From: "Levitt, Karen" <karen.levitt@vancouver.ca>
To: "Direct to Mayor and Council - DL"
Date: 7/24/2025 2:43:17 PM
Subject: Monthly Metro Vancouver Board Meetings - July 25, 2025
Attachments: ENG - Confidential Council Memo - UPDATE Iona Island Wastewater Treatment Plant Phasing Assessment.pdf
2025-07-24 GVS&DD Special Board Meeting - On Table Report (Iona WWTP).pdf

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Dear Mayor and Council,

We did not receive any specific Council inquiries for the upcoming meetings of the Metro Vancouver Board on July 25, 2025.

Staff comments on select agenda items are below:

MVRD Regular Board Meeting

- **3.2 BC Utilities Commission Proceeding on Renewable Natural Gas Definition and Accounting**

Staff Comments/Analysis:

- Metro Vancouver staff are seeking approval to intervene in the BC Utilities Commission inquiry on how emissions reductions from out-of-province renewable natural gas (RNG) are accounted for.
- CoV staff support the Metro Vancouver report recommendation.
- CoV staff are not planning to actively participate in the inquiry. Instead, staff will provide input to the process via a letter of comment.
- Staff's input will generally express support for RNG as an important option for reducing carbon emissions with an interest in strong safeguards to reduce the risk of double counting emissions reductions associated with imported RNG.
- Rigorous accounting of these emissions reductions is important for Vancouver for several reasons:
    - The City purchases RNG for city buildings, fleet, and for the Neighborhood Energy Utility (NEU), and the City wants to accurately report on the reductions being achieved.
    - The City provides landfill gas from the Vancouver Landfill that is upgraded to RNG, and the City wants to be sure that the accounting for domestic RNG is on a level playing field with out-of-province RNG.
    - The City tracks and reports on city-wide emissions from buildings and the City wants to accurately report on the role of RNG in reducing those emissions.

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

Staff Comments/Analysis:

- Metro Vancouver has not provided a clear definition of affordable housing. CoV staff are not clear whether Metro Vancouver's definition would include all inclusionary zoning requirements, such as social housing and below-market rental units.
- CoV staff note that in the case of inclusionary zoning for privately delivered social housing, the City has historically been treating the social housing floor area as exempt from DCLs. As the City has a long history of privately delivered inclusionary social housing projects, this has been brought up several times with Metro Vancouver staff.
- CoV staff suggest that Metro Vancouver should look at expanding DCC waivers for privately-owned affordable market rental projects. The City of Vancouver offers up to 100% waiver of the City-wide DCL for rental projects that include 20% of the floor area contains units with below-market rents.

GVS&DD Board Meeting

- **2.1 Alternative Approach to Deliver the Iona Island Wastewater Treatment Plant Upgrade Projects**
  - Note: At the July 24, 2025, Special GVS&DD Board Meeting, the board passed Director Kirby-Yung's motion to defer a decision until the October 3, 2025 board meeting in order to allow more time for Metro Vancouver staff to assess and respond to questions from board members and from the regional committees (RAAC/REAC).

Staff Comments/Analysis:

- CoV staff have significant concerns about the proposed alternative approach to delivering Iona. The attached memo from Lon LaClaire, General Manager of Engineering Services, was sent out by the City Manager to Mayor and Council on July 22, 2025. It provides an overview of concerns, actions to date and other background information.
- Metro Vancouver posted an On Table report in advance of the Special GVS&DD Board Meeting held on July 24, 2025. The package (attached, and available here) includes:
  - Responses to Questions Raised by REAC/RAAC Members at the July 18, 2025 Meeting
  - Summary of Questions, Comments and Feedback by REAC/RAAC Members on the Alternative Approach to delivering Iona

GVWD Board Meeting

- No comments from staff.

MVHC Board Meeting

- No comments from staff.

Thanks,

Karen

Karen Levitt, Deputy City Manager
karen.levitt@vancouver.ca

CITY OF VANCOUVER

ENGINEERING SERVICES
Lon LaClaire, M.Eng., P.Eng.
City Engineer/General Manager

CONFIDENTIAL

MEMORANDUM

July 21, 2025

TO: Mayor and Council

CC: Paul Mochrie, City Manager
Armin Amrolia, Deputy City Manager
Karen Levitt, Deputy City Manager
Sandra Singh, Deputy City Manager
Katrina Leckovic, City Clerk
Maria Pontikis, Chief Communications Officer, CEC
Teresa Jong, Administration Services Manager, City Manager's Office
Mellisa Morphy, Director of Policy, Mayor's Office
Trevor Ford, Chief of Staff, Mayor's Office

FROM: Lon LaClaire
General Manager, Engineering Services

SUBJECT: UPDATE Iona Island Wastewater Treatment Plant Phasing Assessment

RTS #: N/A

In July 2024 Metro Vancouver Board members requested that Metro Vancouver staff assess options to reduce the annual impact on ratepayers of delivering the Iona Island Wastewater Treatment Plant (IIWWTP) upgrades, which was defined in 2022 as delivery of the following by 2030 at a cost of $9.9B:

- Full replacement of the primary treatment plant (originally built in 1963)
- Full secondary and tertiary treatment plants, meeting 100% compliance for effluent quality and quantity
- Access upgrades and utilities
- Resource recovery
- Full ecological projects

This memo provides an update to Council on the outcomes of this assessment, areas of concern and where we believe additional information is required in advance of it being presented at a Board workshop on July 24, 2025. The assessment results were recently presented to the Regional Engineers Advisory Committee (REAC) on July 4, 2025, and to the Liquid Waste Committee on July 9, 2025. At the REAC meeting a motion was adopted that the

work be presented to a joint meeting with REAC and the Regional Administrator's Advisory Committee (RAAC) and has been scheduled for July 18, 2025.

Assessment Outcome – Extend Project over Multiple Phases

Metro Vancouver staff are proposing a phased approach that prioritizes secondary treatment compliance and defers several remaining components to future phases.

Below is an overview of the phased approach:

Phase 1 – Completed in approx. 2040 at a cost of $6.0B

- Rehabilitate existing primary treatment plant
- 65% secondary and tertiary treatment, fully meeting effluent quality and partially meeting effluent quantity compliance
- Access upgrades and utilities
- Onsite resource recovery
- Permitting ecological projects
- Funding split is 1/3 Metro Vancouver by cost apportionment, 1/3 Province of BC, 1/3 Government of Canada

Future Phases – Completion date and costs TBD

- Replace existing primary treatment plant
- Remaining secondary/tertiary treatment to achieve full effluent quality and quantity compliance
- Offsite resource recovery
- Remaining ecological projects

Staff Involvement in the Assessment

Metro Vancouver have engaged City staff to support the assessment in the following ways:

- **Monthly Vancouver Sewerage Area Meetings** – In Q4-2024 Metro Vancouver advised the Vancouver Sewerage Area (VSA) members that they were initiating their phasing assessment work. Each month Metro Vancouver provided updates on the progress of the assessment. Multiple approaches have been shared at a high-level. The proposed phased approach was shared on June 24, 2025.
- **Flows and Loads Assessments** – In Q4-2024 Metro Vancouver engaged Vancouver Sewerage Area member municipalities to provide estimated future flows and loads based on population growth, sewer separation plans, and demand side management initiatives such as water metering, rainwater management, and green rainwater infrastructure. That work is ongoing and did not inform the current phasing approach, however it will be used to inform future phases.
- **Executive Meeting** – In Q1-2025 Vancouver executives requested a meeting with Metro Vancouver executives to share concerns about the structure and pace of the assessment. That meeting occurred on April 4, 2025, and a quarterly meeting was established as an outcome. The proposed phasing approach was shared at the most recent meeting on June 19, 2025.

- **Challenge Review Workshop** – On June 3, 2024, Vancouver was invited to have a representative attend a workshop with Metro Vancouver, consultants, and contractors where a phasing approach was presented for feedback.

Questions & Concerns

Given the significance of the proposed investment and ahead of the Board workshop on July 24, 2025, we would like to identify several areas where there are outstanding questions and concerns with the proposed phasing approach. We believe it is critically important to address these to align the project with the City of Vancouver's objectives and enhance our collective interest in delivering positive outcomes:

- **Project Governance:** The project governance for the assessment does not meaningfully include City staff. Advisory Committees have been given updates late in the process and their feedback is not being adequately shared with the Liquid Waste Committee or the Board;
- **Objectives and Deliverables:** The project's phasing objectives and deliverables seem primarily focused on achieving regulatory compliance and maintain a lower upfront investment. We believe there is an opportunity for Metro Vancouver to examine the various liquid waste interventions needed in the VSA in a more comprehensive way (factoring in municipal and regional needs) and devise an approach for investment and senior government advocacy that yields the greatest benefit to public health and the environment, against lifecycle costs;
- **Analysis:** More information has been requested on the approach to the technical and financial analyses, including sensitivity analyses, optionality and trade-off considerations, environmental impact assessments, and risk assessments;
- **Financial Impacts to Vancouver Residents:** The financial impacts of the proposed approach may impact the City's rate payers' ability to afford the slate of Healthy Waters Plan initiatives to eliminate combined sewer overflows and reduce pollution in the waters around Vancouver;
- **Seismic Resilience:** The mitigations to ensure seismic resilience of the rehabilitated primary plant prior to it being replaced are unclear; and
- **Financial Strategy:** More information has been requested on:
    - Potential tax and rate impact for Vancouver residents and businesses under various scope, phasing, and senior government participation scenarios, and potential mitigations.
    - Costs for future phases of work.
    - Cost estimates in current dollars.

If you have any questions about or would like more information on the phasing approach, please contact me.

Lon LaClaire, M.Eng., P.Eng.
General Manager, Engineering Services
604.873.7336 | lon.laclaire@vancouver.ca

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GREATER VANCOUVER SEWERAGE AND DAINAGE DISTRICT
BOARD OF DIRECTORS

Thursday, July 24, 2025

ON TABLE

E1. Additional report titled "Regional Administrators Advisory Committee and Regional Engineers Advisory Committee Input on the Alternative Approach for the Iona Island Wastewater Treatment Plant Upgrade Projects", dated July 22, 2025. This report and attachments arose from the joint REAC/RAAC meeting held on July 18, 2025.

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To: GVS&DD Board of Directors

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

Date: July 22, 2025 Meeting Date: July 24, 2025

Subject: **Regional Administrators Advisory Committee and Regional Engineers Advisory Committee Input on the Alternative Approach for the Iona Island Wastewater Treatment Plant Upgrade Projects**

RECOMMENDATION

That the GVS&DD Board receive for information the report dated July 22, 2025, titled "Regional Administrators Advisory Committee and Regional Engineers Advisory Committee Input on the Alternative Approach for the Iona Island Wastewater Treatment Plant Upgrade Projects".

At its July 9, 2025 meeting, the Liquid Waste Committee considered the report titled "Alternative Approach to Deliver the Iona Island Wastewater Treatment Plant Upgrade Projects," dated July 3, 2025 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 Liquid Waste Committee also requested that input from both the Regional Engineering Advisory Committee (REAC) and Regional Administration Advisory Committee (RAAC) be provided to the GVS&DD Board to support their decision-making process.

The alternative approach was discussed at the July 4, 2025 REAC meeting and again at a joint REAC/RAAC meeting held on July 18, 2025. There was fulsome discussion at both events. A full list of questions, comments, and answers from this engagement can be found in Attachments 1 and 2.

The joint advisory committees then put forward a motion to endorse the alternative approach for the Iona Island Wastewater Treatment Plant Projects. The motion passed unanimously.

ATTACHMENTS

1. Responses to Questions Raised By REAC/RAAC Members at the July 18, 2025 Meeting.
2. Summary of Questions, Comments, and Feedback by REAC/RAAC Members on the Alternative Approach to Deliver the Iona Island Wastewater Treatment Plant Projects

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SUBJECT:
Alternative Approach to Deliver the Iona Island Wastewater Treatment Plant Projects: Responses to Questions Raised by REAC/RAAC Members at the July 18, 2025 Meeting – 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.

ENVIRONMENTAL BENEFITS

6. **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 IIWWTP does include a range of other contaminants that are known to be stressors to aquatic life.

7. **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

8. **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?**
   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.

HYDRAULICS

9. **What impact does inflow and infiltration have on hydraulic capacity of plant? Has this 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 Updated Approach, it may influence the size and cost of future projects.

DESIGN

10. **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.

11. **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.

12. **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.

13. **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)?**
    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.

14. **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.

FUNDING

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

    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. We are currently working on applying this bylaw to the cost estimate for this updated project and will report back once this exercise is completed.

    The appropriate HHI impact will be completed once the tier allocation exercise for this updated project has been completed. This will be included in the Long Range 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.

16. **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.

17. 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

18. 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.

We are currently working on applying this bylaw to the cost estimate for this updated project and will report back once this exercise is completed.

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

COSTS

19. 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.

20. 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.

21. 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.

22. 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 key cost drivers, risks, geotechnical considerations, and timelines.

SEISMIC/FLOODING

23. 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 option provides a pathway towards fully seismic resilient infrastructure.

24. 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.

25. 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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Summary of Questions, Comments, and Feedback by REAC/RAAC Members on the Alternative Approach to Deliver the Iona Island Wastewater Treatment Plant Projects

July 23, 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

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- 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

Summary of Questions, Comments, and Feedback by REAC/RAAC Members:

	Questions / Comments
	Presentation • Cheryl Nelms and Peter Navratil provided a presentation on the Proposed Alternative Approach to Deliver the IIWWTP Projects • Jerry Dobrovolny provided opening comments • Serena Lusk chaired the question and comment session
City of Burnaby	Do the $9.9B and $6B refer to the same base year, 2025 dollars? It is hard to judge the value of the two [options] without knowing the cost of future works. It would be kind of nice to see both in a net present value basis including operating costs. Does hydraulic capacity make a difference in terms of cost? The current liquid waste management plan still looks at full separation, but it feels if that doesn't happen, you are putting in costs on hydraulic capacity to account for non-separation. At some point we'll have to get to grips with that because the investment in hydraulic capacity is definitely driven by that idea of separation now. I think if I remember correctly, we were presuming not to increase what you have currently as hydraulic capacity or is there some new number now?
City of New Westminster	One of the risks that I'm struggling to process is with respect to the regulation. Is there is there a risk of the federal government changing their requirements and introducing a flow / quantity condition?
City of Richmond	Can we confirm that you've engaged 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? This looks like a really good, scalable system. Is the new alternative a project that could be delivered in one large phase with the primary upgrades by 2039? I know at the April 17th Finance Committee, Metro Vancouver prepared a table for the $9.9B project clarifying the different tiers for the different components and the growth and non-growth components. Has that kind of table been prepared for the updated $6B project? Would that be possible for Metro to do that so the whole region can know what they're looking at for their cost share? What other sources of funding beyond the $250 million federal and $250 million provincial funding is being earmarked to fund this project? Is a certain percentage being assigned to be funded from DCCs? When will municipalities and Metro start

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	budgeting for this project? When do we have to start putting money aside through utility rates to start preparing to pay for this project?
City of Vancouver	I watched the Liquid Waste Committee meeting and the kind of the question that up about requests for specific, concrete details on the environmental outcomes is actually the one that sits with me the strongest. This is because I worry that being able to quantify what you're putting into the ocean versus what impact it's having on the environment are two different things. What I mean by that is the total suspended solids at this particular location is quite unique. It's where the Fraser River mixes with the ocean, and without knowing what the existing suspended solids are in that environment, which is actually quite a bit higher than the current effluent. So, when we're talking about the mixing zone, the mixing zone actually adds solids rather than subtracts them. And if the naturally occurring ammonia in the ocean is greater than what you're putting in/what's going out in the effluent, then what's the actual value? Saying that there's lots of salmon there, saying that there's lots of birds, and that there's whales, it's not clear that the effluent of this plant is actually resulting in any negative outcomes, or that the outcomes are so negligible that they're very hard to measure. The only reason I say that is because this project is extremely expensive, and it doesn't seem like it has a really solid business case except for the primary driver, which seems to be regulatory requirements. Regulatory requirements, which to me might not be appropriate for this particular condition. I can see how it would make a big difference on a river like the Bow River in Calgary, how suspended solids and all of this that we're talking about are actually really big. But I also worry that the cost of the project is so extreme that I can think of a whole bunch of other wastewater projects that we could do in Vancouver that actually have measurable outcomes. You're already asking for a change in regulatory requirement from the Province, why not ask for it from the federal government too, and engage in a conversation about how we get healthy waters in our region in the cheapest, most effective way possible? This project seems like the most inefficient way that we can possibly treat / improve the conditions of the receiving waters. In the future I think it would be really helpful to put your tonnes of suspended solids in context of how many tonnes come down the Fraser River. Is this a .1% increase in the number of total/how many tonnes the river itself delivers? What's the environment that you're treating, that your effluent is entering into, and how does it compare to the overall picture?
City of North Vancouver	Earlier the question was asked about hydraulic capacity and the combined sewer flows: what impact would having a more aggressive approach to infiltration and inflow have on hydraulic capacity? And is that something that's being looked at in terms of the overall planning?
City of Surrey	If the receiving water tonnes before the outfall is so high that this is a tiny amount, given that the federal and provincial governments have all announced their intent for major capital projects, understanding the environmental permitting challenges and legislation challenges, I think we should try to ask for changes. Now is the opportunity for that discussion. I don't think the issue should be dismissed, and I

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	think especially if you're talking provincially, if you have to go there to talk about the hydraulic component, maybe that's where you put it all in perspective.
City of North Vancouver	One of the biggest things from the public's point of view that I hear a lot is not about TSS or BOD, but is about microplastics and pharmaceuticals. Will the new plant and the technology with the membranes address any of that? Is that a message we can share with our local stakeholders that we're actually improving the situation on microplastics and pharmaceuticals?
City of Burnaby	Deferring that amount of capital (nearly $4B) in a net present value scenario saves you a lot of money, even if it looks like on net total, without looking at time value. I can certainly buy that because it is one of the key things you try and do to save money in the present is to push projects into the future. But my question is going to step away from that a little bit, and it goes toward funding risk when we do not meet provincial regulations. So, when I look at the alternative, we are meeting federal and not all the provincial requirements, and then we're going to go ask them for funding. Is one of the issues going to be to deny it because we're not meeting their regulations?
City of Burnaby	What would be the incremental cost be to build the 6th, 7th, and 8th secondary treatment trains now to meet the provincial regulations and can we do that by 2039? Going back to the operation and maintenance costs, I'm wondering about the operating cost of the two approaches. If we replace the entire plant, what would the operating costs be versus if we're trying to limp our primary plant along and have the $100 million pump station that we're maintaining to make the new approach work? I understand the primary plant will not be resilient to earthquakes or those types of hazards, but what about climate change events such as storm surge? Are we looking at building flood protection to make sure that that primary plant is susceptible to that during this period of time?
City of North Vancouver	My question is more about process. So, there were questions asked today, some opinions expressed, and I know the Liquid Waste Committee asked to hear the opinions of senior municipal staff. So, one example would be the Vancouver question and comment on whether we go back to the federal government on whether this level of treatment is required. I think it is really important as an outcome of these sessions where you have asked to consult CAOs and engineers to record those questions and convey them to the elected officials. Clearly Vancouver is going to be a big part of what goes on with Iona, so including their head engineer's comments is important.
City of Burnaby	I don't have a fundamental problem with the alternative approach because, again if it's really deferring enough cost to give us an overall better cost flow, and a net present value saving, that seems to make sense. And, it doesn't look like we have a lot of choice given the regulatory requirements. I don't have a problem with the alternative as opposed to the original, and I don't think we are being asked to judge whether we should a project at all, and I think that's probably not our role. Probably the best solution — unless someone's strongly

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	objecting or really feels that that the alternative is absolutely a no go — is for staff to at least report back to the Board and provide all the questions from the advisory committees and the context of those questions. It's probably good to convey, that we don't have a concern with the proposed alternative versus the original because it seems at least to reduce cash flow. One might argue with that this is a phase split. Ultimately, the next question will come back to understanding who is paying what in DCCs and annual fees. Because again, we could say, well, Vancouver's not separating, and a lot of the cost is due to them not putting effort there. Does the flow capture that sufficiently not to have the argument? Those would be later questions. But, given the information in front of us, I would say that I'm pretty comfortable.
City of Richmond	I do want to really support the idea that all of the questions that have been raised be conveyed to the Liquid Waste Committee and the Board. If we may try and get to a motion, I feel the same way as you.
City of Langley	One comment and one question. As I understand that the delta on this, we have a $10 billion project. If we break it into two pieces, we probably add $3 billion more overall to the project. Is that fair?
City of Richmond	We did hear a number of $7.7B, which I think is a number that you were using to get to some sort of delta between the two. It did include significant risk reserve and escalation. I would make the same conclusion as you based on that. We know that it might be different in the future, but at least for trying to make a comparison today.
City of Langley	The comment that I have is that it just follows up on Vancouver's comments is they're just really asking: are we really getting value for money? The regulations as I understand them for the most part were intended to deal with fresh water as opposed to salt water, so the fact that we would be spending this kind of money really calls it to question whether this is the best place to spend those dollars?
City of Port Coquitlam	I support the position on making sure that all the questions are included in a package that goes to the Committee/Board. I think that it is important that all the cities have representation of the questions that are asked, and in knowing the positions because obviously there seems to be several different positions.
City of Coquitlam	I am in agreement that this discussion should go to the Board and to the Committee. I think there's a lot of great points being made. Regarding the $7.7 billion. Seeing that as a net present value, I think is very important. Regarding the City of Vancouver comment on meeting regulatory requirements: I think not only does that need to be brought forward and needs to be talked about. It isn't necessarily the Metro Vancouver Board that would be taking a position, as you say, but I think that's the forum that needs to happen even if it is the cities that are bringing something forward to the federal government.
City of Port Coquitlam	I do support the new technology (MBR). I think it is a good option to look at, and having been involved at the CRD, I think that this is a difficult exercise. We're not

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	going to have easy answers, and I don't envy Metro Vancouver's work, but I'm looking forward to the answers to all the questions that have been raised and then finding a path forward.
City of Burnaby	We can ask questions about whether the money is worth it or not when you look at the context of background pollution. I think we must never forget what we're doing in the first place. We're in a jurisdiction that is way behind and we're taking responsibility for what we've added to water that we pulled out of pristine catchments and then flushed it back into the ocean. Because that's what development and civilization has done. There was water that was flowing down the river into the ocean and we've disrupted that by then adding a whole bunch of stuff to it. I think the obligation, at least for the region as a whole, is to go and remove the stuff you've added, and to try and get it as close to its natural state back. Not comparing it to what might be coming out of, other sources, natural sediments and everything else. I think there are fair questions on interim moves to see how we can soften the impact on the public, and looking at the base dollar to spend to alleviate some of the impact we're having on the environment. But I think we have to be careful coming back and saying we're trying to justify polluting to not have to spend the money that society should probably have spent many, many years ago, and to have progressively spent as you were having the impact.
City of Langley	Thank you for the presentation. I appreciate the rationale for phasing the project; however, it will ultimately cost $300M+. We are not reducing the capital cost. We are just deferring the capital cost, and it will cost us more. I am not an expert, but it appears the operating costs would be higher to change the membranes and fibres.
Unknown from chat	Adding on to that question - I would be interested in understanding the O&M costs between the two options. What would the annual costs be to operate the Bridge/pumping infrastructure?
Bowen Island	Any proprietary technology concerns or supply chain concerns? What if the supplier arbitrarily increases the cost of replacement membranes? Are different membrane manufactures compatible with each other?
District of North Vancouver	My questions are focused on confirming the implications of deferring the primary plant replacement and a portion of secondary treatment to confirm phased approach preferable to PDR. • Does anything in this option 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)? • Is it fair to say that the replacement of the primary plant in the original PDR was driven by the regulatory requirement for secondary treatment? What were the other drivers at that time, to replace it rather than wait? • Are we sure that seismic upgrade of the primary plant will not be added as a requirement as part of building permitting requirements?

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City of Port Coquitlam	What does the Harmonized Regulation look like? Appears the provincial regulation affords a cheaper plant and more operational flexibility. Also given the recent housing legislation changes, I would like to properly ask for an extension to the year 2050. How much regional population growth have we built into the design? Given the huge swing in costs from $9.9B to $6B, is there a detailed project cost breakdown? Apologies if I have missed seeing it. Is there a table that shows comparative costs /ML for plants of similar size across Canada and North America.
City of Burnaby	**Email Received:** Below are some initial questions from the City of Burnaby on the alternative approach to the Iona WWTP upgrade. We look forward to continuing these discussions. • What is Metro Vancouver's funding strategy for this project? What is the anticipated impact to residents by municipality? • What flow rate is the secondary plant designed for, and how long is it expected to meet VSA needs? • If provincial requirements aren't met, would the upgrades still qualify for provincial funding? Or impact future cost-sharing opportunities? • 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? • Can the bridging/pumping infrastructure proposed as part of the alternative approach be reused for the future plant? • Given that the primary plant will remain in operation, will the project include temporary works to improve the primary plants resilience to climate events (e.g., diking to protect against storm surge)?
City of Burnaby	• Put forward a motion to support the alternative approach to delivering the Iona Island Wastewater Treatment Plant projects. The motion was supported unanimously by all members in attendance.

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