
GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT (GVS&DD)**BOARD OF DIRECTORS****BOARD MEETING****Friday, October 3, 2025****9:00 am****28th Floor Boardroom, 4515 Central Boulevard, Burnaby, British Columbia****A G E N D A****A. ADOPTION OF THE AGENDA****1. October 3, 2025 Meeting Agenda**

That the GVS&DD Board adopt the agenda for its meeting scheduled for October 3, 2025 as circulated.

B. ADOPTION OF THE MINUTES**1. July 24, 2025 Special Meeting Minutes**

That the GVS&DD Board adopt the minutes of its special meeting held July 24, 2025 as circulated.

*pg. 7***2. July 25, 2025 Meeting Minutes**

That the GVS&DD Board adopt the minutes of its meeting held July 25, 2025 as circulated.

*pg. 12***C. DELEGATIONS****D. INVITED PRESENTATIONS****E. CONSENT AGENDA**

Note: Directors may adopt in one motion all recommendations appearing on the Consent Agenda or, prior to the vote, request that an item be removed from the Consent Agenda for debate or discussion, voting in opposition to a recommendation, or declaring a conflict of interest with an item.

1. ZERO WASTE COMMITTEE REPORTS

1.1 Updated Extended Producer Responsibility Five-Year Action Plan

pg. 19

Executive Summary

British Columbia is a leader in extended producer responsibility, and the Province's *Advancing Recycling in B.C. Extended Producer Responsibility Five-Year Action Plan 2021-2026*, identified priority product categories for addition to the program including automotive products, compressed canisters, additional battery categories, medical sharps used at home, and mattresses and foundations. In July 2025 Metro Vancouver was advised that due to consumer affordability challenges, the Ministry of Environment and Parks are not recommending inclusion of mattresses and foundations in the program at this time, but that the other product categories are expected to be added as originally proposed.

If mattresses and foundations are not added to the extended producer responsibility program, municipalities and users of the regional solid waste system will continue to subsidize management of the mattresses and foundations. As part of the 2026 budget phased increases in the fee charged for mattress and foundations at regional solid waste facilities will be recommended, starting with an increase from \$15 to \$20 per unit for January 2026.

This report recommends the Board Chair write to the Minister of Environment and Parks reiterating the importance of including mattresses and foundations in the extended producer responsibility program.

Recommendation

That the GVS&DD Board authorize the Chair to send a letter, in substantially the same form as Attachment 1 of the report dated September 2, 2025, titled "Updated Extended Producer Responsibility Five-Year Action Plan", to the Minister of Environment and Parks highlighting the benefits that will be achieved through the inclusion of new products such as small compressed gas containers and medical sharps used at home in the extended producer responsibility program, and reiterating the importance of the inclusion of mattresses in the program along with the impact on municipalities and users of the regional solid waste system if mattresses are not added.

2. LIQUID WASTE COMMITTEE REPORTS

2.1 Additional Information on Alternative Approach to Deliver the Iona Island Wastewater Treatment Plant Upgrade Projects

pg. 27

Executive Summary

Metro Vancouver is required to upgrade the Iona Island Wastewater Treatment Plant to meet federal and provincial regulatory requirements, which require a minimum of secondary level treatment.

In March 2022, the GVS&DD Board approved the Project Definition Report (PDR) for the Iona Island Wastewater Treatment Plant Upgrade Projects (Iona Projects) with an estimated cost of \$9.9 billion and a target of meeting secondary compliance by 2035. Within the PDR, the approach was to build an entirely new treatment plant and complementary environmental projects in a condensed timeline. That anticipated completion date would now be approximately 2040 due to market and population changes, negotiating federal funds, and review of alternate options to deliver the Iona Projects. In July 2024, the contract for preliminary design work was awarded to Fraser Delta Group. A key scope of work for the designer was to explore the phasing options of the Iona Projects components while prioritizing secondary treatment and assessing delivery strategies, cost sustainability, and associated risks.

The resulting recommended approach reflects updated project design information and assessment of market capacity. With the approach recommended in this report, the majority of secondary treatment would be delivered by 2039 with a cost estimate of \$6 billion. This would be done by rehabilitating the existing plant and reprioritizing other components not essential for secondary treatment. This approach changes the sequence of the components outlined in the PDR to deliver secondary treatment earlier. Other components would be delivered as future projects. This allows all components to be delivered over time, with the flexibility to adapt to changing environmental conditions, funding availability, population projections, regulatory requirements, and addresses concerns regarding annual costs for ratepayers in the short-term. However, delivery of all components outlined in the PDR will cost more over a longer time frame.

The proposed approach will allow Metro Vancouver to meet all regulatory requirements from the federal government and the majority of requirements set out in the provincial regulations by 2039. The provincial regulations have an additional requirement above what is required by the federal regulations related to the quantity of treated effluent. Metro Vancouver will be able to achieve a portion of this requirement with the recommended approach and the opportunity to request that the Province align provincial wastewater effluent regulations with federal wastewater effluent regulations.

A key risk of this approach is that the Province may not accept aligning with federal regulations and delays will be incurred with associated risks of regulatory non-compliance. Another risk in changing the sequence of delivery and deferring primary plant upgrades post-secondary treatment is increased operability risk of the primary plant in a seismic event.

Additional information requested by the GVS&DD Board at the Special GVS&DD meeting of July 24, 2025 is included in a cover report and its attachments.

Recommendation

That the GVS&DD Board:

- a) direct staff to undertake upgrades to the Iona Island Wastewater Treatment Upgrade Plant with an approach that:
 - i. prioritizes secondary treatment as quickly as possible; and
 - ii. changes the sequence of the components outlined in the 2022 Project Definition Report and defers other components,as described in the report dated September 5, 2025, titled “Additional Information on Alternative Approach to Deliver the Iona Island Wastewater Treatment Plant Upgrade Projects”; and
- b) direct staff to request that the Province align provincial wastewater effluent regulations with federal wastewater effluent regulations.

2.2 Liquid Waste Management Plan Phase 3 Engagement

pg. 106

Executive Summary

During the third and final phase of engagement on the *Liquid Waste Management Plan* update, Metro Vancouver engaged councils of member jurisdictions and sought input from First Nations and the public to finalize a plan for submission to the provincial Minister of Environment and Parks. Member councils emphasized the importance of cost fairness, support for wet weather and rainwater management, and opportunities for Metro Vancouver to assist with plan implementation. First Nations expressed strong interest in having co-decision making authority on regional and municipal projects and plans, alongside a desire to see actions that result in measurable water quality improvements resulting in a return to shellfish harvesting. Comments received from the public focused on capital project cost increases, concerns about the impacts of increasing population and urban growth on the region’s wastewater infrastructure, and support for enhanced rainwater management and expanded green infrastructure. Broadly, engagement results show support for the plan’s focus on conservation and reduction of system demands at the source. Nearly 1,000 comments received through all phases of plan engagement have been considered or incorporated into the plan, with effort to strike a balance between financial sustainability, environmental management, and First Nations’ priorities.

Recommendation

That the GVS&DD Board receive for information the report dated August 27, 2025, titled "Liquid Waste Management Plan Phase 3 Engagement."

3. COMMISSIONER REPORTS

3.1 Recommended Updates to Metro Vancouver Development Cost Charge Categories and Definitions

pg. 300

Executive Summary

Metro Vancouver is reviewing its Development Cost Charge (DCC) program through a series of coordinated projects. As an initial step, a report was presented to the Finance Committee and the MVRD Board in June 2025, outlining best practices, proposed updates to DCC categories and definitions, and a framework for engagement (Reference 1). Throughout July, Metro Vancouver engaged member jurisdictions, industry representatives, and the public. Overall feedback was generally supportive of proposed updates, and specific comments were used to help refine definitions and develop resources to support implementation.

This report summarizes feedback received and presents draft definitions and recommendations for Board review and approval. If the Boards approve the revised categories and definitions, they will be integrated into the planned 2027 DCC Program update, alongside updated population projections and capital plans, to inform new rate structures effective in 2028.

Recommendation

That the GVS&DD Board endorse the recommended updates to Development Cost Charge categories and definitions as described in the report dated August 25, 2025, titled "Recommended Updates to Development Cost Charge Categories and Definitions", and direct staff to integrate these updates into the planned 2027 DCC Program Update.

F. ITEMS REMOVED FROM THE CONSENT AGENDA

G. REPORTS NOT INCLUDED IN CONSENT AGENDA

H. MOTIONS FOR WHICH NOTICE HAS BEEN GIVEN

I. OTHER BUSINESS

1. GVS&DD Board Committee Information Items and Delegation Summaries

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J. RESOLUTION TO CLOSE MEETING

Note: The Board must state by resolution the basis under section 90 of the Community Charter on which the meeting is being closed. If a member wishes to add an item, the basis must be included below.

That the GVS&DD Board close its meeting scheduled for October 3, 2025 pursuant to section 226 (1) (a) of the *Local Government Act* and the *Community Charter* provision as follows:

90 (2) A part of a council meeting must be closed to the public if the subject matter being considered relates to one or more of the following:

- (b) the consideration of information received and held in confidence relating to negotiations between the municipality and a provincial government or the federal government or both, or between a provincial government or the federal government or both and a third party.

K. ADJOURNMENT

That the GVS&DD Board adjourn its meeting of October 3, 2025.

GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT BOARD OF DIRECTORS

Minutes of the Special Meeting of the Greater Vancouver Sewerage and Drainage District (GVS&DD) Board of Directors held at 9:00 am on Thursday, July 24, 2025, in the 28th Floor Boardroom, 4515 Central Boulevard, Burnaby, British Columbia.

MEMBERS PRESENT:

Burnaby, Chair, Director Mike Hurley
 Anmore, Vice Chair, Director John McEwen
 Burnaby, Director Pietro Calendino*
 Burnaby, Director Sav Dhaliwal
 Coquitlam, Director Craig Hodge
 Coquitlam, Director Teri Towner
 Delta, Director Rod Binder* (departed at 10:50 am)
 Delta, Director Dylan Kruger (departed at 12:03 pm)
 Electoral Area A, Director Jen McCutcheon* (departed at 10:26 am)
 Langley City, Director Paul Albrecht
 Langley Township, Director Steve Ferguson (departed at 11:26 am)
 Langley Township, Director Eric Woodward* (arrived at 9:26 am)
 Maple Ridge, Director Dan Ruimy
 New Westminster, Director Nadine Nakagawa (departed at 11:29 am)
 North Vancouver City, Director Linda Buchanan (arrived at 9:26 am)
 North Vancouver District, Director Lisa Muri
 Pitt Meadows, Director Nicole MacDonald*
 Port Coquitlam, Director Brad West* (arrived at 9:26 am)

Port Moody, Director Meghan Lahti (departed at 12:01 pm)
 Richmond, Director Malcolm Brodie
 Richmond, Director Alexa Loo
 Richmond, Director Bill McNulty
 Surrey, Director Harry Bains* (arrived at 9:26 am)
 Surrey, Director Doug Elford
 Surrey, Director Gordon Hepner*
 Surrey, Director Pardeep Kooner
 Surrey, Director Brenda Locke*
 Surrey, Director Rob Stutt
 Vancouver, Director Rebecca Bligh* (arrived at 9:26 am, departed at 10:26 am)
 Vancouver, Director Lisa Dominato
 Vancouver, Director Sarah Kirby-Yung
 Vancouver, Director Peter Meiszner
 Vancouver, Alternate Director Brian Montague for Director Ken Sim
 Vancouver, Director Lenny Zhou (arrived at 9:26 am)
 West Vancouver, Director Mark Sager
 White Rock, Director Megan Knight*
 Commissioner Jerry W. Dobrovolsky
 (Non-voting member)

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

MEMBERS ABSENT:

Vancouver, Director Mike Klassen

OTHERS PRESENT:

Rick Bitcon, Consultant, Iona Island Wastewater Treatment Plant
 Dave Clancy, Contractor, Project Delivery
 Frank Margitan, Advisor to the Iona Wastewater Treatment Plant Project*

STAFF PRESENT:

Dorothy Shermer, Corporate Officer
Lauren Bourdiol, Acting Legislative Services Coordinator, Board and Information Services
Cheryl Nelms, General Manager, Project Delivery
Peter Navratil, General Manager, Liquid Waste Services

A. ADOPTION OF THE AGENDA**1. July 24, 2025 Special Meeting Agenda****It was MOVED and SECONDED**

That the GVS&DD Board adopt the revised agenda for its special meeting scheduled for July 24, 2025 as circulated.

CARRIED

B. RESOLUTION TO CLOSE MEETING**It was MOVED and SECONDED**

That the GVS&DD Board close its meeting scheduled for July 24, 2025 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:
- i) the receipt of advice that is subject to solicitor-client privilege, including communications necessary for that purpose.

CARRIED

C. RECESS**It was MOVED and SECONDED**

That the GVS&DD Board recess its special meeting scheduled for July 24, 2025.

CARRIED

(Time: 9:02am)

D. RECONVENE

The GVS&DD Board reconvened its special meeting of July 24, 2025 at 9:26 am with the previous members and Directors Bains, Bligh, Buchanan, West, Woodward, and Zhou in attendance.

E. NEW BUSINESS**1. Alternative Approach to Deliver the Iona Island Wastewater Treatment Plant Upgrade Projects**

Report dated July 15, 2025 from Jerry W. Dobrovolsky, Commissioner, providing the GVS&DD Board with an alternative approach for upgrading the Iona Island Wastewater Treatment Plant to meet secondary treatment regulations as quickly as possible.

Jerry W. Dobrovolsky provided a verbal overview of the additional report materials provided on table for this item, noting that the Regional Engineering Advisory Committee (REAC) and Regional Administration Advisory Committee (RAAC) unanimously endorsed the alternative approach, which would improve effluent quality sooner, respond to current market conditions and demands, and provide greater affordability for future decades.

Cheryl Nelms, General Manager, Project Delivery, and Peter Navratil, General Manager, Liquid Waste Services, provided an in-depth presentation on the project and options available.

10:26 am Directors Bligh and McCutcheon left the meeting.

10:50 am Director Binder left the meeting.

11:26 am Director Ferguson left the meeting.

11:29 am Director Nakagawa left the meeting.

Members discussed the proposed alternative approach, as well as the need for further information and time to consider the proposed alternative approach.

It was MOVED and SECONDED

That the GVS&DD Board refer this report to the Fall to enable staff to respond to Board requests to:

1. assess and respond to comments and questions raised by the RAAC/REAC members during the joint meeting held on July 18, 2025;
2. assess and respond to any additional questions or comments emanating from the July 25, 2025 GVS&DD Board meeting in relation to this topic;
3. conduct further engagement with the Liquid Waste Committee; and
4. provide an Intergovernmental Relations update including setting up meetings with Federal and Provincial Ministers and opportunity for the Board to send updated letters to Senior Government regulators with respect to regulatory requirements and pathways forward.

It was MOVED and SECONDED

That the foregoing motion be amended by adding “and the Finance Committee” to item 3 after “Liquid Waste Committee”.

CARRIED

The main motion as amended now reads as follows:

That the GVS&DD Board refer this report to the Fall to enable staff to respond to Board requests to:

- 1. assess and respond to comments and questions raised by the RAAC/REAC members during the joint meeting held on July 18, 2025;*
- 2. assess and respond to any additional questions or comments emanating from the July 25, 2025 GVS&DD Board meeting in relation to this topic;*
- 3. conduct further engagement with the Liquid Waste Committee and the Finance Committee; and*
- 4. provide an Intergovernmental Relations update including setting up meetings with Federal and Provincial Ministers and opportunity for the Board to send updated letters to Senior Government regulators with respect to regulatory requirements and pathways forward.*

It was MOVED and SECONDED

That the foregoing motion be further amended by replacing the word “Fall” with “October 3 GVS&DD Board meeting”.

CARRIED

12:01 pm Director Lahti left the meeting.

12:03 pm Director Kruger left the meeting.

The question on the motion as amended was put to a vote; the following motion was CARRIED:

That the GVS&DD Board refer this report to the October 3 GVS&DD Board meeting to enable staff to respond to Board requests to:

- 1. assess and respond to comments and questions raised by the RAAC/REAC members during the joint meeting held on July 18, 2025;*
- 2. assess and respond to any additional questions or comments emanating from the July 25, 2025 GVS&DD Board meeting in relation to this topic;*
- 3. conduct further engagement with the Liquid Waste Committee and the Finance Committee; and*
- 4. provide an Intergovernmental Relations update including setting up meetings with Federal and Provincial Ministers and opportunity for the Board to send updated letters to Senior Government regulators with respect to regulatory requirements and pathways forward.*

CARRIED

Directors Dhaliwal and Calendino voted against.

F. ADJOURNMENT**It was MOVED and SECONDED**

That the GVS&DD Board adjourn its special meeting of July 24, 2025.

CARRIED

(Time: 12:07 pm)

CERTIFIED CORRECT

Dorothy Shermer, Corporate Officer

Mike Hurley, Chair

77916794

GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT BOARD OF DIRECTORS

Minutes of the Regular Meeting of the Greater Vancouver Sewerage and Drainage District (GVS&DD) Board of Directors held at 9:03 am on Friday, July 25, 2025, in the 28th Floor Boardroom, 4515 Central Boulevard, Burnaby, British Columbia.

MEMBERS PRESENT:

Burnaby, Chair, Director Mike Hurley
 Anmore, Vice Chair, Director John McEwen
 Burnaby, Director Pietro Calendino*
 Burnaby, Director Sav Dhaliwal
 Coquitlam, Director Craig Hodge
 Coquitlam, Director Teri Towner
 Delta, Director Rod Binder
 Delta, Director Dylan Kruger*
 Electoral Area A, Director Jen McCutcheon*
 Langley City, Director Paul Albrecht
 Langley Township, Director Steve Ferguson*
 Langley Township, Director Eric Woodward*
 (arrived at 11:58 am)
 Maple Ridge, Director Dan Ruimy
 New Westminster, Director Nadine Nakagawa
 North Vancouver City, Director Linda Buchanan
 North Vancouver District, Director Lisa Muri*
 (arrived at 11:58 am)
 Pitt Meadows, Director Nicole MacDonald*
 Port Coquitlam, Director Brad West*
 Port Moody, Director Meghan Lahti
 Richmond, Director Malcolm Brodie

Richmond, Director Alexa Loo
 Richmond, Director Bill McNulty
 Surrey, Director Harry Bains*
 Surrey, Director Doug Elford
 Surrey, Director Gordon Hepner (departed at
 9:04 am)
 Surrey, Director Pardeep Kooner
 Surrey, Director Brenda Locke*
 Surrey, Director Rob Stutt
 Vancouver, Director Rebecca Bligh
 Vancouver, Director Lisa Dominato (departed at
 11:59 am)
 Vancouver, Director Sarah Kirby-Yung (arrived at
 11:59 am; departed at 12:02 pm)
 Vancouver, Director Mike Klassen
 Vancouver, Director Peter Meiszner (departed at
 9:04 am)
 Vancouver, Director Lenny Zhou (departed at
 12:03 pm)
 West Vancouver, Director Mark Sager
 Commissioner Jerry W. Dobrovlny
 (Non-voting member)

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

MEMBERS ABSENT:

Vancouver, Director Ken Sim
 White Rock, Director Megan Knight

STAFF PRESENT:

Dorothy Shermer, Corporate Officer
 Lauren Bourdiol, Acting Legislative Services Coordinator, Board and Information Services

A. ADOPTION OF THE AGENDA**1. July 25, 2025 Meeting Agenda****It was MOVED and SECONDED**

That the GVS&DD Board:

- a) amend the revised agenda by removing item E2.1 – Alternative Approach to Deliver the Iona Island Wastewater Treatment Plant Upgrade Projects;
- b) adopt the revised agenda for its meeting scheduled for July 25, 2025 as amended; and
- c) immediately address item J – Resolution to Close Meeting.

CARRIED**J. RESOLUTION TO CLOSE MEETING****It was MOVED and SECONDED**

That the GVS&DD Board close its meeting scheduled for July 25, 2025 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;
 - (g) litigation or potential litigation affecting the municipality; and
 - (i) the receipt of advice that is subject to solicitor-client privilege, including communications necessary for that purpose.

CARRIED**It was MOVED and SECONDED**

That the GVS&DD Board recess its regular meeting of July 25, 2025.

CARRIED

(Time: 9:04 am)

RECONVENE

The GVS&DD Board reconvened its regular meeting of July 25, 2025 at 11:58 am with Directors Albrecht, Dhaliwal, Hepner, and Meiszner absent, and Directors Muri and Woodward present.

B. ADOPTION OF THE MINUTES**1. June 27, 2025 Meeting Minutes****It was MOVED and SECONDED**

That the GVS&DD Board adopt the minutes for its meeting held June 27, 2025 as circulated.

CARRIED

C. DELEGATIONS

No items presented.

D. INVITED PRESENTATIONS

No items presented.

E. CONSENT AGENDA

At the request of Directors, the following item was removed from the Consent Agenda for consideration under Section F:

- 1.3 Award of RFP 24-509 for North Shore, United Boulevard, and North Surrey Recycling and Waste Centres Operating and Maintenance Services Agreement

It was MOVED and SECONDED

That the GVS&DD Board adopt the recommendations for the following items as presented in the July 25, 2025 GVS&DD Consent Agenda:

- 1.1 Solid Waste Management Plan Goals and Hierarchy
- 1.2 Solid Waste Management Plan Update – Idea Generation Engagement Summary
- 1.4 Award of RFP No. 24-510 for Maple Ridge and Langley Recycling and Waste Centres Operating and Maintenance Services Agreement
- 2.2 Award of RFP 24-145 Construction Services for the Westridge Sewer Upgrade
- 3.1 Consideration of Updating Development Cost Charge Waivers to Include Inclusionary Housing Units - Financial Analysis and Mitigating Measures

CARRIED

1.1 Solid Waste Management Plan Goals and Hierarchy

Report dated June 20, 2025 from Terry Fulton, Senior Project Engineer, Solid Waste Services, seeking approval from the GVS&DD Board on the draft goals and hierarchy for an updated solid waste management plan.

Recommendation

That the GVS&DD Board approve the goals and hierarchy for an updated regional solid waste management plan as presented in the report dated June 20, 2025, titled “Solid Waste Management Plan Goals and Hierarchy.”

Adopted on Consent

1.2 Solid Waste Management Plan Update – Idea Generation Engagement Summary

Report dated June 24, 2025 from Stephanie Liu, Program Manager, Community Engagement, Solid Waste Services, providing the Zero Waste Committee and GVS&DD Board with information on engagement feedback from the idea generation phase in 2024, related to updating the regional solid waste management plan.

Recommendation

That the GVS&DD Board receive for information the report dated June 24, 2025, titled “Solid Waste Management Plan Update – Idea Generation Engagement Summary”.

Adopted on Consent

1.4 Award of RFP No. 24-510 for Maple Ridge and Langley Recycling and Waste Centres Operating and Maintenance Services Agreement

Report dated June 24, 2025 from Chris Allan, Director, Solid Waste Operations, Solid Waste Services, and George Kavouras, Director, Procurement, Procurement & Real Estate Services, seeking GVS&DD Board approval to award a contract, in the amount of up to \$38,778,000 (exclusive of taxes) to GFL Environmental Inc., for a term of seven (7) years.

Recommendation

That the GVS&DD Board:

- a) approve the award of RFP No. 24-510 for Maple Ridge and Langley Recycling and Waste Centres Operating, and Maintenance Services Agreement, in the amount of up to \$38,778,000 (exclusive of taxes) to GFL Environmental Inc., for a term of seven (7) years, subject to final review by the Commissioner; and
- b) authorize the General Manager, Procurement and Real Estate to execute the required documentation once the General Manager, Procurement and Real Estate is satisfied that the award should proceed.

Adopted on Consent

2.2 Award of RFP 24-145 Construction Services for the Westridge Sewer Upgrade

Report dated June 27, 2025 from George Kavouras, Director, Procurement, Procurement & Real Estate Services, and Joan Liu, Division Manager, Liquid Waste Services, seeking GVS&DD Board approval to award a contract, in the amount of up to \$17,488,656.00 (exclusive of taxes) to NorLand Limited, for a term of 18 months.

Recommendation

That the GVS&DD Board:

- a) approve the award of RFP 24-145 for Construction Services for the Westridge Sewer Upgrade, in the amount of up to \$17,488,656.00 (exclusive of taxes) to NorLand Limited, for a term of 18 months, subject to final review by the Commissioner; and
- b) authorize the General Manager, Procurement and Real Estate to execute the required documentation once the General Manager, Procurement and Real Estate is satisfied that the award should proceed.

Adopted on Consent

3.1 Consideration of Updating Development Cost Charge Waivers to Include Inclusionary Housing Units - Financial Analysis and Mitigating Measures

Report dated June 23, 2025 from Michael Epp, Director, Housing Planning and Development, Regional Planning and Housing Services, seeking Finance Committee and GVS&DD Board direction to update Metro Vancouver's development cost charge (DCC) waiver framework, including extending DCC waivers for inclusionary housing units, and additional housekeeping amendments.

Recommendation

That the GVS&DD Board direct staff to bring forward amended Development Cost Charge Waiver Bylaws to add provisions that waive development cost charges (DCCs) for inclusionary housing units and other amendments as outlined in the report titled "Consideration of Updating Development Cost Charge Waivers to Include Inclusionary Housing" and monitor and report back annually on DCCs waived for for-profit affordable rental housing.

Adopted on Consent

F. ITEMS REMOVED FROM THE CONSENT AGENDA

Items removed from the consent agenda were considered in numerical order.

1.3 Award of RFP 24-509 for North Shore, United Boulevard, and North Surrey Recycling and Waste Centres Operating and Maintenance Services Agreement

Report dated June 24, 2025 from Chris Allan, Director, Solid Waste Operations, Solid Waste Services, and George Kavouras, Director, Procurement, Procurement & Real Estate Services, seeking GVS&DD Board approval to award a contract, in the amount of up to \$281,007,000 (excluding taxes) to Halton Recycling Ltd. dba. Emterra Environmental, for a term of seven (7) years.

11:59 am Director Dominato left the meeting.

11:59 am Director Kirby-Yung joined the meeting.

12:00 pm Director Dhaliwal re-joined the meeting.

12:02 pm Director Albrecht re-joined the meeting.

12:02 pm Director Kirby-Yung left the meeting.

12:03 pm Director Zhou left the meeting.

It was MOVED and SECONDED

That the GVS&DD Board:

- a) approve the award of RFP 24-509 for North Shore, United Boulevard and North Surrey Recycling and Waste Centres Operating and Maintenance Services Agreement in the amount of up to \$281,007,000 (excluding taxes) to Halton Recycling Ltd. dba. Emterra Environmental, for a term of seven (7) years, subject to final review by the Commissioner; and
- b) authorize the General Manager, Procurement, and Real Estate to execute the required documentation once the General Manager, Procurement, and Real Estate is satisfied that the award should proceed.

CARRIED**G. REPORTS NOT INCLUDED IN CONSENT AGENDA****1.1 Greater Vancouver Sewerage and Drainage District Development Cost Charge Reserve Fund Expenditure Bylaw No. 392, 2025**

Report dated June 25, 2025 from Sonu Kailley, Director, Financial Planning, Financial Services, seeking GVS&DD Board adoption of a bylaw to complete the authority for the required transfer of DCCs to fund both growth debt servicing and growth capital project expenditures for the 2024 sewer growth capital projects.

It was MOVED and SECONDED

That the GVS&DD Board:

- a) give first, second and third reading to *Greater Vancouver Sewerage and Drainage District Development Cost Charge Reserve Fund Expenditure Bylaw No. 392, 2025*.

CARRIED**It was MOVED and SECONDED**

That the GVS&DD Board:

- b) adopt *Greater Vancouver Sewerage and Drainage District Development Cost Charge Reserve Fund Expenditure Bylaw No. 392, 2025*.

CARRIED**H. MOTIONS FOR WHICH NOTICE HAS BEEN GIVEN**

No items presented.

I. OTHER BUSINESS**1. GVS&DD Board Committee Information Items and Delegation Summaries**

K. ADJOURNMENT**It was MOVED and SECONDED**

That the GVS&DD Board adjourn its meeting of July 25, 2025.

CARRIED

(Time: 12:05 pm)

CERTIFIED CORRECT

Dorothy Shermer, Corporate Officer

Mike Hurley, Chair

77952994



To: Zero Waste Committee

From: Andrew Doi, Environmental Planner, Solid Waste Services

Date: September 2, 2025

Meeting Date: September 11, 2025

Subject: **Updated Extended Producer Responsibility Five-Year Action Plan**

RECOMMENDATION

That the GVS&DD Board authorize the Chair to send a letter, in substantially the same form as Attachment 1 of the report dated September 2, 2025, titled "Updated Extended Producer Responsibility Five-Year Action Plan", to the Minister of Environment and Parks highlighting the benefits that will be achieved through the inclusion of new products such as small compressed gas containers and medical sharps used at home in the extended producer responsibility program, and reiterating the importance of the inclusion of mattresses in the program along with the impact on municipalities and users of the regional solid waste system if mattresses are not added.

EXECUTIVE SUMMARY

British Columbia is a leader in extended producer responsibility, and the Province's *Advancing Recycling in B.C. Extended Producer Responsibility Five-Year Action Plan 2021-2026*, identified priority product categories for addition to the program including automotive products, compressed canisters, additional battery categories, medical sharps used at home, and mattresses and foundations. In July 2025 Metro Vancouver was advised that due to consumer affordability challenges, the Ministry of Environment and Parks are not recommending inclusion of mattresses and foundations in the program at this time, but that the other product categories are expected to be added as originally proposed.

If mattresses and foundations are not added to the extended producer responsibility program, municipalities and users of the regional solid waste system will continue to subsidize management of the mattresses and foundations. As part of the 2026 budget phased increases in the fee charged for mattress and foundations at regional solid waste facilities will be recommended, starting with an increase from \$15 to \$20 per unit for January 2026.

This report recommends the Board Chair write to the Minister of Environment and Parks reiterating the importance of including mattresses and foundations in the extended producer responsibility program.

PURPOSE

To inform the Zero Waste Committee and GVS&DD Board of a change in the *Advancing Recycling in B.C. Extended Producer Responsibility Five-Year Action Plan 2021-2026*, and to provide the opportunity to consider writing a letter to the Province.

BACKGROUND

Advancing Recycling in B.C. Extended Producer Responsibility Five-Year Action Plan 2021-2026, was published by the Province in 2021 to outline B.C.'s priorities to continue to advance as a leader in extended producer responsibility and waste prevention. These priorities included the development of policy options along with the proposed regulation of mattresses and moderate risk products, such as automotive products, compressed canisters, batteries, and medical sharps used at home. In September 2024, the Zero Waste Committee and GVS&DD Board received a report titled "Expanding Product Categories in Extended Producer Responsibility" which communicated a notification from the Province of a delay in regulating the product categories identified in the *Advancing Recycling in B.C. Extended Producer Responsibility Five-Year Action Plan 2021-2026*. The Chairs of the GVS&DD Board and Zero Waste Committee sent a letter to the Minister of Environment and Parks to request expedited amendments to the *B.C. Recycling Regulation* to include mattresses, compressed canisters, fire extinguishers, medical sharps, and other priority products.

In July 2025, Metro Vancouver staff and other interested parties were informed that due to consumer affordability challenges, the Ministry will not be recommending the inclusion of mattresses as a new product category at this time. For consideration by the Provincial government this year, the Ministry is still proposing to regulate other moderate risk products, such as automotive products, compressed canisters, batteries, and medical sharps used at home.

LOCAL GOVERNMENT APPROACH TO EXTENDED PRODUCER RESPONSIBILITY

For over two decades, extended producer responsibility has been a key policy in B.C. for the management of end-of-life products. The Province of B.C. is a recognized leader in extended producer responsibility, and local governments have been long-standing proponents of adding new product categories to these programs to help achieve waste reduction goals (e.g., packaging and paper products), abate littering (e.g., beverage containers), or address problematic (e.g., tires) or hazardous waste (e.g., used oil and antifreeze). Since many extended producer responsibility programs charge advance-disposal fees (i.e., eco-fees) to support program operation and administration, this approach to end-of-life management of products helps to promote greater equity among consumers, since those who consume more products, pay more of the costs of the collection and recycling system. In the absence of regulated extended producer responsibility programs, these systems are funded by ratepayers and taxpayers, with the corresponding tax and utility bills being de-linked from the consumption rate of products.

Extended Producer Responsibility for Mattresses, Foundations and Moderate Risk Products

The continued consideration of moderate risk products is encouraging, for items such as automotive products, compressed canisters, batteries, and medical sharps used at home. The uncertainty regarding the implementation timeline for mattresses and foundations is challenging for Metro Vancouver and member jurisdictions, who continue to request that this category be regulated as soon as possible.

Metro Vancouver implemented a disposal ban for mattresses and foundations in 2011. This key decision helped to establish mattress recycling collection and processing infrastructure throughout the province. Metro Vancouver's Board has communicated the importance of shifting the financial responsibility to producers for the recycling mattresses and foundations in 2012, 2016, 2020, and 2024. This request is largely due to the mattress and foundation product category's compatibility with an extended producer responsibility approach — given the limited number of producers, the recyclability of materials in mattresses and foundations, and mattresses being expensive to manage, problematic and undesirable as municipal solid waste.

Several jurisdictions in North America — including California, Connecticut, Oregon and Rhode Island — have already enacted regulations and implemented extended producer responsibility programs for mattresses. Lessons learned from these jurisdictions, which include some long-standing programs spanning over a decade, could help inform the development of a new, best-in-class mattress program in British Columbia.

ALTERNATIVES

1. That the GVS&DD Board authorize the Chair to send a letter, in substantially the same form as Attachment 1 of the report dated September 2, 2025, titled "Updated Extended Producer Responsibility Five-Year Action Plan", to the Minister of Environment and Parks highlighting the benefits that will be achieved through the inclusion of new products such as small compressed gas containers and medical sharps used at home in the extended producer responsibility program, and reiterating the importance of the inclusion of mattresses in the program along with the impact on municipalities and users of the regional solid waste system if mattresses are not added.
2. That the Zero Waste Committee receive for information the report dated September 2, 2025, titled "Updated Extended Producer Responsibility Five-Year Action Plan".

FINANCIAL IMPLICATIONS

Without an extended producer responsibility program in place for mattresses and foundations, recycling costs for these items are paid on disposal. Metro Vancouver receives a large number of mattresses and foundations at its recycling and waste centres. In 2024, for example, 90,573 units were collected at Metro Vancouver recycling and waste centres. On-site handling, transportation and processing costs for collected mattresses and foundations exceeded \$3.5 million in 2024, producing a per unit total cost of over \$38, more than double the \$15 per unit fee charged to individuals dropping off the mattresses and foundations. The resulting subsidy by the users of the regional solid waste system is between \$1.5 to \$2.0 million per year to fund the gap between the drop-off fee and the cost of recycling.

Aside from Metro Vancouver's costs for managing mattresses and foundations, member jurisdictions expended additional costs for large-item pick-up services for residents, illegal dumping clean-up costs, and hauling to Metro Vancouver recycling and waste centres. Although it is not possible to isolate costs for mattresses and foundations only, the overall costs for the services were over \$6 million in 2023.

With the expectation that mattresses and foundations will not be added to the extended producer responsibility program in the near term, Tipping Fee Bylaw changes will be recommended to gradually increase the recycling cost for mattresses and foundations to pay for the full cost of recycling. Beginning in 2026, the current \$15 per unit fee will be recommended to increase to \$20 per unit through proposed amendments to the Tipping Fee Bylaw which will be presented at upcoming Zero Waste Committee and GVS&DD Board meetings. The current \$15 fee has been in place for more than 10 years with no adjustments.

CONCLUSION

Metro Vancouver and member jurisdictions have collected and recycled mattresses and foundations since the disposal ban was enacted in 2011. Although the Province's continued consideration of moderate risk products, such as automotive products, compressed canisters, batteries, and medical sharps used at home, is encouraging, the uncertainty regarding the implementation timeline for mattresses and foundations remains challenging. As a result, continued advocacy through a letter to the Minister of Environment and Parks is important to reiterate the need for swift action and address the significant taxpayer/ratepayer subsidy towards the costs of managing mattresses and foundations that could be managed and paid for by producers. Accordingly, Alternative 1 is recommended.

ATTACHMENTS

1. Metro Vancouver. (2025). Draft letter to the Honourable Tamara Davidson, Minister of Environment and Parks. "Updated Extended Producer Responsibility Five-Year Action Plan".



Office of the Chair
Tel. 604-432-6215 or via Email
CAOAdministration@metrovancouver.org

Click or tap to enter a date.

File: File Number
Ref: Reference Number

The Honourable Tamara Davidson, M.L.A.
Minister of Environment and Parks
PO Box 9047 Stn Prov Gov
Rm 112, Parliament Buildings
Victoria, BC V8W 9E2
VIA EMAIL: ENV.Minister@gov.bc.ca

Dear Minister Davidson:

Updated Extended Producer Responsibility Five-Year Action Plan

Metro Vancouver is encouraged that the Province is considering adding new moderate risk products, such as automotive products; compressed canisters; emerging electronic products with batteries; and medical sharps used at home, to the *Recycling Regulation* as previously identified in Ministry's document *Advancing Recycling in B.C., Extended Producer Responsibility Five-Year Action Plan 2021-2026*. Based on communications from Ministry of Environment and Parks staff, we understand that mattresses and foundations are not anticipated to be added to the *Recycling Regulation* at this time although they were included in the 2021-2026 Five-Year Action Plan. Mattresses and foundations remain a priority for Metro Vancouver and its member jurisdictions, and we continue to request that they be added to the *Recycling Regulation* as soon as possible.

Metro Vancouver implemented a disposal ban for mattresses and foundations in 2011. This key decision helped to establish mattress recycling collection and processing infrastructure throughout the province. Metro Vancouver's Board has communicated the importance of shifting the financial responsibility to producers for the recycling mattresses and foundations in 2012, 2016, 2020, and 2024. This request is largely due to the mattress and foundation product category's compatibility with an extended producer responsibility approach — given the limited number of producers, the recyclability of materials in mattresses and foundations, and mattresses being expensive to manage, problematic and undesirable as municipal solid waste.

In 2024 alone, Metro Vancouver collected over 90,000 mattresses and foundations at its regional recycling and waste centres. Customers have been charged a fixed mattress fee of \$15 per unit (mattress and foundations each count as one unit) for more than ten years to help reduce the potential for illegal dumping. The cost of managing those mattresses and foundations has increased

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to nearly \$40 per unit, resulting in a subsidy by the users of the regional solid waste system of between \$1.5 to \$2.0 million per year to fund the gap between the drop-off fee and the cost of recycling. In addition, member jurisdictions spend millions of dollars annually on illegal dumping clean-up and bulky item pick-up programs, with mattresses representing a key product category in both initiatives. The cost of managing end-of-life mattresses should not be borne by users of the regional solid waste system, member jurisdictions, or others cleaning up illegal dumping on public and private lands.

Several jurisdictions in North America — including California, Connecticut, Oregon and Rhode Island — have already enacted regulations and implemented extended producer responsibility programs for mattresses. Lessons learned from these jurisdictions, which include some long-standing programs spanning over a decade, could help inform the development of a new, best-in-class mattress program in British Columbia. Metro Vancouver and its member jurisdictions, along with many local governments across the province, are united in calling for producers to begin the successful implementation of a mattress program, consistent with models applied to electronics, packaging, tires, and other product categories.

Metro Vancouver sincerely appreciates the Ministry's efforts to expand extended producer responsibility programs to include automotive products, compressed canisters, emerging electronic products with batteries, and medical sharps used at home. However, to build upon these important efforts, we continue to request that mattresses and foundations be included in the *Recycling Regulation* as soon as possible.

We appreciate your attention to this matter and would be pleased to discuss any aspect of our letter with you at your convenience. Ministry staff are welcome to contact Paul Henderson, General Manager, Solid Waste Services, by phone at 604-432-6400 or by email at paul.henderson@metrovancover.org to discuss this matter in more detail.

Yours sincerely,

Mike Hurley
Chair, Metro Vancouver Board

Sarah Kirby-Yung
Chair, Zero Waste Committee
Metro Vancouver

MH/SKY/PH/ad

Cc: Trish Mandewo, President, Union of British Columbia Municipalities

77870016



To: Liquid Waste Committee

From: Cheryl Nelms, General Manager, Project Delivery

Date: September 5, 2025

Meeting Date: September 17, 2025

Subject: **Additional Information on Alternative Approach to Deliver the Iona Island Wastewater Treatment Plant Upgrade Projects**

RECOMMENDATION

That the GVS&DD Board:

- a) direct staff to undertake upgrades to the Iona Island Wastewater Treatment Upgrade Plant with an approach that:
 - i. prioritizes secondary treatment as quickly as possible; and
 - ii. changes the sequence of the components outlined in the 2022 Project Definition Report and defers other components,as described in the report dated September 5, 2025, titled “Additional Information on Alternative Approach to Deliver the Iona Island Wastewater Treatment Plant Upgrade Projects”; and
 - b) direct staff to request that the Province align provincial wastewater effluent regulations with federal wastewater effluent regulations.
-

This cover report responds to the request by the GVS&DD Board for further information to inform its decision on the upgrades to the Iona Wastewater Treatment Plant.

At its July 24, 2025 meeting, the GVS&DD Board considered the attached report titled “Alternative Approach to Deliver the Iona Island Wastewater Treatment Plant Upgrade Projects”, dated July 15, 2025 (Attachment 1). At the meeting the GVS&DD Board passed the following motion:

THAT the GVS&DD Board refer this report to the October 3 GVS&DD Board meeting to enable staff to respond to Board requests to:

1. *Assess and respond to comments and questions raised by the RAAC/REAC members during the joint meeting held on July 18, 2025;*
2. *Assess and respond to any additional questions or comments emanating from the July 25, 2025 GVS&DD Board meeting in relation to this topic;*
3. *Conduct further engagement with the Liquid Waste Committee and the Finance Committee; and*
4. *Provide an Intergovernmental Relations update, including setting up meetings with Federal and Provincial Ministers and opportunity for the Board to send updated letters to Senior Government regulators with respect to regulatory requirements and pathways forward.*

This cover report responds to this motion and brings the report back before the Board for consideration.

Additional Information on Alternative Approach to Deliver the Iona Island Wastewater Treatment Plant Upgrade Projects

Liquid Waste Committee Regular Meeting Date: September 17, 2025

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Staff have responded to the Board requests regarding the alternative approach to deliver the Iona Island Wastewater Treatment Plant Upgrade Projects ("Alternative Approach") as follows:

- Supplementary information on the most commonly requested topics related to the Alternative Approach is provided below;
- Responses to RAAC/REAC member questions raised at the joint meeting held on July 18, 2025 are in Attachment 2;
- Responses to questions or comments from the July 24, 2025 GVS&DD Board meeting and subsequent questions raised are in Attachment 3;
- Engagement with the Liquid Waste Committee is scheduled for the September 17, 2025 meeting. Once a decision is made regarding the approach to deliver the Iona Island Wastewater Treatment Plant upgrade projects, the financial information will be presented at Finance Committee as part of the Long-Term Financial Plan; and
- Intergovernmental relations updates are included in this report.

This matter is now before the Board for its consideration.

SUPPLEMENTARY INFORMATION

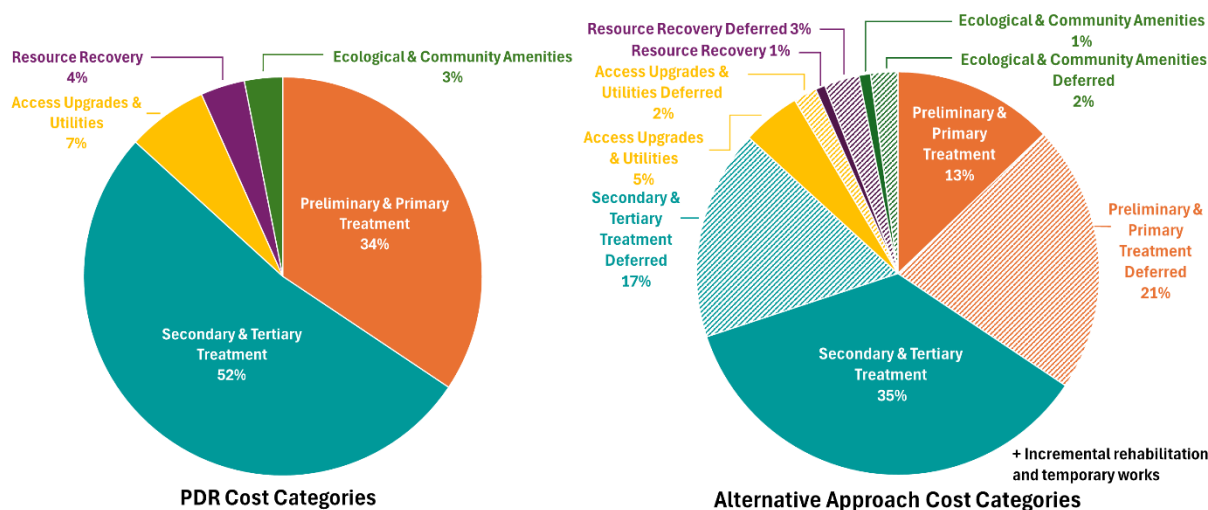
The following section provides supplementary information for the most commonly requested topics related to the Alternative Approach. It includes:

1. Comparison of deliverables and cost estimates
2. Future work scenarios
3. Lifespan of existing facility
4. Benchmarking with other wastewater treatment plants
5. Comparison of cost apportionment and tier allocation
6. Comparison of benefits and risks
7. Intergovernmental Relations

1. Comparison of Deliverables and Cost Estimates

The original approach as outlined in the Project Definition Report had a cost estimate of \$9.9 billion. The Alternative Approach has a cost estimate of \$6 billion. Figure 1 represents the categories of work in the project as outlined in the Project Definition Report, compared to what would be removed under the Alternative Approach.

Figure 1: Percentage of total project cost by category of work, showing what is deferred in the Alternative Approach



To date, \$125 million has been spent. In the Project Definition Report approach, the cost was estimated at \$6.4 billion in 2022 dollars, and included \$3.5 billion in escalation and risk reserve. The Alternative Approach is estimated at \$3.5 billion in 2022 dollars and includes \$2.5 billion in escalation and risk reserve, as shown in Table 1.

Table 1: Cost estimates, showing cost of escalation and risk reserve.

| | Project Definition Report Approach | Alternative Approach |
|-----------------|--|--|
| Completion Date | 2035 (*now approximately 2040) | 2039 |
| Cost Estimate | \$9.9 billion (\$6.4 billion in 2022 dollars, including \$3.5 billion in escalation and risk reserve) | \$6 billion (\$3.5 billion in 2022 dollars, including \$2.5 billion in escalation and risk reserve) |

The project is broken into categories of work and components, each of which is costed. Under the Alternative Approach, components that are not essential for delivery of secondary treatment have been deferred. Table 2 outlines the cost estimates for all components of the project, and compares what was planned to be delivered in the Project Definition Report approach as compared to the Alternative Approach.

Additional Information on Alternative Approach to Deliver the Iona Island Wastewater Treatment Plant Upgrade Projects

Liquid Waste Committee Regular Meeting Date: September 17, 2025

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Table 2: Components as outlined in the Project Definition Report compared to what would be delivered in the Alternative Approach and what would be deferred to future work.

| | | Cost | Project Definition Report Approach | Alternative Approach | Future Works (2040-2050) |
|--|--|-----------|------------------------------------|----------------------|--------------------------|
| Preliminary & Primary Treatment | Primary Solids Handling | \$ 690M | √ | √ | |
| | Primary Plant Rehabilitation | \$ 135M | √ | √ | |
| | Incremental Primary Plant Rehabilitation | \$ 65M | | √ | |
| | New Primary Plant | \$ 1,380M | √ | | √ |
| Secondary & Tertiary Treatment | 65% of Secondary Plant – 5 Trains | \$ 1,809M | √ | √ | |
| | Remaining 35% of Secondary Plant – 3 Trains | \$ 874M | √ | | √ |
| | Secondary Solids Handling | \$ 446M | √ | √ | |
| | Secondary Solids Handling - Growth | \$ 107M | √ | | √ |
| | Pilot Testing | \$ 25M | √ | √ | |
| | Advanced Pilot Testing | \$ 11M | √ | | √ |
| | Regional Lab & Welcome Centre | \$ 88M | √ | | √ |
| Access Upgrades & Utilities | Utilities and Road Improvements | \$ 300M | √ | √ | |
| | Permanent O&M Building | \$ 120M | √ | | √ |
| Resource Recovery | Plant Renewable Energy | \$ 50M | √ | √ | |
| | Offsite Heat Recovery and Effluent Water Reuse | \$ 180M | √ | | √ |
| Ecological Projects & Community Amenities | Ecological Projects required for permits | \$ 59M | √ | √ | |
| | Other Ecological Projects | \$ 115M | √ | | √ |
| | Community Amenities | \$ 25M | √ | | √ |
| Bridging Infrastructure | Temporary Works for Alternative Approach | \$ 140M | | √ | |
| Cost Estimate (2022) | | | \$6.4B | \$3.5B | \$2.9B |
| Escalation & Risk Reserve | | | \$3.5B | \$2.5B | |
| Total | | | \$9.9B | \$6.0B | |

2. Future Work Scenarios

A number of components originally conceptualized in the Project Definition Report would be deferred to the future. Some of that work would be required to be completed, while some could be reconsidered by the Board at a later date.

A variety of scenarios may change the approach that Metro Vancouver wishes to take on these works in the future. They include:

- **Timing of need to replace existing primary plant:** Rehabilitation work would continue at the existing plant, as well as settlement monitoring and condition assessments. If any of this work triggers re-assessment of the replacement timeline for the primary plant, this package of work would be delivered through future detailed design and construction.

- **Delivery of complementary resource recovery, ecological projects, and community amenities:** Separate packages of work can be progressed at the appropriate time for these works.
- **VSA sewer separation:** While Vancouver Sewerage Area (VSA) sewer separation would not change the size or scale of the Alternative Approach, it may influence the size and cost of future projects.
- **Changes to population projections:** Changes in population growth would determine the timing of the next expansion.
- **Provincial regulatory approach:** The provincial regulations have an additional requirement, above what is required by the federal regulations, related to the capacity of the secondary treatment process. Metro Vancouver would be able to achieve a portion of this requirement with the Alternative Approach. If the province does not agree with aligning the provincial wastewater effluent regulations with federal wastewater effluent regulations, then Metro Vancouver will need to deliver the remaining secondary treatment.

The deferred work will cost more than is estimated in the PDR due to cost escalation, market factors, and other events beyond any organization's control.

3. Lifespan of Existing Facility

The Iona Island Wastewater Treatment Plant (Iona Island WWTP) has been in continuous operation since 1963. Since 1972, the facility has undergone expansions and upgrades to enhance treatment processes, and to extend its service life well beyond the original design parameters. Today, the aging assets present ongoing environmental and operational risks. These include equipment failure and susceptibility to differential settlement, seismic activity, and flooding caused by rising sea levels. Such risks will persist until the primary treatment plant is fully replaced.

To manage operational risks associated with extended use of the existing plant beyond 2040, repairs will be necessary to maintain service continuity. This will require strategic investment. To mitigate immediate risks, high priority "Category 1" projects have been identified for completion within the next five years. These projects focus on critical vulnerabilities in electrical systems, structural integrity, and core treatment processes. While these initiatives address the most urgent concerns, broader deferred upgrades and rehabilitation needs will continue to be evaluated and implemented to support reliable operations through 2040, when the new secondary treatment facility is scheduled for completion. Funding for rehabilitation of the primary facility beyond 2040 has not been allocated but would be required to extend service life until the facility is replaced in the future.

To support long-term use, a hybrid asset management program will be launched for prioritization of assets for repair and replacement, as well as to anticipate process expansions driven by growth. This program will be driven by data from process monitoring, ongoing condition assessment and settlement monitoring. The result will be targeted rehabilitation strategies, including emergency response planning and adaptive infrastructure replacement. Clearly defined decision pathways and funding strategies will also be incorporated into the asset management program.

4. Benchmarking with Other Wastewater Treatment Plants

Metro Vancouver has recently been in discussions with other jurisdictions across Canada and staff have assessed the differences of current and recent major Canadian wastewater treatment plant projects at a high level. Staff found that making direct comparisons between projects is challenging because each project is unique with respect to variables such as date completed, level of treatment, odour management, separated vs combined system, upgrade versus new plant, key cost drivers, risks, geotechnical considerations due to location, and project delivery models.

With respect to rehabilitation of the primary plant, lifecycle analyses generally demonstrate that full replacement of major equipment and structures at the end of their useful service life represents the most cost-effective strategy for maintaining operational performance. However, short-term fiscal constraints often necessitate alternate strategies, where asset performance is sustained through ongoing maintenance, targeted repair, and periodic equipment replacement. Several North American wastewater treatment facilities, many of which have operated for over 80 years, continue to operate successfully through significant investment in regular maintenance, repair, and replacement of equipment. Examples of this are Ashbridges Bay WWTP (Toronto), San Jose-Santa Clara WWTP (USA), Bonnybrook WWTP (Calgary), and Northend Water Pollution Control Centre (Winnipeg).

From a lifecycle perspective, full replacement of the primary plant would reduce the long-term operations and maintenance expenditures. The proposed alternative delivery approach would require adequate investment in maintenance and rehabilitation to mitigate operational inefficiencies and improve overall safety and system reliability.

The Iona Island WWTP is one of the last, large primary wastewater treatment plants on the west coast of Canada and the United States. Other treatment plants provide a minimum of secondary treatment.

Table 3: Secondary implementation of large wastewater treatment plants on the west coast of Canada and U.S.

| City | Province/State | Wastewater Treatment Plant | Secondary Treatment Implementation Date | Population Served (Approximate) |
|----------------------------------|------------------|--|---|---------------------------------|
| Regional District Nanaimo | British Columbia | Greater Nanaimo Pollution Control Centre | 2021 | 108,000 |
| Capital Regional District | British Columbia | McLoughlin Point | 2020 | 320,000 |
| King County | Washington | 3 Plants: <ul style="list-style-type: none"> West Point South Brightwater | 1965 - 2012 | 300,000 - 870,000 |
| Portland | Oregon | Columbia Boulevard | 1972 | 720,000 |
| Tacoma | Washington | Central | 1989 | 250,000 |
| San Francisco | California | Southeast | 1960 - 1980 | 950,000 |
| Los Angeles | California | Hyperion | 1950 | 4,325,000 |

Additional Information on Alternative Approach to Deliver the Iona Island Wastewater Treatment Plant Upgrade Projects

Liquid Waste Committee Regular Meeting Date: September 17, 2025

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5. Cost Apportionment and Tier Allocation

Upgrades to Iona Island WWTP will be funded from GVS&DD's annual cost apportionment, debt, other third party contributions (such as from the Province, the Federal government, YVR) and development cost charges. As a liquid waste project, the related costs will be allocated in the respective tiers and apportioned to member jurisdictions in accordance with *Greater Vancouver Sewerage and Drainage District Cost Apportionment Bylaw No. 283, 2014* by the Liquid Waste Services department.

The following Tables, Table 6A and 6B, show the change between the two approaches to the year ended December 31, 2040. The difference between the two methods is a reduction in Tier 1 costs of \$2.9B, which is 100% funded from the Vancouver Sewerage Area, and reductions in Tier 2 costs and Tier 3 costs by another \$1B, which are allocated across all four sewerage areas.

The deferral of \$3.9B, as contemplated by the Alternative Approach, will have the most significant financial impact to the Vancouver Sewerage Area: the Alternative Approach will defer approximately \$3.3B or 48% of the original PDR cost estimate from the Vancouver Sewerage Area's share of the costs. See Table 4B for more details below on all four sewerage areas.

Following the Board's decision on the delivery method for the Iona Island WWTP upgrade, staff will incorporate the financial information when completing the Long-Term Financial Plan and continue to find strategies, such as higher levels of government support, change in financial policy, and/or other cost efficiency or improvements across the organization to maintain financial sustainability and asset serviceability longer-term.

The following table provides a comparison of tier allocation between the PDR and Alternative Approach. Tier allocation differs from project components as some areas may pertain to multiple components. The allocation is consistent with what was done for Annacis Island Wastewater Treatment Plant.

Table 4A: Comparison of tier allocation to year ended December 31, 2040.

| | Tier 1 | Tier 2 | Tier 3 | Total |
|-----------------------------|---------------|---------------|---------------|--------------|
| PDR | \$3.8B | \$5.2B | \$0.9B | \$9.9B |
| Alternative Approach | \$0.9B | \$4.9B | \$0.2B | \$6.0B |
| Change | (\$2.9B) | (\$0.3B) | (\$0.7B) | (\$3.9B) |

Table 4B: Comparison of Sewerage Area to year ended December 31, 2040

| | VSA | NSSA | LIWSA | FSA |
|-----------------------------|------------|-------------|--------------|------------|
| PDR | \$7.0B | \$0.3B | \$0.3B | \$2.3B |
| Alternative Approach | \$3.7B | \$0.2B | \$0.2B | \$1.8B |
| Change | (\$3.3B) | (\$0.1B) | (\$0.1B) | (\$0.5B) |

Additional Information on Alternative Approach to Deliver the Iona Island Wastewater Treatment Plant Upgrade Projects

Liquid Waste Committee Regular Meeting Date: September 17, 2025

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6. Comparison of Benefits and Risks

The Alternative Approach comes with both benefits and risks, as does continuing with the Project Definition Report approach. Table 9 outlines the risks and benefits of the two approaches for comparison.

Table 6: Comparison of benefits and risks between the Project Definition Report approach and the Alternative Approach.

| | Project Definition Report Approach | Alternative Approach |
|-----------------|---|--|
| Benefits | <ul style="list-style-type: none">• Achieves full regulatory compliance in single build• Replaces primary plant earlier which mitigates operational risk and reduces rehabilitation costs• Achieves earlier seismic and sea-level resilience for primary treatment• Includes full suite of complementary projects• Mitigates impacts of escalation: lower overall costs• Bridging infrastructure not required | <ul style="list-style-type: none">• Achieves better effluent quality earlier (2036-2039)• Prioritizes compliance for effluent quality• Fully meets federal regulations• More affordable path for ratepayers to secondary treatment• Modular secondary treatment provides an adaptable approach to avoid over-building• Defers capital spend of \$3.9B• Mitigates impact to ratepayers (HHI) over next ten years |
| Risks | <ul style="list-style-type: none">• Does not reflect reality of market capacity• Significant annual spend until 2040 and corresponding HHI impact• Slower to achieve improvements to effluent quality (2040 vs. 2036)• Risk of over-building: Higher population growth than projected• Limited ability to adapt to VSA Initiatives (e.g. sewer separation, water metering, etc.)• Potential for more constructability challenges | <ul style="list-style-type: none">• Contingent on aligning wastewater effluent regulations with federal wastewater effluent regulations• Requires existing primary plant to operate for longer• Extends exposure of primary plant to seismic and sea level rise risks• Costs of \$300M for bridging infrastructure and additional rehabilitation of primary plant• Delivery of the original PDR scope would take longer and ultimately cost more |

Additional Information on Alternative Approach to Deliver the Iona Island Wastewater Treatment Plant Upgrade Projects

Liquid Waste Committee Regular Meeting Date: September 17, 2025

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7. Intergovernmental Relations

In October 2024, Metro Vancouver wrote to the Prime Minister, Minister of Environment, and Minister of Housing of Infrastructure to request an extension of transitional authorization for the Iona Island WWTP. Metro Vancouver did not receive a response to this request.

In August 2025, Metro Vancouver sent a new request for extension to Prime Minister Carney, Minister Dabrusin, and Minister Robertson.

Metro Vancouver has requested meetings with provincial ministers and senior staff with relevant portfolios to discuss the request that the province provide special consideration to regulatory requirements for aligning provincial wastewater effluent regulations with federal wastewater effluent regulations.

ATTACHMENTS

1. Report titled "Alternative Approach to Deliver the Iona Island Wastewater Treatment Plant Upgrade Projects", dated July 15, 2025.
2. Responses to Questions Posed by REAC/RAAC Members on July 18, 2025 about the Alternative Approach to Deliver the Iona Island Wastewater Treatment Plant Projects.
3. Responses to Questions Posed by GVS&DD Board Members on July 24, 2025 about the Alternative Approach to Deliver the Iona Island Wastewater Treatment Plant Projects.
4. Presentation re: Additional Information on Alternative Approach to Deliver the Iona Island Wastewater Treatment Plant Upgrade Projects.

78728692



To: GVS&DD Board of Directors

From: Jerry W. Dobrovolny, Commissioner

Date: July 15, 2025 Meeting Date: July 24, 2025

Subject: **Alternative Approach to Deliver the Iona Island Wastewater Treatment Plant Upgrade Projects**

RECOMMENDATION

That the GVS&DD Board receive for information the report dated July 15, 2025, titled “Alternative Approach to Deliver the Iona Island Wastewater Treatment Plant Upgrade Projects.”

At its July 9, 2025 meeting, the Liquid Waste Committee considered the attached report titled “Alternative Approach to Deliver the Iona Island Wastewater Treatment Plant Upgrade Projects,” dated July 3, 2025 (Attachment 1) and passed the following resolution, which is being presented to the GVS&DD Board at its regular meeting of July 25, 2025 for consideration:

That the GVS&DD Board:

- a) direct staff to undertake upgrades to the Iona Island Wastewater Treatment Upgrade Plant with an approach that:
 - i. prioritizes achieving regulatory compliance as quickly as possible; and*
 - ii. changes the sequence of the components outlined in the 2022 Project Definition Report and defers other components,**
as described in this report dated July 3, 2025, titled “Alternative Approach to Deliver the Iona Island Wastewater Treatment Plant Upgrade Projects”;
- b) direct staff to request that the Province align provincial wastewater effluent regulations with Federal wastewater effluent regulations.*

The report is being presented to the GVS&DD Board at its special meeting scheduled for July 24, 2025 to allow for a workshop style discussion of the alternative approach to deliver the Iona Island Wastewater Treatment Plant Upgrade Project ahead of the regular GVS&DD Board meeting. At the workshop, staff will provide an extended presentation and provide any clarification required ahead of the item being considered on July 25, 2025.

ATTACHMENTS

1. “Alternative Approach to Deliver the Iona Island Wastewater Treatment Plant Upgrade Projects”, dated July 3, 2025.
2. Presentation re: Iona Island Wastewater Treatment Plant Projects.

77529496



metrovancouver
SERVICES AND SOLUTIONS FOR A LIVABLE REGION

To: Liquid Waste Committee

From: Cheryl Nelms, General Manager, Project Delivery
Winnie Shi, Director, Major Projects, Project Delivery

Date: July 3, 2025 Meeting Date: July 9, 2025

Subject: **Alternative Approach to Deliver the Iona Island Wastewater Treatment Plant Upgrade Projects**

RECOMMENDATION

That the GVS&DD Board:

- a) direct staff to undertake upgrades to the Iona Island Wastewater Treatment Upgrade Plant with an approach that:
 - i. prioritizes achieving regulatory compliance as quickly as possible; and
 - ii. changes the sequence of the components outlined in the 2022 Project Definition Report and defers other components,as described in this report dated July 3, 2025, titled “Alternative Approach to Deliver the Iona Island Wastewater Treatment Plant Upgrade Projects”;
- b) direct staff to request that the Province align provincial wastewater effluent regulations with federal wastewater effluent regulations.

EXECUTIVE SUMMARY

Metro Vancouver is required to upgrade the Iona Island Wastewater Treatment Plant to meet federal and provincial regulatory requirements, which require a minimum of secondary level treatment.

In March 2022, the GVS&DD Board approved the Project Definition Report (PDR) for the Iona Island Wastewater Treatment Plant Upgrade Projects (Iona Projects) with an estimated cost of \$9.9 billion and a target of meeting secondary compliance by 2035. Within the PDR, the approach was to build an entirely new treatment plant and complementary environmental projects in a condensed timeline. That anticipated completion date would now be approximately 2040 due to market and population changes, negotiating federal funds, and review of alternate options to deliver the Iona Projects. In July 2024, the contract for preliminary design work was awarded to Fraser Delta Group. A key scope of work for the designer was to explore the phasing options of the Iona Projects components while prioritizing secondary treatment and assessing delivery strategies, cost sustainability, and associated risks.

The resulting recommended approach reflects updated project design information and assessment of market capacity. With the approach recommended in this report, the majority of secondary treatment would be delivered by 2039 with a cost estimate of \$6 billion. This would be done by rehabilitating the existing plant and reprioritizing other components not essential for secondary treatment. This approach changes the sequence of the components outlined in the PDR to deliver secondary treatment earlier. Other components would be delivered as future projects. This allows

Alternative Approach to Deliver the Iona Island Wastewater Treatment Plant Projects

Liquid Waste Committee Regular Meeting Date: July 9, 2025

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all components to be delivered over time, with the flexibility to adapt to changing environmental conditions, funding availability, population projections, regulatory requirements, and addresses concerns regarding annual costs for ratepayers in the short-term. However, delivery of all components outlined in the PDR will cost more over a longer time frame.

The proposed approach will allow Metro Vancouver to meet all regulatory requirements from the federal government and the majority of requirements set out in the provincial regulations by 2039. The provincial regulations have an additional requirement above what is required by the federal regulations related to the quantity of treated effluent. Metro Vancouver will be able to achieve a portion of this requirement with the recommended approach and the opportunity to request that the Province align provincial wastewater effluent regulations with federal wastewater effluent regulations.

A key risk of this approach is that the Province may not accept aligning with federal regulations and delays will be incurred with associated risks of regulatory non-compliance. Another risk in changing the sequence of delivery and deferring primary plant upgrades post-secondary treatment is increased operability risk of the primary plant in a seismic event.

PURPOSE

To provide the GVS&DD Board with an alternative approach for upgrading the Iona Island Wastewater Treatment Plant to meet secondary treatment regulations as quickly as possible.

BACKGROUND

The existing Iona Island Wastewater Treatment Plant is a primary treatment plant located in Richmond, British Columbia. The plant was commissioned in 1963 and currently serves approximately 750,000 residents in the Vancouver Sewerage Area. It treats 40 per cent of the region's wastewater.

Upgrading the Iona Island Wastewater Treatment Plant is required to meet the federal and provincial regulations, which require a minimum of secondary level of wastewater treatment by 2030. The upgrades will ensure the continued protection of public health and the environment in a growing region.

In March 2022, the GVS&DD Board approved the Project Definition Report (PDR) for the Iona Projects. The PDR included the conceptual design for upgrading the existing treatment plant, including resource recovery opportunities and complementary ecological projects.

The PDR targeted achieving regulatory compliance (i.e., secondary treatment) by 2035 (~5 years after the regulatory deadline of December 31, 2030) at a capital cost estimated at \$9.9 billion (\$6.4 billion in 2022 dollars, including \$3.5 billion in escalation and risk reserve). That anticipated completion date would now be approximately 2040 due to market and population changes, negotiating federal funds, and review of alternate options to deliver the Iona Projects.

Alternative Approach to Deliver the Iona Island Wastewater Treatment Plant Projects

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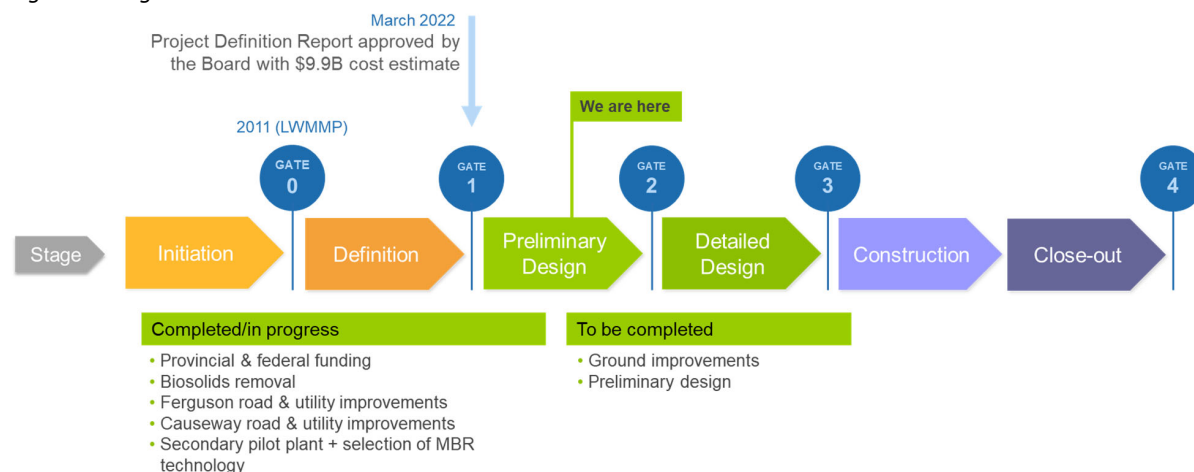
PROJECT PROGRESS TO DATE

Following approval of the PDR in March 2022, the Iona Projects entered the preliminary design stage (see Figure 1).

Early works and key activities to support construction of the treatment plant that have been completed or are currently underway include:

- Securing \$500 million of provincial (\$250 million) and federal (\$250 million) funding
- Building a secondary treatment pilot plant
- Constructing Iona Island causeway utility and road improvements with support of \$500,000 in additional provincial active transportation funding
- Completing Ferguson Road utility and road improvements in collaboration with Vancouver Airport Authority (YVR)
- Designing and procuring electrical equipment for backup power to the existing treatment plant and transitioning power supply to the new upgraded treatment plant
- Barge berth selection study (in progress)
- Removing stockpiled biosolids since the primary plant was commissioned in 1963
- Cleaning sludge lagoons

Figure 1: Stage Gate Process

**PROPOSED ALTERNATIVE APPROACH TO DELIVER UPGRADES**

To develop the updated approach, staff were guided by two priorities for the assessment, as directed by the Board:

- Meet regulatory requirements for secondary treatment as soon as possible; and
- Reduce annual cost impact for ratepayers.

To consider options available for an alternate delivery approach for the Iona Projects, staff completed a technical assessment of whether it is feasible to change the sequence of work from what was outlined in the PDR. This was based on assessments of additional information that has emerged since the approval of the PDR in March 2022.

Alternative Approach to Deliver the Iona Island Wastewater Treatment Plant Projects

Liquid Waste Committee Regular Meeting Date: July 9, 2025

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Information considered during assessment for alternate approach options included:

- The selection of membrane bioreactor technology, which will allow the Iona Island Wastewater Treatment Plant to provide secondary and tertiary level of effluent with one technology
- An assessment of the plant footprint, which indicated that all required new infrastructure can be built within GVS&DD land to meet revised population projections, so a land transfer will not be required between MVRD and GVS&DD
- Geotechnical test results that indicate shallower competent ground in some areas than previously understood
- An assessment of the existing primary plant, which indicates that it can be rehabilitated to extend its life
- The decreased capacity of the construction labour market because of competing projects
- Updated design modelling with population projections and other effluent modelling information.

Going forward, additional discussions and engagement with member jurisdictions, First Nations, stakeholders, and the provincial and federal government will be required to continue refining the approach. Further work is required once preliminary design is underway to update population projections with member jurisdictions and project costs and schedule with market data.

Recommended Alternative Approach

The PDR scope was scheduled to deliver an outcome of full effluent quality and quantity regulatory compliance by 2035. The project definition concept at \$9.9 billion included:

- Full replacement of the existing primary plant
- Full buildout of secondary and tertiary treatment
- Access and utility upgrades
- Resource recovery
- Ecological and community amenity projects required for acquiring permits.

This 2035 timeline would now be approximately 2040 due to market and population changes, negotiating federal funds, and review of alternate options to deliver the Iona Projects. Staff are recommending an updated approach to the project which prioritizes the delivery of secondary treatment by 2039 to achieve full federal regulatory compliance and partial provincial regulatory compliance, and which is estimated to total \$6 billion, in which Metro Vancouver would:

- Add secondary treatment to existing plant prior to replacing the existing plant
- Rehabilitate existing primary plant to ensure the continued operation of primary treatment
- Prioritize delivery of project components to meet regulatory compliance, such as:
 - Solids handling to accommodate added loading from secondary treatment
 - Access and utility upgrades
 - Onsite resource recovery necessary for plant operations
 - Ecological projects related to permitting
- Replace primary plant as a subsequent project
- Reprioritize components not required for secondary compliance
- Discuss with the Province options for aligning provincial regulations with federal regulations.

Alternative Approach to Deliver the Iona Island Wastewater Treatment Plant Projects

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Other components of the PDR would be delivered as future projects, including:

- Replacement of the existing primary plant to meet seismic resilience
- Remaining secondary and tertiary treatment, if still required by regulation
- Offsite resource recovery
- Remaining ecological projects
- Adding capacity for population growth.

Figure 2: Iona Projects as outlined in the Project Definition Report compared to Updated Approach to Iona Projects

| PDR | | Updated Approach to Project | Future Works |
|---|---|---|---|
| SCOPE: <ul style="list-style-type: none"> • Full primary replacement • Full secondary/tertiary treatment • Access upgrades & utilities • Resource recovery • Full ecological projects | CHANGES: <ul style="list-style-type: none"> • Population • Technology • Market Capacity | SCOPE: <ul style="list-style-type: none"> • Rehabilitate existing primary • Majority secondary/tertiary treatment • Access upgrades & utilities • Onsite resource recovery • Ecological projects required for permits | STAGES/PROJECTS: <ul style="list-style-type: none"> • Replace existing primary • Remaining secondary/tertiary treatment • Offsite resource recovery • Remaining ecological projects • Capacity added for growth |
| SCHEDULE: <ul style="list-style-type: none"> • Delivery by 2035 | | SCHEDULE: <ul style="list-style-type: none"> • Delivery by 2039 | |
| EFFLUENT COMPLIANCE OUTCOMES: <ul style="list-style-type: none"> • 100% Federal • 100% Provincial | | EFFLUENT COMPLIANCE MET: <ul style="list-style-type: none"> • 100% Federal • Majority of Provincial | EFFLUENT COMPLIANCE MET: <ul style="list-style-type: none"> • 100% Federal • 100% Provincial |
| \$9.9B | | \$6.0B | TBD |

Meeting Regulatory Compliance with Updated Approach

Both federal and provincial regulations require compliance by 2030. In October 2024, Metro Vancouver wrote to the federal government requesting an extension of the deadline from 2030 to 2040. At the time of writing this report, Metro Vancouver had not received a response.

Over the last year, Metro Vancouver has conducted modelling and technology selection and completed design work to refine the solution for meeting the secondary treatment requirements. The technology that we now have available provides a higher level of treatment than conventional secondary treatment.

As such, the proposed approach will allow Metro Vancouver to meet all regulatory requirements from the federal government and the majority of requirements set out in the provincial regulations by 2039. This approach is assessed as the fastest and most adaptable route to secondary regulatory compliance.

The provincial regulations have an additional requirement above what is required by the federal regulations related to the quantity of effluent that can be treated. Metro Vancouver will be able to achieve a portion of this requirement with the recommended approach. Metro Vancouver would engage in discussions with the Province to seek alignment of provincial regulations with federal regulations. If alignment of regulations is not accepted by the Province, the remaining provincial requirements can be addressed in future works.

Alternative Approach to Deliver the Iona Island Wastewater Treatment Plant Projects

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Technical Expert Review

A technical expert review of the recommended updated approach was completed by a team of independent global experts. The experts were tasked with identifying opportunities to accelerate the delivery of secondary treatment infrastructure and identify cost savings. Several opportunities related to process treatment, ground improvements, sea level rise strategies, and alternative project delivery methods were identified and form part of the recommendation.

BENEFITS AND RISKS

Benefits of the updated approach include:

- Prioritizes the achievement of effluent quality requirements
- Provides ongoing rehabilitation of the existing primary plant to enable its continued use
- Includes ongoing monitoring of the existing primary plant operations to manage risks
- Builds secondary treatment infrastructure in modular packages so that effluent quality can be progressively improved
- Allows other resource recovery and ecological components to be phased in the future as budget allows
- Mitigates the risk of over-building due to changing conditions outside of Metro Vancouver's jurisdiction or control such as population and regulatory policies
- Ultimately supports the delivery of the full scope of the Iona Projects, as defined in the PDR, while providing the ability to adapt to changing environmental conditions, funding availability, population growth, and regulatory requirements
- Allows a phased delivery that addresses concerns around affordability of annual costs to be paid by ratepayers.

Risks to the updated approach include:

- Requires discussion with Province about aligning with federal regulations
- Defers primary plant resiliency upgrades, including seismic
- Delivery of all components outlined in Project Definition Report will cost more over time
- Incremental cost of \$300M for bridging infrastructure and additional rehabilitation costs of the primary plant for phasing the Iona Projects

FINANCIAL IMPLICATIONS

The existing approved capital budget for the Iona Wastewater Treatment Upgrade Plant is \$1.06B of which \$0.125B has been spent to date and is funded from annual sewer levies, debt, and other third parties such as the Province, YVR, and development cost charges.

As a liquid waste project, the related costs are to be allocated in the respective tiers and apportioned in accordance with *Greater Vancouver Sewerage and Drainage District Cost Apportionment Bylaw No. 283, 2014*. There is ongoing analysis of the costs and impacts of this project including which tiers the components for this project are allocated to. This work has a direct bearing on the rates and impacts for the four sewerage areas and their respective individual municipalities and will be a key input into the Draft Long-term Financial Plan. The alternate delivery approach presented in this report will have a smaller impact than the currently approved PDR approach.

Alternative Approach to Deliver the Iona Island Wastewater Treatment Plant Projects

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Funding Opportunities

Significant engagement has been and will continue to be undertaken with federal and provincial governments and other funding authorities to secure co-investment funding and help alleviate the impact on ratepayers in the region. Metro Vancouver has secured commitments from the federal and provincial governments of \$250 million each for the first \$750 million of the Iona Projects. In addition to this funding, through cost sharing with YVR, Metro Vancouver has saved \$10M and the Province has contributed \$500K in active transportation funding.

The funding objective is to obtain one-third each from the provincial and federal governments toward the projects.

NEXT STEPS

If the Board approves the recommendation, staff will begin to deliver the updated approach to the Iona Projects. Next actions include:

- Completing pilot plant construction and commencing testing to optimize design
- Completing geotechnical and ground improvement investigations and design
- Beginning asset rehabilitation
- Obtaining necessary permits
- Continuing to engage with Vancouver Sewerage Area members to model flows and loads
- Engaging with member jurisdictions, First Nations, and the public on the new approach
- Beginning discussions with the Province about aligning the provincial regulations with the federal regulations.

FUTURE BOARD DECISIONS

Stage gate approvals for the detailed design, construction, and contract awards will be brought to the GVS&DD Board as required. Staff will also report back on an annual basis.

ALTERNATIVES

1. That the GVS&DD Board;
 - a. direct staff to undertake upgrades to the Iona Island Wastewater Treatment Plant Upgrade with an approach that:
 - i. prioritizes achieving regulatory compliance as quickly as possible; and
 - ii. changes the sequence of the components outlined in the 2022 Project Definition Report and defers other components,as described in this report dated July 3, 2025, titled "Alternative Approach to Deliver the Iona Island Wastewater Treatment Plant Upgrade Projects";
 - b. direct staff to request that the Province align provincial wastewater effluent regulations with federal wastewater effluent regulations.
2. That the GVS&DD Board receive the report dated July 3, 2025, titled, "Alternative Approach to Deliver the Iona Island Wastewater Treatment Plant Upgrade Projects" for information, and deliver the Project Definition Report as approved in March 2022.

Alternative Approach to Deliver the Iona Island Wastewater Treatment Plant Projects

Liquid Waste Committee Regular Meeting Date: July 9, 2025

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3. That the GVS&DD Board receive the report dated July 3, 2025, titled, "Alternative Approach to Deliver the Iona Island Wastewater Treatment Plant Upgrade Projects" for information.

CONCLUSION

Prioritizing delivery of components related to secondary treatment will provide the fastest pathway to secondary compliance while also addressing concerns related to affordability for ratepayers. By adopting an adaptable approach to deliver phased upgrades to the Iona Island Wastewater Treatment Plant over time, this will allow the organization to be flexible in changing conditions.

ATTACHMENT

1. Alternative Approach to Deliver the Iona Island Wastewater Treatment Plant Upgrade Projects Presentation.



1

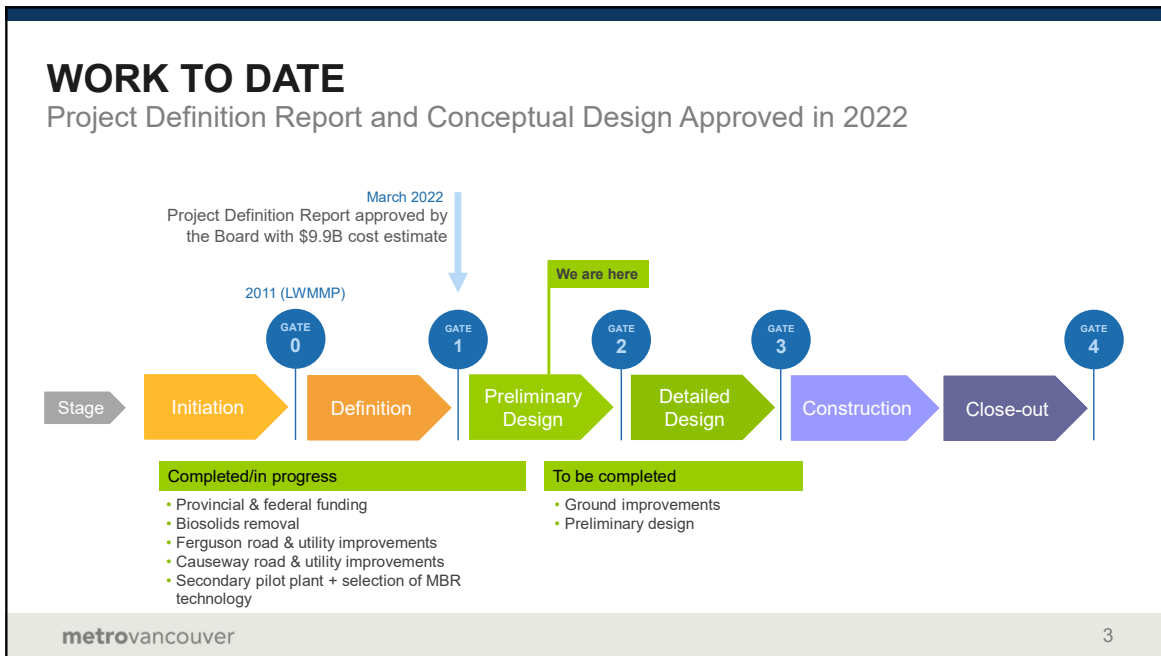
UPGRADING TO MEET SECONDARY REQUIREMENTS

| CURRENT | REQUIRED |
|--|---|
| Primary treatment only | Regulatory Requirements |
| Serves 750,000 residents | Must upgrade to secondary treatment by 2030 |
| Commissioned in 1963 | <ul style="list-style-type: none">Federal <i>Fisheries Act</i><ul style="list-style-type: none">Wastewater Systems Effluent Regulations |
| Treats 40% of region's wastewater | <ul style="list-style-type: none">Provincial <i>Environmental Management Act</i><ul style="list-style-type: none">Metro Vancouver's Integrated Liquid Waste and Resource Management Plan (2011) |

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BOARD REQUEST TO ASSESS DELIVERY OPTIONS

- In July 2024 the Board requested that staff assess options to reduce the annual impact on ratepayers
- Contract for this work was awarded to Fraser Delta Group in July 2024

Site tour for the Board of the preliminary design consultant

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DEVELOPING UPDATED APPROACH

Priorities for Assessment (as directed by Board)

- Meet regulatory requirements for secondary treatment as soon as possible
- Reduce annual cost impact for ratepayers

Actions Taken to Assess Options

- Selected technology
- Revised footprint
- Assessed options for rehabilitating existing plant
- Updated design modelling for PDR population
- Considered decreased capacity in construction labour market
- Considered future adaptability for population projections



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CHANGE FROM PDR TO ALTERNATE APPROACH

| PDR | | Updated Approach to Project | Future Works |
|---|---|---|---|
| SCOPE: <ul style="list-style-type: none"> • Full primary replacement • Full secondary/tertiary treatment • Access upgrades & utilities • Resource recovery • Full ecological projects | CHANGES: <ul style="list-style-type: none"> • Population • Technology • Market Capacity | SCOPE: <ul style="list-style-type: none"> • Rehabilitate existing primary • Majority secondary/tertiary treatment • Access upgrades & utilities • Onsite resource recovery • Ecological projects required for permits | STAGES/PROJECTS: <ul style="list-style-type: none"> • Replace existing primary • Remaining secondary/tertiary treatment • Offsite resource recovery • Remaining ecological projects • Capacity added for growth |
| SCHEDULE: <ul style="list-style-type: none"> • Delivery by 2035 | | SCHEDULE: <ul style="list-style-type: none"> • Delivery by 2039 | |
| EFFLUENT COMPLIANCE OUTCOMES: <ul style="list-style-type: none"> • 100% Federal • 100% Provincial | | EFFLUENT COMPLIANCE MET: <ul style="list-style-type: none"> • 100% Federal • Majority of Provincial | EFFLUENT COMPLIANCE MET: <ul style="list-style-type: none"> • 100% Federal • 100% Provincial |
| \$9.9B | | \$6.0B | TBD |

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MEETING REGULATORY COMPLIANCE

Based on Modelling Conducted of Effluent

Federal:

Will meet 100% of regulatory requirements

Provincial:

Will meet 100% of effluent quality compliance

Will require additional project to meet full volume requirements

Will discuss with Province and seek alignment of provincial regulations with federal regulations.

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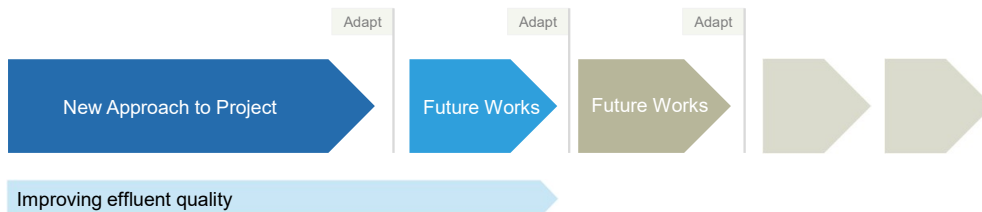
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APPROACH TO DELIVERING FULL SCOPE

Additional Components to Be Delivered as Future Projects or Stages

Adaptable to Changing Conditions

water conservation population growth
reduced organics funding availability
sewer separation technology optimization



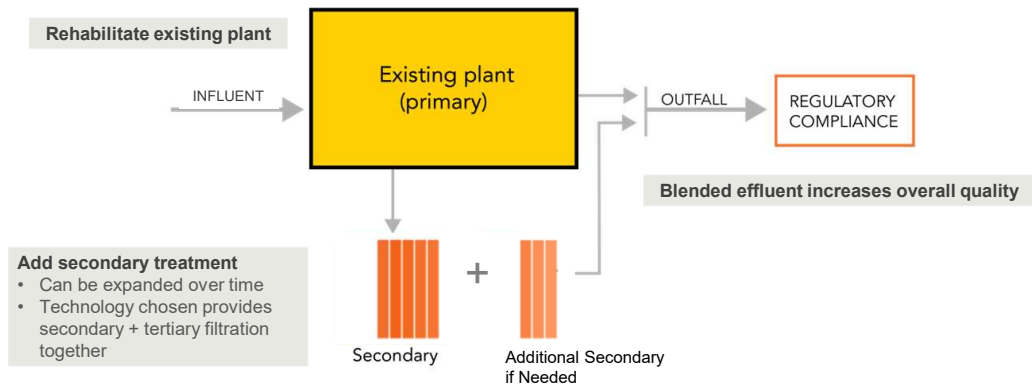
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ALTERNATE APPROACH

How Effluent Quality is Improved with Recommended Approach



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RISKS TO ALTERNATE APPROACH

- Requires discussion with Province about aligning with federal regulations
- Defers primary plant resilience
- Delivery of all components outlined in Project Definition Report will cost more over time
- Incremental cost of \$300M for bridging infrastructure and additional rehabilitation costs of the primary plant for phasing the project

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SUMMARY: RECOMMENDED ALTERNATE APPROACH

Recommended Alternate Approach

- **Add secondary treatment to existing plant first**
- Rehabilitate existing primary plant
- Prioritize delivery of project components to meet regulatory compliance by 2039
- Replace primary plant as subsequent project
- Reprioritize sub-projects not required for secondary compliance
- Discuss with Province options for aligning regulations with Federal regulations

Updated Cost: \$6B (not including future works)

Updated Completion Date: 2039

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RECOMMENDATION

- a) direct staff to undertake upgrades to the Iona Island Wastewater Treatment Plant with an approach that:
 - i. prioritizes achieving regulatory compliance as quickly as possible; and
 - ii. changes the sequence of the components outlined in the 2022 Project Definition Report and defer other components, as described in this report dated July 2, 2025, titled "Alternative Approach to Deliver the Iona Island Wastewater Treatment Plant Upgrade Projects";
- b) direct staff to request that the Province align Provincial wastewater effluent regulations with Federal wastewater effluent regulations.

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Aerial of existing Iona Island Wastewater Treatment Plant

Thank You

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Iona Island Wastewater Treatment Plant

Iona Island Wastewater Treatment Plant Projects

ALTERNATIVE APPROACH TO DELIVER THE IONA ISLAND WASTEWATER TREATMENT PLANT UPGRADE PROJECTS

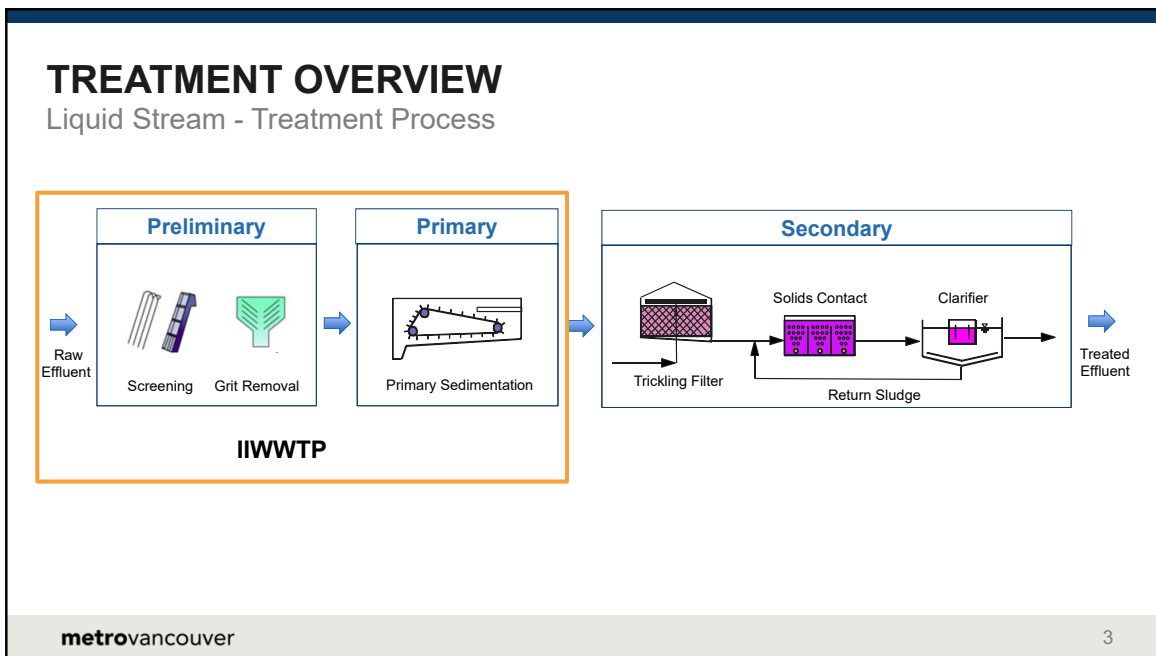
Cheryl Nelms, P.Eng., PhD
General Manager, Project Delivery

Peter Navratil, P.Eng., MPA
General Manager, Liquid Waste Services

Special GVS&DD Board Meeting, July 24, 2025
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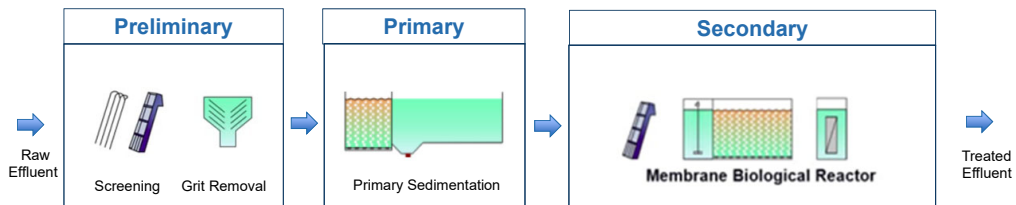
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TREATMENT OVERVIEW

Liquid Stream – Future Iona Wastewater Treatment Plant

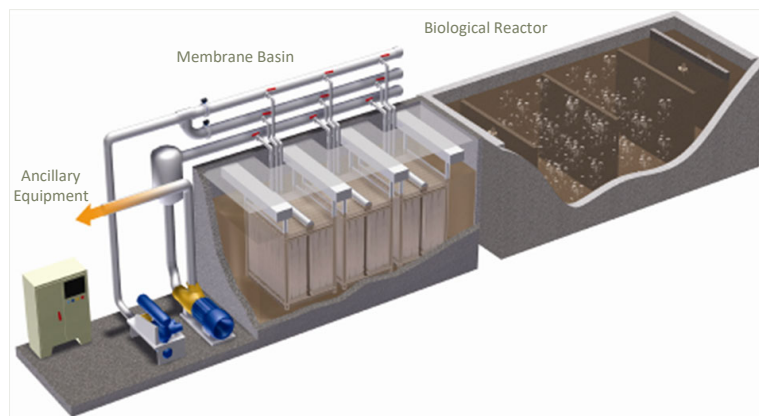


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SECONDARY TREATMENT

Membrane Bioreactor (MBR)



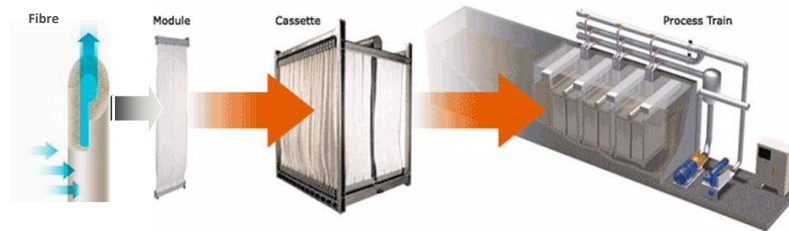
MBR Process Schematic - Courtesy of Suez

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MEMBRANE BIOREACTOR (MBR)

Modular Design



MBR Membrane Arrangement –
Courtesy of Suez

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ENVIRONMENTAL REGULATIONS

Federal:

- Fisheries Act: Wastewater Systems Effluent Regulations
- Canadian Environmental Protection Act

Provincial:

- Environmental Management Act
- Municipal Wastewater Regulation
- Liquid Waste Management Plan



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REGULATORY REQUIREMENTS

| | Parameters | Federal | Provincial | |
|----------|---|---------------------|--|--|
| Quality | Total Suspended Solids (TSS) | 25 mg/L (average) | 45 mg/L (daily maximum) | 130 mg/L (daily maximum) |
| | Carbonaceous Biochemical Oxygen Demand (cBOD) | 25 mg/L (average) | 45 mg/L (daily maximum) | 130 mg/L (daily maximum) |
| | Unionized Ammonia | 1.25 mg/L (maximum) | 1.25 mg/L (maximum) | 1.25 mg/L (maximum) |
| | Acute Lethality | Not acutely lethal | Not acutely lethal | Not acutely lethal |
| Quantity | Flow | N/A | For Flows < 2 x Average Dry Weather flow | For Flows ≥ 2 x Average Dry Weather flow |

REGULATORY COMMITMENTS

Iona Wastewater Treatment Plant

- 2002 Ministerial Order: Complete Upgrades by 2020
- 2011 Liquid Waste Management Plan: Complete upgrades by 2030
- 2014 Transitional Authorization: Meet requirements by end of 2030



UPGRADING TO MEET SECONDARY REQUIREMENTS

CURRENT

Primary treatment only

Serves 750,000 residents

Commissioned in 1963

Treats 40% of region's wastewater

Treats wastewater from:

- Vancouver (combined sewer)
- Richmond
- Burnaby
- Electoral Area A, UBC

REQUIRED

Regulatory Requirements

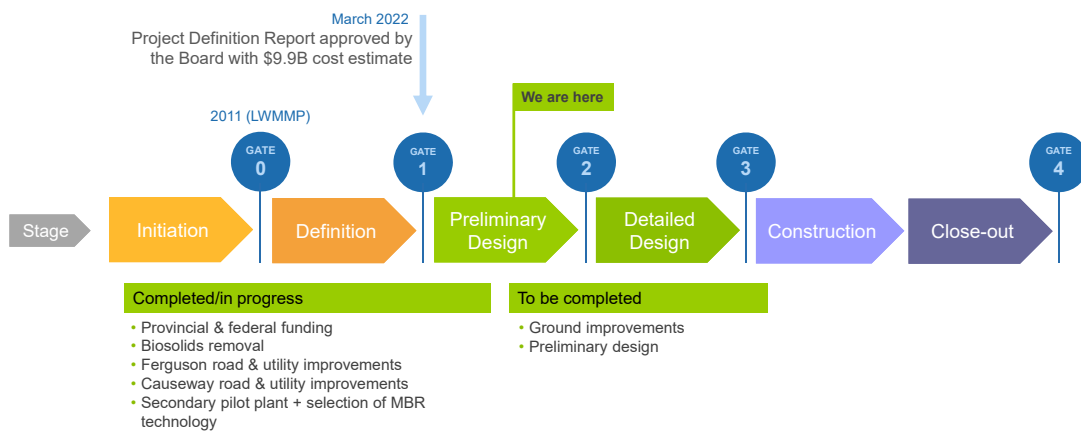
Must upgrade to secondary treatment by 2030

- Federal *Fisheries Act*
 - Wastewater Systems Effluent Regulations
- Provincial *Environmental Management Act*
 - Metro Vancouver's Integrated Liquid Waste and Resource Management Plan (2011)



WORK TO DATE

Project Definition Report and Conceptual Design Approved in 2022



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BOARD REQUEST TO ASSESS DELIVERY OPTIONS

- In July 2024 the Board requested that staff assess options to reduce the annual impact on ratepayers
- Contract for this work was awarded to Fraser Delta Group in July 2024



Site tour for the Board of the preliminary design consultant

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DEVELOPING UPDATED APPROACH

Priorities for Assessment (as directed by Board)

- Meet regulatory requirements for secondary treatment as soon as possible
- Reduce annual cost impact for ratepayers

Actions Taken to Assess Options

- Selected technology
- Revised footprint
- Assessed options for rehabilitating existing plant
- Updated design modelling for PDR population
- Considered decreased capacity in construction labour market
- Considered future adaptability for population projections



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CHANGE FROM PDR TO ALTERNATE APPROACH

PDR

SCOPE:

- Full primary replacement
- Full secondary treatment & tertiary filtration
- Access upgrades & utilities
- Resource recovery
- Full ecological projects

SCHEDULE:

- Delivery by 2035
(Now approx. 2040)

EFFLUENT COMPLIANCE OUTCOMES:

- 100% Federal
- 100% Provincial

\$9.9B

CHANGES:

- Population
- Technology
- Market Capacity

Updated Approach to Project

SCOPE:

- Rehabilitate existing primary
- Majority secondary treatment & tertiary filtration
- Access upgrades & utilities
- Onsite resource recovery
- Ecological projects required for permits

SCHEDULE:

- Delivery by 2039

EFFLUENT COMPLIANCE MET:

- 100% Federal
- Majority of Provincial

\$6.0B

Future Works

STAGES/PROJECTS:

- Replace existing primary
- Remaining secondary treatment & tertiary filtration
- Offsite resource recovery
- Remaining ecological projects
- Capacity added for growth

EFFLUENT COMPLIANCE MET:

- 100% Federal
- 100% Provincial

TBD

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MEETING REGULATORY COMPLIANCE

Based on Modelling Conducted of Effluent

Federal:

Will meet 100% of regulatory requirements

Provincial:

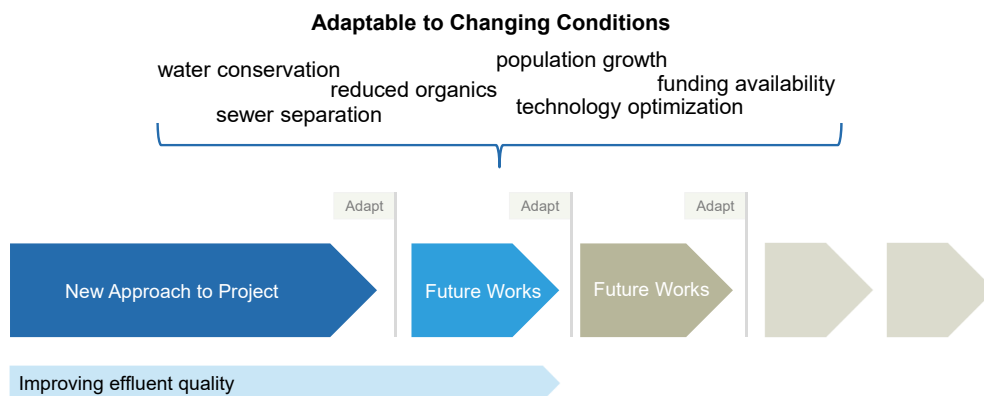
Will meet 100% of effluent quality compliance

Will require additional project to meet full volume requirements

Will discuss with Province and seek alignment of provincial regulations with federal regulations.

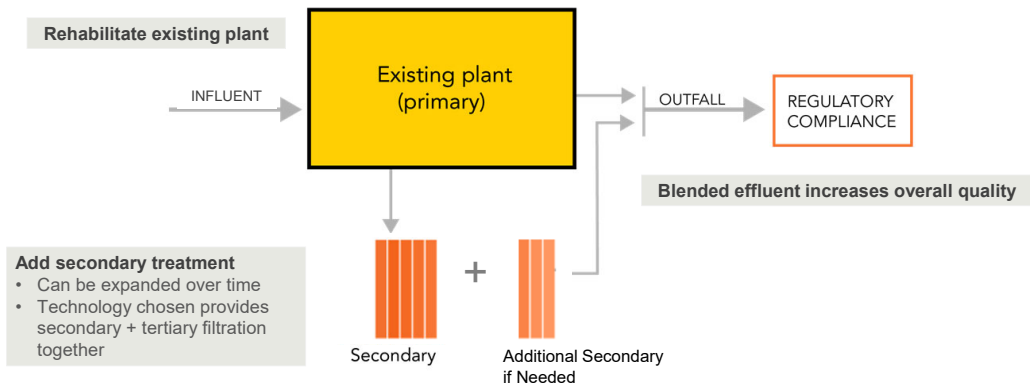
APPROACH TO DELIVERING FULL SCOPE

Additional Components to Be Delivered as Future Projects or Stages



ALTERNATE APPROACH

How Effluent Quality is Improved with Recommended Approach



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PRIMARY TREATMENT PLANT REHABILITATION

In Alternative Option - Rehabilitation:

- Can extend life to early 2060s
- ~\$300M, included within \$6B cost estimate
- Seismic risk remains same as today

Future Project – Replacement:

- Project would begin prior to 2060

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TECHNICAL EXPERT REVIEW

Expert Advisory Team

Mandate:

Review and challenge the scope, schedule, delivery strategy, and assumptions to identify potential schedule and cost saving opportunities



Experience:

- Wastewater Process
- Constructability
- Project Delivery

Kim Fries, Rick Bitcon, Bev Stinson, Ken Abraham, Salim Semsarilar, Dru Macinnes, Frank Margitan, Dave Clancy, Robert Andrews

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TECHNICAL EXPERT REVIEW

Recommendations

- Provided recommendation related to:
 - Secondary process treatment
 - Constructability and site layout
 - Project delivery
- Recommendations integrated into proposed approach



Primary treatment at Iona Island Wastewater Treatment Plant

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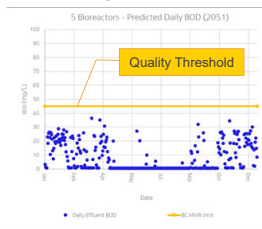
SECONDARY PROCESS TREATMENT

Effluent Quality Modelling Results

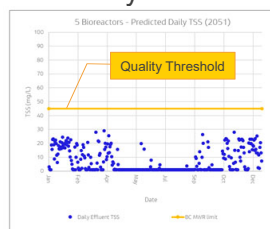
- No predicted exceedances in effluent quality in blended final effluent

Provincial

Daily BOD

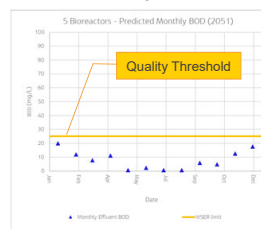


Daily TSS

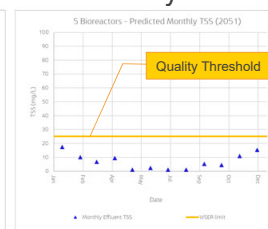


Federal

Monthly BOD



Monthly TSS



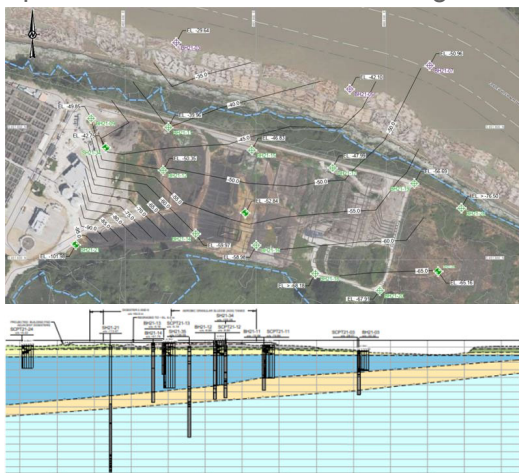
BOD – Biological Oxygen Demand
TSS – Total Suspended Solids

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CONSTRUCTABILITY AND SITE LAYOUT

Optimized Geotechnical and Design Assumptions



- Optimized site works based on additional geotechnical data
- Confirmed footprint can accommodate future stages
- Individual process trains support phased construction avoiding over-building

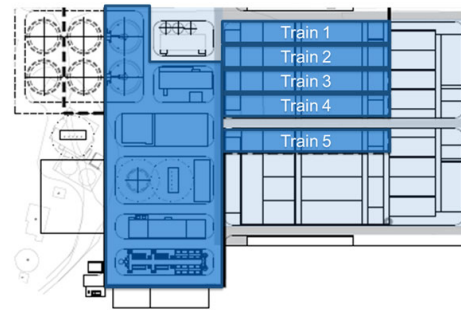
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PROJECT DELIVERY

Early Contractor Involvement and Collaborative Delivery

- Early contractor involvement will provide constructability input from preliminary design stage
- Collaborative contract models to accelerate schedule and incentivize efficiencies
- Schedule savings through expedited procurements and early works packages



RISKS TO ALTERNATE APPROACH

- Requires discussion with Province about aligning with federal regulations
- Defers primary plant resilience
- Delivery of all components outlined in Project Definition Report will cost more over time
- Incremental cost of \$300M for bridging infrastructure and additional rehabilitation costs of the primary plant for phasing the project

ALTERNATIVE APPROACH

Benefits and Risks

| Benefits | Risks |
|---|--|
| <ul style="list-style-type: none">• Achieves better effluent quality earlier• Prioritizes compliance for effluent quality• Fully meets federal regulations• Advanced treatment technology• More affordable path to secondary treatment• Modular secondary treatment provides an adaptable approach to avoid over-building• Defers capital spend of \$3.9B• Mitigates impact to rate payers (HHI) over next ten years | <ul style="list-style-type: none">• Contingent on exception for provincial requirements for effluent quantity• Requires existing primary plant to operate for longer• Extends exposure of primary plant to seismic and sea level rise risks• Costs of \$300M for bridging infrastructure and additional rehabilitation of primary plant• Delivery of the original PDR scope would take longer and ultimately cost more |

SUMMARY: RECOMMENDED ALTERNATE APPROACH

Recommended Alternate Approach

- **Add secondary treatment to existing plant first**
- Rehabilitate existing primary plant
- Prioritize delivery of project components to meet regulatory compliance by 2039
- Replace primary plant as subsequent project
- Reprioritize sub-projects not required for secondary compliance
- Discuss with Province options for aligning regulations with Federal regulations

Updated Cost: \$6B (not including future works)

Updated Completion Date: 2039

RECOMMENDATION

- a) direct staff to undertake upgrades to the Iona Island Wastewater Treatment Plant with an approach that:
 - i. prioritizes achieving regulatory compliance as quickly as possible; and
 - ii. changes the sequence of the components outlined in the 2022 Project Definition Report and defer other components, as described in this report dated July 3, 2025, titled “Alternative Approach to Deliver the Iona Island Wastewater Treatment Plant Upgrade Projects”;
- b) direct staff to request that the Province align Provincial wastewater effluent regulations with Federal wastewater effluent regulations.



Aerial of existing Iona Island Wastewater Treatment Plant

Thank You

Responses to Questions Posed by REAC/RAAC Members on July 18, 2025
about the Alternative Approach to Deliver the Iona Island Wastewater Treatment Plant Projects
Compiled August 2025

Overview:

The following document outlines questions, comments, and feedback received during the July 18, 2025 joint Regional Engineering Advisory Committee (REAC) and Regional Administrator Advisory Committee (RAAC) meeting on the topic of the Alternative Approach to deliver the Iona Island Wastewater Treatment Plant Projects.

REAC and RAAC – Joint Meeting

July 18, 2025 @ 9:00 AM

Hybrid – Metro Vancouver, 28th Floor Board Room / Virtual on Zoom

Attendees:

| Name | Organization |
|------------------------|-----------------------------|
| RAAC | |
| - Kirn Dhillon | Bowen Island Municipality |
| - Leon Gous | City of Burnaby |
| - Francis Cheung | City of Langley |
| - Leanne McCarthy | City of North Vancouver |
| - Serena Lusk | City of Richmond |
| - Rob Costanzo | City of Surrey |
| - Guillermo Ferrero | City of White Rock |
| - David Stuart | District of North Vancouver |
| - Rob Bremner | City of Port Coquitlam |
| - Sue Ketler | West Vancouver |
| REAC | |
| - Lisa Leblanc | City of New Westminster |
| - Jaime Boan | City of Coquitlam |
| - Michelle Revesz | City of Burnaby |
| - Karyn Magnusson | City of North Vancouver |
| - Joshua Frederick | City of Port Coquitlam |
| - Nicola Chevallier | District of North Vancouver |
| - Andy Kwan (Alt) | District of West Vancouver |
| - Roeland Zwaag | City of Richmond |
| - Lon LaClaire | City of Vancouver |
| - Jenn Moller | District of West Vancouver |
| - Steven Lan | City of Delta |
| - Jeff Little | City of Port Coquitlam |
| Metro Vancouver | |
| - Jerry Dobrovolny | Metro Vancouver |
| - Cheryl Nelms | Metro Vancouver |
| - Peter Navratil | Metro Vancouver |
| - Marilyn Towill | Metro Vancouver |
| - Harji Varn | Metro Vancouver |
| - Sonu Kailley | Metro Vancouver |

| | |
|---|---------------------------|
| - Winnie Shi | Metro Vancouver |
| - Linda Parkinson | Metro Vancouver |
| External Expert Advisory Committee | |
| - Dave Clancy | Expert Advisory Committee |
| - Rick Bitcon | Expert Advisory Committee |
| - Frank Margitan | Expert Advisory Committee |

Q&A:

Below is a complete list of all questions asked during the July 18, 2025 joint meeting along with responses, separated into themes.

REGULATIONS

1. What is the rationale for the alternative project approach?

The Alternative Approach to deliver the Iona Island Wastewater Treatment Plant Upgrade Projects is recommended because it:

- Achieves improved effluent quality earlier
- Reduces the annual impact to the rate payer over the next ten years
- Is adaptable/ flexible in that it can respond to changes in the future regarding population growth, technology, and regulations
- Addresses contractor market sounding feedback to deliver smaller packages of work
- Allows time for discussions with the regulators
- Is supported by external experts in challenge review

The alternative option is available now in part because the wastewater treatment technology selected has a smaller footprint. We have also done additional geotechnical work and a further condition assessment of the existing primary plant. In the updated approach, we would deliver only the most essential components required to achieve regulatory compliance with other components previously envisioned in the conceptual design would be deferred to future projects.

2. What is the approach to discussions with the province to align with federal regulations? What are the chances of it being successful?

We have just begun discussions with the BC Ministry of the Environment and Parks (ENV). As part of the supporting rationale to the ministry, we intend to demonstrate that the membrane biological reactor (MBR) technology effluent exceeds the effluent quality that can be achieved by conventional secondary treatment. Not only does the MBR technology achieve tertiary filtration due to the membrane fibres with typical effluent levels of biochemical oxygen demand (BOD) and total suspended solids (TSS) of about 1 mg/L, the technology also achieves high levels of removal for ammonia, nitrogen, microplastics, contaminants of emerging concern (CEC) and pathogens, which are a benefit to the ecosystem. Therefore, under this new technology, treating 1.25 x dry weather flow based on our current modelling will be sufficient to meet the effluent quality requirements as well as to provide the other benefits stated above.

Data from the MBR pilot testing program, which is now underway at the Iona Island WWTP, will be used to support discussions with ENV on the proposed Alternative Approach.

3. Why doesn't Metro Vancouver ask the regulators to revisit the need for secondary treatment?

Recognizing that today's environment has different priorities from when the regulations were first introduced, it is understandable to question the timing of building in secondary treatment.

Metro Vancouver participated in a nation-wide discussion from roughly 2000-2012 on the scientific merits of secondary treatment. It is our view that the request for regulatory change would be more effectively received from a member municipality than from a Board of an organization responsible for meeting the regulation, particularly when it will already be late in meeting the date the regulation is supposed to come into effect. Therefore, Metro Vancouver will not be approaching the regulators to request for the removal of the regulation regarding secondary treatment.

An extensive session will be conducted in closed to discuss regulations and responsibilities associated with meeting the regulations.

4. What would alignment of the provincial regulations with the federal regulations look like? It appears the federal regulation affords a cheaper plant and more operational flexibility.

Provincial and federal regulations have similar requirements for effluent quality, but the provincial regulations focus on daily concentration limits, while the federal regulations focus on monthly average concentration limits. The project would meet the provincial and federal requirements for effluent quality under the alternative option.

Where the regulations differ is that the provincial regulations also include a capacity requirement for secondary treatment, which stipulates the portion of flow that needs to receive secondary treatment (2x ADWF). This is understood to be historically related to the technologies available when the regulations were written that required treatment of 2x ADWF to meet the quality requirements. The technology selected for the project provides a higher level of treatment, which allows us to meet the effluent quality requirements when treating less of the flow than other technologies conventional secondary treatment.

5. What is the risk that the federal government would introduce a flow condition?

The federal regulation (Wastewater Systems Effluent Regulation) was enacted in 2012 and is the regulatory regime within which all wastewater treatments plants across Canada are operating. The federal government has made minor updates to the regulation periodically since it was enacted. Any major updates to the regulation would take a considerable period of time in terms of conducting the appropriate consultation with key stakeholders and then implementing any changes. Consequently, this risk of the federal government adding a flow condition is low.

6. Will the level of treatment proposed pose an issue when we request funding from the provincial government?

No. The \$250M of provincial funding received to date is based on the completion of early works to support the Iona Projects, such as ground improvements, utility relocations, road improvements, site rehabilitation, site investigations, and utility feeds to the site. These early works are required irrespective of the design of the upgrades to the Iona Island WWTP. Any additional provincial funding would be subject to ongoing engagement and discussions with the province.

ENVIRONMENTAL BENEFITS

7. How much of a difference does secondary treatment make on overall solids loading from the Fraser River?

The existing Iona Island WWTP outfall extends 7.2 km offshore into the Strait of Georgia via two diffusers located at depths ranging from 72 to 106 m. The implementation of secondary treatment at Iona Island WWTP will remove an additional 53 tonnes per day of total suspended solids that would otherwise be discharged to the Strait of Georgia.

The Fraser River has high naturally occurring background levels of sediment and solids, which are not considered harmful to the receiving environment. While the additional removal of total suspended solids achieved by the secondary treatment system is minor in comparison to the input from the Fraser River to the Strait of Georgia, final effluent from IWWTP does include a range of other contaminants that are known to be stressors to aquatic life.

8. Will microplastics and pharmaceuticals be addressed by secondary treatment?

In general, secondary treatment does not address microplastics and pharmaceuticals. However, the proposed treatment technology, membrane biological reactor (MBR), is very effective at removing microplastics and is among the best secondary treatment technologies for removing contaminants of emerging concern (CEC), which includes pharmaceuticals as well as a range of other persistent organic contaminants. MBR is able to remove certain CECs depending on the contaminant.

DELIVERY

9. Are there any proprietary technology concerns or supply chain concerns? What if the supplier arbitrarily increases the cost of replacement membranes? Are different membrane manufacturers compatible with each other?

No. There are multiple MBR manufacturers in the marketplace and provisions will be included in the design of the secondary treatment process to provide compatibility between different membrane manufacturers.

10. Have you engaged with the construction industry with respect to “can we still deliver this project in one phase”? Was this discussion applicable with the new technology or was that the old technology at the time? Is the new alternative a project that could be delivered in one large phase with the primary upgrades by 2039?

We have undertaken market sounding with contractors and understand that there is a limit to how much construction work can be undertaken annually due to supply chain, labour capacity and appetite for risk.

This market capacity is one of the key barriers to delivering the work in one phase by 2035. The technology selected allows for a modular delivery of the upgrades, which is also better suited to current market conditions.

HYDRAULICS

11. What impact do inflow and infiltration have on hydraulic capacity of plant? Have these been considered as part of overall planning? Would faster sewer separation reduce the cost of the project?

Inflow and infiltration (I&I) has been considered in the overall planning of the hydraulic capacity of the plant. The preliminary findings to date of these discussions indicate that I&I impacts both the dry weather and wet weather flows discharged from the VSA to the plant. The reduction in I&I over time as the combined sewers in the VSA are separated has been considered in the overall planning for the Iona Project.

Combined sewers are designed to discharge both stormwater and sewage into the environment during heavy rain, to avoid backups into homes and businesses.

Even after the sewers are separated, sewage will continue to be collected in existing sewers and discharge to the wastewater treatment plant and require treatment before it is discharged into the Salish Sea. The sewage is still required to meet secondary treatment requirements as per federal and provincial regulations.

Sewer separation (separating storm from sanitary sewers), and other demand management actions such as reducing inflow and infiltration (I&I), enables wastewater treatment plants to be appropriately sized to treat sewage and not over-designed to treat both sewage and stormwater.

While VSA sewer separation would not change the size or scale of the Alternative Approach, it may influence the size and cost of future projects.

DESIGN

12. How much regional population growth is built into design?

The Alternative Approach allows for the same amount of population growth as the PDR, with the initial project sized to provide treatment for a population of 945,000 people until the year 2051. If future population growth is higher than anticipated, future expansion projects can be constructed earlier without impacting the size or cost for the initial project.

13. What flow rate is the secondary plant designed for, and how long is it expected to meet VSA needs?

In the Alternative Approach, the secondary treatment plant is designed for the population size included in the PDR. The design horizon will be updated during the next stage of design development, based on the most up to date population projections and unit loadings available at that time.

14. Can the bridging/pumping infrastructure proposed as part of the Alternative Approach be reused for the future plant?

Yes, there is potential for the pump station built as bridging infrastructure to be reused in future expansions of the plant. This will be further explored by the design team during subsequent stages of design development.

15. Does anything in this preclude moving the primary plant replacement or additional secondary treatment forward at any time and independently (i.e. we have enough space to do one or other without affecting the other)?

No. The updated site layout has been developed to provide flexibility for the primary plant replacement and additional secondary treatment trains to be built either independently, or in parallel with other facilities. The ability to construct the facilities in a different sequence (e.g. primary plant replacement before secondary treatment upgrades) is not constrained by the updated site layout.

16. Was the replacement of the primary plant in the original PDR driven by the regulatory requirement for secondary treatment? What were the other drivers resulting in the decision to replace the primary plant as part of the project.

No, the primary plant replacement is not a regulatory requirement for secondary treatment. The original driver to replace the primary plant is aging infrastructure and resilience.

The project consultants carried out a more detailed condition assessment of the existing primary treatment infrastructure, which included the development of a comprehensive asset monitoring program, triggers for upgrades and updated cost estimates with a higher level of definition. We have concluded the asset condition risk could be managed and the service life of the existing liquid treatment infrastructure could be extended.

17. For the Alternative Approach, what flow rate is the secondary plant designed for, and how long is it expected to meet VSA needs?

The Alternative Approach assumes a population size of 945,000 to inform the design for upgrading to secondary treatment plant, which corresponds to the population projection for 2051 in the PDR. The design horizon will be updated during the next stage of design development, based on the most up to date population projections and unit loadings available at that time.

18. Can the bridging/pumping infrastructure proposed as part of the Alternative Approach be reused for the future plant?

Yes, it can be reused for the future plant.

FUNDING

19. What is Metro Vancouver's funding strategy for this project? What is the anticipated impact to residents by municipality? Can Metro Vancouver provide the assumptions used to apportion the costs within the VSA and FSA?

Significant engagement would continue to be undertaken with federal and provincial governments and other funding authorities to advocate for equitable cost-sharing.

Options for funding and financing the projects could include:

- Federal and provincial funding and grants
- Working with the Municipal Finance Authority

As a liquid waste initiative, costs will be allocated within the responsive tiers and apportioned in accordance with the GVS&DD Cost apportionment Bylaw no 283, 2014. Tier allocation is included in the report dated September 5, 2025, titled "Additional Information on Alternative Approach to Deliver the Iona Island Wastewater Treatment Plant Upgrade Projects." The HHI impact will be included in the Long-Term Financial Plan that will be presented to the Board in fall 2025.

20. What other sources of funding beyond the \$500 million provided by the province and feds are being pursued?

Significant engagement will continue to be undertaken with federal and provincial governments and other funding authorities to advocate for equitable cost sharing.

Options for funding and financing the projects could include:

- Federal and provincial funding and grants
- Working with the Municipal Finance Authority

21. The previous plan included \$775.5M in the 2023–2052 DCC bylaw (~8% of total cost) under the GVS&DD DCC Capital Growth Program 2023 Budget. What would the DCC allocation be for this Alternative Approach? Are DCC rates being reviewed for the full WWTP replacement?

As a liquid waste initiative, costs will be allocated within the responsive tiers and apportioned in accordance with the GVS&DD Cost apportionment Bylaw no 283, 2014. Periodic reviews of DCC rates and structure will continue.

The PDR DCC allocation was 8%. If the Board approves the Alternative Approach the DCC allocation will be re-assessed as part of the DCC work plan which is currently underway.

This will be included in the Long-Term Financial Plan that will be presented to the Board in fall 2025.

22. If provincial requirements aren't met, would the upgrades still qualify for provincial funding? Or impact future cost-sharing opportunities?

The \$250M of provincial funding is based on the completion of early works to support the eventual upgrades as part of the Iona Projects. These early works are required irrespective of the design of the upgrades. Any additional provincial funding would be subject to ongoing engagement and discussions with the province.

COSTS

23. What could be the cost of future works that have been deferred under this alternate approach?

An indicative high level calculation for the deferred works of approximately \$3.9B would depend on the time needed for delivery (population changes, provincial requirements, and best available technology at that time, etc.). We expect this number would need to be escalated for delivery between 2040-2050 and include a risk reserve at a rate consistent with what was included in the 2022 PDR estimates.

24. Has the value of future works including operating costs been calculated under a Net Present Value (NPV) approach?

At this time, we have not calculated the NPV of the future works.

Phasing the work reduces the annual impact on residents while extending the duration of works required to meet the overall program scope. The cost for work that would be deferred has not yet been undertaken because the scope and timing will need to be determined based on an approach that adapts to changing conditions.

25. What would the incremental cost be to build the sixth, seventh, and eighth secondary treatment trains now to meet the provincial regulations and can we do that by 2039?

The incremental cost to build secondary treatment trains six to eight is \$1.1 billion (2022\$) plus additional risk reserve and escalation, which would be dependent on the timing of delivery. Due to contractor market capacity constraints, site capacity constraints, and affordability constraints, it is anticipated that constructing an additional three trains of secondary treatment would require additional time after 2039 to complete.

26. What is the difference in operating costs between PDR and new approach? In particular, what are the operating costs for bridge/pumping infrastructure?

The Alternative Approach will have higher operating and maintenance (O&M) costs due to operating the existing primary plant, which will be offset by lower O&M costs for a smaller secondary treatment plant capacity. The incremental O&M cost for bridging infrastructure will be minor.

27. Is there a table to show comparative costs normalized by capacity for plants of similar size across Canada and North America?

We have been in discussions with other jurisdictions across Canada and have assessed the differences at a high level. We have found that making direct comparisons between projects is challenging because each project is unique with respect to variables such as date completed, level of treatment, odour management, separated vs combined system, upgrade versus new plant, key cost drivers, risks, geotechnical considerations due to location, and project delivery models.

28. Has the updated \$6B project been allocated to the appropriate regional tiers? What is the anticipated impact to residents by municipality?

Yes. As a liquid waste initiative, costs will be allocated within the responsive tiers and apportioned in accordance with the GVS&DD Cost apportionment Bylaw no 283, 2014.

The appropriate HHI impact will be completed and will be included in the Long-Term Financial Plan that will be presented to the Board in fall 2025.

It is staff's position that the Board's decision on the technical and regional merits needs to precede the discussion about who pays for what. That shouldn't impact the overall decision — the fiduciary responsibility is to the region and to the GVS&DD for this decision.

29. When do municipalities have to start budgeting for these costs?

The cost estimates for this project have been included in the Five-Year Financial Plan.

30. What are the anticipated operation and maintenance costs for the Alternative Approach and the full plant upgrade?

The Alternative Approach would have higher operating and maintenance (O&M) costs due to operating the existing primary plant and additional secondary treatment.

The costs estimated from 2035 to 2060 are summarized in the table below.

| Costs 2035 to 2060 Nominal in Year of Expenditure | Total O&M Cost (2036 to 2060) |
|--|-------------------------------|
| Existing Plant | \$1.35 B |
| PDR (Stage 7 delivery by 2035) | \$4.20 B |
| Alternate Approach with primary & secondary capacity to 2x ADWF built between 2050 to 2060 | \$4.35 to \$4.55 B |

31. What would the DCC allocation be for this Alternative Approach? Are DCC rates being reviewed for the full WWTP replacement?

If the Board approves the Alternative Approach the DCC allocation will be re-assessed as part of the DCC work plan which is currently underway and will inform the Long-Term Financial Plan for the fall.

32. Will the operating costs be higher because you'll need to change the membranes and fibres?

The operating costs are higher for a secondary treatment plant compared to a primary treatment plant. In the Alternative Approach, we would build less secondary treatment than the PDR, so there would be less cost to change membranes in the Alternative Approach than with the PDR design.

Additional operating costs associated with the Alternative Approach include temporary pumping from the existing primary plant and additional chemical dosing to the existing primary plant.

33. Given the huge swing in costs from \$9.9B to \$6B, is there a detailed project cost breakdown?

The cost breakdown is built on the same basis as the PDR, details are provided in the table below to show which components of the PDR scope will be delivered in the Alternative Approach project, and which will be deferred to future projects.

The Alternative Approach involves prioritizing the scope required to reach effluent quality regulatory compliance by implementing secondary treatment. Metro Vancouver will deliver a smaller scope for a smaller cost, while other complementary projects previously considered in the 2022 Project Definition Report would be deferred and evaluated in the future.

The following table outlines the breakdown of costs for what would be delivered and what would be removed from the Iona Projects and deferred to future works.

Table: Components as outlined in the Project Definition Report compared to what would be delivered in the Alternative Approach and what would be deferred to future work.

| | | Cost | Project Definition Report Approach | Alternative Approach | Future Works (2040-2050) |
|--|--|-----------|------------------------------------|----------------------|--------------------------|
| Preliminary & Primary Treatment | Primary Solids Handling | \$ 690M | √ | √ | |
| | Primary Plant Rehabilitation | \$ 135M | √ | √ | |
| | Incremental Primary Plant Rehabilitation | \$ 65M | | √ | |
| | New Primary Plant | \$ 1,380M | √ | | √ |
| Secondary & Tertiary Treatment | 65% of Secondary Plant – 5 Trains | \$ 1,809M | √ | √ | |
| | Remaining 35% of Secondary Plant – 3 Trains | \$ 874M | √ | | √ |
| | Secondary Solids Handling | \$ 446M | √ | √ | |
| | Secondary Solids Handling - Growth | \$ 107M | √ | | √ |
| | Pilot Testing | \$ 25M | √ | √ | |
| | Advanced Pilot Testing | \$ 11M | √ | | √ |
| | Regional Lab & Welcome Centre | \$ 88M | √ | | √ |
| Access Upgrades & Utilities | Utilities and Road Improvements | \$ 300M | √ | √ | |
| | Permanent O&M Building | \$ 120M | √ | | √ |
| Resource Recovery | Plant Renewable Energy | \$ 50M | √ | √ | |
| | Offsite Heat Recovery and Effluent Water Reuse | \$ 180M | √ | | √ |
| Ecological Projects & Community Amenities | Ecological Projects required for permits | \$ 59M | √ | √ | |
| | Other Ecological Projects | \$ 115M | √ | | √ |
| | Community Amenities | \$ 25M | √ | | √ |
| Bridging Infrastructure | Temporary Works for Alternative Approach | \$ 140M | | √ | |
| Cost Estimate (2022) | | | \$6.4B | \$3.5B | \$2.9B |
| Escalation & Risk Reserve | | | \$3.5B | \$2.5B | |
| Total | | | \$9.9B | \$6.0B | |

SEISMIC/FLOODING

34. Will seismic and flood risks be mitigated under the new approach?

Seismic risk will remain with the existing primary plant until replacement. Flood risks including storm surge to assets would be addressed through a subset of ecological projects, which include shoreline and wave protection.

New construction of the secondary treatment plant in the alternative option will be seismically resilient. The Alternative Approach provides a pathway towards fully seismic resilient infrastructure.

35. Given that the primary plant will remain in operation, will the project include temporary works to improve the primary plant's resilience to climate events (e.g., diking to protect against storm surge)?

Flood risks including storm surge to assets will be alleviated through ecological projects, which include shoreline and wave protection with select projects that have been included in this alternate approach.

36. Are we sure that seismic upgrade of the primary plant will not be added as a requirement as part of building permitting requirements?

There is no way to guarantee the requirements that will be imposed during the building permit process, as building officials make their own interpretation of the building code. However, building code consultants have indicated that the work currently planned at Iona is not expected to trigger a requirement for seismic upgrades to the existing primary plant because the proposed work is not expected to change the occupancy, function, performance, or existing level of code compliance, nor is the planned work expected to introduce new non-compliance with existing codes.

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**Responses to Questions Posed by GVS&DD Board Members on July 24, 2025
about the Alternative Approach to Deliver the Iona Island Wastewater Treatment Plant Projects
Compiled August 2025**

Overview:

The following document outlines responses to questions that were asked during the July 24, 2025 special GVS&DD Board Meeting on the topic of the Alternative Approach to deliver the Iona Island Wastewater Treatment Plant Projects. It also includes answers to questions received by email from Board members following the meeting.

Q&A:

Below is a complete list of all questions asked during the July 24, 2025 meeting along with responses, presented in the order they were asked.

- 1. What about people who put toxic things into our system? Do industrial users have some primary treatment at their facilities that takes out the toxic chemicals that they might otherwise be putting into the system?**

The sewer system and wastewater treatment process are monitored for toxic or unauthorized discharge of materials into the sewer system.

Industrial sites have discharge agreements (permits) with Metro Vancouver that specify what they are, and are not, allowed to discharge into the sewer. They sometimes require extra treatment on their own site before they are allowed to discharge to the municipal sewer system.

Metro Vancouver has source control bylaws. Enforcement officers track down unauthorized discharges.

- 2. What happens to the toxic solids that come through this process?**

There are bio-solids produced at the end of the process and 100% of the bio-solids have been beneficially re-used in mine reclamation projects and sustainable fertilizer. The output is not a toxic solid.

- 3. Any thoughts on the alternative technology developed by a West Vancouver engineer?**

For the Iona Projects and Metro Vancouver's other large wastewater treatment facilities, we implement commercialized technologies that are proven at a large scale.

Metro Vancouver works closely with academic partners and technology developers to develop and scale up technologies that could be used in future projects. Metro Vancouver's Annacis Research Center has several test bays where Metro Vancouver hosts exploration of newer and alternative technologies.

- 4. What flexibility is there in the [effluent quality regulatory] deadlines, in the context of climate change and the intensity of rainfall in the region?**

There is no flexibility for regulatory deadlines in the context of climate change. Metro Vancouver has previously written to higher levels of government and has not received flexibility on the deadlines.

**5. Is there a significant cost between the past secondary delivery and new model?**

The Alternative Approach represents a smaller scope and cost than the PDR full scope: \$6B versus \$9.9B in capital cost. The cost for the deferred part of the PDR scope depends on when that scope would be delivered. We have not completed a detailed estimate for the deferred scope. If one was to carry a high-level estimate of all deferred scope would be \$7.7 billion (\$2.9 billion in 2022 dollars, including \$4.8 billion escalation and risk reserve in 2022 dollars if proportionally increased to midpoint of 2040 to 2050 delivery).

A scenario where the deferred work is delivered is outlined below with escalation and risk reserve in 2022 dollars if proportionally increased to midpoint of 2040 to 2050 delivery.

Table: Cost estimates (2022\$) of future works, based on various scenarios

| Scenarios | PDR Deferred Cost (\$B) | Escalation & Risk Reserve (\$B) | Total Estimated Cost (\$B) |
|--|-------------------------------|------------------------------------|-------------------------------|
| Building Additional Secondary if required (Delivery 2040–2050) | \$1.1 B | \$1.8 B | \$2.9 B |
| Primary Replacement (incl. seismic) (Delivery 2040–2050) | \$1.4 B | \$2.2 B | \$3.6 B |
| Complementary Resource Recovery, Ecological and Community Amenities (Delivery 2040–2050) | \$0.4 B | \$ 0.8 B | \$1.2 B |
| All Deferred Scope Delivered (Delivery 2040-2050) | \$2.9 B | \$4.8 B | \$7.7 B |

6. Noting the legal risk of not complying by 2031. If we wanted to get more information back on questions asked and addressed at REAC and RAAC in a timely matter, would that be feasible before advancing this approach?

Responses are provided for the remainder of questions from RAAC/REAC, with these Board questions. An additional REAC meeting is scheduled for September 12 to provide additional information for REAC members prior to the Board meeting on October 3, 2025.

7. Considering rainwater management and alleviating additional load on sewers, have we looked at alternative approaches to upgrades that have better environmental outcomes at a lower cost, rather than just working to meet regulatory requirements at the wastewater treatment plant?

Yes, we looked at alternative approaches to the upgrades as part of the phasing option assessment work completed since the PDR. Specifically, the recommended Alternative Approach defers the components of the Iona Island WWTP that are most affected by rainwater management and other VSA demand-side management initiatives. This provides flexibility in being able to right-size future expansions at the Iona Island WWTP to reflect the VSA's progress in implementing these initiatives.

Metro Vancouver and member municipalities have legal responsibilities to separate combined sewers as well as to upgrade wastewater treatment processes, which are both outlined in the Liquid Waste Management Plan.

Metro Vancouver is supportive of the VSA's efforts to separate sewers, implement green infrastructure, water metering and conservation, and reducing the use of garburators. The size and cost of the Alternative Approach rely on VSA's commitments to all these initiatives. The Alternative Approach provides flexibility to right-size future expansion at Iona to reflect the VSA's progress with implementing these initiatives.

8. From an affordability perspective, have we done any financial analysis on the ratepayers and Vancouver's ability to also lever money to achieve the success factors of sewer separation work?

The Alternative Approach has a smaller annual impact on rate payers compared to the full PDR scope. Changes in sewerage area tiers are included in the report dated September 5, 2025, titled "Additional Information on Alternative Approach to Deliver the Iona Island Wastewater Treatment Plant Upgrade Projects."

While VSA sewer separation would not change the size or scale of the Alternative Approach in the short term, it may defer future expansions by extending the design life of the planned upgrade and influence the size and cost of future projects. Metro Vancouver is supporting VSA members who are further examining the effect of the demand-side management initiatives on the cost of wastewater treatment facilities for future upgrades.

9. Is the membrane bioreactor (MBR) an add-on to the existing plant?

Yes, the MBR is the secondary treatment technology that will be added downstream of the existing primary plant. The MBR process consists of a tank where the biological reactions take place, followed by a separate tank where membrane cassettes filter the biological mixture to produce effluent.

10. Will the membrane bioreactor (MBR) remove microplastics?

Yes, given the small pore size of openings in the membrane fibres, MBR technology is expected to remove more microplastics than other conventional secondary treatment technologies and we will be validating this during the pilot plant testing over the next two years.

11. Will we end up with tertiary filtration effluent quality?

Membrane bioreactor (MBR) technology produces very high-quality effluent, comparable to tertiary-filtered effluent. The Alternative Approach would build out the minimum capacity of MBR secondary treatment to meet the effluent secondary quality regulatory requirements set out by the provincial and federal regulations, while also addressing affordability and market capacity limits.

In the future, when the remaining MBR secondary treatment trains are built out, the entire secondary effluent flow will likely reach tertiary-filtered effluent quality, aligned with the PDR commitments. We will be testing performance of the MBR, and effluent quality, via pilot testing over the next two years.

Metro Vancouver's commitment in the LWMP is secondary treatment for Iona Island WWTP, with a pathway for future upgrades to tertiary filtration.

12. Will there be sufficient space for the primary plant replacement in the future?

Yes, the work done since the PDR was approved in 2022 included a site lay out for the entire wastewater treatment plant on GVS&DD land, including a new primary plant in the future. The Alternative Approach preserves a footprint on GVS&DD land for future primary treatment as well as preliminary treatment and influent pumping.

13. How does the membrane bioreactor technology compare to what they do in Singapore?

Singapore's Public Utility Board Tuas Water Reclamation plant uses the same MBR.

14. Does this technology allow us to meet regulatory requirements at a smaller footprint?

Yes, MBR allows us to do this.

15. Before selecting this new technology, had the previous technology presented a challenge? From a finance or usage perspective, considering the size of plant needed to serve the population of the VSA, and the opportunity to reduce the footprint.

The consultant team for the PDR established a long list of technologies for proven large-scale installations for wastewater treatment, and assessed them to arrive at a shortlist of two main secondary treatment processes. In 2022, the Board approved the Project Definition Report, which was based on a shortlist of two technologies: Aerobic Granular Sludge (AGS) and Membrane Bioreactor (MBR). Since 2022, further changes to the population growth and property available at the Iona Island WWTP site resulted in the consultant's assessment of the two shortlisted secondary treatment technologies. Only the MBR technology met project requirements and mitigated risks.

16. Does Iona have the property size area that Annacis has?

No, the Iona Island property is a smaller area than the Annacis Island Wastewater Treatment Plant. The Annacis Island WWTP is on a property of 51 ha, whereas the Iona Island WWTP is on a property of 31 ha.

17. What is the business case as it relates to the actual environmental outcomes from the investment?

Metro Vancouver is obligated to meet all legal and regulatory requirements, including those pertaining to wastewater treatment. The Alternative Approach provides an alternative at a lower cost and reduced scope when compared to the PDR that was approved by the Board in 2022.

The federal regulation (Wastewater Systems Effluent Regulation) was enacted in 2012 and is the regulatory regime that all wastewater treatments plants across Canada are operating within.

Effluent from wastewater systems represents one of the largest sources of pollution, by volume, in Canadian waters. Treating wastewater removes substances that can harm human health, aquatic life, and the environment. If we don't remove pollutants from wastewater, they go directly into our rivers and oceans. This can threaten aquatic life; public health; and our ability to swim, boat, and fish in our local waters. The Vancouver Sun wrote an in-depth [article](https://vancouversun.com/feature/bc-oysters-making-people-sick-cause-disturbing) related to sewage contamination of shellfish in Baynes Sound (see: <https://vancouversun.com/feature/bc-oysters-making-people-sick-cause-disturbing>).

Human health risks can stem from the release of untreated or inadequately treated wastewater effluent. In some circumstances, it could contaminate drinking water sources with bacteria, protozoans, and several other toxic substances.

Ecosystem impacts can include:

- Fish kill
- Algal blooms
- The destruction of habitat from sedimentation, debris, and increased water flow
- Short- and long-term (acute and chronic) toxicity from chemical contaminants
- The accumulation and magnification of chemicals at higher levels of the food chain

The Iona Island WWTP is located within an ecologically significant area:

- xʷəyeyət (Iona Island) and the Fraser River Estuary are deemed ecologically significant internationally, provincially, and locally, as they are located within:
 - The 5,000 ha Provincial Sturgeon Bank Wildlife Management Area
 - A Ramsar site that recognizes wetlands of international importance
 - The Fraser River Estuary Important Bird and Biodiversity Area
- The Fraser River Estuary provides nursery grounds for out-migrating juvenile salmon, spawning grounds for many types of adult fish, and a critical stopover for hundreds of thousands of birds who migrate north and south along the Pacific Flyway route every year.
- The Salish Sea is critical habitat for the Southern Resident killer whale and Chinook Salmon are a major food source for orcas.
- The Fraser River watershed hosts all species of Pacific salmon and supports more salmon runs than any other river in the world. Iona Island is a rearing ground for young salmon.
- xʷəyeyət (Iona Island) supports a diversity of ecosystems, a wide range of fish and wildlife habitats, and a high diversity of species, including several species and ecosystems at risk. In 2022, Metro Vancouver conducted bird surveys on the island and observed approximately 159,000 birds comprising 122 species.

The benefits of secondary wastewater treatment also align with current public values. Metro Vancouver's recent engagement on the Liquid Waste Management Plan update indicate high public interest in higher levels of wastewater treatment to protect public health and the environment. It also aligns with the region's visibility and reputation on the world stage.

The existing Iona Island WWTP outfall extends 7.2 km offshore into the Strait of Georgia via two diffusers located at depths ranging from 72 to 106 m. The implementation of secondary treatment at Iona Island WWTP will remove an additional 53 tonnes per day of total suspended solids that would otherwise be discharged to the Strait of Georgia.

The Fraser River has high naturally occurring background levels of sediment and solids, which are not considered harmful to the receiving environment. While the additional removal of total suspended solids achieved by the secondary treatment system is minor in comparison to the input from the Fraser River to the Strait of Georgia, final effluent from Iona Island WWTP does include a range of other contaminants that are known to be stressors to aquatic life.

18. Do we need to decide today between the Alternative Approach and the PDR scope approved by the Board in 2022?

No. The schedule presented with the Alternative Approach is based on moving ahead in 2025 with the preliminary design work. The Board does need to provide direction in the near future to maintain the schedule presented. Further delays in decision-making will push out the delivery date for the project and Metro Vancouver would be out of compliance for a longer period of time.

19. What is the risk associated with not upgrading the primary plant, which would remain seismically vulnerable?

The seismic risk to the primary plant and other aging infrastructure remains the same as now, until it is replaced. Similar seismic risks exist for Metro Vancouver's other primary treatment facilities and sewer infrastructure such as at Annacis, Lions Gate, and Northwest Langley.

Metro Vancouver staff are establishing monitoring of the settlement and condition of the existing Iona plant, monitoring which will continue until the primary plant is fully replaced. The Alternative Approach allows for Metro Vancouver to pivot if the condition of the primary plant were to deteriorate more than anticipated.

20. What would be the costs to seismically maintain the primary plant in the short term?

Seismically upgrading the existing plant to meet current building code requirements would require extensive ground improvements and foundation work beneath the existing plant while it is in operation — which is an impractical undertaking from both a technical and construction perspective. The work would also be prohibitively expensive and economically unfeasible given the scale of the investment required for a 60+ year-old facility.

Additionally, the Alternative Approach establishes a pathway to replace the existing plant with a new facility that would be designed to meet the seismic standards which — in combination with the technical, constructability, and economic impracticalities noted above — further substantiates that seismically upgrading the existing plant is not a viable option.

There is \$300 million identified in the Alternative Approach budget to address critical projects required to rehabilitate the primary plant and extend its service life. These projects have been identified and scoped, since the PDR was approved by the Board, to enable the primary plant to continue to operate, and providing a pathway for its upgrade in the future. Staff will continue to address regular repair and replacement requirements, similar to Metro Vancouver's other facilities and assets.

New construction of the secondary treatment plant in the Alternative Approach will be seismically resilient. The Alternative Approach provides a pathway towards fully seismic resilient infrastructure.

21. By 2040, the existing plant will be 80 years old. At what point will we need to be expending and doing the [deferred] work anyway due to the plant's age and seismic vulnerability?

The original wastewater treatment plant (Stage 1) was put into service in 1963. That original infrastructure will be about 80 years of age in 2040. Other parts of the plant (Stages 2 to 6) were constructed after 1963 ranging between 1972 to 1986. Some recent upgrades have been completed since 2016.

A number of facilities in North America that are over 80 years old continue to operate successfully through investment in regular maintenance, repair and replacement of equipment. Examples of this include Ashbridges Bay WWTP (Toronto), San Jose-Santa Clara WWTP (USA), Bonnybrook WWTP (Calgary), and NEWPCC (Winnipeg).

22. In light of bringing the cost down in the short term, that doesn't include future works and costs, is it possible for the Board to get financial modelling that reflects what potentially the future costs would be for future works? What are the cost controls?

The PDE department has implemented standards and processes around the development of cost estimates, scheduling and cost control, with a view to minimizing risks in the delivery of the project.

The deferred capital expenditures will cost more than they were estimated to in the PDR due to cost escalation, market factors, and other events beyond any organization's control.

We have not completed a detailed estimate for the deferred scope. If one was to carry a high-level estimate of all deferred scope would be \$7.7 billion (\$2.9 billion in 2022 dollars, including \$4.8 billion escalation and risk reserve in 2022 dollars if proportionally increased to midpoint of 2040 to 2050 delivery).

23. Are there regulatory requirements around seismic standards for a plant like this?

Seismic upgrades for the existing primary plant rehabilitation work related to the building code are unlikely to be required, as there is no change to the occupancy or function or performance of the structure. Metro Vancouver will work with City of Richmond to confirm code requirements. This is a different situation to undertaking renovations on an administration building or other types of buildings, where the occupancy or function changes.

24. What are the environmental and health risks if there is a seismic event?

If a seismic event were to occur before the primary plant replacement, Metro Vancouver would need to respond to the immediate impacts of the earthquake and begin planning for future post-disaster recovery activities.

25. Can a cost estimate of future works be provided?

See answer to question 22.

26. How long would it take to get different scenarios of what the overall cost could be?

Presented herein.

27. Are we factoring in water conservation?

Yes, the size and cost of the Alternative Approach includes future water conservation measures that the VSA members were planning to implement at the time of the PDR. Additional future water conservation measures, that have been identified through further engagement with VSA members since the PDR, will be incorporated into the sizing and timing for future upgrades after Alternative Approach project is implemented.

28. How is growth factored into the Alternative Approach? Are we working with new population increases?

The Alternative Approach assumes the same population growth as in the PDR, with the initial project sized to provide treatment for a population of 945,000 people until the year 2051. If future population growth is higher than anticipated, future expansion projects can be constructed earlier without impacting the size or cost for the initial project.

29. Is there an estimate of the proportion and impact of solids from in-sink grinders? Would we consider enforcement on in-sink grinders?

Metro Vancouver conducts public awareness campaigns about the impact of solids being flushed down the drain, and the VSA members are also planning actions around garburators. Green bin programs have had a positive effect by reducing the solids loading sent to the region's wastewater treatment plants. Enforcement of garburators would require approval by the Board. Enforcement and use is currently decided by each member jurisdiction.

While VSA demand-side management actions would not change the size or scale of the Alternative Approach in the short-term, it may influence the size and cost of future projects.

30. What are the ownership and maintenance costs of the Alternative Approach?

The Alternative Approach will have higher operating and maintenance (O&M) costs due to operating the existing primary plant, which will be offset by lower O&M costs for a smaller secondary treatment plant capacity. The incremental O&M cost for bridging infrastructure will be minor.

The costs estimated from 2035 to 2060 are summarized in the table below.

| Costs 2035 to 2060 Nominal in Year of Expenditure | Total O&M Cost (2036 to 2060) |
|--|-------------------------------|
| Existing Plant | \$1.35 B |
| PDR (Stage 7 delivery by 2035) | \$4.20 B |
| Alternate Approach with primary & secondary capacity to 2x ADWF built between 2050 to 2060 | \$4.35 to \$4.55 B |

31. What was the Swedish plant that was referred to?

The Swedish membrane bioreactor (MBR) plant in Stockholm is called Hendriksdal Wastewater Treatment Plant.

32. Will there be biogas recovery?

Yes, all of Metro Vancouver's plants recover biogas for reuse.

33. Do we have any primary plants upgraded seismically in this region? Can the pipes be upgraded seismically? So all the treatment plants are in the same position for primary?

No. None of Metro Vancouver's existing primary plants have been seismically upgraded such as at Annacis, Lions Gate, and Northwest Langley. All older infrastructure as part of Metro Vancouver's existing primary plants and sewer systems have similar seismic vulnerability until they are replaced. Metro Vancouver has a program to upgrade high risk sewers over time, while balancing affordability constraints for rate payers.

34. Can the scope of the project be further reduced?

No. The Alternative Approach represents the minimum scope possible to achieve compliance with the effluent limits set out in the provincial and federal regulations. The scope of work cannot be further reduced if regulatory effluent limits are to be met.

35. Is the membrane bioreactor (MBR) technology considered Tier 2 or Tier 3?

In the Alternative Approach, MBR technology is a Tier 2 cost as the combined primary/secondary effluent will meet secondary treatment effluent limits.

36. Is the Alternative Approach changing the budget or deferring Tier 1 costs?

The Alternative Approach defers replacement of primary treatment, as well as some secondary treatment, along with complementary projects that could be delivered in the future –anything that is not essential to achieving regulatory effluent compliance. This has changed the ratio of costs across the Tiers, in accordance with Greater Vancouver Sewerage and Drainage District Cost Apportionment Bylaw No. 283, 2014. Costs have been reduced across all tiers within the Alternative Approach when compared to the PDR.

The following tables outline the breakdown of costs for what would be delivered and what would be removed from the Iona Projects and deferred to future works.

Table: Components as outlined in the Project Definition Report compared to what would be delivered in the Alternative Approach and what would be deferred to future work.

| | | Cost | Project Definition Report Approach | Alternative Approach | Future Works (2040-2050) |
|--|--|-----------|------------------------------------|----------------------|--------------------------|
| Preliminary & Primary Treatment | Primary Solids Handling | \$ 690M | √ | √ | |
| | Primary Plant Rehabilitation | \$ 135M | √ | √ | |
| | Incremental Primary Plant Rehabilitation | \$ 65M | | √ | |
| | New Primary Plant | \$ 1,380M | √ | | √ |
| Secondary & Tertiary Treatment | 65% of Secondary Plant – 5 Trains | \$ 1,809M | √ | √ | |
| | Remaining 35% of Secondary Plant – 3 Trains | \$ 874M | √ | | √ |
| | Secondary Solids Handling | \$ 446M | √ | √ | |
| | Secondary Solids Handling - Growth | \$ 107M | √ | | √ |
| | Pilot Testing | \$ 25M | √ | √ | |
| | Advanced Pilot Testing | \$ 11M | √ | | √ |
| | Regional Lab & Welcome Centre | \$ 88M | √ | | √ |
| Access Upgrades & Utilities | Utilities and Road Improvements | \$ 300M | √ | √ | |
| | Permanent O&M Building | \$ 120M | √ | | √ |
| Resource Recovery | Plant Renewable Energy | \$ 50M | √ | √ | |
| | Offsite Heat Recovery and Effluent Water Reuse | \$ 180M | √ | | √ |
| Ecological Projects & Community Amenities | Ecological Projects required for permits | \$ 59M | √ | √ | |
| | Other Ecological Projects | \$ 115M | √ | | √ |
| | Community Amenities | \$ 25M | √ | | √ |
| Bridging Infrastructure | Temporary Works for Alternative Approach | \$ 140M | | √ | |
| Cost Estimate (2022) | | | \$6.4B | \$3.5B | \$2.9B |
| Escalation & Risk Reserve | | | \$3.5B | \$2.5B | |
| Total | | | \$9.9B | \$6.0B | |

37. What is the scope removed from the PDR to get to the Alternative Approach? What is the breakdown of the financial summary for the \$6B?

See answer to question 36.

38. What is the volume that the province requires to be treated by secondary treatment?

The provincial regulation requires 2 x average dry weather flow to be treated by secondary treatment. The Alternative Approach proposes treating 1.25 x average dry weather flow, as it meets the regulatory effluent quality compliance requirements.

39. What is the impact of VSA members not separating sewers?

While VSA sewer separation would not change the capacity or scale of the Alternative Approach in the short term, it will influence the size and cost of future projects. Discussions with VSA members are continuing, with further work aimed at quantifying this impact.

Even after the sewers are separated, sewage will still enter the treatment plant and require treatment before it is discharged into the environment. That sewage is still required to meet secondary treatment requirements per federal and provincial regulations.

40. What is the legal requirement for sewer separation? Can the date be sped up?

The legal requirement is for the VSA to have fully separated sewers by 2050, as documented and approved in 2011, and the recently approved draft of Metro Vancouver's Liquid Waste Management Plan by the Board.

41. We have been focused on the plant, but my question is what is the cost of mitigating the site for sea level rise? Is it included in this budget?

Yes, we have addressed sea level rise for future infrastructure. The budget allocated to raising the site above the flood construction level is \$30M. Approximately 30% of that cost can be attributed to the allowance of 1.0 m of sea level rise until 2100.

42. How is the project planning for sea level rise.

All new infrastructure will be constructed to a new higher flood construction level to address sea level rise.

43. What is the amount of Burnaby flow that is included in the VSA?

This is estimated to be around 12% based on flows on a recent average dry day.

Questions received after GVS&DD Board Meeting on July 24, 2025:

44. What is the total cost of all elements of the project that do not contribute to the function of the Iona Island WWTP?

\$0. All elements, or components, of the Alternative Approach contribute to the function of the Iona Island WWTP, as they constitute the minimum build required to meet regulatory effluent discharge quality requirements, associated permitting requirements, and rehabilitation to continue operation of the existing plant.

45. How much project capacity could be reduced if the member jurisdictions served by the Iona Island WWTP had 100% separated sewer systems?

In the Alternative Approach, there would be no difference in the scope of secondary treatment provided. The Alternative Approach recommends building less secondary treatment now, anticipating progress in sewer separation. Sewer separation should also lower long-term costs when we need to replace the primary plant.

46. Of the total project cost, how much can be ascribed the growth/capacity needs versus regulatory requirements?

The PDR allocated 8% to growth. If the Board approves the Alternative Approach the DCC allocation will be re-assessed as part of the DCC work plan which is currently underway.

47. What if the position was taken that the project will not be completed without (%) of cost-sharing by the provincial/federal government?

We have received \$250 million each from the provincial and federal governments. Metro Vancouver is obligated to meet all legal and regulatory requirements, including those pertaining to wastewater treatment regardless of senior government funding. Any additional funding would be subject to ongoing discussions with the provincial and federal governments. Further delays will result in increased costs due to escalation.

48. What if the position was taken that the project will not be completed until 2050?

This would put Metro Vancouver and/or potentially the directors in a position of legal responsibility from 2030 through to 2050, with potential fines and penalties being incurred throughout this time. There would also be potential challenges for servicing future growth.



Iona Island Wastewater Treatment Plant

Iona Island Wastewater Treatment Plant Projects Update

ADDITIONAL INFORMATION ON ALTERNATIVE APPROACH TO DELIVER THE IONA ISLAND WASTEWATER TREATMENT PLANT UPGRADE PROJECTS

Cheryl Nelms, P.Eng., PhD
General Manager, Project Delivery

Liquid Waste Committee, September 17, 2025
77730791

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MEETINGS – TO DATE & UPCOMING

- July 4 - Regional Engineers Advisory Committee
- July 11 - Liquid Waste Committee
- July 18 - Joint Regional Engineers Advisory Committee and Regional Administrators Advisory Committee
- July 24 - GVS&DD Special Board Meeting
- September 12 - Regional Engineers Advisory Committee
- September 17 - Liquid Waste Committee (today)
- October 3 - GVS&DD Board Meeting (upcoming)

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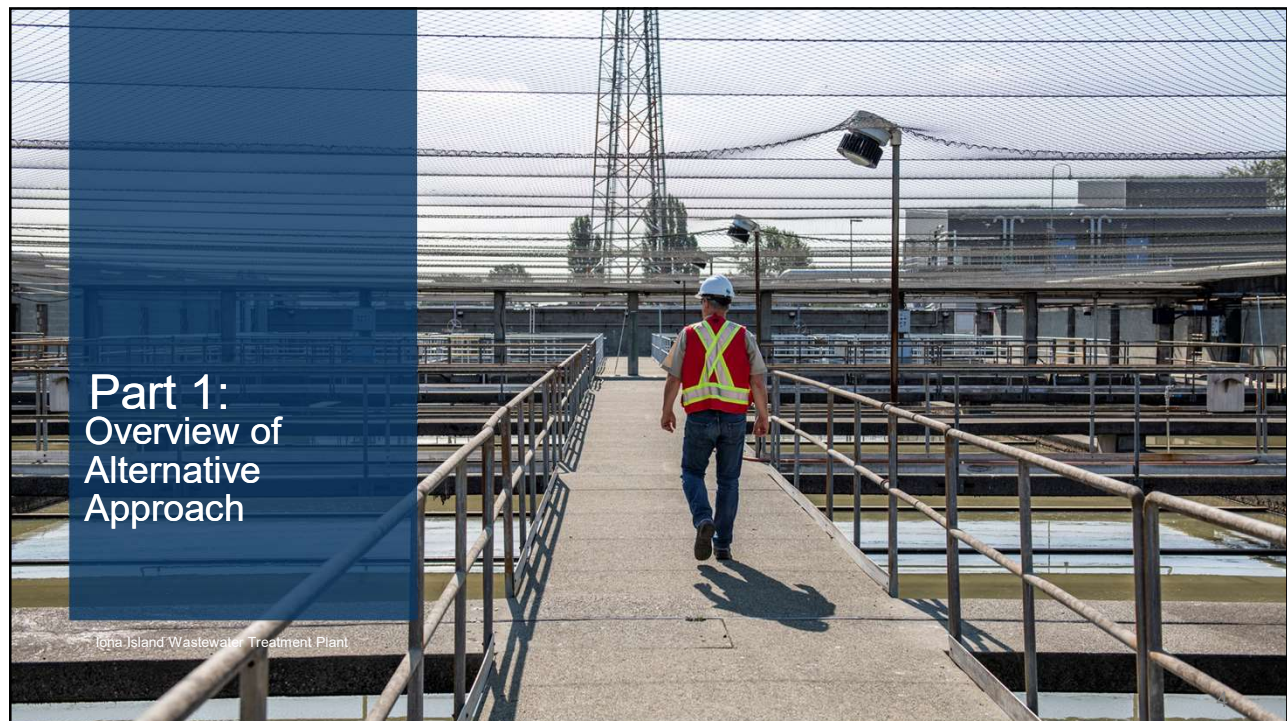
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OVERVIEW

1. Overview of Alternative Approach
2. Responses to Key Questions
3. Cost Estimates and Comparisons
4. Tier Allocations
5. Next Steps

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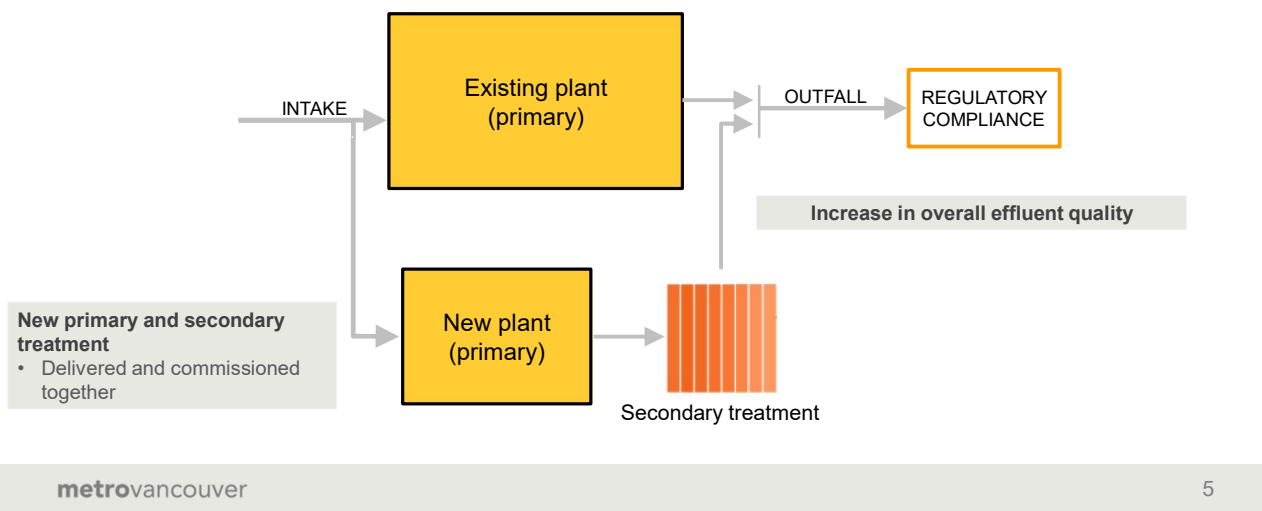
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PROJECT DEFINITION APPROACH

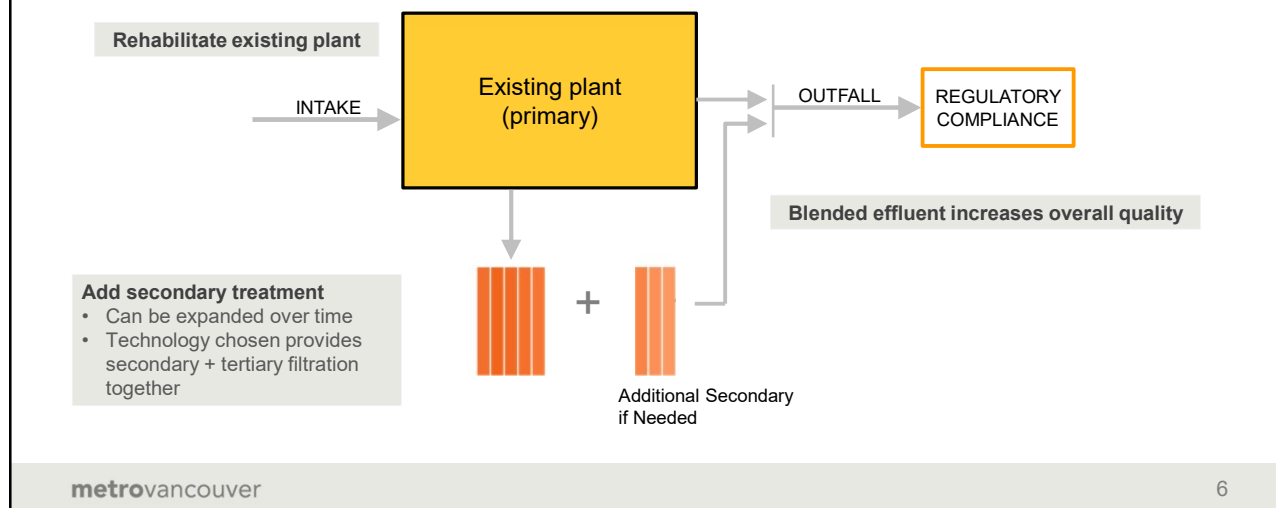
How Effluent Quality Would Improve



5

ALTERNATIVE APPROACH

How Effluent Quality Would Improve



6

CHANGE FROM PDR TO ALTERNATE APPROACH

| PDR | Updated Approach to Project | Future Works |
|--|--|--|
| SCOPE: <ul style="list-style-type: none"> Full primary replacement Full secondary treatment & tertiary filtration Access upgrades & utilities Resource recovery Full ecological projects | SCOPE: <ul style="list-style-type: none"> Rehabilitate existing primary Majority secondary treatment & tertiary filtration Access upgrades & utilities Onsite resource recovery Ecological projects required for permits | STAGES/PROJECTS: <ul style="list-style-type: none"> Replace existing primary Remaining secondary treatment & tertiary filtration Offsite resource recovery Remaining ecological projects Capacity added for growth |
| SCHEDULE: <ul style="list-style-type: none"> Delivery by 2035 (Now approx. 2040) | SCHEDULE: <ul style="list-style-type: none"> Delivery by 2039 | |
| EFFLUENT COMPLIANCE OUTCOMES: <ul style="list-style-type: none"> 100% Federal 100% Provincial | EFFLUENT COMPLIANCE MET: <ul style="list-style-type: none"> 100% Federal Majority of Provincial | EFFLUENT COMPLIANCE MET: <ul style="list-style-type: none"> 100% Federal 100% Provincial |
| \$9.9B | \$6.0B | TBD |

CHANGES:

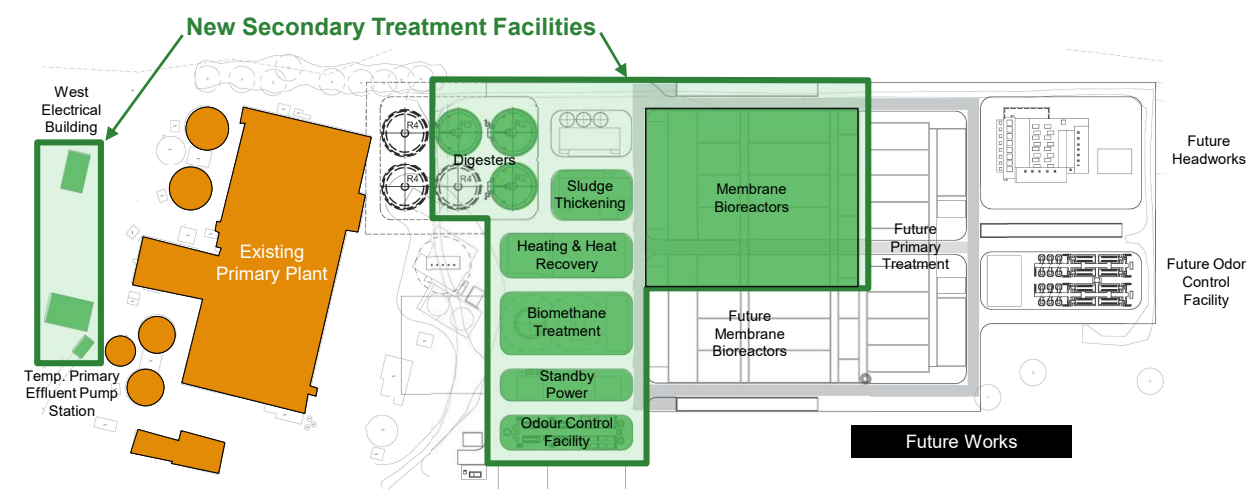
- Population
- Technology
- Market Capacity

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PLANT FOOTPRINT



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ADDITIONAL INFORMATION ON KEY TOPICS OF INTEREST

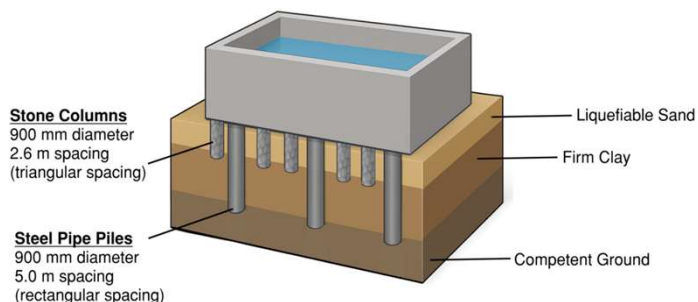
- Seismic resilience
- Sea level resilience
- Sewer separation
- Environmental benefits of secondary treatment
- Membrane bioreactor technology
- Intergovernmental engagement

10

SEISMIC RESILIENCE

Primary Plant & New Infrastructure

- Primary plant similar age to other MV plants
- Seismic risk to the primary plant and other aging infrastructure will remain the same as now, until replaced
- Active management plan will provide ongoing monitoring and maintenance of the plant
- Emergency response plan to be implemented following a seismic event – as with all MV treatment facilities
- New facilities will be seismically resilient through ground improvements & piling



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11

SEA LEVEL RESILIENCE

Enhance resilience to sea-level rise: ecological projects & raising site level



Sea levels expected to rise 1 m over 100 years

- All new facilities will meet sea level height requirements
- Existing grade: 3.5m
- Flood construction level: 7.0m
- Raise new plant facilities to flood construction level: \$30M
- Only raise doors, roads, EIC equipment, tank tops
- Existing plant not raised
- Ecological projects provide flood resilience through shoreline & wave protection

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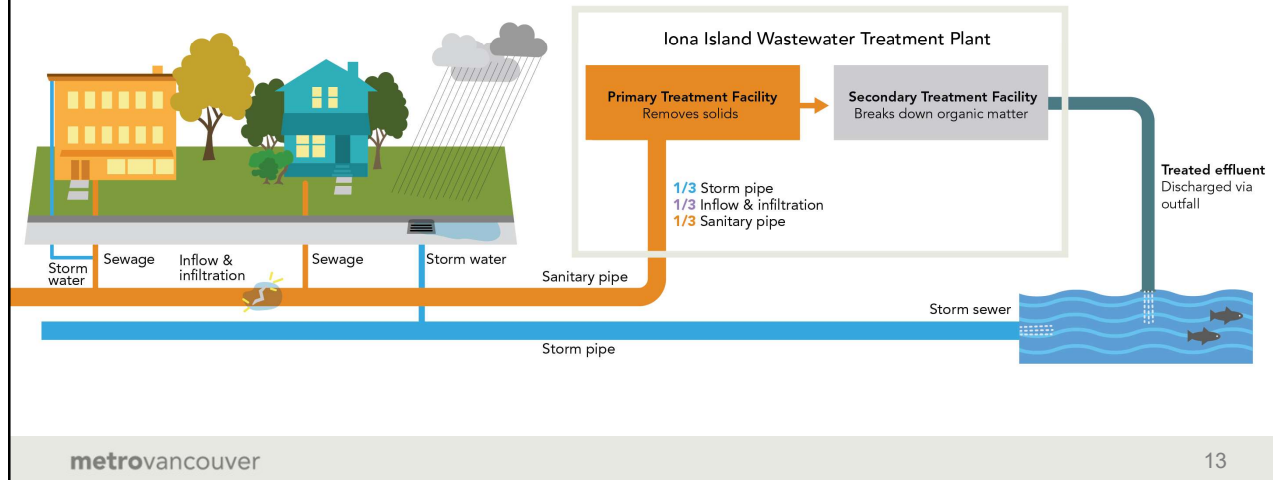
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SEWER SEPARATION

Process Sizing for Secondary Treatment

Sources of Influent from the Vancouver Sewerage Area



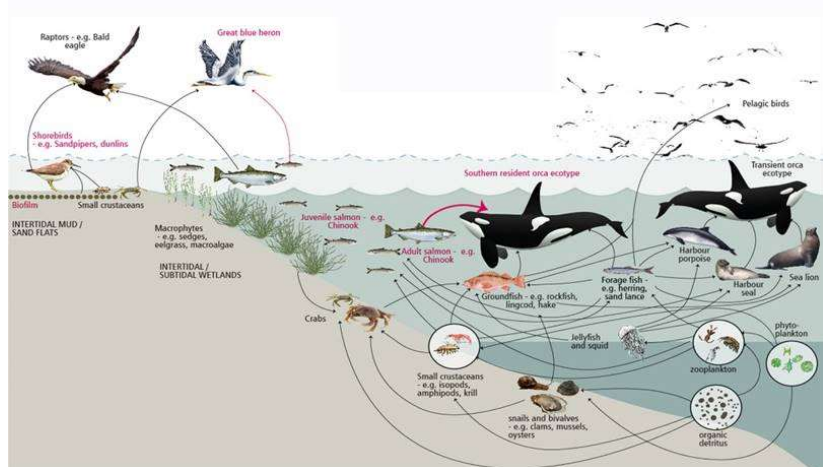
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ENVIRONMENTAL BENEFITS OF SECONDARY TREATMENT

- Removes solids (TSS & BOD)
- Removes toxicity (ammonia)
- Removes other contaminants

Outcome from upgrades:

Improved water quality, which has large-scale effects on the health of the Salish Sea



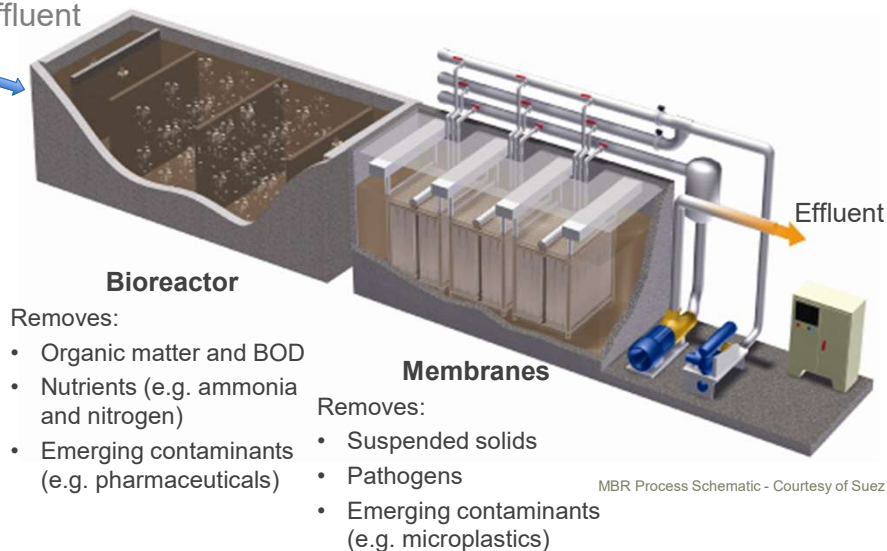
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MEMBRANE BIOREACTOR TECHNOLOGY

Provides high quality effluent

- Membrane bioreactors process incorporates filtration to produce effluent quality similar to tertiary filtration

Influent



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15

INTERGOVERNMENTAL ENGAGEMENT

- In October 2024, Metro Vancouver wrote to then Prime Minister, Minister of Environment, and Minister of Housing of Infrastructure to request an extension of transitional authorization for the Iona Island WWTP. Metro Vancouver did not receive a response to this request.
- In August 2025, Metro Vancouver sent a new request for extension to Prime Minister Carney, Minister Dabrusin, and Minister Robertson.
- On August 28, 2025, Metro Vancouver received a response from Prime Minister Carney referring the correspondence to Minister Robertson for his consideration.
- Metro Vancouver has requested meetings with federal and provincial ministers and senior staff with relevant portfolios to discuss the request that the Province align their wastewater effluent regulations with federal wastewater effluent regulations.

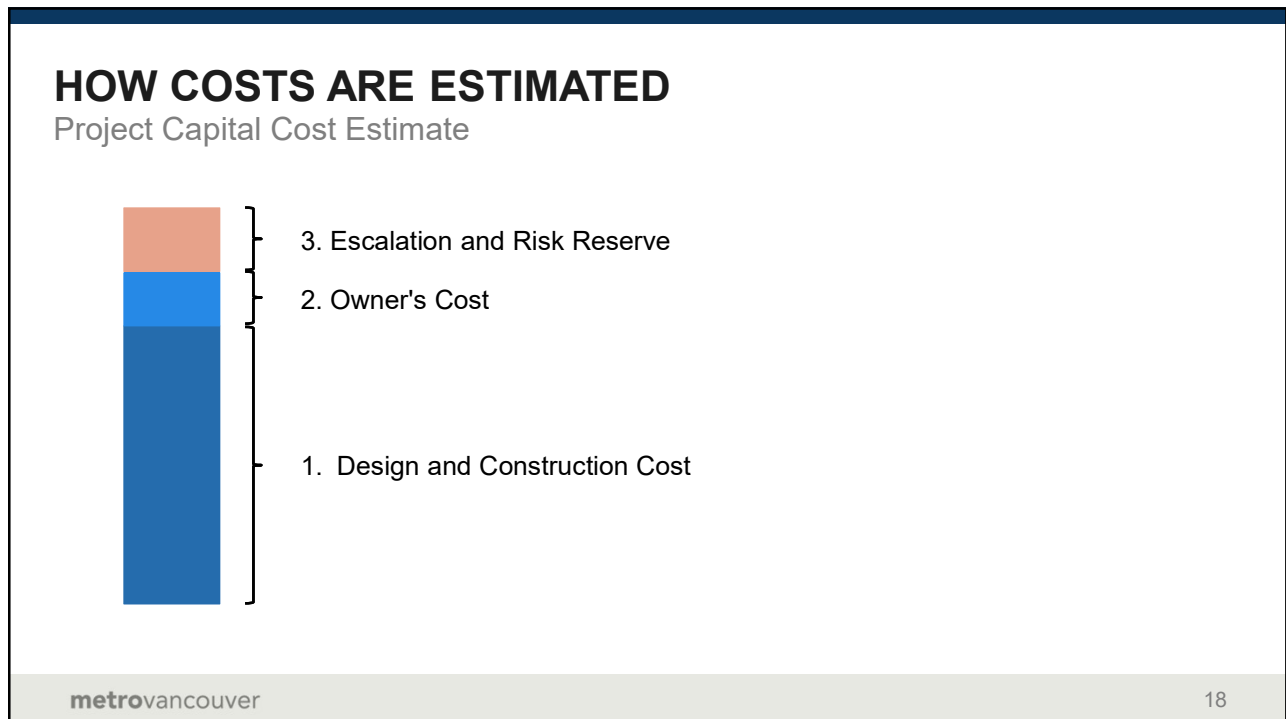
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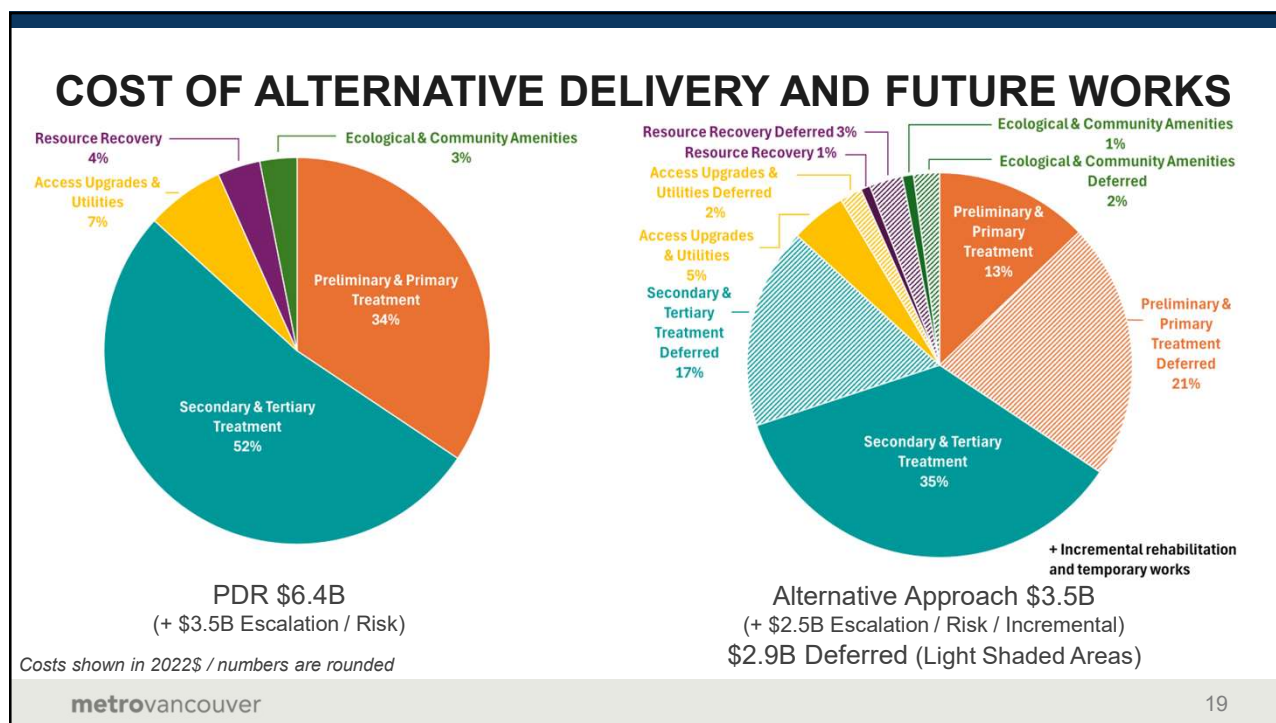
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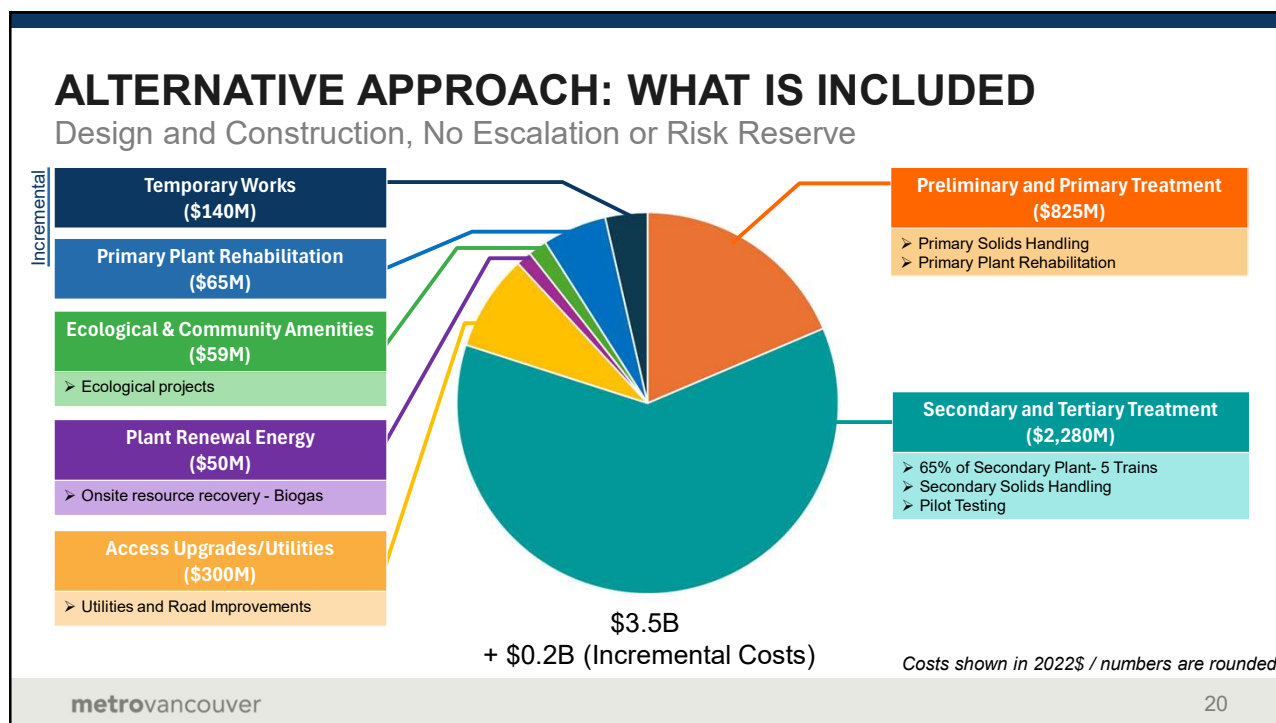
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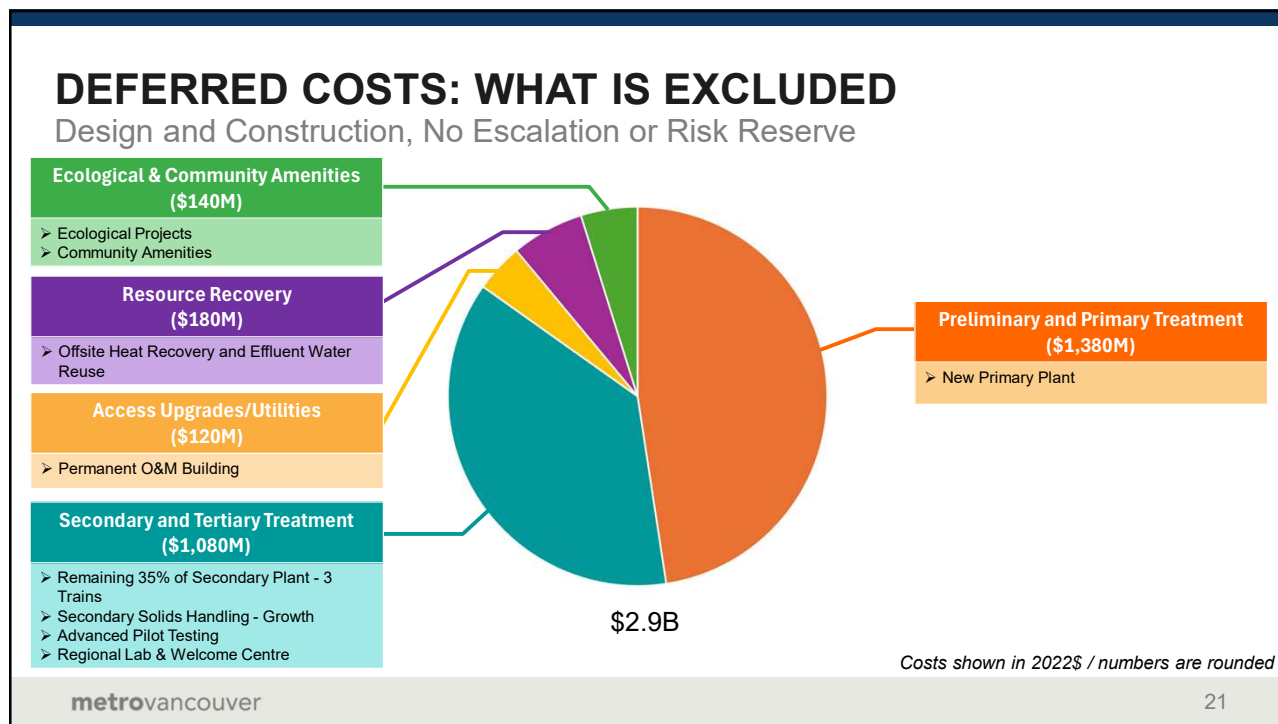
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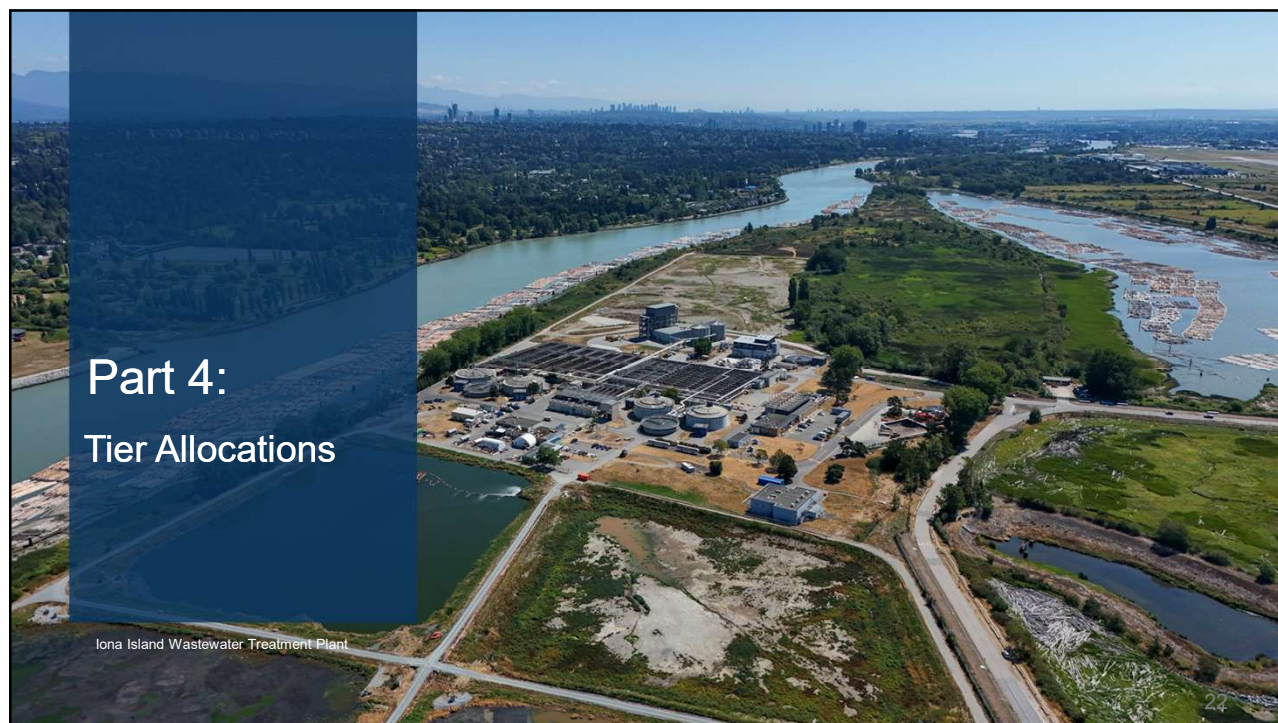
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TIER ALLOCATIONS

GVS&DD Cost Apportionment Bylaw: Tier Definitions

| | Tier 1 | Tier 2 | Tier 3 |
|--|--------|--------|--------|
| Costs Allocated to Serviced Sewerage Area | 100% | 30% | - |
| Costs Allocated Regionally | - | 70% | 100% |

Comparison of Tier Allocation to year ended December 31, 2040

| | Tier 1 | Tier 2 | Tier 3 | Total |
|-----------------------------|----------|----------|----------|----------|
| PDR | \$3.8B | \$5.2B | \$0.9B | \$9.9B |
| Alternative Approach | \$0.9B | \$4.9B | \$0.2B | \$6.0B |
| Change | (\$2.9B) | (\$0.3B) | (\$0.7B) | (\$3.9B) |

TIER ALLOCATIONS

Comparison of Tier Allocation to year ended December 31, 2040

| | VSA | NSSA | LIWSA | FSA |
|-----------------------------|----------|----------|----------|----------|
| PDR | \$7.0B | \$0.3B | \$0.3B | \$2.3B |
| Alternative Approach | \$3.7B | \$0.2B | \$0.2B | \$1.8B |
| Change | (\$3.3B) | (\$0.1B) | (\$0.1B) | (\$0.5B) |

ESTIMATED AVERAGE ANNUAL HOUSEHOLD FINANCIAL IMPACT BY SEWERAGE AREA

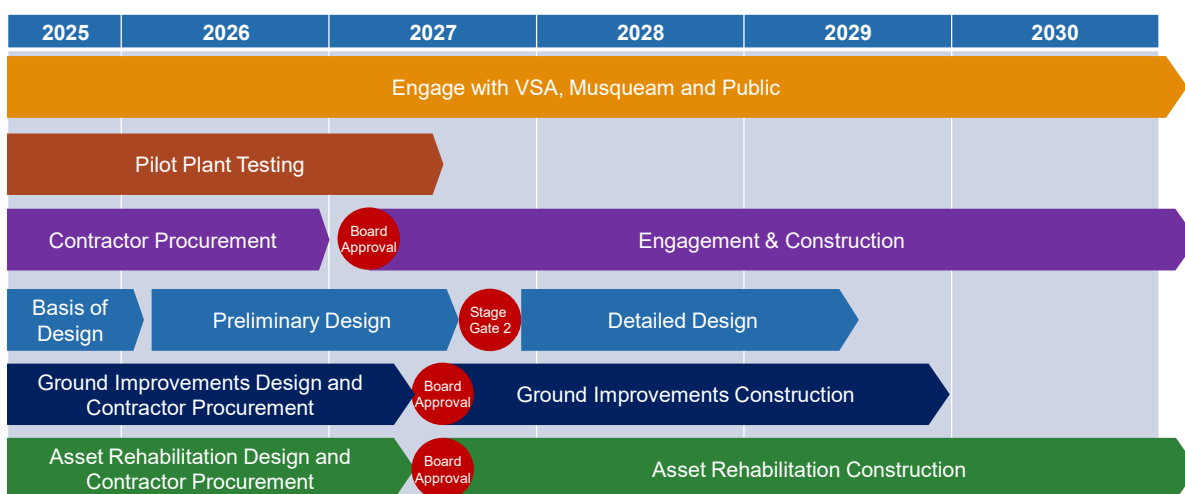
| | 2025 Overall HHI | Approx. Annual HHI Change 2026-2030 | Approx. Annual HHI Change 2031-2035 |
|-----------------------|------------------|-------------------------------------|-------------------------------------|
| VSA | \$1,015 | \$(2) | \$(130-140) |
| NSSA | 1,147 | 1 | \$(5-10) |
| LIWSA | 783 | 1 | \$(5-10) |
| FSA | 786 | 1 | \$(5-10) |
| Overall MV HHI | \$875 | ~\$0 | \$(30-40) |

- 2026 to 2030 no change in cash flow. Change reflects change in tier allocation
- 2031 to 2035 change in cash flow \$1.1B
- 2036 to 2040 change in cash flow \$2.8B.*

*Currently working on a 10-year plan to be presented in October

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NEXT STEPS



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RECOMMENDATION

- a) direct staff to undertake upgrades to the Iona Island Wastewater Treatment Plant with an approach that:
 - i. prioritizes achieving regulatory compliance as quickly as possible; and
 - ii. changes the sequence of the components outlined in the 2022 Project Definition Report and defer other components, as described in this report dated September 5, 2025, titled “Additional Information on Alternative Approach to Deliver the Iona Island Wastewater Treatment Plant Upgrade Projects”;
- b) direct staff to request that the Province align provincial wastewater effluent regulations with federal wastewater effluent regulations.

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To: Liquid Waste Committee

From: Kris Etches, Program Manager, Community Engagement, External Relations

Date: August 27, 2025 Meeting Date: September 17, 2025

Subject: **Liquid Waste Management Plan Phase 3 Engagement**

RECOMMENDATION

That the GVS&DD Board receive for information the report dated August 27, 2025, titled “Liquid Waste Management Plan Phase 3 Engagement.”

EXECUTIVE SUMMARY

During the third and final phase of engagement on the *Liquid Waste Management Plan* update, Metro Vancouver engaged councils of member jurisdictions and sought input from First Nations and the public to finalize a plan for submission to the provincial Minister of Environment and Parks. Member councils emphasized the importance of cost fairness, support for wet weather and rainwater management, and opportunities for Metro Vancouver to assist with plan implementation. First Nations expressed strong interest in having co-decision making authority on regional and municipal projects and plans, alongside a desire to see actions that result in measurable water quality improvements resulting in a return to shellfish harvesting. Comments received from the public focused on capital project cost increases, concerns about the impacts of increasing population and urban growth on the region’s wastewater infrastructure, and support for enhanced rainwater management and expanded green infrastructure. Broadly, engagement results show support for the plan’s focus on conservation and reduction of system demands at the source. Nearly 1,000 comments received through all phases of plan engagement have been considered or incorporated into the plan, with effort to strike a balance between financial sustainability, environmental management, and First Nations’ priorities.

PURPOSE

To provide the Board with the results of the third and final phase of engagement on the *Liquid Waste Management Plan* (LWMP) update.

BACKGROUND

Engagement on the review and update of the LWMP began in 2021, following approval of an engagement strategy by the Greater Vancouver Sewerage and Drainage District (GVS&DD) Board on October 2, 2020 and by the Ministry of Environment and Climate Change Strategy (now Ministry of Environment and Parks) on March 26, 2021.

In the first phase of engagement, the updated plan’s vision and guiding principles were developed and summarized for the April 29, 2022 GVS&DD Board meeting.

In the second phase of engagement (May 2022 to December 2024), draft goals, strategies, and actions for the updated plan were developed in collaboration with GVS&DD member jurisdictions.

Metro Vancouver engaged on draft strategies and actions with First Nations, the public, and other interested parties, including a public advisory committee, receiving and incorporating input into a draft plan. The updated draft plan and a summary of the second phase of engagement were provided for review and endorsement at the November 29, 2024 GVS&DD Board meeting.

During the third and final phase of engagement (December 2024 to August 2025), Metro Vancouver engaged with the Ministry of Environment and Parks, member jurisdiction councils, First Nations, and the public on the GVS&DD Board-endorsed plan. This report provides details on input received during this final phase of engagement.

PHASE 3 ENGAGEMENT PROCESS AND RESULTS

An overview of key input heard throughout the third and final phase of engagement on the LWMP update is outlined below.

Ministry of Environment and Parks

Staff met with representatives from the Ministry of Environment and Parks at least quarterly during the development of the draft plan. Staff provided regular updates on First Nations engagement and input at these meetings.

The ministry is seeking an actionable plan that will result in better environmental outcomes. Meaningful engagement with First Nations will be critical to the success and approval of the draft plan, and the ministry will conduct its own consultation with First Nations on the plan update as part of its duty to consult. Meaningful engagement with First Nations and incorporation of their perspectives and input will result in an improved plan and will be integral to First Nations expressing support for the plan during the formal provincial consultation. The records of public feedback and First Nations input provided as attachments will be submitted to the ministry with the updated plan.

First Nations

Metro Vancouver began engagement with First Nations on the LWMP update in 2021. To date, 46 First Nations, two Tribal Councils, one Treaty Association, and the Métis Nation of British Columbia have been invited to engage on the LWMP update. The 10 local Nations are noted in bold below.

- **k'wík'wə́ł'əm (Kwikwetlem First Nation)** – participated in LWMP engagement
- **máthxwi (Matsqui First Nation)** – participated in LWMP engagement
- **qícə́y (Katzie First Nation)**
- **qíqéyt (Qayqayt First Nation)**
- **q'wá:ná'ł'ən (Kwantlen First Nation)** – participated in LWMP engagement
- **scə́wəθən məsteyəx'w (Tsawwassen First Nation)** – participated in LWMP engagement
- **səlilwətał (Tsleil-Waututh Nation)** – participated in LWMP engagement
- **Semiahmoo First Nation** – participated in LWMP engagement
- **Skwxwú7mesh Úxwumixw (Squamish Nation)** – participated in LWMP engagement
- **x'wəθk'wə́yəm (Musqueam Indian Band)** – participated in LWMP engagement
- **Āthelets (Aitchelitz First Nation)**
- **Ch'íyáqtel (Tzeachten First Nation)**

-
- Chowéthel (Chawathil First Nation)
 - Cowichan Tribes – participated in LWMP engagement
 - Douglas First Nation (Xa'xtsa)
 - Halalt First Nation
 - Kwaw'Kwaw'Apilt (Kwaw'Kwaw'Apilt First Nation)
 - Leq'á:mel First Nation
 - Lillooet Tribal Council
 - Lyackson First Nation
 - Métis Nation British Columbia
 - Pauquachin First Nation
 - Penelakut Tribe
 - Peters First Nation
 - Samahquam First Nation
 - Semá:th (Sumas First Nation)
 - Shxw'ōwhámél (Shxw'ōwhámél First Nation)
 - Shxwhà:y Village (Skway First Nation)
 - Skatin Nations (SkookumChuck)
 - Snaw-Naw-As First Nation (Nanoose First Nation)
 - Snuneymuxw First Nation
 - Sq'ewá:lxw (Skawahlook First Nation)
 - Sq'éwlets (Scowlitz First Nation)
 - Sq'éwqel (Seabird Island Band)
 - Sq'ewqéyl (Skowkale First Nation)
 - Sqwá (Skwah First Nation)
 - St'at'imc Chiefs Council
 - SṠÁUTW(Tsawout First Nation)
 - Stó:lō Nation
 - Stó:lō Tribal Council
 - Stz'uminus First Nation (Chemainus)
 - Sxwoyehálá (Squiala First Nation)
 - Te'mexw Treaty Association
 - Th'ewá:li (Soowahlie First Nation)
 - Ts'uubaa-asatx Nation
 - Tsartlip First Nation
 - Tseycum First Nation
 - Xwchíyò:m (Cheam First Nation)
 - Yale First Nation
 - Yeqwyeqwí:ws (Yakwekwioose First Nation)

Metro Vancouver has provided First Nations with regular updates on engagement opportunities and key project milestones throughout the LWMP update process. Metro Vancouver tailored the engagement process with individual First Nations, recognizing their unique and distinct interests and capacity to participate. Staff are grateful for the time, effort, and thoughtful input shared by First Nations, which played an important role in shaping the development of the plan.

Key themes heard from First Nations include the desire for:

- Co-governance with co-decision making authority on regional and municipal projects and plans, commitment to the principles of the United Nations *Declaration on the Rights of Indigenous Peoples*, and BC's *Declaration on the Rights of Indigenous Peoples Act*, as well as a seat at the Metro Vancouver Board table
- Co-development and co-management of the LWMP
- Membership in regional forums, including the Stormwater Interagency Liaison Group created under the 2002 LWMP
- Inclusion of First Nations in the development, monitoring, and review of Integrated Watershed Management Plans
- Actions to address stormwater pollutants and measurable water quality improvements, resulting in a return to shellfish harvesting
- Detailed performance indicators for all strategies and inclusion in the development of dashboards, access to detailed water quality data online
- Capacity funding for engagement activities during the implementation of the LWMP

A report summarizing First Nations input, along with how it has been incorporated into the updated LWMP, was provided to the Liquid Waste Committee in June 2025 (Reference 1). A detailed record of all input received from First Nations during the third phase of engagement, along with Metro Vancouver's responses, is found in Attachment 1: First Nations Input – Comment/Response Table. This record of input is a key deliverable to be provided to the ministry.

Member Jurisdiction Councils

In January 2025, Metro Vancouver offered support to the Regional Engineers Advisory Committee to present the interim draft LWMP to member councils. This included a presentation providing an overview of the updated LWMP. Between March and June 2025, Metro Vancouver staff attended seven council meetings where they were invited to present. Table 1 lists the councils and dates of these presentations.

Table 1 – List of Council Meetings Attended and Dates

| Council | Date of Attendance |
|-------------------------|--------------------|
| City of New Westminster | March 17 |
| Township of Langley | March 24 |
| City of Port Coquitlam | April 15 |
| City of Surrey | April 28 |
| City of Port Moody | May 20 |
| City of Vancouver | June 9 |
| City of Maple Ridge | June 17 |

The presentations shared how the updated plan aims to protect the environment and reduce infrastructure costs by conserving existing system capacity — primarily through reducing dry and wet weather flows, along with organic loadings. There was also an emphasis on minimizing flooding and community impacts through improved rainwater management. The updated plan direction was well received, with general agreement from councils that these are important priorities.

Key themes heard from councils included:

- The importance of affordability and fairness in distribution of regional costs
- Agreement that cost reductions through water conservation and wet weather management are important
- Opportunities for Metro Vancouver to support members in implementing LWMP actions
- Interest in improved rainwater management and mitigating impacts to communities

Public

The public was engaged on the draft plan using the following approaches in January and February 2025:

- Online survey January 27 to February 21, resulting in detailed feedback from 118 respondents
- Webinar on February 5 with 14 participants
- Metro Vancouver Youth and Education Advisory Panel meeting on February 26

Key themes from public engagement included:

- Concerns about how increasing urban density and population growth will affect the aging wastewater system, and result in the loss of green spaces that are critical to water quality, flood control, and to mitigate the effects of climate change
- Concerns about the rising cost of wastewater treatment plant upgrades and the need for effective oversight and management of these projects
- Concern about the cost to residents to achieve the draft plan's goals, and urging Metro Vancouver to focus efforts on providing wastewater management services to the region in a cost-effective manner
- Support for the use of green infrastructure to manage rainwater quantity and quality, alongside concerns about the effects of traditional and emerging pollutants in rainwater on marine life
- Support for advanced levels of treatment to remove more pollutants from wastewater, and concerns about odour at the wastewater treatment plants
- Comments urging Metro Vancouver to do more to involve First Nations in wastewater management
- Comments noting the importance for clear timelines and progress metrics to result in effective outcomes

A comprehensive summary of the third phase of public engagement activities and results appears in Attachment 2: Phase 3 Public Engagement Summary. The comments and questions raised by the public as part of engagement activities and in emailed submissions appear in Attachment 3: Public Feedback – Comment/Response Table.

ALTERNATIVES

This is an information report. No alternatives are presented.

FINANCIAL IMPLICATIONS

There are no financial implications.

CONCLUSION

Metro Vancouver staff engaged with member jurisdictions, the Province, First Nations, and the public throughout the third and final phase of engagement on the LWMP update. In general, engagement has shown support for the plan's goals and its focus on reducing infrastructure costs by conserving existing system capacity. Staff have carefully reviewed and reflected on the input gathered throughout the engagement process, recognizing its important role in shaping the plan, and made effort to strike a balance between financial sustainability, environmental management, and First Nations' priorities. This input directly informed the finalization of the draft plan, which will be submitted to the Minister of Environment and Parks for consideration following GVS&DD Board approval.

ATTACHMENTS

1. Liquid Waste Management Plan Review and Update: First Nations Input / Response Table – Phase 3.
2. Liquid Waste Management Plan Update: Phase 3 Public Engagement Summary.
3. Liquid Waste Management Plan Review and Update: Public Feedback /Response Table – Phase 3.
4. Presentation re: Liquid Waste Management Plan Phase 3 Engagement.

REFERENCES

1. Anthony, A. and Etches, K. (2025). *Liquid Waste Management Plan Update – First Nations Input* [Staff report to Liquid Waste Committee on 2025, June 11].
<https://metrovancover.org/boards/LiquidWasteCommittee/LWA-2025-06-11-AGE.pdf>

Liquid Waste Management Plan Review and Update**First Nations Input / Response Table – Phase 3**

| ID | Source/ Material | Organization/Group | Date | Comments/Information Requests | Action / Commitment / Final Response |
|----|--|------------------------------------|--------------|--|---|
| 1 | səlilwətał (Tsleil-Waututh Nation) June 19 Monthly LWMP Meeting; What We Heard Summary Table | səlilwətał (Tsleil-Waututh Nation) | Jun 19, 2024 | <p><i>Environmental Monitoring and Data Collection</i></p> <p>Metro Vancouver collects a high volume of important water quality data that would be useful to others if shared in a more approachable way. The breadth of data was very useful in developing the updated BIWQOs.</p> <p><i>Follow up response from səlilwətał:</i> This does not address the issue. The point is that səlilwətał (Tsleil-Waututh Nation) has spent hundreds of thousands of dollars on data analysis, largely because we have had to request and process data that exists in multiple inconsistent formats from multiple users. To avoid this headache moving forward, there should be a single, online, accessible data repository from which analyses can be done more efficiently.</p> | <p>We share the same challenges. Metro Vancouver will work towards the integration of different databases into a centralized repository. In the meantime, we can offer the following:</p> <p>Metro Vancouver monthly effluent monitoring reports are available at its website: metrovancover.org/services/liquid-waste/wastewater-treatment-plants-and-processes</p> <p>All Metro Vancouver combined sewer overflow monitoring data is publicly available on the Metro Vancouver website. The last five years of monitoring data are published in Environmental Management & Quality Control Annual Reports at: metrovancover.org/services/liquid-waste/reports-and-resources</p> <p>Following sanitary sewer overflows, environmental monitoring reports are provided to environmental regulators and the health authorities, including the First Nations Health Authority. In addition, all combined sewer overflows and sanitary sewer overflows are publicly reported in real time on the Metro Vancouver website at: metrovancover.org/services/liquid-waste/real-time-sewer-overflow-map</p> <p>Please also note that summaries and interpretations of Metro Vancouver receiving environment and ambient monitoring reports for each of the regional receiving water bodies are made accessible to the public at the Metro Vancouver website at: metrovancover.org/services/liquid-waste/reports-and-resources</p> |
| 2 | səlilwətał (Tsleil-Waututh Nation) Follow up Response to June 19 Monthly LWMP Meeting; What We Heard Summary Table | səlilwətał (Tsleil-Waututh Nation) | Sep 3, 2024 | <p><i>Environmental Monitoring and Data Collection</i></p> <p><i>Follow up response from səlilwətał on Metro Vancouver response from Phase 2 Feedback Tracker IR Table - First Nations (ID #229 Re: "Metro Vancouver acknowledges that there is a high volume of data to go through.")/ID #1</i></p> | <p>Metro Vancouver's effluent monitoring data has always been publicly available through its website, as well as through monthly uploads into the provincial Ministry of Environment and Parks (ENV) environmental management system database. Over the past two years Metro Vancouver has also been working with ENV to properly set up an electronic system into which receiving environment monitoring data will be uploaded for regulatory and public access. This is an extremely resource intensive process and we expect it to evolve in the future years, as available resources allow.</p> |

| ID | Source/ Material | Organization/Group | Date | Comments/Information Requests | Action / Commitment / Final Response |
|----|--|------------------------------------|-------------|--|--|
| | | | | <p>and ID #2 above.</p> <p>This conversation is going in circles. We know that the data is out there, and we have already done far more than 'start' to look for it - we are the first to analyze it alongside other datasets and report out this information. But it has taken 8 years and \$1 million to analyze and present data only to 2016, which is not sustainable. The way forward is coordinated monitoring, and an online, automated data output/analysis system that will enable users to generate analyses easily.</p> <p>As mentioned above, let's stay coordinated on this. Please provide details and thoughts that you have now, and continue to share as you are developing them. We can work together with BC on this, rather than all working separately on related initiatives.</p> | <p>We can keep səliłwətał (Tsleil-Waututh Nation) in the loop as this work progresses over the coming years.</p> |
| 3 | səliłwətał (Tsleil-Waututh Nation) Follow up Response to June 19 Monthly LWMP Meeting; What We Heard Summary Table | səliłwətał (Tsleil-Waututh Nation) | Sep 3, 2024 | <p><i>Working Collaboratively</i></p> <p>Please stay open and reach out with any opportunities you see to improve the system to enable the attainment of the BIWQOs throughout the inlet. səliłwətał (Tsleil-Waututh Nation) has led efforts to date, but we need others to take the initiative. The LWMP update process is a prime opportunity to do so.</p> | <p>The updated LWMP commits Metro Vancouver to participate in collaborative environmental programs for regional water bodies, along with members, First Nations, other orders of government, and interested parties. The updated LWMP also commits Metro Vancouver to establish a series of meetings for First Nations, the Ministry of Environment and Parks, Metro Vancouver, and its member jurisdictions to share, review, discuss, and receive input on the implementation and progress of strategies and actions within the LWMP, with the purpose of facilitating ongoing discussions with First Nations and respecting and working with First Nations' science and knowledge.</p> <p>Actions that incorporate and/or support this feedback: 20.1, 20.5</p> |
| 4 | səliłwətał (Tsleil-Waututh Nation) Follow | səliłwətał (Tsleil-Waututh Nation) | Sep 3, 2024 | <p><i>Working Collaboratively</i></p> | <p>Given the capacity limits of all parties, it will be a matter of collectively prioritizing from the vast number of initiatives for deep collaboration. We are open to hearing the priorities of səliłwətał (Tsleil-Waututh</p> |

| ID | Source/ Material | Organization/Group | Date | Comments/Information Requests | Action / Commitment / Final Response |
|----|---|--|--------------------|--|--|
| | up Response to June 19 Monthly LWMP Meeting; What We Heard Summary Table | | | What collaboration are you willing/able to initiate? | <p>Nation) when it comes to collaborative projects.</p> <p>As for initiating collaborative initiatives, the following LWMP actions commit to new collaborative initiatives with First Nations:</p> <p>Action 12.1 commits Metro Vancouver to including First Nations membership in the LWMP's updated Stormwater Interagency Liaison Group with member jurisdictions, to facilitate efficient and effective information sharing and collaboration on regional watershed management.</p> <p>Action 20.5 commits Metro Vancouver to establishing of a series of meetings for First Nations, the Ministry of Environment and Parks, Metro Vancouver, and its member jurisdictions to share, review, discuss, and receive input on the implementation and progress of strategies and actions within the LWMP, with the purpose of facilitating ongoing discussions with First Nations and respecting and working with First Nations' science and knowledge. This will be an ideal forum for all parties to identify opportunities for deeper collaboration to continue to help improve water quality in the region and in the Burrard Inlet.</p> <p>Action 12.4 commits Metro Vancouver to hosting regular urban watershed planning forums for members, Metro Vancouver, First Nations, and interested parties to engage and share knowledge on urban watersheds. Members and Metro Vancouver will at end the forums to report progress on Integrated Watershed Management Plans, receive input from participants, and ensure input is considered in the implementation of LWMP rainwater actions. Again, this will be another opportunity to collaborate and to identify further opportunities for deeper collaboration on water quality improvements in the region.</p> <p>Actions that incorporate and/or support this feedback: 12.1, 12.4. 20.5</p> |
| 5 | səlilwətał (Tsleil-Waututh Nation) Monthly LWMP | səlilwətał (Tsleil- Waututh Nation) | Jul 11, 2024 | <p><i>Prioritizing Combined Sewer Separation Projects</i></p> <p>səlilwətał (Tsleil-Waututh Nation) is</p> | <p>There are several actions in the updated LWMP regarding the prioritization of sewer separation works including:</p> <ul style="list-style-type: none"> - Metro Vancouver and members with combined systems will use available information and environmental management tools to inform |

| ID | Source/ Material | Organization/Group | Date | Comments/Information Requests | Action / Commitment / Final Response |
|----|--|------------------------------------|--------------|---|--|
| | Meeting: What We Heard Summary Table | | | concerned about the health of the entire Burrard Inlet, however, if looking at prioritizing sewer separation projects with outfalls affecting Burrard Inlet, səliłwətał (Tsleil-Waututh Nation) would support prioritizing those that are a) best candidates for remediation and/or b) the most harmful to receiving waters. | <p>the prioritization of sewer separation and near-term combined sewer overflow mitigation measures.</p> <ul style="list-style-type: none"> - Metro Vancouver will use the results of assessment of environmental impact to inform the prioritization of sewer separation and near-term combined sewer overflow (CSO) mitigation measures - Metro Vancouver will develop intermediate targets on a five-year interval for municipal and regional separation of prioritized combined catchments. The targets will be based on a framework to be developed with Burnaby, New Westminster, Vancouver, and First Nations, that considers key factors such as First Nation cultural values, population, redevelopment rates, and operational considerations. Metro Vancouver will submit the targets to the Ministry of Environment and Parks. - Burnaby, New Westminster, and Vancouver will continue to work with Metro Vancouver to develop and implement Sewer Separation and Combined Sewer Overflow Elimination Plans to prevent combined sewer overflows and, in the interim, support the intermediate targets developed in action 9.2 by prioritizing combined catchments for separation and sequencing the separation of regional trunk sewers and municipal collector sewers in the prioritized catchments. <p>Actions that incorporate and/or support this feedback: 8.6, 8.7, 9.2, 9.3</p> |
| 6 | səliłwətał (Tsleil-Waututh Nation) Follow up Response to July 11 Monthly LWMP Meeting; What We Heard Summary Table | səliłwətał (Tsleil-Waututh Nation) | Sep 3, 2024 | <p><i>Prioritizing Combined Sewer Separation Projects</i></p> <p><i>Follow up response from səliłwətał (Tsleil-Waututh Nation) on Metro Vancouver response above (ID #1)</i></p> <p>Metro Vancouver should use the water values underlying the Burrard Inlet Water Quality Objectives (BI WQOs) as the foundation for this assessment</p> | Yes, the Burrard Inlet Water Quality Objectives will be used in assessing environmental impacts in Burrard Inlet. |
| 7 | səliłwətał (Tsleil-Waututh Nation) Monthly LWMP Meeting: What | səliłwətał (Tsleil-Waututh Nation) | Jul 11, 2024 | <p><i>Impact of Stormwater on Receiving Environments</i></p> <p><i>In reference to Combined Sewer Overflows Strategy 1:</i></p> | LWMP actions that incorporate and/or support this input: 8.2, 8.3, 8.4, 8.5, 8.7, 8.9, 9.5, 10.2, 10.4, 10.5 |

| ID | Source/ Material | Organization/Group | Date | Comments/Information Requests | Action / Commitment / Final Response |
|----|---|------------------------------------|-------------|--|---|
| | We Heard Summary Table | | | Metro Vancouver needs to assess the impact of stormwater on the receiving environment in current and post-sewer separation scenarios, alongside the impact of combined sewer overflows (CSOs), using Burrard Inlet Water Quality Objectives (BIWQOs) for comparison. | |
| 8 | səlilwətał (Tsleil-Waututh Nation) Follow up Response to July 11 Monthly LWMP Meeting; What We Heard Summary Table | səlilwətał (Tsleil-Waututh Nation) | Sep 3, 2024 | <p><i>Impact of Stormwater on Receiving Environments</i></p> <p><i>Follow up response from səlilwətał (Tsleil-Waututh Nation) on Metro Vancouver response above (ID #8 Re: "Continued use of the Stormwater Monitoring and Adaptive Management Framework (AMF) as a tool to assess the impact of stormwater on urban watersheds")</i></p> <p>What is the result of these assessments to date? The consultants who we have hired to compile and analyze these data for the WQOs project have told us there has been limited analysis to date.</p> | <p>The analysis of stormwater monitoring and assessments, as part of the Stormwater Monitoring and Adaptive Management Framework (AMF), is the responsibility of jurisdictions leading stormwater management (municipalities) and the regulator (the Province). Reporting and tracking the progress of Integrated Watershed Management Plans through the AMF has been challenging for municipalities, due to a low frequency of their monitoring efforts.</p> <p>Action 10.1 in the updated LWMP aims to enhance the use of Integrated Watershed Management Plans and the AMF to monitor and respond to watershed health.</p> |
| 9 | səlilwətał (Tsleil-Waututh Nation) Follow up Response to July 11 Monthly LWMP Meeting; What We Heard Summary Table | səlilwətał (Tsleil-Waututh Nation) | Sep 3, 2024 | <p><i>Impact of Stormwater on Receiving Environments</i></p> <p><i>Follow up response from səlilwətał (Tsleil-Waututh Nation) on Metro Vancouver response above (ID #8 Re: "Continued use of the Stormwater Monitoring and Adaptive Management Framework (AMF) as a tool to assess the impact of stormwater on urban watersheds")</i></p> <p>And the marine environment?</p> | While the Stormwater Monitoring and Adaptive Management Framework (AMF) doesn't assess marine environments, Metro Vancouver has Burrard Inlet and Strait of Georgia monitoring programs in place, where the analytical list includes but is not limited to the parameter list included in the AMF. |

| ID | Source/ Material | Organization/Group | Date | Comments/Information Requests | Action / Commitment / Final Response |
|----|--|--|--------------------|---|--|
| 10 | səlilwətał (Tsleil-Waututh Nation) Monthly LWMP Meeting: What We Heard Summary Table | səlilwətał (Tsleil- Waututh Nation) | Jul 11, 2024 | <p><i>Impact of Stormwater on Receiving Environments</i></p> <p><i>In reference to Combined Sewer Overflows Strategy 1, Action 6:</i></p> <p>There is a huge need to reduce stormwater loadings on the receiving environment in addition to CSO sanitary loadings.</p> <p>Where are the actions to address this? Are there upstream measures to reduce the quantity of stormwater and reduce the volume of what ends up in sewer pipes?</p> | <p>There are several actions that relate to managing stormwater loadings in the updated LWMP including the following:</p> <ul style="list-style-type: none"> - Metro Vancouver will coordinate a revision of the current Stormwater Interagency Liaison Group's terms of reference to lead local research on stormwater management including both quantity and quality (12.1) - Members will align land-use planning and development with Integrated Watershed Management Plans to ensure development decisions support watershed health objectives, including protecting riparian areas (10.4) - Members will expand the use of green infrastructure to mimic natural watersheds, reduce runoff, improve water quality and increase climate resilience. This applies to areas served by either combined or separated sewers (10.5) |
| 11 | səlilwətał (Tsleil-Waututh Nation) Follow up Response to July 11 Monthly LWMP Meeting; What We Heard Summary Table | səlilwətał (Tsleil- Waututh Nation) | Sep 3, 2024 | <p><i>Impact of Stormwater on Receiving Environments</i></p> <p><i>Follow up response from səlilwətał (Tsleil-Waututh Nation) on Metro Vancouver response above (ID #11 Action 1 Re: "Metro Vancouver will coordinate a revision of the interagency group's terms of reference...")</i></p> <p>Interesting. Please provide more details. There are many opportunities for coordination across jurisdictions, as stormwater is gaining at attention.</p> | <p>Metro Vancouver agrees there are opportunities ahead for greater coordination on rainwater. Developing a new terms of reference for the updated Stormwater Interagency Liaison Group will be one of the first steps under the updated LWMP (action 12.1).</p> <p>Other related actions that respond to this feedback are:</p> <ul style="list-style-type: none"> - Action 12.4 (hosting a regional watershed forum with members, First Nations, and others to share knowledge on urban watersheds and report progress on Integrated Watershed Management Plans, receive input from participants, and ensure input is considered in the implementation of LWMP rainwater actions) - Action 11.2 (members and Metro Vancouver coordinating to update and harmonize regional and municipal rainwater policies, programs, and bylaws, and working with other orders of government to resolve rainwater policy conflicts and barriers) |
| 12 | səlilwətał (Tsleil-Waututh Nation) Follow up Response to July 11 Monthly LWMP Meeting; What | səlilwətał (Tsleil- Waututh Nation) | Sep 3, 2024 | <p><i>Impact of Stormwater on Receiving Environments</i></p> <p><i>Follow up response from səlilwətał (Tsleil-Waututh Nation) on Metro Vancouver response above (ID #11 Action 2 Re: "Members will expand the use of green infrastructure...")</i></p> | <p>While green infrastructure alone can't offset the impacts of climate change (see findings in scientific journal article: www.sciencedirect.com/science/article/pii/S0301479724002159 and previously shared 2020 report "Manitoba Street Catchment - Overland Flow Analysis and Green Infrastructure Assessment – Final"), green infrastructure can complement sewer separation. Depending on the catchment conditions and characteristics it can help address the full spectrum of rainfall intensities anticipated due to climate change.</p> |

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| | We Heard Summary Table | | | How is this being quantified and qualified, and how is it being organized specifically around CSO separation areas to address the greater entry of stormwater? | Plans for specific green infrastructure projects are under the purview of municipalities, under their authority over land use planning. As for green infrastructure quantification and qualification, the amount of expanded green infrastructure in the region will be quantified by members. The results of increasing green infrastructure installations will be assessed through Integrated Watershed Management Plans and monitoring done through the Stormwater Monitoring and Adaptive Management Framework. |
| 13 | səlilwətał (Tsleil-Waututh Nation) Follow up Response to July 11 Monthly LWMP Meeting; What We Heard Summary Table | səlilwətał (Tsleil-Waututh Nation) | Sep 3, 2024 | <p><i>Impact of Stormwater on Receiving Environments</i></p> <p><i>Follow up response from səlilwətał (Tsleil-Waututh Nation) on Metro Vancouver response above (ID #11 Action 3 Re: "Members will align land-use planning and development with Integrated Watershed Management Plans...")</i></p> <p>The intent is good, but this is pretty vague. Please provide more details and specifics.</p> | <p>As per Metro 2050, the Regional Growth Strategy (metrovancover.org/services/regional-planning/metro-2050-the-regional-growth-strategy): Member jurisdictions will adopt Regional Context Statements that include policies that:</p> <ul style="list-style-type: none"> i) support the consideration of natural assets and ecosystem services in land use decision-making and land management practices; ii) enable the retention and expansion of urban forests using various tools, such as local tree canopy cover targets, urban forest management strategies, tree regulations, development permit requirements, land acquisition, street tree planting, and reforestation or restoration policies, with consideration of resilience; iii) reduce the spread of invasive species by employing best practices, such as the implementation of soil removal and deposit bylaws, development permit requirements, and invasive species management plans; iv) increase green infrastructure along the Regional Greenway Network, the Major Transit Network, community greenways, and other locations, where appropriate, and in collaboration with Metro Vancouver, TransLink, and other partners; and v) support watershed and ecosystem planning, the development and implementation of Integrated Stormwater Management Plans, and water conservation objectives. <p>Action 12.1 requires the development of a new terms or reference for the current Stormwater Interagency Liaison Group which will provide</p> |

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| | | | | | <p>advice on aligning land-use planning and development with Integrated Watershed Management Plans to ensure development decisions support watershed health objectives. This group will report on findings and advise the Regional Engineer's Advisory Committee.</p> <p>Committing to this action within the LWMP provides opportunities during implementation to shape the terms of reference, combined sewer overflow prevention plans, Integrated Watershed Management Plans and the Stormwater Monitoring and Adaptive Management Framework to better coordinate more detailed actions on a watershed basis.</p> |
| 14 | səlilwətaʔ (Tsleil-Waututh Nation) Monthly LWMP Meeting: What We Heard Summary Table | səlilwətaʔ (Tsleil-Waututh Nation) | Jul 11, 2024 | <p><i>Impact of Stormwater on Receiving Environments</i></p> <p><i>In reference to Strategy 1, Action 7C:</i></p> <p>Consider adding an action to use system optimization to remediate impacts on disproportionately affected areas of the system, i.e. in East Vancouver.</p> | There are several optimization-themed actions aimed at addressing the combined sewer overflows from East Vancouver, which are among the largest in the regional system. These actions include: 8.3, 8.4, 8.5, 8.7, 8.8, 9.2, 9.3 & 9.6 |
| 15 | səlilwətaʔ (Tsleil-Waututh Nation) Follow up Response to July 11 Monthly LWMP Meeting: What We Heard Summary Table | səlilwətaʔ (Tsleil-Waututh Nation) | Sep 3, 2024 | <p><i>Impact of Stormwater on Receiving Environments</i></p> <p><i>Follow up response from səlilwətaʔ (Tsleil-Waututh Nation) on Metro Vancouver response above (ID #15 Re: "Metro Vancouver and members with combined systems will continue to develop and implement system optimization projects...")</i></p> <p>Such as?</p> | <p>The overall objective of system optimization is to maximize the conveyance of sanitary sewage to the wastewater treatment facilities. In other words, the objective is to minimize loadings discharged to receiving waters. System optimization projects can be implemented well in advance of completing sewer separation and at lower costs by:</p> <ul style="list-style-type: none"> - Adding smart control gates in the large sewers to minimize overflow loadings - Adding new system sensors to optimize pump station flows - Reconfiguring the network to prioritize conveyance of higher strength sewage for treatment |
| 16 | səlilwətaʔ (Tsleil-Waututh Nation) Monthly LWMP Meeting: What We Heard Summary Table | səlilwətaʔ (Tsleil-Waututh Nation) | Jul 11, 2024 | <p><i>Impact of Stormwater on Receiving Environments</i></p> <p><i>In reference to Combined Sewer Overflows Strategy 2:</i></p> <p>Green infrastructure and stormwater</p> | <p>A key focus for stormwater management in the updated LWMP is to support all members (including those transitioning away from combined systems) to enhance and expand green infrastructure in the region.</p> <p>LWMP actions that support this input include: 10.5, 11.2, 11.3, 11.4</p> |

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| | | | | <p>treatment needs to be adopted alongside sewer separation.</p> <p>Green infrastructure is integral to stormwater management.</p> <p>Is there on-the-ground support for implementing green infrastructure in tandem with sewer separation?</p> | |
| 17 | səlilwətał (Tsleil-Waututh Nation) Follow up Response to July 11 Monthly LWMP Meeting; What We Heard Summary Table | səlilwətał (Tsleil-Waututh Nation) | Sep 3, 2024 | <p><i>Impact of Stormwater on Receiving Environments</i></p> <p><i>Follow up response from səlilwətał (Tsleil-Waututh Nation) on Metro Vancouver response above (ID #17 Re: "Metro Vancouver will coordinate the development of a guidance document to aid members in harmonizing and updating stormwater policies, programs, and bylaws")</i></p> <p>Is this guidance enforceable?</p> | <p>Actions in an approved LWMP are subject to enforcement by the Province. The updated Stormwater Interagency Liaison Group will develop the guidance document which will be used by members to harmonize policies and bylaws so that there is a common strategy across the region. The guidance document will present options for enhancing policies and bylaws to improve water quality (action 12.1). In addition, the Integrated Watershed Management Plan template and the Stormwater Monitoring and Adaptive Management Framework will be reviewed and updated, working with First Nations (action 10.1a). These documents will guide members in monitoring and improving water quality in the region.</p> |
| 18 | səlilwətał (Tsleil-Waututh Nation) Follow up Response to July 11 Monthly LWMP Meeting; What We Heard Summary Table | səlilwətał (Tsleil-Waututh Nation) | Sep 3, 2024 | <p><i>Impact of Stormwater on Receiving Environments</i></p> <p><i>Follow up response from səlilwətał on Metro Vancouver response above (ID #17 Re: "Metro Vancouver will coordinate the development of a guidance document to aid members in harmonizing and updating stormwater policies, programs, and bylaws")</i></p> <p>How will these be framed? What is the intended result of the harmonization, and how will it lead to water quality improvements?</p> | <p>The primary goal of harmonizing bylaws and programs related to rainwater management is to establish a unified and consistent rainwater management strategy across the entire region. This common approach is essential to effectively improve the long term health of our shared watersheds. Action 11.2c also commits Metro Vancouver and members to coordinate and advocate with other orders of government to resolve rainwater policy conflicts and barriers to further advance green infrastructure and effective rainwater management, which should help contribute to water quality improvements.</p> |
| 19 | səlilwətał (Tsleil-Waututh Nation) | səlilwətał (Tsleil-Waututh Nation) | Sep 3, 2024 | <p><i>Impact of Stormwater on Receiving Environments</i></p> | <p>Members will be required to create online dashboards for rainwater management initiatives (action 11.3). The exact format and content of</p> |

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| | Nation) Follow up Response to July 11 Monthly LWMP Meeting; What We Heard Summary Table | | | <p><i>Follow up response from səliłwətał (Tsleil-Waututh Nation) on Metro Vancouver response above (ID #17 Re: “Metro Vancouver will coordinate the development of a template for an online stormwater dashboard for members to report on and learn from the progress and indicators of watershed health”)</i></p> <p>Can you please share any initial thoughts about this, as we are actively discussing the development of a water quality data dashboard with BC?</p> | the dashboards have not yet been developed. The plan is for a template to be developed through the updated Stormwater Interagency Liaison Group, which will include First Nations membership. |
| 20 | səliłwətał (Tsleil-Waututh Nation) Follow up Response to July 11 Monthly LWMP Meeting; What We Heard Summary Table | səliłwətał (Tsleil-Waututh Nation) | Sep 3, 2024 | <p><i>Impact of Stormwater on Receiving Environments</i></p> <p><i>Follow up response from səliłwətał (Tsleil-Waututh Nation) on Metro Vancouver response above (ID #17 Re: “Metro Vancouver will coordinate the development of a template for an online stormwater dashboard for members to report on and learn from the progress and indicators of watershed health”)</i></p> <p>Within this, water quality indicators should be consistent with the BI WQOs.</p> | <p>The establishment of the Burrard Inlet Water Quality Objectives (BIWQOs) represents a significant advancement in the regional effort to enhance water quality. To further this progress, the LWMP mandates that member jurisdictions prioritize specific watersheds for the development of Integrated Watershed Management Plans (IWMPs) in collaboration with First Nations. This prioritization process will use criteria outlined in the Stormwater Monitoring and Adaptive Management Framework (AMF) and consider additional criteria co-developed with First Nations, ensuring due consideration for cultural significance and Aboriginal rights and interests. First Nations will be invited to collaborate in IWMP development, monitoring, and review, including the sharing of relevant information regarding their respective land use plans.</p> <p>While the BIWQOs may be particularly relevant for watersheds that discharge into Burrard Inlet, the AMF will offer regional water quality objectives and consider other objectives on a case-by-case basis for each individual IWMP.</p> <p>Actions that incorporate and/or support this feedback: 10.1, 10.2</p> |
| 21 | səliłwətał (Tsleil-Waututh Nation) Monthly LWMP Meeting; What | səliłwətał (Tsleil-Waututh Nation) | Jul 11, 2024 | <p><i>Impact of Stormwater on Receiving Environments</i></p> <p>Is there a plan for stream daylighting?</p> | Daylighting streams is largely a municipal initiative and would be included in their sewer separation or Integrated Watershed Management Plans. For example, the City of Vancouver has daylighted streams within Hastings and Tatlow Parks, and sections of Still Creek. |

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| | We Heard Summary Table | | | | LWMP actions that will support members in their work to daylight streams include: 9.3, 9.6, 10.5, 11.3 |
| 22 | səlilwətał (Tsleil-Waututh Nation) Follow up Response to July 11 Monthly LWMP Meeting; What We Heard Summary Table | səlilwətał (Tsleil-Waututh Nation) | Sep 3, 2024 | <p><i>Impact of Stormwater on Receiving Environments</i></p> <p><i>Follow up response from səlilwətał (Tsleil-Waututh Nation) on Metro Vancouver response above (ID #22)</i></p> <p>Where's the daylighted stream at Hastings Park?</p> | <p>Located just north of Hastings Street, Sanctuary Pond within Hastings Park collects rainwater from recently separated neighbourhood storm sewers and conveys flows to the salt marsh habitat at New Brighton Park. The eventual plan is to extend this daylighting by removing additional sections of the culverted stream within the park downstream from the pond. Refer to 3.2.3 in the City of Vancouver report for plan concept: "Hastings Park/Pacific National Exhibition Master Plan: A New Vision for Hastings Park" (2011). (Link to Master Plan: vancouver.ca/files/cov/HastingsParkPNEdoco-MasterPlan.pdf). The Master Plan identifies the completion of greenway linkages across the park, including the connection between the pond and the marsh as a high priority for implementation.</p> <p>A video on the phases of daylighting Hastings Creek is available online: youtube.com/watch?v=gJlInX3UWck</p> |
| 23 | səlilwətał (Tsleil-Waututh Nation) Monthly LWMP Meeting: What We Heard Summary Table | səlilwətał (Tsleil-Waututh Nation) | Jul 11, 2024 | <p><i>Data Reporting</i></p> <p>səlilwətał (Tsleil-Waututh Nation) requests that all the monitoring and reporting data with regards to CSOs and sanitary sewer overflow (SSO)s (as well as all other water quality data) be made public in a coordinated and accessible format, allowing for ease of review and analysis. This is essential for Metro Vancouver and others to understand what is happening in the system and receiving waters, and to decide on mitigating actions.</p> | <p>All Metro Vancouver combined sewer overflow monitoring data is publicly available at the Metro Vancouver web site. The last five years of monitoring data are published in Environmental Management & Quality Control Annual Reports at: metrovancover.org/services/liquidwaste/reports-and-resources</p> <p>Following sanitary sewer overflows, environmental monitoring reports are provided to environmental regulators and the health authorities, including the First Nations Health Authority. In addition, all combined sewer overflows and sanitary sewer overflows are publicly reported in real time at the Metro Vancouver web site at: metrovancover.org/services/liquidwaste/real-time-sewer-overflow-map</p> <p>Please also note that summaries and interpretations of Metro Vancouver receiving environment and ambient monitoring reports for each of the regional receiving water bodies are made accessible to the public at the Metro Vancouver website at: metrovancover.org/services/liquidwaste/reports-and-resources</p> <p>Current data reporting and formats are consistent with the resources available to Metro Vancouver at this time. Over the duration of the</p> |

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| | | | | | next LWMP, Metro Vancouver will be working towards developing a central repository for its environmental data. |
| 24 | səlilwətał (Tsleil-Waututh Nation) Follow up Response to July 11 Monthly LWMP Meeting; What We Heard Summary Table | səlilwətał (Tsleil- Waututh Nation) | Sep 3, 2024 | <p><i>Data Reporting</i></p> <p><i>Follow up response from səlilwətał (Tsleil-Waututh Nation) on Metro Vancouver response above (ID #24 Re: "All Metro Vancouver CSO monitoring data is publicly available at the Metro Vancouver web site")</i></p> <p>We know. This is not what we are asking for. The dataset is extensive, but analysis has not been easy, and is definitely not accessible to the public in a way that they can understand. The LWMP presents an opportunity to improve this.</p> | Agree the analysis is not easy and public accessibility could be improved. Our goal is to create a publicly available data management platform, where data can be shared with external parties. However, with the volume and breadth of data Metro Vancouver generates annually, this is a costly and time consuming endeavor, which far exceeds our currently available resources. |
| 25 | səlilwətał (Tsleil-Waututh Nation) Follow up Response to July 11 Monthly LWMP Meeting; What We Heard Summary Table | səlilwətał (Tsleil- Waututh Nation) | Sep 3, 2024 | <p><i>Data Reporting</i></p> <p><i>Follow up response from səlilwətał (Tsleil-Waututh Nation) on Metro Vancouver response above (ID #24 Re: "Current data reporting and formats are consistent with the resources available to Metro Vancouver at this time. Over the duration of the next LWMP, Metro Vancouver will be working towards developing a central repository for its environmental data")</i></p> <p>What are the plans/ideas/dreams? Would be good to know this as we are working with BC to design a data dashboard. We should coordinate and build off each other's efforts.</p> | Metro Vancouver has not yet developed specifications for the central repository of our environmental data. We can coordinate making environmental data available on the Ministry of Environment and Park's website. |
| 26 | səlilwətał (Tsleil-Waututh Nation) Monthly LWMP | səlilwətał (Tsleil- Waututh Nation) | Jul 11, 2024 | <p><i>Removing Extraneous Flows</i></p> <p>In reference to Strategy 2, Action 7: Add more info to the sub-action "Vancouver,</p> | More information has been included in this action, which is now Action 9.6: "Members with combined systems will remove extraneous flows from creeks, lakes, and underground streams that discharge continuously into combined or sanitary sewers, in alignment with |

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| | Meeting: What We Heard Summary Table | | | New Westminster, and Burnaby will develop plans to remove extraneous flows." | Sewer Separation and Combined Sewer Overflow Elimination Plans". This action is worded at a relatively higher level to allow each member to develop their own individualized plans. |
| 27 | səlilwətał (Tsleil-Waututh Nation) Follow up Response to July 11 Monthly LWMP Meeting; What We Heard Summary Table | səlilwətał (Tsleil-Waututh Nation) | Sep 3, 2024 | <p><i>Removing Extraneous Flows</i></p> <p><i>Follow up response from səlilwətał (Tsleil-Waututh Nation) on Metro Vancouver response above (ID #27)</i></p> <p>Providing examples would help both the municipalities, and the rest of us trying to understand and review/comment on the intentions.</p> | The largest source of extraneous flows into the regional combined sewer system is Trout Lake, which discharges directly into Metro Vancouver's trunk sewer system. Metro Vancouver and the City of Vancouver have explored conceptual plans to remove Trout Lake's discharge (which also drains the surrounding large bog) from the regional sewer system, and restore the original drainage routing to receiving waters. By not mixing these natural drainage flows with sewage within combined sewer pipes, combined sewer overflows into Burrard Inlet at the Clark Drive outfall can be significantly reduced. Other major sources of extraneous flows into the combined system, which increase combined sewer overflows into Burrard Inlet, include Brewery Creek, which flows in buried pipes under Main Street in Vancouver, and the Memorial South Park ponds located near East 41st Avenue. Another major source is Langara Creek which flows through Langara Golf Course and into the combined sewer system contributing to combined sewer overflows into the Fraser River. |
| 28 | səlilwətał (Tsleil-Waututh Nation) Monthly LWMP Meeting: What We Heard Summary Table | səlilwətał (Tsleil-Waututh Nation) | Jul 11, 2024 | <p><i>Removing Extraneous Flows</i></p> <p>Is there a map of all the extraneous flows piped into the system from creeks, streams, and ponds?</p> | Not currently. Metro Vancouver would need members to provide information from their GIS systems and even then, some extraneous water connections were not recorded. It is something that eventually could be generated. |
| 29 | səlilwətał (Tsleil-Waututh Nation) Follow up Response to July 11 Monthly LWMP Meeting; What We Heard Summary Table | səlilwətał (Tsleil-Waututh Nation) | Sep 3, 2024 | <p><i>Removing Extraneous Flows</i></p> <p><i>Follow up response from səlilwətał (Tsleil-Waututh Nation) on Metro Vancouver response above (ID #29)</i></p> <p>Work it into the LWMP so that there is reason/resources to generate it.</p> | Not revised. As it is likely that only City of Vancouver would have enough extraneous water sources to warrant a map, this has not been added as an action in the LWMP. Vancouver could be asked, outside of the LWMP, to develop a map. There are some reference sources in addition to Vancouver's own records that could help develop an extraneous water source map: - searcharchives.vancouver.ca/vancouvers-old-streams - sonjapedersen.com/maps/Peat%20Bog%20Areas%20-%20Vancouver.pdf |
| 30 | səlilwətał (Tsleil-Waututh Nation) | səlilwətał (Tsleil-Waututh Nation) | Jul 11, 2024 | <p><i>Sanitary Sewer Overflows</i></p> <p>Need to understand and address why</p> | Most sanitary sewer overflows occur during wet weather due to leaks and improper storm connections to the sanitary system. Dry weather sanitary sewer overflows are likely to occur due to infrastructure |

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| | Monthly LWMP Meeting: What We Heard Summary Table | | | sewer overflows are happening in dry weather. | <p>failure. For example, sewer blockages due to fats, oils, and grease, failure of back-up systems, or broken pipes.</p> <p>To address this, in the updated LWMP, Metro Vancouver and members will continue to maintain and enhance the condition and performance of the sewerage system.</p> <p>LWMP actions that support this input include: 1.1, 1.3, 2.3, 3.1, 3.2, 3.4</p> |
| 31 | səlilwətał (Tsleil-Waututh Nation) Follow up Response to July 11 Monthly LWMP Meeting; What We Heard Summary Table | səlilwətał (Tsleil-Waututh Nation) | Sep 3, 2024 | <p><i>Sanitary Sewer Overflows</i></p> <p><i>Follow up response from səlilwətał (Tsleil-Waututh Nation) on Metro Vancouver response above (ID #31 Re: "Continuing to develop and implement asset management plans that address risks, including climate change and seismic events, and target a 100-year replacement or rehabilitation cycle for sewerage infrastructure")</i></p> <p>What's the plan for what's going on in False Creek?</p> | <p>This question was in reference to a sanitary forcemain break near False Creek in summer 2024. Metro Vancouver's original response in September 2024 was: The recent sanitary forcemain breaks near False Creek are likely due to biological corrosion and high erosion from grit. More information on this rehabilitation work can be provided as the work continues.</p> <p>June 2025 update: After an analysis performed in July 2024, the findings indicate the sewer pipe failed due to the combined effects of corrosion and erosion of the cement mortar liner, followed by severe corrosion that led to a split in the of the ductile cast iron in the sewer pipe. As a result, other sewer lines of the same timeframe and construction method are at risk of failure by the same mechanism, so Metro Vancouver is replacing the entire Columbia Sewer line with an alternative method shown to extend the life of intact sewers, and rehabilitate ones that have failed.</p> |
| 32 | səlilwətał (Tsleil-Waututh Nation) Monthly LWMP Meeting: What We Heard Summary Table | səlilwətał (Tsleil-Waututh Nation) | Jul 11, 2024 | <p><i>Draft LWMP Performance Indicators</i></p> <p>Performance indicators for stormwater should be intertwined in the CSO and SSO indicators. Indicators need to build the understanding of the implications of stormwater across the entire system.</p> | <p>Metro Vancouver and its members have developed and are using the Stormwater Monitoring and Adaptive Management Framework (AMF) as a tool to assess impact of stormwater on urban watersheds. Links to these documents are here:</p> <ul style="list-style-type: none"> - Template for Integrated Stormwater Management Planning 2005 (metrovancover.org/services/liquid-waste/Documents/integrated-stormwater-management-template-2005.pdf) - Template for Integrated Stormwater Management Planning 2022 Addendum (metrovancover.org/services/liquid-waste/Documents/integrated-stormwater-management-template-addendum-2022.pdf) - Stormwater Monitoring Adaptive Management Framework (metrovancover.org/services/liquid-waste/Documents/stormwater-monitoring-adaptive-management-framework-2014-09.pdf) |

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| | | | | | The AMF contains a number of chemical, biological, and hydrological performance indicators. Tracking these indicators over time will provide information regarding stormwater impact and the effectiveness of municipal Integrated Watershed Management Plans in protecting environmental health. Chemical indicators used in the AMF are also used in monitoring of combined and sanitary sewer overflows. |
| 33 | səlilwətaʔ (Tsleil-Waututh Nation) Follow up Response to July 11 Monthly LWMP Meeting; What We Heard Summary Table | səlilwətaʔ (Tsleil-Waututh Nation) | Sep 3, 2024 | <p><i>Draft LWMP Performance Indicators</i></p> <p><i>Follow up response from səlilwətaʔ (Tsleil-Waututh Nation) on Metro Vancouver response above (ID #33 Re: "The AMF contains a number of chemical, biological, and hydrological performance indicators")</i></p> <p>Need to be consistent with the BI WQOs.</p> | Yes, the Burrard Inlet Water Quality Objectives apply to the marine environment of Burrard Inlet, while the Stormwater Monitoring and Adaptive Management Framework parameters apply to the freshwater aquatic environment. |
| 34 | səlilwətaʔ (Tsleil-Waututh Nation) Monthly LWMP Meeting: What We Heard Summary Table | səlilwətaʔ (Tsleil-Waututh Nation) | Aug 21, 2024 | <p><i>Theme 1: Timing of səlilwətaʔ (Tsleil-Waututh Nation) input</i></p> <p>Concern about the timing of how and when səlilwətaʔ (Tsleil-Waututh Nation) feedback is being brought to the Liquid Waste Committee, alongside an initial draft plan.</p> | <p>Staff considered and incorporated səlilwətaʔ (Tsleil-Waututh Nation) input (such as that on combined and sanitary sewer overflows from the July 2024 meeting) in real time as we worked on the initial draft LWMP throughout 2024. Metro Vancouver continued to refine the draft LWMP throughout the remainder of Phase 2 engagement (through end of 2024) and Phase 3 engagement (late 2024/early 2025).</p> <p>Due to the timelines required for Committee packages, the record of Phase 2 First Nations engagement that went to the Liquid Waste Committee and Greater Vancouver Sewerage and Drainage District Board in November 2024 contained səlilwətaʔ (Tsleil-Waututh Nation) feedback through the June 2024 meeting on the Burrard Inlet Water Quality Objectives.</p> <p>All səlilwətaʔ (Tsleil-Waututh Nation) input from the remainder of Phase 2 (July 2024 and onwards) will be included in the Phase 3 First Nations engagement record, along with all additional comments from səlilwətaʔ (Tsleil-Waututh Nation) in Phase 3, when it goes to the</p> |

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| | | | | | Liquid Waste Committee, Greater Vancouver Sewerage and Drainage District Board, and Province in fall 2025. |
| 35 | səlilwətał (Tsleil-Waututh Nation) Monthly LWMP Meeting: What We Heard Summary Table | səlilwətał (Tsleil-Waututh Nation) | Aug 21, 2024 | <p><i>Theme 2: Valuing and Incorporating səlilwətał Feedback</i></p> <p>While engagement recently on the LWMP has incrementally improved, səlilwətał still desires a collaborative process where səlilwətał (Tsleil-Waututh Nation) could contribute to the development of LWMP content, rather than providing feedback on already developed components of the plan, when plan approvals by Metro Vancouver Committees and Board are already fast approaching.</p> <p>səlilwətał (Tsleil-Waututh Nation) wants to be more involved in the development, decision-making, and approval process.</p> | <p>Metro Vancouver has endeavoured to enhance First Nations engagement on the development of the updated LWMP through unique approaches requested by First Nations, such as the monthly meeting series on the LWMP with səlilwətał (Tsleil-Waututh Nation) starting in April 2024, and the Nation to Nation dialogue on the LWMP held with local First Nations in April 2025.</p> <p>To further respond to this input, the updated LWMP includes actions that will more deeply involve First Nations and promote meaningful interactions with members and Metro Vancouver throughout the implementation of the LWMP, including actions 10.1, 10.2, 12.1, 12.4, and 20.5.</p> <p>At the same time, we recognize that this engagement is not the same as the collaborative partnership requested, where First Nations co-develop and approve the LWMP with Metro Vancouver and members. Outside of the actions above, Metro Vancouver must note that the LWMP is a regulatory instrument and Metro Vancouver and its member jurisdictions are directly responsible to the Province for developing, implementing, funding, and managing the LWMP. Metro Vancouver and its members are accountable for LWMP content and must respond to any ministerial conditions presented, and thus remain the parties ultimately responsible for the LWMP's implementation.</p> |
| 36 | səlilwətał (Tsleil-Waututh Nation) Monthly LWMP Meeting: What We Heard Summary Table | səlilwətał (Tsleil-Waututh Nation) | Aug 21, 2024 | <p><i>Theme 3: First Nations Content in Draft LWMP</i></p> <p><i>In reference the material shared (all current draft content mentioning First Nations in the draft LWMP):</i></p> <p>This content is of limited utility to səlilwətał (Tsleil-Waututh Nation). səlilwətał (Tsleil-Waututh Nation) is far more concerned with seeing the full draft plan and where səlilwətał (Tsleil-Waututh Nation) feedback (both</p> | <p>Metro Vancouver shared the initial draft plan with səlilwətał (Tsleil-Waututh Nation) and a summary showing where and how səlilwətał (Tsleil-Waututh Nation) feedback has been incorporated to date into the initial draft plan in September 2024. The same has been done in Phase 3 with a version of the final draft plan tracking all edits from the initial draft LWMP, and a summary showing where səlilwətał (Tsleil-Waututh Nation) feedback has been incorporated into the final draft of the plan. Metro Vancouver has also maintained transparency in our communications with səlilwətał (Tsleil-Waututh Nation), including in our reporting back process, where we explained which feedback could not be incorporated and the reasons why.</p> |

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| | | | | technical and related to Indigenous Rights and title) has been incorporated. | |
| 37 | səlilwətał (Tsleil-Waututh Nation) Monthly LWMP Meeting: What We Heard Summary Table | səlilwətał (Tsleil-Waututh Nation) | Aug 21, 2024 | <p><i>Theme 3: First Nations Content in Draft LWMP</i></p> <p><i>In reference the material shared (all current draft content mentioning First Nations in the draft LWMP):</i></p> <p>The language currently used (i.e. First Nations to participate as desired) should be more straightforward, removing the caveats.</p> | Revised. Metro Vancouver has aimed to make wording clearer, by changing instances of "First Nations to participate as desired" to "Metro Vancouver and/or members to work with First Nations that choose to participate". This makes it clear that Metro Vancouver and members are required to involve First Nations, while also making it clear that it will be up to First Nations if they wish to participate. |
| 38 | Key Project Input Table Liquid Waste Management Plan (LWMP) Meeting with kʷikʷəłəm (Kwikwetlem First Nation) | kʷikʷəłəm (Kwikwetlem First Nation) | Sep 5, 2024 | <p><i>Theme 1: Wastewater System Optimization</i></p> <p>In reference to proposed sanitary sewer and combined sewer overflow actions, that would seek further optimization of the system to preferentially convey sanitary sewage to wastewater treatment plants during wet weather, question about whether facility upgrades were also part of the strategy to increase the volume of wastewater that Metro Vancouver systems can handle.</p> | <p>Yes, facility improvements would be part of this strategy. An operational improvement might involve the implementation of remote monitoring and control systems that can be installed in both the collections and treatment systems to better manage wet weather flows.</p> <p>As capacity upgrades for conveyance and treatment are extremely costly, the desire is to optimize the current system such that sanitary sewage and/or concentrated combined flow is prioritized for conveyance/treatment. That said, local system capacity for conveying both storm and sanitary flows is increased via sewer separation projects. However, there is a desire to limit flows to treatment plants in order to avoid costly plant upgrades. Reducing wet weather flows to treatment plants via inflow and infiltration reduction and separation of combined sewers greatly helps this objective.</p> <p>LWMP actions that support this input include: 5.2, 5.4, 8.6, 8.7, 8.8, 9.1, 9.3, 9.4, 9.6</p> |
| 39 | Key Project Input Table Liquid Waste Management Plan (LWMP) Meeting with kʷikʷəłəm | kʷikʷəłəm (Kwikwetlem First Nation) | Sep 5, 2024 | <p><i>Theme 2: Enhanced Municipal Action on Inflow and Infiltration</i></p> <p>How does Metro Vancouver plan to get municipalities to act when it comes to the inflow and infiltration actions in the updated LWMP?</p> | <p>There are two main levers:</p> <p>1. Metro Vancouver implemented wet weather pricing (metrovanancouver.org/services/liquid-waste/wet-weather-sewer-pricing) which is formulated so that municipalities with the highest inflow and infiltration will progressively pay more for service. This user-pay approach means that communities that put more wastewater into the regional sewer system (because of inflow and</p> |

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| | (Kwikwetlem First Nation) | | | | <p>infiltration) will contribute more toward the operation of the sewer system, and those that contribute less, will pay less. This should incentivize action on inflow and infiltration, reducing wastewater flows and improving affordability overall long-term.</p> <p>2. The LWMP update commits members to provide more transparent reporting and to develop dashboards showing the progress of each municipality on their LWMP commitments, which should encourage more action on inflow and infiltration.</p> <p>Finally, the commitments made by Metro Vancouver and its members in the LWMP are legally binding as it is a regulatory document. The Province has the authority to enforce the implementation of the actions.</p> |
| 40 | Key Project Input Table Liquid Waste Management Plan (LWMP) Meeting with kʷikʷəłəm (Kwikwetlem First Nation) | kʷikʷəłəm (Kwikwetlem First Nation) | Sep 5, 2024 | <p><i>Theme 3: Exfiltration</i></p> <p>kʷikʷəłəm (Kwikwetlem First Nation) wants to see exfiltration addressed explicitly in the updated LWMP. It is one of kʷikʷəłəm (Kwikwetlem First Nation)'s main concerns. There have been multiple spills in streams in kʷikʷəłəm (Kwikwetlem First Nation) territory next to or near sewer infrastructure. Having exfiltration assessments completed will allow the cause of these spills to be narrowed down.</p> | <p>Not revised within LWMP, however, Metro Vancouver staff have offered to meet with kʷikʷəłəm (Kwikwetlem First Nation) representatives at sites of concern to assess the exfiltration concern. From there, staff can check to see if inspections have already been done in these areas and share the results, and/or set up further site visits as desired.</p> <p>Metro Vancouver and municipalities also have asset management focused actions in the LWMP, which will include sewer inspections etc., to ensure integrity of the sewer systems. These actions will help address the causes of exfiltration. These include Actions 1.1, 1.2, 5.1, 5.2, 5.3, and 5.4.</p> |
| 41 | səlilwətał (Tsleil-Waututh Nation) Monthly LWMP Meeting: What We Heard Summary Table | səlilwətał (Tsleil-Waututh Nation) | Sep 18, 2024 | <p><i>Theme 1: Source Control and the Burrard Inlet Water Quality Objectives</i></p> <p>səlilwətał (Tsleil-Waututh Nation) ask that LWMP actions, including those in the area of source control, incorporate the values that underpin the Burrard Inlet Water Quality Objectives (BI WQOs). Water quality objectives related to shellfish and finfish consumption are often overlooked and səlilwətał (Tsleil-</p> | <p>Metro Vancouver updates Environmental Discharge Objectives (EDOs) periodically to incorporate new or updated water quality guidelines and objectives. Specifically, EDOs for the Lions Gate Wastewater Treatment Plant are in the process of being updated using the updated Burrard Inlet Water Quality Objectives (BIWQOs).</p> <p>Action 4.1 supports this input, as it commits Metro Vancouver to prioritizing contaminants for source control actions, based in part, on the BI WQOs, along with other water quality guidelines and objectives.</p> |

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| | | | | Waututh Nation) emphasizes their importance. | In addition, Action 4.1 has been revised, based on səliwətał (Tsleil-Waututh Nation) input, to commit to working with First Nations to identify contaminants of concern and additional source control actions. |
| 42 | səliwətał (Tsleil-Waututh Nation) Monthly LWMP Meeting: What We Heard Summary Table | səliwətał (Tsleil-Waututh Nation) | Sep 18, 2024 | <i>Theme 1: Source Control and the Burrard Inlet Water Quality Objectives</i> səliwətał (Tsleil-Waututh Nation) noted that there are no performance indicators proposed for the strategy "Prevent pollution at the source" (Strategy 4 in draft LWMP) and suggested that the BI WQOs have performance indicators against which to compare. | Challenges with developing a measurable and practical performance indicator for Strategy 4 are that water quality monitoring results may not be a fully reflective performance indicator for source prevention efforts since other factors such as land use changes, population growth, industrial trends, and consumer trends, for example, can greatly impact wastewater characteristics. Metro Vancouver will certainly take the BI WQOs into account, along with these other factors. |
| 43 | səliwətał (Tsleil-Waututh Nation) Monthly LWMP Meeting: What We Heard Summary Table | səliwətał (Tsleil-Waututh Nation) | Sep 18, 2024 | <i>Theme 2: Plan Language</i> səliwətał (Tsleil-Waututh Nation) reiterated their feedback from August on language around LWMP actions involving First Nations: The language currently used (i.e. First Nations to participate as desired) should be more straightforward, removing the caveats. It leaves ambiguity as to whether it is as First Nations desire, or as members /Metro Vancouver desires. | Metro Vancouver has aimed to make wording clearer, by changing instances of "First Nations to participate as desired" to "Metro Vancouver and/or members "to work with First Nations that choose to participate". This makes it clear that Metro Vancouver and members are required to involve First Nations, while also making it clear that it will be up to First Nations if they wish to participate. |
| 44 | səliwətał (Tsleil-Waututh Nation) Monthly LWMP Meeting: What We Heard Summary Table | səliwətał (Tsleil-Waututh Nation) | Sep 18, 2024 | <i>Theme 3: Wastewater Treatment</i> Question about the following proposed action (14.3 in draft LWMP): <i>Metro Vancouver will report on bypass conditions that occur at wastewater treatment plants in the Environmental Management & Quality Control Annual Report. The report on each activity will include a description of the event, cause, and environmental effect.</i> | Yes, Metro Vancouver undertakes remedial action associated with bypass instances to prevent future occurrences. |

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| | | | | Will this activity lead to remedial actions to prevent such a bypass from happening again? | |
| 45 | səlilwətał (Tsleil-Waututh Nation) Monthly LWMP Meeting: What We Heard Summary Table | səlilwətał (Tsleil-Waututh Nation) | Sep 18, 2024 | <p><i>Theme 4: Meaningful Partnership and Collaboration</i></p> <p>səlilwətał (Tsleil-Waututh Nation) would like to continue to voice concerns about Metro Vancouver's wording in the LWMP about First Nations "partnership" and "collaboration".</p> <p>Partnership would be ideal, however, the relationship to date on this process has not been one of partnership. Partners plan and develop an approach and content together, make decisions together, and approve results together. What is described in the document "Incorporating First Nations Feedback-LWMP" is not collaborative.</p> | <p>Metro Vancouver respectfully acknowledges your comment that the process to date has not been fully aligned with the principles of partnership and collaboration. This is a reflection of current local government governance processes. Our aim is to continue working together with səlilwətał (Tsleil-Waututh Nation) in good faith to achieve mutually desirable outcomes for the LWMP.</p> <p>Metro Vancouver recognizes that BC's <i>Declaration Act</i> Action Plan item 1.11 identifies First Nations participation on regional district boards as an item that will be advanced by the Ministry of Housing and Municipal Affairs. The Province is actively working to advance this initiative, and Metro Vancouver looks forward to receiving further direction and information regarding the legislative changes to the <i>Local Government Act</i> that are required to support this action. The Province anticipates this legislative change being a few years away.</p> <p>In the meantime, Metro Vancouver aims to expand First Nations influence in the following areas, which First Nations have expressed interest in, and where opportunities for greater collaboration exist within the scope of the LWMP:</p> <ul style="list-style-type: none"> - Rainwater management/watershed health (actions 10.1, 10.2, 12.1, 12.4) - Collaborative regional environmental management initiatives (action 20.1) - LWMP implementation and progress assessment (action 20.5) |
| 46 | səlilwətał (Tsleil-Waututh Nation) Monthly LWMP Meeting: What We Heard Summary Table | səlilwətał (Tsleil-Waututh Nation) | Oct 2, 2024 | <p><i>Theme 1: Incorporation of səlilwətał feedback into LWMP</i></p> <p>What is the process if səlilwətał (Tsleil-Waututh Nation) input has not been adequately incorporated in the draft LWMP?</p> | <p>Metro Vancouver has endeavoured to incorporate səlilwətał (Tsleil-Waututh Nation) input on the draft LWMP wherever possible within the scope of the LWMP. Further Metro Vancouver commits to continuing to work with səlilwətał (Tsleil-Waututh Nation) throughout the implementation of the LWMP to further incorporate səlilwətał (Tsleil-Waututh Nation) priorities in wastewater and rainwater management, particularly through the newly created forums in actions 12.4 and 20.5</p> <p>However, should səlilwətał (Tsleil-Waututh Nation) feel that Metro Vancouver has not adequately incorporated səlilwətał (Tsleil-Waututh</p> |

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| | | | | | Nation) input into the LWMP, səliłwətał (Tsleil-Waututh Nation) can work with the Ministry of Environment and Parks to discuss key priorities for the updated LWMP. |
| 47 | səliłwətał (Tsleil-Waututh Nation) Monthly LWMP Meeting: What We Heard Summary Table | səliłwətał (Tsleil-Waututh Nation) | Oct 2, 2024 | <i>Theme 1: Incorporation of səliłwətał feedback into LWMP</i> Are there instances of səliłwətał (Tsleil-Waututh Nation) feedback that were not incorporated into the plan because staff were concerned that they wouldn't receive Liquid Waste Committee or Greater Vancouver Sewerage and Drainage District Board approval? Is Board approval a consideration for staff when considering səliłwətał feedback for inclusion in the LWMP? | Staff do consider how səliłwətał (Tsleil-Waututh Nation) input that is within the scope of the LWMP, as well as how LWMP actions, align with budget and regulatory requirements, which the Greater Vancouver Sewerage and Drainage Board is obligated to meet. |
| 48 | Summary of Feedback-LWC Special Meeting-10-30-2024 | Semiahmoo First Nation | Oct 30, 2024 | <i>Return to traditional food harvesting - shellfish</i> Semiahmoo First Nation's top priority for the Liquid Waste Management Plan is access to traditional food sources within Semiahmoo's traditional territory. Semiahmoo's traditional territory has been closed to shellfish harvesting since the early sixties. Not only is Semiahmoo's accessibility to traditional food at risk but so is their livelihood. | Shellfish harvesting is regulated by the federal government. Metro Vancouver is open to participating in multi-jurisdictional conversations to contemplate specific requirements, pathways and required steps, options, priorities, responsibilities, etc. that would be required to set the region on the path of return to shellfish harvesting. Furthermore, all the strategies and actions in the LWMP are focused on improved liquid waste management in the region. Improvements in the way Metro Vancouver and its member jurisdictions manage liquid waste are expected to result in improved protection of human health and aquatic life. |
| 49 | Summary of Feedback-LWC Special Meeting-10-30-2024 | Semiahmoo First Nation | Oct 30, 2024 | <i>Fecal coliform</i> Tatalu, the Little Campbell River, runs through the Semiahmoo First Nation's reserve. Over the years, Semiahmoo First Nation has done a substantial amount of work to examine the health of the Little Campbell River and the tributaries that flow into it. There are high levels of fecal coliform coming | The LWMP requires members to either create or update Integrated Watershed Management Plans (IWMPs) for every watershed within our region. Members will work with First Nations on prioritizing watersheds for IWMP development. These IWMPs, in conjunction with the Stormwater Monitoring and Adaptive Management Framework, will enable members to assess trends in watershed health and to implement corrective actions should watershed health not show improvement. LWMP actions 10.1 and 10.2 support this input. |

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| | | | | down the storm drains and into the Little Campbell, ultimately contaminating Semiahmoo Bay and making it impossible for Semiahmoo First Nation to harvest any traditional food sources. | |
| 50 | Summary of Feedback-LWC Special Meeting-10-30-2024 | Semiahmoo First Nation | Oct 30, 2024 | <i>Fecal coliform</i> Within Semiahmoo territory, there are also old, dual systems on private property that hold both septic and stormwater runoff, and in many cases these systems are leaking, and contributing to spikes of human fecal coliform in stormwater, an ongoing issue for generations now. Semiahmoo First Nation would like the support of Metro Vancouver to find a path forward in resolving this issue. | Out of scope. Management of septic systems is beyond the mandate of the LWMP. Monitoring of receiving waters will allow member jurisdictions to better identify sources of contamination and work with the Province to better regulate the impacts of these septic systems. |
| 51 | Summary of Feedback-LWC Special Meeting-10-30-2024 | Semiahmoo First Nation | Oct 30, 2024 | <i>Agricultural runoff</i> Agricultural runoff also contaminates Tatalu and Semiahmoo Bay. Organizations such as A Rocha Canada have been able to work with landowners to reduce the amount of agricultural runoff, but it is still extremely high, and needs to be addressed. | The impacts of agricultural runoff are an important issue. The LWMP requires members to consider agricultural land runoff in their Integrated Watershed Management Plans. LWMP action 10.3 supports this input. |
| 52 | Summary of Feedback-LWC Special Meeting-10-30-2024 | Semiahmoo First Nation | Oct 30, 2024 | <i>Stormwater management – LWMP Goal #1 Prevent pollution</i> Stormwater contributes to significant pollution in urban waterways in Metro Vancouver. The LWMP is an opportunity for everyone to be involved in preventing stormwater pollution, such as creating impervious surface thresholds on a watershed scale or | Integrated Watershed Management Plans (IWMPs) and the Stormwater Monitoring and Adaptive Management Framework (AMF) serve as key tools for monitoring and assessing the health of our watersheds. Recognizing their importance, through the updated LWMP, the updated Stormwater Interagency Liaison Group will undertake a review of both the IWMP template and the AMF as a core part of its mandate, ensuring these frameworks effectively support watershed health goals. Metro Vancouver and members will work with First Nations to update the IWMP template and AMF, as well as on the development and implementation of IWMPs. |

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| | | | | developing incentives for landowners and businesses to increase infiltration on properties (e.g. disconnect roof leaders, build rain gardens, install porous pavement). | LWMP actions under the rainwater management strategies 10-12 support this input. |
| 53 | Summary of Feedback-LWC Special Meeting-10-30-2024 | Semiahmoo First Nation | Oct 30, 2024 | <p><i>Indigenous Rights – LWMP Goal #5 Reflecting First Nations’ priorities</i></p> <p>Indigenous people have the right under UNDRIP to participate in decision-making in matters which affect their rights; to maintain and strengthen their distinct spiritual relationship with their traditional waters and coastal seas; and to the conservation, protection, and productive capacity of their lands, territories, and resources. (Referencing UNDRIP Articles 18, 25, 29, and 32.)</p> | <p>Metro Vancouver recognizes that BC’s <i>Declaration Act</i> Action Plan item 1.11 identifies First Nations participation on regional district boards as an item that will be advanced by the Ministry of Housing and Municipal Affairs. The Province is actively working to advance this initiative, and Metro Vancouver looks forward to receiving further direction and information regarding the legislative changes to the Local Government Act that are required to support this action. The Province anticipates this legislative change being a few years away.</p> <p>In the meantime, Metro Vancouver proposes to expand First Nations influence in the following areas, which First Nations have expressed interest in, and where opportunities for greater collaboration exist within the scope of the LWMP:</p> <ul style="list-style-type: none"> - Rainwater management/watershed health (actions 10.10.2, 12.1, 12.4) - Collaborative regional environmental management initiatives (action 20.1) - LWMP implementation and progress assessment (action 20.5) |
| 54 | Summary of Feedback-LWC Special Meeting-10-30-2024 | Semiahmoo First Nation | Oct 30, 2024 | <p><i>LWMP strategies and performance indicators</i></p> <p>All strategies need to have indicators and targets, and need to be outcomes-based.</p> <ul style="list-style-type: none"> - Need to include targets for indicator bacteria and other pollutants like 6PPD Quinone to protect salmon and shellfish food sources. | Metro Vancouver is using applicable water quality objectives and guidelines for all water bodies in which it conducts environmental monitoring programs, and these objectives and guidelines represent performance indicators. |
| 55 | Summary of Feedback-LWC Special Meeting-10-30-2024 | Semiahmoo First Nation | Oct 30, 2024 | <p><i>LWMP strategies and performance indicators</i></p> <p>How will the LWMP’s strategies and actions result in clean water for traditional food harvesting?</p> | Shellfish harvesting is regulated by the federal government. Metro Vancouver is open to participating in multi-jurisdictional conversations to contemplate specific requirements, pathways and required steps, options, priorities, responsibilities, etc. that would be required to set the region on the path of return to shellfish harvesting. |

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| | | | | | Furthermore, all the strategies and actions in the LWMP are focused on improved liquid waste management in the region. Improvements in the way Metro Vancouver and its member jurisdictions manage liquid waste are expected to result in improved protection of human health and aquatic life. |
| 56 | Summary of Feedback-LWC Special Meeting-10-30-2024 | Semiahmoo First Nation | Oct 30, 2024 | <i>LWMP strategies and performance indicators</i> How are cumulative impacts going to be addressed? | <p>The LWMP commits Metro Vancouver to continue to align its work with initiatives of importance to First Nations, such as the Lower Fraser Estuary Management Partnership which was specifically created to address cumulative effects on the lower Fraser River (LWMP section "Aligning with First Nations' Initiatives").</p> <p>Further, LWMP action 20.1 commits Metro Vancouver to participate along with First Nations and other interested parties in collaborative regional environmental monitoring programs that would address issues of interest to First Nations, which may include, though not limited to, the assessment of cumulative effects in regional water bodies.</p> |
| 57 | Summary of Feedback-LWC Special Meeting-10-30-2024 | Semiahmoo First Nation | Oct 30, 2024 | <i>LWMP strategies and performance indicators</i> How will Metro Vancouver report back to First Nation about progress? | <p>Member jurisdictions who are largely responsible for watershed management have committed in the LWMP to enhance First Nations' involvement in the development and implementation of Integrated Watershed Management Plans.</p> <p>The updated LWMP also establishes a new forum for First Nations, Metro Vancouver, member jurisdictions, and the Province to monitor, assess, and provide input on the progress of the LWMP's implementation.</p> <p>LWMP actions that support this input include: 10.1, 10.2, 12.4, 20.5</p> |
| 58 | Summary of Feedback-LWC Special Meeting-10-30-2024 | Semiahmoo First Nation | Oct 30, 2024 | <i>LWMP strategies and performance indicators</i> How can First Nations be part of the discussion? | <p>The updated LWMP commits member jurisdictions to work with First Nations on Integrated Watershed Management Plans. Metro Vancouver will include First Nations membership in the LWMP's updated Stormwater Interagency Liaison Group with member jurisdictions, to facilitate efficient and effective information sharing and collaboration on regional watershed management.</p> <p>The updated LWMP also establishes two new forums for First Nations, Metro Vancouver, member jurisdictions, and others to work together on rainwater management, and to monitor, assess, and provide input on the progress of the LWMP's implementation. These are forums</p> |

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| | | | | | <p>within the scope of the LWMP where First Nations will be part of the discussion. More work can be done over time to expand First Nations involvement in other regional forums.</p> <p>Actions that incorporate this feedback: 10.1, 10.2, 12.1, 12.4, 20.5</p> |
| 59 | Summary of Feedback-LWC Special Meeting-10-30-2024 | Semiahmoo First Nation | Oct 30, 2024 | <p><i>Governance/co-decision-making</i></p> <p>While Semiahmoo appreciates the engagement that has occurred to date with Metro Vancouver, Metro Vancouver and its member jurisdictions need to include Semiahmoo First Nation and the other local Nations in more decision-making. Semiahmoo cannot move forward without inclusion and participation at a government-to-government level with Metro Vancouver and surrounding municipalities. The current system is not equitable and it's not working.</p> | <p>Metro Vancouver recognizes that BC's <i>Declaration Act</i> Action Plan item 1.11 identifies First Nations participation on regional district boards as an item that will be advanced by the Ministry of Housing and Municipal Affairs. The Province is actively working to advance this initiative, and Metro Vancouver looks forward to receiving further direction and information regarding the legislative changes to the Local Government Act that are required to support this action. The Province anticipates this legislative change being a few years away.</p> <p>In the meantime, Metro Vancouver proposes to expand First Nations influence in the following areas, which First Nations have expressed interest in, and where opportunities for greater involvement exist within the scope of the LWMP:</p> <ul style="list-style-type: none"> - Rainwater management/watershed health (actions 10.1, 10.2, 12.1, 12.4) - Collaborative regional environmental management initiatives (action 20.1) - LWMP implementation and progress assessment (action 20.5) |
| 60 | Summary of Feedback-LWC Special Meeting-10-30-2024 | kʷikʷə́łəm (Kwikwetlem First Nation) | Oct 30, 2024 | <p><i>Water conservation and the Kwiwetlem watershed</i></p> <p>Salmon stocks are rapidly declining. kʷikʷə́łəm (Kwikwetlem First Nation) Elders are concerned about the conservation of water in the Coquitlam Watershed. It is being proposed that the amount of water drawn from the Coquitlam watershed will be doubled to service drinking water to the growing the region. Development, money, and people must not be prioritized over the environment.</p> | <p>Although the LMWP has no regulatory jurisdiction over water metering, LWMP action 3.5 encourages member jurisdictions to conduct business casing and/or implement residential water metering programs to reduce potable water use. It also urges a region-wide water conservation program under the Drinking Water Management Plan.</p> <p>For the Coquitlam Lake Water Supply Project, Metro Vancouver has entered into an agreement with BC Hydro to access additional drinking water supply from the Coquitlam reservoir by purchasing a portion of the water currently allocated to BC Hydro for power generation. The overall volume of water that can be withdrawn from the reservoir is not changing, but the timing for withdrawals will. The 2005 Coquitlam-Buntzen Water Use Plan currently guides how water from the Coquitlam Reservoir is used and specifies allowances for environmental flows, hydropower generation, and drinking water.</p> |

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| 61 | Summary of Feedback-LWC Special Meeting-10-30-2024 | kʷikʷə́ləm (Kwikwetlem First Nation) | Oct 30, 2024 | <p><i>Water conservation and the Kwikwetlem watershed</i></p> <p>When conservation initiatives on drinking water are prioritized, the liquid waste output is reduced. kʷikʷə́ləm (Kwikwetlem First Nation) understands that Metro Vancouver has not been able to meet their water conservation targets. kʷikʷə́ləm (Kwikwetlem First Nation) asks Metro Vancouver to prioritize these targets.</p> | <p>Although the LMWP has no regulatory jurisdiction over water metering, LWMP action 3.5 encourages member jurisdictions to conduct business casing and/or implement residential water metering programs to reduce potable water use. It also urges a region-wide water conservation program under the Drinking Water Management Plan (DWMP).</p> <p>Metro Vancouver is committed to conserving water as a valuable resource and managing it responsibly. Through the update of the DWMP, Metro Vancouver is prioritizing advancing water metering and conservation and is taking a more proactive approach to water conservation by:</p> <ul style="list-style-type: none"> • Developing a set of guiding principles that prioritize conservation • Proposing setting a regional drinking water conservation target • Working actively towards establishing universal water metering across the region <p>Metro Vancouver currently has no conservation targets but is proposing metering and conservation targets through the DWMP update. As part of the Water Supply Outlook 2120, drinking water demand per person was forecasted to decrease due to densification, changes in plumbing code and advancements in metering. The region is currently trending towards the high stress demand forecast in terms of total demand; these demand forecasts are in the process of being reassessed.</p> |
| 62 | Summary of Feedback-LWC Special Meeting-10-30-2024 | kʷikʷə́ləm (Kwikwetlem First Nation) | Oct 30, 2024 | <p><i>Water conservation and the Kwikwetlem watershed</i></p> <p>Many options need to be considered, including water metering, recycling wastewater for irrigation systems, and water pricing that can be applied to water withdrawn from the system, as well as water disposed (i.e. wet weather pricing). These would all reduce the impact on kʷikʷə́ləm (Kwikwetlem First Nation). The regulatory tools in the LWMP are a lot stronger than those in the drinking water plan. There needs to</p> | <p>There are a number of initiatives to reduce both sanitary and stormwater flows, both within and outside of the LWMP, including wet weather pricing.</p> <p>For stormwater, Metro Vancouver has published a report, Stormwater Source Control Design Guidelines: metrovancover.org/services/liquid-waste/Documents/stormwater-source-control-design-guidelines-2012.pdf which is a resource for member jurisdictions to successfully implement green infrastructure approaches, such as bioswales, etc.</p> <p>Although the LMWP has no regulatory role over water metering, Metro Vancouver offers a Non-Potable Water Systems Guidebook: metrovancover.org/services/water/Documents/non-potable-water-</p> |

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| | | | | be outside-the-box thinking to emphasize conservation. | <p>systems-printer-friendly-guidebook-2022.pdf which describes best practices for adopting non-potable water systems in a manner that helps Metro Vancouver move toward more resilient and sustainable use of available water resources.</p> <p>The following LWMP actions support this feedback: 10.2, 10.3, 10.4, 10.5, 11.3, 12.3.</p> <p>Metro Vancouver has limited capacity to mandate water metering or conservation for its members. However, we are working collaboratively with our members to support them to advance metering and conservation. Since the start of the DWMP update, Metro Vancouver has been very actively engaging members through workshops and regular updates on the benefits of advancing residential water metering in the region. We held several workshops/events since 2023 to discuss barriers and potential solutions to advance metering. As a result, in the past two years there has been an increase in member jurisdictional support and activity around progressing metering namely in the cities of Burnaby, Coquitlam, and Vancouver, and the Township of Langley. Councils have approved voluntary metering programs, including requirements for metering on new builds, the development of metering strategies, or accelerating universal metering.</p> |
| 63 | Summary of Feedback-LWC Special Meeting-10-30-2024 | kʷikʷəłəm (Kwikwetlem First Nation) | Oct 30, 2024 | <p><i>Governance/co-decision-making</i></p> <p>There must be a new road for all orders of government and First Nations to work together and for First Nations to have a voice in decisions. kʷikʷəłəm (Kwikwetlem First Nation) expects to be treated fairly, have a voice in Metro Vancouver decisions, to work together for the greater good of the future.</p> | <p>Metro Vancouver recognizes that BC's <i>Declaration Act</i> Action Plan item 1.11 identifies First Nations participation on regional district boards as an item that will be advanced by the Ministry of Housing and Municipal Affairs. The Province is actively working to advance this initiative, and Metro Vancouver looks forward to receiving further direction and information regarding the legislative changes to the Local Government Act that are required to support this action. The Province anticipates this legislative change being a few years away.</p> <p>In the meantime, Metro Vancouver proposes to expand First Nations influence in the following areas, which First Nations have expressed interest in, and where opportunities for greater collaboration exist within the scope of the LWMP:</p> <ul style="list-style-type: none"> - Rainwater management/watershed health (actions 10.1, 10.2, 12.1, 12.4) - Collaborative regional environmental management initiatives (action |

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| | | | | | 20.1) - LWMP implementation and progress assessment (action 20.5) |
| 64 | Summary of Feedback-LWC Special Meeting-10-30-2024 | scə́waθən məsteyəxʷ (Tsawwassen First Nation) | Oct 30, 2024 | Similar to Metro Vancouver, scə́waθən məsteyəxʷ (Tsawwassen First Nation) has inflow and infiltration issues with older infrastructure, and are looking into upgrading their infrastructure in the future to address these issues, and to withstand a hundred-year flood. | The updated LWMP also aims to advance demand side management, especially inflow and infiltration reduction. Actions that support I&I reductions include: 5.1, 5.2, 5.3, 5.4, 5.5, 6.1, 6.4 |
| 65 | Summary of Feedback-LWC Special Meeting-10-30-2024 | scə́waθən məsteyəxʷ (Tsawwassen First Nation) | Oct 30, 2024 | Future liquid waste initiatives for scə́waθən məsteyəxʷ (Tsawwassen First Nation) include expanding wastewater treatment plant capacity and the ongoing evaluation of wastewater treatment processes; exploring the integration of green infrastructure; exploring nature-based solutions such as composting facilities to recover wastewater resources; and advancing other resilience and adaptation strategies. | The updated LWMP also aims to enhance wastewater treatment, expand the use of green infrastructure, and advance resource recovery. Actions that support this include: 13.3, 14.1, 10.5, 11.4, 15.2, 15.3, 15.4, 16.1, 16.2, 16.3, 16.4, 17.1 |
| 66 | Summary of Feedback-LWC Special Meeting-10-30-2024 | səlilwətaɫ (Tsleil-Waututh Nation) | Oct 30, 2024 | <i>Water quality impacts on Burrard Inlet</i> When the Burrard Inlet was healthy and abundant, səlilwətaɫ (Tsleil-Waututh Nation) derived 90 per cent of their diet from marine resources. The shoreline has now been hardened, urbanized, or industrialized. More than half of the intertidal areas of the Burrard Inlet have been lost due to development. Streams around the Burrard Inlet have been lost by being put underground, piped, or filled. As a result of these changes, səlilwətaɫ (Tsleil-Waututh Nation) is unable to fully practice their rights and their way of life. | Metro Vancouver recognizes the deep and ongoing connection that səlilwətaɫ (Tsleil-Waututh Nation) holds with the Burrard Inlet. We acknowledge the significant and lasting impacts that both historical and ongoing development have had on your community's ability to exercise rights, sustain cultural practices, and live in accordance with traditional ways of life. The loss of marine and intertidal habitats and alterations to natural waterways have all affected səlilwətaɫ people. As a local government, we are committed to listening, learning, and working in partnership with səlilwətaɫ to advance shared priorities. We aim to support your role in stewarding these lands and waters. This is part of our ongoing commitment to reconciliation and relationship-building founded on trust, mutual respect, and long-term collaboration. |

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| 67 | Summary of Feedback-LWC Special Meeting-10-30-2024 | səlilwətał (Tsleil-Waututh Nation) | Oct 30, 2024 | <i>Water quality impacts on Burrard Inlet</i> Urban runoff is one of the largest conveyors of contaminants into aquatic systems and waterways. Urban runoff is the least understood, and inadequately monitored and managed. | Integrated Watershed Management Plans (IWMPs) and the Stormwater Monitoring and Adaptive Management Framework (AMF) serve as key tools for monitoring and assessing the health of our watersheds. Recognizing their importance, through the updated LWMP, the revamped Stormwater Interagency Liaison Group will undertake a review of both the IWMP template and the AMF as a core part of its mandate, ensuring these frameworks effectively support watershed health goals. Metro Vancouver and members will work with First Nations to update the IWMP template and AMF, as well as on the development and implementation of IWMPs. |
| 68 | Summary of Feedback-LWC Special Meeting-10-30-2024 | səlilwətał (Tsleil-Waututh Nation) | Oct 30, 2024 | <i>Water quality impacts on Burrard Inlet</i> Data systems and water quality monitoring have not been coordinated to date. | <p>Metro Vancouver effluent monitoring data has always been publicly available through its website, as well as through monthly uploads into the provincial environmental management system database. Over the past two years, Metro Vancouver has also been working with the BC Ministry of Environment and Parks to properly set up an electronic system into which receiving environment monitoring data will be uploaded for regulatory and public access. This is an extremely resource intensive process and we expect it to evolve in the future years, as available resources allow.</p> <p>We can keep səlilwətał (Tsleil-Waututh Nation) in the loop as this work progresses over the coming years.</p> <p>Metro Vancouver monthly effluent monitoring reports are available on its website: metrovancover.org/services/liquid-waste/waste/wastewater-treatment-plants-and-processes</p> <p>All Metro Vancouver CSO monitoring data is publicly available on the Metro Vancouver website. The last five years of monitoring data are published in Environmental Management & Quality Control Annual Reports at: metrovancover.org/services/liquid-waste/reports-and-resources</p> <p>Following sanitary sewer overflows, environmental monitoring reports are provided to environmental regulators and the health authorities, including the First Nations Health Authority. In addition, all CSOs and SSOs are publicly reported in real time on the Metro Vancouver website at: metrovancover.org/services/liquid-waste/real-time-sewer-overflow-map</p> |

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| | | | | | Please also note that summaries and interpretations of Metro Vancouver receiving environment and ambient monitoring reports for each of the regional receiving water bodies are made accessible to the public online: metrovanancouver.org/services/liquid-waste/reports-and-resources |
| 69 | Summary of Feedback-LWC Special Meeting-10-30-2024 | səlilwətaʔ (Tsleil-Waututh Nation) | Oct 30, 2024 | <p><i>Indigenous rights and water quality</i></p> <p>The impacts on the Burrard Inlet exceed what is allowable under səlilwətaʔ (Tsleil-Waututh Nation) law and infringe on səlilwətaʔ's (Tsleil-Waututh Nation) constitutionally protected Aboriginal rights under Canadian Law.</p> <p>The BIWQOs are intended to protect səlilwətaʔ (Tsleil-Waututh Nation) values, which include shellfish and finfish consumption by humans, protecting aquatic life and wildlife, and protecting cultural practices, recreational, and institutional uses.</p> | Metro Vancouver respectfully acknowledges səlilwətaʔ (Tsleil-Waututh Nation) comments regarding the Burrard Inlet. We recognize that the Burrard Inlet holds deep cultural and spiritual significance for səlilwətaʔ, and that the protection of water quality is not only a matter of environmental concern, but it is also essential to upholding səlilwətaʔ ways of life. We take these concerns seriously, and we are committed to engaging in dialogue and shared efforts to protect the health of the Burrard Inlet in a way that aligns with səlilwətaʔ values and priorities. As part of this commitment, Metro Vancouver's environmental monitoring programs for the Burrard Inlet are designed to assess the impacts of our liquid waste discharges, including evaluation of progress toward meeting the Burrard Inlet Water Quality Objectives. |
| 70 | Summary of Feedback-LWC Special Meeting-10-30-2024 | səlilwətaʔ (Tsleil-Waututh Nation) | Oct 30, 2024 | <p><i>Burrard Inlet Water Quality Objectives</i></p> <p>The updated Burrard Inlet Water Quality Objectives (BIWQOs) should guide the LWMP and provide metrics for some of the actions in the LWMP.</p> | <p>Site-specific water quality objectives, such as the Burrard Inlet Water Quality Objectives (BIWQOs) for Burrard Inlet, and water quality guidelines are used as a starting point in a risk assessment process that develops effluent quality objectives, and, as such, the BIWQOs are always considered when it comes to Burrard Inlet. Metro Vancouver also evaluates attainment of the BIWQOs, as applicable, in its Burrard Inlet environmental monitoring programs.</p> <p>Metro Vancouver is using applicable water quality objectives and guidelines for all water bodies in which it conducts environmental monitoring programs, and these objectives and guidelines do represent performance indicators.</p> |
| 71 | Summary of Feedback-LWC Special Meeting-10-30-2024 | səlilwətaʔ (Tsleil-Waututh Nation) | Oct 30, 2024 | <p><i>LWMP strengths</i></p> <p>Improved consultation with səlilwətaʔ (Tsleil-Waututh Nation)</p> | Metro Vancouver very much appreciates the thoughtful articulation from səlilwətaʔ (Tsleil-Waututh Nation) of the strengths of the updated LWMP and the process behind its development. Your willingness to engage and share feedback has deepened our understanding of what meaningful engagement looks like to səlilwətaʔ |

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| | | | | | and how we can continue to improve our engagement approach moving forward. |
| 72 | Summary of Feedback-LWC Special Meeting-10-30-2024 | səlilwətał (Tsleil-Waututh Nation) | Oct 30, 2024 | <i>LWMP strengths</i> Incorporation of səlilwətał (Tsleil-Waututh Nation) feedback and knowledge | Metro Vancouver appreciates səlilwətał (Tsleil-Waututh Nation)'s thoughtful articulation of some of the strengths of the updated LWMP and the process behind its development. |
| 73 | Summary of Feedback-LWC Special Meeting-10-30-2024 | səlilwətał (Tsleil-Waututh Nation) | Oct 30, 2024 | <i>LWMP strengths</i> Overall articulation of measurable actions rather than high level strategies | Metro Vancouver appreciates səlilwətał (Tsleil-Waututh Nation)'s thoughtful articulation of some of the strengths of the updated LWMP and the process behind its development. |
| 74 | Summary of Feedback-LWC Special Meeting-10-30-2024 | səlilwətał (Tsleil-Waututh Nation) | Oct 30, 2024 | <i>LWMP strengths</i> Prioritization of actions based on their contribution to receiving environment health | Metro Vancouver appreciates səlilwətał (Tsleil-Waututh Nation)'s thoughtful articulation of some of the strengths of the updated LWMP and the process behind its development. |
| 75 | Summary of Feedback-LWC Special Meeting-10-30-2024 | səlilwətał (Tsleil-Waututh Nation) | Oct 30, 2024 | <i>səlilwətał (Tsleil-Waututh Nation) priorities for the LWMP</i> Protect səlilwətał (Tsleil-Waututh Nation) rights, values and priorities as they relate to liquid waste management | Metro Vancouver acknowledges the səlilwətał (Tsleil-Waututh Nation) comment regarding the importance to the Nation of protecting səlilwətał rights, values, and priorities in relation to liquid waste management. We recognize Section 35 rights and deeply respect the Nation's longstanding role in stewarding these lands and waters. We have learned much from the Nation and are committed to working together to ensure that the updated LWMP reflects and upholds səlilwətał values and priorities. We welcome continued dialogue to support meaningful and inclusive engagement on the implementation of the LWMP. |
| 76 | Summary of Feedback-LWC Special Meeting-10-30-2024 | səlilwətał (Tsleil-Waututh Nation) | Oct 30, 2024 | <i>səlilwətał (Tsleil-Waututh Nation) priorities for the LWMP</i> Reduce contamination in water bodies to protect human and ecological health | All the actions under these LWMP strategies focus on improving liquid waste management in the region: Strategy 1 (<i>Ensure system can serve a growing population in a changing climate</i>); 2 (<i>Improve resilience of wastewater system to climate change and natural hazards</i>); 3 (<i>Reduce flows and loadings into the system</i>); 4 (<i>Prevent pollution at the source</i>); 5 (<i>Reduce excess rainwater entering into private lateral sewers</i>); 7 (<i>Minimize impacts of sanitary sewer overflows on human health and the environment</i>); 9 (<i>Separate combined sewers to eliminate overflows</i>); 10 (<i>Manage rainwater and urban development for watershed health</i>); 11 (<i>Update and harmonize municipal tools for rainwater management</i>); 12 (<i>Enhance interagency collaboration to</i> |

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| | | | | | <p>improve watershed health across the region); 13 (<i>Treat wastewater so effluent meets or surpasses regulatory requirements</i>); 14 (<i>Operate and maintain wastewater treatment plants to meet or surpass regulatory requirements</i>) and 19 (<i>Environmental monitoring to protect public health and the environment</i>).</p> <p>Improvements in the way Metro Vancouver and its member jurisdictions manage liquid waste are expected to result in improved protection of human health and aquatic life. Metro Vancouver environmental monitoring programs will continue to measure the change in the environment resulting from these actions.</p> |
| 77 | Summary of Feedback-LWC Special Meeting-10-30-2024 | səlilwətaʔ (Tsleil-Waututh Nation) | Oct 30, 2024 | <p><i>səlilwətaʔ (Tsleil-Waututh Nation) priorities for the LWMP</i></p> <p>Include near-term action to reduce contamination entering the Inlet and its tributaries from rainwater</p> | <p>Rainwater management strategies and actions tailored to individual watersheds will be formulated during the development and update of Integrated Watershed Management Plans. The revised Stormwater Monitoring and Adaptive Management Framework will enable members to monitor the effects of these strategies and modify them as needed. First Nations will be involved in all of this work, which will contribute to the reduction of pollution in rainwater.</p> <p>LWMP actions under rainwater management strategies 10-12 support this input.</p> |
| 78 | Summary of Feedback-LWC Special Meeting-10-30-2024 | səlilwətaʔ (Tsleil-Waututh Nation) | Oct 30, 2024 | <p><i>səlilwətaʔ (Tsleil-Waututh Nation) priorities for the LWMP</i></p> <p>Ensure alignment and linkages with səlilwətaʔ (Tsleil-Waututh Nation) policies and plans (i.e. BIWQOs)</p> | <p>There is a section in the updated LWMP on “Working with First Nations” and another section on “Aligning with First Nations Initiatives” that discuss how Metro Vancouver will work with First Nations on its projects, plans, and initiatives, and the alignments with ongoing First Nations-led initiatives in the region, such as the Tsleil-Waututh Nation Burrard Inlet Action Plan and Lower Fraser River Estuary Management Partnership.</p> |
| 79 | Summary of Feedback-LWC Special Meeting-10-30-2024 | səlilwətaʔ (Tsleil-Waututh Nation) | Oct 30, 2024 | <p><i>səlilwətaʔ (Tsleil-Waututh Nation) priorities for the LWMP</i></p> <p>Incorporate strong metrics and indicators</p> | <p>All actions in the LWMP are tracked in an annual action status table that is shared with the Province. In cases where an LWMP timeline is not met or an LWMP action has not changed for a long period of time from ‘Not Started’ or ‘In Progress,’ Metro Vancouver and member jurisdictions will be prepared to provide explanation, rationale, evidence of works in progress, or reasons for delays to the Province as necessary.</p> <p>Strategies were reviewed by subject matter experts from Metro Vancouver and municipalities and performance indicators were added for instances where we could quantitatively measure progress of a</p> |

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| | | | | | <p>specific strategy. We will also develop more detailed indicators when we create the planned online dashboards for inflow and infiltration, and rainwater management. We will work with both First Nations and member jurisdictions on the development of these dashboards and indicators.</p> <p>In addition, three new performance indicators have been added to the LWMP based on First Nations feedback, in order to track progress on First Nations involvement in LWMP actions.</p> |
| 80 | Summary of Feedback-LWC Special Meeting-10-30-2024 | səlilwətał (Tsleil-Waututh Nation) | Oct 30, 2024 | <p><i>səlilwətał (Tsleil-Waututh Nation) priorities for the LWMP</i></p> <p>Allow for information sharing through public reports and dashboards that are real-time, accessible, understandable, and usable</p> | <p>The reporting structure for the LWMP has been modified to make the data and information more accessible and transparent. We will be replacing the previous LWMP Biennial Report, which runs hundreds of pages with online dashboards and a simplified reporting system. Metro Vancouver monthly effluent monitoring reports are available on our website: http://metrovancover.org/services/liquid-waste/wastewater-treatment-plants-and-processes</p> <p>All Metro Vancouver combined sewer overflow monitoring data is publicly available at the our website. The last five years of monitoring data are published in Environmental Management & Quality Control Annual Reports at: http://metrovancover.org/services/liquid-waste/reports-and-resources</p> <p>Following sanitary sewer overflows, environmental monitoring reports are provided to environmental regulators and the health authorities, including the First Nations Health Authority. In addition, all combined and sanitary sewer overflows are publicly reported in real time on our website at: http://metrovancover.org/services/liquid-waste/real-time-sewer-overflow-map</p> <p>Please also note that summaries and interpretations of Metro Vancouver receiving environment and ambient monitoring reports for each of the regional receiving water bodies are made accessible to the public at the Metro Vancouver web site at: http://metrovancover.org/services/liquid-waste/reports-and-resources</p> |
| 81 | Summary of Feedback-LWC Special Meeting-10-30-2024 | səlilwətał (Tsleil-Waututh Nation) | Oct 30, 2024 | <p><i>Governance/seal at the decision-making table</i></p> <p>Move to co-decision making and collaboration with səlilwətał (Tsleil-</p> | <p>Metro Vancouver recognizes that BC's <i>Declaration Act</i> Action Plan item 1.11 identifies First Nations participation on regional district boards as an item that will be advanced by the Ministry of Housing and Municipal Affairs. The Province is actively working to advance this initiative, and Metro Vancouver looks forward to receiving further</p> |

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| | | | | Waututh Nation) rather than involvement | <p>direction and information regarding the legislative changes to the Local Government Act that are required to support this action. The Province anticipates this legislative change being a few years away.</p> <p>In the meantime, Metro Vancouver proposes to expand First Nations influence in the following areas, which First Nations have expressed interest in, and where opportunities for greater collaboration exist within the scope of the LWMP:</p> <ul style="list-style-type: none"> - Rainwater management/watershed health (actions 10.1, 10.2, 12.1, 12.4) - Collaborative regional environmental management initiatives (action 20.1) - LWMP implementation and progress assessment (action 20.5) |
| 82 | Summary of Feedback-LWC Special Meeting-10-30-2024 | səlilwətał (Tsleil-Waututh Nation) | Oct 30, 2024 | <p><i>Governance/seal at the decision-making table</i></p> <p>Governance role for səlilwətał (Tsleil-Waututh Nation) (i.e. with Integrated Watershed Management Plans, Stormwater Interagency Liaison Group, Environmental Management Committee)</p> | <p>The updated LWMP commits member jurisdictions to work with First Nations on Integrated Watershed Management Plans. Metro Vancouver will include First Nations membership in the LWMP's updated Stormwater Interagency Liaison Group with member jurisdictions, to facilitate efficient and effective information sharing and collaboration on regional watershed management.</p> <p>The updated LWMP also establishes two new forums for First Nations, Metro Vancouver, member jurisdictions, and others to work together on rainwater management and to monitor, assess, and provide input on the progress of the LWMP's implementation. These are forums within the scope of the LWMP. More work can be done over time to expand First Nations involvement in other regional forums.</p> <p>It should be noted that these are advisory groups, not governance or decision-making groups.</p> <p>Ultimately, decisions on policy direction and funding are made by the Liquid Waste Committee and the Greater Vancouver Sewerage and Drainage District Board, and by the municipalities themselves when issues fall under their respective jurisdictions. These decisions may be informed by work done by the groups and forums mentioned above.</p> <p>Actions that incorporate this feedback: 10.1, 10.2, 12.1, 12.4, 20.5</p> |

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| 83 | Summary of Feedback-LWC Special Meeting-10-30-2024 | səlilwətał (Tsleil-Waututh Nation) | Oct 30, 2024 | <i>Governance/seal at the decision-making table</i> Working with First Nations to revise existing Integrated Watershed Management Plan template and Adaptive Management Framework | Agreed upon. Integrated Watershed Management Plans (IWMPs) and the Stormwater Monitoring and Adaptive Management Framework (AMF) serve as key tools for monitoring and assessing the health of our watersheds. Recognizing their importance, Metro Vancouver and members will work with First Nations to review and revise these documents. Actions 10.1, 10.2, and 12.1 incorporates this feedback. |
| 84 | Summary of Feedback-LWC Special Meeting-10-30-2024 | səlilwətał (Tsleil-Waututh Nation) | Oct 30, 2024 | <i>Governance/seal at the decision-making table</i> Coordinated monitoring across the region in collaboration with səlilwətał (Tsleil-Waututh Nation) | Metro Vancouver is open to participating in any relevant environmental monitoring programs in collaboration with səlilwətał (Tsleil-Waututh Nation), other First Nations, and other interested parties. |
| 85 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | Why is the draft labelled as "Interim"? Purpose of interim lable is not clarified within the document at present. | This was a naming convention that was adopted for the Liquid Waste Commit ee. It was meant to indicate "an initial draft updated LWMP." We understand that in the case of the true definition of interim, this is actually a misnomer. |
| 86 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | Metro Vancouver has previously identified reconciliation with local First Nations as a Strategic Priority, including to "continue building and strengthening respectful and reciprocal relationships with local First Nations. Metro Vancouver will also continue to engage meaningfully with First Nations on plans, programs, and projects.". To show the action behind Metro Vancouver's territorial acknowledgement, could Metro Vancouver's specific commitments to reconciliation be highlighted within the preamble of the plan? | Metro Vancouver affirms its commitment to reconciliation, as outlined in the Board Strategic Plan. This commitment is embedded in the Liquid Waste Management Plan (LWMP), particularly through its goal to reflect First Nations' priorities. Goal #5 of the LWMP articulates this intent: to reflect the rights, values, and priorities of First Nations, and to honour Indigenous science and Indigenous knowledge. It also emphasizes collaborative action on areas of shared importance, with the aim of improving environmental and public health outcomes for all. |
| 87 | Feedback on the draft LWMP Sept 2024 version: | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | Provincial LWMP mandate is not just intended to manage collection and treatment of wastewater, but management of wastewater as a whole, | Unless directed by the Province, the LMWP is not required to address all wastewater aspects. LWMPs are primarily focused on wastewater systems. For example, cruise ship and pleasure craft discharges, septic systems, etc. are not normally required by the Province to be part of a |

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| | Orbit# 70940930 | | | from sources to receiving waters for all effluent, and including overflows and rainwater management. This section should be updated to more clearly align with this broader scope of LWMPs. | regional LWMP, particularly when the issue is outside of regional jurisdiction. Past LWMPs have occasionally expanded scope to other areas when directed by the Province, but only when the region has some jurisdiction or influence. Revisions made: Based on səilwətał (Tsleil-Waututh Nation) input on adding reference to rainwater management, the following sentence has been revised: "Metro Vancouver, as the Greater Vancouver Sewerage and Drainage District (GVS&DD), and its member jurisdictions work together closely to plan and manage wastewater collection and treatment, <u>as well as rainwater management</u> , across the region." to better outline Metro Vancouver and members scope of jurisdiction under the LWMP. |
| 88 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | Rainwater management is not mentioned in the introduction but needs to be a key objective of LWMPs. Focus on rainwater management is very important to Tsleil-Waututh as a significant source of pollution and a limiting factor to traditional resource harvesting and ecosystem health in the Burrard Inlet. | Revised. Based on səilwətał (Tsleil-Waututh Nation) input, the introduction has been revised to reference rainwater management. |
| 89 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>2nd paragraph</i> Provide a stronger commitment than "involve", e.g. "collaborate with." | Revised. Based on səilwətał (Tsleil-Waututh Nation) input, this sentence has been revised to: "It outlines Metro Vancouver's commitment to <u>collaborate with</u> First Nations on wastewater and rainwater management, and includes new actions developed through engagement with First Nations." |
| 90 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>List of standards</i> Mention any requirements regarding water quality? | Metro Vancouver is committed to meeting all applicable provincial and federal legislative and regulatory requirements and site specific authorizations. |
| 91 | Feedback on the draft LWMP Sept 2024 version: | səilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>10.2 in box</i> Change "involve" to "collaborate with." | Revised. Based on səilwətał (Tsleil-Waututh Nation) input, this sentence has been revised to: " <u>Collaborate with</u> First Nations on watershed planning." |

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| 92 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | Again, change "involve" to "collaborate with." | <p>Not revised. The updated LWMP commits members and Metro Vancouver to collaborate with First Nations on watershed planning, with the aim to do the following:</p> <ol style="list-style-type: none"> 1. Work directly with First Nations to ensure that First Nations concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how your input influenced the decision. 2. We will look to First Nations for advice and innovation in formulating solutions and strive to incorporate your advice and recommendations into the decision. <p>Ultimately, however, final decisions on policy direction and capital funding will be made by the Metro Vancouver Board and member jurisdiction councils, unless or until changes are made to the current governance structure through work being done by the Province to consider changes to the <i>Local Government Act</i>.</p> <p>In the interest of honestly reflecting the current level of First Nations involvement across all regional liquid waste management actions, this sentence has not been revised and remains the same: "The plan also seeks to honour Metro Vancouver's commitment to reconciliation with Indigenous Peoples by actively involving First Nations in regional liquid waste management." This is because the LWMP is a regulatory instrument and Metro Vancouver and its member jurisdictions are directly responsible to the Province for developing, implementing, funding, and managing all of the actions across the LWMP.</p> <p>Metro Vancouver and its members are accountable for LWMP content and must respond to any ministerial conditions presented, and thus remain the parties ultimately responsible for the LWMP's implementation.</p> |
| 93 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | #1 goal of LWMPs is to protect human health and the environment. Also to consult public about wastewater management. Other goals are additional to that goal and should not be placed at the same level. | The overarching aim of the LWMP is to protect human health and the environment and this is captured in the vision "Healthy Waters. For All. Forever." This is the paramount objective of the LWMP, which is introduced in the first paragraph of the Goals section. The plan's goals are intended to support the attainment of this overarching objective |

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| | | | | Furthermore, many of the other goals are best achieved by the first goal. | to protect human health and the environment, within the specific scope of the LWMP. |
| 94 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | Alongside inclusion of an explicit goal to "Reflect First Nation's Priorities", it is important to explicitly summarize First Nations' priorities with respect to liquid waste management? Examples include the values and goals articulated in the Burrard Inlet Water Quality Objectives and the Burrard Inlet Action Plan. For example, recovering ability to harvest shellfish and finfish is not explicitly mentioned at present, but are crucial priorities for Tsleil-Waututh Nation. | Revised. Based on səlilwətał (Tsleil-Waututh Nation) input, a new 'Aligning with First Nations' Initiatives' section has been added, which includes examples of First Nations-led initiatives, including the Burrard Inlet Action Plan. In addition, the Burrard Inlet Water Quality Objectives call-out box provided by səlilwətał (Tsleil-Waututh Nation) included in the Strategy 20 <i>Collaborate on regional environmental management initiatives</i> section, highlights the Burrard Inlet Water Quality Objectives and its related First Nations priorities, which includes the priority of human consumption of shellfish and finfish, among others. |
| 95 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Reflect First Nations' priorities</i> This plan aspires to reflect First Nations' rights, values and priorities, and respect Indigenous science, Indigenous knowledge and the rights of Indigenous Peoples while collaborating on... | Revised. Based on səlilwətał (Tsleil-Waututh Nation) input, this goal has been revised to "This plan aspires to reflect First Nations' rights, values, and priorities, and to respect Indigenous science, Indigenous knowledge and the rights of Indigenous peoples while collaborating on areas of shared significance to improve environmental and public health outcomes for all." |
| 96 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Paragraph</i> ...and Indigenous ways of life that... | Revised. Based on səlilwətał (Tsleil-Waututh Nation) input, this edit has been made to the LWMP. |
| 97 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Figure</i> The intent of this figure is great, but it takes a while to understand it, particularly the arrows. If this is the best design to get the point across, then maybe add some description in the caption to improve comprehension. | Revised. The graphic has been updated to more simply and clearly show the interconnectedness of the LWMP's five goals. |
| 98 | Feedback on the draft LWMP Sept | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | There is no clear strategy listed in the table that focuses on minimizing impacts of stormwater discharges on | Revised. Based on səlilwətał (Tsleil-Waututh Nation) input, Strategy 10 "Manage rainwater and urban development for watershed health" |

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| | 2024 version: Orbit# 70940930 | | | human health and environment, despite its significant impacts. Furthermore, none of the strategies under "Rainwater Management" are highlighted as connected to the goal of "Prevent Pollution" despite the significance of stormwater as a pollution source. This erroneously perpetuates historic thinking of stormwater as clean. | has been updated to note that the strategy also supports the "Prevent Pollution" goal. |
| 99 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətaʔ (Tsleil-Waututh Nation) | Nov 5, 2024 | Compared to the 2011 ILWRMP, the current LWMP update has been organized. | Thank you. Metro Vancouver sought to organize the new LWMP along strategic themes. |
| 100 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətaʔ (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Table ('reflect' column)</i> All strategies should reflect First Nations' priorities, e.g. we have provided input into all aspects of the plan, and have signed policy that must be respected by the plan and WWTP operations. And there would be no justification for decisions to not reflect First Nations' priorities. | Revised. Metro Vancouver recognizes that all the goals, strategies, and actions in the LWMP reflect First Nations priorities, as they aim to protect human health and improve environmental outcomes. The intention with the icons was to show which strategies directly included First Nations in a new action or specifically reflected First Nations feedback. Based on səlilwətaʔ (Tsleil-Waututh Nation) input, the table now shows that all strategies support all the goals, with particular strategies highlighted to indicate the heightened involvement of First Nations in specific actions in that strategy. |
| 101 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətaʔ (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Table, Strategy 7</i> Any strategy reducing pollution into the receiving environment is also helping to restore it. | Revised. Based on səlilwətaʔ (Tsleil-Waututh Nation) input, the table has been revised to show that all strategies support all the goals, to a greater or lesser extent. |
| 102 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətaʔ (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>History</i> History should start with acknowledgement of First Nations' histories and stewardship in the region. | Not revised. This section is limited to only the recent history of LWMPs and Metro Vancouver's provision of regional liquid waste services. It is not intended to be an exhaustive history, only what is within Metro Vancouver's scope of jurisdiction. |

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| 103 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | While this timeline is informative, it is focused almost entirely on infrastructure improvements and high level policy changes. It is missing key dates regarding cumulative effects of wastewater discharges to human health and the environment and work that has been undertaken to better understand and manage these effects. Examples include the full closure of Burrard Inlet to shellfish harvesting in 1972 due to (fecal) contamination), creation of WQOs in 1990s, dates for initiation of WWTP discharge and ambient monitoring programs, start of beach monitoring program and beach closures, dates for initiation of real-time overflow monitoring and alerts, and publication of new BIWQOs between 2021-2025. | Not revised. We appreciate the observation by səlilwətał (Tsleil-Waututh Nation) regarding the timeline's focus on infrastructure and policy milestones, and we acknowledge that key dates related to the broader environmental and human health impacts of wastewater discharges are important. The graphic was designed to provide a high-level overview of Metro Vancouver's liquid waste service provision and planning history. While the dates you have identified fall outside the direct scope of the Liquid Waste Management Plan (LWMP), we recognize their importance in reflecting the broader context of environmental stewardship and regional water quality efforts. We welcome opportunities to explore how these significant events could be shared in other formats and outside the scope of the LWMP, that would support a more comprehensive understanding of historical impacts and ongoing improvements. |
| 104 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | Also, the timeline does not acknowledge presence of and stewardship by First Nations since time immemorial, and prior to colonial settlement. | Not revised. This graphic is intended to show only Metro Vancouver's recent history of providing regional liquid waste services, that is within Metro Vancouver's scope of jurisdiction. |
| 105 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | Again, need to acknowledge First Nations' long histories and ongoing water stewardship initiatives in the region as an overarching element of any timeline. For example wording, see http://twnation.ca/stormwater/ | Not revised. This graphic is intended to show only Metro Vancouver's recent history of providing regional liquid waste services, that is within Metro Vancouver's scope of jurisdiction. |
| 106 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | Would be worth mentioning here that First Nations have been stewards of the land, water, and air of what is now known as Metro Vancouver since time out of mind. | Revised. Based on səlilwətał (Tsleil-Waututh Nation) input, the following has been added to the LWMP in the "Working Collaboratively with First Nations" section and in the "Alignment and Linkages" section: "Metro Vancouver recognizes First Nations have an important role in stewardship of the region's land, water, and air." |

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| 107 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | Tsleil-Waututh should review and comment if this section adequately represents Tsleil-Waututh's perspectives. This section does not explicitly recognize First Nations' rights. | Some revisions made. Based on səlilwətał (Tsleil-Waututh Nation) input, Metro Vancouver has made some edits to more explicitly mention First Nations rights in the context of the LWMP. |
| 108 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>1st bullet</i> ...First Nations communities, health, lands, waters, and ways of life. | Revised. Based on səlilwətał (Tsleil-Waututh Nation) input, wording has been revised as requested." . . . on First Nations communities, health and lands, waters, and ways of life." |
| 109 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>4th bullet</i> Co-decision-making / collaboration rather than "involvement." | <p>Not revised. The updated LWMP commits members and Metro Vancouver to collaborate with First Nations on watershed planning, with the aim to do the following:</p> <ol style="list-style-type: none"> 1. Work directly with First Nations to ensure that First Nations concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how your input influenced the decision. 2. We will look to First Nations for advice and innovation in formulating solutions and strive to incorporate your advice and recommendations into the decision. <p>Ultimately, however, final decisions on policy direction and capital funding will be made by the Metro Vancouver Board and member jurisdiction councils, unless or until changes are made to the current governance structure through work being done by the Province to consider changes to the <i>Local Government Act</i>.</p> <p>In the interest of honestly reflecting the current level of First Nations involvement across all regional liquid waste management actions, this sentence has not been revised and remains the same: "Seeks to incorporate Indigenous knowledge and actively involve First Nations in regional liquid waste management." This is because the LWMP is a regulatory instrument and Metro Vancouver and its member jurisdictions are directly responsible to the Province for developing, implementing, funding, and managing all of the actions across the LWMP. Metro Vancouver and its members are accountable for LWMP content and must respond to any ministerial conditions presented,</p> |

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| | | | | | and thus remain the parties ultimately responsible for the LWMP's implementation. |
| 110 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | Suggestion to use First Nations rather than Indigenous Peoples. | Revised. Based on səlilwətał (Tsleil-Waututh Nation) input, 'First Nations' has been substituted for 'Indigenous peoples' in the LWMP. |
| 111 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | Clarify in this section that the Province is responsible for approval of the LWMP. Although this is implicit, it is not specifically stated. Furthermore, it is also possible, that if the proposed LWMP is deemed to be inadequate in some areas, the Province can develop and place additional conditions on the region that become part of the approved LWMP. | Revised. Based on səlilwətał (Tsleil-Waututh Nation) input, sentence has been changed to "Once each LWMP update is approved <u>by the Province</u> , it becomes part of local liquid waste regulation through the <i>Environmental Management Act</i> ." It is also true that the Province can place additional conditions on the region that become part of the LWMP if it is deemed to be inadequate in some areas. While this is not included explicitly in this section, this is the case. |
| 112 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | This section does not provide a complete governance picture for wastewater regulation in Canada and BC, including the full roles of the federal and provincial government role over wastewater. Inclusion of a more fulsome Regulatory Framework for Wastewater section in the LWMP would be helpful. | Not revised. This section only refers to the provincial regulatory system, and only explains how the LWMP fits into the provincial regulatory framework. The federal regulatory system exists outside of the scope of the LWMP. This sentence has been added to make this more clear: "The list of roles and responsibilities shown is not comprehensive but rather, are those that have links to the LWMP." |
| 113 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | This section should acknowledge a governance role for First Nations. | Not revised. This section includes First Nations as having interests and rights affected by the plan. However, creating new governance structures in regional liquid waste management lies outside the scope of the LWMP. Metro Vancouver recognizes that BC's <i>Declaration Act</i> Action Plan item 1.11 identifies First Nations participation on regional district boards as an item that will be advanced by the Ministry of Housing and Municipal Affairs. The Province is actively working to advance this initiative, and Metro Vancouver looks forward to receiving further direction and information regarding the legislative changes to the Local Government Act that are required to support this action. The Province anticipates this legislative change being a few |

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| | | | | | <p>years away.</p> <p>In the meantime, Metro Vancouver proposes to expand First Nations influence in the following areas, which First Nations have expressed interest in, and where opportunities for greater collaboration exist within the scope of the LWMP:</p> <ul style="list-style-type: none"> - Rainwater management/watershed health (actions 10.1, 10.2, 12.1, 12.4) - Collaborative regional environmental management initiatives (action 20.1) - LWMP implementation and progress assessment (action 20.5) |
| 114 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | Need to recognize First Nations governance in this section, not just in previous section. | <p>Not revised. This section includes First Nations as a key group with interests and rights affected by the plan. However, creating new governance structures in regional liquid waste management lies outside the scope of the LWMP. Metro Vancouver recognizes that BC's <i>Declaration Act</i> Action Plan item 1.11 identifies First Nations participation on regional district boards as an item that will be advanced by the Ministry of Housing and Municipal Affairs. The Province is actively working to advance this initiative, and Metro Vancouver looks forward to receiving further direction and information regarding the legislative changes to the Local Government Act that are required to support this action. The Province anticipates this legislative change being a few years away.</p> <p>In the meantime, Metro Vancouver proposes to expand First Nations influence in the following areas, which First Nations have expressed interest in, and where opportunities for greater collaboration exist within the scope of the LWMP:</p> <ul style="list-style-type: none"> - Rainwater management/watershed health (actions 10.1, 10.2, 12.1, 12.4) - Collaborative regional environmental management initiatives (action 20.1) - LWMP implementation and progress assessment (action 20.5) |
| 115 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <p><i>1st paragraph</i></p> <p>Amendments should require consultation / collaboration with First Nations.</p> | Some revisions made. This sentence has been changed to "There will also be opportunities to make mid-plan amendments more frequently, following engagement with First Nations and the public, which allows for a more adaptable plan." This commits Metro Vancouver to engage with First Nations on all LWMP amendments. This would also be a requirement of the Province. |

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| 116 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>2nd paragraph</i> Local governments..., as well as on First Nations' priorities. | Revised. Based on səlilwətał (Tsleil-Waututh Nation) input, this sentence has been revised to: "The Province also encourages local governments to use LWMPs to show innovation and leadership on additional provincial objectives: water conservation, drinking water source protection, resources from waste, energy conservation, climate change adaptation and mitigation, sustainable financing and asset management, <u>as well as First Nations' priorities.</u> " |
| 117 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | In general, this section is a high level summary of roles and responsibilities but misses key details, such as the role of the federal vs. provincial government in wastewater regulation, federal and provincial Duty to Consult, etc. It also suggests a very siloed approach to wastewater management without more detail. For example, the roles of higher levels of government in regulation create many of the responsibilities that lower levels of government have, but that is not entirely clear in the way this section is written. This could be solved by adding a section to the LWMP that more clearly describes the existing Regulatory Framework for wastewater. This is also not fully addressed in the Governance section, which primarily focusses on governance for LWMPs, but not wastewater as a whole. | Some revisions made. This section is intended as a very high level overview of liquid waste regulations, from the perspective of Metro Vancouver, not an exhaustive one. Based on səlilwətał (Tsleil-Waututh Nation) input, this sentence has been added to at empty to clarify this: "The list of roles and responsibilities shown is not comprehensive but rather are those that have links to the LWMP." |
| 118 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | This section does not currently acknowledge legal Duty to Consult of any levels of government or commitments under UNDRIP or DRIPA. First Nations section could acknowledge role of First Nations to uphold their own laws and as keepers of Indigenous knowledge. | Not revised. Thank you for highlighting the importance of acknowledging the legal Duty to Consult and commitments under UNDRIP and DRIPA. Metro Vancouver recognizes the critical role of First Nations as keepers of Indigenous knowledge. While the legal Duty to Consult as defined in Canadian law applies to the Crown, primarily the federal and provincial governments, Metro Vancouver as a local government remains committed to meaningful engagement with First Nations. We also abide by relevant provincial laws. We value collaborative relationships and welcome dialogue to ensure that First Nations priorities and interests are respectfully considered and reflected in our planning processes, including the LWMP. |

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| 119 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>First Nations</i> Presenting First Nations within a seemingly hierarchical list of roles and responsibilities is problematic. Want to avoid minimizing First Nations' rights and authority in the area, while also not assigning responsibilities on First Nations' behalf. | Revised. Based on səlilwətał (Tsleil-Waututh Nation) input, this section has been reorganized to at empt to avoid implying a hierarchy. |
| 120 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>General</i> Suggest using a graphic here as opposed to this hierarchal depiction of roles and responsibilities. | This section has been reorganized to at empt to avoid implying a hierarchy. |
| 121 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>First Nations</i> ...to achieve environmental, cultural, spiritual, health, economic and other goals for their communities, and to restore their ways of life. [It is not only the health of marine life that is at stake, but the health of all life, human and non-human relatives]. | Revised. Based on səlilwətał (Tsleil-Waututh Nation) input, wording has been revised to: " . . . to achieve environmental, cultural, spiritual, <u>health</u> , economic <u>and other</u> goals for their communities, <u>and to restore their ways of life.</u> " |
| 122 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | Map is too small and difficult to read labels and legend. | Revised. Map has been made bigger. |
| 123 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | Map caption should clarify that the coloured areas are different sewerage areas that are connected to the different WWTPs in the region. | Revised. Based on səlilwətał (Tsleil-Waututh Nation) input, clarifying caption has been added. |

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| 124 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | This section does not do a great job of distinguishing between regulations/requirements that the region is required to follow and initiatives that provide guidelines or general direction only. Again, this could be solved by addition of section that clearly outlines the Regulatory Framework for Wastewater in BC. | This section only provides some context and an overview of the provincial regulatory system to explain how the LWMP fits into the provincial regulatory framework. The federal regulatory system and other environmental initiatives, guidelines and policies exist outside of the scope of the LWMP. |
| 125 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | Add alignment and linkages with TWN (and other First Nations') policies, plans and initiatives, e.g. Burrard Inlet Action Plan and others [We had requested this among our previous comments]. | Revised. Based on səlilwətał (Tsleil-Waututh Nation) input, a new 'Aligning with First Nations' Initiatives' section has been added, which includes examples of First Nations-led initiatives, including the Burrard Inlet Action Plan. |
| 126 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Aligning with Provincial Initiatives</i> Add water quality policies to this list. | Not revised, however, the Burrard Inlet Water Quality Objectives call-out box provided by səlilwətał (Tsleil-Waututh Nation) included in the Strategy 20 <i>Collaborate on regional environmental management initiatives section</i> , highlights the Burrard Inlet Water Quality Objectives and its related First Nations priorities. |
| 127 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | No previous or existing initiatives related to receiving environment health are currently highlighted. Opportunity in this section to highlight linkage of LWMP to Burrard Inlet Action Plan, Burrard Inlet Water Quality Objectives, and other local Indigenous-led initiatives. Could be in a section entitled "Aligning with First Nations Initiatives". This would also further highlight what First Nations priorities are and in what documents they have been previously summarized. | Revised. Based on səlilwətał (Tsleil-Waututh Nation) input, a new 'Aligning with First Nations' Initiatives' section has been added, which includes examples of First Nations-led initiatives, including the Burrard Inlet Action Plan. In addition, the Burrard Inlet Water Quality Objectives call-out box provided by səlilwətał (Tsleil-Waututh Nation) included in the Strategy 20 <i>Collaborate on regional environmental management initiatives section</i> , highlights the Burrard Inlet Water Quality Objectives and its related First Nations priorities. |
| 128 | Feedback on the draft LWMP Sept 2024 version: | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | Metro Vancouver is currently developing a Salmon Enhancement Action Plan with input from First | The LWMP is a long-term, wide-reaching, and somewhat high-level regulatory management plan with the primary objective to protect human health and the environment. For this reason, our perspective is that all the actions in the LWMP that seek to protect human health |

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| | Orbit# 70940930 | | | Nations and this should be included as a linked regional plan. | and the environment, also work towards the protection of salmon since salmon is one of many species that live in the same environment the LWMP seeks to protect through its strategies and actions. |
| 129 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>System Resilience</i> Action 1.1: Is the 100-year replacement cycle a target for existing as well as future sewerage infrastructure (e.g., through rehab etc.), or just future infrastructure? | This is a retained action from a previous LWMP. It applies to existing and future infrastructure (although at this date we now have some trunk sewers that are over 100 years old). Nevertheless, "target a 100 year replacement cycle" is still accurate wording for this action. |
| 130 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>System Resilience</i> Action 1.2: The National Standards in the CWS-MMWE requires that there is no increase in sanitary sewer overflow frequency due to development or redevelopment. What is the current capacity and will the stated capacity achieve this standard? | Adherence to this requirement will in many cases require reductions in inflow and infiltration flows in order to prevent increases in sanitary sewer overflows that would otherwise be caused by development/redevelopment. Several actions in the updated LWMP are driven by this CWS-MMWE requirement including Actions: 5.1, 5.2, 5.3, 5.4, 5.5, 6.1, 6.4, 7.3,7.5. |
| 131 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>System Resilience</i> Action 1.2: Will this withstand the 100-year storms that are becoming more frequent? | Any storms in excess of five-year return periods can cause inflow and infiltration rates in sanitary sewer systems above the 11,200 L/ha/day allowance. However, the future five- year storm may at some point be roughly equivalent to today's 25 year storms. Metro Vancouver and members will need to continue to advance progress on inflow and infiltration reductions to stay in compliance with this standard, as what is currently rated as a "five-year storm" will get more and more intense. That said, it is also important to note that the ultimate <i>Municipal Wastewater Regulation</i> goal is to eliminate sanitary sewer overflows for all storms (including 100-year events) which can be done by disconnecting all stormwater inflows to sanitary systems, which will insulate the sanitary system from precipitation events. |
| 132 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>System Resilience</i> Strategy 1 New Action: There have been some sewer breaks in recent years which have resulted in raw sewage discharges to environmentally sensitive areas. Is there any way for Metro | Risk to the environment is one of the factors considered when upgrade projects are evaluated for inclusion into the capital plan, along with public protection, feasibility, and affordability. |

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| | | | | Vancouver to prioritize upgrades based on their risk to the environment in the event of a breakage? | |
| 133 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>System Resilience</i> Strategy 1 Performance Indicators: Suggest additional indicator to track and report out on number of sewer line breaks annually, volume of sewage spilled, and impacts. | The volume of sewage spilled will be tracked under Strategy 7, Performance Indicator 7A. The Province requires impacts to be provided with spill reporting. Pipe breaks are recorded by Metro Vancouver and members as part of asset management plans (Action 1.1b). |
| 134 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>System Resilience</i> Action 1.3 b ...engaged according to First Nations' own requirements. | Not revised. The wording is intended to allow for unique engagement approaches as requested by individual First Nations. Metro Vancouver and members will continue to ensure that First Nations are engaged appropriately. |
| 135 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>System Resilience</i> Also need indicator of % of maintenance issues addressed within a certain time frame. | Outside the scope of the LWMP. This activity resides under Metro Vancouver's asset management planning. If more information on this is required, this can be discussed with Metro Vancouver's Liquid Waste Services Operations and Maintenance staff. |
| 136 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>System Resilience</i> Action 2.1: Could Metro Vancouver consider making a portal to share regional climate data and projections so it is available publicly, including to First Nations? | Not revised within LWMP. While they are not currently in a portal, Metro Vancouver climate change reports and projections are posted on our website. Metro Vancouver's rainfall analysis data has also recently updated and is posted. Climate Projections: MV climate projections: http://metrovancover.org/services/air-quality-climate-action/Documents/climate-projections-for-metro-vancouver-2016.pdf Rainfall Analysis http://metrovancover.org/about-us/Library/IDF-Curve-Update-and-Rainfall-Analysis-Metro-Vancouver.pdf |
| 137 | Feedback on the draft LWMP Sept | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>System Resilience</i> Strategy 2 New Action: Could Metro | Not revised. This is outside the scope of the LWMP. However, there is already a wide range of guidelines and standards |

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| | 2024 version: Orbit# 70940930 | | | Vancouver commit to meeting resilience standards for new infrastructure (e.g., CSA)? | and professional requirements addressing the resilience of liquid waste infrastructure. For example, there is a CSA standard for wastewater treatment plants and there is a Standards Council of Canada standard for inflow and infiltration into new sanitary sewer systems. There are also the Engineers and Geoscientists of BC (EGBC) Code of Ethics (whereby registrants have an obligation to identify and mitigate the risks that climate change poses to the public's safety, health and welfare, and to the environment), the EGBC Climate Change Action Plan, the Province's Climate Change and Asset Management Primer (written for staff of local governments with an approach for integrating climate change considerations throughout the asset management process), the Province's Sea Level Adaptation Primer, plus various local gov't initiatives (like MV's Climate 2050 Water and Wastewater Roadmap) and their recommendations. |
| 138 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>System Resilience</i> Strategy 2 New Performance Indicator: What about percentage of infrastructure meeting resilience standards (e.g., CSA)? | Not revised, this is outside the scope of the LWMP. There is wide range of overlapping guidelines and standards and professional requirements addressing the resilience of liquid waste infrastructure that have evolved over past decades and were in place at the time of the asset's construction. It would be difficult to categorize assets of different ages as "meeting resilience standards" or not. |
| 139 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>System Resilience</i> Intro: Systems must also be designed to avoid (health, environmental and infrastructure related) disasters. | This is correct. There is a wide range of guidelines and standards and professional requirements addressing the resilience of liquid waste infrastructure. For example, there is a CSA standard for wastewater treatment plants and there is a Standards Council of Canada standard for inflow and infiltration into new sanitary sewer systems. There are also the Engineers and Geoscientists of BC (EGBC) Code of Ethics (whereby registrants have an obligation to identify and mitigate the risks that climate change poses to the public's safety, health and welfare, and to the environment), the EGBC Climate Change Action Plan, the Province's Climate Change and Asset Management Primer (written for staff of local governments with an approach for integrating climate change considerations throughout the asset management process), the Province's Sea Level Adaptation Primer, plus various local government initiatives (like MV's Climate 2050 Water and Wastewater Roadmap) and their recommendations. |

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| 140 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>System Resilience</i> There should be some indicators - e.g. whether plans are created for each infrastructure element, or asset? | Not revised. This is outside the scope of the LWMP. It would be difficult (with the wide range of overlapping guidelines and standards and professional requirements addressing the resilience of liquid waste infrastructure that have evolved over past decades and were in place at the time of the asset's construction) to categorize assets of different ages as "meeting resilience standards" or not. |
| 141 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Demand Reduction and Source Control</i> Examples of existing work and results/successes by MV with other levels of government on source control re banning products/chemicals so they don't make it into wastewater? | Not revised. Because the LWMP is a high level policy document, we aim to keep it as succinct as possible, while still providing adequate context. In this case examples are not included. Outside of the LWMP, a key example of a success story in advocacy is Metro Vancouver's work with utilities across Canada to reduce the impacts of personal and baby wipes on wastewater infrastructure and their contribution to sewage clogs and sewer overflows. In March 2025, the Federation of Canadian Municipalities passed a resolution submitted by Metro Vancouver requesting that the federal government provide funding and establish a coordinating body to oversee the development of a flushability standard. Action 4.1 commits Metro Vancouver to continue to advocate for increased provincial and federal regulations on the manufacturing and use of products with contaminants. |
| 142 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Demand Reduction and Source Control</i> Action 4.1: Aligning with TWN's priorities, would like to see focus on contaminants that affect Water Values as outlined in the Burrard Inlet Water Quality Objectives. Examples include, but are not limited to, more efforts around 6PPD-quinone, heavy metals (such as copper, cadmium, zinc, and lead), hydrocarbons, persistent organic pollutants, and contaminants of emerging concern. | Some revisions made. Because this is a high-level, long term policy document that covers the entire region, it is necessary to keep the language general, i.e. "emerging contaminants", rather than listing specific substances, in order to maintain the plan's currency over its life. However, based on səlilwətał (Tsleil-Waututh Nation) input, action has 4.1 been revised to commit to working with First Nations on identifying contaminants of concern and additional source control actions. |
| 143 | Feedback on the draft LWMP Sept | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Demand Reduction and Source Control</i> Action 4.2: Include TWN values and | Metro Vancouver is open to working with səlilwətał (Tsleil-Waututh Nation) to share səlilwətał (Tsleil-Waututh Nation) educational materials when preparing regional public education and awareness |

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| | 2024 version: Orbit# 70940930 | | | materials when preparing public education and awareness programs, e.g. twnation.ca\stormwater | programs. Towards this end, Metro Vancouver has already promoted twnation.ca\stormwater in both the Phase 2 and Phase 3 LWMP public engagement survey. Action 4.2c incorporates this feedback, committing Metro Vancouver to working with First Nations on education and outreach. |
| 144 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətaʔ (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Demand Reduction and Source Control</i> Action 4.1: Should also prioritize based on our work to identify exceedances of Burrard Inlet Water Quality Objectives, and any ongoing exceedances of the objectives. | The Canadian Council of Ministers of Environment (CCME) Canada-wide Strategy for Management of Municipal Wastewater Effluent (CWS-MMWE) Risk Management Decision Process starts with consideration of the applicable water quality objectives and guidelines, and as such Burrard Inlet Water Quality Objectives are already included. |
| 145 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətaʔ (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Demand Reduction and Source Control</i> Action 4.1: Build source control actions / reduced discharges into the Metro Van wastewater discharge permit system, e.g. spot checks or other proof of good vs bad behaviour, incentives/ disincentives tied to the ability to hold a permit? Metro Van also needs to be more transparent with TWN about the nature of these permits and their potential to impact TWN rights and territory, and determine how TWN wants to be involved in decision-making around these permits. | All current waste discharge permits are available on our website: http://metrovancover.org/services/environmental-regulation-enforcement/liquid-waste-regulatory-program/current-waste-discharge-permits Metro Vancouver is currently working to update our online GIS maps to include geospatial information of waste discharge permits, and this will be provided to səlilwətaʔ (Tsleil-Waututh Nation) as soon as possible We are happy to share more information about the liquid waste permitting process. Please let us know how səlilwətaʔ (Tsleil-Waututh Nation) wants to be involved, we would be happy to explore how to better involve səlilwətaʔ (Tsleil-Waututh Nation). |
| 146 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətaʔ (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Demand Reduction and Source Control</i> Indicators: Need metrics to indicate whether the source control and educational activities are resulting in effects, e.g. reduced contaminants appearing in wastewater and stormwater. | We agree that it would be beneficial to have metrics that can measure the effectiveness of source control actions. There is significant complexity involved in their development because contaminants originate from multiple, sometimes unknown sources across all sectors of the economy. The quantity or concentrations of contaminants identified in wastewater can change regularly based on multiple factors beyond the control (or even the knowledge) of Metro Vancouver such as consumer trends and behaviours, manufacturing/market activity, innovation and product replacement, federal and provincial policy, and even climate factors such as more frequent high intensity rain falls or high temperatures/drought. This |

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| | | | | | means that even if a source control action is successful (i.e. resulted in fewer discharges of contaminants), the actual concentration of a contaminant could still increase for other reasons. We do assess campaign reach, for example, see item E2 on p. 25 of Liquid Waste Committee Agenda Package - September 11, 2024, a report on the 2024 Unflushables Campaign Results. We are interested in improving our understanding of what source control actions seem to produce the best results and we look forward to hearing from interested parties, including First Nations, over the duration of this LWMP on ways we can improve how we measure success. |
| 147 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Demand Reduction and Source Control</i> Does MV have any power/role with respect to the use of rubber crumb in the region? Known to be toxic but still widely used. | Metro Vancouver does not have direct jurisdiction over the use of rubber crumb. Member jurisdictions do have the jurisdiction to create bylaws governing its use. |
| 148 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Demand Reduction and Source Control</i> Action 4.1 & 4.2: Use whichever criteria are stricter: WQOs or CCME. | Metro Vancouver follows the nationally prescribed process and hierarchy in the Canadian Council of Ministers of Environment Canada-wide Strategy for Management of Municipal Wastewater. |
| 149 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Sanitary Sewer Overflows</i> Action 5.1: Need to translate this further to explain the implication on private landowners, to make it matter to them. | This is a good point. We will explore ways to make the messaging in education campaigns about inflow and infiltration impactful to residents when undertaking action 5.1. |
| 150 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Sanitary Sewer Overflows</i> Action 5.5: Would this enforcement be directed at homeowners or contractors? Seems like contractors who intentionally connect rainfall discharges to sanitary sewer system should be primary target as there may be more avenues for enforcement through professional associations. | This action is directed at homeowners and contractors as both are doing work that violates bylaws. Homeowners sometimes do work without permits themselves. With contractors, it is easier for members to enforce via inspections, as the quality of contractor work is not normally governed by any professional organizations. If suitable organizations do exist or evolve, then certainly we would strive to get the message out through professional associations as well. |

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| 151 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Sanitary Sewer Overflows</i> Action 6.1 b: Dashboard to be public, for transparency? | Yes, this dashboard will be posted publicly for transparency, and updated at least annually. This is committed to in LWMP action 6.2a. |
| 152 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Sanitary Sewer Overflows</i> Action 6.2: Public reports, including dashboard need to be accessible, understandable and usable. | Metro Vancouver will work with member jurisdictions to develop inflow and infiltration dashboards that are user friendly. As this reporting will be the responsibility of members, we will work with First Nations for input on this dashboard once members have created a draft. |
| 153 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Sanitary Sewer Overflows</i> Action 7.1: This action should be updated to require MV and member jurisdictions to publicly report on sanitary sewer overflows annually using a SSO/CSO dashboard, including a more detailed breakdown by outfall, number of events, dates, and whether the overflow was during dry weather or wet weather. The current system does not provide public access to historic data and overall reporting is buried in long annual reports. | Metro Vancouver reports sanitary and combined sewer overflows in real time on our GIS mapping system gis.metrovancouver.org/mvmaps/sewer . We currently do not report on historic data but can explore this further. Metro Vancouver and members will also report on sanitary and combined sewer overflows in the updated the annual reporting process (e.g., dashboards). |
| 154 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Sanitary Sewer Overflows</i> Action 7.2: MV should also be required to inform First Nations of any sanitary sewer overflows as soon as they occur, in addition to government agencies and health authorities. This should be added. | Not revised. The First Nations Health Authority is notified, which is an agency responsible for making decisions regarding human health risk. Metro Vancouver also provides real time notification associated with all overflows and wastewater treatment events on our website, and interested parties can sign up for notification text messages in any and all areas of interest. |
| 155 | Feedback on the draft LWMP Sept 2024 version: | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Sanitary Sewer Overflows</i> Action 7.3: MV should be required to publicly report on sanitary sewer | Agreed. Metro Vancouver is required to report on sanitary sewer overflows in our annual reporting. Metro Vancouver and members will also report this information via the LWMP online dashboard once created. |

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| | Orbit# 70940930 | | | overflows annually, including a more detailed breakdown by outfall, number of events, specific dates, volumes, and whether the overflow was during dry weather or wet weather. | |
| 156 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətaʔ (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Sanitary Sewer Overflows</i> Real-time monitoring initiated recently by MV anecdotally suggests that some sanitary sewer overflows may be occurring during dry conditions. The CWS-MMWE states that the national standard for sanitary sewer overflows is that they do not occur during dry weather, except during spring thaw and emergencies. MV should clarify if dry weather overflows are occurring and, if they are occurring, commit to their reporting and a time frame for their elimination. | All sanitary sewer overflows, both dry and wet weather, are reported in real-time on Metro Vancouver's website https://gis.metrovancouver.org/mvmaps/sewer . Both dry and wet weather overflows are reported to the Province. |
| 157 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətaʔ (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Sanitary Sewer Overflows</i> Action 7.4: should list First Nations' communities' health specifically (not just public health), as a way to embed First Nations values and determinants of risk. | Wording has been changed to the simplest statement to reflect the risks to all: "Metro Vancouver will conduct risk assessments at any new significant regional sanitary sewer overflow locations and will holistically compare the risk assessments of all sanitary sewer overflow locations to determine their relative risk, considering risks to <u>human health and the environment</u> . Metro Vancouver will use the results of the sanitary sewer overflow risk assessments to prioritize mitigation efforts, to optimize the operation of the regional liquid waste collection system, and to provide input into decisions regarding capital improvements and upgrades." |
| 158 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətaʔ (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Sanitary Sewer Overflows</i> Performance Indicator 7A: These indicator results should be published publicly on a dashboard, including a more detailed breakdown by outfall, number of events, specific dates, volumes, and whether the overflow was during dry weather or wet weather. | The parameters noted for indicator 7A will be on the public dashboard and will be broken down by site, event, volume etc. The reported parameters could vary by overflow location depending on factors such as feasibility of accurately measuring the overflow volumes, etc. |

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| | | | | Annual summary data as part of large reports is not sufficient reporting and data sharing. | |
| 159 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <p><i>Combined Sewer Overflows</i></p> <p>Strategy 8: In general, would like to see a shift from an emphasis on sewer separation to manage CSOs to CSO volume reduction and achieving improvements in receiving environment quality. The federal and provincial emphasis on sewer separation protects infrastructure and reduces costs of treatment, but may not result in improved receiving environment quality if the separated rainwater component is not adequately managed to protect receiving environments. In general, this LWMP is a departure from previous ones in that it introduces the concept of prioritizing actions based on their contributions to receiving environment health and "system optimization projects" in the near term that decrease sewage discharges to receiving waters. This shift in thinking by MV and its member jurisdictions should be lauded and supported. Other jurisdictions (e.g., in the US) have begun to move away from sewer separation as an ultimate goal if it is not the best way to achieve (e.g, Philadelphia, Seattle). This is not possible in Canada currently as the federal and provincial guidelines currently require eventual sewer separation. MV has previously committed to complete separation by 2050 to 2075 and is continuing these commitments in this LWMP. Ultimately,</p> | <p>This LWMP still commits to full sewer separation as the best course for the region, for several reasons. The wet weather discharges from Metro Vancouver's combined systems are worse than separated systems as they contain all the contaminants from stormwater plus all those from raw sewage. During wet weather, combined sewer overflows discharge both stormwater with its various pollutants, plus sanitary sewage which contains not only fecal matter but also sanitary litter such as toilet paper, condoms, and tampons.</p> <p>Metro Vancouver's interceptor system only has the capacity to take a small portion of wet weather storm flows, and so the vast majority of stormwater actually overflows as a component of combined sewer overflows and is not sent to wastewater treatment plants for treatment, a common misconception. To help address the impact to water quality caused by the pollutants in stormwater, actions to better manage stormwater alongside sewer separation are a key part of the new plan, especially the "first flush" stormwater runoff which contains the most contaminants.</p> <p>As for the US, sewer separation as a strategy was not followed as strongly in most US cities, since most older sections of their metropolitan areas have not undergone urban renewal anywhere near the pace of Vancouver. The Vancouver area has long been among the fastest redeveloping spaces in North America since the late 1980s. This enables the sewer separation strategy, and is the reason it has support from all other orders of government support, as well as from expert panels. Urban renewal is critical for sewer separation to work, otherwise full separation is impeded by combined plumbing systems remaining in unreplaced older buildings and homes. This is the case in New York City and its boroughs, where the vast majority of apartment buildings from the 1900s with their combined plumbing systems still in place and likely to remain so. This has been a factor in NYC's slower sewer separation pace.</p> <p>Many US cities instead pursued strategies such as hugely expensive CSO storage facilities that still have significant CSOs despite</p> |

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| | | | | it may be challenging and more costly for the affected local governments to invest in system optimizing projects and meet the existing separation timelines. MV should demonstrate whether optimization or separation will result in earlier and larger improvements in receiving water quality, and prioritize actions accordingly. | <p>expenditures in the billions of dollars, funds that were diverted away from sewer system renewals leaving a large infrastructure deficit. And with climate change causing more intense storms, CSO storage tanks are filling up more quickly, resulting in a switch from adding storage to implementing green infrastructure in an attempt to limit CSOs.</p> <p>A key point to note, is that sewer separation is the only method that can actually eliminate CSOs whereas other strategies focused on storage and green infrastructure can reduce but will never eliminate CSO events.</p> <p>LWMP actions that support sewer separation alongside the advancement of green infrastructure include: 8.6, 8.7, 8.8, 9.1, 9.2, 9.3, 9.4, 9.5, 9.6, 10.5 & 11.4.</p> |
| 160 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətaʔ (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Combined Sewer Overflows</i> Intro: Beyond volumes and frequencies, should also compare to relevant water quality objectives. | Receiving environment impacts of combined sewer overflows can't be assessed in real time, but findings of these assessments are reported in environmental effects monitoring studies, as well as in ecological and human health risk assessments which compare monitoring results with the applicable water quality objectives and guidelines. |
| 161 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətaʔ (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Combined Sewer Overflows</i> Action 8.1: This action should be updated to require MV and member jurisdictions to publicly report on sanitary sewer overflows annually using a SSO/CSO dashboard, including a more detailed breakdown by outfall, number of events, dates, and whether the overflow was during dry weather or wet weather. The current system does not provide public access to historic data and overall reporting is buried in long annual reports. | <p>Current historical data is found in the LWMP's biennial report. Going forward, we will have public facing dashboards that will make it easier to extract historical data. For combined sewer overflows, this input is covered under Performance Indicator 8A: <i>Number, duration, and volume of combined sewer overflow discharge events at each combined sewer overflow site; and, total number of combined sewer overflow discharge events and total volume of combined sewer overflow discharges for entire system.</i></p> <p>Metro Vancouver's real time reporting map provides information on a number of overflows at each location in the current year, and also shows the number of overflow days in 2022 and 2023. This information will continue to be updated every year.</p> |
| 162 | Feedback on the draft LWMP Sept 2024 version: | səlilwətaʔ (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Combined Sewer Overflows</i> Action 8.2-8.4: MV should be required to publicly report on monitoring and characterization of CSO flows annually, | <p>Performance Indicator 8A requires detailed reporting on combined sewer overflows.</p> <p>Please also note that real time reporting map is providing information on a number of overflows at each location in the current year, and is</p> |

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| | Orbit# 70940930 | | | including a more detailed breakdown by outfall, number of events, specific dates, volumes, and whether the overflow was during dry weather or wet weather. | also currently showing a number of overflow days in 2022 and 2023. This information will continue to be updated every year. |
| 163 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Combined Sewer Overflows</i> Action 8.5: How will this be done? Loading model and hydrodynamic modelling? This is an important action and more information is needed on how this will be done. | This will continue to be done through Metro Vancouver's Receiving Environment Monitoring Programs - Combined Sewer Overflow Effect Surveys. Details of how this has been done in the past, along with associated results are available in Metro Vancouver's Environmental Monitoring and Quality Control Annual Reports online. |
| 164 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Combined Sewer Overflows</i> Action 8.6: This an important action as it lays the groundwork for decision-making that jointly prioritizes sewer separation and near-term CSO mitigation measures. It is good to see this action included. It would be good to know more about what information will be used and what type of "environmental management tools" will be used to inform this decision-making. Receiving environment quality should be prioritized as a the primary basis for decision-making. | Environmental management tools will include environmental monitoring, environmental modelling, simulation and forecasting, and human health and ecological risk assessments, as appropriate and applicable in any particular case. |
| 165 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Combined Sewer Overflows</i> Action 8.7: This is an important new action as it will allow monitoring of the effectiveness of near-term CSO mitigation measures (Action 8.8) and how they are performing over time. Please share what indicators are being contemplated for this monitoring. | The indicators contemplated for this monitoring include fecal indicator bacteria, nutrients, fecal microbial DNA markers, artificial sweeteners, pharmaceuticals, and personal care products. |
| 166 | Feedback on the draft LWMP Sept | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Combined Sewer Overflows</i> | Combined sewer overflows are overflows designed to occur from combined systems during wet weather, therefore, by definition, wet weather is always the cause of a combined sewer overflow. Overflows |

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| | 2024 version: Orbit# 70940930 | | | Action 8.2: Need reporting on the probable causes. | from combined systems in dry weather are identified by our Operations and Maintenance Department as sanitary sewer overflows, and are reported as such under that process (with the cause, e.g. pump station failure or pipe break). |
| 167 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Combined Sewer Overflows</i> Action 8.5: Need more regular updates after water quality test results are completed, e.g. work into real-time reporting system. Individuals use water bodies year-round, and need to know about and understand any risks, as well as mitigation measures. | Metro Vancouver is reporting combined sewer overflows publicly in real time all year round. Our studies and risk assessments have indicated that water quality in regional water bodies may not meet applicable environmental and/or human health protection guidelines for a period of up to 48 hours following a sewer overflow. This information is also publicly available on our website. |
| 168 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Combined Sewer Overflows</i> Action 8.7: Share model results and planned mitigation measures with TWN. | Agreed. This can be done via the forum in LWMP Action 20.5. |
| 169 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Combined Sewer Overflows</i> Performance Indicator 8B - It is good to see MV adopting a loading approach to contamination in CSOs. However, it is unclear which metrics are being developed and used. A key metric relevant to TWN's priorities is bacteria, but other metrics may also be important. | The indicators contemplated for this monitoring include fecal indicator bacteria, nutrients, fecal microbial DNA markers, artificial sweeteners, pharmaceuticals, and personal care products. |
| 170 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Combined Sewer Overflows</i> Could this section be more specific about what near-term CSO mitigation measures means and what measures will be contemplated? Does this mean changes to system operations or larger interventions such as CSO storage, treatment facilities, etc. | Not revised. Because the LWMP is a high-level, long-term policy document, specific approaches and projects are not listed here, in order to maintain the plan's currency over its life. Outside of the LWMP, to respond to the question, this section refers to changes to system operations, but upgrades to the system itself are also possible. The 2002 Plan had about 10 major system upgrades that were subsequently built. Similar project lists are expected to be developed to support the actions in the updated LWMP. |

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| 171 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Combined Sewer Overflows</i> Does MV currently remove floatable materials at its combined sanitary overflows? The CWS-MMWE includes a national standard to remove floatables where feasible. What does MV do on this issue currently? Suggest an action(s) related to the removal of floatables. | There are some mechanisms currently in place to reduce floatables in combined sewer overflows. Catch basins (CBs) are designed with traps to prevent floatables within the CB sump from escaping into the combined (or storm) sewer system. Vancouver, in particular, has long employed its own unique in-house constructed large sump CBs due to better performance for screening floatables and heavier materials that sink such as grit from the combined/storm system. Metro Vancouver's trunk sewer systems are also designed to minimize turbulence, mainly to minimize corrosion, but also providing an advantage in less suspension of materials into combined sewer overflows. The addition of baffles or screens for floatables at combined sewer overflow locations is generally not feasible in Metro Vancouver or members' systems due to lack of accessibility to overflow infrastructure for regular cleaning and maintenance (many are always submerged without the space available for required machinery) and the much larger volumes of combined sewer overflows in our high annual precipitation region. |
| 172 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Combined Sewer Overflows</i> Strategy 9: It is known that Vancouver is struggling to meet an annual rate of separation needed to meet its overall separation timeline and will have to spend significantly more financially to achieve the 2050 and 2075 timelines. Would prioritization of near-term CSO mitigation measures over separation result in earlier and larger improvements in receiving water quality? | The other member jurisdictions with combined sewers have stated that they are on or ahead of schedule to fully separate their combined systems and eliminate combined sewer overflows by the LWMP deadline. Not separating Vancouver's combined sewer system would negate the benefits of their work because their separated sanitary sewage will mix with Vancouver's combined sewage down the line, and still result in overflows into receiving waters during wet weather. This will mean that the significant expenditures made by those combined members to separate their systems will have produced little to no environmental benefit as their sanitary sewage will not be able to make it to the wastewater plant for treatment during wet weather. It is hoped that near-term sewer system optimization measures can achieve some significant near-term combined sewer overflow improvements and complement combined sewer overflow reductions achieved through combined sewer separation, as well as the use of green infrastructure to better manage rainwater. |
| 173 | Feedback on the draft LWMP Sept 2024 version: | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Combined Sewer Overflows</i> Good to see catchment prioritization for sewer separation will include First Nations input. Is the cultural value | Revised. Yes, this refers to First Nations cultural values. Based on səlilwətał (Tsleil-Waututh Nation) input, action 9.2 has been updated to: "Metro Vancouver will develop intermediate targets on a five-year interval for municipal and regional separation of prioritized combined catchments. The targets will be based on a framework to be |

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| | Orbit# 70940930 | | | referred to in this action specifically First Nations cultural values? This should be clarified. | developed with Burnaby, New Westminster, Vancouver, and First Nations, that considers key factors such as population, redevelopment rates, operational considerations, and <u>First Nations</u> cultural value. Metro Vancouver will submit the targets to the Ministry of Environment and Parks." |
| 174 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Combined Sewer Overflows</i> Action 9.1: Additional measures should be required during these redevelopments to mitigate the impacts of added contaminants from rainwater. | Not revised in Strategy 9, as is covered under the Rainwater Management section (Strategies 10-12). Members will provide measures to better manage rainwater through their rainwater management actions, including aligning land-use planning and development with their Integrated Watershed Management Plans to ensure development decisions support watershed health objectives. |
| 175 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Combined Sewer Overflows</i> Action 9.3: Need corresponding rainwater management plans integrated with these. | Not revised in Strategy 9. This is addressed under the Rainwater Management section (Strategies 10-12). The Metro Vancouver trunk sewer separation plans include conceptual drainage system designs that will evolve as the members with combined sewers develop their Integrated Watershed Management Plans. The members' Integrated Watershed Management Plans will provide guidance on rainwater management solutions that will be taken into consideration during the preliminary and final sewer separation design phases. |
| 176 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Combined Sewer Overflows</i> As sewers are separated, would it be possible to include an action that MV will contemplate more stream daylighting projects to handle rainwater rather than rely on underground pipe networks in key areas where stream daylighting may increase ecological value? | Not revised in Strategy 9, as is covered under the Rainwater Management section (Strategies 10-12). Members will be exploring various opportunities including stream daylighting as they expand the use of green infrastructure, blue infrastructure, and other practices to mimic natural watersheds, in order to reduce runoff and improve water quality. |
| 177 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Combined Sewer Overflows</i> Action 9.6: This is an important new action. Could member jurisdictions also identify where such diversion of inflow be incorporated into environmental beneficial projects such as stream | This is covered under the Rainwater Management section (Strategies 10-12). When developing and updating their Integrated Watershed Management Plans, members will consider ways to integrate rainwater and groundwater management by means of stream daylighting, wetland creation, and similar protective and conservationist measures. |

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| | | | | daylighting or wetland creation? This is important groundwater that should be protected and conserved. | |
| 178 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Combined Sewer Overflows</i> Indicators: Also need measurement against water quality benchmarks, e.g. WQOs. | Not revised. This section outlines actions proposed for Metro Vancouver and member jurisdictions related to management of the collection system (prevention). |
| 179 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Rainwater Management</i> Intro: ...streams and creeks and pipes. | Revised. Based on səlilwətał (Tsleil-Waututh Nation) input, wording has been revised: "Heavy storms can also introduce a lot of rainwater into streams, creeks, <u>and pipes</u> in a short period of time, causing erosion and stirring up sediment, which makes it hard for fish to breathe." |
| 180 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Rainwater Management</i> This is a helpful diagram. | Thank you. We're glad to hear that the diagram is helpful in setting context around the water cycle and the effect urban landscapes have on it. |
| 181 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Rainwater Management</i> Last paragraph: Add examples for each in parentheses as has been done for grey infrastructure. | Revised. Based on səlilwətał (Tsleil-Waututh Nation) input, wording has been revised: "Approaches that mimic natural processes using green infrastructure (<u>green roofs and rain gardens</u>), blue infrastructure (<u>waterways, ponds, and wetlands</u>) and thoughtful development patterns allow rainwater to soak into the ground or be released more slowly into local waterways." |
| 182 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Rainwater Management</i> Last paragraph: ...to avoid floods and protect water quality and habitats. | Revised. Based on səlilwətał (Tsleil-Waututh Nation), wording has been revised: ". . . to avoid flooding <u>and protect water quality and habitats.</u> " |
| 183 | Feedback on the draft LWMP Sept 2024 version: | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Rainwater Management</i> Action 10.1: If the IWMP template is being revised, will the AMF be evaluated for its utility and potentially revised | Yes, during the update to the Integrated Watershed Management Plan template, the Adaptive Management Framework will also be reviewed. It is important to note however, that the Adaptive Management Framework outlines minimal requirements for chemical, hydrological, and biological monitoring (which municipalities agreed |

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| | Orbit# 70940930 | | | during the next LWMP period? It would be good to review the AMF to ensure it is an effective monitoring tool. There are some concerns that AMF monitoring is not particularly valuable in its current form because the intraannual variability in samples is often greater than the expected rate of change due to improvements in rainwater management, therefore detection of change or trend is difficult. Continuous monitoring approaches are becoming increasingly more viable and cost-effective. | upon at the time of the framework's development in 2014) that can be used to assess effectiveness of municipal Integrated Watershed Management Plans. It does not prevent any of the member jurisdictions from going further or implementing more intensive monitoring approaches. Metro Vancouver has provided its members with a much more resource intensive compendium of monitoring options that was developed by Dillon Consulting and Northwest Hydraulics for this purpose. In addition, Appendix E of the framework also allows any municipality to develop an alternative process that would be more suitable for the unique natural conditions in a particular watershed. |
| 184 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Rainwater Management</i> Strategy 10 intro: ...shared objectives and shared decision-making. | <p>Not revised. The updated LWMP commits members and Metro Vancouver to collaborate with First Nations on watershed planning, with the aim to do the following:</p> <ol style="list-style-type: none"> 1. Work directly with First Nations to ensure that First Nations concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how your input influenced the decision. 2. We will look to First Nations for advice and innovation in formulating solutions and strive to incorporate your advice and recommendations into the decision. <p>Ultimately, however, final decisions on policy direction and capital funding will be made by the Metro Vancouver Board and member jurisdiction councils, unless or until changes are made to the current governance structure through work being done by the Province to consider changes to the Local Government Act.</p> <p>In the interest of honestly reflecting the current level of First Nations involvement across all regional liquid waste management actions, this sentence has not been revised and remains the same. This is because the LWMP is a regulatory instrument and Metro Vancouver and its member jurisdictions are directly responsible to the Province for developing, implementing, funding, and managing all of the actions across the LWMP. Metro Vancouver and its members are accountable for LWMP content and must respond to any ministerial conditions presented, and thus remain the parties ultimately responsible for the</p> |

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| | | | | | <p>LWMP's implementation.</p> <p>To further advance First Nations collaboration across all facets of regional liquid waste management, Metro Vancouver recognizes that BC's <i>Declaration Act</i> Action Plan item 1.11 identifies First Nations participation on regional district boards as an item that will be advanced by the Ministry of Housing and Municipal Affairs. The Province is actively working to advance this initiative, and Metro Vancouver looks forward to receiving further direction and information regarding the legislative changes to the Local Government Act that are required to support this action. The Province anticipates this legislative change being a few years away.</p> |
| 185 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | Action 10.1 a: ...template developed with First Nations... | <p>Not revised. Action 10.1 commits Metro Vancouver and members to revise the template with input from First Nations. The intention is to collaborate closely with First Nations on the template update, with the aim to do the following:</p> <ol style="list-style-type: none"> 1. Work directly with First Nations to ensure that First Nations concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how your input influenced the decision. 2. We will look to First Nations for advice and innovation in formulating solutions and strive to incorporate your advice and recommendations into the decision. <p>Ultimately, however, final decisions on policy direction and capital funding will be with the Metro Vancouver Board and member jurisdiction councils, unless or until changes are made to the current governance structure through work being done by the Province to consider changes to the <i>Local Government Act</i>. As Integrated Watershed Management Plans are ultimately the responsibility of the member jurisdictions to fund and implement, member jurisdictions will lead their development and implementation, working closely with participating First Nations.</p> |
| 186 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | Remove language "from First Nations that have chosen to participate" throughout. | <p>Not revised. This language has been retained throughout the document, as the LWMP can only compel Metro Vancouver and members to act, it cannot compel First Nations to act, therefore this language has been retained to ensure that Metro Vancouver remains in compliance with the commitments in the actions, in the case that</p> |

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| | | | | | First Nations choose not to participate in the various LWMP actions that offer opportunities for First Nations involvement. |
| 187 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | Action 10.1c: Criteria should include relevant benchmarks e.g. WQOs for water quality. | <p>First Nations will be involved in the development, review, and update of municipal Integrated Watershed Management Plans (action 10.2) and this process would include incorporation of criteria that considers cultural significance and Aboriginal rights and interests (which could include those related to the Burrard Inlet Water Quality Objectives, as applicable), in addition to that of the Adaptive Management Framework.</p> <p>In addition, in regards action 10.1, Appendix C of the Stormwater Monitoring and Adaptive Management Framework outlines background information on water quality assessment approach and takes into consideration water quality objectives and guidelines. Furthermore, Appendix E of the framework allows any municipality to develop an alternative process that would be more suitable for the unique natural conditions in a particular watershed, which may include comparison with the Burrard Inlet Water Quality Objectives, among other considerations.</p> |
| 188 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | Action 10.1c: Need adaptive management earlier than 12 years if measurement against criteria indicates that there are problems. | The Stormwater Monitoring and Adaptive Management Framework was designed to allow IWMP actions to be adapted at any time - sooner or later - based on monitoring results. |
| 189 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | Integrate summary of stormwater monitoring results to date, or provide supplementary document describing this. | Not revised within the LWMP. This information is included in the LWMP biennial report. There is the potential for the LWMP and rainwater dashboards to allow members to share stormwater monitoring results in a more accessible format. |
| 190 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | 10: IWMPs should also require flow monitoring. | The Stormwater Monitoring and Adaptive Management Framework requires flow monitoring for both lower and higher gradient systems. Please refer to sections 3.2. and 4.2 of the AMF. |

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| 191 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətaʔ (Tsleil-Waututh Nation) | Nov 5, 2024 | IWMPs and AMF should use WQOs as metrics (freshwater objectives are in preparation). | Appendix C of the Stormwater Monitoring and Adaptive Management Framework outlines background information on water quality assessment approaches and takes into consideration water quality objectives and guidelines. |
| 192 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətaʔ (Tsleil-Waututh Nation) | Nov 5, 2024 | 10: Stormwater monitoring should be accompanied by investigation and remedial action; the work shouldn't end at monitoring. | The Stormwater Monitoring and Adaptive Management Framework (AMF) template includes direction related to adaptive management actions. Integrated Watershed Management Plans (IWMPs) and the AMF serve as key tools for monitoring and assessing the health of our watersheds. Recognizing their importance, Metro Vancouver and members will work with First Nations to review and revise these documents. Action 10.1 incorporates this feedback. |
| 193 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətaʔ (Tsleil-Waututh Nation) | Nov 5, 2024 | 10.1: Co-develop rather than take part in. | Not revised, however, the intention of LWMP actions 10.1, 10.2, 12.1 and 12.4 is to commit Metro Vancouver and members to collaborate closely with First Nations on watershed management planning, with the aim to do the following: 1. Work directly with First Nations to ensure that First Nations concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how your input influenced the decision. 2. We will look to First Nations for advice and innovation in formulating solutions and incorporate your advice and recommendations into the decision to the maximum extent possible. Ultimately, however, final decisions on policy direction and capital funding will be with the Metro Vancouver Board and member jurisdiction councils, unless changes are made to the current governance structure through work being done by the Province to consider changes to the Local Government Act. As Integrated Watershed Management Plans are ultimately the responsibility of the member jurisdictions to fund and implement, member jurisdictions will lead their development and implementation, working closely with participating First Nations. |
| 194 | Feedback on the draft LWMP Sept | səlilwətaʔ (Tsleil-Waututh Nation) | Nov 5, 2024 | 10.1: AMF should also enable assessments of the marine environment. Freshwater monitoring | The Stormwater Monitoring and Adaptive Management Framework (AMF) outlines minimal requirements for chemical, hydrological and biological monitoring that can be used to assess effectiveness of |

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| | 2024 version: Orbit# 70940930 | | | should be compared to the upcoming objectives for freshwater tributaries to Burrard Inlet. | municipal Integrated Watershed Management Plans, which municipalities agreed upon at the time of its development (2014). It does not prevent any of the member jurisdictions from going above and beyond or implementing a more intensive or a different approach. Stormwater discharges from a number of member municipalities do not affect water quality of Burrard Inlet, and as such inclusion of the Burrard Inlet Water Quality Objectives into a regional document may not be appropriate. In addition, Appendix E of the AMF also allows any municipality to develop an alternative process that would be more suitable for the unique natural conditions in a particular watershed. Appendix C of the AMF outlines background information on water quality assessment approaches and takes into consideration water quality objectives and guidelines. |
| 195 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətaʔ (Tsleil-Waututh Nation) | Nov 5, 2024 | 10.2 Members will continue to develop, review and update Integrated Watershed Management Plans (IWMPs) with First Nations partners. | <p>Not revised, however, the intention of LWMP actions 10.1, 10.2, 12.1 and 12.4 is to commit Metro Vancouver and members to collaborate closely with First Nations on watershed management planning, with the aim to do the following:</p> <ol style="list-style-type: none"> 1. Work directly with First Nations to ensure that First Nations concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how your input influenced the decision. 2. We will look to First Nations for advice and innovation in formulating solutions and strive to incorporate your advice and recommendations into the decision. <p>Ultimately, however, final decisions on policy direction and capital funding will be with the Metro Vancouver Board and member jurisdiction councils, unless or until changes are made to the current governance structure through work being done by the Province to consider changes to the <i>Local Government Act</i>. As Integrated Watershed Management Plans are ultimately the responsibility of the member jurisdictions to fund and implement, member jurisdictions will lead their development and implementation, working closely with participating First Nations.</p> |
| 196 | Feedback on the draft LWMP Sept 2024 version: | səlilwətaʔ (Tsleil-Waututh Nation) | Nov 5, 2024 | Action 10.2: An addendum to the ISMP template was published in 2022. The new information in this addendum should be included in the contents of the revised ISMP template, including | Integrated Watershed Management Plans (IWMPs) and the Stormwater Monitoring and Adaptive Management Framework (AMF) serve as key tools for monitoring and assessing the health of our watersheds. Recognizing their importance, Metro Vancouver and members will work with First Nations to review and revise these |

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| | Orbit# 70940930 | | | recommendations to reduce the level of effort and increase collaboration. | documents. Action 10.1 incorporates this feedback. |
| 197 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | Action 10.3: This is a significant inclusion as agricultural runoff and groundwater management have only had limited inclusion in ISMPs to date. However, these are important issues in urban and urban-agricultural watersheds. It is thought that stream baseflows are being lost to groundwater pumping to keep basements dry. | Agreed, Metro Vancouver recognizes the importance of including a commitment for Integrated Watershed Management Plans to consider groundwater management and agricultural runoff. Action 10.3 supports this input. |
| 198 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | Strategy 10 Performance Indicators: An additional performance indicator is needed to track implementation of green infrastructure and how much impervious area has been disconnected from a direct piped connection to stream or other receiving waterbody. | Not revised within the LWMP. This is a resource intensive task that members may not be able to monitor, in addition to other monitoring commitments. Rainwater dashboards will allow members to report on new green infrastructure installations. |
| 199 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | Action 10.2a: First Nations who (not "that"). | Revised. Based on səlilwətał (Tsleil-Waututh Nation) input, wording has been revised. |
| 200 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | Action 10.2b: Do this in an overarching way to avoid consultation fatigue. | Action 12.4 commits Metro Vancouver and members to hold regular urban watershed planning forums with First Nations, the aim is to do rainwater management collaboration at this table, with the intention to make this collaboration as streamlined and efficient as possible. First Nations will be asked to collaborate on developing the terms of reference for this group. |
| 201 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | Action 10.5: Add metrics or parameters to make this less vague/non-commit al. | Not revised within LWMP, however, members progress on action 10.5 will be reported on the municipal online dashboards (action 11.3), and the overarching LWMP dashboard. |

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| 202 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | Action 10.3: Strengthen. Suggest opportunities for rainwater retention. | Not revised within the LWMP, however, as the Integrated Watershed Management Plan template undergoes its review and update, there will be opportunities to consider and refine the language, including language around rainwater retention. |
| 203 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | Action 10.5: Strengthen MV coordination role for green infrastructure expansion in the region. | Actions 11.2, 11.3, 11.4, and 12.4 support this input, committing Metro Vancouver to coordinate the harmonization of policies, programs, and bylaws to resolve rainwater policy conflicts and barriers; to coordinate the development of online rainwater dashboards; to coordinate an update to the Master Municipal Construction Documents so that green infrastructure guidelines become standards; and to coordinate a regularly occurring regional rainwater management forum with members and First Nations. |
| 204 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | Action 10.2: Commit to putting TWN's recommendations in the IWMP template. | Not revised within LWMP, however, action 10.2 commits members to work with First Nations on IWMP development, monitoring, and review. During the upcoming review of the Integrated Watershed Management Plan template, as well as throughout the subsequent development and implementation of individual IWMPs, careful consideration will be given to the suggestions and perspectives offered by First Nations, with input implemented wherever possible. |
| 205 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | GI indicators should also measure effectiveness, not just quantity of GI. | Not revised within the LWMP, however, the Stormwater Monitoring and Adaptive Management Framework monitors the impact of green infrastructure and other source controls on watershed health. |
| 206 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | Technical report for objectives for freshwater tributaries to Burrard Inlet will have relevant monitoring and management recommendations that should be integrated. | The LWMP is a regional document and requires that specific rainwater management strategies, actions, and criteria be developed for all watersheds. Monitoring and management approaches will be tailored for individual watersheds during the development of Integrated Watershed Management Plans. The revised Stormwater Monitoring and Adaptive Management Framework (AMF) will enable members to monitor the effects of these strategies and modify them as needed. |
| 207 | Feedback on the draft LWMP Sept 2024 version: | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | Integrate WQOs as benchmarks in IWMPs, MAMF - any other opportunities? | Appendix C of the Adaptive Management Framework outlines background information on water quality assessment approaches and takes into consideration water quality objectives and guidelines. |

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| | Orbit# 70940930 | | | | |
| 208 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | Idea of a rainwater dashboard is an improvement from older reporting methods. Will definitely improve data transparency and accessibility if implemented well. TWN should be invited to co-develop the dashboard. | Agreed. First Nations will be invited to provide input during the development of the template for the online rainwater dashboards. |
| 209 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | Action 11.1: There is a lot of leeway in this action. A target for dedicated funding would make it more measurable. How will the funding be dedicated specifically? | Not revised. Member jurisdictions were supportive of making this commitment in the LWMP, while requesting high-level wording to allow each jurisdiction the flexibility to develop and implement rainwater funding approaches that work for their municipality. Future iterations of this action could become more prescriptive as rainwater funding programs are initiated by members. |
| 210 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Rainwater Management</i> Action 11.2: One of the biggest gaps in rainwater management policy is that there is no federal or provincial legislation regulating the quality of rainwater discharges to receiving environments. MV should use the Burrard Inlet WQOs as a metric to measure rainwater discharge quality in the interest of protecting human and environmental health. | Not revised within LWMP. Stormwater discharges from a number of Metro Vancouver member jurisdictions do not affect water quality in the Burrard Inlet, and as such, inclusion of the Burrard Inlet Water Quality Objectives into a regional document may not be appropriate. However, Appendix C of the Stormwater Monitoring and Adaptive Management Framework outlines background information on water quality assessment approaches and takes into consideration water quality objectives and guidelines. |
| 211 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Rainwater Management</i> Action 11.3: Suggest that MV create one online rainwater dashboard for whole region as a single data and information portal, rather than individual dashboards for each jurisdiction. MV can provide this in its convening function. | Rainwater management is mainly the responsibility of local jurisdictions, as are Integrated Watershed Management Plans. The updated Stormwater Interagency Liaison Group, including First Nations, will be responsible for creating a template for rainwater dashboards, including the format a logistical details of the dashboard. |
| 212 | Feedback on the draft LWMP Sept | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Rainwater Management</i> | The content for the rainwater dashboards will be developed with input from First Nations. |

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| | 2024 version: Orbit# 70940930 | | | Action 11.3: Also report on water quality results, green corridors. | |
| 213 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Rainwater Management</i> Action 11.2: Include coordination with upstream regional districts to decrease pressure on downstream infrastructure? | Coordination with upstream regional districts will take place as appropriate. |
| 214 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Rainwater Management</i> Strategy 11 Performance Indicators: Would prefer to see example list of indicators to be included in LWMP rather than to defer to subsequent process for development. | Not revised. The updated Stormwater interagency Liaison Group will coordinate the development of the rainwater dashboard template. Performance indicators will be considered during this process, with input from First Nations. |
| 215 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Rainwater Management</i> Indicators: Part of harmonization and coordination, and easier use of the dashboard, will need to be certain set/standardized metrics that all members will need to report against to best understand watershed health. Individual members could then choose add-on's if they want to report out particular metrics. | Agreed. The updated Stormwater interagency Liaison Group will coordinate the development of the rainwater dashboard template, as well as the update of the Integrated Watershed Management Plan template and Stormwater Monitoring and Adaptive Management Framework criteria. Performance indicators will be considered during this process with input from First Nations. An agreed upon set of metrics will be identified for all members to report against. Individual members are always welcome to add additional metrics to report out on. |
| 216 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Rainwater Management</i> Strategy 12: Very much in favour of a renewal of SILG. Should include participation of local First Nations and regulatory agencies to improve collaboration and ability to implement complex planning and implementation of projects. | Agreed. Metro Vancouver will include First Nations membership in the LWMP's updated Stormwater Interagency Liaison Group with member jurisdictions, to facilitate efficient and effective information sharing and collaboration on regional watershed management. The updated LWMP also commits to establishing two new forums for First Nations, Metro Vancouver, member jurisdictions, and the Province to monitor, assess, and provide input on the progress of rainwater management actions, as well as the LWMP's overall implementation. LWMP actions 12.1, 12.4 and 20.5 support this input. |

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| 217 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Rainwater Management</i> Action 12.1: TWN should be at the table as participants within the new interagency group. | Agreed. Metro Vancouver will include First Nations membership in the LWMP's updated Stormwater Interagency Liaison Group with member jurisdictions, to facilitate efficient and effective information sharing and collaboration on regional watershed management. |
| 218 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Rainwater Management</i> Action 12.2: This is sorely needed. There is evidence that densification in many has led to watershed health impacts, even with development of ISMPs to guide drainage management and decision-making. Case studies are needed to better understand failures so that solutions can be developed. | Metro Vancouver will include First Nations membership in the LWMP's updated Stormwater Interagency Liaison Group with member jurisdictions. The study's terms of reference will be developed by this group with First Nations input. |
| 219 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Rainwater Management</i> Strategy 12 New Action: A key gap in green infrastructure is guidelines for maintenance and how to incorporate maintenance operations into municipal operations. Suggest that MV could study and provide recommendations to member jurisdictions. | Actions 12.1 and 12.3 incorporates this input. |
| 220 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Rainwater Management</i> Action 12.1: First Nations should also be invited to actively participate, with appropriate capacity funding. | Agreed. Metro Vancouver will include First Nations membership in the LWMP's updated Stormwater Interagency Liaison Group with member jurisdictions, to facilitate efficient and effective information sharing and collaboration on regional watershed management. The updated LWMP also commits to establishing two new forums for First Nations, Metro Vancouver, member jurisdictions, and the Province to monitor, assess, and provide input on the progress of rainwater management actions, as well as the LWMP's overall implementation. Commitments to capacity funding are out of scope of the LWMP. In general, ongoing government-to-government relationships do not usually involve capacity funding for referrals. Specific funding requests will be considered under a different process on a case-by-case basis. |

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| 221 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Rainwater Management</i> Action 12.2: This suggests that the intention again is to exclude TWN/First Nations. | Metro Vancouver will include First Nations membership in the LWMP's updated Stormwater Interagency Liaison Group with member jurisdictions. The study's terms of reference will be developed by this group with First Nations input. |
| 222 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Rainwater Management</i> Indicators: Need some metrics to indicate that collaboration has been enhanced. | Revised. Based on səlilwətał (Tsleil-Waututh Nation), the following performance indicator has been added to the LWMP, to show progress on enhanced collaboration with First Nations: "Number of forums under Action 12.4 held and at ended [by member jurisdictions] since LWMP approval." Note: the LWMP can require members to at end, but cannot require First Nations to at end. |
| 223 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Rainwater Management</i> SILG has not included most First Nations, e.g. TWN; this needs to be rectified. | Agreed. Metro Vancouver will include First Nations membership in the LWMP's updated Stormwater Interagency Liaison Group with member jurisdictions, to facilitate efficient and effective information sharing and collaboration on regional watershed management. The updated LWMP also commits to establishing two new forums for First Nations, Metro Vancouver, member jurisdictions, and the Province to monitor, assess, and provide input on the progress of rainwater management actions, as well as the LWMP's overall implementation. |
| 224 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Rainwater Management</i> 12.1: In recognition of Indigenous rights, TWN would like to be involved in a decision-making capacity. | Agreed. Metro Vancouver will include First Nations membership in the LWMP's updated Stormwater Interagency Liaison Group with member jurisdictions, to facilitate efficient and effective information sharing and collaboration on regional watershed management. This is an advisory group that works on regional rainwater and watershed management issues. It is not a decision-making group. Ultimately, decisions on policy direction and funding are made by the Liquid Waste Committee and Greater Vancouver Sewerage and Drainage District Board, and by the municipalities themselves when issues fall under their jurisdictions. These decisions may be informed by work done by the regional storm/rainwater interagency group. |
| 225 | Feedback on the draft LWMP Sept 2024 version: | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Wastewater Treatment</i> Last paragraph: This paragraph is not an accurate depiction of First Nations' role in water quality objectives | This is true and applies to the development of the Burrard Inlet Water Quality Objectives; however, the LWMP is a regional, high level document that applies to the entire region and regional liquid waste management overall. |

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| | Orbit# 70940930 | | | development. As an example, the Burrard Inlet WQOs update is a government-to-government initiative and the objectives have been developed in partnership between TWN and BC. | |
| 226 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Wastewater Treatment</i> Effluent discharge objectives should also meet WQOs. | Applicable water quality objectives and water quality guidelines are used as a starting point in a risk assessment process that develops effluent quality objectives, and as such, water quality objectives are always considered. However, effluent discharge objectives equal water quality objectives only for persistent, bioaccumulative, and toxic substances. |
| 227 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Wastewater Treatment</i> Action 13.2: for example in Burrard Inlet will compare to BIWQOs. | Not revised. Applicable water quality objectives and water quality guidelines are used as a starting point in a risk assessment process that develops effluent quality objectives, and as such, water quality objectives are always considered. However, effluent discharge objectives equal water quality objectives only for persistent, bioaccumulative, and toxic substances. BIWQOs do not apply to effluent, but to the receiving environment quality. As such, Metro Vancouver evaluates an attainment of BIWQOs, as applicable, in its Burrard Inlet environmental monitoring programs. |
| 228 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Wastewater Treatment</i> Action 13.4b: and Indigenous laws. | Not revised. Metro Vancouver recognizes the importance of Indigenous knowledge and legal traditions of First Nations and the role of Indigenous laws in guiding səlilwətał stewardship of lands and waters. The current regulatory framework for the LWMP is governed by provincial legislation and must align with applicable federal and provincial laws. As such, Metro Vancouver is not authorized to formally incorporate Indigenous laws into this regulatory document. That said, Metro Vancouver remains committed to meaningful engagement with First Nations, including continuing our learning journey on Indigenous laws, throughout the planning and implementation of the LWMP. |
| 229 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Wastewater Treatment</i> Indicators: Need to be integrated into data dashboard, as it is important to know this information more frequently than in an annual report. Individuals are | Real time alerts associated with events outside of the normal course of operation of Metro Vancouver's wastewater treatment plants are reported on the Metro Vancouver web site in real time. These events are also immediately reported to the First Nations Health Authority and Regional Health Authority, who make decisions regarding the risk associated with the use of water, and directs Metro Vancouver in this regard. This allows water users to make informed decisions in real |

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| | | | | using the water bodies on a daily basis, and need to make informed decisions. | time. Outside of these unusual and very infrequent events, provincial and federal regulatory requirements imposed on the operation of the wastewater treatment plants stipulate effluent quality requirements which are deemed by the regulators adequately protective of human and environmental health. |
| 230 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Wastewater Treatment</i> Strategy 14 Performance Indicators - Could frequency and volume of bypasses be included as an additional performance indicator? | Not revised. This information is not considered an indicator of wastewater treatment plant performance and has not been added to the LWMP. However, this information is available in the Environmental Management and Quality Control annual report e.g. pages 64 & 65 Tables 6.1 & 6.3 of 2023 EMQC Annual Report here: metrovancover.org/services/liquid-waste/Documents/gvsdd-environmental-management-quality-control-annual-report-2023.pdf |
| 231 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Wastewater Treatment</i> Action 14.1: ...effluent, including site-specific objectives such as the BIWQOs. | Not revised. Water Quality Objectives do not apply to effluent, but to the receiving environment quality. As such, Metro Vancouver evaluates an attainment of the Burrard Inlet Water Quality Objectives, as applicable, in its Burrard Inlet environmental monitoring programs. |
| 232 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Wastewater Treatment</i> Indicator 14A: Why only BOD and TSS? Should assess performance against other applicable benchmarks. | Not revised. These performance indicators refers to effluent quality and reflects very specific, regulation-prescribed (Operational Certificate) requirements, that are commonly used for assessment of compliance of wastewater treatment plants. |
| 233 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Biosolids</i> Strategy 15: Measures should continue to be taken to ensure that use of biosolids does not lead to soil, water, or air contamination or pollution and that testing is sufficient to manage and minimize any risks. | The BC <i>Organic Matter Recycling Regulation</i> (OMRR), developed by the Ministry of Environment and Parks and Ministry of Health, governs how biosolids are made and used on land in BC. The regulation is designed to ensure the protection of human health and the environment, including the protection of soil and water. Metro Vancouver continuously tests Nutrifor biosolids, performing thousands of tests every year for a variety of constituents, including nutrients, trace elements, and microbes, which goes above and beyond the regulatory requirement for monitoring. If the treated solids do not meet the OMRR biosolids product quality standards, they are sent to disposal. Metro Vancouver's ongoing monitoring and best practices ensure that only high quality biosolids are applied to land. |

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| | | | | | Strategy 4, "Prevent pollution at the source" will continue actions to reduce and prevent pollution from residential, commercial, and industrial sectors in the region. Under Action 4.1, Metro Vancouver will prioritize contaminants for source control and take further actions to support source control. Metro Vancouver will also continue to motivate residents and businesses to prevent pollution at the source (Action 4.2). Through multiple source control actions, biosolids quality is maintained and improved. |
| 234 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Biosolids</i> Strategy 15: GHG lifecycle analysis should be part of the evaluation for considering different biosolids use and (if necessary) disposal options. | Metro Vancouver's current evaluation of various biosolids management options, including disposal, takes into account greenhouse gas (GHG) impacts associated with transporting biosolids to sites, as well as emissions associated with their use at these sites. Carbon sequestration benefits, which can offset GHG impacts, are also considered. Metro Vancouver is working to refine and improve this evaluation by continuing to explore various options, from a full life cycle perspective, and will focus on advancing the most promising options to reduce GHG impacts. The following actions support this input: Action 15.3 includes exploring technologies with a net positive energy balance and net greenhouse gas emissions reduction. Under Actions 16.3 and 17.1, Metro Vancouver will continue to recover nutrients and other materials from liquid waste; and, research, develop and pilot new methods to expand the recovery and use of energy, nutrients, water and other emerging resources from the liquid waste system. Strategy 18, minimizing impacts of liquid waste management on the atmosphere and air quality, also aligns with regional, provincial and federal climate goals. |
| 235 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Biosolids</i> Strategy 15: Doesn't address CEC application via biosolids and the need to inform TWN about their proposed use in TWN consultation area. Need to do comprehensive testing of leachability and compare to BI WQOs prior to application. | Not addressed within the LMWP. Metro Vancouver will address this outside of the LWMP. 1. Where Metro Vancouver may use biosolids in a project within səlilwətał (Tsleil-Waututh Nation) traditional territory to reclaim land or fabricate another type of soil for a site-specific purpose, Metro Vancouver will notify səlilwətał to seek input. 2. In regards comprehensive testing of leachability and comparing to BI WQOs prior to application, Metro Vancouver would be glad to have an opportunity to work with səlilwətał (Tsleil-Waututh Nation) to complete monitoring and research. Water quality monitoring could be conducted at a future landscaping soil application site. There has also |

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| | | | | | <p>been research on using soil containing biosolids in green infrastructure to prevent stormwater and roadway contaminants from entering waterways. This is another area that Metro Vancouver would be glad to partner with səlilwətał (Tsleil-Waututh Nation) to study.</p> <p>Aside from these commitments, when it comes to contaminants of environmental concern, Metro Vancouver follows provincial biosolids regulations, which are designed to ensure the protection of the environment, including the protection of groundwater and surface waters. Strategy 4, “Prevent pollution at the source” will help to reduce contaminants of environmental concern in biosolids. Because many of these compounds are used in consumer products that we enjoy every day, they are also found in Nutrifor biosolids in low concentrations (in parts per billion). Action 4.2, specifically, focuses on residents and businesses to prevent pollution at the source, as well as outreach and education programs. This will help to reduce contaminants of environmental concern in wastewater and biosolids. Research led by the Canadian Water Network shows that the presence of contaminants in biosolids poses low risk to public health and the environment. Metro Vancouver remains committed to continuous improvement and is participating in studies to better understand the impact of contaminants of environmental concern on human health and the environment.</p> <p>In the region, Nutrifor biosolids are mixed with high-quality sawdust and sand to create a landscaping soil that contains less than 10 per cent biosolids. The soil meets the Organic Matter Recycling Regulation requirements for a “biosolids growing medium” - the highest quality product standard - and is considered retail grade under the regulation. It is used in parks and greenways and in residential landscaping. The landscaping soil is the main use for biosolids within region.</p> <p>Although the BC Organic Matter Recycling Regulation and supporting best management practices require a buffer between potentially sensitive areas and biosolids application areas, the regulation does not require this for fabricated soils that contain biosolids. This is primarily due to the low concentration of biosolids in these products (< 10 per cent biosolids).</p> |

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| 236 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Biosolids</i> Action 15.1: Also address TWN concerns about remobilization of contaminants | <p>Not addressed within LWMP. Metro Vancouver will address outside of LWMP 1. Where Metro Vancouver may use biosolids in a project within səlilwətał (Tsleil-Waututh Nation) traditional territory to reclaim land or fabricate another type of soil for a site-specific purpose, Metro Vancouver will notify səlilwətał to seek input. 2. In regards comprehensive testing of leachability and comparing to BI WQOs prior to application, Metro Vancouver would be glad to have an opportunity to work with səlilwətał (Tsleil-Waututh Nation) to complete monitoring and research. Water quality monitoring could be conducted at a future landscaping soil application site. There has also been research on using soil containing biosolids in green infrastructure to prevent stormwater and roadway contaminants from entering waterways. This is another area that Metro Vancouver would be glad to partner with səlilwətał (Tsleil-Waututh Nation) to study.</p> <p>Outside of these commitments, Metro Vancouver uses biosolids safely and responsibly, following the BC <i>Organic Matter Recycling Regulation</i> (OMRR) and the supporting best management practices. After more than 25 years of land application of biosolids in BC, there is no documented scientific evidence that the OMRR has failed to protect human health or had a negative impact on the environment. In addition, action 4.2 focuses on residents and businesses to prevent pollution at the source through outreach and education programs. This will help to reduce contaminants of environmental concern in wastewater and biosolids.</p> |
| 237 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Biosolids</i> Biosolids effects evaluations should also include how they compare relative to human and aquatic health benchmarks for contaminants | <p>Not revised within the LWMP. This is addressed outside of the LWMP. Metro Vancouver conducted a Biosolids Risk Assessment on Nutrifor biosolids, which is available on the Metro Vancouver website. website: metrovancover.org/services/liquid-waste/Documents/biosolids-risk-assessment-2017.pdf. The risk assessment found that it would take multiple lifetimes working with biosolids to equal the typical exposure to contaminants of environmental concern that are found in many everyday products.</p> <p>Metro Vancouver follows provincial regulations, which are designed to ensure the protection of human health and the environment, including the protection of groundwater and surface waters. The BC <i>Organic Matter Recycling Regulation</i> was informed by an extensive risk assessment that analyzed risks to humans, animals, plants, and</p> |

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| | | | | | soil organisms from exposure to contaminants of environmental concern through 14 different exposure pathways (e.g., food, water, soil, air). In BC, the requirements around the land application of biosolids is much more restrictive as compared to conventional fertilizers. |
| 238 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Biosolids</i> What subsequent actions are there if CECs are detected in biosolids based on current monitoring? | <p>Not all biosolids are the same and their quality reflects what the community sends down its drains. We live in region that does not receive large industrial inputs to the wastewater system. Although some contaminants of environmental concern (CECs) are broken down in wastewater treatment, wastewater treatment plants are not designed to eliminate them. Because many of these CECs are used in consumer and household products that we use every day, they are also found in Nutrifor biosolids in very low concentrations (in parts per billion). One part per billion is about half a teaspoon of liquid in an Olympic swimming pool.</p> <p>The amount of CECs found in Nutrifor biosolids are much lower than what is present in many everyday products. For example, it would take the average gardener working with biosolids soil products over 400,000 years to achieve the same exposure as is achieved by taking 1 Advil tablet metrovanancouver.org/services/liquid-waste/biosolids/about/product-quality.</p> <p>Metro Vancouver is committed to continuous improvement and monitors wastewater and Nutrifor biosolids for hundreds of CECs to better understand which compounds are present and is participating in studies to better understand the impact of CECs on human health and the environment. Monitoring results inform source control programs that help to identify sources of CECs and targeted actions can be taken to reduce these contaminants at their source. Information from Metro Vancouver's CEC monitoring programs is also used to create public facing information so that consumers can be more informed. For example, recently a Nutrifor biosolids PFAS factsheet was developed and is available on Metro Vancouver's website. Strategy 4, "Prevent pollution at the source" will help to reduce CECs in wastewater and in biosolids. Action 4.2 focuses on residents and businesses to prevent pollution at the source through outreach and education programs, including working with First Nations as desired on such outreach and education.</p> |

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| 239 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Biosolids</i> What have been the results of biosolids monitoring to date, and which benchmarks are/were used for comparison? | Metro Vancouver routinely monitors Nutrifor biosolids for nutrients, trace elements, and microbes in order to determine compliance with the BC <i>Organic Matter Recycling Regulation</i> (OMRR) quality standards. Over the past four years, Metro Vancouver has achieved 100 per cent compliance (with 98 per cent compliance in the 20 years prior). Any product that does not meet the BC OMRR biosolids quality standards is disposed of. |
| 240 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Circular Water Economy</i> Strategy 16: These are all important actions to reduce GHG emissions and resource use and should be encouraged. | Thank you, we appreciate your support for this strategy. |
| 241 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Circular Water Economy</i> Will need to address potential redistribution of contaminants of emerging concern when doing so. | Metro Vancouver plans to track the fate and transport of contaminants of environmental concern (CECs) in some pilot projects, as some new technologies are expected to transform or destroy contaminants of environmental concern. The inclusion of CEC tracking in pilots will be determined on a project-by-project basis outside of the LWMP, based on relevance and available budget. |
| 242 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Circular Water Economy</i> Indicators: The actions above are about more than just energy; what are indicators relevant to the other actions? | Not revised within the LWMP. Progress on the actions in Strategy 16 will be described and measured in the LWMP Annual Report. The report will provide highlights on projects that recover energy, water, nutrients, and other materials from liquid waste, and can include metrics such as the number of projects and the quantities of resources recovered. |
| 243 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Circular Water Economy</i> Indicator: methods piloted? | Not revised within the LWMP. Progress on the actions in Strategy 17 will be described and measured in the LWMP Annual Report, which will provide highlights on projects that research, develop, and pilot new methods for recovering and using energy, nutrients, water and other emerging resources from the liquid waste system. |
| 244 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Environmental Management</i> How could the LWMP address the logistical challenges preventing members' installations of SSO and CSO monitors? | Input incorporated. The updated LWMP (action 8.3) will require combined sewer overflow monitors to be installed to measure municipal combined sewer overflow discharges. Monitors for collecting improved data at chronic sanitary sewer overflow sites would be considered under reporting for LWMP actions 7.1, 7.2, 7.3 |

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| 245 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Environmental Management</i> Receiving environment monitoring programs should not only address increasing concentrations, but also address any concentrations that consistently exceed WQOs. | All Metro Vancouver receiving environment monitoring programs are designed to assess the attainment of the applicable water quality objectives and water quality guidelines. |
| 246 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Environmental Management</i> Can MV commit to exploring collaborative and coordinating activities? | Revised. Based on səlilwətał (Tsleil-Waututh Nation) input, a new action (20.5) commits Metro Vancouver and members to share, review, discuss, and receive input from First Nations on the implementation and progress of strategies and actions within the LWMP, with the purpose of facilitating ongoing discussions with First Nations and respecting and working with First Nations' science and knowledge. |
| 247 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Environmental Management</i> Any monitoring activities that indicate exceedances of water quality benchmarks, or other threats to environmental or human health need subsequent remedial actions to address and mitigate environmental effects. | Results of Metro Vancouver's receiving environment monitoring programs are carefully reviewed and taken into consideration for all liquid waste management decisions, including collection system operation, facility upgrades, source control, etc. |
| 248 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Environmental Management</i> Strategy 19: Membership of the EMC should be expanded to include First Nations as per First Nation's own desires. This is not specifically mentioned in this section. | Some revisions made. Based on səlilwətał (Tsleil-Waututh Nation) input, a new action (20.5) commits Metro Vancouver and members to share, review, discuss, and receive input from First Nations on the implementation and progress of strategies and actions within the LWMP, with the purpose of facilitating ongoing discussions with First Nations and respecting and working with First Nations' science and knowledge. |
| 249 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Environmental Management</i> Strategy 19: There are no specific actions related to continuing MV's existing ambient monitoring programs. Should clarify if the intention is that these programs are continued or not. If not, MV needs to make a clear financial commitment to diverting the resources | Addressed outside the LWMP: Metro Vancouver will continue its receiving water bodies monitoring programs that are designed to assess the environmental impact of the Metro Vancouver's liquid waste discharges. |

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| | | | | from these monitoring programs into new programs of equivalent value, working with partners. | |
| 250 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Environmental Management</i> Strategy 19 EMC: Concerned that First Nations are excluded here, so First Nations values will not be integrated. | The LWMP recognizes the integral importance of the health of local watersheds to First Nations. First Nations values are further integrated into the development and review of the water quality objectives, for example in Burrard Inlet through the update of the BI WQOs, which was led by səlilwətał (Tsleil-Waututh Nation). Actions 20.1 and 20.5 commit Metro Vancouver and members to work with First Nations in relevant collaborative environmental program(s) for regional water bodies (i.e., Fraser River, Burrard Inlet, Strait of Georgia) along with other (action 20.1) and in the LWMP implementation forum (action 20.5). These actions are intended to ensure that First Nations priorities are heard and considered, and implemented wherever possible. |
| 251 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Environmental Management</i> Action 19.1: Monitoring should be coordinated across the region to maximize efficiency and obtain a comprehensive picture of water quality and aquatic health. Need to monitor rainwater as well; coordinated monitoring for rainwater can be a starting point for monitoring coordination. | Actions 20.1, 20.5, as well as rainwater actions 10.1, 10.2, and 12.4 aim to address this input about coordinated work on water quality monitoring in the region. |
| 252 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Environmental Management</i> Indicators: Need more indicators to reflect the range of monitoring needs. Needs to be compared to BI WQOs and other benchmarks protective of water values. | Metro Vancouver has been using and will continue to use the Canadian Council of Ministers of the Environment Water Quality Index (CCME WQI) as a scientifically defensible and nationally adopted performance indicator on the environmental health of regional water bodies. The CCME WQI is based on the pertinent water quality objectives/guidelines and takes into consideration scope, frequency, and amplitude of exceedances. |
| 253 | Feedback on the draft LWMP Sept 2024 version: | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Environmental Management</i> Action 19.3: strengthen statements and metrics. | Metro Vancouver has been using and will continue to use the Canadian Council of Ministers of the Environment Water Quality Index (CCME WQI) as a scientifically defensible and nationally adopted performance indicator on the environmental health of regional water bodies. The CCME WQI is based on the pertinent water quality |

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| | Orbit# 70940930 | | | | objectives/guidelines and takes into consideration scope, frequency, and amplitude of exceedances. |
| 254 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Environmental Management</i> 19: MV has an opportunity to take a role in coordination of monitoring programs with other jurisdictions. | <i>Strategy 20 Collaborate on regional environmental management initiatives</i> addresses this input. |
| 255 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Environmental Management</i> Action 20.1 - Are these environmental monitoring programs intended to replace MV's current ambient monitoring programs? If so, will MV play a leadership role in these programs? Provide resources? | No, these programs are not intended to replace Metro Vancouver's existing environmental monitoring programs. Metro Vancouver will continue its receiving water bodies monitoring programs that are designed to assess the environmental impact of the Metro Vancouver's liquid waste discharges. |
| 256 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Environmental Management</i> Suggest that the LWMP include a commitment to a new collaborative monitoring approach or structure, building from the coordinated monitoring discussions facilitated by TWN that MV has been a part of. | Action 20.1 commits Metro Vancouver to participate in relevant collaborative environmental programs for regional water bodies. Action 20.5 commits Metro Vancouver to establish a forum for First Nations, the Ministry of Environment and Parks, and member jurisdictions to share, review, discuss, and receive input on the implementation and progress of strategies and actions within the LWMP, discussions that could include regional and municipal monitoring efforts. |
| 257 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Environmental Management</i> Action 20.1: Great, but can MV, as a regional entity, also initiate collaborations and coordination? | Revised. Based on səlilwətał (Tsleil-Waututh Nation) input, a new action (20.5) commits Metro Vancouver and member jurisdictions to share, review, discuss, and receive input from First Nations on the implementation and progress of strategies and actions within the LWMP, with the purpose of facilitating ongoing discussions with First Nations and respecting and working with First Nations' science and knowledge. |
| 258 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Environmental Management</i> Action 20.3: What about existing marinas? | Already completed. Pump-out requirements for existing marinas was an action completed through the 2002 LWMP. |

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| 259 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Environmental Management</i> Action 20.2: Describe in LWMP how Metro Van is using the WQOs (in more than 1 sentence that is currently in callout box). | Not revised. Addressed outside of the LWMP. Please refer to the presentation shared at the səlilwətał/MV LWMP monthly meeting on February 19, 2025. |
| 260 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Environmental Management</i> Member municipalities have had low monitoring frequency. Integrate improved municipal monitoring methods into LWMP. | There are many actions in new plan that will require more and improved monitoring by members: 1.3, 2.1, 3.5, 6.3, 7.3, 8.3, 8.4, 8.7, 8.9, 9.5, 10.1, 11.3, 18.1. |
| 261 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Environmental Management</i> Suggest that MV contribute to the budget of a joint inter-agency collaborative monitoring body. | Not revised. Metro Vancouver commits to participating in relevant collaborative environmental programs for regional water bodies (action 20.1); however, at this time there is no direction for Metro Vancouver to fund or lead a joint interagency collaborative monitoring body. |
| 262 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | The proposed new reporting including streamlined annual reports, public dashboards, and regular meetings is a significant step to improve transparency of wastewater management and monitoring data and should be lauded. | Thank you. Streamlining and improving reporting was a key focus for this updated LWMP. |
| 263 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Rainwater Management</i> Integrate TWN's stormwater story map into public education. Can also include in the call-out box about WQOs. twnation.ca/stormwater . | Metro Vancouver is open to working with səlilwətał (Tsleil-Waututh Nation) to share səlilwətał (Tsleil-Waututh Nation) educational materials when preparing regional public education and awareness programs. Towards this end, Metro Vancouver has already promoted twnation.ca/stormwater in both the Phase 2 and Phase 3 LWMP public engagement survey. The stormwater story map is not included in this section of the LWMP as it could send the message that only stormwater impacts water quality objectives. We will continue to look for other opportunities to promote twnation.ca/stormwater outside of the LWMP. Action 4.2c incorporates this feedback, committing Metro Vancouver to working with First Nations on education and outreach. |

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| 264 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>LWMP Dashboard</i> Coordinate with overall dashboard being considered as part of TWN-BC collaborative work re. WQOs implementation. Share resources, ideas and let's not duplicate efforts. | The LWMP dashboard will be a high level summary of progress on the LWMP - see details in Appendix B of the updated LWMP. It will include the 17 performance indicators noted in the LWMP, and accumulate new data points year over year. The format and linkages will be developed over the next couple of years - it could potentially link to the səlilwətał (Tsleil-Waututh Nation)/BC dashboard. We can continue to work closely together, particularly in the forum created under LWMP action 20.5, to ensure there is not a duplication of efforts. |
| 265 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Progress Meetings</i> Yes, should be accountable to First Nations. | Revised. Based on səlilwətał (Tsleil-Waututh Nation) input, action 20.5 commits to a regular forum with First Nations, the Ministry of Environment and Parks, and member jurisdictions to share, review, discuss, and receive input on the implementation and progress of strategies and actions within the LWMP, with the purpose of facilitating ongoing discussions with First Nations and respecting and working with First Nations' science and knowledge. |
| 266 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | Why are First Nations only invited to certain meetings? | <p>Shared decision-making at the regional Board level is currently limited to Metro Vancouver's member jurisdictions, including one treaty First Nation. Under the existing governance structure and the constraints of the <i>Local Government Act</i>, First Nations that are not full members of the regional district are invited to participate in meetings that are open to non-members.</p> <p>To further advance First Nations collaboration across all facets of regional liquid waste management, Metro Vancouver recognizes that the provincial <i>Declaration Act</i> Action Plan item 1.11 identifies First Nations participation on regional district boards as an item that will be advanced by the Ministry of Housing and Municipal Affairs. The Province is actively working to advance this initiative, and Metro Vancouver looks forward to receiving further direction and information regarding the legislative changes to the <i>Local Government Act</i> that are required to support this action. The Province anticipates this legislative change being a few years away.</p> <p>In the meantime, Action 20.5 is intended to provide a forum for First Nations, the Province, and members to share, review, discuss, and receive input on the implementation and progress of strategies and actions within the LWMP, with the purpose of facilitating ongoing discussions with First Nations, respecting and working with First Nations' science and knowledge. In addition, LWMP Action 12.1 will</p> |

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| | | | | | include First Nations membership in the LWMP's updated Stormwater Interagency Liaison Group with member jurisdictions, to facilitate efficient and effective information sharing and collaboration on regional watershed management. |
| 267 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>Roles and Responsibilities</i> While Metro Van isn't in a position to assign responsibilities to First Nations, TWN/First Nations should be invited and provided capacity to participate as per our interest. | New Action 20.5 commits Metro Vancouver and members to share, review, discuss, and receive input from First Nations on the implementation and progress of strategies and actions within the LWMP, with the purpose of facilitating ongoing discussions with First Nations and respecting the Indigenous knowledge that Nations choose to share. As for capacity funding, commitments to capacity funding are out of scope of the LWMP. Specific funding requests related to specific engagement activities will be considered under a different process on a case-by-case basis. |
| 268 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | Regarding the increase of \$5M annually for enhancing environmental management programs, how is this funding being allocated to new programs? It would be helpful to better understand the costs of these programs to understand if this money is going to the highest priority actions or if other actions would be more important. | Specific details of the funding will be developed during the implementation of the LWMP, and future budget funding is subject to Board approval. However, about \$4 million of the \$5 million expected to be allocated annually for the implementation of this LWMP has been ear-marked for important environmental initiatives such as improving our understanding of an impact of wastewater discharges on the environment, and enhancing our environmental monitoring, modelling, and risk assessment programs. |
| 269 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | TWN has not been invited to join MV technical/corporate advisory committees. | Agreed. Metro Vancouver will include First Nations membership in the LWMP's updated Stormwater Interagency Liaison Group with member jurisdictions, to facilitate efficient and effective information sharing and collaboration on regional watershed management. |
| 270 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | <i>LWMP Dashboard</i> We hadn't been aware of these dashboards. The current water quality index is problematic, as the method used for it is not described, and it doesn't consider TWN / water values as articulated in the BIWQOs. How was the index calculated and based on what definition of 'pristine', 'natural', | Metro Vancouver uses a nationally prescribed and adopted Canadian Council of Ministers of the Environment protocol for the calculation of the water quality index, which is based on a combination of three factors: number of parameters whose guidelines are not met; the frequency with which the guidelines are not met; and the amount by which the guidelines are not met. Please refer to the CCME website for further details: ccme.ca |

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| | | | | 'desirable', 'minor degree of threat', etc.? For TWN (and based on the values to protect via the WQOs), contamination has surpassed acceptable levels, so water quality in Burrard Inlet is far from desirable, despite what the current MV index shows. | |
| 271 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | Wording of goals is inconsistent in report under different action sections, should be reviewed for consistency. | Goals have been reviewed and are consistent throughout the updated LWMP. |
| 272 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | Overall, we appreciate the aim to articulate measurable actions rather than stop at high level strategies. | Thank you. Developing clear, measurable actions was a key focus of this LWMP update. |
| 273 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | Describe how TWN documents have been used in the preparation of the LWMP, e.g. TMX assessment, stewardship policy, WQOs policy and detailed technical reports, Burrard Inlet Action Plan. Can cite them as references. | All of Metro Vancouver's receiving environment monitoring programs are designed to assess the attainment of the applicable water quality objectives, which includes the Burrard Inlet Water Quality Objectives for the Burrard Inlet. In addition, in the new "Aligning with First Nations Initiatives" section in the updated LWMP, Metro Vancouver highlights the alignments with ongoing First Nations-led initiatives in the region, including the səlilwətał (Tsleil-Waututh Nation) Burrard Inlet Action Plan. As the LWMP is a regulatory document, some of the other referenced səlilwətał (Tsleil-Waututh Nation) documents - such as the Assessment of the Trans Mountain Pipeline and Tanker Expansion Proposal, stewardship policy, and detailed technical reports - have not been directly incorporated into the development of the LWMP. We recognize the importance of these resources and the valuable perspectives they offer and are open to reviewing these documents with səlilwətał (Tsleil-Waututh Nation) and exploring how they might inform implementation of the strategies and actions within the LWMP. |

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| 274 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | Who has been on the Public Advisory Committee? | The following people have been members, at one time or another, of the LWMP public advisory committee, since its inception in 2021. Their mandate was completed at the end of Phase 2, when they presented their recommendations for the updated LWMP to the Liquid Waste Committee on October 30, 2024: Deborah Carlson, Co-Chair - Staff Lawyer, West Coast Environmental Law Dr. Peter Ross, Co-Chair - Senior Scientist & Director, Water Pollution, Raincoast Conservation Foundation Mat Brown - Director of Western Watersheds, Swim Drink Fish Canada Lauren Brown Horner - Swim Drink Fish Canada Stephanie Chang - Professor, School of Community and Regional Planning, and Institute for Resources, Environment, and Sustainability, University of British Columbia Russell Elliot - Campaigns Manager, Georgia Strait Alliance Lucero Gonzalez Ruiz, Georgia Strait Alliance Deborah Jones - Rain Gardens Coordinator, Cougar Creek Streamkeepers Jacek Redlinski - Zone Director, Lower Mainland, Building Officials Association of BC Chi Ho Sham - Independent Consultant; Former President, American Water Works Association Graham With - Head Brewer, Parallel 49 Brewing Company |
| 275 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | In subsequent drafts of the LWMP, show where edits were made, e.g. additions, deletions, rewording. We need to agree on process so that TWN input is reflected in final version. | Agreed. Metro Vancouver will provide a redline version of the final draft LWMP, along with a response table noting where səlilwətał (Tsleil-Waututh Nation) written input has been incorporated into the draft plan, and if not, why not. |
| 276 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | Public Advisory Committee met before First Nation consultation; not justifiable. | Metro Vancouver has sought a government-to-government approach for First Nations' input on the LWMP. One-on-one meetings have been held with individual First Nations to focus solely on First Nations priorities and their detailed input on the content for the next LWMP. This includes monthly meetings with səlilwətał (Tsleil-Waututh Nation) on the LWMP starting in April 2024, as well as a Nation to Nation meeting on the LWMP requested by local First Nations in April 2025. Engagement on the LWMP follows the provincially-approved engagement strategy and subsequent Board direction, which includes |

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| | | | | | <p>concurrent engagement with First Nations, member jurisdictions, technical advisory committees, and the Public Advisory Committee (PAC).</p> <p>At the same time, we recognize that we can always do better to advance meaningful engagement with First Nations, and will continue to make efforts to improve collaboration throughout the implementation of the LWMP.</p> <p>Actions that support greater First Nations collaboration within the LWMP include: 10.1, 10.2, 12.1, 12.4, 20.5</p> |
| 277 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | If any elements of TWN's input have been deemed out of scope of the LWMP, TWN and MV should meet to discuss how to address them. | Metro Vancouver will provide a redline version of the final LWMP, along with a response table noting where səlilwətał (Tsleil-Waututh Nation) written input has been incorporated into the draft plan, and if not, why not. Meetings to discuss these items are already planned for summer 2025, and can continue throughout LWMP implementation. |
| 278 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | What accountability do the members have to undertake the actions? What if they do not undertake the actions adequately? | The commitments made by Metro Vancouver and its members in the LWMP are legally binding as it is a regulatory document. The Province has the authority to enforce the implementation of the actions. |
| 279 | Feedback on the draft LWMP Sept 2024 version: Orbit# 70940930 | səlilwətał (Tsleil-Waututh Nation) | Nov 5, 2024 | Language throughout the document should explicitly include protection of Indigenous rights and First Nations consent, and should reflect the principles of UNDRIP. | While local governments are not considered the Crown under Canadian law and therefore do not hold the constitutional Duty to Consult in the same manner as federal or provincial governments, we recognize the importance of inclusive and respectful dialogue. As a local government operating under the <i>Local Government Act</i> , we follow the direction provided by the Province. At this time, a consent-based approach has not been identified by the Province as a regulatory component of the LWMP update for Metro Vancouver. |
| 280 | səlilwətał (Tsleil-Waututh Nation) Monthly LWMP Meeting: What We Heard Summary Table | səlilwətał (Tsleil-Waututh Nation) | Dec 9, 2024 | <p><i>Theme 1: Governance</i></p> <p>Noting that the experience presenting to the Liquid Waste Committee on October 30, 2024 was another example of how First Nations are not at the governance table.</p> | Metro Vancouver recognizes that BC's <i>Declaration Act</i> Action Plan item 1.11 identifies First Nations participation on regional district boards as an item that will be advanced by the Ministry of Housing and Municipal Affairs. The Province is actively working to advance this initiative, and Metro Vancouver looks forward to receiving further direction and information regarding the legislative changes to the <i>Local Government Act</i> that are required to support this action. The |

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| | | | | | Province anticipates this legislative change being a few years away. In the meantime, Metro Vancouver proposes to expand First Nations influence in the following areas, which First Nations have expressed interest in, and where opportunities for greater collaboration exist within the scope of the LWMP: - Rainwater management/watershed health (actions 10.1 and 10.2, 12.1, 12.4) - Collaborative regional environmental management initiatives (action 20.1) - LWMP implementation and progress assessment (action 20.5) |
| 281 | səlilwətał (Tsleil-Waututh Nation) Monthly LWMP Meeting: What We Heard Summary Table | səlilwətał (Tsleil-Waututh Nation) | Dec 9, 2024 | <i>Theme 1: Nation to Nation Space To Discuss draft LWMP</i> səlilwətał requests that Metro Vancouver organize a Nation to Nation space and invite First Nations to come together to discuss and provide their thoughts on the draft LWMP. It is also requested that Metro Vancouver would not be involved in the discussion, would simply be the convener of the meeting, not a participant. A virtual meeting could be an option if in-person logistics/availability presents a challenge. | Agreed upon and carried out. Based on səlilwətał (Tsleil-Waututh Nation) input, Metro Vancouver organized and held the requested Nation to Nation meeting on April 10, 2025 for local First Nations. |
| 282 | səlilwətał (Tsleil-Waututh Nation) Monthly LWMP Meeting: What We Heard Summary Table | səlilwətał (Tsleil-Waututh Nation) | Jan 16, 2025 | <i>Theme 1: First Nations LWMP Meeting</i> səlilwətał supported Metro Vancouver's proposal for the requested First Nations meeting to discuss the LWMP. | Agreed upon. Based on səlilwətał (Tsleil-Waututh Nation) input, Metro Vancouver organized and held the requested Nation to Nation meeting on April 10, 2024 for local First Nations. |
| 283 | səlilwətał (Tsleil-Waututh Nation) Monthly LWMP Meeting: What | səlilwətał (Tsleil-Waututh Nation) | Jan 16, 2025 | <i>Theme 1: First Nations LWMP Meeting</i> səlilwətał recommended Metro Vancouver provide engagement funding to support other First Nations at endance at this meeting. | Agreed upon and carried out. Engagement funding was made available to support local First Nations at endance at this meeting, under the Phase 3 LWMP scope of work. |

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| | We Heard Summary Table | | | | |
| 284 | səlilwətał (Tsleil-Waututh Nation) Monthly LWMP Meeting: What We Heard Summary Table | səlilwətał (Tsleil- Waututh Nation) | Jan 16, 2025 | <p><i>Theme 2: Drafting a New Action – First Nations LWMP Implementation Forum</i></p> <p>In general, səlilwətał supports the development of an action that would involve First Nations in the implementation of the LWMP through a regularly scheduled forum with Metro Vancouver and member jurisdictions, however, wording should reflect true collaboration, and respect First Nations science and knowledge on equal footing with others, on a government-to-government basis.</p> <p>The concept of this action and its wording should be shared with First Nations for their input.</p> | Metro Vancouver shared this draft action (20.5) with local First Nations for their input at the April 10, 2025 Nation to Nation meeting on the LWMP. |
| 285 | Email | máthxwi (Matsqui First Nation) | Feb 16, 2025 | Matsqui First Nation needs more information and understanding on how the LWMP will be managed. What are the potential cumulative effects? There is concern of fish habitat impacts, mortality, destruction. | <p>Metro Vancouver offered several dates to meet with máthxwi (Matsqui First Nation) representatives in order to discuss the LWMP further, and offered the following background information in the meantime:</p> <p>Liquid Waste Management Plans are approved by the provincial Minister of Environment and Parks, and are typically updated roughly every 10 years, to address the changing needs of the environment, emerging contaminants, emerging science and technology, and climate change. The current LWMP was approved in 2011. The work to update the region's Liquid Waste Management Plan has been underway since 2021. The plan establishes the coordinated approach for wastewater management in the Metro Vancouver region through goals, strategies, and actions for Metro Vancouver and its member jurisdictions that help ensure the protection of human health and the environment while using wastewater as a resource and minimizing treatment costs.</p> <p>Liquid Waste Management Plans are authorized and regulated through the Environmental Management Act and form part of the regulatory framework that Metro Vancouver and its members work</p> |

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| | | | | | under. We are currently in the third and final phase of engagement on the plan, with a draft plan available for review and comment. |
| 286 | səlilwətał (Tsleil-Waututh Nation) Monthly LWMP Meeting: What We Heard Summary Table | səlilwətał (Tsleil-Waututh Nation) | Feb 19, 2024 | <i>Theme 1: Points of Divergence</i> səlilwətał would like to discuss points of divergence in their writ en feedback on the draft LWMP – feedback that hasn’t been incorporated into the LWMP or where feedback is out of scope of the LWMP. | Metro Vancouver held another meeting with səlilwətał (Tsleil-Waututh Nation) to discuss points of divergence on April 16, 2025. Points of divergence were also discussed with local First Nations at the April 10, 2025 Nation to Nation meeting. |
| 287 | səlilwətał (Tsleil-Waututh Nation) Monthly LWMP Meeting: What We Heard Summary Table | səlilwətał (Tsleil-Waututh Nation) | Feb 19, 2024 | <i>Theme 2: Nation to Nation Meeting on Draft LWMP</i> səlilwətał suggested that Metro Vancouver take part in the first quarter of the meeting, while the remaining three quarters of the meeting, including lunch, should be reserved for the Nation to Nation discussion on the draft LWMP. | Agreed upon and carried out. |
| 288 | səlilwətał (Tsleil-Waututh Nation) Monthly LWMP Meeting: What We Heard Summary Table | səlilwətał (Tsleil-Waututh Nation) | Feb 19, 2024 | <i>Theme 2: Nation to Nation Meeting on Draft LWMP</i> səlilwətał requested that Metro Vancouver keep them updated as to who will be at ending from other First Nations. | Agreed upon and carried out. |
| 289 | səlilwətał (Tsleil-Waututh Nation) Monthly LWMP Meeting: What We Heard Summary Table | səlilwətał (Tsleil-Waututh Nation) | Feb 19, 2024 | <i>Theme 3: Initial Dilution Zones</i> səlilwətał stated that in the Burrard Inlet, an environment with so many cumulative effects, using an initial dilution zone for effluent quality does not make sense. səlilwətał would like to see the Burrard Inlet Water Quality Objectives (BIWQOs) met at discharge points, at a minimum – discharging more than what is outlined | Metro Vancouver presented the Canadian Council of Ministers of the Environment (CCME) Canada-wide Strategy for the Management of Municipal Wastewater Effluent at this meeting in order to explain the process Metro Vancouver follows to set targets for effluent quality. According to the CCME Strategy, persistent, bioaccumulative, and toxic substances are not allowed a mixing zone, and their concentration is already supposed to meet the applicable WQOs at the end of pipe. Metro Vancouver monitoring programs are very comprehensive and include evaluation of impact of discharges from the regional liquid waste infrastructure on the receiving environment. In addition to |

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| | | | | <p>in the BIWQOs does not contribute to improved water quality.</p> <p>səlilwətał understands that improving the water quality of the Burrard Inlet will need to be a collective effort at all levels of government, but səlilwətał understands that Metro Vancouver strives to exceed regulatory standards.</p> | <p>water column, we are also monitoring sediment effects and biota: mussels, crabs, and fish. Environmental performance has always been, and will continue to be, assessed through evaluation of attainment of BIWQOs. Cumulative effects associated with the Metro Vancouver discharges, if present, would more likely be observed in sediment and bivalves, than in the water, which is constantly moving. Background environmental conditions are used as an additional tool to interpret findings of Metro Vancouver's monitoring results.</p> |
| 290 | səlilwətał (Tsleil-Waututh Nation) Monthly LWMP Meeting: What We Heard Summary Table | səlilwətał (Tsleil-Waututh Nation) | Feb 19, 2024 | <p><i>Theme 4: Meeting the Burrard Inlet Water Quality Objectives</i></p> <p>səlilwətał stated that anything emerging from the hundreds of entry points in the Burrard Inlet should meet the BIWQOs.</p> | <p>Metro Vancouver's monitoring programs for Burrard Inlet are designed to assess the impact of its discharges on the Inlet and BIWQOs are used in this regard. Metro Vancouver cannot be responsible for the impact of other discharges into Burrard Inlet that are not related to its operations. The Ministry of Environment and Parks is the regulatory agency that issues authorizations for discharges into the environment.</p> |
| 291 | q̓w̓a:ḥłəḥ (Kwantlen First Nation)-Metro Vancouver Working Group Meeting | q̓w̓a:ḥłəḥ (Kwantlen First Nation) | Feb 24, 2025 | <p>q̓w̓a:ḥłəḥ (Kwantlen First Nation) is concerned about the impact of urban development on aquifers. Who is considering aquifers within the development decision-making process</p> | <p>The LWMP includes specific actions that call for the integration of groundwater considerations within Integrated Watershed Management Plans (IWMPs). The upcoming review of the IWMP template will ensure that groundwater is recognized and addressed as a key component of future IWMPs.</p> <p>Action 10.3 supports this input.</p> |
| 292 | q̓w̓a:ḥłəḥ (Kwantlen First Nation)-Metro Vancouver Working Group Meeting | q̓w̓a:ḥłəḥ (Kwantlen First Nation) | Feb 24, 2025 | <p>q̓w̓a:ḥłəḥ (Kwantlen First Nation) would like to see developers responsible for installing circular water approaches in their facilities and buildings</p> | <p>Actions 10.4 and 11.2 support this input.</p> |
| 293 | q̓w̓a:ḥłəḥ (Kwantlen First Nation)-Metro Vancouver Working Group Meeting | q̓w̓a:ḥłəḥ (Kwantlen First Nation) | Feb 24, 2025 | <p>Due to LWMP actions on rainwater management advancing green infrastructure and dedicating rainwater management funding, when there are new rainwater management and green infrastructure installations, q̓w̓a:ḥłəḥ (Kwantlen First Nation) requests that q̓w̓a:ḥłəḥ guardians be involved</p> | <p>Metro Vancouver recognizes that First Nations monitoring and guardian programs bring value to First Nation communities by ensuring their presence on, and continued stewardship of the lands, waters, and resources within their respective territories. We also recognize the shared value that comes from incorporating First Nations' stewards on projects and we will consider the involvement of Indigenous guardians in monitoring new rainwater management and green infrastructure installations on a case-by-case basis.</p> |

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| 294 | kʷikʷəłəm's (Kwikwetlem First Nation) Response to LWMP Draft Report | kʷikʷəłəm (Kwikwetlem First Nation) | Feb 26, 2025 | <p>MVRD's water consumption per capita is higher than in many other developed regions. However, the teachings of kʷikʷəłəm emphasize the importance of taking only what is necessary and avoiding waste.</p> <p>MVRD has proposed doubling the volume of water taken from Coquitlam Lake—an issue that comes at a time when kʷikʷəłəm is working to reclaim rights and interests that have been denied for over 100 years, and when local fish populations are becoming increasingly vulnerable to climate change. At this time, current water conservation efforts in MVRD are not meeting its own targets set for per capita water use.</p> <p>Conservation initiatives are also essential for reducing the burden on wastewater treatment facilities, and kʷikʷəłəm believes that addressing water conservation challenges should take priority over expanding the water system.</p> | <p>Although the LMWP has no regulatory jurisdiction over water metering, LWMP action 3.5 encourages member jurisdictions to conduct business casing and/or implement residential water metering programs to reduce potable water use. It also urges a region-wide water conservation program under the Drinking Water Management Plan.</p> <p>Metro Vancouver's average per capita water use has been steadily declining in the region since 2010. This decline can be attributed to densification, updated plumbing codes, increased efficiency of water fixtures and appliances, public education, and conservation initiatives including the seasonal watering restrictions in the Drinking Water Conservation Plan. Despite this decline, the per capita water use in the region remains higher than other jurisdictions across the country. Metro Vancouver is continuing to prioritize conservation and is committed to advancing conservation and metering through the update of the DMWP and to optimizing drinking water supply from existing infrastructure.</p> <p>For the Coquitlam Lake Water Supply Project, Metro Vancouver has entered into an agreement with BC Hydro to access additional drinking water supply from the Coquitlam reservoir by purchasing a portion of the water currently allocated to BC Hydro for power generation. The overall volume of water that can be withdrawn from the reservoir is not changing, but the timing for withdrawals will. The 2005 Coquitlam-Buntzen Water Use Plan currently guides how water from the Coquitlam Reservoir is used and specifies allowances for environmental flows, hydropower generation, and drinking water.</p> |
| 295 | kʷikʷəłəm's (Kwikwetlem First Nation) Response to LWMP Draft Report | kʷikʷəłəm (Kwikwetlem First Nation) | Feb 26, 2025 | <p>The Liquid Waste Management Plan offers a unique opportunity to promote water conservation, which will result in less wastewater reaching MVRD's treatment facilities over time.</p> <p>In addition to the efforts outlined in the Liquid Waste Management Plan, MVRD must prioritize water conservation in the region to meet or exceed MVRD's established conservation targets,</p> | <p>There are a number of initiatives to reduce both sanitary and stormwater flows, both within and outside of the LWMP, including wet weather pricing.</p> <p>Outside of the LWMP, Metro Vancouver has developed a Non-Potable Water Systems Guidebook, available online metrovancouver.org/services/water/Documents/non-potable-water-systems-printer-friendly-guidebook-2022.pdf. It describes best practices for adopting non-potable water systems in a manner that helps Metro Vancouver move toward more resilient and sustainable use of available water resources.</p> |

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| | | | | <p>including offering rebates for low-consumption household equipment, and applying water pricing mechanisms to encourage more efficient water use. Furthermore, MVRD should invest in strategies to reduce the demand on treatment plants, including increased reuse of grey water, and conduct comprehensive exfiltration assessments to identify where leaks are occurring in the region.</p> <p>Focusing on implementing enhanced water conservation measures will enable Metro Vancouver to delay the need for the Coquitlam Water Supply Project, deferring costs to a later date and saving taxpayers money. Although kʷikʷəłəm understands that mandating water metering is outside of MVRD's jurisdiction, the Nation seeking to advance conversations with the Province alongside Metro Vancouver or member municipalities regarding the need to legislate water metering and empower MVRD to implement other conservations measures. kʷikʷəłəm is willing to stand with MVRD to advocate for the appropriate changes that are also reflective of BC's Watershed Security Strategy. Please have your teams reach out to kʷikʷəłəm representatives to initiate these tri-partite discussions with the Province.</p> | <p>The Drinking Water Management Plan also has a number of conservation strategies that reduce flows, including advocating for expanded water metering. For stormwater, Metro Vancouver has published a report, Stormwater Source Control Design Guidelines (metrovancover.org/services/liquid-waste/Documents/stormwater-source-control-design-guidelines-2012.pdf) which is a resource for member municipalities to successfully implement green infrastructure approaches, such as bioswales, etc.</p> <p>The following LWMP actions support this feedback: 3.5 (encouraging water metering), 10.2, 10.3, 10.4, 10.5, 11.3, 12.3.</p> <p>We understand the Ministry of Environment and Parks plan to undertake independent consultation with interested First Nations on Metro Vancouver's LWMP, after submission of the LWMP to the Province later this year. We encourage kʷikʷəłəm (Kwikwetlem First Nation) to voice its support for greater effort on water conservation by member jurisdictions.</p> |
| 296 | kʷikʷəłəm's (Kwikwetlem First Nation) Response to | kʷikʷəłəm (Kwikwetlem First Nation) | Feb 26, 2025 | As mentioned in our earlier letter, given the potential impacts of climate change, including wetter winters and warmer summers, the concern about exfiltration as a dominant cause of soil, stream, and | Not revised within LWMP, however, Metro Vancouver staff have offered to meet with kʷikʷəłəm (Kwikwetlem First Nation): representatives at sites of concern to assess the exfiltration concern. From there, staff can check to see if inspections have already been done in these areas and share the results, and/or set up site visits as |

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| | LWMP Draft Report | | | groundwater pollution during dry weather events remains significant. Since Metro Vancouver has not yet conducted broad-scale research on exfiltration, there is an opportunity to consider initiating such research to better understand and address the risks associated with this form of pollution. Expanding or supporting municipal efforts in this area, potentially in collaboration with environmental groups or academic institutions, could provide valuable insights into the role of exfiltration in both wet and dry conditions. This would help inform strategies for mitigating pollution, particularly in relation to soil health and local water quality over time. Could the proponent please provide insight into the possibility of initiating this research? | desired. Exfiltration is usually only an issue for pressurized sewer systems. The vast majority of local sewer systems are not pressurized and therefore actually have a significant infiltration problem (water leaking into sewer pipes). However, we would be interested to meet and learn more about locations where kʷikʷəłəm (Kwikwetlem First Nation) has concerns that exfiltration is a problem. |
| 297 | kʷikʷəłəm's (Kwikwetlem First Nation) Response to LWMP Draft Report | kʷikʷəłəm (Kwikwetlem First Nation) | Feb 26, 2025 | It is noted that no performance indicators have been proposed for Strategy 2, 4, 12, 17, and 20. kʷikʷəłəm First Nation reiterates the importance of having performance indicators for each strategy, to ensure measurable progress, accountability, and the effective evaluation of outcomes in addressing key environmental and infrastructure challenges. | Indicators have been created for strategies that can be quantitatively measured and we wanted to start with a smaller number as a baseline. As this LWMP is an adaptive plan, there will be opportunities in the future to build on the current content in the plan, including indicators. Also, data points for inflow and Infiltration, along with rainwater management will have more detailed dashboards developed outside the LWMP. |
| 298 | kʷikʷəłəm's (Kwikwetlem First Nation) Response to LWMP Draft Report | kʷikʷəłəm (Kwikwetlem First Nation) | Feb 26, 2025 | <i>Strategy #2: Improve resilience of wastewater system to climate change and natural hazards:</i> For Strategy #2, potential indicators could include the completion of assessments to determine any weakness or vulnerability to infrastructure, the frequency of updated | These are good indicators, but may be more suitable outside a regulatory document. Some are already reported outside of the LWMP, for example, in the Metro 2050 Progress Reports for vulnerability studies and regional climate projections, and member council reports for municipal work. As this LWMP is an adaptive plan, there will be opportunities in the future to build on the current content in the plan, including indicators. |

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| | | | | regional climate projections shared among jurisdictions, and the percentage of identified vulnerabilities addressed through adaptation plans. Additionally, tracking the number of infrastructure projects designed to address climate impacts and the establishment of partnerships for data sharing could provide valuable insights into the strategy's effectiveness and overall resilience improvements. | |
| 299 | kʷikʷəłəm's (Kwikwetlem First Nation) Response to LWMP Draft Report | kʷikʷəłəm (Kwikwetlem First Nation) | Feb 26, 2025 | <p><i>Strategy #4: Prevent pollution at the source:</i></p> <p>Potential indicators for this strategy could include quantifying pollutants found in wastewater effluent, the number of updated regulations or bylaws reflecting best practices, and the level of reach accomplished through community outreach campaigns.</p> | Wastewater effluent is regularly monitored and monthly effluent characterization results for all wastewater treatment plants are posted on the Metro Vancouver website. We do assess campaign reach, for example, see item E2 on p. 25 of Liquid Waste Committee Agenda Package - September 11, 2024, a report on the 2024 Unflushables Campaign Results. We are interested in improving our understanding of what source control actions seem to produce the best results and we look forward to hearing from interested parties, including First Nations, over the duration of this LWMP on ways we can improve how we measure success. |
| 300 | kʷikʷəłəm's (Kwikwetlem First Nation) Response to LWMP Draft Report | kʷikʷəłəm (Kwikwetlem First Nation) | Feb 26, 2025 | <p><i>Strategy #12: Enhance interagency collaboration to improve watershed health across the region:</i></p> <p>This strategy highlights the need to modernize the Stormwater Interagency Liaison Group to address evolving challenges. Metrics could include the number of updated terms of reference aligning with regional goals, completion of studies on the relationship between the health of the watershed amidst an increasing population, green infrastructure cost-benefit analyses, regularity of hosted forums for knowledge sharing, as well as First Nation representation in any decision-</p> | <p>Revised. Based on kʷikʷəłəm (Kwikwetlem First Nation) input, the following performance indicators have been added to the the LWMP:</p> <ul style="list-style-type: none"> - Action 10.2 b) Number of engagement points [such as meetings, workshops, written input] with First Nations on LWMP development, monitoring, and review. - Action 12.4 Number of forums held and attended since LWMP approval - Action 20.5 Number of meetings under Action 20.5 held and attended since LWMP approval <p>Rainwater metrics will be further developed and shared on the online rainwater dashboards, with input from First Nations.</p> |

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| | | | | making bodies relating to liquid waste management. | |
| 301 | kʷikʷəłəm's (Kwikwetlem First Nation) Response to LWMP Draft Report | kʷikʷəłəm (Kwikwetlem First Nation) | Feb 26, 2025 | <p><i>Strategy #17: Research and pilot innovative technologies to advance the circular water economy:</i></p> <p>Metrics could include the number of pilot projects implemented, the volume of resources recovered (e.g., biogas, nutrients, reclaimed water), and greenhouse gas emissions avoided through recovery efforts. Additional measures might track innovations and the resulting economic or environmental benefits, highlighting progress toward a sustainable circular water economy.</p> | Progress on the actions in Strategy 17 will be described in the LWMP Annual Report. The report will provide highlights on projects that research and pilot new methods for resource recovery and use, and can include metrics such as the number of projects and quantification of their benefits (e.g. volume of resources, GHG reductions, etc.). |
| 302 | kʷikʷəłəm's (Kwikwetlem First Nation) Response to LWMP Draft Report | kʷikʷəłəm (Kwikwetlem First Nation) | Feb 26, 2025 | <p>Potential measures of success for <i>Strategy #20: Collaborate on regional environmental management initiatives</i> could include the number of collaborative programs participated in for water bodies, progress in establishing water quality objectives through provincial processes, and the percentage of marinas compliant with pump-out facility regulations, as well as the overall impact of these initiatives on water quality and ecosystem health.</p> | <p>Revised. Based on input from First Nations, including kʷikʷəłəm (Kwikwetlem First Nation), the following performance indicator has been added to the LWMP:</p> <ul style="list-style-type: none"> - Performance indicator for Strategy 20: Number of meetings under Action 20.5 held and at ended since LWMP approval. <p>All actions in the LWMP are also tracked in an annual action status table that is shared with the Province. In cases where an LWMP timeline is not met or an LWMP action has not changed for a long period of time from 'Not Started' or 'In Progress,' Metro Vancouver and member jurisdictions will be prepared to provide explanation, rationale, evidence of works in progress, or reasons for delays to the Province as necessary.</p> |
| 303 | kʷikʷəłəm's (Kwikwetlem First Nation) Response to LWMP Draft Report | kʷikʷəłəm (Kwikwetlem First Nation) | Feb 26, 2025 | <p>These proposed potential indicators are not prescriptive and kʷikʷəłəm First Nation remains open to considering alternative metrics or approaches. Establishing clear and meaningful ways to evaluate outcomes will be crucial for ensuring accountability, guiding future actions, and achieving the intended goals of protecting public health,</p> | <p>Agreed. Metro Vancouver will work with First Nations throughout the implementation of the LWMP to develop more detailed indicators during the development of the planned online dashboards for inflow and infiltration, and rainwater management.</p> <p>The updated LWMP also commits Metro Vancouver to establish of a series of meetings for First Nations, the Ministry of Environment and Parks, Metro Vancouver, and its member jurisdictions to share, review, discuss, and receive input on the implementation and progress of</p> |

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| | | | | advancing environmental stewardship, and reflecting First Nations' priorities. | <p>strategies and actions within the LWMP, with the purpose of facilitating ongoing discussions with First Nations and respecting and working with First Nations' science and knowledge. More discussion around performance indicators can occur at these ongoing meetings. (Action 20.5)</p> <p>Finally, all actions in the LWMP are tracked in an annual action status table that is shared with the Province. In cases where an LWMP timeline is not met or an LWMP action has not changed for a long period of time from 'Not Started' or 'In Progress,' Metro Vancouver and member jurisdictions will be prepared to provide explanation, rationale, evidence of works in progress, or reasons for delays to the Province as necessary.</p> |
| 304 | kʷikʷəłəm's (Kwikwetlem First Nation) Response to LWMP Draft Report | kʷikʷəłəm (Kwikwetlem First Nation) | Feb 26, 2025 | kʷikʷəłəm First Nation respectfully requests that any fieldwork taking place as a result of the Project be completed with the presence of a kʷikʷəłəm First Nation Guardian to provide oversight. Please reach out to fieldwork@kwikwetlem.com to arrange for representation in the field. In addition, we request that all forthcoming documents including monitoring, incident, and conditions reports are forwarded to the Nation via fieldwork@kwikwetlem.com . | Metro Vancouver recognizes that First Nations monitoring and guardian programs bring value to First Nation communities by ensuring their presence on, and continued stewardship of the lands, waters, and resources within their respective territories. We also recognize the shared value that comes from incorporating First Nations' stewards on projects and we will consider the involvement of Indigenous guardians in monitoring activities on a case-by-case basis. |
| 305 | kʷikʷəłəm's (Kwikwetlem First Nation) Response to LWMP Draft Report | kʷikʷəłəm (Kwikwetlem First Nation) | Feb 26, 2025 | Please note that kʷikʷəłəm First Nation asserts rights, title, and stewardship interests over all lands, waters, and resources within kʷikʷəłəm Traditional Territory. The Nation reserves the right to provide comments at any stage of the process. Please continue to notify kʷikʷəłəm via referrals@kwikwetlem.com of any activity related to the Project as planning progresses. | Metro Vancouver will continue to engage and share information with kʷikʷəłəm and other relevant First Nations during the process of updating and implementing the LWMP. |

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| | | scəwəθən məsteyəx ^w (Tsawwassen First Nation) səlilwətał (Tsleil-Waututh Nation) | | decisionmakers in the plan's finalization and implementation. | and must respond to any ministerial conditions presented, thus remain the parties responsible for the LWMP's implementation. |
| 309 | Response Table LWMP Nation to Nation Meeting 2025- 04-13 | q̓wɑ:ńłəń (Kwantlen First Nation) k̓wíkʷəłəm (Kwikwetlem First Nation) Semiahmoo First Nation scəwəθən məsteyəx ^w (Tsawwassen First Nation) səlilwətał (Tsleil-Waututh Nation) | Apr 10, 2025 | Where are the teeth in the LWMP to ensure that members involve First Nations meaningfully and in good faith on actions that include First Nations, specifically on Integrated Watershed Management Plans? What will Metro Vancouver do if members don't work with First Nations? There are already instances where the relationships between municipalities and First Nations are strained, what is going to change that? | Metro Vancouver does not have authority to direct municipalities' actions, but can facilitate dialogue to help resolve disputes that may arise between First Nations and member jurisdictions when they are working to advance actions in the LWMP (e.g. working together on Integrated Watershed Management Plans). Ultimately, the commitments made by Metro Vancouver and its members in the LWMP are legally binding as it is a regulatory document. The Province has the authority to enforce the implementation of the actions. |
| 310 | Response Table LWMP Nation to Nation Meeting 2025- 04-14 | q̓wɑ:ńłəń (Kwantlen First Nation) k̓wíkʷəłəm (Kwikwetlem First Nation) Semiahmoo First Nation scəwəθən məsteyəx ^w (Tsawwassen First Nation) səlilwətał (Tsleil-Waututh Nation) | Apr 10, 2025 | There should be a dedicated section in the LWMP that speaks to the priority concerns of First Nations. | There is a section in the updated LWMP on "Working with First Nations" and another section on "Aligning with First Nations Initiatives" that discuss how Metro Vancouver will work with First Nations on its projects, plans, and initiatives, and the alignments with ongoing First Nations-led initiatives in the region, such as the Tsleil-Waututh Nation Burrard Inlet Action Plan and Lower Fraser River Estuary Management Partnership. While priority concerns from First Nations, or other specific groups, will not be listed in a regulatory policy document such as the LWMP, all of the feedback received from First Nations during engagement is shared with Metro Vancouver elected officials for their awareness and consideration. It will also be shared with the Ministry of Environment and Parks as part of the application package for the approval of the LWMP. First Nations feedback from Phases 1 and 2 of engagement is included in the following Greater Vancouver Sewerage and Drainage Reports, which have already been shared with the Province: - Phase 1 (Report, page 77; First Nations comment table, page 104) metrovancover.org/boards/GVSDD/SDD_2022-Apr-29_AGE.pdf#search=%22GVSD%22 |

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| | | | | | <p>- Phase 2 (Report, page 17; First Nations comment table, page 22) metrovanancouver.org/boards/GVSDD/SDD-2024-11-29-AGE.pdf#search=%22GVSD%22</p> <p>In June 2025, a Metro Vancouver report focusing on the priority concerns heard from First Nations at the April 10, 2025 Nation to Nation dialogue will be shared with the elected officials on Metro Vancouver's Liquid Waste Committee and Indigenous Relations Committee.</p> <p>A final engagement report sharing all of the detailed feedback from First Nations on the draft LWMP will be provided to Metro Vancouver's Board and the Province in fall 2025.</p> <p>In addition, First Nations feedback has been woven into strategies and actions in the updated plan (for example, Strategies 1 to 4, 10 to 12, and 20).</p> |
| 311 | Response Table LWMP Nation to Nation Meeting 2025- 04-15 | q̓w̓a:ḥłəḥ (Kwantlen First Nation) k̓w̓ik̓w̓əłəm (Kwikwetlem First Nation) Semiahmoo First Nation scəw̓aθən məsteyəx̓w̓ (Tsawwassen First Nation) səlilwətał (Tsleil- Waututh Nation) | Apr 10, 2025 | There should be a section in the plan that states that Metro Vancouver is committed to realizing UNDRIP/DRIPA. | The "Working with First Nations" section of the LWMP references UNDRIP. At a corporate level, Metro Vancouver is exploring how the actions outlined in UNDRIP and DRIPA may apply to the implementation of the work contemplated in the LWMP. Metro Vancouver is working closely with the Province and First Nations to better understand our role in advancing UNDRIP and DRIPA. |
| 312 | Response Table LWMP Nation to Nation Meeting 2025- 04-16 | q̓w̓a:ḥłəḥ (Kwantlen First Nation) k̓w̓ik̓w̓əłəm (Kwikwetlem First Nation) Semiahmoo First Nation scəw̓aθən məsteyəx̓w̓ (Tsawwassen First Nation) | Apr 10, 2025 | There is no mention of cumulative effects in the LWMP – there should be a cumulative effects assessment included. | <p>The LWMP commits to align its work with initiatives of importance to First Nations, such as the Lower Fraser Estuary Management Partnership which was specifically created to address cumulative effects on the lower Fraser River (LWMP section "Aligning with First Nations' Initiatives").</p> <p>Further, LWMP action 20.1 commits Metro Vancouver to participate along with First Nations and other interested parties in collaborative regional environmental monitoring programs that would address issues of interest to First Nations, which may include, though not be</p> |

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| | | səlilwətał (Tsleil-Waututh Nation) | | | limited to, the assessment of cumulative effects in regional water bodies. |
| 313 | Response Table LWMP Nation to Nation Meeting 2025- 04-17 | q̓wɑ:ńłəń (Kwantlen First Nation) k̓wíkʷəłəm (Kwikwetlem First Nation) Semiahmoo First Nation scə́waθən məsteyəx̣ʷ (Tsawwassen First Nation) səlilwətał (Tsleil- Waututh Nation) | Apr 10, 2025 | Not all goals and strategies have performance indicators. There should be performance indicators on everything, especially those things that are First Nations' priorities. There should be performance indicators to show progress on the goal to "Reflect First Nations priorities". | Agreed. Performance indicators have been added to all strategies that can have progress measured quantitatively. For other strategies, implementation progress will be captured via written explanations and the progress snapshot table submitted as part of the annual report. As part of tracking progress, First Nations will be invited to co-develop a new rainwater forum which will bring together First Nations, Metro Vancouver, member jurisdictions, and the Province to collectively assess and provide input on the progress of the rainwater actions in the LWMP. |
| 314 | Response Table LWMP Nation to Nation Meeting 2025- 04-18 | q̓wɑ:ńłəń (Kwantlen First Nation) k̓wíkʷəłəm (Kwikwetlem First Nation) Semiahmoo First Nation scə́waθən məsteyəx̣ʷ (Tsawwassen First Nation) səlilwətał (Tsleil- Waututh Nation) | Apr 10, 2025 | First Nations should be included in performance indicator development. | Three new performance indicators are proposed to track First Nations involvement in LWMP implementation. Metro Vancouver and members will work with First Nations to develop more detailed performance indicators through the development of the rainwater management and inflow and infiltration online dashboards during LWMP implementation. |
| 315 | Response Table LWMP Nation to Nation Meeting 2025- 04-18 | q̓wɑ:ńłəń (Kwantlen First Nation) k̓wíkʷəłəm (Kwikwetlem First Nation) Semiahmoo First Nation scə́waθən məsteyəx̣ʷ (Tsawwassen First Nation) səlilwətał (Tsleil- Waututh Nation) | Apr 10, 2025 | First Nations should be included in the creation of progress reporting dashboards. | First Nations will be invited to participate in the development of the planned rainwater management dashboard and provide input into the inflow and infiltration dashboard. |

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| 316 | Response Table LWMP Nation to Nation Meeting 2025- 04-19 | q̓wɑ:ńłəń (Kwantlen First Nation) k̓wík̓wə́ləm (Kwikwetlem First Nation) Semiahmoo First Nation scə́wəθən məsteyəx̓w (Tsawwassen First Nation) səlilwətał (Tsleil- Waututh Nation) | Apr 10, 2025 | First Nations should be included in Integrated Watershed Management Plan development, monitoring, and review. | Agreed. Actions 10.1 and 10.2 require member jurisdictions to involve First Nations in Integrated Watershed Management Plan development, monitoring, and review. The LWMP is a legally binding document, so there is a legal obligation for members to work with First Nations on Integrated Watershed Management Plans and other actions that require First Nations involvement. |
| 317 | Response Table LWMP Nation to Nation Meeting 2025- 04-20 | q̓wɑ:ńłəń (Kwantlen First Nation) k̓wík̓wə́ləm (Kwikwetlem First Nation) Semiahmoo First Nation scə́wəθən məsteyəx̓w (Tsawwassen First Nation) səlilwətał (Tsleil- Waututh Nation) | Apr 10, 2025 | Capacity funding should be provided for all activities mentioned above, to allow for meaningful engagement. | Out of scope of LWMP. Ongoing government-to-government relationships do not usually involve capacity funding for referrals. Specific funding requests related to specific engagement activities will be considered under a different process on a case-by-case basis. |
| 318 | səlilwətał (Tsleil-Waututh Nation) Monthly LWMP Meeting: What We Heard Summary Table | səlilwətał (Tsleil- Waututh Nation) | Apr 30, 2025 | səlilwətał reiterated the request for full membership in the storm/rainwater interagency liaison group and asked about equity in decision-making authority in the group. | Metro Vancouver will include First Nations membership in the LWMP's updated Stormwater Interagency Liaison Group with member jurisdictions, to facilitate efficient and effective information sharing and collaboration on regional watershed management. This is an advisory group that works on regional rainwater and watershed management issues. It is not a decision-making group. Ultimately, decisions on policy direction and funding are made by the Liquid Waste Committee and Greater Vancouver Sewerage and Drainage District Board, and by the municipalities themselves when issues fall under their jurisdictions. These decisions may be informed by work done by the regional storm/rainwater interagency group. |

| ID | Source/ Material | Organization/Group | Date | Comments/Information Requests | Action / Commitment / Final Response |
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| 319 | səlilwətał (Tsleil-Waututh Nation) Monthly LWMP Meeting: What We Heard Summary Table | səlilwətał (Tsleil-Waututh Nation) | Apr 30, 2025 | Will the Integrated Watershed Management Plan (IWMP) update and development of IWMPs be done separately from the rainwater group? | The updated Stormwater Interagency Liaison Group, which will include First Nations membership, will update the Integrated Watershed Management Plan template and advance other rainwater initiatives (e.g. the advancement of green infrastructure in the region), with input from First Nations. LWMP actions 12.1, 12.4 support this input. |
| 320 | səlilwətał (Tsleil-Waututh Nation) Monthly LWMP Meeting: What We Heard Summary Table | səlilwətał (Tsleil-Waututh Nation) | Apr 30, 2025 | səlilwətał reiterated their feedback that all actions and strategies, and not just some, should show (in the graphic table in the document) that they advance the LWMP goal of “Reflecting First Nations Priorities”. | Metro Vancouver recognizes that all the goals, strategies, and actions in the LWMP reflect First Nations priorities, as they aim to protect human health and improve environmental outcomes. The intention with the icons was to show which strategies directly included First Nations in a new action or specifically reflected First Nations feedback. In response, the table will now show that all strategies support all the goals, with particular strategies highlighted to indicate the heightened involvement of First Nations in specific actions in that strategy. |
| 321 | səlilwətał (Tsleil-Waututh Nation) Monthly LWMP Meeting: What We Heard Summary Table | səlilwətał (Tsleil-Waututh Nation) | Apr 30, 2025 | səlilwətał requested to see the proposed new performance indicators that are intended to help track progress on involving First Nations in the implementation of the LWMP. | New performance indicators developed based on First Nations input at April 10, 2025 Nation to Nation dialogue: - Action 10.2 b) Number of engagement points [such as meetings, workshops, written input] with First Nations on IWMP development, monitoring, and review. - Action 12.4 Number of forums held and at ended since LWMP approval - Action 20.5 Number of meetings under Action 20.5 held and at ended since LWMP approval |
| 322 | Email | máthxwi (Matsqui First Nation) | May 13, 2025 | Concerns about wastewater treatment plant odour, health issues to nearby residents, and potential health impacts to agriculture and food sources. Recommend testing of water, air, and land pollutants and contaminants | An overview of our liquid waste services environmental monitoring and testing is provided on the Metro Vancouver website: metrovancover.org/services/liquid-waste/environmental-management-and-testing - We regularly monitor effluent from all five wastewater treatment plants, and monthly monitoring reports are posted here: metrovancover.org/services/liquid-waste/wastewater-treatment-plants-and-processes - Beaches and recreational water quality monitoring results/reports are posted here: metrovancover.org/services/liquid-waste/wastewater-treatment-plants-and-processes - The majority of Metro Vancouver’s liquid waste environmental monitoring and modelling initiatives are summarized every year in the |

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| | | | | | <p>Environmental Management and Quality Control Annual Reports. Annual Reports for the last five years are available at: metrovancover.org/services/liquid-waste/reports-and-resources</p> <p>- Receiving environment monitoring reports for the Fraser River, Burrard Inlet, Strait of Georgia and Iona Island Wastewater Treatment Plant deep sea outfall are also summarized and posted at: metrovancover.org/services/liquid-waste/reports-and-resources</p> <p>- Our website also provides a link to a real-time sewer overflow map at: metrovancover.org/services/liquid-waste/wastewater-treatment-plants-and-processes</p> <p>As for your comments about odour, Metro Vancouver understands that odour is a concern for community members living near wastewater treatment plants. The design criteria for odour control in the wastewater treatment plant aims to minimize the release of odorous compounds into the surrounding environment. All Metro Vancouver's wastewater treatment plants are enhancing their odour controls as they are constructed and upgraded.</p> |
| 323 | Report Back Session Summary Table | kʷikʷə́ləm (Kwikwetlem First Nation), q̣ʷɑ:ńłəń (Kwantlen First Nation), scəwəθən məsteyəxʷ (Tsawwassen First Nation), səlilwətał (Tsleil-Waututh Nation) | May 27, 2025 | Continued requests for an equal seat at the regional decision-making table. | <p>Metro Vancouver recognizes that BC's <i>Declaration Act</i> Action Plan item 1.11 identifies First Nations participation on regional district boards as an item that will be advanced by the Ministry of Housing and Municipal Affairs. The Province is actively working to advance this initiative, and Metro Vancouver looks forward to receiving further direction and information regarding the legislative changes to the <i>Local Government Act</i> that are required to support this action. The Province anticipates this legislative change being a few years away.</p> <p>In the meantime, Metro Vancouver proposes to expand First Nations influence in the following areas, which First Nations have expressed interest in, and where opportunities for greater collaboration exist within the scope of the LWMP:</p> <ul style="list-style-type: none"> - Rainwater management/watershed health (actions 10.1 and 10.2, 12.1, 12.4) - Collaborative regional environmental management initiatives (action 20.1) - LWMP implementation and progress assessment (action 20.5) |
| 324 | Report Back Session Summary Table | kʷikʷə́ləm (Kwikwetlem First Nation), q̣ʷɑ:ńłəń | May 27, 2025 | Concerns about unmaintained storm drains (clogging, freezing, safety issues) | Catch basin maintenance is a key part of Integrated Watershed Management Plans which are required under the LWMP. Best management practices by municipalities reflect the importance of |

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| | | (Kwantlen First Nation), scəwəθən məsteyəx ^w (Tsawwassen First Nation), səlilwətaʔ (Tsleil-Waututh Nation) | | and potential sewage overflows into False Creek and important wetlands. | frequent catch basin grit removal and inspections to maintain performance levels. False Creek regularly receives combined sewer overflows from the City of Vancouver combined sewer system. However, it has also been subject to sanitary sewer overflows recently from sewer forcemain breaks. There are actions in the plan addressing the need to maintain infrastructure in good condition and avoid such system failures. LWMP actions that support this input: 1.1, 10.2, 11.1. |
| 325 | Report Back Session Summary Table | kʷikʷəłəm (Kwikwetlem First Nation), q̣ʷɑ:ńłəń (Kwantlen First Nation), scəwəθən məsteyəx ^w (Tsawwassen First Nation), səlilwətaʔ (Tsleil-Waututh Nation) | May 27, 2025 | Continued requests for capacity funding to support First Nations participation in LWMP actions/implementation. | Metro Vancouver has not contemplated any specific funding to be available for First Nations involvement in the implementation of the LWMP activities at this point. Any specific funding requests related to specific engagement activities will be considered on a case-by-case basis. |
| 326 | səlilwətaʔ (Tsleil-Waututh Nation) Follow up responses to July 10, 2025 Response Table on səlilwətaʔ input on draft LWMP | səlilwətaʔ (Tsleil-Waututh Nation) | Aug 7, 2025 | Are the mark-ups in the revised draft only following səlilwətaʔ input, or have all the edits since the previous version been shown as markups? | The mark-ups provided to səlilwətaʔ in the updated redline version of the LWMP on July 10, 2025 should reflect all edits up to that point, inclusive of Metro Vancouver internal reviews as well as input from səlilwətaʔ. The goal was to provide səlilwətaʔ the most up-to-date version. |
| 327 | səlilwətaʔ (Tsleil-Waututh Nation) Follow up Responses to July 10, 2025 Response Table on səlilwətaʔ input on draft LWMP | səlilwətaʔ (Tsleil-Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 100 above:</i> All strategies should still reflect First Nation priorities, both for technical and ethical reasons. We may not have had specific feedback on some of them if we agreed with their intents. | Metro Vancouver recognizes that all the goals, strategies, and actions in the LWMP reflect First Nations priorities, as they aim to protect human health and improve environmental outcomes. |

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| 358 | səlilwətał (Tsleil-Waututh Nation) Follow up Responses to July 10, 2025 Response Table on səlilwətał input on draft LWMP | səlilwətał (Tsleil-Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 102 above:</i> This deliberate omission should be explicitly acknowledged, then, within the LWMP itself, and the title revised to reflect the deliberately limited scope of 'evolution'. | Not revised. The intention of the LWMP is to provide direction to Metro Vancouver and members on wastewater management actions. The intention of this comment-response table is to provide a public record of all First Nations input on the LWMP, noting where and why it was or wasn't incorporated. To keep the LWMP as focused as possible on subject areas that remain within the scope of the Plan, Metro Vancouver will not be incorporating instances of omission into the LWMP itself, as they are captured in this report. |
| 359 | səlilwətał (Tsleil-Waututh Nation) Follow up Responses to July 10, 2025 Response Table on səlilwətał input on draft LWMP | səlilwətał (Tsleil-Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 103 above:</i> Again, deliberate omissions can be explicitly acknowledged. | Not revised. Same explanation as ID 358 above. |
| 360 | səlilwətał (Tsleil-Waututh Nation) Follow up Responses to July 10, 2025 Response Table on səlilwətał input on draft LWMP | səlilwətał (Tsleil-Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 104 above:</i> Again, deliberate omissions can be explicitly acknowledged. | Not revised. Same explanation as ID 358 above. |
| 361 | səlilwətał (Tsleil-Waututh Nation) Follow up Responses to July 10, 2025 Response Table on səlilwətał input on draft LWMP | səlilwətał (Tsleil-Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 105 above:</i> Again, deliberate omissions can be explicitly acknowledged. | Not revised. Same explanation as ID 358 above. |

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| 362 | səlilwətał (Tsleil-Waututh Nation) Follow up Responses to July 10, 2025 Response Table on səlilwətał input on draft LWMP | səlilwətał (Tsleil-Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 106 above:</i> That's not the same as what we asked for. Everybody has an "important role", but First Nations are distinct. | Noted. With the phrase, "First Nations play an important role in stewarding the lands," the intent is to acknowledge First Nation's deep connection, knowledge, and leadership in land stewardship. This phrasing is not meant to diminish that role. Our intention is to honor and reflect the significance of First Nations' relationships with the land, while also ensuring that our language aligns appropriately with the broader context of this regulatory plan. |
| 363 | səlilwətał (Tsleil-Waututh Nation) Follow up Responses to July 10, 2025 Response Table on səlilwətał input on draft LWMP | səlilwətał (Tsleil-Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 109 above:</i> Noting Metro Vancouver's continued refusal to collaborate with First Nations in a truer sense of the word, and rejection of requests for co-decision-making. This should be explicitly acknowledged in the LWMP. | Noted. Same explanation as ID 358 above. |
| 364 | səlilwətał (Tsleil-Waututh Nation) Follow up Responses to July 10, 2025 Response Table on səlilwətał input on draft LWMP | səlilwətał (Tsleil-Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 111 above:</i> Governance was raised as a key concern through engagement with Nations and at the Nation to Nation workshop. It would be highly beneficial and meaningful to present this information in the LWMP Report in a call out box or other format. If one of the primary goals of the LWMP is to reflect First Nations' priorities, I think it's crucial to include this information rather than have it lost. | Not revised. Same explanation as ID 358 above. |
| 365 | səlilwətał (Tsleil-Waututh Nation) Follow up | səlilwətał (Tsleil-Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 113 above:</i> Since Governance section has been reframed, the Regulatory and Policy Framework section should include the Burrard Inlet Water Quality Objectives. | Not revised. The Governance section is not intended to be an exhaustive list of regulatory documents and related policies. |

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| | Responses to July 10, 2025 Response Table on səliwətaḥ input on draft LWMP | | | | |
| 366 | səliwətaḥ (Tsleil-Waututh Nation) Follow up Responses to July 10, 2025 Response Table on səliwətaḥ input on draft LWMP | səliwətaḥ (Tsleil-Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 113 above:</i> First Nations are not just a "key group", they are rights holders upon whose unceded territories Metro Vancouver has situated itself, without their consent. | Noted. Metro Vancouver understands that First Nations as rights holders are distinct due to their unique constitutional, historical, and legal status which is further articulated by the following sentence included in the Plan: "Metro Vancouver recognizes and respects the existing Aboriginal and treaty rights of Indigenous peoples in Canada, as recognized and affirmed by section 35 of the <i>Constitution Act, 1982</i> ." In response to your comment, we revised ID row 113: "This section includes First Nations as having interests and rights affected by the plan." |
| 367 | səliwətaḥ (Tsleil-Waututh Nation) Follow up Responses to July 10, 2025 Response Table on səliwətaḥ input on draft LWMP | səliwətaḥ (Tsleil-Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 115 above:</i> Is there no duty to consult? | The Duty to Consult is a legal term defined in Canadian law that applies to the Crown – primarily the federal and provincial governments. Metro Vancouver as a local government remains committed to meaningful engagement with First Nations. We also abide by relevant provincial laws. We value collaborative relationships and welcome dialogue to ensure that First Nations priorities and interests are respectfully considered and reflected in our planning processes, including the LWMP. |
| 368 | səliwətaḥ (Tsleil-Waututh Nation) Follow up Responses to July 10, 2025 Response | səliwətaḥ (Tsleil-Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 126 above:</i> I'm confused. Why not refer to water quality policy here too? | Not revised. This is not intended to be an exhaustive list of regulatory documents and related policies. |

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| | Table on səlilwətał input on draft LWMP | | | | |
| 369 | səlilwətał (Tsleil- Waututh Nation) Follow up Responses to July 10, 2025 Response Table on səlilwətał input on draft LWMP | səlilwətał (Tsleil- Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 128 above:</i> Looking at the other plans mentioned, it's not clear why the Salmon Enhancement Action Plan wouldn't be included in the list, even given this explanation. | Not revised. This is not intended to be an exhaustive list of related initiatives. |
| 370 | səlilwətał (Tsleil- Waututh Nation) Follow up Responses to July 10, 2025 Response Table on səlilwətał input on draft LWMP | səlilwətał (Tsleil- Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 131 above:</i> Need to simultaneously address and mitigate the stormwater. | Agreed, stormwater also needs to be addressed. Strategy 1 relates to sanitary sewer servicing. Actions relating to stormwater are included under Strategies 2, 9, 10, 11, 12, and 20. |
| 371 | səlilwətał (Tsleil- Waututh Nation) Follow up Responses to July 10, 2025 Response Table on səlilwətał | səlilwətał (Tsleil- Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 134 above:</i> Yes that was the intent of the requested revision. | Not revised. Metro Vancouver and members will continue to ensure that First Nations are engaged appropriately. |

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| | input on draft LWMP | | | | |
| 372 | səlilwətaʔ (Tsleil-Waututh Nation) Follow up Responses to July 10, 2025 Response Table on səlilwətaʔ input on draft LWMP | səlilwətaʔ (Tsleil-Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 139 above:</i> Should this be mentioned somewhere? | Not revised. As guidelines, standards, and professional requirements addressing the resilience of liquid waste infrastructure are required knowledge for professionals and local governments, and governed by other regulatory jurisdictions, it is not necessary to cite them here in the LWMP. They are also constantly evolving – new ones added, older ones superseded, etc. – and so any comprehensive listing in this document would quickly become outdated. |
| 373 | səlilwətaʔ (Tsleil-Waututh Nation) Follow up Responses to July 10, 2025 Response Table on səlilwətaʔ input on draft LWMP | səlilwətaʔ (Tsleil-Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 140 above:</i> So does the one indicator adequately reflect whether the four actions have been achieved? | While performance indicator 1A (percentage of sanitary and combined sewer pipe inspected annually) only pertains to Action 1.1, reporting on all four actions will be required via the LWMP Annual Report (see Table C.1). |
| 374 | səlilwətaʔ (Tsleil-Waututh Nation) Follow up Responses to July 10, 2025 Response Table on səlilwətaʔ input on draft LWMP | səlilwətaʔ (Tsleil-Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 145 above:</i> For follow up. | Metro Vancouver is happy to continue discussions with səlilwətaʔ on the liquid waste permitting process. |

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| 375 | səlilwətał (Tsleil-Waututh Nation) Follow up Responses to July 10, 2025 Response Table on səlilwətał input on draft LWMP | səlilwətał (Tsleil-Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 147 above:</i> Can Metro Vancouver facilitate this dialogue with member municipalities? | Yes, Metro Vancouver can facilitate discussions on the use of rubber crumb through the updated Stormwater Interagency Liaison Group. |
| 376 | səlilwətał (Tsleil-Waututh Nation) Follow up Responses to July 10, 2025 Response Table on səlilwətał input on draft LWMP | səlilwətał (Tsleil-Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 154 above:</i> Should report to First Nations directly, so that information can be transmitted more immediately. The First Nations Health Authority does not direct every activity that First Nation members do. What reason is there not to? | Not revised. Metro Vancouver has limited resources to conduct direct outreach, as Metro Vancouver provides real time notification associated with all overflows and wastewater treatment events on our website, and interested parties can sign up for notification text messages here: metrovancover.org/services/liquid-waste/real-time-sewer-overflow-map |
| 377 | səlilwətał (Tsleil-Waututh Nation) Follow up Responses to July 10, 2025 Response Table on səlilwətał input on draft LWMP | səlilwətał (Tsleil-Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 156 above:</i> Missing response to this part of the recommendation: <i>Metro Vancouver should clarify if dry weather overflows are occurring and, if they are occurring, commit to their reporting and a time frame for their elimination.</i> | Dry weather overflows can occur during emergencies (e.g., sewer blockages) and these are shown in real time on our publicly available combined sewer overflow/sanitary sewer overflow reporting site. |
| 378 | səlilwətał (Tsleil-Waututh Nation) | səlilwətał (Tsleil-Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 167 above:</i> Public knowledge about combined sewer overflows seems to be poor. | Understood. As part of our role, Metro Vancouver reports combined sewer overflows publicly in real time all year round on our website. |

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| | Nation) Follow up Responses to July 10, 2025 Response Table on səlilwətał input on draft LWMP | | | | |
| 379 | səlilwətał (Tsleil- Waututh Nation) Follow up Responses to July 10, 2025 Response Table on səlilwətał input on draft LWMP | səlilwətał (Tsleil- Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 172 above:</i> These explanations are very helpful. | Thank you. |
| 380 | səlilwətał (Tsleil- Waututh Nation) Follow up Responses to July 10, 2025 Response Table on səlilwətał input on draft LWMP | səlilwətał (Tsleil- Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 184 above:</i> Noting that this has not been revised. | Noted. Metro Vancouver's aim in our responses (e.g. in ID row 184) is to be transparent and honest about the limits of the current legislation under the <i>Local Government Act</i> , restricting the ability of non-members to participate in full co-decision-making. In addition, Metro Vancouver and its member jurisdictions are directly responsible (legally, financially, and otherwise) to the Province for the LWMP's implementation. |
| 381 | səlilwətał (Tsleil- Waututh Nation) Follow up Responses to | səlilwətał (Tsleil- Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 185 above:</i> Developing the template with First Nations would be collaboration. Action currently just says "with input from First Nations", which does not reflect collaboration. Why the resistance? | "With input from First Nations" is meant to reflect working together collaboratively. |

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| | July 10, 2025 Response Table on səlilwətał input on draft LWMP | | | | |
| 382 | səlilwətał (Tsleil- Waututh Nation) Follow up Responses to July 10, 2025 Response Table on səlilwətał input on draft LWMP | səlilwətał (Tsleil- Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 191 above:</i> Looks like it includes water quality guidelines explicitly but doesn't mention water quality objectives. Water quality objectives are only mentioned as an option on page 63 of the Stormwater Monitoring and Adaptive Management Framework under “supplemental monitoring”. Burrard Inlet and its tributaries will/do have site-specific objectives that differ, in some cases, from the water quality guidelines. | The LWMP is a regional document and references water quality guidelines that are applicable to the entire region. More specific reference to the water body-specific water quality objectives is recognized in the document and applicable, as appropriate. |
| 383 | səlilwətał (Tsleil- Waututh Nation) Follow up Responses to July 10, 2025 Response Table on səlilwətał input on draft LWMP | səlilwətał (Tsleil- Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 193 above:</i> Again, refusal noted. | Noted. Metro Vancouver’s aim in our responses (e.g. in ID row 193) was to be transparent and honest about the limits of the current legislation under the <i>Local Government Act</i> , restricting the ability of non-members to participate in full co-decision-making. In addition, Metro Vancouver and its member jurisdictions are directly responsible (legally, financially, and otherwise) to the Province for the LWMP’s implementation. |
| 384 | səlilwətał (Tsleil- Waututh Nation) Follow up Responses to July 10, 2025 Response | səlilwətał (Tsleil- Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 194 above:</i> <i>Metro Vancouver response: The Stormwater Monitoring and Adaptive Management Framework (AMF) outlines minimal requirements for chemical, hydrological and biological monitoring that can be used to assess effectiveness of municipal Integrated</i> | Noted. The review of the Integrated Watershed Management Plan template will be a suitable opportunity to review the Stormwater Monitoring and Adaptive Management Framework and introduce changes that reflect regulatory and policy changes since 2014 when the AMF was developed (such as the updated Burrard Inlet Water Quality Objectives). |

| ID | Source/ Material | Organization/Group | Date | Comments/Information Requests | Action / Commitment / Final Response |
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| | Table on səlilwətał input on draft LWMP | | | <p><i>Watershed Management Plans, which municipalities agreed upon at the time of its development (2014). It does not prevent any of the member jurisdictions from going above and beyond or implementing a more intensive or a different approach.</i></p> <p>səlilwətał comment: Why would they unless compelled to?</p> <p><i>Metro Vancouver response: Stormwater discharges from a number of member municipalities do not affect water quality of Burrard Inlet, and as such inclusion of the Burrard Inlet Water Quality Objectives into a regional document may not be appropriate.</i></p> <p>səlilwətał comment: But at least 8 of them do, so should mention marine monitoring</p> <p><i>Metro Vancouver response: In addition, Appendix E of the AMF also allows any municipality to develop an alternative process that would be more suitable for the unique natural conditions in a particular watershed. Appendix C of the AMF outlines background information on water quality assessment approaches and takes into consideration water quality objectives and guidelines.</i></p> <p>səlilwətał comment: No it doesn't</p> | |
| 385 | səlilwətał (Tsleil- Waututh Nation) Follow up | səlilwətał (Tsleil- Waututh Nation) | Aug 7, 2025 | <p><i>Re: ID row 196 above:</i></p> <p>Why does it say "environmental quality objectives"? There isn't anything called that</p> | Environmental quality objectives is used as a more generic term that applies to various water bodies in the region and different environmental matrices. |

| ID | Source/ Material | Organization/Group | Date | Comments/Information Requests | Action / Commitment / Final Response |
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| | Responses to July 10, 2025 Response Table on səlilwətał input on draft LWMP | | | | |
| 386 | səlilwətał (Tsleil-Waututh Nation) Follow up Responses to July 10, 2025 Response Table on səlilwətał input on draft LWMP | səlilwətał (Tsleil-Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 198 above:</i> But they should be keeping records, no? Would be very disorganized not to. | Tracking impervious surfaces connected to storm systems versus disconnected surfaces is a very resource intensive task, especially for private property. Changes can be made by property owners over time, such as adding hard surfaces for driveways/sidewalks/decks and constructing backyard sheds, for example. Some jurisdictions are exploring the use of aerial imagery to better track this metric for stormwater utility management, but it is often difficult due to tree cover, etc., and can quickly become out of date. Also, some surfaces can appear pervious, but are actually only a thin layer of soil for landscaping above underground parkades. An example of this is multi-unit residential buildings where the footprint of the underground parkade often covers the entire lot. That said, tracking pervious versus drain-connected impervious areas is a very useful metric and can be explored as a possible rainwater dashboard metric. |
| 387 | səlilwətał (Tsleil-Waututh Nation) Follow up Responses to July 10, 2025 Response Table on səlilwətał input on draft LWMP | səlilwətał (Tsleil-Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 199 above:</i> Correction needed throughout document. | Revised. Based on səlilwətał (Tsleil-Waututh Nation) input, wording has been revised. |
| 388 | səlilwətał (Tsleil-Waututh Nation) | səlilwətał (Tsleil-Waututh Nation) | Aug 7, 2025 | Added performance indicator 10B is bean-counting rather than measuring quality and integrity of engagement, or collaboration with First Nations. e.g. is | Noted. In the interest of including a quantitative measure in the LWMP for First Nations outreach and engagement, this is the performance measure that has been developed. Outreach to First Nations (including emails/letters, meetings, forums, and workshops) |

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| | Follow up Responses to July 10, 2025 Response Table on səlilwətał input on draft LWMP | | | mailing out a form let er counted as an engagement point? | will be included as engagement points. Metro Vancouver is open to considering other ways to measure the more qualitative aspects of engagement (i.e. quality and integrity) with First Nations as part of LWMP implementation. |
| 389 | səlilwətał (Tsleil-Waututh Nation) Follow up Responses to July 10, 2025 Response Table on səlilwətał input on draft LWMP | səlilwətał (Tsleil-Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 207 above:</i> No it doesn't. | Stormwater discharges from a number of member municipalities do not affect water quality of Burrard Inlet, and as such inclusion of the Burrard Inlet Water Quality Objectives into a regional document may not be appropriate. |
| 390 | səlilwətał (Tsleil-Waututh Nation) Follow up Responses to July 10, 2025 Response Table on səlilwətał input on draft LWMP | səlilwətał (Tsleil-Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 209 above:</i> <i>Metro Vancouver response: Not revised. Member jurisdictions were supportive of making this commitment in the LWMP, while requesting high-level wording to allow each jurisdiction the flexibility to develop and implement rainwater funding approaches that work for their municipality.</i> səlilwətał comment: What if funding is only dedicated to grey infrastructure, resulting in no improvements to water quality? <i>Metro Vancouver response: Future iterations of this action could become more prescriptive as rainwater funding programs are initiated by members.</i> | The intent of this action is that dedicated funding for rainwater management will lead to capital and operating funding for both green and grey infrastructure. Currently, there are jurisdictions that have combined budgets used for both sanitary and drainage infrastructure. To elevate the importance of rainwater management, this action is an important first step towards separate budgeting as that will promote dedicated funding for green infrastructure. Future iterations refers to future amendments of the LWMP. |

| ID | Source/ Material | Organization/Group | Date | Comments/Information Requests | Action / Commitment / Final Response |
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| | | | | səlilwətaḥ comment: Which future iterations? | |
| 391 | səlilwətaḥ (Tsleil-Waututh Nation) Follow up Responses to July 10, 2025 Response Table on səlilwətaḥ input on draft LWMP | səlilwətaḥ (Tsleil-Waututh Nation) | Aug 7, 2025 | <p><i>Re: ID row 210 above: Metro Vancouver response: Not revised within LWMP. Stormwater discharges from a number of Metro Vancouver member jurisdictions do not affect water quality in the Burrard Inlet, and as such, inclusion of the Burrard Inlet Water Quality Objectives into a regional document may not be appropriate.</i></p> <p>səlilwətaḥ comment: But many do, so need to reflect this somehow.</p> <p><i>However, Appendix C of the Stormwater Monitoring and Adaptive Management Framework outlines background information on water quality assessment approaches and takes into consideration water quality objectives and guidelines.</i></p> <p>səlilwətaḥ comment: No it doesn't.</p> | <p>Noted.</p> <p>The review of the Integrated Watershed Management Plan template will be a suitable opportunity to review the Stormwater Monitoring and Adaptive Management Framework and introduce changes that reflect regulatory and policy changes since 2014 when the AMF was developed (such as the Burrard Inlet Water Quality Objectives).</p> |
| 392 | səlilwətaḥ (Tsleil-Waututh Nation) Follow up Responses to July 10, 2025 Response Table on səlilwətaḥ input on draft LWMP | səlilwətaḥ (Tsleil-Waututh Nation) | Aug 7, 2025 | <p><i>Re: ID row 211 above: Is this different from the Metro Vancouver dashboard referred to previously? Dashboard creation is a time/resource investment, so makes sense to have one, that integrates everything.</i></p> | <p>There is an LWMP dashboard currently being created, based on the indicators and contents in the reporting section of the updated LWMP – this will be part of the annual regulatory reporting for the LWMP. There will be a separate and more detailed rainwater dashboard that will be developed later in consultation with the updated rainwater group.</p> |
| 393 | səlilwətaḥ (Tsleil-Waututh Nation) | səlilwətaḥ (Tsleil-Waututh Nation) | Aug 7, 2025 | <p><i>Re: ID row 219 above: Not explicitly; how is Metro Vancouver keeping track of these more specific</i></p> | <p>The updated Stormwater Interagency Liaison Group will be the best place to explore approaches and share best practices.</p> |

| ID | Source/ Material | Organization/Group | Date | Comments/Information Requests | Action / Commitment / Final Response |
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| | Follow up Responses to July 10, 2025 Response Table on səlilwətał input on draft LWMP | | | recommendations, for implementation in more specific forums? | |
| 394 | səlilwətał (Tsleil-Waututh Nation) Follow up Responses to July 10, 2025 Response Table on səlilwətał input on draft LWMP | səlilwətał (Tsleil-Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 226 above:</i> This is a point of incongruency that will prevent the attainment of the Burrard Inlet Water Quality Objectives. | Applicable water quality objectives and water quality guidelines are used as a starting point in a risk assessment process that develops effluent quality objectives, and as such, water quality objectives are always considered. According to the CCME Strategy, effluent discharge objectives equal water quality objectives only for persistent, bio-accumulative, and toxic substances. |
| 395 | səlilwətał (Tsleil-Waututh Nation) Follow up Responses to July 10, 2025 Response Table on səlilwətał input on draft LWMP | səlilwətał (Tsleil-Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 229 above:</i> Human and environmental health based on which metrics? Not consistent with seafood consumption. Also, are they consistent with primary contact activities in the winter? Need net environmental gain, so better than those regulations, if they are not adequate. And regardless, need to be transparent about monitoring results on a dashboard about the effluent quality so that people can make informed decisions. | Noted. Wastewater treatment plant effluent quality results have been and will continue to be regularly posted and updated on the Metro Vancouver website. |
| 396 | səlilwətał (Tsleil-Waututh Nation) Follow up Responses to | səlilwətał (Tsleil-Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 232 above:</i> What is missing from the picture they provide? E.g. Will these provide a picture of CECs? | Effluent discharge objectives include contaminants of environmental concern (CECs), where applicable. |

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| | July 10, 2025 Response Table on səlilwətał input on draft LWMP | | | | |
| 397 | səlilwətał (Tsleil- Waututh Nation) Follow up Responses to July 10, 2025 Response Table on səlilwətał input on draft LWMP | səlilwətał (Tsleil- Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 233 above:</i> What about CECs? | <p>Metro Vancouver is committed to continuous improvement and analyzes its wastewater and biosolids for contaminants of environmental concern (CECs). In the absence of provincial regulations for CECs in biosolids, biosolids data is compared against other North American biosolids regulations and soil guidelines as a point of reference. Soil regulations are designed to protect human health, and include food pathways.</p> <p>Information from Metro Vancouver's monitoring programs inform source control strategies to help reduce contaminants at source.</p> |
| 398 | səlilwətał (Tsleil- Waututh Nation) Follow up Responses to July 10, 2025 Response Table on səlilwətał input on draft LWMP | səlilwətał (Tsleil- Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 235 above:</i> Compared to which metrics, and are they up to date re; CECs and benchmarks protective of seafood consumption and higher trophic levels? | <p>The standards in the BC Organic Matter Recycling Regulation (OMRR) were informed by an extensive risk assessment that analyzed risks to humans, animals, plants, and soil organisms from exposure to contaminants through 14 different exposure pathways (e.g., food, water, soil, air). Metro Vancouver meets or surpasses these regulations. In BC, the land application of biosolids is much more restrictive as compared to conventional fertilizers.</p> <p>Additionally, the Canadian Food Inspection Agency (CFIA) requires that biosolids that are sold or imported into Canada must contain less than 50 parts per billion perfluorooctane sulfonate as an indicator of PFAS chemicals. One part per billion is like a half teaspoon of liquid in an Olympic sized swimming pool. Metro Vancouver biosolids are below this limit.</p> <p>Metro Vancouver is committed to continuous improvement and analyzes its wastewater and biosolids for contaminants of environmental concern (CEC). In the absence of provincial regulations for CECs in biosolids, biosolids data is compared against other North American biosolids regulations and soil guidelines as a</p> |

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| | | | | | point of reference. Soil regulations are designed to protect human health, and include food pathways. |
| 399 | səlilwətał (Tsleil-Waututh Nation) Follow up Responses to July 10, 2025 Response Table on səlilwətał input on draft LWMP | səlilwətał (Tsleil-Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 236 above:</i> Based on which standards, and were Indigenous values incorporated? | Metro Vancouver follows the BC Organic Material Recycling Regulation (OMRR) that is designed to ensure the protection of the environment and human health. The OMRR was informed by an extensive risk assessment that analyzed risks to humans, animals, plants, and soil organisms from exposure to contaminants through 14 different exposure pathways (e.g., food, water, soil, air). In BC, land application of biosolids is much more restrictive as compared to conventional fertilizers. Currently, the BC Ministry of Environment and Parks is working to update the OMRR and intends to increase transparency and enhance First Nations engagement ¹ . Metro Vancouver is committed to working with Indigenous communities wherever our biosolids are used. <i>1. www2.gov.bc.ca/assets/gov/environment/waste-management/organic-waste/reports-and-papers/2018_omrr_intentions_paper.pdf</i> |
| 400 | səlilwətał (Tsleil-Waututh Nation) Follow up Responses to July 10, 2025 Response Table on səlilwətał input on draft LWMP | səlilwətał (Tsleil-Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 239 above:</i> Are the results made public? | Yes, routine biosolids quality monitoring is summarized in Environmental Management & Quality Control Annual Reports available on this webpage: metrovancover.org/services/liquid-waste/reports-and-resources . |
| 401 | səlilwətał (Tsleil-Waututh Nation) Follow up Responses to July 10, 2025 Response Table on səlilwətał | səlilwətał (Tsleil-Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 244 above:</i> Monitor installation is not explicit in 8.3. | Action 8.3 requires monitoring of municipal combined sewer overflows to start (as is currently done by Metro Vancouver for our combined sewer overflows): “Metro Vancouver will continue to monitor combined sewer overflow flows and characterize samples from combined sewer overflow discharges. Members with combined systems will begin to monitor combined sewer overflow flows and characterize samples from combined sewer overflow discharges.” |

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| | input on draft LWMP | | | | |
| 402 | səlilwətał (Tsleil-Waututh Nation) Follow up Responses to July 10, 2025 Response Table on səlilwətał input on draft LWMP | səlilwətał (Tsleil-Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 247 above:</i> Is the link between monitoring and action made explicit in the revised draft? | Several strategies and their actions incorporate monitoring data as a driver for improvement works: <ul style="list-style-type: none"> • Strategy 3 actions (per capita average dry weather flow [L/person/day]; total influent biochemical oxygen demand (BOD) [g/person/day]; and total influent total suspended solids (TSS) [g/person/day] at each wastewater treatment plant) • Strategy 5 actions (peak wet weather flow; average dry weather flow; and ratio of peak wet weather flow to average dry weather flow at key regional monitoring points and at wastewater treatment plants) • Strategy 7 actions (number, duration, and estimated volume of sanitary sewer overflow discharge events at chronic overflow sites, where feasible; total number of sanitary sewer overflow discharge events; total volume of sanitary sewer overflow discharges for entire system) • Strategy 8 actions (sanitary wastewater volume (m³) and loading in combined sewer overflow discharges) • Strategy 10 and 11 actions (performance indicators will be reported by members through the new rainwater dashboards developed in 11.3. Members will select key rainwater indicators to be reported annually in the LWMP dashboard as well) • Action 13.3 (Metro Vancouver will continue to monitor influent and the receiving environment where wastewater treatment plants discharge and assess results to determine whether any actions, such as additional source control or treatment upgrades, are required) |
| 403 | səlilwətał (Tsleil-Waututh Nation) Follow up Responses to July 10, 2025 Response Table on | səlilwətał (Tsleil-Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 248 above:</i> Need to make sure it is not just performative. | Yes, the intention of the forum (under new action 20.5) is to work with First Nations to monitor progress on LWMP actions and enhance accountability on LWMP implementation. |

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| | səlilwətał input on draft LWMP | | | | |
| 404 | səlilwətał (Tsleil- Waututh Nation) Follow up Responses to July 10, 2025 Response Table on səlilwətał input on draft LWMP | səlilwətał (Tsleil- Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 249 above:</i> Why isn't it in LWMP explicitly? Is the commitment made in another policy/regulatory document? | Receiving Environment Monitoring Programs are requirements of the Operational Certificates associated with Metro Vancouver's Wastewater Treatment Plants, which are regulatory documents. Metro Vancouver has also made commitments to participate in the Estuary Management programs and other initiatives led by First Nations. |
| 405 | səlilwətał (Tsleil- Waututh Nation) Follow up Responses to July 10, 2025 Response Table on səlilwətał input on draft LWMP | səlilwətał (Tsleil- Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 250 above:</i> This response doesn't address the concern specific to the Environmental Management Commit ee. e.g. other levels of government and academics are included, but First Nations are excluded from the EMC. | Noted. New action 20.1 commits Metro Vancouver and its members to collaborate with First Nations on relevant environmental monitoring programs and to incorporate First Nation's science and knowledge into these initiatives. On a higher level, First Nations participation on the LWMP implementation forum (action 20.5) will ensure that First Nations priorities and interests are heard, considered, and implemented wherever possible. |
| 406 | səlilwətał (Tsleil- Waututh Nation) Follow up Responses to July 10, 2025 Response Table on səlilwətał input on draft LWMP | səlilwətał (Tsleil- Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 251 above:</i> Would be great if 12.4 can explicitly include coordinated monitoring. | This can be included in the Terms of Reference for this forum. |

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| 407 | səlilwətał (Tsleil-Waututh Nation) Follow up Responses to July 10, 2025 Response Table on səlilwətał input on draft LWMP | səlilwətał (Tsleil-Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 252 above:</i> Then include the Burrard Inlet Water Quality Objectives in list of indicators as 19B. | Metro Vancouver will use the Canadian Council of Ministers of the Environment Water Quality Index as a consistent performance indicator that can be used across all regional water bodies, for comparison across the region. |
| 408 | səlilwətał (Tsleil-Waututh Nation) Follow up Responses to July 10, 2025 Response Table on səlilwətał input on draft LWMP | səlilwətał (Tsleil-Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 253 above:</i> State this explicitly then. | Noted. Not revised within LWMP. |
| 409 | səlilwətał (Tsleil-Waututh Nation) Follow up Responses to July 10, 2025 Response Table on səlilwətał input on draft LWMP | səlilwətał (Tsleil-Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 258 above:</i> Is there an indicator that can be included to show their uptake/effectiveness? | Members with existing marinas have reported that they have added pump out facilities as required in the original LWMP. Data could be collected regarding the volume of sanitary sewage received; however, member funding constraints limit the number of performance indicators in the Plan. And though preventing boat discharges in local waters is extremely important, this metric might have limited value as it would not be known how much of this collected sanitary discharge would have occurred in waters far outside the jurisdiction of our LWMP. |
| 410 | səlilwətał (Tsleil-Waututh Nation) | səlilwətał (Tsleil-Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 263 above:</i> We are in the process of setting up a more general website | Thank you, this is good to know. |

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| | Nation) Follow up Responses to July 10, 2025 Response Table on səlilwətał input on draft LWMP | | | twnation.ca/tlrstewardship (not yet live). | |
| 411 | səlilwətał (Tsleil- Waututh Nation) Follow up Responses to July 10, 2025 Response Table on səlilwətał input on draft LWMP | səlilwətał (Tsleil- Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 270 above:</i> Flag for future discussion, as this presents info that would be incongruous with other presentations of info. | Metro Vancouver is happy to continue discussions with səlilwətał on CCME protocols. |
| 412 | səlilwətał (Tsleil- Waututh Nation) Follow up Responses to July 10, 2025 Response Table on səlilwətał input on draft LWMP | səlilwətał (Tsleil- Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 274 above:</i> How were they selected and why wasn't it transparent? | There was an open call for LWMP public advisory committee members on Metro Vancouver's social media platforms and in newspaper ads in the Province and Sun in July 2021. Staff reviewed applications and recommended a list of candidates for approval by Metro Vancouver's Liquid Waste Committee. |
| 413 | səlilwətał (Tsleil- Waututh Nation) Follow up Responses to | səlilwətał (Tsleil- Waututh Nation) | Aug 7, 2025 | <i>Re: ID row 276 above:</i> The Public Advisory Committee inception was in 2021, 3 years before meaningful discussions with səlilwətał. | Following is a record of Metro Vancouver outreach and communication with səlilwətał (Tsleil-Waututh Nation) ahead of and during Phase 1: Notification Phase <ul style="list-style-type: none"> July 17, 2020: MV letter to səlilwətał (Tsleil-Waututh Nation) before the LWMP update begins |

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| | July 10, 2025 Response Table on səlilwətał input on draft LWMP | | | | <ul style="list-style-type: none"> Sept 14, 2020: səlilwətał (Tsleil-Waututh Nation) CAO let er about interest in increasing the Nation's involvement in Metro Vancouver's plans and processes, in particular the LWMP Dec 3, 2020: MV CAO and səlilwətał (Tsleil-Waututh Nation) CAO meet to discuss various agenda items, including the LWMP update <p>Phase 1 Engagement</p> <ul style="list-style-type: none"> Oct 27, 2021: MV let er about the four phases of LWMP engagement; an invitation to meet; and to participate in an upcoming webinar and survey, on the vision and guiding principles Oct 29, 2021: səlilwətał (Tsleil-Waututh Nation) let er about being directly involved in the next LWMP, in technical committees and working groups working on the update. The need for capacity funding to take part in these activities was also noted Jan 20, 2022: MV let er responding to səlilwətał request for engagement funding to support participation in the LWMP update. |
| 414 | səlilwətał (Tsleil-Waututh Nation) Follow up Responses to July 10, 2025 Response Table on səlilwətał input on draft LWMP | səlilwətał (Tsleil-Waututh Nation) | Aug 7, 2025 | Re: ID row 279 above: DRIPA ignored, but it applies. | As a local government operating under the <i>Local Government Act</i> , we follow the direction provided by the Province. At this time, a consent-based approach supported by UNDRIP has not been identified by the Province as a regulatory component of the LWMP update for Metro Vancouver. |



Liquid Waste Management Plan Update

Phase 3 Public Engagement Summary

Acknowledgements

Thank you to everyone who provided input on the final phase of public engagement for the region's Liquid Waste Management Plan update. The purpose of this phase was to gather input on the draft Liquid Waste Management Plan. This input was used to finalize the draft plan which will guide how Metro Vancouver and its members continue to provide and improve wastewater management in the region. We appreciate your time and the insights and comments you shared with us during engagement.

About Metro Vancouver

Metro Vancouver is a diverse organization that plans for and delivers regional utility services, including water, sewers and wastewater treatment, and solid waste management. It also regulates air quality, plans for urban growth, manages a regional parks system, provides affordable housing, and serves as a regional federation. The organization is a federation of 21 municipalities, one electoral area, and one treaty First Nation located in the region of the same name. The organization is governed by a Board of Directors of elected officials from each member jurisdiction.

4515 Central Boulevard, Burnaby, BC, V5H 0C6

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June 2025

Cover: Residents learning about the wastewater system

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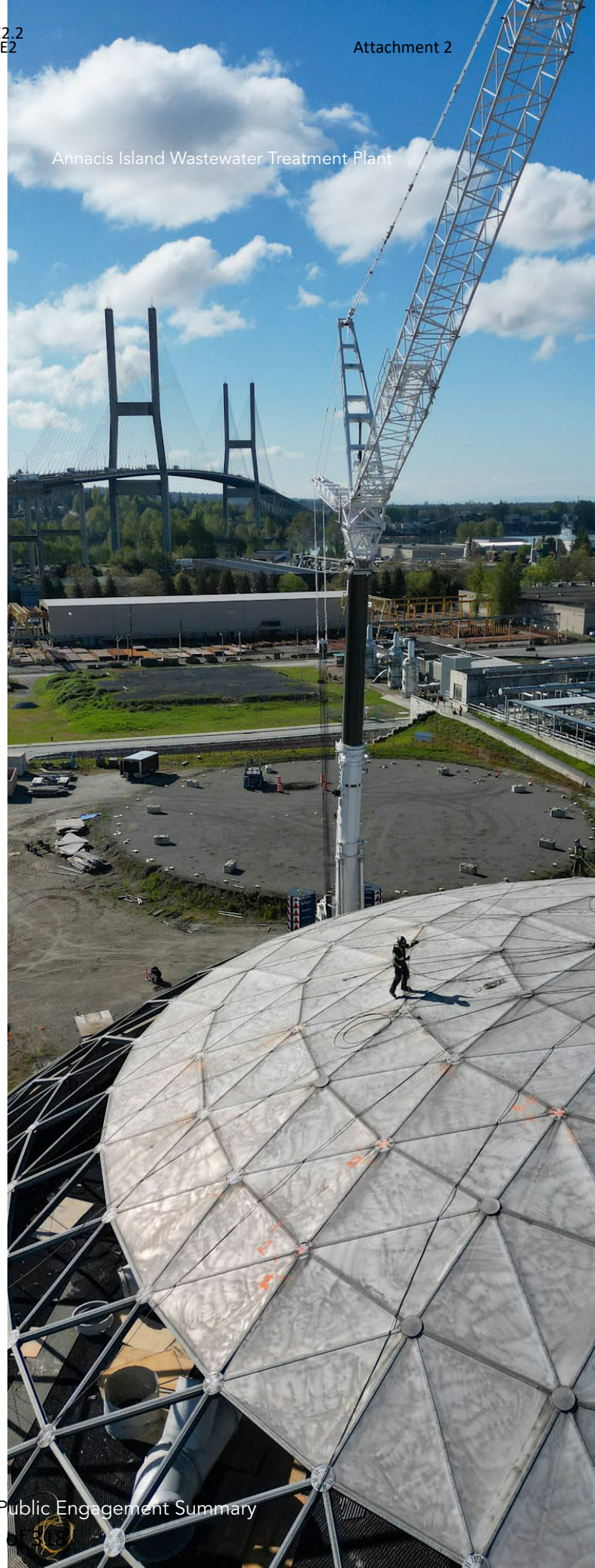
About the Liquid Waste Management Plan Update

Every day, the millions of homes, businesses, and industries across the region create more than one billion litres of wastewater, which contains bacteria and contaminants that can be harmful to human health and the environment. Thousands of kilometres of underground sewer pipes carry this wastewater to Metro Vancouver's five wastewater treatment plants. There, it is treated and tested before being released into the region's rivers and ocean — home to a delicate and precious ecosystem of plants and animals that are increasingly threatened by the impacts of climate change, urban development, and human activity.

In urban areas, most rainwater goes into storm sewers (via street drains), which typically empty directly into rivers, creeks, or the ocean. As rainwater travels to storm sewers, it picks up pollution along the way, which can be harmful to plants and wildlife.

Everyone has a role to play when it comes to the health of our local waters. Part of Metro Vancouver's role is updating the **Liquid Waste Management Plan** with its member jurisdictions. This long-term, regional plan is approved by the Province and allows Metro Vancouver and member jurisdictions to set out community-specific goals, strategies, and actions for wastewater and rainwater management to protect human health and the environment, while using wastewater as a resource and minimizing costs. Liquid waste management plans are updated periodically to reflect the emerging needs of the region — to address climate change, new contaminants of concern, changing societal and environmental needs, and reflect new science and technology.

Annacis Island Wastewater Treatment Plant



Executive Summary



Engagement on the review and update of the Liquid Waste Management Plan started in 2021. In the first phase, Metro Vancouver reviewed the current [Liquid Waste Management Plan \(2011\)](#) and identified successes, opportunities for improvement, and gaps. Metro Vancouver worked with member jurisdictions and engaged with the public and other interested parties to develop a draft vision and concepts for guiding principles for the updated plan. Metro Vancouver also engaged with First Nations to hear their input on the draft vision and guiding principles. The [Phase 1 Engagement Summary](#) includes details about what we heard from the public in the first phase.

In the second phase of engagement, Metro Vancouver worked even more closely with member jurisdictions to develop draft goals, strategies, and actions in the following focus areas that fall under regional and municipal jurisdiction:

- System resilience
- Source control
- Sanitary and combined sewer overflows
- Rainwater management
- Wastewater treatment
- Biosolids
- Circular water economy (resource recovery)
- Environmental management

Metro Vancouver also engaged with First Nations, a public advisory committee, and the public on the draft goals, strategies, and actions as the draft plan was developed. The [Phase 2 Engagement Summary](#) outlines what we heard from the public in the second phase.

In the third and final phase of engagement, Metro Vancouver worked with member jurisdictions, and engaged First Nations and the public on the [draft Liquid Waste Management Plan](#), which was developed based on input received over the first two phases.

To gather input from the public on the draft plan, Metro Vancouver held an online survey (118 respondents), and a webinar (14 attendees).

Key themes noted through the final phase of engagement included:

- **Population Growth and Urban Density** – concerns about how increasing urban density and population growth will affect the aging wastewater system, and result in the loss of green spaces that are critical to water quality, flood control, and to mitigate the effects of climate change
- **Delivery of Major Projects** – concerns about the rising cost of wastewater treatment plant upgrades and the need for effective oversight and management of these projects
- **Affordability** – concern about the cost to residents to achieve the draft plan's goals, and urging Metro Vancouver to focus efforts on providing wastewater management services to the region in a cost-effective manner
- **Rainwater Management** – concerns about the effects of traditional and emerging pollutants in rainwater on marine life, alongside support for the use of green infrastructure to manage rainwater quantity and quality
- **Wastewater Treatment** – support for advanced levels of treatment to remove more pollutants from wastewater, and concerns about odour at the wastewater treatment plants
- **Reflecting First Nations Priorities** – comments urging Metro Vancouver to do more to involve First Nations in wastewater management
- **Combined Sewer Separation** – support for more action to separate storm and sanitary sewers in combined sewer areas of Vancouver, New Westminster, and Burnaby in order to reduce and eliminate combined sewer overflows
- **Resource Recovery/Biosolids** – concerns about potential contaminants affecting the quality of regional biosolids
- **Public Education** – calls for more public education about the need for residents and businesses to reduce pollution at the source
- **Measuring Progress** – comments noting the importance for clear timelines and progress metrics to result in effective outcomes

View from Burnaby



First Nations Engagement

Metro Vancouver is situated within the territories of many Indigenous Nations, including 10 local First Nations: ḱíčə́y (Katzie), ḱʷa:ḱʷə́n (Kwantlen), kʷíkʷə́ləm (Kwikwetlem), máthxwi (Matsqui), xʷməθkʷə́yəm (Musqueam), qíqéyt (Qayqayt), Semiahmoo, Skwxwú7mesh Úxwumixw (Squamish), scə́waθən məsteyəxʷ (Tsawwassen), and sə́lilwə́təl (Tsleil-Waututh).

This is important to note because any kind of long-range plan that affects the region, such as the Liquid Waste Management Plan, also affects these First Nations and their communities.

Throughout engagement, Metro Vancouver has engaged with First Nations in a separate, government-to-government process, which included customized engagement approaches through ongoing one-on-one meetings. In addition, three technical workshops were held which brought First Nations, member jurisdictions, representatives from the BC government, and the Liquid Waste Management Plan Public Advisory Committee together to hear from one another and to share their input and perspectives on the updated plan. Metro Vancouver also hosted a Nation-to-Nation forum, where local First Nations discussed their priorities for wastewater management in the region.

We will continue to engage with First Nations as the draft plan is finalized and throughout its implementation.

Public Advisory Committee

A public advisory committee was formed in the first phase of engagement to provide expert knowledge and relevant experience on the plan update. It included nine members from academia, environmental organizations, business, and technical experts. Throughout 14 meetings held across all three phases of engagement, the public advisory committee worked through the focus areas for the updated plan and developed a set of [13 recommendations](#) that were presented to the Liquid Waste Committee in fall 2024 to inform the Liquid Waste Committee's decisions on the updated plan. You can find the public advisory committee's recommendations on the Liquid Waste Management Plan Update webpage by going to metrovancover.org and searching "Liquid Waste Management Plan Update".



What We Did and Who Participated

Engagement

The review and update of Metro Vancouver's Liquid Waste Management Plan included technical analysis and policy development. Engagement took place over three phases and each phase involved working with member jurisdictions on the content for the plan, and engagement with First Nations, the public, and others.

| Phase 1: Review Plan and Develop Vision | Phase 2: Goals, Strategies, Actions, and Draft Plan | Phase 3: Engage on Final Draft Plan and Seek Approvals |
|--|---|--|
| <p>In this phase, we reviewed the current plan and identified successes, opportunities for improvement, and gaps.</p> <p>Input informed the development of a draft vision and concepts for guiding principles.</p> | <p>In this phase, we sought input on focus areas within the scope of the Liquid Waste Management Plan, and used input to develop draft goals, strategies, and actions.</p> <p>A draft plan based on this phase of engagement was developed for Liquid Waste Committee feedback and direction.</p> | <p>In the last phase, we continued to work with member jurisdictions on the draft plan and commenced preparing for its implementation. We also presented the draft plan to member jurisdiction councils.</p> <p>We shared the final draft plan with First Nations for their review and input and held a final public engagement period.</p> <p>Input from the final phase is being considered for incorporation into the updated plan.</p> <p>Once the plan is finalized, it will go to the Liquid Waste Committee and Greater Vancouver Sewerage and Drainage District Board for input and approval. Following their endorsement, Metro Vancouver will submit the plan to the Province, along with records of engagement.</p> <p>The Province will then either approve the draft plan, approve it with ministerial conditions, or return the draft plan for additional revisions before it can be approved.</p> |

During the final phase of engagement, from January 27 to February 21, 2025, staff gathered final input on the draft plan, with a focus on new and notable actions. This engagement summary provides an overview of what staff did and heard during the final phase.

Golden Ears Pump Station

Webinar

The webinar was held on February 5, 2025 over the lunch hour. It included a presentation with an overview on the updated Liquid Waste Management Plan, with a focus on new and notable actions, as well as a Q&A period. The Q&A was held in real-time with questions answered by a panel of subject matter experts from Metro Vancouver. It was open to the public and widely promoted to draw participation, hosting 14 participants.

Online Survey

An online survey was made available on the Metro Vancouver website from January 27 to February 21, 2025 and widely promoted via social media advertising and digital newspaper ads. The survey sought feedback on the draft plan and its new and notable actions. The survey received detailed feedback from 118 respondents.

Youth Engagement

Staff met for the third time with Metro Vancouver's Youth and Education Advisory Panel in February 2025 to share details about where their feedback (from meetings in 2023 and 2024) had been incorporated into the draft plan. We also sought feedback on how we could continue to successfully engage youth as the Liquid Waste Management Plan is implemented over the next decade.



Outreach and Promotion

Public engagement opportunities were promoted regionally. Communications for this phase focused on encouraging the public to take the online survey and attending the virtual webinar to share thoughts on the future of wastewater management in the region. Tactics and interactions included:

- Promoted social media posts reaching 43,270 residents, and gaining over 81,000 impressions (number of times viewed)
- Digital newspaper ads in Black Press and Glacier Media regional publications, for an estimated 175,998 impressions
- Two emails sent to the Liquid Waste Management Plan project email list of more than 890 subscribers
- Notice included in one wastewater treatment plant construction e-newsletter

Website

The online survey and virtual webinar were promoted across several of Metro Vancouver's most viewed Liquid Waste Services webpages, and a dedicated project webpage highlighted information about the plan update, along with detailed information about the engagement approach and process, and how to provide feedback.

Social Media

Social media posts on public engagement opportunities were shared on Facebook, Instagram, Threads, Bluesky, and X (Twitter). In addition to organic social media posts, paid advertisements were also promoted on Facebook and Instagram.

Digital Newspaper Ads

Ads were published in Black Press and Glacier Media regional digital newspaper publications, resulting in 175,998 impressions, and 273 click-throughs to the webpage.

Outreach



697 visits to project webpage



1 webinar with 14 participants



Posts on Facebook, Instagram, Threads, Bluesky, and X (Twitter) reaching more than **43,000 residents** and gaining over 81,000 impressions



273 click throughs to the project webpage on digital newspaper ads



2 emails to more than 890 project update subscribers



1 e-newsletter with information about the survey

Engagement Participation

The public was invited to provide feedback by completing an online survey. During the online engagement period, 118 participants provided feedback.

Metro Vancouver uses Civil Space (Zencity) for online engagement, providing opportunities for qualitative and quantitative input through preference-ranking open-ended and direct questions. While online engagement is an important component of a comprehensive engagement strategy, it does not provide statistically relevant data.

As part of the online survey, participants were asked where they lived. The highest number of respondents lived in Vancouver (25%), Surrey (11%), and the District of North Vancouver (8%).

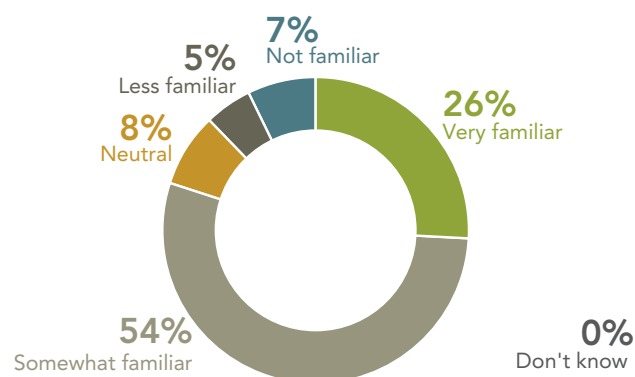
Annacis Island Wastewater Treatment Plant



What We Heard

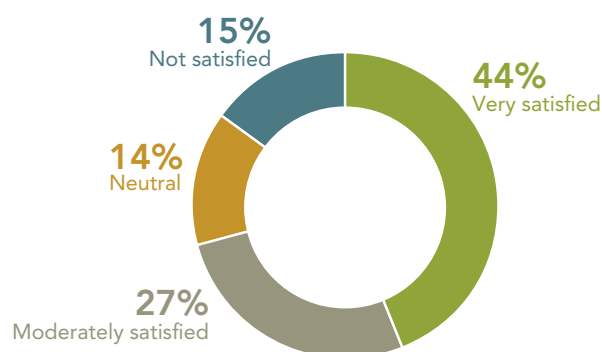
Through the online survey, participants were asked for feedback on new and notable actions in the draft Liquid Waste Management Plan. The feedback on the survey questions is provided below, followed by a more fulsome description of the themes that emerged through the open questions in the survey, comments shared during the webinar, and feedback submitted via email.

Question: How familiar are you with Metro Vancouver's wastewater system?



Overall, the majority of people who took the survey considered themselves familiar with the region's wastewater system (80%), while the rest (20%) were less familiar with the system.

Question: How satisfied are you with the direction these goals provide for regional wastewater management? (Select one answer.)

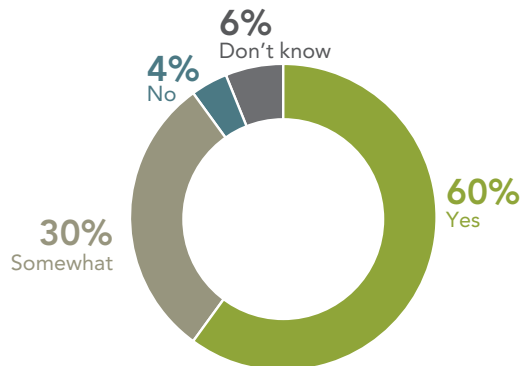


The majority of participants indicated they were satisfied with the direction of the updated Liquid Waste Management Plan's goals for guiding wastewater management in the region (71%), while the rest were either neutral about the goals (14%), or unsatisfied (15%).

Participants shared additional thoughts on the goals, including the need for clear metrics and timelines to achieve the goals, the desire for the goals to lead to decreased pollution and better environmental outcomes, the need for affordability and cost efficiency in regional wastewater management to guide the plan's actions, and concern about the cost to residents to achieve the goals.

Question: Does this action reflect your priorities for wastewater management in the region?

Action 1.3: Create master sewer servicing plans to accommodate a growing population and urban development in a changing climate.

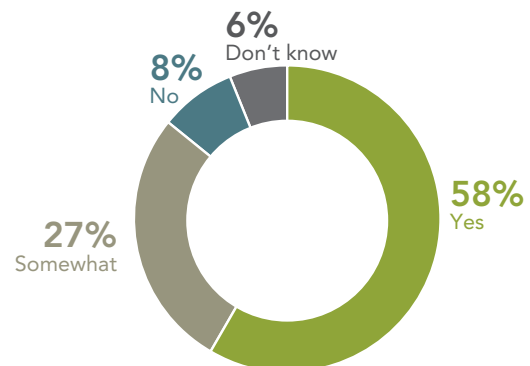


The vast majority of participants supported using master sewer servicing plans to plan for growth and urban development in a changing climate (90%).

A **master sewer servicing plan** is a comprehensive plan outlining the development, maintenance, and improvement of a municipality's sewer system to meet current and future needs.

Question: Does this action reflect your priorities for wastewater management in the region?

Action 5.4: Provide incentives to homeowners for rehabilitating leaky private pipes on their property to reduce excess rainwater from entering the sewer system.



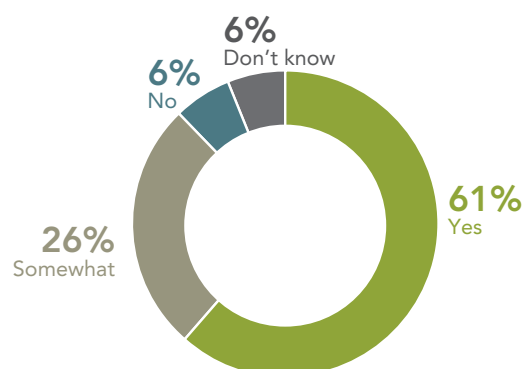
The majority of participants supported providing incentives to homeowners to help them rehabilitate leaky pipes on their property, which contribute to excess water in the sewer system, in turn contributing to the need for costly wastewater treatment plant upgrades, as well as sewer overflows.



First Narrows Pump Station

Question: Does this action reflect your priorities for wastewater management in the region?

Action 6.4: Review and adjust wet weather sewer pricing to incentivize member jurisdictions (municipalities) to reduce excess water from entering the sewer system through leaky or damaged pipes and improperly connected drains.



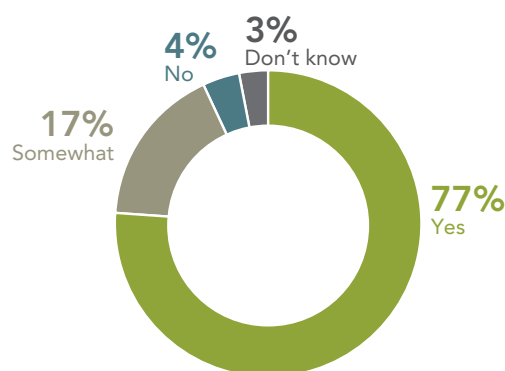
Most respondents supported using and regularly adjusting wet weather sewer pricing to incentivize members to take action on leaky pipes in their municipal system, which contribute to excess water in the system.

Metro Vancouver introduced **wet weather sewer pricing** in 2024, where member jurisdictions pay fees that reflect the regional sewer capacity they use during wet weather. This user-pay approach means that communities that put more water into the regional sewer system (because of leaky, damaged, or improperly connected pipes) will contribute more toward the operation of the sewer system.

The goal of wet weather sewer pricing is to have every community pay for the amount of water they send through the sewer system. It also aims to make sure that we are investing in expanding sewer and wastewater treatment capacity only when it is needed to accommodate population growth, and not to address gaps in infrastructure maintenance.

Question: Does this action reflect your priorities for wastewater management in the region?

Action 8.8: Change system operations to minimize sewage in overflows from combined sewers (sewers that carry both sanitary sewage and rainwater in a single pipe), reducing the impact of these overflows on the environment.

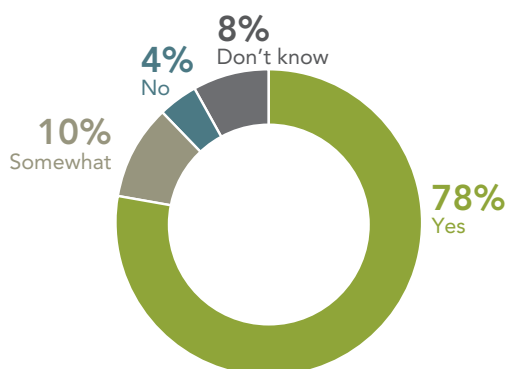


The vast majority of respondents (94%) supported optimizing system operations to minimize sewage from combined sewers to reduce the impact of any overflows on the environment.

Combined sewers carry both sanitary wastewater and rainwater in a single pipe. Combined sewers only still exist in older parts of Vancouver, Burnaby, and New Westminster and are designed to discharge into the environment during heavy rain, to avoid backups into homes and businesses. **Overflows** from combined and sanitary sewers that are caused by heavy rain are usually highly diluted by rainwater.

Question: Does this action reflect your priorities for wastewater management in the region?

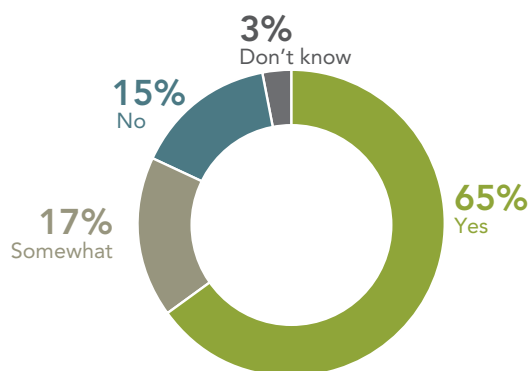
Action 9.6: Prevent flows from creeks, lakes, and underground streams from entering combined sewers to create more capacity for sanitary sewage, helping to eliminate sewer overflows.



Most respondents (88%) supported preventing flows from creeks, lakes, and underground streams from entering combined sewers, helping to prevent sewer overflows.

Question: Does this action reflect your priorities for wastewater management in the region?

Action 10.2: Involve First Nations in watershed planning to help restore ecological systems.



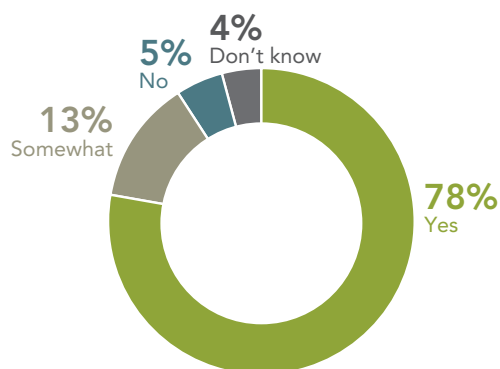
The majority of respondents (82%) supported involving First Nations in watershed planning to help restore ecological systems.

Watershed is a land area where all rainwater and snowmelt drains into a common water body such as a creek, river, or ocean.



Question: Does this action reflect your priorities for wastewater management in the region?

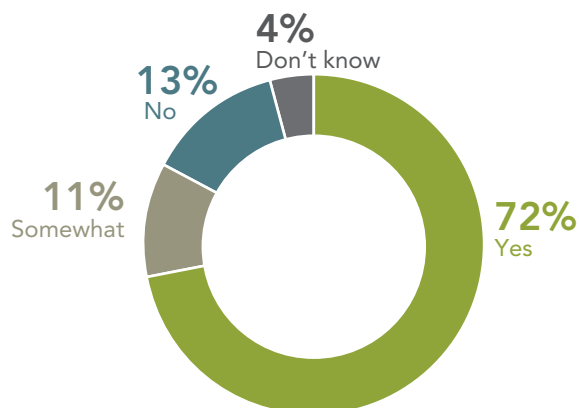
Action 11.1: Dedicate municipal budget to rainwater management so communities can proactively plan for, respond to, and mitigate rainwater challenges.



More than 90 per cent of respondents supported a dedicated municipal budget to proactively plan for, respond to, and mitigate rainwater challenges.

Question: Does this action reflect your priorities for wastewater management in the region?

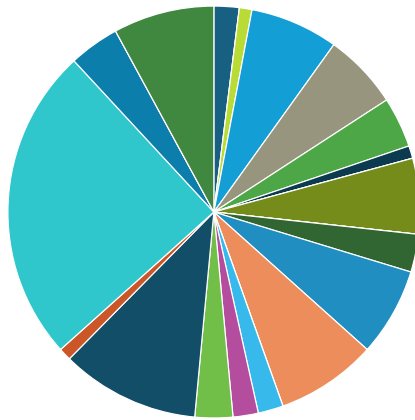
Action 15.2: Build a regional biosolids dryer that turns treated wastewater into pellets that can be used as a low-carbon fuel and fertilizer product.



Most respondents (83%) supported building a biosolids dryer to turn treated wastewater into low-carbon fuel and fertilizer pellets. Some respondents did not support this action (13%) while four per cent weren't sure.



Place of Residence



| | |
|-----------------------------------|---|
| Anmore (1.98%) | City of North Vancouver (6.93%) |
| Belcarra (0%) | District of North Vancouver (7.92%) |
| Bowen Island Municipality (0.99%) | Pitt Meadows (0%) |
| Burnaby (6.93%) | Port Coquitlam (1.98%) |
| Coquitlam (5.94%) | Port Moody (1.98%) |
| Delta (3.96%) | Richmond (2.97%) |
| Electoral Area A (0.99%) | Surrey (10.89%) |
| City of Langley (0%) | scəwəθən məsteyəx™ (Tsawwassen First Nation)(0.99%) |
| Township of Langley (5.94%) | Vancouver (24.75%) |
| Lions Bay (0%) | District of West Vancouver (3.96%) |
| Maple Ridge (0%) | White Rock (0%) |
| New Westminster (2.97%) | I don't live in the Metro Vancouver region (7.92%) |

Sapperton Pump Station



What We Heard and How We're Responding

These are some of the key themes we heard through open-ended comments in the online survey, emailed submissions, and at the webinar.

| What We Heard | How We're Responding |
|--|--|
| Theme: Population Growth and Urban Density | |
| Concerns about how increasing urban density and population growth, in part as a result of provincial housing legislation and federal immigration legislation, is impacting the capacity of an aging wastewater system. | <p>Metro Vancouver updates regional and municipal population projections on a regular basis to guide land use and infrastructure planning.</p> <p>The updated Liquid Waste Management Plan will include strategies and actions to continue to provide services for a growing population in a densifying urban region.</p> <p>Some of the proposed actions for Metro Vancouver and members to address population growth and urban density include:</p> <ul style="list-style-type: none"> • Creating and updating Master Sewer Servicing Plans to plan for and accommodate new and projected growth and development. • Aligning and coordinating regional and municipal wastewater management services with the Metro 2050 Regional Growth Strategy and municipal Official Community Plans. |
| Concerns about how increasing urban density will result in the loss of green spaces that are vital to rainwater management and climate change mitigation, as well as the creation of more impervious surfaces (e.g., concrete and asphalt) that negatively impact rainwater flow and quality, contributing to flooding and reduced water quality in rivers and creeks. | Higher urban densities pose a challenge to managing rainwater. The updated draft plan includes commitments to conduct a comprehensive analysis of densification's impacts on urban watershed health. Member jurisdictions will use the study results to make informed decisions that balance urban growth and ecological resilience. |
| Recommendations to work with developers and regulators to encourage and incentivize better onsite rainwater management approaches (e.g., impervious surface thresholds on a watershed scale, use of porous pavement, storm retention ponds, rain gardens). | <p>The updated plan commits to the alignment of land-use planning and development with Integrated Watershed Management Plans, to ensure development decisions support watershed health objectives, including protecting riparian areas and agricultural areas.</p> <p>The updated plan also commits to collaborating with member jurisdictions to update and harmonize rainwater policies, programs, and bylaws, which should contribute to enhanced guidance for onsite rainwater management.</p> |

| What We Heard | How We're Responding |
|--|---|
| Theme: Cost Escalation, Oversight, and Delivery of Major Projects | |
| <p>Concerns about effective project management on major wastewater treatment plant upgrades, and the rising costs of these projects.</p> | <p>Metro Vancouver takes oversight and management of its projects very seriously, with a dedicated Project Delivery department to oversee major projects. The cost estimating framework used to determine costs of major wastewater treatment plant upgrades considers contingencies, cost escalation, and risk reserves, and Metro Vancouver has a standardized process to ensure there are regular points for progress reporting on large, multi-year projects. These procedures are consistent and robust and ensure both elected officials and staff from Metro Vancouver's member jurisdictions have insight into project management.</p> <p>Issues like costs escalation for materials, a shortage of labour, supply chain delays and shortages, and a large number of competing projects are affecting projects across British Columbia. Alternative contract models and rigorous project controls can help to reduce the impacts of these challenges.</p> |



Residents learning about the wastewater system

| What We Heard | How We're Responding |
|---|---|
| Theme: First Nations' Priorities | |
| <p>Comments requesting that Metro Vancouver do more to involve First Nations in wastewater management decisions.</p> | <p>Enhancing and improving meaningful engagement with First Nations on regional and municipal projects and plans is a key area of focus for the updated Liquid Waste Management Plan, and will continue throughout its implementation.</p> <p>Some specific actions in the updated Liquid Waste Management Plan to enhance First Nations involvement in regional wastewater management include:</p> <ul style="list-style-type: none"> • Working with First Nations to develop a framework to prioritize combined sewer separation efforts. • First Nations and members working together to prioritize watersheds for Integrated Watershed Management Plan development, using criteria co-developed with First Nations that consider watershed health and cultural significance as well as Indigenous Rights. • First Nations will participate in Integrated Watershed Management Plan development, monitoring, and review. • A forum will be held at regular intervals to report progress on rainwater management actions, and to foster collaboration and knowledge sharing among member municipalities, First Nations, and other interested parties. • A forum will be held at regular intervals to share, review, discuss, and receive input on the implementation and progress of strategies and actions within the Liquid Waste Management Plan, with the purpose of facilitating ongoing discussions with First Nations and respecting and working with First Nations' science and knowledge. |
| <p>Questions about the draft plan's fifth goal to <i>Reflect First Nations Priorities</i>: "This plan aspires to reflect First Nations' priorities and respect Indigenous Knowledge and the rights of Indigenous Peoples while collaborating on areas of shared significance to improve environmental and public health outcomes for all."</p> <p>Comments asking if this goal goes far enough to meet Metro Vancouver's responsibilities under the Declaration on the Rights of Indigenous Peoples Act.</p> <p>Comments that "aspiring to reflect" isn't strong enough language, and that this goal should instead state a commitment to reflecting First Nations' priorities in the draft Liquid Waste Management Plan.</p> | <p>Metro Vancouver is committed to meaningful engagement with First Nations on our projects and plans, including the Liquid Waste Management Plan. We rely on First Nations to determine their level of engagement on the plan based on their internal capacity and priorities. We view engagement with First Nations as a valuable forum for exploring opportunities for cooperation and working together towards reconciliation.</p> <p>Metro Vancouver is exploring how the actions outlined in the provincial Declaration on the Rights of Indigenous Peoples Act may apply to the work contemplated in the Liquid Waste Management Plan. In particular, Metro Vancouver is also working closely with the Province and First Nations to better understand its role in advancing the provincial Declaration Act and the United Nations Declaration on the Rights of Indigenous Peoples.</p> |

| What We Heard | How We're Responding |
|---|--|
| Theme: Rainwater Management | |
| <p>Concerns about pollutants in rainwater (e.g., road salt, sediment, metals, oils, 6PPD quinone from car tires) harming fish-bearing rivers and streams. Suggestions to increase monitoring and mitigation efforts and explore rainwater treatment options.</p> | <p>The regulation of pollutants in rainwater is beyond Metro Vancouver's mandate and rests with other orders of government, while the management of rainwater falls primarily under the jurisdiction of local municipalities.</p> <p>Local municipalities manage the impact of rainwater on local waterways through their Integrated Watershed Management Plans, formerly known as Integrated Stormwater Management Plans. Municipalities will continue to monitor waterways using the Adaptive Management Framework, and update their Integrated Watershed Management Plans as necessary to mitigate pollutants and explore treatment options.</p> <p>Metro Vancouver and its member jurisdictions have a Stormwater Interagency Liaison Group, with a mandate to advise and work through technical rainwater issues with Metro Vancouver member jurisdictions, and senior government agencies. This group will be restructured as part of the Liquid Waste Management Plan update to lead local research on rainwater and act as the primary regional advocate with provincial and federal regulators to advance concerns about rainwater pollutants.</p> |
| <p>Comments supporting the use of green infrastructure. Suggestions for Metro Vancouver to support municipalities with these efforts.</p> <p>Suggested actions to incentivize (or mandate, where possible) residents, industry, and businesses to manage rainwater effectively. Examples of such approaches include disconnecting downspouts, increasing tree canopy, installing permeable surface in developments, daylighting streams, protecting and enhancing riparian areas, and installing rain gardens, bioswales, green roofs, natural lawns, detention ponds, and porous pavement.</p> | <p>A key focus for rainwater management in the updated Liquid Waste Management Plan is the enhancement and expansion of green infrastructure in the region.</p> <p>Some proposed actions for Metro Vancouver and members include:</p> <ul style="list-style-type: none"> • Member municipalities will expand the use of green infrastructure, blue infrastructure, and other practices to mimic natural watersheds, reduce runoff and discharge, improve water quality, and increase climate resilience. These approaches will also support the effectiveness of the region's grey infrastructure. • Member municipalities will update and harmonize rainwater policies, programs, and bylaws, improving the implementation of green infrastructure across the region. <p>Metro 2050, the Regional Growth Strategy, also states that member municipalities will adopt Regional Context Statements that identify local ecosystem protection and tree canopy cover targets and that demonstrate how these targets will contribute to the regional targets.</p> |



| What We Heard | How We're Responding |
|---|--|
| Theme: Affordability | |
| Comments about the need for Metro Vancouver to provide core services to residents in a cost effective manner. | <p>One of the five goals proposed for the updated Liquid Waste Management Plan is:</p> <p><i>Sewer infrastructure across our growing region is reliable, affordable, and equitable now and for future generations.</i></p> <p>We are actively working to meet the challenges of rising costs. We want to ensure we are spending money on things that provide the most value, rather than building more and larger infrastructure. As stricter regulations are developed, and climate change impacts become more prevalent, costs for the region, municipalities, businesses, and residents are going up. This plan focuses on reducing unnecessary water (such as rainwater) and solids (such as food waste) entering the sewer system as these contribute heavily to the costs of running the system.</p> <p>Additionally, asset management practices such as the development of asset management plans will ensure that Metro Vancouver is maximizing the full value of regional assets over their lifecycle.</p> |
| Concern about the cost implications to residents to achieve the goals set out in the draft plan. | <p>The goals of the updated Liquid Waste Management Plan are designed with a strong focus on affordability and reducing future costs for residents, while providing value.</p> <p>The updated plan does not introduce any new capital projects. In fact, by targeting reductions in inflow and infiltration, the plan aims to lower long-term infrastructure needs — such as removing the need for some sanitary sewer overflow tanks from future capital plans — ultimately helping to reduce future expenditures.</p> |

| What We Heard | How We're Responding |
|--|--|
| Theme: Wastewater Treatment | |
| <p>Comments about the need to prioritize upgrades to all wastewater treatment plants to remove more pollutants.</p> | <p>Metro Vancouver is guided by the nationally developed and accepted risk assessment approach established by the Canadian Council of Ministers of Environment Canada-wide Strategy for Management of Municipal Wastewater (CCME CWS-MMWW) to determine effluent discharge objectives and meet National Performance Standards. This process prioritizes upgrades to wastewater treatment plants based on various factors, including plant flows (how much water passes through the plant) and characteristics of the receiving water body for the treated effluent.</p> <p>The CCME CWS-MMWE process requires ongoing monitoring of wastewater and the receiving environment to verify that wastewater treatment plants are continuing to meet the receiving environment water quality objectives and guidelines and is operating without an adverse effect on the environment.</p> |
| <p>Comments urging Metro Vancouver to address odour at wastewater treatment plants and across the wastewater system.</p> | <p>Metro Vancouver understands that odour is a concern for community members living near wastewater treatment plants.</p> <p>The design criteria for odour control in the wastewater treatment plant aims to minimize the release of odorous compounds into the surrounding environment. All Metro Vancouver's wastewater treatment plants are enhancing their odour controls as they are constructed and upgraded.</p> |
| Theme: Combined Sewer Separation | |
| <p>Comments about Metro Vancouver and its combined members taking action on sewer separation to reduce and eliminate combined sewer overflows.</p> | <p>Several proposed actions in the updated Liquid Waste Management Plan encourage and expedite combined sewer separation, including developing five-year intermediate targets for municipal and regional separation of prioritized combined catchments.</p> <p>Other actions focus on reducing combined sewer overflows and their impacts on the receiving environment, through system optimization and operational controls.</p> |

| What We Heard | How We're Responding |
|--|--|
| Theme: Resource Recovery and Biosolids | |
| <p>Concerns that regardless of monitoring and treatment, harmful contaminants (e.g., PFAS, hormones, medicines, microplastics) are still present in biosolids. Concerns about biosolids being used around groundwater or public places and comments about the importance of stringent biosolids testing.</p> | <p>Because they are prevalent in our daily lives, compounds such as per- and polyfluoroalkyl substances (PFAS), hormones, medicines, and microplastics are found in trace amounts in our bodies, our homes, our environment, our wastewater, and in biosolids. Studies show that our exposure to these compounds from common household products (e.g., soaps, shampoo, non-stick cookware) is far greater than our exposure to the trace amount found in biosolids.</p> <p>Provincial biosolids regulations have specific requirements for land application of biosolids and for the quality of soil that is made with biosolids. These requirements are designed to protect water bodies, human health, and the environment.</p> <p>Metro Vancouver follows a rigorous quality control program and performs thousands of tests every year to ensure that biosolids are high quality and always meet or surpass provincial and federal biosolids regulations. Metro Vancouver also tests its biosolids for unregulated parameters and partners with other organizations and research institutions to stay current with the available science to advance our understanding.</p> |
| Theme: Public Education | |
| <p>Calls for more public education about the importance of source control to prevent pollution.</p> | <p>Metro Vancouver is committed to educating the public on the importance of water, wastewater, and the role everyone plays to help keep our local waters healthy.</p> <p>Regional campaigns are run every year to reduce grease, unflushables (e.g., baby wipes, dental floss, and medicines), microfibres (from laundering of textiles), surfactants (a chemical in soaps and detergents that is harmful to marine life) and excess water in the sewer system from inflow and infiltration.</p> |
| Theme: Measuring Progress | |
| <p>Comments noting that the goals, strategies, and actions in the plan need to have timelines and clear progress metrics in order to ensure effective outcomes.</p> | <p>Timelines have been assigned to all actions in the Liquid Waste Management Plan that are time-bound.</p> <p>There are a number of performance indicators proposed for the updated plan linked to strategies that will help measure our progress. In addition to these, we will create new online dashboards with indicators for rainwater, and inflow and infiltration.</p> <p>These will increase accountability and better track our progress on Liquid Waste Management Plan commitments.</p> <p>Metro Vancouver may also identify and implement new performance indicators over time to continue to improve accountability and outcomes.</p> |

How Feedback Will Be Used

Public feedback is being considered as we finalize the draft Liquid Waste Management Plan. We have heard some key themes and priorities for the next plan in our engagement to date, and have incorporated them into the draft plan wherever possible. We are also working on them now as part of projects and improvements already underway throughout Metro Vancouver's liquid waste system.



Iona Beach Regional Park

Next Steps

Metro Vancouver is finalizing the draft plan based on feedback from the final phase of engagement with First Nations, member jurisdictions, and the public. Metro Vancouver aims to submit the final draft plan to the Greater Vancouver Sewerage and Drainage District in fall 2025, and to the provincial Ministry of Environment and Parks for its consideration, feedback, and approval in late 2025.

Glossary

Adaptive Management Framework provides an approach for monitoring watershed health, monitoring the progress and effectiveness of **Integrated Watershed Management Plans**, identifying impacts/threats to watershed health, and identifying mitigation approaches. It is a continuous improvement process that promotes flexible decision making that can be adjusted over time as the outcomes of Integrated Watershed Management Plan actions are better understood.

Asset management plans are developed by utilities and municipalities to maintain and replace infrastructure assets, such wastewater systems, to ensure reliability, sustainability, and cost-effectiveness over their life cycle.

Biosolids are the treated solids recovered from wastewater. The solids have been treated by microorganisms and heat to eliminate pathogens and reduce odours. The final product is similar to soil and is rich in nutrients and organic matter.

Blue infrastructure refers to natural and engineered systems that manage water, including natural water bodies like rivers, lakes, and wetlands, as well as engineered solutions such as constructed wetlands and retention ponds.

Canadian Council of Ministers of Environment Canada-wide Strategy for Management of Municipal Wastewater (CCME CWS-MMWW) – the [strategy](#) articulates the collective agreement reached by the 14 Ministers of Environment in Canada to help ensure that wastewater facility owners have regulatory clarity in managing municipal wastewater effluent under a harmonized framework that is protective of human health and the environment.

Catchment refers to an area of land where collected rainwater and groundwater feed to a single point in the sewer system.

Climate resilience describes the capacity of ecosystems, economies, infrastructure, and communities to absorb the impacts of climate change while maintaining essential services and functions needed to support health and well-being. In some cases, climate resilience involves changing services and functions so they are more sustainable.

Combined sewers carry both sanitary wastewater and rainwater in a single pipe and exist only in older parts of Vancouver, Burnaby, and New Westminster. During dry weather, sewers typically convey all sanitary wastewater to wastewater treatment plants.

Combined sewer overflow (CSO) is a discharge of sewage from a combined sewer into a waterbody, caused by excess water entering the combined sewer system during heavy rainfall. The combined sewer system was designed to overflow in this manner to avoid sewage backups into homes and businesses.

Declaration on the Rights of Indigenous Peoples Act establishes the **United Nations Declaration on the Rights of Indigenous Peoples** as the province of BC's framework for reconciliation, and aims to create a path forward that respects the human rights of Indigenous Peoples while introducing better transparency and predictability in the work we do together.

Green infrastructure includes natural, enhanced and engineered systems and practices that manage rainwater and mitigate negative impacts of urban development. These natural assets (e.g., forests, wetlands, and soil), enhanced assets (e.g., urban trees and bioswales), and engineered systems (e.g., green roofs, rain gardens, and permeable pavement) help absorb and filter rainwater to reduce flooding, improve water quality, and enhance urban biodiversity.

Grey infrastructure means traditional engineered infrastructure, such as pipes, pumps, and treatment plants, used to manage rainwater and wastewater. For rainwater management, grey infrastructure includes storm sewers and retention basins.

Infiltration is rainwater or groundwater that enters a sanitary sewer due to leaky or damaged pipes.

Inflow is rainwater that enters a sanitary sewer due to improperly connected roof or foundation drains.

Integrated Watershed Management Plans, formerly referred to as Integrated Stormwater Management Plans, provide direction for future development plans and identify infrastructure needs while better understanding the impacts of development on the environment. The goal is to balance land use planning, rainwater engineering, flood and erosion protection, and environmental protection.

Master Sewer Servicing Plan is a comprehensive plan outlining the development, maintenance, and improvement of a municipality's sewer system to meet current and future needs.

Official Community Plan is a comprehensive policy document adopted by a municipal council or regional board that outlines the long-term vision, objectives, and policies for land use, development, and infrastructure within a community. An Official Community Plan addresses various aspects of community planning, including housing, transportation, parks, and utilities, and provides guidance on managing growth and development in a sustainable and orderly manner. The plan must align with provincial legislation and regional growth strategies.

Per- and polyfluoroalkyl substances (PFAS) are a group of thousands of human-made chemicals that are used as surfactants, lubricants and repellents for dirt, water and grease in a wide range of products. PFAS do not break down easily. For this reason, they stay in the environment for a long time. People are exposed to PFAS in consumer products such as cosmetics, cookware, food packaging, furniture, and clothing, as well as in food, outdoor and indoor air, and house dust.

Regional Context Statement is the linking document under BC's Local Government Act that demonstrates the relationship between an Official Community Plan and the Regional Growth Strategy (Metro 2050) and, if applicable, how the **Official Community Plan** is to be made consistent with the regional growth strategy over time.

Stormwater Interagency Liaison Group is mandated within the Liquid Waste Management Plan to advise and work through technical rainwater issues with Metro Vancouver member jurisdictions, and senior government agencies.

System optimization refers to the approach of optimizing the available capacity of the combined sewer system during wet weather through operational adjustments that minimize the sanitary sewage loading in combined sewer overflows as well as minimizing overall combined sewer overflow volumes.

United Nations Declaration on the Rights of Indigenous Peoples details the rights of Indigenous peoples in international law and policy, containing minimum standards for the recognition, protection and promotion of these rights.



Liquid Waste Management Plan Review and Update
Public Feedback / Response Table – Phase 3

| ID | Source/ Material | Organization/ Group | Date | Comments/Information Requests | Action/Commitment/Final Response |
|----|--|---|-----------------|---|---|
| 1 | Summary of Feedback- LWC Special Meeting- 10-30-2024 | The Partnership for Water Sustainability in British Columbia | Oct 30, 2024 | <p><i>Restoring ecological systems</i></p> <p>The goal of the LWMP is to restore ecological systems. The LWMP is Metro Vancouver’s chance to reenergize urban design with a nature-based approach and to design in concert with Metro 2050.</p> | <p>Actions in the LWMP and <i>Metro 2050</i>, the region's Regional Growth Strategy, support this feedback.</p> <p>LWMP Action 10.4: Members will align land-use planning and development with Integrated Watershed Management Plans to ensure development decisions support watershed health objectives, including protecting riparian areas and agricultural areas.</p> <p>And, in <i>Metro 2050</i>, found on the Metro Vancouver website (metrovanancouver.org/services/regional-planning/metro-2050-the-regional-growth-strategy): member jurisdictions will adopt Regional Context Statements that include policies that:</p> <ul style="list-style-type: none"> i) support the consideration of natural assets and ecosystem services in land use decision-making and land management practices; ii) enable the retention and expansion of urban forests using various tools, such as local tree canopy cover targets, urban forest management strategies, tree regulations, development permit requirements, land acquisition, street tree planting, and reforestation or restoration policies, with consideration of resilience; iii) reduce the spread of invasive species by employing best practices, such as the implementation of soil removal and deposit bylaws, development permit requirements, and invasive species management plans; v) increase green infrastructure along the Regional Greenway Network, the Major Transit Network, community greenways, and other locations, where appropriate, and in collaboration with Metro Vancouver, TransLink, and other partners; and iv) support watershed and ecosystem planning, the development |

| ID | Source/ Material | Organization/ Group | Date | Comments/Information Requests | Action/Commitment/Final Response |
|----|--|--|--------------|--|--|
| | | | | | <p>and implementation of Integrated Stormwater Management Plans, and water conservation objectives.</p> <p>In addition, more work will be done during the LWMP's implementation to develop site specific, combined sewer overflow prevention plans and Integrated Watershed Management Plans to better coordinate actions on a watershed basis.</p> |
| 2 | Summary of Feedback-LWC Special Meeting-10-30-2024 | The Partnership for Water Sustainability in British Columbia | Oct 30, 2024 | <p><i>Restoring ecological systems</i></p> <p>With Metro 2050 and a streams and trees component of the LWMP guiding the way, this region has come a long way already. The future looks promising, and the mantra to be successful is affordable, actionable, and pragmatic. If Metro Vancouver can be these three things, it can avoid liability and risk.</p> | <p>Rainwater management is a key component of the LWMP. Several key actions, specifically outlined in LWMP strategies 10, 11, and 12, are designed to guide the region toward enhanced watershed health by ensuring a coordinated regional approach to this issue.</p> <p>As for affordability, one of the five goals proposed for the updated LWMP is: "Sewer infrastructure across our growing region is reliable, affordable, and equitable now and for future generations."</p> <p>We are actively working to meet the challenges of rising costs. We want to ensure we are spending money on actions that provide the most value, rather than building more and larger infrastructure. As stricter regulations are developed, and climate change impacts become more prevalent, costs for the region, municipalities, businesses, and residents are increasing. This plan focuses on reducing unnecessary water (such as rainwater) and solids (such as food waste) entering the sewer system as these contribute heavily to the costs of running the system.</p> <p>Additionally, asset management practices such as the development of asset management plans will ensure that Metro Vancouver is maximizing the full value of regional assets over their lifecycle.</p> <p>Actions that address affordability: 1.1, 1.3, 2.3, 3.4, 3.5, 5.1, 5.2, 5.5, 6.4, 8.8, 9.6 and 11.1.</p> |
| 3 | October 30 2024 Liquid Waste Committee | Public Advisory Committee | Oct 30, 2024 | Engage and educate all producers of wastewater (residents, business, industry, institutions, governments) to recognize the impact their actions have on the health of local waters and their role in | The following actions support this recommendation: 3.1, 3.2, 3.3, 3.5, 4.1 and 4.2. |

| ID | Source/ Material | Organization/ Group | Date | Comments/Information Requests | Action/Commitment/Final Response |
|----|---|---------------------------------|-----------------|--|---|
| | - PAC Recommendations | | | reducing the pollutants entering our wastewater, and the overall quantity of water entering the wastewater management system. | |
| 4 | October 30 2024 Liquid Waste Committee - PAC Recommendations | Public Advisory Committee | Oct 30, 2024 | Encourage water conservation to reduce the need for moving larger volumes of wastewater, the demand for additional wastewater treatment capacity, the cost of wastewater management, and greenhouse gas (GHG) emissions associated with the pumping and treatment of wastewater. | The following LWMP actions include initiatives and recommendations that will encourage residential, commercial and industrial water conservation: 3.1, 3.2, 3.3 and 3.5. |
| 5 | October 30 2024 Liquid Waste Committee - PAC Recommendations | Public Advisory Committee | Oct 30, 2024 | Investigate and identify best practices to intercept pollutants in stormwater (urban run-off) before they reach streams and waterways, and support restoration initiatives and studies across the region with a focus on fish-bearing streams. | The following actions help support this recommendation: 10.4, 10.5, 11.4 and 12.4. |
| 6 | October 30 2024 Liquid Waste Committee - PAC Recommendations | Public Advisory Committee | Oct 30, 2024 | Create a list (e.g., "Top Ten") of priority pollutants in stormwater and wastewater, and monitor progress to reduce them across Metro Vancouver. | For stormwater, the Stormwater Monitoring and Adaptive Management Framework considers chemical and biological parameters, to be monitored by municipal members. Metro Vancouver's wastewater treatment plant operational certificates take into account top pollutants. Metro Vancouver monitors them regularly. LWMP action 19.3 further supports this. |
| 7 | October 30 2024 Liquid Waste Committee - PAC Recommendations | Public Advisory Committee | Oct 30, 2024 | Cooperate with researchers to advance understanding of impacts on aquatic species and ecosystems from stormwater and wastewater pollution, and develop effective prevention measures. | The following LWMP actions help support this recommendation: 4.1, 4.2, 12.1, 12.4, 13.2, 13.3, 19.1, 19.3 and 20.1. |
| 8 | October 30 2024 Liquid Waste Committee - PAC Recommendations | Public Advisory Committee | Oct 30, 2024 | Engage all levels of government to identify, regulate, enforce, and incentivize the reduction or elimination of pollutants at the source. | LWMP action 4.1 supports this recommendation. |

| ID | Source/ Material | Organization/ Group | Date | Comments/Information Requests | Action/Commitment/Final Response |
|----|---|---------------------------------|-----------------|--|---|
| 9 | October 30 2024 Liquid Waste Committee - PAC Recommen dations | Public Advisory Committee | Oct 30, 2024 | Continue to increase the implementation of green infrastructure across the region, in alignment with the Climate 2050 Roadmap for Nature and Ecosystems, and the Regional Green Infrastructure Network: Invest in the maintenance of green infrastructure and monitor and assess its outcomes for stormwater management in a changing climate, to constantly improve its success. | LWMP actions 10.5, 11.4, 12.1 and 12.3 support this recommendation. |
| 10 | October 30 2024 Liquid Waste Committee - PAC Recommen dations | Public Advisory Committee | Oct 30, 2024 | Monitor the implementation of Integrated Watershed Management Plan (formerly known as Integrated Stormwater Management Plan) objectives in land use practices across Metro Vancouver members. In particular, require Metro Vancouver members to monitor and report changes within each Integrated Watershed Management Plan area in: a. Effective impervious area (EIA) - permeable surface or effective permeable surface b. Tree canopy cover (riparian and non-riparian) c. Conditions for indigenous fish populations. | LWMP actions 10.1, 10.2, 10.4, 11.2, 11.3, 12.1 and 12.4 help support this recommendation. In particular, action 12.1 will see an updated rainwater management group (currently known as the Stormwater Interagency Liaison Group) review and update the Integrated Watershed Management Plan template and Stormwater Monitoring and Adaptive Management Framework. |
| 11 | October 30 2024 Liquid Waste Committee - PAC Recommen dations | Public Advisory Committee | Oct 30, 2024 | Work to remove regulatory barriers (such as in the BC Building Code) to encourage the use of green infrastructure rather than restrict it. Green infrastructure and associated stormwater management practices that require regulatory update include: - Disconnection of roof downspouts to storm sewers - Authorization of stormwater diversion from one property to another, in safe circumstances (for example school parking lot to municipal boulevard; municipal street to hospital landscaping; residential building roofs to adjacent parkland) - Increased protection of tree canopy - More use of bioswales, enhanced ditches (i.e. informally landscaped), green roofs, rain gardens | LWMP actions 10.2, 10.4, 11.2, 11.3 and 12.4 help support this recommendation. The current Stormwater Monitoring and Adaptive Management Framework will also be reviewed and updated. |
| 12 | October 30 2024 Liquid Waste Committee - PAC | Public Advisory Committee | Oct 30, 2024 | Invest in green infrastructure, in conjunction with appropriate grey infrastructure, as a response to climate and land use changes, and prioritize improvements in problematic stormwater catchment | LWMP actions 10.5, 11.1, 11.4 and 12.3 support this recommendation. |

| ID | Source/ Material | Organization/ Group | Date | Comments/Information Requests | Action/Commitment/Final Response |
|----|---|---------------------------------|-----------------|--|---|
| | Recommendations | | | areas that convey the highest amount of pollutants to the most vulnerable receiving waters. | |
| 13 | October 30 2024 Liquid Waste Committee - PAC Recommendations | Public Advisory Committee | Oct 30, 2024 | <p>Create a regional map and dashboard that provide information and data on:</p> <ul style="list-style-type: none"> - The types of pollutants that enter the systems and their sources (e.g. industry, homes, businesses) - Integrated Watershed Management Plan (IWMP) trends, indicators, measures for success, and outcomes - IWMP implementation - The sewage and stormwater systems, showing where wastewater enters and exits the system - All green infrastructure installations in the region - The progress of sewer separation - The annual number and volume of combined and sanitary sewer overflows - Environmental and ecological information - First Nations cultural sites and activities | <p>The updated LWMP commits Metro Vancouver and members to develop an online rainwater dashboard for reporting on Integrated Watershed Management Plan implementation, a dashboard for inflow and infiltration (I&I), and a dashboard of all LWMP performance indicators and progress on all actions.</p> <p>LWMP actions 6.1, 6.2, 6.3 and 11.3 support this recommendation.</p> |
| 14 | October 30 2024 Liquid Waste Committee - PAC Recommendations | Public Advisory Committee | Oct 30, 2024 | Encourage the gathering of high-quality data and knowledge among First Nations, environmental and academic organizations, Metro Vancouver, member jurisdictions, and senior levels of government. Create a data clearing house to coordinate monitoring, data standards, data objectives, data quality, analytics, and study framework. | LWMP actions 10.2, 12.1, 12.4, 19.1 and 20.1 help support this recommendation. |
| 15 | October 30 2024 Liquid Waste Committee - PAC Recommendations | Public Advisory Committee | Oct 30, 2024 | Facilitate a network to share and analyze data across the region. | LWMP action 12.4 will help to support this recommendation. |
| 16 | Feedback on the Draft Liquid Waste Manageme | Zero Waste BC | Feb 20, 2025 | <p>Look at systems to help collect rainwater as heavier rain events and summer droughts become more common such as onsite rain barrels and cisterns. This may also create resilience in case of increased fire risk.</p> <p>Work to minimize hard surfaces where not necessary</p> | <p>On-site rainwater management is under the jurisdiction of, and will be considered by, member jurisdictions.</p> <p>Action 11.2 commits to a regional update of rainwater policies, programs, and bylaws to help resolve rainwater management conflicts and barriers.</p> |

| ID | Source/ Material | Organization/ Group | Date | Comments/Information Requests | Action/Commitment/Final Response |
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| | nt Plan Zero Waste BC | | | so more rain can be absorbed (for example, like the permeable parking surfaces instead of concrete or asphalt). | Action 10.5 commits members to expand the use of green and blue infrastructure and other practices to mimic natural watersheds, reduce runoff and discharge, improve water quality, and increase climate resilience. |
| 17 | Feedback on the Draft Liquid Waste Management Plan Zero Waste BC | Zero Waste BC | Feb 20, 2025 | Look to minimize flows into the system -rainwater gardens and bioswales, grey water, recycling, composting toilets, water metering, etc. | <p>There are a number of initiatives to reduce both sanitary and stormwater flows, both within and outside of the LWMP.</p> <p>Actions 10.2, 10.3, 10.4, 10.5, 11.3 and 12.3 support this feedback.</p> <p>Outside of the LWMP, Metro Vancouver has developed a Non-Potable Water Systems Guidebook, available online at metrovancover.org/services/water/Documents/non-potable-water-systems-printer-friendly-guidebook-2022.pdf. It describes best practices for adopting non-potable water systems in a manner that helps Metro Vancouver move toward more resilient and sustainable use of available water resources.</p> <p>The <i>Drinking Water Management Plan</i> also has a number of conservation strategies that reduce flows, including advocating for expanded water metering.</p> <p>For stormwater, Metro Vancouver has published a report, Stormwater Source Control Design Guidelines (metrovancover.org/services/liquid-waste/Documents/stormwater-source-control-design-guidelines-2012.pdf) which is a resource for member municipalities to successfully implement green infrastructure approaches, such as bioswales.</p> |
| 18 | Feedback on the Draft Liquid Waste Management Plan Zero Waste BC | Zero Waste BC | Feb 20, 2025 | Step up the pace of water metering and use these funds to help support the liquid waste system costs (more of a user pay system) but include steps like BC Hydro where the first necessary volume is affordable but increased use over that escalates the costs. | Although the LMWP has no regulatory jurisdiction over water metering, LWMP action 3.5 encourages member jurisdictions to conduct business casing and/or implement residential water metering programs to reduce potable water use. It also urges a region-wide water conservation program under the <i>Drinking Water Management Plan</i> . |

| ID | Source/ Material | Organization/ Group | Date | Comments/Information Requests | Action/Commitment/Final Response |
|----|--|------------------------|--------------|---|--|
| 19 | Feedback on the Draft Liquid Waste Management Plan Zero Waste BC | Zero Waste BC | Feb 20, 2025 | Strengthen water conservation measures. Ensure no flow through cooling systems exist in Metro Vancouver. | The LWMP contains actions to reduce industrial and commercial wastewater flows including actions 3.3 and 3.5b whereby Metro Vancouver and members will create financial incentives for industry and commercial operations to reduce flows. |
| 20 | Feedback on the Draft Liquid Waste Management Plan Zero Waste BC | Zero Waste BC | Feb 20, 2025 | Set ambitious targets for per capita consumption. | <p>The <i>Drinking Water Management Plan</i> addresses potable water usage.</p> <p>However, the LWMP contains several per capita based metrics pertaining to wastewater. Performance indicator 3A, for example, will measure per capita dry weather flow and total influent Biochemical Oxygen Demand per capita at the wastewater treatment plants to hopefully reflect downwards trends over time.</p> |
| 21 | Feedback on the Draft Liquid Waste Management Plan Zero Waste BC | Zero Waste BC | Feb 20, 2025 | We fully support the action to decrease food waste. | LWMP action 3.1 supports this recommendation. |
| 22 | Feedback on the Draft Liquid Waste Management Plan Zero Waste BC | Zero Waste BC | Feb 20, 2025 | Recommend that backyard composting is encouraged (recommend resurrecting the North Shore Recycling Program's outreach and education systems). | LWMP action 3.1 supports this recommendation, aiming to reduce food waste down drains. This feedback has also been provided to Metro Vancouver's Solid Waste Services Department for their consideration. |
| 23 | Feedback on the Draft Liquid Waste Management Plan Zero Waste BC | Zero Waste BC | Feb 20, 2025 | Ban garburators/in-sink disposal throughout the region -ban them for new builds and phase out existing ones over time. | Metro Vancouver does not have the legislative authority to ban the use of food grinders within residential premises, however, we do discourage their use. Metro Vancouver promotes the use of green bins for the disposal of food waste. |

| ID | Source/ Material | Organization/ Group | Date | Comments/Information Requests | Action/Commitment/Final Response |
|----|--|------------------------|--------------|---|--|
| 24 | Feedback on the Draft Liquid Waste Management Plan Zero Waste BC | Zero Waste BC | Feb 20, 2025 | Work with EPR programs for pharmaceuticals and HHW to reduce disposal through the liquid waste system. | Metro Vancouver educates the public on proper disposal of items including pharmaceuticals and household hazardous waste through initiatives such as Metro Vancouver's Adult Toilet Training campaign (which educates the public on what should not be disposed of in toilets and drains) and collaboration with the Health Products Stewardship Association. LWMP actions 4.1 and 4.2 support this recommendation. |
| 25 | Feedback on the Draft Liquid Waste Management Plan Zero Waste BC | Zero Waste BC | Feb 20, 2025 | Suggest that all commercial businesses are encouraged to develop zero waste plans that also factor in impact on liquid waste (i.e. including food waste, grease traps, management of hazardous waste, etc.). Businesses should provide receipts indicating if they have grease traps and servicing based on their potential for grease loading. | Metro Vancouver will consider this suggestion as part of LWMP action 3.1, which involves working with restaurants to improve grease interceptor maintenance practices. |
| 26 | Feedback on the Draft Liquid Waste Management Plan Zero Waste BC | Zero Waste BC | Feb 20, 2025 | Look to specific industries to see what further work is needed (for example, Victoria mandated mercury amalgam separators for dental offices -what does current testing show is needed by industry?) | Metro Vancouver has already mandated mercury amalgam separators for dental offices via our Sewer Use Bylaw since 2008. LWMP action 4.1 further supports this recommendation. |
| 27 | Feedback on the Draft Liquid Waste Management Plan Zero Waste BC | Zero Waste BC | Feb 20, 2025 | Develop systems to capture microplastics (at the sewage treatment locations but also at the disposer end). | Based on research at our current wastewater treatment plants, Metro Vancouver estimates that up to 95 per cent of microplastics are captured/retained during wastewater treatment. Metro Vancouver also runs an annual public education initiative encouraging residents to wash their laundry in cold, which reduces the release of microfibres from household laundry. LWMP action 4.2 commits Metro Vancouver to continue to encourage residents and businesses to prevent pollution at the source by properly managing what they send down drains and toilets. |
| 28 | Feedback on the Draft Liquid | Zero Waste BC | Feb 20, 2025 | Advocate to the province to regulate additional contaminating products (or packaging) through the Recycling Regulation. | LWMP action 4.1 supports this recommendation, committing Metro Vancouver to advocate for increased provincial and federal regulations on the manufacturing and use of products with |

| ID | Source/ Material | Organization/ Group | Date | Comments/Information Requests | Action/Commitment/Final Response |
|----|---|------------------------|-----------------|---|---|
| | Waste Manageme nt Plan Zero Waste BC | | | | contaminants. Metro Vancouver prioritizes contaminants for source control using the Canadian Council of Ministers of Environment (CCME) Canada-wide Strategy for Management of Municipal Wastewater Effluent (CWS-MMWE) Environmental Risk Management Framework. |
| 29 | Feedback on the Draft Liquid Waste Manageme nt Plan Zero Waste BC | Zero Waste BC | Feb 20, 2025 | Advocate to the province and federal government to regulate contaminants such as pesticides, PFAS, microplastics, etc. | LWMP action 4.1 supports this recommendation, committing Metro Vancouver to advocate for increased provincial and federal regulations on the manufacturing and use of products with contaminants. |
| 30 | Feedback on the Draft Liquid Waste Manageme nt Plan Zero Waste BC | Zero Waste BC | Feb 20, 2025 | Advocate for systems to minimize microplastics (such as capture systems for washing machines, dishwashers). | LWMP action 4.1 supports this recommendation, committing Metro Vancouver to advocate for increased provincial and federal regulations on the manufacturing and use of products with contaminants. Metro Vancouver prioritizes contaminants for source control using the Canadian Council of Ministers of Environment (CCME) Canada-wide Strategy for Management of Municipal Wastewater Effluent (CWS-MMWE) Environmental Risk Management Framework. |
| 31 | Feedback on the Draft Liquid Waste Manageme nt Plan Zero Waste BC | Zero Waste BC | Feb 20, 2025 | Continue to encourage smarter behaviour around fabric choice, washing frequency and washing temperature with the Our Ocean Thanks You campaign. | LWMP action 4.2 supports this recommendation. |
| 32 | Feedback on the Draft Liquid Waste Manageme nt Plan Zero Waste BC | Zero Waste BC | Feb 20, 2025 | Encourage better choices of products to avoid PFAS. | LWMP action 4.2 supports this recommendation, committing Metro Vancouver to continue to motivate residents and businesses to prevent pollution at the source by properly managing what they send down drains and toilets. |

| ID | Source/ Material | Organization/ Group | Date | Comments/Information Requests | Action/Commitment/Final Response |
|----|--|------------------------|--------------|---|--|
| 33 | Feedback on the Draft Liquid Waste Management Plan Zero Waste BC | Zero Waste BC | Feb 20, 2025 | Look ahead to what other possible sources of contamination exist and work with higher levels of government to address this, ideally in a proactive rather than reactive manner. Perhaps all chemicals released need to be proven safe rather than experiencing decades of impacts (some irreversible) before banning them | LWMP action 4.1 supports this recommendation, committing Metro Vancouver to advocate for increased provincial and federal regulations on the manufacturing and use of products with contaminants. Metro Vancouver prioritizes contaminants for source control using the Canadian Council of Ministers of Environment (CCME) Canada-wide Strategy for Management of Municipal Wastewater Effluent (CWS-MMWE) Environmental Risk Management Framework. |
| 34 | Feedback on the Draft Liquid Waste Management Plan Zero Waste BC | Zero Waste BC | Feb 20, 2025 | Work with the province to support a preferred pharmaceutical prescription compendium for pharmaceuticals that are more likely to break down and to break down into less harmful components (as was done in Sweden). | Metro Vancouver will consider this suggestion as part of our source control efforts. |
| 35 | Feedback on the Draft Liquid Waste Management Plan Zero Waste BC | Zero Waste BC | Feb 20, 2025 | Continue the Unflushables campaign and advocate to ban incorrect labelling of wipes as flushable. Discourage the use of wipes in favour of reusable cloths. | Metro Vancouver has been working with utilities across Canada on efforts to reduce the impacts of wipes on wastewater infrastructure. In March 2025, the Federation of Canadian Municipalities passed a resolution submitted by Metro Vancouver requesting that the federal government provide funding and establish a coordinating body to oversee the development of a flushability standard. LWMP action 4.1 further supports this recommendation, committing Metro Vancouver to advocate for increased provincial and federal regulations on the manufacturing and use of products with contaminants. |
| 36 | Feedback on the Draft Liquid Waste Management Plan Zero Waste BC | Zero Waste BC | Feb 20, 2025 | Support the switch to reusable menstrual supplies rather than single use. | Metro Vancouver discourages single use items in our public education/awareness campaigns. |
| 37 | Feedback on the Draft | Zero Waste BC | Feb 20, 2025 | Develop systems to prevent sewage escape from other sources such as boats, portapotties and RVs. This may | This is outside the scope of the LWMP. Sewage leaks or discharges from boats, portable toilets, and RVs are regulated by legislation |

| ID | Source/ Material | Organization/ Group | Date | Comments/Information Requests | Action/Commitment/Final Response |
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| | Liquid Waste Management Plan Zero Waste BC | | | require working with the federal government or other jurisdictions. | and bylaws from other orders of government (e.g. <i>Section 9.2, Discharge of waste from recreational vehicles — strict liability</i> in the provincial <i>Waste Management Act</i>). With respect to pleasure craft discharges, the Province directed that the original 2002 LWMP have actions promoting the installation of pump out facilities at marinas, as regulations governing sewage discharges from boats were lacking at that time. Those actions have been carried forward into the updated LWMP (see actions 20.3 and 20.4). |
| 38 | Feedback on the Draft Liquid Waste Management Plan Zero Waste BC | Zero Waste BC | Feb 20, 2025 | Work to make the system as clean as possible, including tertiary treatment for all plants to a level that the Board would feel comfortable eating a dinner each year of shellfish harvested from near or downstream of the treatment plants. | <p>Metro Vancouver is guided by the nationally developed and accepted risk assessment approach established by the Canadian Council of Ministers of Environment Canada wide Strategy for Management of Municipal Wastewater (CCME CWS-MMWW) to determine effluent discharge objectives and meet National Performance Standards. This process prioritizes upgrades to wastewater treatment plants based on various factors, including plant flows (how much water passes through the plant) and characteristics of the receiving water body for the treated effluent.</p> <p>The CCME CWS-MMWE process requires ongoing monitoring of wastewater and the receiving environment to verify that wastewater treatment plants are continuing to meet the receiving environment water quality objectives and guidelines and is operating without an adverse effect on the environment.</p> |
| 39 | Feedback on the Draft Liquid Waste Management Plan Zero Waste BC | Zero Waste BC | Feb 20, 2025 | All GHG calculations should include both biogenic and non-biogenic emissions but show each individually. | Greenhouse gas (GHG) emissions from all sources are converted into carbon dioxide equivalent using emission factors that take into account whether the source is biogenic or fossil. The resulting overall GHG emissions in tonnes CO ₂ e are an indicator of the impact on the climate. |
| 40 | Feedback on the Draft Liquid Waste Management Plan Zero Waste BC | Zero Waste BC | Feb 20, 2025 | Have neutral or community-interested third parties conduct tests of effluent water quality, biosolids etc. | Testing of wastewater effluent is a regulatory requirement under provincial and federal legislation. Wastewater treatment plant operational certificates and regulations specify qualifications/certification of staff and requirements for accreditation of analytical laboratories that are conducting the work. The results are scrutinized and subject to compliance verification by the regulators. During compliance assessments of |

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| | | | | | <p>the wastewater treatment plants, regulators sometimes collect samples and conduct independent analyses. In addition, Environment and Climate Change Canada has also conducted independent sampling and testing of Metro Vancouver effluent as part of a broader Canada-wide program that supports federal Chemical Management Plan initiatives. All monitoring results are publicly available.</p> <p>As for biosolids, Metro Vancouver provides biosolids samples to researchers across North America in order to advance our understanding of potential impacts to human health and the environment. Environment and Climate Change Canada has also conducted independent sampling and testing of Metro Vancouver biosolids as part of a broader Canada-wide program that supports federal Chemical Management Plan initiatives. Action 15.1 includes increasing public outreach and education on how biosolids are used safely and responsibly as a fertilizer and as an ingredient to build healthy soils. As part of this outreach, Metro Vancouver is committed to greater transparency and includes testing results in public facing information materials.</p> |
| 41 | Feedback on the Draft Liquid Waste Management Plan Zero Waste BC | Zero Waste BC | Feb 20, 2025 | Recommend the best possible systems to minimize contamination of the biosolids with harmful chemicals and contaminants. | LWMP Strategy 4, "Prevent pollution at the source" will help to reduce contaminants of environmental concern (CECs) in wastewater and in biosolids. Because many of these compounds are used in consumer products that we use every day, they are also found in Nutrifor biosolids in low concentrations (in parts per billion). Action 4.2 focuses on encouraging residents and businesses to prevent pollution at the source through outreach and education programs. Research led by the Canadian Water Network shows that the presence of CECs in biosolids poses low risk to human health and the environment. Metro Vancouver remains committed to continuous improvement and is participating in ongoing studies to better understand the impact of CECs on human health and the environment. |
| 42 | Feedback on the Draft Liquid Waste Management | Zero Waste BC | Feb 20, 2025 | Do not burn the biosolids nor develop it as a fuel pellet as this will be harmful in terms of air pollution, releasing contaminants and increasing GHG emissions. For more information on why this should not be pursued, refer to our submission on the Metro | <p>Metro Vancouver's biosolids production will double by 2035 and triple by 2050 due to treatment plant upgrades and population growth. Managing increasing quantities of biosolids in the future will require greater diversification in beneficial use markets.</p> <p>The overall goal of strategy 15 is diversification, while minimizing</p> |

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| | nt Plan Zero Waste BC | | | Vancouver Waste to Energy Facility Operating Certificate Amendment December 2024). | <p>greenhouse gas emissions. New technologies, such as the biosolids dryer, will be required to meet regulatory emissions standards established by the province to ensure that any air quality impacts are minimized.</p> <p>Action 15.2.a states that "Metro Vancouver will build a regional biosolids dryer to produce granular pellets that can be used as a low carbon fuel and as a fertilizer product", the low carbon fuel will be used in place of fossil fuels thereby reducing GHGs; and, the fertilizer will have a lower carbon footprint than chemical fertilizers.</p> <p>As new technologies are developed, these will also be required to meet all regulations to ensure the protection of human health and the environment. Action 15.3 includes exploring technologies with a net positive energy balance and net greenhouse gas emissions reduction. Strategy 18, minimizing impacts of liquid waste management on the atmosphere and air quality, also aligns with regional, provincial, and federal climate goals.</p> |
| 43 | Feedback on the Draft Liquid Waste Management Plan Zero Waste BC | Zero Waste BC | Feb 20, 2025 | If any fertilizer pellets are to be made, each batch should be tested for and labelled with info on heavy metals, pharmaceuticals, PFAS, microplastics and other possible contaminants. | Due to thermal processing, Metro Vancouver's dry biosolids pellets will be virtually pathogen free and the risks of use will be equivalent to commercial fertilizers. Metro Vancouver follows provincial and federal regulations to ensure the protection of the environment and human health. Under Canadian federal regulations, all fertilizers must comply with the Canadian Food Inspection Agency's <i>Fertilizers Act</i> and <i>Fertilizers Regulations</i> for product quality standards for metals, fecal coliforms, salmonella and dioxins/furans, as well as labelling standards. Additionally, the agency requires that biosolids represented as commercial fertilizers must meet its PFAS quality standard. |
| 44 | Feedback on the Draft Liquid Waste Management Plan Zero Waste BC | Zero Waste BC | Feb 20, 2025 | Aim for the highest quality of biosolids as possible so that they eventually could be used to replace soil nutrients. | Metro Vancouver follows a rigorous quality control program, testing biosolids over 9,000 times per year. This goes above and beyond regulatory requirements for monitoring. Metro Vancouver biosolids consistently meet provincial biosolids quality standards. Under the provincial regulation, biosolids can be applied to land to replace soil nutrients. Action 15.1 will grow the land application program to use biosolids as a fertilizer and as an ingredient to build healthy soils. Strategy 4, "Prevent pollution at the source" will continue to encourage the prevention of pollution from |

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| | | | | | residential, commercial, and industrial sectors in the region. Under Action 4.1, Metro Vancouver will prioritize contaminants for source control and take further source control action. Under Action 4.2, Metro Vancouver will also continue to motivate residents and businesses to prevent pollution at the source. Through multiple source control actions, biosolids quality continues to be maintained and improved. |
| 45 | Feedback on the Draft Liquid Waste Management Plan Zero Waste BC | Zero Waste BC | Feb 20, 2025 | Ban biosolids from going to the incinerator, cement kilns or other burning devices. | <p>Processing biosolids at the Waste-to-Energy-Facility (WTEF) secures a necessary contingency option for biosolids (action 15.4). It provides Metro Vancouver a consistent, long-term, local management option when biosolids cannot be beneficially used in other markets, or when beneficial use sites cannot be accessed (e.g. during climate emergencies). Processing biosolids at the WTEF will help with the facility's temperature regulation and improve its operational efficiency. The WTEF also provides a contingency option for material that does not meet provincial biosolids quality standards for beneficial use. Processing biosolids at the in-region WTEF will help to reduce greenhouse gas (GHG) emissions, through reduced trucking emissions, and avoids disposing biosolids in a landfill which generates greenhouse gases.</p> <p>LWMP action 15.2a states "Metro Vancouver will build a regional biosolids dryer to produce granular pellets that can be used as a low carbon fuel...". This low carbon fuel will be used in place of fossil fuels thereby reducing GHGs and presenting a greener alternative for cement kilns or other facilities that can use dried biosolids as a fuel. All facilities using dried biosolids as a low carbon fuel will be required to meet provincial regulatory emissions standards to ensure that any air quality impacts are minimized.</p> |
| 46 | Feedback on the Draft Liquid Waste Management Plan Zero Waste BC | Zero Waste BC | Feb 20, 2025 | Do not pursue business cases that involve thermal destruction of the nutrients. | Metro Vancouver's biosolids production will double by 2035 and triple by 2050 due to treatment plant upgrades and population growth. Managing increasing quantities of biosolids in the future will require developing new markets for the land application of biosolids, as well as implementing new and innovative technologies that convert sludge into other useful products rather than biosolids. Under LWMP actions 16.3 and 17.1, Metro Vancouver will continue to recover nutrients and other materials from liquid waste; and research, develop, and pilot new methods |

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| | | | | | to expand the recovery and use of energy, nutrients, water and other emerging resources from the liquid waste system. |
| 47 | Feedback on the Draft Liquid Waste Management Plan Zero Waste BC | Zero Waste BC | Feb 20, 2025 | As sewage flows will continue and should eventually be 100% organic material, consider building a system to use energy from the liquid waste system (gas or thermal) and connecting this to the district energy system instead of the incinerator. | Metro Vancouver and members have several current and planned projects to recover thermal energy from the wastewater system and provide the heat to district energy systems. Metro Vancouver cleans up biogas at wastewater treatment plants and sells it to the FortisBC grid, where it may be used by district energy systems that purchase renewable natural gas. Actions related to the incinerator are covered under the <i>Solid Waste Management Plan</i> . |
| 48 | UDI LWMP Submission - Draft Liquid Waste Management Plan | Urban Development Institute | Feb 21, 2025 | <p>The Urban Development Institute (UDI) has had the opportunity to review the Interim Draft Liquid Waste Management Plan, and we participated in Metro Vancouver's February 5th Webinar on the proposals. This issue is particularly important for builders, as the recent substantial increases in the Region's Development Cost Charges (DCCs) were partially driven by the rising costs of infrastructure due to the current LWMP.</p> <p>We are pleased that DCCs are not anticipated to increase as a result of the current proposals because "No additional capital projects are anticipated to fulfill the LWMP commitments during the plan's 10-year implementation period." However, UDI is concerned that costs to new housing and employment projects will increase because the actions in the Plan will "... shift expenditures from Metro Vancouver to member jurisdictions, residents, and businesses...". This could result in higher local DCCs and/or increased requirements for rainwater management on development sites</p> | <p>The updated LWMP was developed with long-term affordability in mind. Many of the actions that focus on demand side management should result in lower long-term costs, deferring the need to construct or upgrade infrastructure to meet the needs of a rapidly growing region.</p> <p>We agree our approach could increase requirements for rainwater management on development sites in the shorter term, but this will result in longer term cost savings.</p> |
| 49 | UDI LWMP Submission - Draft Liquid Waste Management Plan | Urban Development Institute | Feb 21, 2025 | Actions 5.2, 9.1, and 9.3 tie liquid waste management/rainwater system improvements to the redevelopment of sites. Action 11.2 calls for Metro Vancouver to "... coordinate the development of a guidance document to aid members in harmonizing rainwater policies, programs, and bylaws," as well as its members to "... review and update rainwater policies, programs and bylaws." This will include, | This is outside the scope of the LWMP. The mechanism for funding local liquid waste management and rainwater systems required for redevelopments is outside the jurisdiction of the LWMP and lies with local municipalities. |

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| | | | | <p>under Action 11.4, updating “... Master Municipal Construction Documents such that green infrastructure guidelines become standards.”</p> <p>Cost estimates are not provided for redevelopment or for municipalities “... due to significant variation ... across different member jurisdictions.” However, the City of Vancouver recently approved Key Directions in its Healthy Water Plan (HWP) https://urbdevins.sharepoint.com/:b:/s/UDITeamSite/EUthEboKBhBHtu25oY8VbKsBmXcnC_HeuPSEZqjJROBAfQ. Most of the costs associated with the HWP would be funded by redevelopment – primarily through a 24 mm rainwater retention policy for new projects. In the False Creek Basin, two-thirds of the costs would be borne by redevelopment.</p> <p>This is a critical issue for the building sector – given the rising costs of development. Purchasers and renters have “hit a wall” in terms of what they can afford to pay for housing, which has resulted in a significant reduction in project launches. Relying on them to fund more of these costs will not work – especially when many redevelopment projects in urban areas (e.g., C-2 sites) do not result in additional rainwater being added to the sewer system – and in many cases lower site impacts due to current municipal rainwater requirements. In addition, many municipalities have been relying on redevelopment to update sewer infrastructure.</p> | |
| 50 | UDI LWMP Submission - Draft Liquid Waste Management Plan | Urban Development Institute | Feb 21, 2025 | We also have concerns that senior governments are driving some of the rising costs for liquid waste management (e.g., the Province’s Municipal Wastewater Regulation and Federal/Provincial reviews of water quality objectives/guidelines) for Metro Vancouver and local governments. As we have stated in previous correspondence, increasing requirements from senior governments need to come with additional funding for those rising standards. This | The deadlines for sewer separation and combined sewer overflow elimination in the LWMP – 2050 for the Vancouver Sewerage Area, comprising most of Vancouver and UBC/UEL as well as large parts of Burnaby; and 2075 for New Westminster and Burnaby in the Fraser Sewerage Area – were negotiated with the Province and agreed to by the cities of Vancouver, Burnaby, and New Westminster prior to the previous LWMPs. Any deviations from the dates in the LWMP will require provincial approval. |

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| | | | | will be especially critical if the requirement that the City of Vancouver achieve its sewer separation target by 2050 is not extended, because the timeframes for this are not realistic, as stated in the recent HWP Report. | |
| 51 | UDI LWMP Submission - Draft Liquid Waste Management Plan | Urban Development Institute | Feb 21, 2025 | In terms of specific actions, we recommend that under Action 3.5 apartment units be exempted from water metering mandates because the costs of metering each unit will outweigh the benefits for a form of housing that by its nature (e.g., no lawns/gardens) uses relatively less water than other forms of housing like single-family homes. | Action 3.5 only encourages the implementation of residential water metering, as the LWMP has no regulatory jurisdiction to mandate water metering. Any specific bylaws and regulations for metering would be set by individual municipalities that choose to implement residential metering. |
| 52 | UDI LWMP Submission - Draft Liquid Waste Management Plan | Urban Development Institute | Feb 21, 2025 | UDI is not opposed to Action 12.2 - conducting "... a regional study of the impacts of densification on watershed health. Members will use the study results to make informed decisions that balance urban growth and ecological resilience." However, it is important that the review includes an assessment of the advantages of and need for densification in Metro Vancouver. We are a growing region with limited land as we are bounded by mountains, the Pacific Ocean and the U.S. Border. Much of Region's land base is outside of the Urban Containment Boundary where little development is allowed – protecting the natural environmental and drainage systems, and it will grow as Strategy 3.2.1(a) in the Metro 2050 Regional Growth Strategy will "increase the area of lands protected for nature from 40% to 50% of the region's land base by year 2050." Densification has and will allow for improved protection of the Region's natural assets and drainage systems. | This is a good point. The benefits and need for densification in the region will be factored into the study. |
| 53 | UDI LWMP Submission - Draft Liquid Waste Management Plan | Urban Development Institute | Feb 21, 2025 | The building sector needs to be involved in the development and implementation of the LWMP – and even more so at the municipal level as the objective of Metro Vancouver's proposals is to "... gradually shift some financial responsibilities from the regional level to private property owners or individual members, allowing for a more localized approach to addressing system capacity and compliance challenges." We want | Financial responsibility for private side water and sewer systems has always been the responsibility of the property owner. Allowing this infrastructure to deteriorate into poor condition not only impacts the assets of the property owner, but contributes to a costlier wastewater system for taxpayers, in addition to harming the environment. To help alleviate increasing infrastructure costs, we will continue |

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| | | | | to ensure that the costs are not unfairly borne by developments that are needed to provide new homes and job spaces for residents and businesses, and we would be pleased to continue to work with Metro Vancouver and local governments to obtain additional senior government funding for the liquid waste management infrastructure to accommodate growth and changing Federal/Provincial requirements. | to pursue funding opportunities from the provincial and federal governments. We would be happy to work with developers on this. |
| 54 | LWMP Online Public Survey | | Feb 21, 2025 | Concerns about how increasing urban density will result in the loss of green spaces that are vital to rainwater management and climate change mitigation, as well as the creation of more impervious surfaces (e.g. concrete and asphalt) that negatively impact rainwater flow and quality, contributing to flooding and reduced water quality in rivers and creeks. | LWMP action 12.2 commits Metro Vancouver to conduct a regional study of the impacts of densification on watershed health. Members will use the study results to make informed decisions that balance urban growth and ecological resilience. |
| 55 | LWMP Online Public Survey | | Feb 21, 2025 | Concerns about how increasing urban density and population growth, in part as a result of provincial housing legislation and federal immigration legislation, is impacting the capacity of an aging wastewater system. | <p>Metro Vancouver updates regional and municipal population projections on a regular basis to guide land use and infrastructure planning. The updated LWMP will include strategies and actions to continue to provide services for a growing population in a densifying urban region. Some of the actions for Metro Vancouver and members to address population growth and urban densification include limiting inflow (inappropriate stormflow discharges into sanitary systems) and infiltration (leaks through pipe joints and cracks) into sanitary sewer systems, which take up valuable system capacity.</p> <p>LWMP actions that support this feedback include: 1.1, 1.2, 1.3 1.4, 5.1, 5.2, 5.3, 5.4, 5.5, 6.1, 6.2, 6.3 and 6.4.</p> |
| 56 | LWMP Online Public Survey | | Feb 21, 2025 | Recommendations to work with developers and regulators to encourage and incentivize better onsite rainwater management approaches (e.g. impervious surface thresholds on a watershed scale, use of porous pavement, storm retention ponds, rain gardens). | <p>The updated plan commits to the alignment of land-use planning and development with Integrated Watershed Management Plans, to ensure development decisions support watershed health objectives, including protecting riparian areas and agricultural areas.</p> <p>The updated plan also commits to collaborating with member jurisdictions to update and harmonize rainwater policies, programs, and bylaws, which should contribute to enhanced guidance for onsite rainwater management.</p> |

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| | | | | | LWMP actions 10.4 and 11.2 support this feedback. |
| 57 | LWMP Online Public Survey | | Feb 21, 2025 | Concerns about effective project management on major wastewater treatment plant upgrades, and the rising costs of these projects. | Metro Vancouver takes oversight and management of its projects very seriously, with a dedicated Project Delivery Department to oversee major projects. The cost estimating framework used to determine costs of major wastewater treatment plant upgrades considers contingencies, cost escalation, and risk reserves, and Metro Vancouver has a standardized process to ensure there are regular points for progress reporting on large, multi-year projects. These procedures are consistent and robust and ensure both elected officials and staff from Metro Vancouver's member jurisdictions, as well as the public, have insight into project management. Issues like cost escalation for materials, a labour shortage, supply chain delays and shortages, and a large number of competing projects are affecting projects across British Columbia. Alternative contract models and rigorous project controls can help to reduce the impacts of these challenges. |
| 58 | LWMP Online Public Survey | | Feb 21, 2025 | Comments requesting that Metro Vancouver do more to involve First Nations in wastewater management decisions. | Enhancing and improving meaningful engagement with First Nations on regional and municipal projects and plans is a key area of focus for the updated LWMP, and will continue throughout its implementation. LWMP actions that support this feedback include: 1.2, 4.1, 9.2, 10.1, 10.2, 12.1, 12.4 and 20.5. |
| 59 | LWMP Online Public Survey | | Feb 21, 2025 | <p>Questions about the draft plan's fifth goal to Reflect First Nations Priorities: "This plan aspires to reflect First Nations' priorities and respect Indigenous Knowledge and the rights of Indigenous Peoples while collaborating on areas of shared significance to improve environmental and public health outcomes for all."</p> <p>Comments asking if this goal goes far enough to meet Metro Vancouver's responsibilities under the Declaration on the Rights of Indigenous Peoples Act.</p> <p>Comments that "aspiring to reflect" isn't strong enough language, and that this goal should instead</p> | <p>Metro Vancouver is committed to meaningful engagement with First Nations on our projects and plans, including the LWMP. We rely on First Nations to determine their level of engagement on the plan based on their internal capacity and priorities. We believe engagement with First Nations is a valuable forum for exploring opportunities for cooperation and working together towards reconciliation.</p> <p>Metro Vancouver is exploring how the actions outlined in the provincial <i>Declaration on the Rights of Indigenous Peoples Act</i> may apply to the work contemplated in the LWMP. In particular, Metro Vancouver is also working closely with the Province and First Nations to better understand its role in advancing the provincial <i>Declaration Act</i> and the United Nations <i>Declaration on the Rights of Indigenous Peoples</i>.</p> |

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| | | | | state a commitment to reflecting First Nations' priorities in the draft LWMP. | |
| 60 | LWMP Online Public Survey | | Feb 21, 2025 | Concerns about pollutants in stormwater (e.g. road salt, sediment, metals, oils, 6PPD quinone from car tires) harming fish-bearing rivers and streams. Suggestions to increase monitoring and mitigation efforts and explore stormwater treatment options. | <p>The regulation of pollutants in rainwater is beyond Metro Vancouver's mandate and rests with other orders of government, while the management of rainwater falls primarily under the jurisdiction of local municipalities.</p> <p>Local municipalities manage the impact of rainwater on local waterways through their Integrated Watershed Management Plans, formerly known as Integrated Stormwater Management Plans. Municipalities will continue to monitor waterways using the Adaptive Management Framework, and update their Integrated Watershed Management Plans as necessary to mitigate pollutants and explore treatment options.</p> <p>Metro Vancouver and its member jurisdictions have a Stormwater Interagency Liaison Group, with a mandate to advise and work through technical rainwater issues with Metro Vancouver member jurisdictions, and senior government agencies. This group will be restructured as part of the LWMP update to lead local research on rainwater and act as the primary regional advocate with provincial and federal regulators to advance concerns about rainwater pollutants.</p> <p>LWMP actions under rainwater strategies 10 - 12 support this feedback.</p> |
| 61 | LWMP Online Public Survey | | Feb 21, 2025 | <p>Comments supporting the use of green infrastructure. Suggestions for Metro Vancouver to support municipalities with these efforts.</p> <p>Suggested actions to incentivize (or mandate, where possible) residents, industry, and businesses to manage rainwater effectively. Examples of such approaches include disconnecting downspouts, increasing tree canopy, installing permeable surface in developments, daylighting streams, protecting and enhancing riparian areas, and installing rain gardens, bioswales, green roofs, natural lawns, detention ponds, and porous pavement.</p> | <p>A key focus for rainwater management in the updated LWMP is the enhancement and expansion of green infrastructure in the region.</p> <p>LWMP actions that support this feedback include: 10.5, 12.1 and 12.4.</p> |

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| 62 | LWMP Online Public Survey | | Feb 21, 2025 | Comments about the need for Metro Vancouver to provide core services to residents in a cost effective manner. | <p>One of the five goals proposed for the updated Liquid Waste Management Plan is: "Sewer infrastructure across our growing region is reliable, affordable, and equitable now and for future generations."</p> <p>We are actively working to meet the challenges of rising costs. We want to ensure we are spending money on actions that provide the most value. As stricter regulations are developed and climate change impacts become more prevalent, costs for the region, municipalities, businesses, and residents are increasing. This plan focuses on reducing unnecessary water (such as rainwater) and solids (such as food waste) entering the sewer system as these contribute heavily to the costs of running the system.</p> <p>Additionally, asset management practices such as the development of asset management plans will ensure that Metro Vancouver is maximizing the full value of regional assets over their lifecycle.</p> <p>Actions that address affordability: 1.1, 1.3, 2.3, 3.4, 3.5, 5.1, 5.2, 5.5, 6.4, 8.8, 9.6 and 11.1.</p> |
| 63 | LWMP Online Public Survey | | Feb 21, 2025 | Concern about the cost implications to residents to achieve the goals set out in the draft plan. | <p>The goals of the updated LWMP are designed with a strong focus on affordability and reducing future costs for residents, while providing value.</p> <p>The updated plan does not introduce any new capital projects. In fact, by targeting reductions in inflow and infiltration (I&I), the plan aims to lower long-term infrastructure needs — such as removing the need for some sanitary sewer overflow tanks from future capital plans — ultimately helping to reduce future expenditures.</p> <p>Actions that address affordability: 1.1, 1.3, 2.3, 3.1, 3.2, 3.3, 3.4, 3.5, 5.1, 5.2, 5.5, 6.4, 8.8, 9.6 and 11.1.</p> |
| 64 | LWMP Online Public Survey | | Feb 21, 2025 | Comments urging Metro Vancouver to address odour at wastewater treatment plants and across the wastewater system. | <p>Metro Vancouver understands that odour is a concern for community members living near wastewater treatment plants.</p> <p>The design criteria for odour control in the wastewater treatment plant aims to minimize the release of odorous compounds into</p> |

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| | | | | | the surrounding environment. All of Metro Vancouver's wastewater treatment plants continue to enhance their odour controls as they are constructed and upgraded. |
| 65 | LWMP Online Public Survey | | Feb 21, 2025 | Comments about the need to prioritize upgrades to all wastewater treatment plants to remove more pollutants. | <p>Metro Vancouver is guided by the nationally developed and accepted risk assessment approach established by the Canadian Council of Ministers of Environment Canada wide Strategy for Management of Municipal Wastewater (CCME CWS-MMWW) to determine effluent discharge objectives and meet National Performance Standards. This process prioritizes upgrades to wastewater treatment plants based on various factors, including plant flows (how much water passes through the plant) and characteristics of the receiving waterbody for the treated effluent.</p> <p>The CCME CWS-MMWE process requires ongoing monitoring of wastewater and the receiving environment to verify that wastewater treatment plants are continuing to meet the receiving environment water quality objectives and guidelines and is operating without an adverse effect on the environment.</p> |
| 66 | LWMP Online Public Survey | | Feb 21, 2025 | Comments about Metro Vancouver and its combined members taking action on sewer separation to reduce and eliminate combined sewer overflows. | <p>Several actions in the updated LWMP encourage and expedite combined sewer separation, including developing five-year intermediate targets for municipal and regional separation of prioritized combined catchments.</p> <p>Other actions focus on reducing combined sewer overflows and their impacts on the receiving environment, through system optimization and operational controls.</p> <p>LWMP actions that support this feedback include: 8.8, 9.3 and 9.6.</p> |
| 67 | LWMP Online Public Survey | | Feb 21, 2025 | Concerns that regardless of monitoring and treatment, harmful contaminants (e.g. PFAS, hormones, medicines, microplastics) are still present in biosolids. Concerns about biosolids being used around groundwater or public places and comments about the importance of stringent biosolids testing. | Metro Vancouver is bound by all Canadian and provincial regulations for biosolids, which are designed to protect human health and the environment including the protection of soil and water. Because many of these compounds are found in consumer products that we use every day, they are also found in Nutrifor biosolids in low concentrations (in parts per billion). Research led by the Canadian Water Network shows that the presence of contaminants of environmental concern (CECs) in biosolids poses low risk to human health and the environment. Metro Vancouver is committed to continuous improvement and increased education and outreach, monitoring, and source control to increase public confidence in the biosolids it produces. Strategy 4, |

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| | | | | | “Prevent pollution at the source” will help to reduce CECs in biosolids. Action 4.2, specifically, focuses on encouraging residents and businesses to prevent pollution at the source, through outreach and education programs. |
| 68 | LWMP Online Public Survey | | Feb 21, 2025 | Calls for more public education about the importance of source control to prevent pollution. | <p>Metro Vancouver is committed to educating the public on the importance of water, wastewater, and the role everyone plays to help keep our local waters healthy.</p> <p>Regional campaigns are run every year to reduce grease, unflushables (e.g., baby wipes, dental floss, and medicines), microfibres (from laundering of textiles), surfactants (a chemical in soaps and detergents that is harmful to marine life) and excess water in the sewer system from inflow and infiltration.</p> <p>LWMP action 4.2 supports this recommendation.</p> |
| 69 | LWMP Online Public Survey | | Feb 21, 2025 | Comments noting that the draft plans goals, strategies, and actions need to have timelines and clear progress metrics in order to ensure effective outcomes. | <p>Timelines have been assigned to all actions in the LWMP that are time-bound.</p> <p>There are a number of performance indicators proposed for the updated plan linked to strategies that will help measure our progress. In addition to these, we will create new online dashboards with indicators for rainwater, and inflow and infiltration. These will increase accountability and better track our progress on LWMP commitments.</p> <p>Metro Vancouver may also identify and implement new performance indicators over time to continue to improve accountability and outcomes.</p> |
| 70 | Written Submission InSinkErator LWMP Phase 3 | InSinkErator Canada | Feb 27, 2025 | This statement offers comments on the current draft of Metro Vancouver’s Liquid Waste Management Plan as the process for its update is finalized in the coming months. On behalf of InSinkErator Canada ¹ , we have engaged with Metro Vancouver officials and staff for more than fifteen years and welcome the continuing dialogue about the challenges and opportunities associated with managing food waste as a resource through both its liquid and solid waste management systems, and reducing and diverting food scraps from trash and disposal as the overarching goal. | In 2015, the Greater Vancouver Sewerage and Drainage Board endorsed a regional position that encourages demand side management actions to minimize the use of food grinders for residential or commercial food waste disposal use. Food grinder use and disposing food waste into the sewer system causes sewer backups, increases wastewater treatment costs, and requires additional potable water use. Food waste disposal via green bin organics recycling is four to five times less costly than using food grinders. Solid waste organics recycling is able to recover resources such as biogas and compost much more efficiently than wastewater management. |

| ID | Source/ Material | Organization/ Group | Date | Comments/Information Requests | Action/Commitment/Final Response |
|----|---------------------|------------------------|------|---|----------------------------------|
| | | | | <p>Our comment is focused on two aspects of the Plan – the suggestion in 3.1 that food scraps should be discouraged from management through the liquid waste system, presumably because it would lessen the burden on Metro Vancouver’s liquid waste management system; and Strategies 15-17 that address the resource recovery and beneficial use opportunities associated with Metro Vancouver’s system as it expands and is upgraded.²</p> <p>We suggest that 3.1 be eliminated in its entirety, for reasons discussed below. It is not supported by any technical research or best practice guidance, runs contrary to Metro Vancouver’s own staff reports, and compromises pursuant of the broader goal of diversion from disposal.</p> <p>In the recent webinar focused on the draft Plan a question was asked about “whether human waste is considered as a resource or pollutant” in the context of that system.</p> <p>¹ InSinkerator Canada, the world’s leading manufacturer of food waste processing equipment, since 2024 a division of Whirlpool</p> <p>² Strategies 15-17 (excerpts):</p> <p>Strategy 15 – Biosolids: Diversify options to beneficially use Nutrifor biosolids – grow the land application program on how Nutrifor is used safely and responsibly as fertilizer and as an ingredient to build healthy soil</p> <p>Strategy 16 - Circular Water Economy – Recover energy from the liquid waste system to reduce greenhouse gas emissions and support transition to clean energy; recover nutrients from liquid waste; recover energy</p> | |

| ID | Source/ Material | Organization/ Group | Date | Comments/Information Requests | Action/Commitment/Final Response |
|----|---------------------|------------------------|------|---|----------------------------------|
| | | | | <p>Strategy 17 – Research – Explore and pilot innovative technologies to advance the circular water economy, including biogas, low-carbon biofuel, heat, nutrients, alternative fuels (hydrogen, ammonia), carbon dioxide (from biogas)</p> <p>The answer: most definitely a resource, from which the system creates biogas and biosolids, as well as secondary products like ammonia, phosphorous, and recovered heat, all of which are beneficially used. A subsequent question about biogas affirmed its primary use for on-site heat and power (lessening reliance on the grid), and secondary insertion in the region's natural gas grid, in partnership with Fortis BC, as an important source of renewable natural gas (RNG).</p> <p>A third question affirmed that Nutrifor, MetroVancouver's high quality biosolids, are offered for land application throughout the region, with no current need for supplemental reliance on the WTE facility in Burnaby as a fuel source.</p> <p>The point of the above discussion is acknowledgement that the only real difference between human waste and food scraps – both approximately 70% water – is whether humans have digested food scraps and extracted some energy and nutrients from it, while food scraps directly diverted, and delivered via pipes or trucks retain most of their energy for recovery at the region's water resource recovery facilities.</p> <p>The parallel consideration of updates to Metro Vancouver's Solid Waste Management Plan highlights the continuing challenges of diverting recyclable materials from multi-residential buildings. Despite a decade or more of efforts to implement diversion programs, food waste in multi-residential buildings</p> | |

| ID | Source/ Material | Organization/ Group | Date | Comments/Information Requests | Action/Commitment/Final Response |
|----|---------------------|------------------------|------|---|----------------------------------|
| | | | | <p>remains the primary component of waste that is not diverted from disposal.</p> <p>The Zero Waste Committee's January 9, 2025, report included these statements: Regarding waste composition: "The largest component of multi-family waste is compostable organics, followed by plastic, paper, and household hygiene products such as diapers and pet waste." And 2025 Food Scraps Recycling Campaign Update The 2025 "Food Scraps Aren't Garbage" campaign will be in-market from Monday, January 13 to Sunday, March 9. The objective is to increase diversion of organic waste into the green bin in Metro Vancouver. Similar to 2024, the target audience is residents living in apartments and condos (adults age 35-54 and men 55+), who tend to use their green bins less than people living in houses.</p> <p>Metro Vancouver's director of solid waste has noted interest in "all available tools," implicitly acknowledging the inherent convenience of disposers to users, as a complement to existing waste reduction and green-bin messaging. To connect the dots of the two plans, the rhetorical discouragement of food waste processed through in-sink food waste disposers, aka garburators™, seems unnecessary and contrary. Discouraging their use as an effective diversion tool for managing food scraps as a resource ignores the capabilities of the sewer system for conveyance and the wastewater treatment system for resource recovery.</p> <p>As a real and practical matter, that discouragement will do nothing to advance Metro Vancouver's stated interest in optimizing diversion. The attempt at</p> | |

| ID | Source/ Material | Organization/ Group | Date | Comments/Information Requests | Action/Commitment/Final Response |
|----|---------------------|------------------------|------|---|----------------------------------|
| | | | | <p>discouragement in 3.1 merely repeats an element of the 2011 LWMP, which has not been effectively operationalized and is contrary to actual practices throughout the region that implicitly acknowledge the capabilities of the sewer system for conveyance – without trucks – and the water resource recovery system. Its own staff reports – most notably in 2015 – found no issues of concern with either, consistent with a large body of technical research from cities around the world.</p> <p>3 “Impact of Residential Food Grinders on Liquid Waste Services” – Liquid Waste Services, Metro Vancouver. Orbit Number: 11567410, 2015 Two excerpts from the staff report:</p> <p>The 2014 MV Food Waste Study reported that a total 6% of household food waste is disposed through FGs; 5% and 7% of this portion are composed of vegetables and fruits, respectively. As a result, overall 0.75% of the household waste will be fruits and vegetables grinded through kitchen sinks and added to the sewage stream.</p> <p>With respect to the 2013 data, 13% of TSS and 9% of BOD loadings in the plant influent were caused by FG contribution, 0.75% of this portion will be a negligible amount and is not expected to impact the digestion process significantly.</p> <p>Further analysis should be conducted to evaluate the energy efficiencies of food waste conversion to useable resources.</p> <p>It is concluded that, although FGs impact wastewater quality, no adverse effects on the operation of the liquid waste utility in the Metro Vancouver region have been identified,</p> | |

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|----|---------------------|------------------------|------|--|----------------------------------|
| | | | | <p>In fact, it is increasingly standard practice at large-scale water resource recovery facilities to source, receive and process food scraps (and other organics) from multiple sources that are pre-processed off-site, in many cases blended with solids extracted from the primary treatment process for feeding microbes in anaerobic digesters, so as to fully utilize existing facilities, technology and expertise to address this challenge – and opportunity.</p> <p>Further, as noted in the 2015 report, given their market acceptance disposers already exist at a relatively high level throughout Metro Vancouver, in both single- and multi-family residences. The report fully assessed impacts from current installations and usage and found no rational basis for concern.⁵ The adoption of the LWMP and SWMPs provide the opportunity for a clear signal from Metro Vancouver and its constituent cities and other stakeholders about the efficacy of garburators, and guidance about optimizing the diversion of all scraps along with green bins.</p> <p>Finally, given Metro Vancouver’s understandable focus on cost-savings, this discussion is essentially a no-cost suggestion with both economic and environmental benefits. The first cost of garburators is borne by developers and homeowners, and is easily amortized over their useful life of ten years or more; the operating cost of garburators is well-studied to be de minimis; and the system costs for conveyance and processing also are de minimis, as reported in the 2015 staff report – food scraps are mostly water, with the organic solids producing more biogas, and less biosolids.</p> <p>In sum, our recommendation is two-fold: delete 3.1 in its entirety. And include in Strategies 15-17 positive references to food scraps as an organic resource.</p> | |

| ID | Source/ Material | Organization/ Group | Date | Comments/Information Requests | Action/Commitment/Final Response |
|----|---------------------|------------------------|-------------|---|---|
| | | | | <p>It is concluded that, although FGs impact wastewater quality, no adverse effects on the operation of the liquid waste utility in the Metro Vancouver region have been identified, considering the upcoming upgrades for primary treatment facilities, with the exception of the stated concerns at the IWWTP.</p> <p>This study shows that currently FGs contribute approximately 9% of BOD and 13% of TSS loadings to MV WWTPs influents, by 2030 FGs contributions are predicted to increase to 14% of the BOD and 19% of the TSS loading to MV WWTP influents.</p> <p>4 State of Biogas, American Biogas Council, February 2024 – “Wastewater treatment plants are another important destination for food waste. Almost one third of the 1,091 WWTPS with operational biogas systems are accepting food waste today.”</p> <p>5 See above endnote</p> <p>6 “Modeling the impact of food wastes on wastewater treatment plants” M. Kim, G. Nakhla, University of Western Ontario, London, ON. Journal of Environmental Management – www.elsevier.co/locate/jenvman, 2019</p> <p>InSinkErator welcomes the opportunity to work with Metro Vancouver and its constituent cities and other stakeholders to support the many positive benefits of disposer use.</p> | |
| 71 | Email | InSinkErator | Mar 5, 2025 | <p>Provided a summary of studies that address questions about in-sink food waste disposers and a presentation made to Metro Vancouver's Zero Waste Committee in November 2024, and noting the connection on the topic between the Liquid Waste Management Plan and the Solid Waste Management Plan.</p> | <p>In 2015, the Greater Vancouver Sewerage and Drainage Board endorsed a regional position that encourages demand side management actions to minimize the use of food grinders for residential or commercial food waste disposal use. Food grinder use and disposing food waste into the sewer system causes sewer backups, increases wastewater treatment costs, and requires additional potable water use. Food waste disposal via green bin organics recycling is four to five times less costly than using food grinders. Solid waste organics recycling is able to recover</p> |

| ID | Source/ Material | Organization/ Group | Date | Comments/Information Requests | Action/Commitment/Final Response |
|----|---------------------|-------------------------|--------------|--|---|
| | | | | | resources such as biogas and compost much more efficiently than wastewater management. |
| 72 | Email | City of Surrey Resident | Mar 28, 2025 | I am concerned with the apparent loss of numerous “sani dumps” available for public use. There used to be numerous, public and private facilities. Would the committee consider restoring this once readily available service, region wide?? | Sani-dumps and their locations are outside the scope and jurisdiction of the LWMP. Advocacy for more locations can be made to the Province and/or local municipalities. Metro Vancouver has a bylaw regulating the discharge of waste into sani-dumps, but it does not regulate the number or location of these facilities. |



Satellite image of the Metro Vancouver region

Liquid Waste Management Plan Phase 3 Engagement

Abin Antony
Program Manager, Utility Planning, Liquid Waste Services
Liquid Waste Committee Meeting, September 17, 2025
77927399

Kris Etches
Program Manager, Community Engagement, External Relations

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LIQUID WASTE MANAGEMENT PLANS



The image displays three historical covers of the Greater Vancouver Liquid Waste Management Plan. The first cover, dated February 1989, is titled 'GREATER VANCOUVER LIQUID WASTE MANAGEMENT PLAN' and 'STAGE 1'. The second cover, dated February 2001, is titled 'Greater Vancouver Regional District Liquid Waste Management Plan' and features a collage of images related to water and waste management. The third cover, dated May 2010, is titled 'Integrated Liquid Waste and Resource Management' and 'A Liquid Waste Management Plan for the Greater Vancouver Sewerage & Drainage District and Member Municipalities'. The 'metrovancouver' logo is visible at the bottom left of the slide.

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LIQUID WASTE MANAGEMENT PLAN UPDATE



Phase 1 – 2021
Vision and
Guiding Principles



Phase 2 – 2022 - 2024
Goals, Strategies, Actions,
and Draft Plan



Phase 3 – 2025
Plan Approvals

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FIRST NATIONS

What we heard in Phase 3

- Co-governance / co-decision-making
- Commitment to UNDRIP / DRIPA
- Membership in regional forums
- Inclusion in watershed management planning
- Actions to address stormwater pollutants and measurable water quality improvements, resulting in a return to shellfish harvesting
- Detailed performance indicators and access to detailed water quality data online
- Capacity funding for engagement activities for implementation of LWMP actions



Semiahmoo Bay

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PUBLIC

What we heard in Phase 3

- Concerns about urban density and population growth reducing green spaces and affecting the wastewater system
- Comments about rising costs, affordability, and the need for effective oversight and management of capital projects
- Concerns about pollutants harming water quality and the environment
- Support for green infrastructure for rainwater management
- Support for advanced levels of treatment

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Residents learning about the wastewater system

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North Shore

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MEMBER COUNCILS

What we heard in Phase 3

- Affordability and fairness in distribution of regional costs
- Cost reductions through water conservation and wet weather management had broad support
- Opportunities for Metro Vancouver to support members in implementing LWMP actions
- Interest in improved rainwater management and mitigating impacts to communities

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INTERCONNECTED GOALS



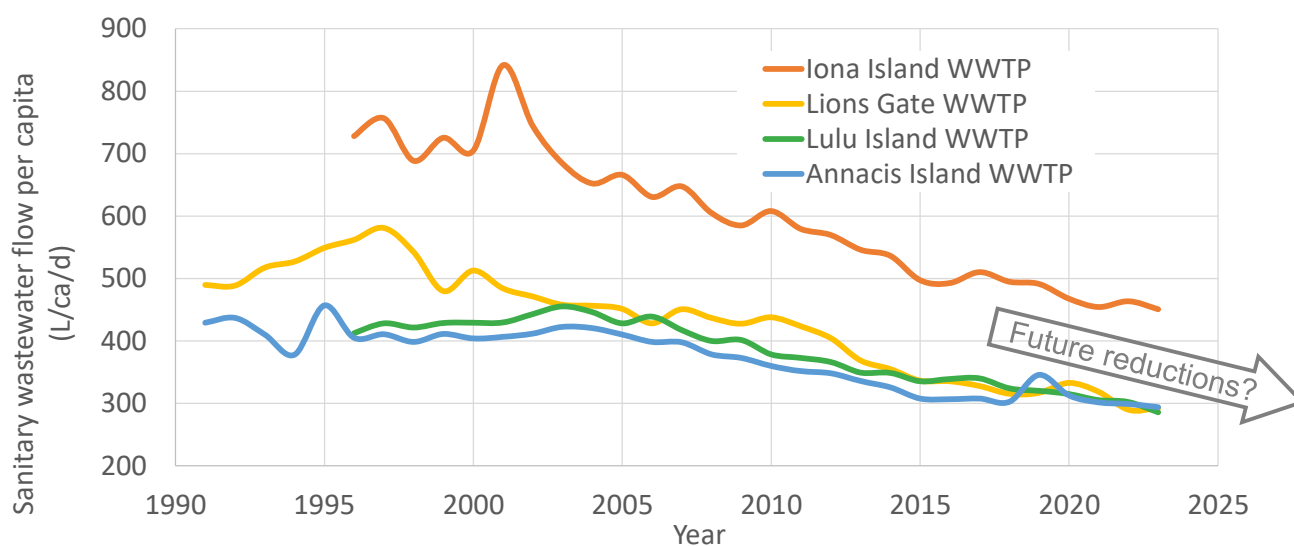
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REDUCE SYSTEM DEMANDS

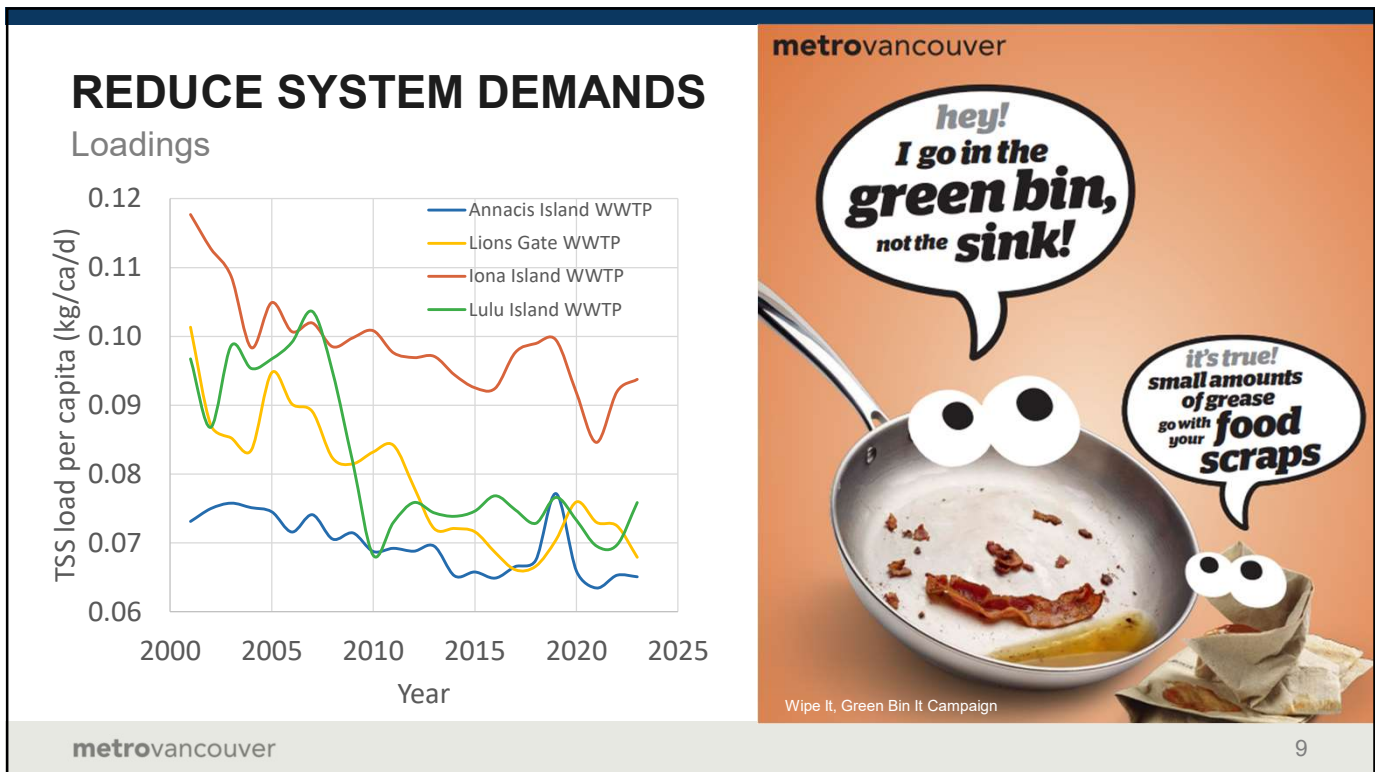
Dry Weather Flows



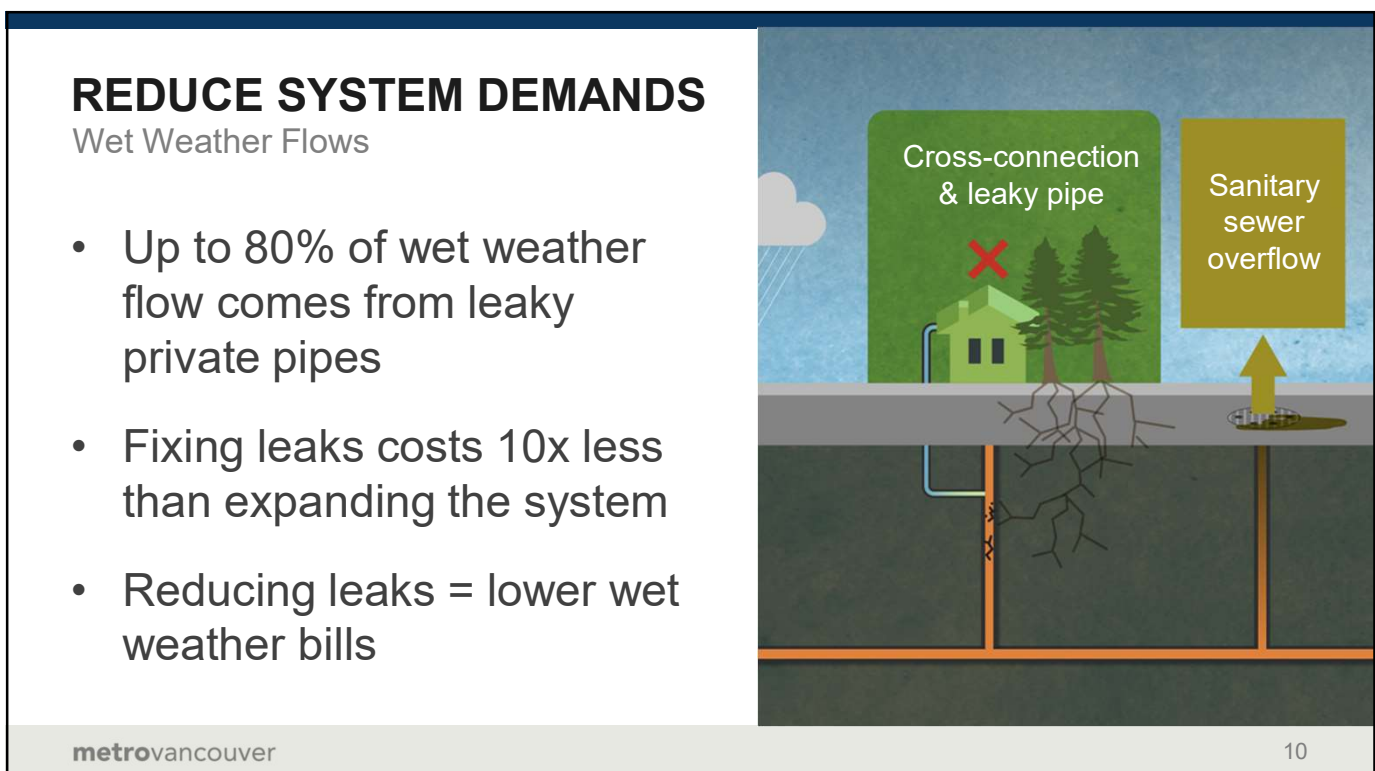
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RAINWATER MANAGEMENT & WATERSHED HEALTH

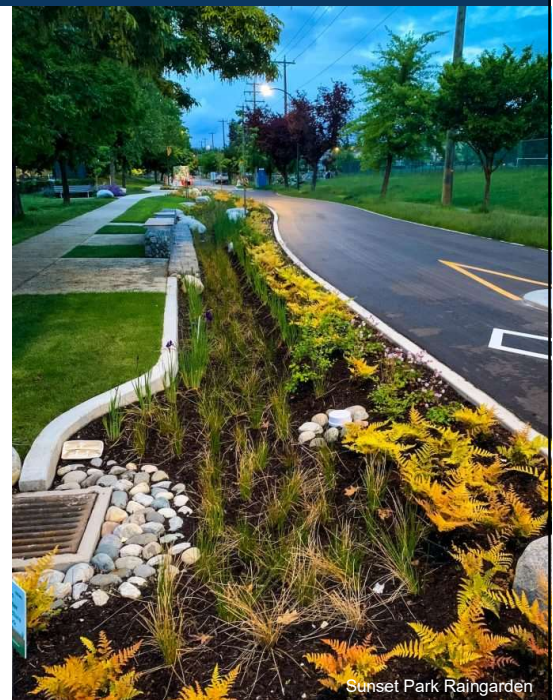
New and notable actions

Members will:

- Involve First Nations in developing Integrated Watershed Management Plans (IWMPs)
- Align IWMPs with land-use planning
- Expand green infrastructure
- Dedicate budget for rainwater management

Metro Vancouver will:

- Provide support to members and coordinate with First Nations



Sunset Park Raingarden

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COMMITMENTS ON COMBINED SEWERS

Sewer separation completion deadlines

- Vancouver Sewerage Area by 2050
- Fraser Sewerage Area by 2075



Poplar Landing Combined Sewer Overflow Tank (2006)

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SAVE BILLIONS AND PROTECT THE ENVIRONMENT

- Will remove 17 storage tanks from the capital plan, saving **\$2 billion**
- LWMP adds no new capital projects
- \$5 million increase to operational budget
- Reduces overflows and flooding



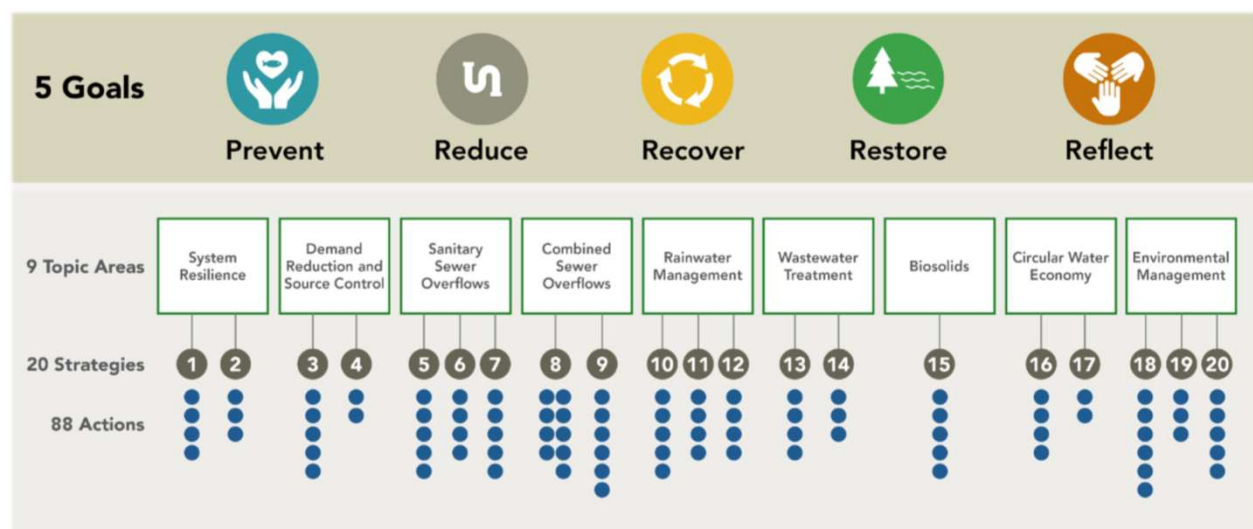
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PLAN SNAPSHOT

Responding to today's challenges



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NEXT STEPS

- Bringing the LWMP to Liquid Waste Committee and GVS&DD Board for final approval in October 2025
- Submission to Minister following GVS&DD Board approval



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Thank You

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To: MVRD/GVWD/GVS&DD Board of Directors

From: Laurel Cowan, Division Manager, Regional Land Use Planning & Policy

Date: August 25, 2025 Meeting Date: October 3, 2025

Subject: **Recommended Updates to Metro Vancouver Development Cost Charge Categories and Definitions**

RECOMMENDATION

That the MVRD/GVWD/GVS&DD Board endorse the recommended updates to Development Cost Charge categories and definitions as described in the report dated August 25, 2025, titled “Recommended Updates to Development Cost Charge Categories and Definitions”, and direct staff to integrate these updates into the planned 2027 DCC Program Update.

EXECUTIVE SUMMARY

Metro Vancouver is reviewing its Development Cost Charge (DCC) program through a series of coordinated projects. As an initial step, a report was presented to the Finance Committee and the MVRD Board in June 2025, outlining best practices, proposed updates to DCC categories and definitions, and a framework for engagement (Reference 1). Throughout July, Metro Vancouver engaged member jurisdictions, industry representatives, and the public. Overall feedback was generally supportive of proposed updates, and specific comments were used to help refine definitions and develop resources to support implementation.

This report summarizes feedback received and presents draft definitions and recommendations for Board review and approval. If the Boards approve the revised categories and definitions, they will be integrated into the planned 2027 DCC Program update, alongside updated population projections and capital plans, to inform new rate structures effective in 2028.

PURPOSE

To seek MVRD/GVWD/GVS&DD Board approval of the proposed updates to DCC categories and definitions as part of the work to update Metro Vancouver’s DCC Bylaws in 2027.

BACKGROUND

In January 2025, the Finance Committee and MVRD Board endorsed a scope of work for five interrelated projects aimed at reviewing and updating the Metro Vancouver Development Cost Charge (DCC) program. The following month, the Boards approved a detailed scope for Project 2, which focuses on a policy review of best practices and the refinement of DCC categories and definitions (Reference 2). Updating these categories and definitions is essential to align the DCC Program with recent changes in provincial housing legislation and to better reflect current and emerging development patterns. This work also supports a more accurate distribution of DCC rates across various land uses and development forms, ensuring that charges more accurately reflect their impact on regional infrastructure. This report presents engagement feedback, along with definitions and recommendations for Board review and approval. If approved, these elements will be incorporated into the 2027 DCC Program update.

Due to the absence of a Finance Committee meeting in September, this report is being brought directly to the Boards. Timely consideration is critical, as this work forms a foundational input to the broader 2027 DCC Program update and is necessary to maintain the project timeline.

DCC CATEGORIES AND DEFINITIONS REVIEW

Overview & Proposed Updates to DCC Categories

The initial phase of the review focused on six key topics¹. Based on best practices and preliminary analysis, proposed changes have been identified in three priority areas:

- **Small-scale multi-unit housing:** In response to recent provincial housing legislation (Bill 44), which permits up to 4–6 units per single-detached lot, the review examined how best to accommodate this increased density and the evolving forms of small-scale multi-unit housing.
- **Non-residential categories:** Metro Vancouver currently applies a single DCC rate to all non-residential development, which may not equitably reflect the varying infrastructure demands of different land uses. The review explored the potential for introducing sub-categories to better align rates with actual impacts.
- **DCC reductions for projects with low environmental impact:** In May 2025, Metro Vancouver adopted an interim waiver/reduction bylaw for agricultural developments with low environmental impact. Through engagement, the review considered whether this bylaw should be retained—regardless of the creation of a standalone agricultural category in the 2027 DCC Program update—and whether similar provisions could be extended to other land uses, such as institutional developments.

In addition to these focus areas, the review identified the need to revise and expand DCC Bylaw definitions. These updates aim to better reflect the diversity of development scenarios across the region and ensure that different housing types are appropriately categorized for DCC rate purposes. Table 1 summarizes the proposed updates to DCC categories. Draft definitions are provided in Attachment 1 and will be further refined and incorporated into the 2027 DCC Program update.

¹ For additional information on topic areas that did not include proposed changes, see Reference 1.

Recommended Updates to Metro Vancouver Development Cost Charge Categories and Definitions

MVRD/GVS&DD/GVWD Board Regular Meeting Date: October 3, 2025

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Table 1: Summary of Proposed Recommendations for Key Topic Areas

| Topic Area | Current | Proposed Change & Rationale |
|--------------------------------|--|---|
| Small-scale multi-unit housing | Laneway homes added to single detached lots are not charged separately and are included under the Lot definition. | <ul style="list-style-type: none"> • Introduce a separate rate category for laneway homes added to single detached lots to account for the additional density and its impact on regional infrastructure. This approach ensures consistent treatment of laneway homes, regardless of other development on the lot. • Apply the lowest Apartment rate category on a per-unit basis to laneway homes, recognizing that these units are typically smaller in size and have a lower infrastructure demand compared to other housing forms. |
| | When added to a site with a duplex or multiplex, they are charged at a full Lot rate per unit. | |
| | Duplex charged at Lot rate category per unit | <ul style="list-style-type: none"> • Apply the Townhouse rate category on a per-unit basis to duplex developments, recognizing that duplex units are generally more comparable in size and infrastructure impact to townhouses than to single detached homes across the region. This approach supports more accurate and equitable rate assignments within the DCC framework. |
| | Triplex charged at Lot rate category per unit | <ul style="list-style-type: none"> • Apply the Apartment rate category on a per-unit basis to triplex and multiplex developments, recognizing that 'plex' units are generally more comparable in size and infrastructure impact to apartments across the region. This approach ensures more consistent and equitable rate assignments aligned with actual development characteristics. |
| | Multiplex (4+ units) charged at Townhouse rate category per unit | |
| | Lack of definitions for duplexes, multiplexes, laneway homes (outside of single detached development), and lock-off suites. While DCCs are applied to these developments, existing rate categories may not accurately reflect their average household size or infrastructure impact. | <ul style="list-style-type: none"> • Add and refine definitions within the DCC Bylaws: Update definitions to ensure a wide range of development scenarios can be clearly interpreted and appropriately categorized. These updates will support the logical assignment of rate categories based on average household size, which serves as a proxy for the level of impact on regional infrastructure. |

Recommended Updates to Metro Vancouver Development Cost Charge Categories and Definitions

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| Topic Area | Current | Proposed Change & Rationale |
|--|--|---|
| Non-residential categories | General non-residential definition and rate category | <ul style="list-style-type: none"> • Establish Distinct Definitions and Rate Categories for Industrial, Commercial, Institutional, and Agricultural Development: Introduce separate definitions and DCC rate categories for each of these land uses to more accurately align development charges with the specific infrastructure demands and impacts associated with each type of use. |
| DCC waiver/Reduction bylaw for projects designed to result in low environmental impact | Interim waiver/reduction bylaw for Agricultural Development designed to result in low environmental impact (introduced May 2025 until a specific Agricultural Development DCC rate could be established) | <ul style="list-style-type: none"> • Explore a Permanent Waiver/Reduction Bylaw for Agricultural Development: Further assess the potential for a permanent waiver or reduction of DCC rates for agricultural projects that demonstrate very low water consumption and minimal impact on regional infrastructure. • Explore a DCC Reduction Bylaw for Other Low-Impact Uses: Explore the feasibility of introducing a DCC reduction bylaw for additional land uses—such as institutional developments—that can demonstrate low environmental impact and reduced infrastructure demand. |

ENGAGEMENT PROCESS & FEEDBACK

To inform the proposed DCC program updates, Metro Vancouver staff conducted a series of engagement activities targeting sectors likely to be impacted or interested. These included:

- **Online survey** with 125 responses, primarily from business (36%), residents (19%), government (9%), and other (3%).
- **Joint advisory workshop** on July 18 with 136 senior staff from member jurisdictions, including participants from the Regional Finance, Engineers, Administrators, and Planning Advisory Committees.
- **Technical workshop** on July 21 with 26 member jurisdiction staff involved in DCC implementation.
- **Public/industry workshop** on July 23 with over 30 participants.
- **Outreach and promotion** via the Metro Vancouver DCC mailing list and targeted engagement with industry associations such as UDI, HAVAN, NAIOP, BC Landscape and Nursery Association, BC Agriculture Council, and municipal agriculture advisory committees.

The following table provides a summary of feedback received from the survey and workshops. Additional information is provided in the What We Heard report in Attachment 2.

Recommended Updates to Metro Vancouver Development Cost Charge Categories and Definitions

MVRD/GVS&DD/GVWD Board Regular Meeting Date: October 3, 2025

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| Topic | Engagement Question | Engagement Feedback |
|--|---|--|
| Laneway homes | Option A: Separate laneway houses from the single detached category and applying the lowest rate category to reflect that laneway homes typically have small average household sizes. | <ul style="list-style-type: none"> 84% preferred this option |
| | Option B: Leave laneway houses in the single detached category and increase the rate to account for the potential number of people (regardless of whether a laneway house is built). | <ul style="list-style-type: none"> 16% preferred this option |
| Update Definitions | Update existing definitions to reflect a wider range of small-scale multi-unit types and formations | <ul style="list-style-type: none"> 70% agree / strongly agree 13% neutral 18% disagree / strongly disagree |
| Rate Category for Duplex | Apply a medium DCC rate category for duplexes to reflect that they are typically larger than apartments but smaller than single-detached homes | <ul style="list-style-type: none"> 63% agree / strongly agree 15% neutral 22% disagree / strongly disagree |
| Rate Category for Multiplexes | Apply the lowest rate category for multiplexes and suites to reflect that they typically have small average household sizes. | <ul style="list-style-type: none"> 66% agree / strongly agree 15% neutral 19% disagree / strongly disagree |
| Non-residential categories | Separate definitions and rate categories for Industrial, Commercial, Institutional, and Agricultural Development. | <ul style="list-style-type: none"> 72% agree or strongly agree 15% neutral 12% disagree / strongly disagree |
| DCC waiver/Reduction bylaw for projects designed to result in low environmental impact | Keep a DCC waiver/reduction for Agricultural Development, in addition to creating a new stand-alone category. This would further reduce DCC rates for projects with very low water use (and low impact on regional infrastructure). | <ul style="list-style-type: none"> 52% agree / strongly agree 36% neutral 12% disagree / strongly disagree |
| | Explore a DCC reduction bylaw for other uses such as institutional that demonstrate a low environmental impact. | <ul style="list-style-type: none"> 51% Support 31% Don't know, need more information 18% Don't support |

Recommended Updates to Metro Vancouver Development Cost Charge Categories and Definitions

MVRD/GVS&DD/GVWD Board Regular Meeting Date: October 3, 2025

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Workshop participants expressed general support for the proposed updates and provided the following feedback:

- Use square metres instead of square feet for non-residential rates to align with member jurisdictions and submitted drawings.
- Align definitions and approaches with member jurisdictions to avoid conflicting interpretations.
- Coordinate with TransLink's DCC Bylaw where possible.
- Consider alternative measures of residential infrastructure impact, such as bedroom count, square footage, or units per lot.
- Ensure the effective date for new rates is January 1, to align with member jurisdictions and TransLink.

Responding to Feedback

Based on the feedback received and overall support for the proposed updates, Metro Vancouver staff recommend proceeding with the changes outlined in Table 1. Input from engagement activities has also informed refinements to definitions and implementation details:

- Definitions have been adjusted to align with member jurisdiction and TransLink bylaws where possible, supporting consistency and ease of interpretation. For terms such as *Industrial*, *Laneway Homes*, and *Gross Floor Area*, Metro Vancouver will defer to member jurisdiction definitions when available; otherwise, Metro Vancouver's definitions will apply.
- Non-residential rate categories may shift from square feet to square metres to align with architectural drawings and municipal practices, reducing conversion errors and improving consistency for applicants and staff.
- Effective date for updated DCC rates will be set as January 1, 2028, aligning with member jurisdictions and TransLink.
- Alternative residential rate methodologies (e.g., charging by floor area or bedroom count) were explored earlier in the process (see Reference 1). While not feasible within the current timeline, these approaches may be considered for future updates.
- Further analysis and engagement will be undertaken to explore DCC reduction bylaws for other uses with low environmental impact such as institutional, with additional information and details brought forward for review and feedback.

Next Steps

Pending MVRD/GVWD/GVS&DD Boards' approval, the recommended updates (Table 1) and definitions (Attachment 1) will be incorporated into the broader 2027 DCC Program update. The next phase will also involve integrating updated population projections and the capital program to establish new DCC rates for further engagement and analysis.

Following public engagement and formal review by the provincial inspector throughout 2026, revised DCC Bylaws will be presented to the Metro Vancouver Boards in 2027. Upon approval, new rates will take effect on January 1, 2028.

Recommended Updates to Metro Vancouver Development Cost Charge Categories and Definitions

MVRD/GVS&DD/GVWD Board Regular Meeting Date: October 3, 2025

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Separate processes will be undertaken to further explore DCC reduction bylaws for other uses with low environmental impact such as institutional. This will include further analysis and engagement to define eligibility criteria, define applicable institutional uses, and determine appropriate levels of reduction. More detailed proposals will be brought forward to the Finance Committee and Board for review and consideration.

ALTERNATIVES

1. That the MVRD/GVWD/GVS&DD Board endorse the recommended updates to Development Cost Charge categories and definitions as described in the report dated August 25, 2025, titled “Recommended Updates to Development Cost Charge Categories and Definitions”, and direct staff to integrate these updates into the planned 2027 DCC Program Update.
2. That the MVRD/GVWD/GVS&DD Board receive for information the report dated August 25, 2025, titled “Recommended Updates to Development Cost Charge Categories and Definitions” and provide alternative direction as follows...

FINANCIAL IMPLICATIONS

There are no financial impacts to Metro Vancouver at this stage. The proposed updates to DCC categories and definitions aim to better reflect the infrastructure impact of additional density, based on average household size, in alignment with the Provincial Development Cost Charge Best Practices Guide.

While these updates will not change the overall cost of the DCC program, they may shift how rates are distributed across categories. In effect, the total “size of the pie” remains the same, but the allocation will be refined to ensure a more equitable reflection of infrastructure demand. These refinements will be incorporated into the broader 2027 DCC Program update, which will include a comprehensive financial analysis.

OTHER IMPLICATIONS

Since member jurisdictions collect regional DCCs on behalf of Metro Vancouver, clear and consistent implementation of the new regional DCC Bylaws is essential. To support this, Metro Vancouver will develop resources to support interpretation and application. Aligning key definitions and processes—such as the measurement of Gross Floor Area—with member jurisdiction practices will help minimize discrepancies and reduce confusion. Metro Vancouver will continue to work with member jurisdiction staff to develop tools and guidance to support effective implementation.

CONCLUSION

As part of the initial phase of the 2027 DCC Program update, Metro Vancouver conducted a best practice review and engagement process to refine DCC categories and definitions. This report summarizes that process and presents proposed updates for Board consideration.

If approved, the revised categories and definitions will be incorporated into the broader DCC Program update. The next phase will involve integrating updated population projections and the capital program to inform new DCC rates, followed by further engagement and provincial review throughout 2026. Updated DCC Bylaws are targeted for adoption in 2027, with new rates taking effect on January 1, 2028.

Recommended Updates to Metro Vancouver Development Cost Charge Categories and Definitions

MVRD/GVS&DD/GVWD Board Regular Meeting Date: October 3, 2025

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ATTACHMENTS

1. Draft Definitions.
2. Metro Vancouver's Development Cost Charges Program Revisions (2025-2027). Project 2: Review and Update DCC Categories and Definitions. Engagement Summary, July 2025.

REFERENCES

1. Cowan, L. (2025). *Best Practice Review & Proposed Updates for Development Cost Charge Categories* [Staff report to Finance Committee meeting on 2025, June 12]. <https://metrovancover.org/boards/Finance/FIN-2025-06-12-AGE.pdf#page=231>
2. Cowan, L. (2025). *Development Cost Charge Work Program Update – Proposed Scope of Work for Project 2: DCC Categories and Definitions* [Staff report to Finance Committee meeting on 2025, February 13]. <https://metrovancover.org/boards/Finance/FIN-2025-02-13-AGE.pdf#page=32>.

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Draft Definitions

Note: The following definitions are provided in a simplified format for ease of reading. Wording will be further refined throughout the DCC Bylaw Update. Additional definitions will be created for non-residential uses.

Residential Definitions and Applicable Rate Categories (for 2027 DCC Bylaw update)

| Residential Rate Category | Definitions |
|--------------------------------|---|
| Residential Lot Rate (per lot) | <ul style="list-style-type: none"> Single Detached Residence (includes secondary suite) |
| Townhouse Rate (per unit) | <ul style="list-style-type: none"> Duplex Dwelling Unit Townhouse Dwelling Unit |
| Apartment Rate (per unit) | <ul style="list-style-type: none"> Apartment Dwelling Unit Multiplex Dwelling Unit Laneway Dwelling Unit Lock-off Suite |

For the purposes of the draft definitions below, **Dwelling Unit** means one or more rooms comprising a self-contained unit that is used or intended to be used for living and sleeping purposes and for which are provided cooking facilities, or the facilities for installation of cooking facilities, and one or more bathrooms having a sink or wash-basin, a water closet, and a shower or bath.

Apartment Dwelling Unit

- means a Dwelling Unit in a building that contains **three or more** Dwelling Units, and
- has one main exterior entrance used in common for access to all the Dwelling Units



Duplex Dwelling Unit

- means a Dwelling Unit in a building that contains **two principal** Dwelling Units, where:
 - each has a direct exterior entrance
 - neither is a Secondary Suite



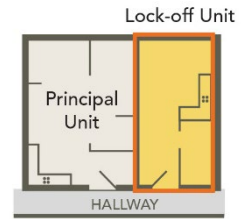
Laneway Dwelling Unit

- as defined by the relevant municipality where the application is located, or in absence of a local definition, means a Dwelling Unit:
 - in a detached building containing up to two Dwelling Units that is:
 - constructed in the yard of a lot
 - materially subordinate to the principal building in terms of size, scale, and massing
 - And is not a Duplex, Townhouse, or Multiplex



Lock-off Suite

- means a separate, smaller Dwelling Unit constructed in or connected to a Dwelling Unit in a:
 - Duplex Dwelling Unit
 - Townhouse Dwelling Unit
 - Apartment Dwelling Unit
 - Multiplex Dwelling Unit
- is not a secondary suite in a Single Detached Residential Dwelling



Multiplex Dwelling Unit

- means a Dwelling Unit in a building that includes **three or more** attached Dwelling Units
- is not a Duplex, Townhouse, Apartment, Lock-off Suite, or Secondary Suite.



Secondary Suite

- means the smaller Dwelling Unit contained within a Single Detached Residential Dwelling
- is not a Lock-off Suite



Single Detached Residential Dwelling

- means a principal Dwelling Unit on a residential lot that may or may not include **up to one** Secondary Suite
- is not a Duplex, Townhouse, Multiplex, or Apartment.



Townhouse Dwelling Unit

- means a Dwelling Unit in a building that contains **three or more** Dwelling Units that are:
 - separated one from another by party walls extending from the foundation to the roof
 - each has a direct exterior entrance



Metro Vancouver's Development Cost Charges Program Revisions (2025-2027)

**Project 2: Review and Update
DCC Categories and Definitions**

Engagement Summary | July 2025

Acknowledgements

Thank you to everyone who provided input on updating Metro Vancouver's Development Cost Charge (DCC) categories and definitions for the 2027 DCC Bylaw update. Metro Vancouver embraces collaboration and innovation to provide sustainable regional services, contributing to a livable and resilient region, and a healthy natural environment for current and future generations. This engagement gathered feedback from the development community, related housing industries, agriculture representatives, and staff from member jurisdictions. The feedback provided insights that staff have used to refine recommendations for decision makers. We appreciate your time as well as the insights and comments you shared with us.

This report provides a summary of the engagement program that took place during July 2025, to hear from interested parties about.

About Metro Vancouver

Metro Vancouver is a diverse organization that plans for and delivers regional utility services, including water, sewers and wastewater treatment, and solid waste management. It also regulates air quality, plans for urban growth, manages a regional parks system, provides affordable housing, and serves as a regional federation. The organization is a federation of 21 municipalities, one electoral area, and one treaty First Nation located in the region of the same name. The organization is governed by a Board of Directors of elected officials from each member jurisdiction.

4515 Central Boulevard, Burnaby, BC, V5H 0C6

www.metrovancouver.org

August, 2025

Reviewing and Updating the DCC Project Categories and Definitions

Metro Vancouver is updating its DCC Program in 2027 (with rates to take effect in 2028). The workplan for this update is occurring 2005 through 2027. As part of this work, staff are reviewing the existing DCC categories and definitions to ensure they align with current development trends, housing legislation, provincial and local best practices, and reflect the relative impact of different land uses on the infrastructure needed to support our growing region.

The proposed updates discussed during engagement included updating residential housing definitions to better reflect evolving housing types, such as multiplex developments and laneway homes, as well

as expanding the non-residential use categories to better account for different infrastructure demands of different land uses, like industrial, commercial, institutional, and agricultural.

The engagement plan, supported by the Metro Vancouver Regional District (MVRD) Board, includes engaging with other governments, member jurisdictions, the development industry, the agriculture industry and other interested parties to gather feedback and identify and minimize unintended consequences to updating DCC categories and definitions.

Executive Summary

Staff delivered a four-week engagement program to gather feedback on policy options for definition and category recommendations. Engagement focused on those likely to comment, be impacted, or have a role in implementation. For this initiative, this is largely member jurisdictions, the development community, the agriculture industry and those with a connection to development on residential and non-residential lands.

The engagement program was tailored toward specific audiences. In addition to outreach by Metro Vancouver, development and agriculture industry associations were asked to promote the engagement opportunities to their members. The engagement program included information sessions for member staff and industry, a meeting with regional advisory committee members and TransLink staff, a public survey, the option to provide input through correspondence, and an offer to meet directly with project staff.

Information provided to participants highlighted the need for updating the categories and definitions, including aligning with current development trends, housing legislation, provincial and local best practices, and the relative impact of different land uses and growth on infrastructure.

Participants generally supported the intent of the proposed updates and emphasized the importance of fairness, clarity, and alignment with similar categories and definitions used by member jurisdictions and TransLink. Key themes heard in the engagement included ensuring charges reflect actual infrastructure demand, avoiding unnecessary complexity, supporting equitable cost distribution, and providing clear definitions and methodologies to guide implementation.

About the Engagement Program

The engagement program was intended to inform interested and impacted parties about the DCC category update process and gather their feedback on proposed changes.

Participants were encouraged to provide feedback through correspondence, an online survey, information sessions, meetings, phone calls, or other preferred means. A dedicated project web page provided information and highlighted opportunities for feedback. A survey was promoted to developers, municipal staff, and agricultural association members, and available publicly on the Metro Vancouver website. Members were engaged through two activities; first, through a joint meeting of the regional advisory committees (agenda covered the full DCC program update), and then through a meeting with staff who work closely with the development cost charge programs in their municipality (agenda focused specifically on categories and definitions).

All feedback was documented, analyzed, and used to inform the proposed approach to be considered by the MVRD Board.

This table provides a summary of engagement activities.

| ACTIVITY | AUDIENCE | TIMING | MEDIUM |
|--|---|---------------|--|
| Invitation to complete feedback form and attend an information session | Developers, member jurisdictions, relevant agencies (e.g., BC Hydro, TransLink), non-profits (e.g. Small Housing BC), agriculture representatives | July 2025 | Webpage, emails, industry association correspondence |
| Presentation to joint regional advisory committees | Regional Administrators Advisory Committee (RAAC), Regional Engineers Advisory Committee (REAC), Regional Finance Advisory Committee (RFAC), and Regional Planning Advisory Committee (RPAC) and TransLink. | July 15, 2025 | Virtual and in person |
| Industry Information Session | Developers (particularly those that develop small housing), non-profit housing organizations, homebuilders' associations | July 23, 2025 | Virtual |
| Municipal Information Session | Member staff who work closely with the development cost charge programs in their municipality | July 21, 2025 | Virtual |
| Meetings with external organizations | Industry and institutional organizations (e.g. Small Housing BC, UBC, NAIOP) | July 2025 | Virtual |
| Survey | All audiences (promotions focused on development industry, agriculture industry, member municipalities, related agencies) | July 2025 | Virtual |
| Reminder to provide feedback notification | All audiences (as above) | July 2025 | Virtual |

Engagement Promotion

The engagement was promoted on the Metro Vancouver website and directly to interested stakeholders. Development and agriculture industry associations promoted information directly to their members.

Website

During this engagement, there were over 1,400 project webpage views and visits from 970 unique users. The survey was promoted on the Metro Vancouver homepage and on the Metro Vancouver DCC project webpage.

E-mail Newsletters

Engagement opportunities were promoted to the project database of 59 contacts, and Metro Vancouver DCC database subscribers. The engagement opportunities were also promoted via association member databases, including the Urban Development Institute, Homebuilders Association Vancouver, NAIOP (National Association for Industrial and Office Parks), BC Landscape and Nursery Association, British Columbia Agriculture Council, and municipal agriculture advisory committees.

Engagement Participation

Joint regional advisory committee meeting

136 member staff who are members of one of RAAC, RFAC, REAC or RPAC, plus staff from TransLink participated in this session on July 15, 2025. The agenda covered all aspects of Metro Vancouver's DCC update workplan, including content focused on categories and definitions. A post-session survey was distributed again including content focused on categories and definitions and received responses from 8 member municipalities and Tsawwassen First Nation.

Municipal Information Session

26 participants from 11 member jurisdictions and TransLink joined this session on July 21, 2025.

Industry Information Session

Over 30 participants from the development industry and related organizations joined this session on July 23, 2025.

Feedback Form Responses

Staff received 125 completed surveys (in addition to the 9 surveys stemming from the joint advisory meeting participants), largely from the development industry and local government staff.

What We Heard

This table summarizes all feedback received and highlights the key insights shared across audiences and methods.

| INTEREST AREA | WHAT WE HEARD |
|--|--|
| Update existing definitions and residential rate categories for duplexes and multiplexes | <p>The majority of respondents either agreed or strongly agreed with expanding definitions to reflect a wider range of small-scale multi-unit types (70%), applying a medium DCC rate category for duplexes to reflect that they are typically larger than apartments but smaller than single-detached homes (63%), and applying the lowest rate category for multiplexes to reflect that they typically have small average household sizes (66%).</p> <p>Comments emphasized that multiplexes are an important form of housing, with mixed comments about whether certain forms of housing should be charged more or less. Participants noted that data should be used to determine the cost impacts on regional infrastructure, and that more information on actual DCC rates will be needed to understand true impacts.</p> |
| Laneway house options | <p>The majority of respondents (84%) supported separating laneway houses from the single-detached category and applying the lowest rate category.</p> <p>Feedback tended to highlight concerns about fairness and implementation. Some participants suggested alternative approaches to charging, such as by floor area or number of bedrooms, rather than a flat per-unit rate. It was noted that defining laneway homes can be challenging, as they are not always smaller than the main dwelling. Several participants felt it was unfair to apply a laneway-specific charge to all single-detached homes, as not all will include a laneway unit, and so they preferred a separate charge for laneway homes. Other participants suggested that laneway homes should be exempt from DCCs altogether.</p> |
| Adding non-residential categories | <p>Most respondents either agreed or strongly agreed with adding the proposed non-residential categories: industrial (73%), commercial (70%), institutional (66%), and agricultural development (69%).</p> <p>Several comments emphasized support for a separate agricultural development category with a lower rate. Mixed feedback was received on how to define non-residential categories, with suggestions to align definitions with municipal zoning and/or to further break down commercial into retail and office uses.</p> <p>Some questions were noted about how mixed-use developments, such as live/work units and combined industrial-commercial buildings, would be treated. Some participants suggested basing fees on actual demand, supported by tools like water metering. Other participants noted a preference to use square metres instead of square feet and to keep categories simple for easier administration. Additional requests included aligning definitions of gross floor area between regional and municipal levels, coordinating with TransLink, and ensuring clarity on how categories like hotels, long-term care, and clinics are handled. A few participants felt the DCC system is overly complex and bureaucratic, and that rates are too high, particularly for residential and commercial developments.</p> |

| INTEREST AREA | WHAT WE HEARD |
|--|---|
| Keeping a waiver/reduction approach in addition to creating a new standalone category | <p>Most respondents either agree or strongly agree (52%) or are neutral (36%) with keeping a waiver/reduction approach.</p> <p>Participants emphasized the importance of supporting agriculture by keeping fees low, while others noted agricultural development should fairly contribute to infrastructure costs. Concerns were raised about expanding waivers for developments with perceived lower environmental impact, with several participants noting that waivers do not eliminate infrastructure costs but rather redistribute them to other projects. Participants noted any reduction, or exemptions should be grounded in evidence showing reduced infrastructure demand. Creating a distinct category for agricultural development was supported to reflect its unique infrastructure needs.</p> |
| Developing a DCC reduction/waiver bylaw for developments designed to result in low-environmental use | <p>A slight majority (51%) supported developing a reduction/waiver bylaw for developments designed to result in low environmental use, and some (31%) needed more information to form an opinion.</p> <p>Participants emphasized the need for more clarity, particularly around what qualifies as low environmental impact and how institutional uses are defined. Some expressed concern that offering waivers or reductions could compromise development viability and simply shift costs to other projects. A few participants suggested applying reduced rates across all development types if environmental benefits can be demonstrated. Other suggestions included offering a lower rate instead of a reduction bylaw to minimize complexity and administrative burden.</p> |
| General | <p>Some feedback expressed concern that DCC rates are generally too high and recommended that Metro Vancouver consider alternative revenue sources. There was a recurring suggestion that Metro Vancouver should align its DCC bylaws with member jurisdictions and TransLink where possible.</p> |

How Feedback Will Be Used

Feedback gathered through this engagement process is considered, in addition to other inputs such as financial considerations, legal requirements, experiences in other jurisdictions and more, in the staff recommendation to the MVRD Board on changes to the categories and definitions within the Metro Vancouver DCCs. This feedback is also applicable to the broader Metro Vancouver DCC Bylaw update.



COMMITTEE INFORMATION ITEMS AND DELEGATION SUMMARIES

Greater Vancouver Sewerage and Drainage District

Board Meeting Date – Friday, October 3, 2025

This information item, listing recent information received by committee, is provided for the GVS&DD Board's information. Please access a complete PDF package [here](#).

Zero Waste Committee – September 11, 2025

Delegations:

No delegations presented

Information Items:

- E1 Multi-Family Residential Waste Reduction Initiatives Update
- E2 Waste-to-Energy Facility District Energy System Project Update)
- E3 Waste-to-Energy Facility 2024 Financial Update
- E4 Programs and Policies for Waste Reduction at Public Events
- E6 2025 Textiles Waste Reduction Campaign Results
- E7 Single-Use Item Waste Composition Results