previously estimated total project cost by approximately \$1.66 billion, or 15.2% of total estimated cost. These estimated costs include future phases that are yet to be considered and approved by the Board through future planning cycles or Stage Gate process. With the rare exception, projects tend to complete with actual spending below Board approved limits predominantly due to savings on budgeted contingency amounts.

Attachment 1 provides the details behind the summary information including specific capital projects, summary of financial information, and notes where required. Attachment 2 provides additional project status information for some of the key projects.

2023 Capital Program Process

As part of the 2023 Capital Program Process, the annual Capital Cash Flow comprises the projected spending for a list of capital projects either continuing or to be started within the calendar year. In 2023, capital expenditures for the GVWD are \$159.8 million to September 30, 2023 compared to a prorated annual Capital Cash Flow of \$300 million. The current underspend is due to several factors including delays in permitting, limited market capacity for projects and construction delays. Capital Spending is expected to increase to as progress payments for projects listed above have been updated, verified, and processed as well as increased construction activity occurring at major projects.

Forecasted expenditures for the current GVWD capital program remain within the annual Capital Cash Flow planned for 2023.

Table 1 provides a summary of the 2023 actual capital spending to September 30, 2023 compared to the prorated Capital Cash Flow.

Table 1 –Capital Spending Summary to end September 2023

Water Total	2023 Cash Flow To September 30, 2023	Actual Expenditures to September 30, 2023	% of 2023 Prorated Cash Flow
Water Mains	\$ 197,914,000	\$ 121,286,436	61%
Pump Stations	\$ 34,164,000	\$ 13,944,868	41%
Reservoirs	\$ 26,479,000	\$ 14,581,391	55%
Treatment Plants	\$ 18,014,000	\$ 2,956,809	16%
Others	\$ 23,405,000	\$ 7,006,909	30%
Total	\$299,976,000	\$159,776,413	53%

ALTERNATIVES

This is an information report. No alternatives are presented.

FINANCIAL IMPLICATIONS

Capital expenditures are funded internally (pay-as-you-go) and through debt service costs (interest and principal payments). As capital expenditures are incurred, short term financing is secured and converted twice per year to long term debt through the Municipal Finance Authority.

CONCLUSION

Forecasted expenditures for the current GVWD capital program remain within the annual Capital Cash Flow approved for 2023.

Attachments

1. Capital Project Update – September 30, 2023
2. GVWD Capital Project Status Information



Project Name	Primary Driver	Project Location	2023-2027 Capital Plan										Approved Capital Budget	Current Estimated Total Project Cost	% Complete	Comment	
			2023	2024	2025	2026	2027	2028	2029	2030	2031	2032					
Water Mains																	
Angus Drive Main	Growth	Vancouver	[Gantt bar: 2023-2024]										30,700,000	30,700,000	96%		
Annacis Main No. 2 - Queensborough Crossover Improvement	Maintenance	New Westminster	[Gantt bar: 2023-2024]										1,200,000	1,200,000	0%	Likely not required. MOTI may not relocate Queensborough Main.	
Annacis Main No. 2 and Barnston Island Main Online Chlorine and pH Analyzers	Upgrade	Regional	[Gantt bar: 2023-2024]										750,000	1,200,000	5%	Projected costs adjusted for escalation.	
Annacis Main No. 3 Annieville Channel Crossing Scour Protection	Maintenance	Surrey	[Gantt bar: 2023-2024]										850,000	850,000	100%	Construction completed by LWS. Funding in account to be transferred to LWS.	
Annacis Main No. 3 BHP Potash Facility Pipe Protection	Maintenance	Surrey	[Gantt bar: 2023-2024]										600,000	600,000	Cancelled	BHP have withdrawn from the project.	
Annacis Main No. 5 (North)	Growth	New Westminster	[Gantt bar: 2023-2029]										69,100,000	81,100,000	3%		
Annacis Main No. 5 (South)	Growth	Surrey	[Gantt bar: 2023-2029]										12,350,000	80,950,000	20%		
Boundary Road Main No. 2 & No. 3 Decommissioning	Maintenance	Burnaby	[Gantt bar: 2023-2024]										1,250,000	500,000	100%		
Burnaby Mountain Main No. 2	Maintenance	Burnaby	[Gantt bar: 2023-2028]										600,000	15,600,000	0%		
Central Park Main No. 2 (10th Ave to Westburnco)	Maintenance	Burnaby	[Gantt bar: 2023-2028]										4,750,000	35,250,000	1%		
Central Park Main No. 2 (Patterson to 10th Ave)	Maintenance	Burnaby	[Gantt bar: 2023-2028]										109,100,000	113,150,000	45%		
Clayton Langley Main No. 2	Resilience	Surrey	[Gantt bar: 2023-2024]										1,900,000	10,200,000	1%		
Douglas Road Main No. 2 (Flow Meter 169) Replacement	Maintenance	Burnaby	[Gantt bar: 2023-2024]										2,000,000	2,000,000	4%		
Douglas Road Main No. 2 (Vancouver Heights Section)	Maintenance	Burnaby	[Gantt bar: 2023-2024]										21,450,000	21,450,000	95%	Tie-ins delayed due to scheduling conflicts.	
Douglas Road Main No. 2 Still Creek	Maintenance	Burnaby	[Gantt bar: 2023-2027]										60,000,000	60,000,000	59%		
Douglas Road Main Protection	Maintenance	Burnaby	[Gantt bar: 2023-2024]										1,500,000	1,500,000	5%		
Haney Main No. 4 (West Section)	Growth	Port Coquitlam	[Gantt bar: 2023-2031]										1,900,000	141,800,000	1%		
Improvements to Capilano Mains No. 4 and 5	Maintenance	Dist of North Van	[Gantt bar: 2023-2024]										1,700,000	1,700,000	6%		
Kennedy Newton Main	Growth	Surrey	[Gantt bar: 2023-2028]										140,450,000	166,350,000	65%		
Lulu Island - Delta Main - Scour Protection Phase 2	Maintenance	Richmond	[Gantt bar: 2023-2028]										3,550,000	3,550,000	0%	Not yet required, biannual bathymetric survey	
Lynn Valley Road Main, Seymour Main No. 3 & Seymour Main No. 4 Aerial Crossings Rehabil	Maintenance	Dist of North Van	[Gantt bar: 2023-2024]										4,200,000	4,200,000	10%		
Maple Ridge Main West Lining Repairs	Maintenance	Maple Ridge	[Gantt bar: 2023-2024]										3,500,000	5,900,000	4%		
Newton Reservoir Connection	Maintenance	Surrey	[Gantt bar: 2023-2029]										850,000	28,050,000	0%		
Palisade Outlet Works Rehabilitation	Maintenance	Electoral Area A	[Gantt bar: 2023-2024]										400,000	11,200,000	2%		
Port Mann Main No. 2 (South)	Growth	Surrey	[Gantt bar: 2023-2030]										33,600,000	50,100,000	98%		
Port Mann No. 1 South Section Decommissioning	Maintenance	Coq/Surrey	[Gantt bar: 2023-2024]										850,000	850,000	0%		
Port Moody Main No. 1 Christmas Way Relocation	Maintenance	Coquitlam	[Gantt bar: 2023-2024]										2,350,000	2,350,000	0%		
Port Moody Main No. 3 Dewdney Trunk Rd Relocation	Maintenance	Coquitlam	[Gantt bar: 2023-2024]										2,700,000	2,700,000	95%	3rd party owned project	
Port Moody Main No. 3 Scott Creek Section	Maintenance	Coquitlam	[Gantt bar: 2023-2028]										2,450,000	53,600,000	2%		
Queensborough Main Royal Avenue Relocation	Maintenance	New Westminster	[Gantt bar: 2023-2024]										7,500,000	7,500,000	20%	Pattullo Bridge replacement project owned by MoTI.	
Rehabilitation of AN2 on Queensborough Bridge	Maintenance	New West/Delta	[Gantt bar: 2023-2024]										3,850,000	3,850,000	50%		
Relocation and Protection for MOTI Expansion Project Broadway	Maintenance	Vancouver	[Gantt bar: 2023-2024]										8,900,000	8,900,000	80%		
Relocation and Protection for MOTI George Massey Crossing Replacement	Maintenance	Delta/Richmond	[Gantt bar: 2023-2029]										450,000	2,450,000	0%		
Relocation and Protection for Translink Expansion Project Surrey Langley SkyTrain	Maintenance	Surrey	[Gantt bar: 2023-2029]										600,000	6,600,000	0%	MOTI procurement to select Project Co underway	
Sapperton Main No. 1 New Line Valve and Chamber	Upgrade	New Westminster	[Gantt bar: 2023-2024]										3,850,000	3,550,000	95%		
Sapperton Main No. 2 North Road Relocation and Protection	Maintenance	Coquitlam	[Gantt bar: 2023-2024]										6,500,000	6,500,000	20%		
Scour Protection Assessments and Construction General	Resilience	Regional	[Gantt bar: 2023-2024]										4,000,000	4,000,000	26%		
Seymour Main No. 2 Joint Improvements	Resilience	Dist of North Van	[Gantt bar: 2023-2028]										3,300,000	10,100,000	21%		
Seymour Main No. 5 III (North)	Resilience	Dist of North Van	[Gantt bar: 2023-2030]										7,900,000	750,600,000	3%		
South Delta Main No. 1 - Ferry Road Check Valve Replacement	Maintenance	Delta	[Gantt bar: 2023-2024]										600,000	600,000	39%		
South Surrey Main No. 1 Nickomekl Dam Relocation	Maintenance	Surrey	[Gantt bar: 2023-2024]										7,100,000	7,100,000	0%		
South Surrey Main No. 2	Growth	Surrey	[Gantt bar: 2023-2032]										2,000,000	197,000,000	1%		
South Surrey Main No. 2 Nickomekl Dam Prebuild	Growth	Surrey	[Gantt bar: 2023-2024]										2,000,000	2,000,000	0%		
South Surrey Supply Main (Serpentine River) Bridge Support Modification	Maintenance	Surrey	[Gantt bar: 2023-2024]										1,350,000	1,350,000	20%		
Tilbury Junction Chamber Valves Replacement with Actuators	Upgrade	Richmond	[Gantt bar: 2023-2024]										5,600,000	5,600,000	83%	Tie-ins delayed due to railway permitting requirements.	
Tilbury Main North Fraser Way Valve Addition	Maintenance	Burnaby	[Gantt bar: 2023-2024]										3,100,000	3,100,000	14%		
Water Chamber Improvements and Repairs	Maintenance	Burnaby	[Gantt bar: 2023-2024]										2,000,000	2,000,000	10%		
Water Meter Upgrades	Upgrade	Regional	[Gantt bar: 2023-2028]										22,400,000	22,400,000	57%		
Water Optimization - Flow Meters (Non-billing) Phase 1	Upgrade	Regional	[Gantt bar: 2023-2030]										-	17,700,000	0%		
Water Optimization - Flow Meters (Non-billing) Phase 2	Upgrade	Regional	[Gantt bar: 2023-2028]										3,000,000	21,600,000	0%		
Water Optimization - Instrumentation	Upgrade	Regional	[Gantt bar: 2023-2029]										1,500,000	11,800,000	6%		
Water Optimization Automation & Instrumentation	Upgrade	Regional	[Gantt bar: 2023-2024]										9,550,000	9,550,000	89%		
Whalley Kennedy Main No. 2	Growth	Surrey	[Gantt bar: 2023-2031]										2,900,000	118,800,000	0%		
Whalley Main	Growth	Surrey	[Gantt bar: 2023-2024]										31,800,000	31,800,000	96%		
Total Water Mains													658,350,000	2,185,050,000			
Pump Stations																	



Project Name	Primary Driver	Project Location	Years										Approved Capital Budget	Current Estimated Total Project Cost	% Complete	Comment	
			2023-2027 Capital Plan					2028	2029	2030	2031	2032					
Barnston/Maple Ridge Pump Station - Back-up Power	Resilience	Pitt Meadows	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	14,000,000	26,000,000	3%	Delayed due to property selection. Costs adjusted for escalation.	
Burnaby Mountain Pump Station No. 2	Maintenance	Burnaby											1,300,000	102,700,000	1%	Scope of work refined.	
Cape Horn Pump Station No. 3	Growth	Coquitlam											29,050,000	301,550,000	2%		
Capilano Raw Water Pump Station - Back-up Power	Resilience	Dist of North Van											55,000,000	81,000,000	25%	Board approved additional funds on award of tender	
Capilano Raw Water Pump Station Bypass PRV Upgrades	Maintenance	Dist of North Van											3,200,000	3,800,000	10%	Projected costs adjusted for escalation.	
Central Park WPS Starters Replacement	Maintenance	Burnaby											11,000,000	20,000,000	10%	Delayed due to re-zoning. Cost adjusted for escalation.	
Grandview Pump Station Improvements	Resilience	Surrey											3,500,000	4,500,000	15%	Projected costs adjusted for escalation.	
Newton Pump Station No. 2	Growth	Surrey											72,550,000	82,550,000	24%		
Pebble Hill Pump Station Seismic Upgrade	Resilience	Delta											-	3,500,000	0%	Projected costs adjusted for escalation.	
Westburnco Pump Station - Back-up Power	Resilience	New Westminster											24,500,000	48,800,000	3%	Projected costs adjusted for escalation.	
Westburnco Pump Station No. 2 VFD Replacements	Maintenance	New Westminster											2,550,000	3,050,000	20%		
Total Pump Stations													216,650,000	677,450,000			
Reservoirs																	
Burnaby Mountain Tank No. 2	Resilience	Burnaby											3,350,000	36,750,000	2%	Projected costs adjusted for escalation.	
Burnaby Mountain Tank No. 3	Resilience	Burnaby											3,400,000	30,000,000	2%		
Cape Horn Reservoir Condition Assessment and Structural Repair	Maintenance	Coquitlam											500,000	2,500,000	0%	Projected costs adjusted for escalation.	
Capilano Energy Recovery Facility 66" PRV Replacement	Maintenance	City of North Van											-	8,800,000	0%		
Capilano Energy Recovery Facility Operational Upgrades	Maintenance	Dist of North Van											1,800,000	1,800,000	4%		
Central Park Reservoir Structural Improvements	Maintenance	Burnaby											-	3,300,000	0%		
Clayton Reservoir	Resilience	Surrey											25,750,000	25,750,000	99%		
Dechlorination for Reservoir Overflow and Underdrain Discharges	Maintenance	Burnaby											2,700,000	2,700,000	6%		
Fleetwood Reservoir	Growth	Surrey											56,550,000	58,850,000	45%	Projected costs adjusted for escalation.	
Grandview Reservoir Unit No. 2	Growth	Surrey											-	26,000,000	0%	Project was delayed by 1 year (in service by 2030) and	
Hellings Tank No. 2	Growth	Delta											43,900,000	15,950,000	15%	Projected cost reduced due to change in scope.	
Kersland Reservoir No. 1 Structural Improvements	Maintenance	Vancouver											5,500,000	5,500,000	90%		
Pebble Hill Reservoir No. 3 Seismic Upgrade	Resilience	Delta											500,000	12,500,000	4%	Projected costs adjusted for escalation.	
Pebble Hill Reservoir Seismic Upgrade	Resilience	Delta											12,350,000	12,350,000	95%		
Reservoir Isolation Valve Automation	Resilience	Regional											6,450,000	6,450,000	22%		
Reservoir Sampling Kiosks - Multi Location	Upgrade	Regional											500,000	1,300,000	0%		
Reservoir Structural Preliminary Assessments	Maintenance	Regional											3,200,000	3,200,000	2%		
Sasamat Reservoir Refurbishment	Maintenance	Vancouver											400,000	2,900,000	0%		
Sunnyside Reservoir Units 1 and 2 Seismic Upgrade	Resilience	Surrey											8,000,000	21,000,000	50%		
Vancouver Heights System Resiliency Improvements	Resilience	Burnaby											2,500,000	2,500,000	6%		
Total Reservoirs													177,350,000	280,100,000			
Treatment Plants																	
Coquitlam Intake Tower Seismic Upgrade	Resilience	Coquitlam											2,500,000	60,550,000	8%	Construction delayed after review of project priorities. Projected cost adjusted for escalation	
Critical Control Sites - Back-Up Power	Resilience	Regional											-	7,000,000	0%		
CWTP CO2 System Improvements	Maintenance	Coq/P.Coq											-	3,750,000	0%		
CWTP Mobile Disinfection System	Upgrade	Regional											750,000	2,900,000	0%		
CWTP Ozone Back-up Power	Resilience	Coquitlam											-	10,300,000	0%		
CWTP Ozone Generation Upgrades for Units 2 & 3	Upgrade	Coquitlam											7,500,000	7,500,000	85%	Delay due to operational requirements.	
CWTP Ozone Sidestream Pipe Heat Trace and Insulation	Maintenance	Coquitlam											900,000	900,000	23%		
CWTP Ozone Sidestream Pump VFD Replacement	Maintenance	Coquitlam											1,400,000	1,400,000	17%		
CWTP Temporary Water Supply	Maintenance	Coq/P.Coq											2,000,000	3,000,000	0%	Construction delayed after review of project priorities. Projected cost adjusted for escalation	
Online Chlorine and pH Analyzers	Upgrade	Regional											2,500,000	6,000,000	0%		
SCFP Additional Pre-Treatment	Upgrade	Dist of North Van											-	130,000,000	0%		
SCFP Centralized Compressed Air System	Maintenance	Dist of North Van											1,900,000	1,900,000	13%		
SCFP Clearwell Baffle Replacement	Maintenance	Dist of North Van											600,000	12,900,000	0%		
SCFP Clearwell Membrane Replacement	Maintenance	Dist of North Van											600,000	17,800,000	2%		
SCFP Floc Tank Baffle Replacement and Ladder Installation to Improve Accessibility	Maintenance	Regional											800,000	9,800,000	0%		
SCFP OMC Building Expansion	Maintenance	Dist of North Van											800,000	4,100,000	5%	Projected costs adjusted for escalation.	
SCFP Polymer System Upgrade	Maintenance	Dist of North Van											4,650,000	4,650,000	40%		
SCFP SCADA/ICS Controller Upgrade	Maintenance	Burnaby											1,400,000	2,400,000	0%		
Total Treatment Plants													28,300,000	286,850,000			
Others																	



Project Name	Primary Driver	Project Location	Years										Approved Capital Budget	Current Estimated Total Project Cost	% Complete	Comment
			2023-2027 Capital Plan													
			2023	2024	2025	2026	2027	2028	2029	2030	2031	2032				
Beach Yard Facility - Site Redevelopment	Maintenance	Dist of North Van											-	45,500,000	0%	
Capilano Hydropower	Opportunity	Dist of North Van											4,250,000	156,250,000	1%	Project currently on hold. Supportive studies are
Capilano Mid-Lake Debris Boom	Resilience	Dist of North Van											750,000	750,000	97%	
Capilano Raw Water Pump Station VFD Upgrades	Maintenance	Dist of North Van											1,800,000	3,700,000	0%	
Capilano Reservoir and Seymour Reservoir Dam Safety Boom Replacement	Maintenance	Dist of North Van											3,700,000	8,000,000	0%	Dam safety booms will be more expensive than first
Capilano Reservoir Boat Wharf	Resilience	Dist of North Van											850,000	850,000	100%	
Capilano Watershed Bridge Replacements - Crown Creek and Capilano River	Maintenance	Dist of North Van											-	1,300,000	0%	
Capilano Watershed Security Gatehouse	Maintenance	Dist of North Van											4,700,000	5,700,000	20%	Board approved additional funds on award of tender.
CLD & SFD Fasteners Replacement & Coating Repairs	Maintenance	Dist of North Van											2,350,000	2,350,000	83%	
Cleveland Dam - Lower Outlet HBV Rehabilitation	Maintenance	Dist of North Van											4,900,000	4,900,000	78%	
Cleveland Dam Drumgate Seal Replacement	Maintenance	Dist of North Van											300,000	1,300,000	22%	
Cleveland Dam East Abutment Additional GV Series Pump Wells	Upgrade	Dist of North Van											750,000	800,000	97%	
Cleveland Dam Lower Outlet Trashrack Replacement and Debris Removal	Maintenance	Dist of North Van											-	7,700,000	0%	
Cleveland Dam Power Resiliency Improvements	Resilience	Dist of North Van											1,700,000	1,700,000	4%	
Cleveland Dam Public Warning System and Enhancements	Maintenance	Dist of North Van											10,000,000	10,000,000	31%	
Cleveland Dam Seismic Stability Evaluation	Resilience	Dist of North Van											800,000	800,000	2%	
Cleveland Dam Spillway Resurfacing	Maintenance	Dist of North Van											-	7,800,000	0%	
Facilities O&M Documentation Development	Resilience	Regional											2,000,000	2,000,000	2%	
Lake City HVAC Upgrade	Resilience	Burnaby											900,000	1,200,000	0%	
Lower Seymour Conservation Reserve Learning Lodge Replacement	Upgrade	Dist of North Van											5,050,000	5,050,000	88%	Will be complete in 2023
Microbiology Laboratory Expansion	Maintenance	Burnaby											-	5,550,000	0%	
Newton Rechlorination Station No. 2	Maintenance	Surrey											-	6,050,000	0%	Project delayed to coordinate with Newton Pump Station Project.
Pitt River Rechlorination Station Reconstruction	Maintenance	Pitt Meadows											-	6,000,000	0%	
Rechlorination Station SHS Storage Tank Replacement	Maintenance	Regional											1,200,000	1,200,000	62%	
Rechlorination Station Upgrades	Maintenance	Regional											5,000,000	21,800,000	5%	
Rice Lake Dams Rehabilitation	Maintenance	Dist of North Van											3,000,000	3,000,000	1%	
Scour Protection - General	Maintenance	Regional											2,000,000	2,000,000	93%	
Seymour Falls Boat Wharf	Resilience	Dist of North Van											800,000	800,000	95%	
Seymour Falls Dam Public Warning System	Maintenance	Dist of North Van											10,000,000	10,000,000	0%	
Seymour Falls Dam Seismic Stability Assessment	Resilience	Dist of North Van											1,800,000	14,150,000	0%	
Seymour Lake Debris Boom	Resilience	Dist of North Van											800,000	800,000	88%	
Seymour Reservoir Mid-Lake Debris Boom	Resilience	Dist of North Van											2,300,000	2,300,000	91%	
South Fraser Works Yard	Maintenance	Regional											71,000,000	71,000,000	74%	
Total Others													142,700,000	412,300,000		
Grand Total Water Services													1,223,350,000	3,841,750,000		



Project Name	Primary Driver	Project Location	Years										Approved Capital Budget	Current Estimated Total Project Cost	% Complete	Comment	
			2023-2027 Capital Plan					2028	2029	2030	2031	2032					
			2023	2024	2025	2026	2027										
Water Mains																	
Annacis Water Supply Tunnel	Growth	New West/Surrey															25%
Cambie-Richmond Water Supply Tunnel	Resilience	Richmond/Van															6%
Coquitlam Water Main	Growth	Coquitlam	DD	DD	DD												5% Procurement delay has resulted in later start of construction of South Section (Robson to
Pitt River Water Supply Tunnel	Resilience	P.Coq/P.Meadows															1%
Lulu-Delta Water Supply Tunnel	Maintenance	Richmond															0%
Second Narrows Crossing 1 & 2 (Burrard Inlet Crossing Removal)	Maintenance	Burnaby															0%
Second Narrows Water Supply Tunnel	Resilience	Burnaby/DNV															87%
Stanley Park Water Supply Tunnel	Maintenance	Vancouver															6%
Total Water Mains																	
Treatment Plants																	
Coquitlam Lake Water Supply	Growth	Coquitlam															1% Protracted engagement for regulatory and permitting. Completion of project construction is anticipated to be the late 2030s due to delays in engagement.
Total Treatment Plants																	
Grand Total Water - Project Delivery																	

GVWD Capital Project Status Information

September 30, 2023

GREATER VANCOUVER WATER DISTRICT

Major GVWD capital projects are generally proceeding on schedule and within budget. The following capital program items and exceptions are highlighted:

Infrastructure Growth Program

- **Annacis Water Supply Tunnel** – A 2.3 kilometre km long, 4.5 metre m diameter water supply tunnel is required under the Fraser River to meet growing water demand south of the Fraser and to provide increased system resiliency. Construction commenced in early 2022 and is scheduled to be completed by 2028.
- **Annacis Main No. 5 (South)** – This project comprises approximately 3.0 km of 1.8 m diameter steel pipe connecting the south shaft of the Annacis Water Supply Tunnel to the Kennedy Reservoir in the City of Surrey. Detailed design is nearing completion and is expected to be complete in fall 2023.
- **Annacis Main No. 5 (North)** – This project comprises approximately 2.8 km of 1.8 m diameter steel pipe connecting the north shaft of the Annacis Water Supply Tunnel in the City of New Westminster to the South Burnaby Main #2 in the City of Burnaby. Preliminary design has been completed, and detailed design is in progress and is expected to be complete by mid- 2024.
- **Cape Horn Pump Station No. 3** – Cape Horn Pump Station No. 3 with a back-up power system, will supplement the existing pump station No. 2 to deliver Coquitlam source water to meet growing demand in the areas south of the Fraser River. Detailed design commenced fall 2022 with completion anticipated in early 2025.
- **Coquitlam Intake No. 2 (Coquitlam Lake Water Supply)** – A new intake, tunnel and filtration treatment plant are proposed at the Coquitlam Reservoir to increase the regional supply from this source and meet growing future demand. The Project Definition Report has been issued. The project is now in the permitting and regulatory phase, which focuses on engagement with First Nations, the City of Coquitlam, regulators and stakeholders to acquire a water license and purchase provincially-owned land for the new treatment plant. Phase 2 site investigations is anticipated to be awarded in October 2023. Procurement for project management services, including treatment pilot testing, is anticipated to commence in the fourth quarter of 2023 with prequalification of consultants.

- **Coquitlam Main No. 4 (Coquitlam Water Main)** – This 12 km long steel water main, consisting of the Central, South, Tunnel and Cape Horn Sections, will increase the transmission capacity from the Coquitlam source to the Cape Horn Pump Station and Reservoir in the City of Coquitlam. This project is required to optimize capacity of the existing Coquitlam transmission system and also provide additional transmission capacity for the Coquitlam Lake Water Supply project. Detailed design of the Central and Cape Horn Sections continues. Preliminary design of the Tunnel Section has been completed and detailed design is underway. Construction of the South Section has commenced.
- **Fleetwood Reservoir** – Phase 1 of the Fleetwood Reservoir project includes a 13.6 ML reservoir, valve chamber, piping, access building and associated work located at Meagan Ann MacDougall Park in the City of Surrey. Construction commenced in August 2022 and is scheduled to complete in Q4 of 2024.
- **Kennedy Newton Main** – This project comprises approximately 9.0 km of 1.8 m diameter steel water main between the Kennedy Reservoir and the Newton Reservoir in the City of Surrey and is divided into 3 phases. Construction of Phase 1, between 72nd Avenue and 84th Avenue, is complete. Construction of Phase 2, between 72nd Avenue and Newton Reservoir is nearing completion. Due to the complexity of the work within Phase 3, the installation work was divided into three separate sections. The construction for the first section (Scott Road) commenced in fall 2022 and it is substantially complete. The construction of section 2 (86th Ave) commenced spring 2023 and expected to be completed in early 2025. Construction of the last section is planned to commence in summer 2024 with completion by mid-2026.
- **Newton Pump Station No. 2** – This project, located at 6287 128th Street in the City of Surrey, consists of replacing the existing Newton Pump Station and includes full back-up power redundancy, connections to existing and future infrastructure, and installation of new outlets to the existing Newton Reservoir. The detailed design is complete and the construction of the new reservoir outlets is underway with the main pump station construction planned to commence in summer 2024.
- **South Surrey Main No. 2** – The South Surrey Main No. 2 project involves the installation of 12 km of 1 m diameter steel water main between the Newton Pump Station and the Grandview Reservoir. The route selection between the two points is nearly complete with the detailed design anticipated to commence in early 2024.

Infrastructure Maintenance Program

- **Douglas Road Main No. 2** – Still Creek Section - This project comprises approximately 2.5 km of 1.5 m diameter steel pipe with trenchless crossings of Highway 1, Still Creek and the BNSF rail line. The Project is being constructed in three phases, with the North Open Cut and the Trenchless Crossing Sections completed in spring of 2023. The design of the South Open Cut Section is complete with construction anticipated to commence in Fall of 2023.

- **Douglas Road Main No. 2 – Vancouver Heights Section** This project comprises approximately 2.0 km of 1.5 m diameter steel pipe connecting the Vancouver Heights Reservoir to the Douglas Road Main No. 2 at Beta Avenue and Albert Street in the City of Burnaby. Construction is complete with final tie-ins and commissioning planned for fall 2024.
- **Central Park Main No. 2 – Patterson to 10th Ave** – This project comprises approximately 7.0 km of 1.2 m diameter steel pipe connecting the Central Park Pump Station in Burnaby to the existing Central Park Main in New Westminster at 10th Avenue. The water main is divided into three phases with the 500 m long Maywood Pre-build completed in December 2020. Construction of Phase 1 of the project commenced in October 2020 and it is substantially complete. Design of Phase 2 is underway and is expected to be complete in fall 2023. Construction of Phase 2 will be performed in two phases with the first phase (east of Kingsway) to commence in mid-2024.
- **Central Park Main No. 2 – 10th Ave to Westburnco** – This project comprises approximately 5.0 km of 600 mm diameter ductile iron water main extending the previous phase, Patterson to 10th Ave, from 10th Ave to Westburnco Pump Station and Reservoir in the City of New Westminster. MV Construction will construct an approximately 500 m long pre-build section in spring 2024 to facilitate City street upgrades on 7th Avenue from 8th Street to 5th Street in summer/fall 2024. The remaining installation work will be tendered in late-2024 and is expected to take up to 18 months to install after contract award.
- **Stanley Park Water Supply Tunnel** – This 1.4 km long steel water main, in a tunnel, will replace the existing Capilano Main No. 4 through Stanley Park which is at the end of its service life. The new water main will meet growing water demand and provide increased system resiliency. Detailed design is complete and work to finalize agreements with the Vancouver Park Board is on-going. The procurement phase for construction commenced in August 2023 with construction anticipated to start in mid to late 2024. Construction is scheduled to be completed by 2029.
- **Capilano Reservoir and Seymour Reservoir Dam Safety Boom Replacement** – The aim of this project is to replace and upgrade the Dam Safety Booms for Seymour and Capilano Reservoirs. A contract for design work for the boom systems was awarded at the beginning of June 2023. Fabrication and installation of boom anticipated for 3rd quarter 2024.
- **Capilano Watershed Security Gatehouse** – This project consists of constructing a new security gatehouse building near the entrance to the Capilano Water Supply Area. Construction is anticipated to complete by Q4 of 2025.
- **Central Park WPS Starters Replacement** – This project includes upgrades at the Central Park Water Pump Station. Upgrades include replacing the existing fixed speed pump drives with adjustable speed drives and soft start motor controllers. The existing electrical equipment will be relocated from the pump station to a new above ground electrical prefabricated building and the HVAC and control systems will be upgraded as needed. Detailed design has been put on hold and is anticipated to restart in Q1 of 2024.

- **Kersland Reservoir No. 1 Structural Improvements** – This project involves completing structural improvements to Unit 1 and installing a new balancing pipe between Unit 1 and Unit 2. Construction of the Unit 1 improvements were completed by Bennett Mechanical Ltd. in August of 2022 and the balancing pipe is scheduled to be installed by Metro Vancouver forces during the winter of 2023/2024.
- **Rechlorination Upgrades** – This project is to upgrade the existing Cape Horn, Pitt River, and Clayton Rechlorination Stations. The required upgrades will include new buildings, modifications/additions of backup power systems, and replacement of existing process, mechanical and control systems. Preliminary design is currently underway. Detailed design is expected to start in Q4 of 2023.
- **SCFP Polymer System Upgrade** – This project consists of installing new dry polymer systems for the Filter Aid Polymer and Wash Water Recovery processes at the Seymour Capilano Filtration Plant. Construction has started and is anticipated to complete by Q1 of 2024.

Infrastructure Resilience Program

- **Second Narrows Water Supply Tunnel** – This project comprises a 1.1 km long, 6.5 m diameter water supply tunnel under Burrard Inlet, between North Vancouver and Burnaby, to increase the reliability of supply in the event of a major earthquake and provide additional long-term supply capacity. Construction commenced in 2019. Construction of the shafts, tunnel, and installation of the three steel water mains inside the tunnel and shafts are complete. Construction of the north and south valve chambers is in progress and construction is scheduled to be substantially complete by mid-2024. This will be followed by site restoration and final tie-ins and commissioning through 2027.
- **Capilano Raw Water Pump Station - Back-up Power** – This project consists of installing diesel generators to provide 8 megawatt of back-up power to the pump station. A portion of the equipment has already been delivered. Construction is underway and is anticipated to complete by Q4 of 2025.
- **Coquitlam Intake Tower Seismic Upgrade** – The Coquitlam Intake Tower is located in the southeast corner of the Coquitlam Reservoir. Constructed in 1913, the tower provides the GVWD its primary intake of water from Coquitlam Reservoir. The Tower is a 27 m-high and 5.5 m diameter unreinforced concrete structure, founded on bedrock. Detailed design of the seismic upgrade is 95% complete. Completion of detailed design is expected in Q4 of 2023.
- **Pebble Hill Reservoir No. 1, 2 and 3 Seismic Upgrade** – Pebble Hill Reservoir in south Delta is comprised of three units. Construction is scheduled to be completed in stages, taking only one unit out of service at any time. Construction of Unit 1 is complete. Unit 2 commenced in the fall of 2022 and achieved substantial completion in the summer of 2023. The contractor will return in the spring of 2024 to complete the roof topping system. A separate tender will be issued in the future for Unit 3.
- **Westburnco Pump Station – Back-up Power** – This project consists of installing diesel generators to provide 5 MW of back-up power to the pump station. Preliminary design was completed in 2019 and detailed design will resume in Q4 of 2023 after the project was put on hold.

- **Cambie-Richmond Water Supply Tunnel** – This project comprises an approximately 1.1 km long 4.5 m diameter tunnel under the Fraser River between the City of Vancouver and the City of Richmond to increase the reliability of supply in the event of a major earthquake and provide additional long-term supply capacity. The project definition or conceptual design phase was completed in 2021. Preliminary design is scheduled to commence in early 2024 which will be followed by detailed design. Construction is anticipated to commence in 2028.
- **Clayton Langley Main No. 2** – This project will install an emergency direct connection to the City of Langley. The new main will connect the 192 St main to the City of Langley’s distribution system and will facilitate maintenance and repair of the primary service connection or provide an emergency supply in the event of a water main leak. Preliminary design is anticipated to be complete mid-2024.
- **Grandview Pump Station Improvements** – This project is to increase the capacity and improve operations of the pump station by adding a 4th pump and by replacing the existing variable frequency drives. The HVAC system will also be replaced along with the transformer. Construction is anticipated to start by Q1 of 2024.
- **Reservoir Isolation Valve Automation** – Several key reservoir isolation valves are to be automated so that utility system controllers can remotely isolate all of the water storage reservoirs in an emergency. Currently, 5 locations are classified as initial priority locations with a total of 12 manual valves to be automated. Detailed design is complete and procurement of the valves is anticipated to be completed by December 2023. Installation of the first isolation valve is planned for February 2024.
- **Scour Protection** – This project involves design and construction of scour protection at the north bank of the Annacis Main No. 2 crossing under the Fraser River Annacis Channel. Detailed design is complete and all permits received. VFPA temporary workspace agreement in progress. Construction RFP is in progress and the work is planned to be complete by March 2024.

Infrastructure Upgrade Program

- **Cleveland Dam Public Warning System** – This project involves design and construction of a permanent public warning system along Capilano River, downstream of the Cleveland Dam. Pre-design has commenced, and construction is planned to be complete by end of 2024.
- **Coquitlam Ozone Upgrade** – This project consists of upgrades to the ozone generators at the Coquitlam Water Treatment Plant. The generators for units 1, 2 and 3 have been replaced and units 1 and 2 are in service. Testing and commissioning of unit 3 is scheduled to complete in Q4 2023. Completion of the upgrades to the ozone control system will follow.
- **Pitt River (Haney) Water Supply Tunnel** – This project comprises an approximately 1 km long 4.5 m diameter tunnel under the Pitt River between the City of Port Coquitlam and the City of Pitt Meadows to increase the reliability of supply in the event of a major earthquake and provide additional long-term supply capacity. The project definition or conceptual design is essentially complete and preliminary design is scheduled to commence in 2024. Construction is currently anticipated to commence in 2029.

- **Water Meter Upgrades** –This program involves upgrading or replacing 37 water meter sites. To date, 12 water meter sites have been constructed and commissioned. Of the remaining sites, 10 have been designed and are ready for construction, 15 sites are in design.
- **Water Optimization** –This program involves installing additional flow and pressure meters at various locations to optimize operations, monitor performance, and eventually automate the entire transmission network. Network-wide, 143 locations for new meters and instrumentation have been identified under this program. The current phase of work includes 32 sites. Of these sites, 7 have been constructed and commissioned and another 25 are currently in the design phase.

To: Water Committee

From: Joel Melanson, Division Manager, Engineering and Construction, Water Services
Ben Suleiman, Lead Senior Engineer, Engineering & Construction, Water Services

Date: October 16, 2023 Meeting Date: November 8, 2023

Subject: **Kennedy Newton Main Phase 3 - Scott Road Section Completion Report**

RECOMMENDATION

That the Water Committee receive for information the report dated October 16, 2023, titled “Kennedy Newton Main Phase 3 – Scott Road Section Completion Report”.

EXECUTIVE SUMMARY

The Scott Road section of the Kennedy Newton Main consists of the installation of approximately 450 metres of 1.8 m diameter welded steel pipe along Scott Road, between 88 Avenue and 86 Avenue. Due to the significant impacts on traffic along this major transit corridor, the schedule, sequencing, and duration of construction were closely collaborated with the cities of Surrey and Delta and Translink’s R6 Scott Road RapidBus upgrade project.

The installation work for this project was awarded in November 2022 and in July 2023, the water main installation work was completed ahead of schedule and on budget, while also successfully mitigating many of the construction impacts to the public and area businesses.

The completion of this section of the Kennedy Newton Main is an example of how careful project planning, strong member jurisdiction collaboration, and active engagement with the community can help alleviate the community impacts associated with these significant water infrastructure projects.

PURPOSE

To inform the Water Committee of the collaborative implementation process and successful completion of the Kennedy Newton Main Phase 3 – Scott Road Section.

BACKGROUND

Pursuant to the Board’s authorization to award the construction of the Kennedy Newton Main Phase 3 – Scott Road Section, this report is to update the Water Committee on its successful completion.

PROJECT HISTORY / CONTEXT

The entire Kennedy Newton Main (KNM) project involves installing 8 kilometers of 1.8 m diameter water main between Newton Reservoir and Kennedy Reservoir in the City of Surrey. The new water main is required to meet the growing drinking water demand south of the Fraser River.

Planning for the 8 km long water main started in 2014 and is being delivered in three separate phases, spread out over several years. Construction of Phase 3, the last phase of the project, has been further split into three separate contracts in order to address constraints within the local construction industry and to promote participation in the procurement process. The Scott Road section was the first of these sections to be constructed. The new water main meets the latest seismic standards and facilitates the reliable supply of high-quality drinking water to help meet the needs of the region's growing population.

Planning for Success

The detailed design of the Kennedy Newton Main started in 2017 with the design services provided by Jacobs consulting engineers who also provided the traffic management strategies and construction oversight. Throughout the design phase of the project, Metro Vancouver (MV) and Jacobs worked closely with staff from the Cities of Surrey and Delta to select the best alignment route for the water main with the least overall impact on area residents, businesses, and commuters. To mitigate construction impacts, particularly along busy corridors such as Scott Road, the project team investigated alternate construction methodologies, including trenchless technologies, to select the least impactful and intrusive method. Following extensive studies and consultations with both member jurisdictions as well as with other major utilities such as BC Hydro, Telus and Fortis Gas, an open cut methodology was selected.

To further reduce the impact on the community, construction at the intersection of Nordel Way, one of the busiest intersections in the lower mainland, was restricted to the summer months when traffic volumes are at their lowest.

To help ensure the work was completed on schedule and to encourage the selected contractor to adhere to the project timetable, MV introduced penalty and incentive clauses into the contract.

Contractor Qualification Process

Prior to initiating the construction procurement, the project team executed a contractor prequalification process. This process evaluated the expertise and references of interested contractors with experience in similar project settings. Inviting only the most qualified contractors to submit a tender increased the likelihood of success during implementation of the project.

The Contractor, Matcon Civil Constructors Inc., who was awarded the project had significant experience working on similar large regional infrastructure projects in urban settings and had a proven track record of successfully implementing community impact mitigation measures and completing work on schedule.

Agency Collaboration and Public Engagement

Concurrently with the Scott Road portion of the work, TransLink planned to execute their R6 Scott Road RapidBus upgrade project along Scott Road. At the request of the municipalities and TransLink and in an effort to minimize the overall disruption to the area where the two projects overlapped, MV negotiated with the Contractor to perform the RapidBus upgrades on behalf of TransLink. This collaboration allowed for a reduced overall construction timeline and helped

ensure both projects could maintain their planned schedules. As a result of the overlapping scope between the two projects, cost efficiencies were realized.

A multi-tiered community engagement approach was implemented to understand the impacts caused by construction and to develop construction impact mitigation measures that were directly integrated into the construction contract. Construction impacts ranged from local and commuter traffic, to noise and vibration, dust, parking, and access. MV staff worked very closely with staff from the Cities of Surrey and Delta and Translink and engaged with local residents, businesses, and community organizations to address these impacts prior to and during construction. Engagement activities included a series of open houses, bi-weekly stakeholder meetings, weekly email updates to businesses, newspaper ads, radio ads, social media campaigns, signage, and newsletters.

A key component of the engagement program was the appointment of a dedicated community liaison to work with the impacted community to provide prompt and frequent information especially to the impacted businesses in the area of construction.

Project Delivery Excellence

Working as a team with other stakeholders, the Contractor developed a plan to successfully minimize the overall impact on the project. Once the plan was developed, all stakeholders proceeded with a common agenda, met weekly, and worked in a collaborative effort to deliver the project. As a result, the project experienced a number of successful highlights. Critical portions of the project were completed well ahead of schedule; for example, the Nordel Way / Scott Road intersection was completed almost twice as fast as originally scheduled. Furthermore, the overall project was able to maintain its original schedule despite adding a significant portion of TransLink's R6 Scott Road RapidBus upgrade project work.

This project is an example of how well projects can go when careful project planning combines with collaborative efforts between MV, member jurisdictions and a qualified contractor to reach a common goal of reducing impacts to the community.

ALTERNATIVES

This is an information report. No alternatives are presented.

FINANCIAL IMPLICATIONS

This is an information report. No financial implications are presented.

CONCLUSION

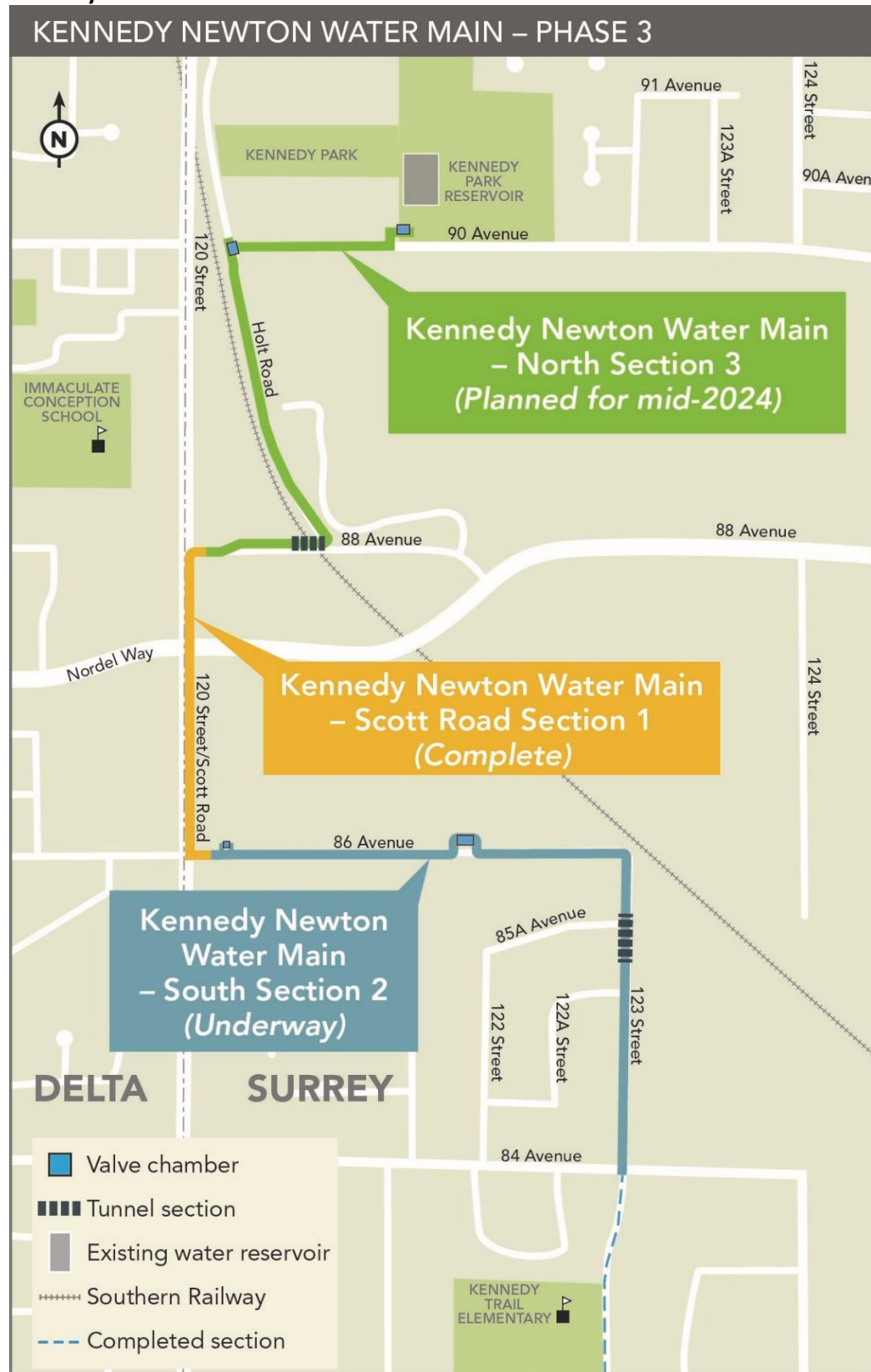
Metro Vancouver has successfully delivered one of the highest-risk sections of the Kennedy Newton Main project along Scott Road. The Scott Road Section was completed on budget, ahead of schedule, and while minimizing impacts to the public. The successful completion of this section illustrates the importance of careful project planning, close collaboration with member jurisdictions and other agencies, early stakeholder and community engagement, and using qualified contractors to implement these significant water infrastructure projects.

Attachment

1. Kennedy Newton Main Phase 3C – Scott Road Section

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Kennedy Newton Main Phase 3 – Scott Road Section



To: Water Committee

From: Inder Singh, Director, Interagency Projects & Quality Control, Water Services

Date: October 24, 2023 Meeting Date: November 8, 2023

Subject: **Corrosion Control Program: Copper Pipes Protection Monitoring Update**

RECOMMENDATION

That the Water Committee receive for information the report dated October 24, 2023, titled “Corrosion Control Program: Copper Pipes Protection Monitoring Update”.

EXECUTIVE SUMMARY

The *Corrosion Control Program: Copper Pipes Protection Monitoring Update* report summarizes key corrosion control initiatives undertaken by Metro Vancouver. Metro Vancouver’s untreated drinking water supply is naturally low in pH, making it corrosive to building plumbing systems. Corrosion control, through an increase in pH and alkalinity, has been implemented in Metro Vancouver over the past two decades. In June 2021, Metro Vancouver once again increased the pH of the drinking water to a target range of 8.3 to 8.5 and alkalinity to about 20 mg/L as calcium carbonate (CaCO₃) as a way to further protect copper pipes, fixtures and hot water tanks in buildings throughout the region.

Monitoring showed reduced copper concentrations in water samples collected from residences across the region, and continued compliance with the *Guidelines for Canadian Drinking Water Quality* (GCDWQ).

PURPOSE

To provide the Water Committee with an update on the status of Metro Vancouver’s corrosion control program and monitoring outcomes.

BACKGROUND

Metro Vancouver provides high quality drinking water to a regional population of about 2.8 million. The source water originates from rainfall and snowmelt that is captured in mountain reservoirs, which contain little to no calcium or magnesium based minerals, thereby classifying the water as soft. The average untreated source water pH ranges from 6.4 to 6.7 with an alkalinity ranging from 1.7 to 3.3 mg/L as CaCO₃. This pH range is below the acceptable pH value of 7.0, as defined under the GCDWQ, and is therefore raised using natural minerals at both the Seymour Capilano Filtration Plant (SCFP) and Coquitlam Water Treatment Plant (CWTP). Attachment 1 depicts the pH scale.

In addition to benefiting public health, mitigating the corrosiveness of drinking water also provides aesthetic and economic societal benefits related to increased longevity of plumbing systems. Conveying water from the source to the consumer’s tap is a complex process, with Metro Vancouver being responsible for the primary treatment and transmission of the bulk water supply, that is then delivered through member jurisdiction distribution systems to homes and businesses

across the region. Corrosion related issues may be specifically associated with premise plumbing conditions, which is primarily the responsibility of the end-user.

Incremental increases in pH and alkalinity have been implemented over the past two decades to provide corrosion control benefits and compliance with the GCDWQ. Prior to the June 2021, adjustment, both the SCFP and CWTP provided treated water with pH ranging from 7.5 to 7.7, and alkalinity ranging from 10.1 to 11.3 mg/L as CaCO₃. Having reaffirmed previous consulting engineering assessment recommendations, and with completion of the remaining treatment facility upgrades, full implementation of corrosion control adjustments proceeded in June 2021, which increased the pH of the drinking water to a target range of 8.3 to 8.5 and alkalinity to about 20 mg/L as calcium carbonate (CaCO₃). The pH and alkalinity adjustments to the targeted levels have also been compared to best industry practices followed by other major utilities with similar source water quality.

SAMPLING PROGRAM

The following initiatives were implemented to help assess corrosion control effectiveness:

- 1) Member jurisdiction distribution systems enhanced sampling (21 sites) from February 2021 to current;
- 2) At-the-tap residential sampling (15 sites) from February 2021 to September 2021; and
- 3) Field Station sampling (1 site) from February 2021 to current.

Samples collected from the member jurisdiction distribution systems were analyzed for pH and alkalinity to determine the stability of these parameters, both prior to, and following the adjustments at the primary treatment plants. At-the-tap samples collected from residences throughout the region helped determine the changes in total copper concentration in drinking water. Also, a Field Station designed to monitor metal dissolution over a longer term was installed at a Metro Vancouver valve chamber. At-the-tap sampling is complete; however, the remaining initiatives are ongoing. Data collected up to July 2023 is presented in this report.

Distribution Systems Sampling

The average pH and alkalinity in the member jurisdiction distribution systems before and after the June 2021 adjustments was observed to increase from 7.7 to 8.0, and 10 to 22 mg/L as CaCO₃, respectively. These parameters appeared to stabilize after a period of approximately 14 months. This was expected given the complex nature of distribution systems due to the variety of pipe materials, biofilm, and water age that will affect the chemical stability of the water.

The target level for pH established at the treatment plants dropped in some member jurisdiction distribution systems, and consideration is being given to a further adjustment, while conducting continued monitoring to assess the change. The alkalinity target level was achieved across the region.

At-the-tap Sampling

At-the-tap sampling was conducted by volunteers recruited by Metro Vancouver living in single-family residences across the region, as shown on Attachment 2. All residences were confirmed to primarily contain copper plumbing, and sampling was based on Health Canada guidance protocol.

This included collection of both a one-litre overnight stagnant sample (first-flush), and a running (flushed) sample. The samples were collected bi-weekly. The sampling initiative started in February 2021 and continued until September 2021 to assess the copper concentrations before and after the pH and alkalinity adjustments implemented in June 2021. A longer duration of sampling was not deemed practical given the inconvenience to the residents.

Total copper concentrations measured in stagnant and flushed samples are shown on Attachments 3 and 4, respectively. For both sample types, copper was observed to gradually decline and become less variable over a period of several months following the pH and alkalinity adjustment. This phenomenon is similar to the stabilization period observed for pH and alkalinity in the member jurisdiction distribution systems. Reduction of average total copper following the pH adjustment for the stagnant and flushed samples was 43 percent, and 49 percent, respectively. Both before and after the adjustment, total copper levels were well below the limits established in the GCDWQ.

Field Station Sampling

Attachment 5 shows the Field Station installation. This station provides additional corrosion control monitoring data collected under controlled conditions. The Field Station consists of chambers containing metal plates, through which water flow is regulated to achieve a specified stagnation period used to assess metal leaching potential. Samples were analyzed for both total and dissolved metals.

This station is helpful in monitoring trends in metal concentrations, and is not used to directly simulate at-the-tap samples from residences. Following the pH and alkalinity adjustment, there was a transition period of 8 months, during which concentrations of both total and dissolved copper, as well as the variability were significantly reduced.

ALTERNATIVES

This is an information report. No alternatives are presented.

FINANCIAL IMPLICATIONS

Any further minor adjustments of corrosion control parameters are not anticipated to significantly affect expenditures on treatment chemicals, and will be accommodated within the existing operating budgets. Continuous improvement initiatives are being implemented to ensure optimized chemical use in corrosion control processes.

CONCLUSION

Metro Vancouver's drinking water supply is naturally low in pH, making it corrosive to building plumbing systems. To manage corrosion, pH and alkalinity adjustments have been gradually implemented over the past two decades to ensure compliance with the GCDWQ. In June 2021, Metro Vancouver further increased the pH of the drinking water to a target range of 8.3 to 8.5, and alkalinity to about 20 mg/L as calcium carbonate (CaCO₃) as a way to further protect copper pipes, fixtures and hot water tanks in buildings throughout the region.

Prior to making the most recent adjustments, a metals sampling program was established to help assess the effectiveness in reducing copper concentrations in drinking water at homes and

businesses. Sampling was conducted in the member jurisdiction distribution systems, at select single-family residences and at a Field Station. It was determined that pH and alkalinity adjustments made to the source water require several months to stabilize in the member jurisdiction distribution systems. Significant reduction in copper concentrations were observed in at-the-tap samples collected from single-family residences. A 43 percent reduction in the average total copper concentration in overnight standing samples was observed for the residential sites. Both before and after the latest pH and alkalinity adjustments, copper concentrations were compliant with Health Canada standards; however, the reduction in corrosion helps provide economic societal benefits related to increased longevity of plumbing systems.

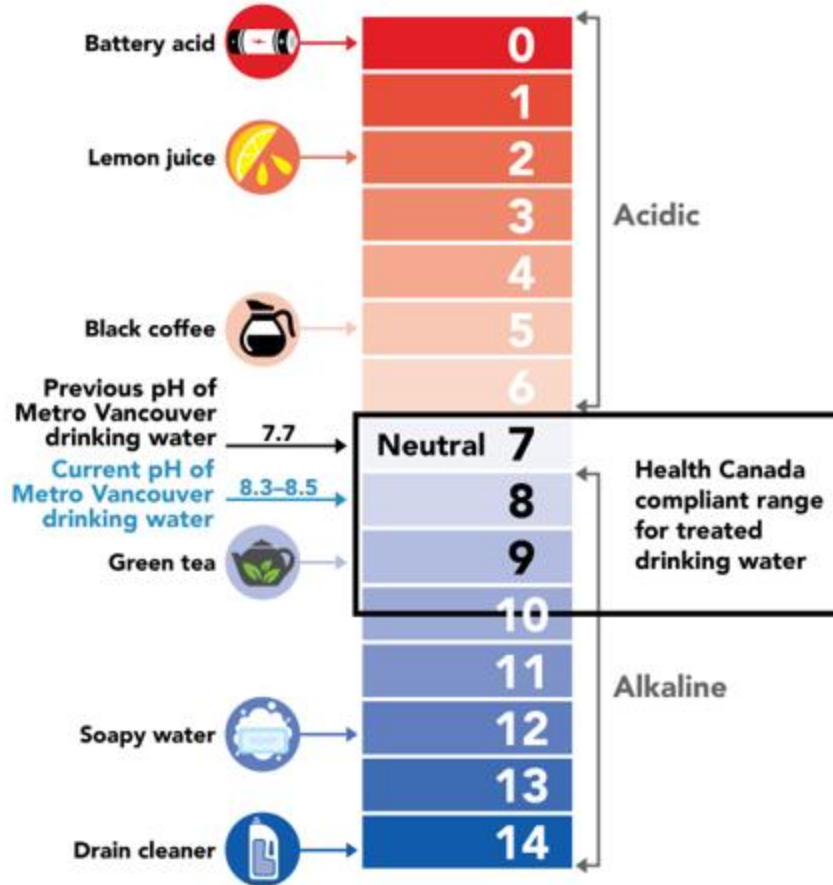
Attachments

1. The pH scale
2. Residential Sampling Sites
3. Residential Total Copper in Stagnant Samples
4. Residential Total Copper in Flushed Samples
5. Field Station Installation

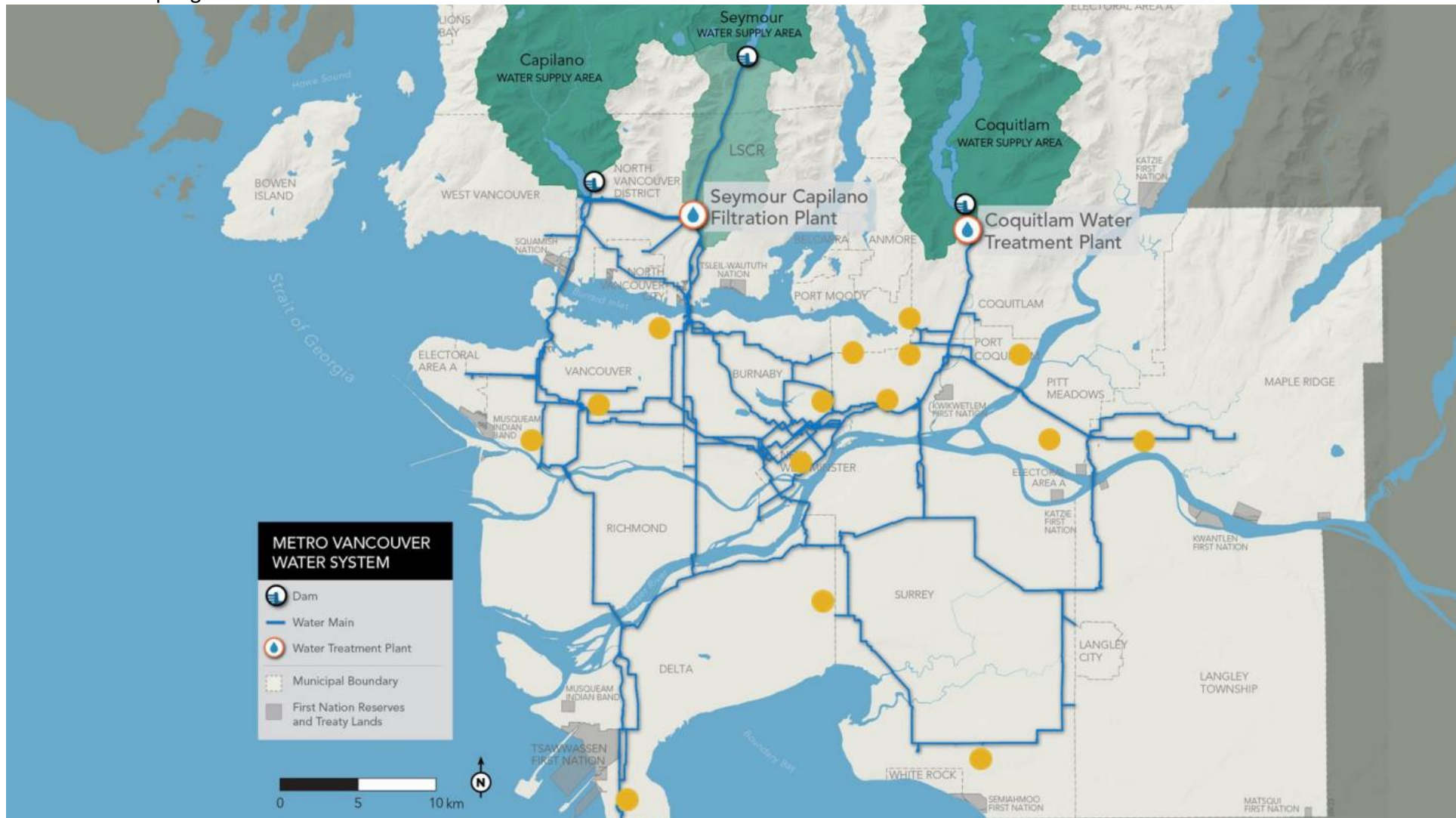
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The pH Scale

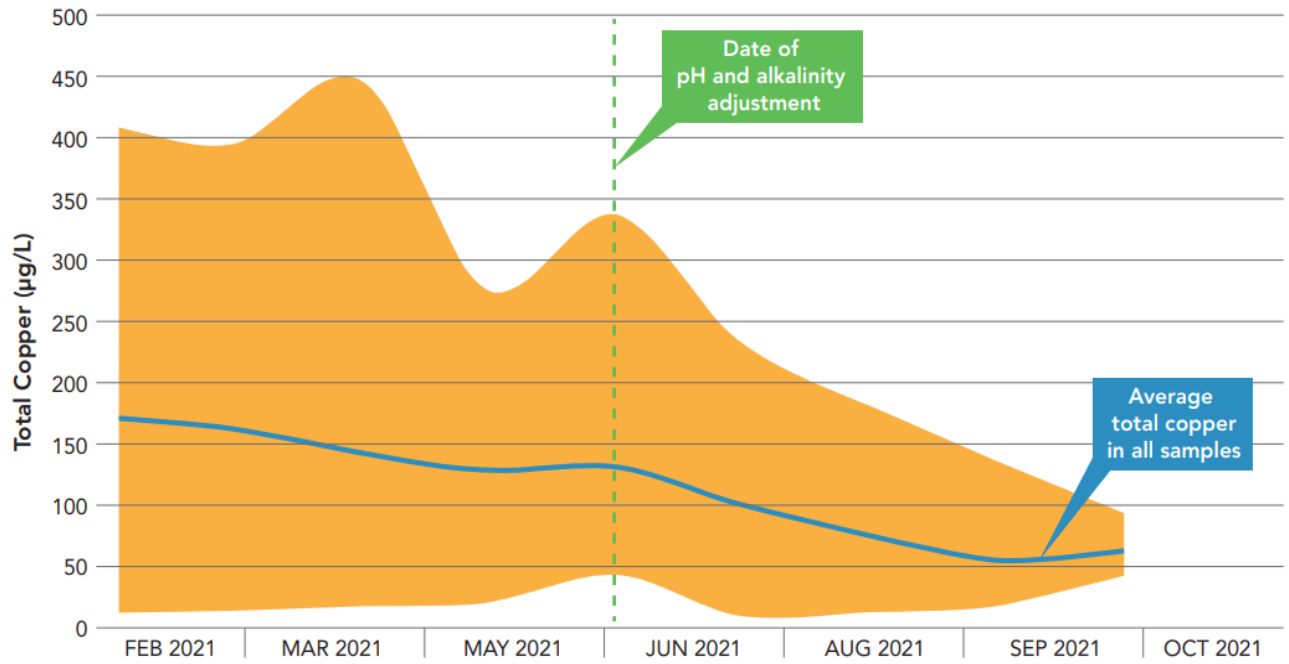
The pH scale is a measure of how acidic or basic a solution is.
 The operational pH guideline for treated drinking water is 7.0 to 10.5.



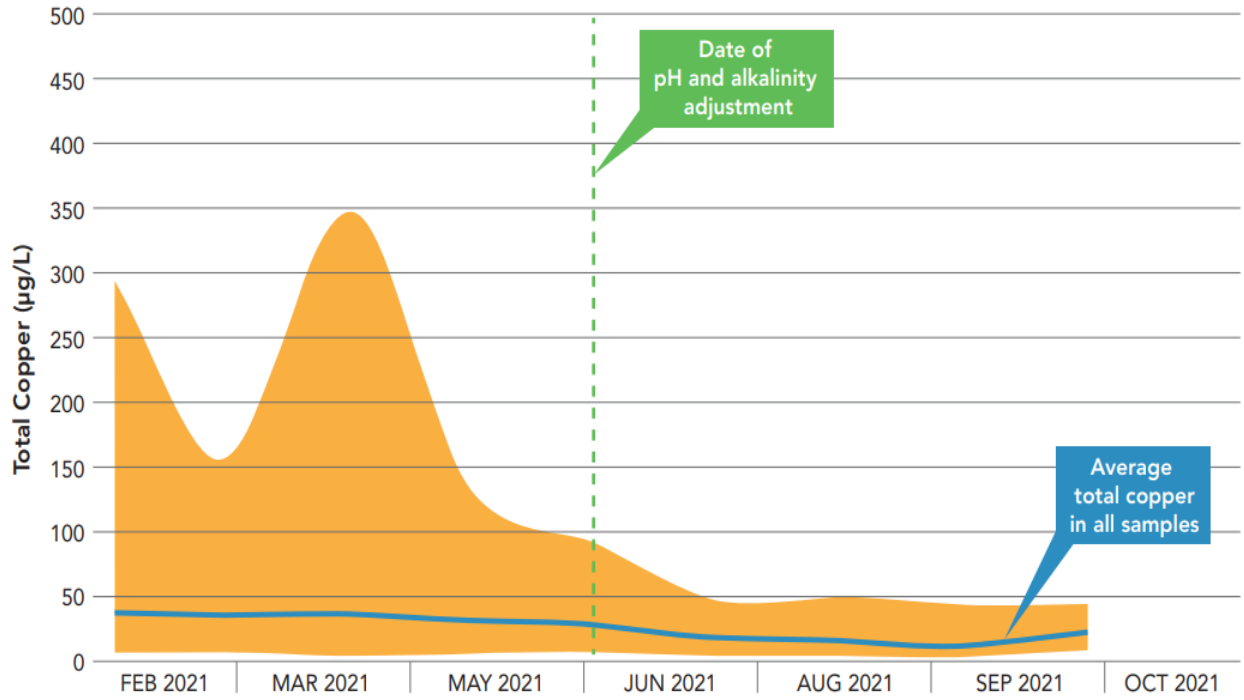
Residential Sampling Sites



Residential Total Copper in Stagnant Samples



Residential Total Copper in Flushed Samples



Field Station Installation



To: Water Committee

From: Marilyn Towill, General Manager, Water Services

Date: October 31, 2023

Meeting Date: November 8, 2023

Subject: **Manager's Report**

RECOMMENDATION

That the Water Committee receive for information the report dated October 31, 2023, titled "Manager's Report".

1. **2023 Wildfire Season Summary**

The summer of 2023 was an unprecedented wildfire season throughout BC including the Lower Mainland. The GVWD expanded its wildfire protection complement to three, three-person crews at the beginning of the season and took on an expanded role to provide response assistance throughout the Metro Vancouver Regional Parks system.

Portions of the region were in High or Extreme fire danger for 80 days between May and September representing a 47% increase over the three-year average and a 25% increase over 2022. As a result, the Watershed Protection crews were on standby 24 hours a day from early May through late September and responded to a total of 16 separate incidents spanning an area from Britannia Beach, across the Lower Mainland, and through the Fraser Canyon. These incidents included two fires within the water supply areas as well as 14 mutual aid requests from local municipal fire departments in West Vancouver, District of North Vancouver, and Sasamat Volunteer Fire as well as assistance to the BC Wildfire Service through a standing Mutual Aid Agreement.

The two incidents on GVWD land were detected and actioned quickly keeping the area affected small. The first was in the Lower Seymour Conservation Reserve (LSCR) in early July and received widespread media attention. This 0.3-hectare fire took crews eight days to completely extinguish. The second, was a small 0.15 hectare, lightning-caused fire, near a steep ridge top within the Coquitlam water supply area. This fire was declared out within 4 days despite the remote area which required helicopter access.

Metro Vancouver crews were also deployed for a total of 65 days to the Provincial fire bases in Hope and Boston Bar and worked alongside Provincial wildland firefighters in the Kookipi Creek wildfire complex response near Boston Bar. In turn, the Province provided essential and substantial air support for the July LSCR wildfire. The mutual aid agreement with the Province continues to be of great benefit to Metro Vancouver. This, and the continued relationships with local fire departments, are essential components of the region's wildfire response.

2. **Quality Management System for Drinking Water Update**

The Quality Management System for Drinking Water (QMSDW) was developed to help further safeguard Metro Vancouver's water supply and was adopted by the Water Committee and Board in January 2022. The QMSDW identifies areas of risk to the drinking water system with an

emphasis on water quality. It includes strategies to manage and mitigate these risks, as well as provides opportunities for continuous improvement. Since its adoption, the QMSDW Operational Plan was updated following an internal documentation audit conducted in 2022.

The focus during 2023 has been to identify key actions to manage prioritized risks across the Water Services department, including the new Dam Safety division, in the provision of high quality drinking water to the region. The 2023 audit scheduled for November will review the implementation process and identify its effectiveness in managing these key risks. This is an iterative process that will continue in subsequent years. Integration of the departmental QMSDW with the Corporate Quality Management System is also underway.

3. Metro Vancouver to celebrate 100th anniversary of drinking water service in 2024

In 2024 Metro Vancouver will celebrate the 100th anniversary of the drinking water service. To celebrate this milestone anniversary, a number of regular programs will be adapted to reflect the history and future of the service, including alignment with the work that will take place to develop the forward-looking drinking water management plan. Additionally, communication materials will be created to celebrate the anniversary, including for the water wagon (our mobile drinking water fountain that goes to events to teach people about the drinking water system), community newsletters related to construction projects, other construction project materials, the annual PNE showcase, the website, social media, K-12 resources, and more. We look forward to beginning to celebrate this milestone with the Committee starting in January of next year.

Attachment

1. Water Committee 2023 Work Plan

ATTACHMENT 1

Water Committee 2023 Work Plan

Priorities

1st Quarter	Status
Drinking Water Conservation Plan 2022 Summer Support Program Update	Complete
GVWD Electrical Energy Use, Generation and Management	Complete
Non-Potable Water Re-Use Project	Complete
Project Delivery Update: Coquitlam Main No. 4	Complete
Watershed Fisheries Initiatives Annual Update	Complete
New 2023 Water Sustainability Innovation Fund Projects	Complete
Contract Approvals as per Procurement and Real Property Contracting Authority Policy	Complete
Water Policies (as applicable)	Complete
2nd Quarter	
2022 Contribution Agreement Annual Reports - Seymour Salmonid Society and Coquitlam River Watershed Roundtable	Complete
Drinking Water Management Plan Update	Complete
GVWD 2022 Water Quality Annual Report	Complete
GVWD Capital Program Expenditure Update to December 31, 2022	Complete
GVWD Water Supply System 2022 Annual Update	Complete
Project Delivery Update: Water Tunneling Projects	Complete
Water Communications and Public Outreach Update	Complete
Wildfire Preparedness Update	Complete
Water Supply Update for Summer 2023	Complete
Contract Approvals as per Procurement and Real Property Contracting Authority Policy	Complete
Water Policies (as applicable)	Complete
3rd Quarter	
Annual Update on Water Sustainability Innovation Fund Projects	Complete
Corrosion Control Program Monitoring Update	In Progress*
GVWD 2022 Dam Safety Program Annual Update	Complete
GVWD Capital Program Expenditure Update to April 30 2023	Complete
In-System Reservoir Upgrades Update	Complete
Project Delivery Update: Coquitlam Lake Water Supply Project	Complete
Contract Approvals as per Procurement and Real Property Contracting Authority Policy	Complete
Water Policies (as applicable)	Complete
4th Quarter	
Annual Budget and 5-year Financial Plan	Complete
GVWD Capital Program Expenditure Update to August 31, 2023	In Progress*
GVWD Development Cost Charges – Update	Complete
Quality Management System for Drinking Water Update	In Progress*
Summer 2023 Water Supply Performance	In Progress*
Water Communications and Public Outreach Results	In Progress*
Contract Approvals as per Procurement and Real Property Contracting Authority Policy	In Progress*
Water Policies (as applicable)	Complete

*This item will be presented for consideration at the November 8, 2023 Water Committee meeting.

To: Water Committee

From: David Leavers, Division Manager, Regional Parks, Visitor & Operations Services
Mike Mayers, Division Manager, Water Services, Watershed Operations & Protection

Date: October 24, 2023 Meeting Date: November 8, 2023

Subject: **Tree Management on Metro Vancouver Lands – Revised Board Policy**

At its September 14, 2023 meeting, the Finance Committee approved a recommendation that the MVRD/GVS&DD/GVWD/MVHC Boards approve revisions to the *Tree Management on Metro Vancouver Lands* Board policy. The staff report titled “*Tree Management on Metro Vancouver Lands – Revised Board Policy*” dated August 11, 2023 is attached for information.

The report was included on the agenda for the MVRD/GVS&DD/GVWD/MVHC Boards at the four meetings held on September 29, 2023. The revised policy was approved by the four Boards of Metro Vancouver without any further revisions.

The *Tree Management on Metro Vancouver Lands Policy* provides increased clarity and direction on the management of trees, specifically addressing tree risk assessment practices, specific references to new operating procedures, and implementation of the new hazard tree management system. New tree replacement requirements are imbedded in the revised policy. The proposed amended policy will further align and standardize processes for tree risk assessment across all Metro Vancouver operating departments including Regional Parks, Water Services, Liquid Waste Services, Solid Waste Services, and Regional Housing.

ATTACHMENT

1. “*Tree Management on Metro Vancouver Lands – Revised Board Policy*”, dated August 11, 2023.

49192015

To: Finance Committee

From: David Leavers, Division Manager, Regional Parks, Visitor & Operations Services
Mike Mayers, Division Manager, Water Services, Watershed Operations & Protection

Date: August 11, 2023 Meeting Date: September 14, 2023

Subject: **Tree Management on Metro Vancouver Lands – Revised Board Policy**

RECOMMENDATION

That the MVRD/GVS&DD/GVWD/MVHC Boards approve the revised Tree Management on Metro Vancouver Lands Policy as presented in the report dated August 11, 2023, titled “Tree Management on Metro Vancouver Lands Policy – Revised Board Policy.”

EXECUTIVE SUMMARY

In February, 2018, a *Tree Management on Metro Vancouver Lands* board policy was approved by the Boards of MVRD, GVS&DD, GVWD, and MVHC (Metro Vancouver). The policy directs that Metro Vancouver maintain a consistent approach regarding the inspection and management of trees to ensure that its processes are aligned and standardized for risk assessment across all operating departments.

This report recommends a number of revisions to the *Tree Management on Metro Vancouver Lands* policy to continuously improve Metro Vancouver’s tree management practices. Proposed changes include new/revised definitions, an updated policy statement, and the removal of procedure based language (now that a new set of corporate procedures has been developed to support the policy). New to the policy is the inclusion of a section that imbeds direction regarding tree replacement requirements while managing for hazard trees, or when accommodating new development on Metro Vancouver lands in urban settings. The policy will require that Metro Vancouver replace any trees removed at a minimum replacement ration of 2:1 or the standard set by the local municipality, whichever is higher.

PURPOSE

To seek approval of the revised *Tree Management on Metro Vancouver Lands* policy (Attachment 1) regarding the inspection and management of trees to manage associated risks, and to establish tree replacement requirements for trees removed.

BACKGROUND

Under the *Occupier’s Liability Act*, occupiers of land and premises have a duty to take reasonable care that people and their property will be reasonable safe in using the premises. That duty of care includes the management of trees.

Metro Vancouver has extensive landholdings in urban settings with frequent interface between inhabitants, assets, and Metro Vancouver trees; in forested areas such as regional parks and

conservation areas where the public is invited to recreate; and, in wilderness areas in which there are rare interfaces between the public or staff and assets and Metro Vancouver trees.

On February 23, 2018, a *Tree Management on Metro Vancouver Lands* board policy was approved by MVRD, GVS&DD, GVWD, and MVHC (Metro Vancouver). The policy was approved to provide staff with guidance regarding the inspection and management of trees wholly or in part on Metro Vancouver Lands to ensure that processes are aligned and standardized for risk assessment across all Metro Vancouver departments.

POLICY RELATED WORK (2018-2023)

Over the past five years, staff from across the organization have worked with consultants, focused on the development of a set of corporate procedures to support the *Tree Management on Metro Vancouver Lands* policy. Procedures have been created to ensure that processes are aligned and standardized for risk assessment across all Metro Vancouver operation departments, as required by the Board policy. The procedures include direction for all operating departments including Water Services, Regional Parks, Liquid Waste Services, Metro Housing and Solid Waste Services. The procedures cover topics including:

1. Tree Risk Zoning
2. Site Types
3. On-demand Inspections
4. Scheduled Inspections
5. Tree Removal and Hazard Mitigation
6. Staff Roles and Responsibilities
7. Tree Risk Assessment Process

In addition, staff recently launched a standardized approach to managing hazard tree data throughout all Metro Vancouver operations. A database, accessed by staff through a cloud-based application and online desktop portal, was developed in-house to collect and retain all hazard tree information in order to maintain an inventory of trees and their respective inspection schedules, as required by the policy. All operating departments are required to transfer all existing records into the new database.

Over the past five years, a desire has been identified to imbed clear direction regarding tree replacement requirements while managing for hazard trees, or when accommodating new development on Metro Vancouver lands in urban settings.

PROPOSED REVISIONS TO THE POLICY

Proposed revisions to the *Tree Management on Metro Vancouver Lands* policy reference much of the work that has been completed in the last five years to continuously improve Metro Vancouver’s tree management practices. These revisions are illustrated in the red-line version of the policy, included in the report as Attachment 2.

The following is a summary of proposed revisions to the policy:

Definitions

- Updated definition of “Hazard Tree” to introduce a time element;
- Introduced definition of “Metro Vancouver”;
- Updated definition of “Metro Vancouver Lands” to include lands without tenure where there is a legal assignment of the lands to Metro Vancouver; and
- Eliminated definition of “Tree Risk Rating” as it has been included in the new corporate procedures.

Policy Statement

A new policy statement is proposed that references the types of interfaces Metro Vancouver has with inhabitants, assets, and trees on Metro Vancouver Lands. The new statement introduces language regarding the priorities of public and employee safety, environmental protection, property and critical infrastructure and prudent financial management in managing a hazard tree program. The statement notes that trees will be inspected and maintained in accordance with the policy, as well as by any procedures that are in effect from time to time. The statement “in accordance with the annual budget” is added in recognition that Metro Vancouver’s ability to manage risk is limited by the financial resources available through operating budgets.

Inspection and Management of Metro Vancouver Trees

Section 1 of the policy has been revised to remove procedural language that has been moved to the new corporate procedures. The proposed policy states more emphatically that “Metro Vancouver will inspect and maintain Trees on Metro Vancouver Lands in accordance with its corporate procedures.”

Hazard Tree Abatement Actions

Section 2 of the policy has been revised to state that abatement actions will be undertaken “in accordance with corporate procedures” rather than “in accordance with the recommendations of a Qualified Tree Assessor” to be consistent with the removal of procedural language for this revised policy.

Tree Replacement

Section 3 of the policy imbeds direction for staff and consultants regarding tree replacement requirements while managing for hazard trees, or when accommodating new development on Metro Vancouver lands in urban settings. Through this revision, Metro Vancouver commits to maintaining or providing a replacement ratio of a minimum 2:1 or the standard set by local municipality, whichever is higher.

ALTERNATIVES

1. That the MVRD/GVS&DD/GVWD/MVHD Boards approve the revised Tree Management on Metro Vancouver Lands Policy as presented in the report dated August 11, 2023, titled “Tree Management on Metro Vancouver Lands Policy – Revised Board Policy.”
2. That the MVRD/GVS&DD/GVWD/MVHD Board receive for information the report dated August 11, 2023, titled “Tree Management on Metro Vancouver Lands Policy – Revised Board Policy.”

FINANCIAL IMPLICATIONS

Subject to the approval of alternative 1, staff will proceed to manage its hazard tree management program with new corporate procedures in place and within current approved 2023 budgets and bring forward any required cost increases to future budgets.

Regional Parks has proposed an additional \$150,000 increase in 2024 operating budget to become fully compliant, and currently has over \$400K to continue to manage the hazard tree management program. The relative costs for Liquid Waste Services, Regional Housing, and Solid Waste Services will be less than for Regional Parks and increases for these divisions will be proposed in future years.

Additional funding will be required in most operating departments to become fully compliant with the *Tree Management on Metro Vancouver Lands* policy over the next 15 years (the minimum inspection cycle / schedule of assessment) as different operating departments are at different stages with respect to policy implementation. Individual departments will be required to complete a tree risk zoning mapping exercise for all properties under their authority, and illustrate all urban settings. Each zoning map will identify the site type of each property (urban settings / wilderness settings). Scheduled inspections will be required for all urban settings identified with potential targets in accordance with a minimum 15-year inspection cycle. Cost estimates related to tree removal and hazard mitigation will be determined year-to-year and will be built into future budget requests. Re-occurring assessment and reduced mitigation work requirements will reduce the need for cost increases for the ongoing program over future years.

CONCLUSION

The proposed revisions to the Tree Management on Metro Vancouver Lands Policy provide increased clarity and direction on the management of trees, specifically addressing tree risk assessment practices, specific references to new operating procedures and the implementation of the new hazard tree management system. New tree replacement requirements are imbedded in the revised policy. The proposed amended policy will further align and standardize processes for tree risk assessment across all Metro Vancouver departments. Alternative 1 is recommended.

Attachments

1. Revised *Tree Management on Metro Vancouver Lands* policy
2. Current *Tree Management on Metro Vancouver Lands* policy – Red-Line Version