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

metrovancouver.org

June 2025

Cover: Residents learning about the wastewater system

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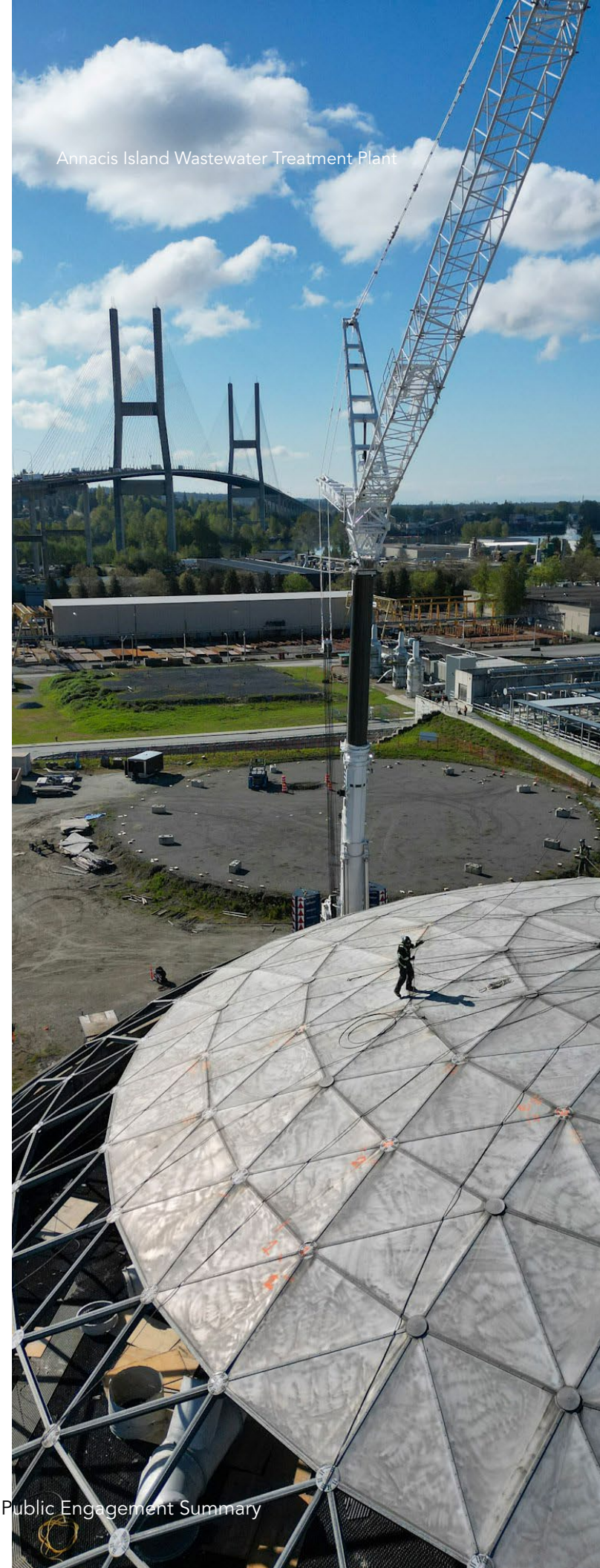
About the Liquid Waste Management Plan Update

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.

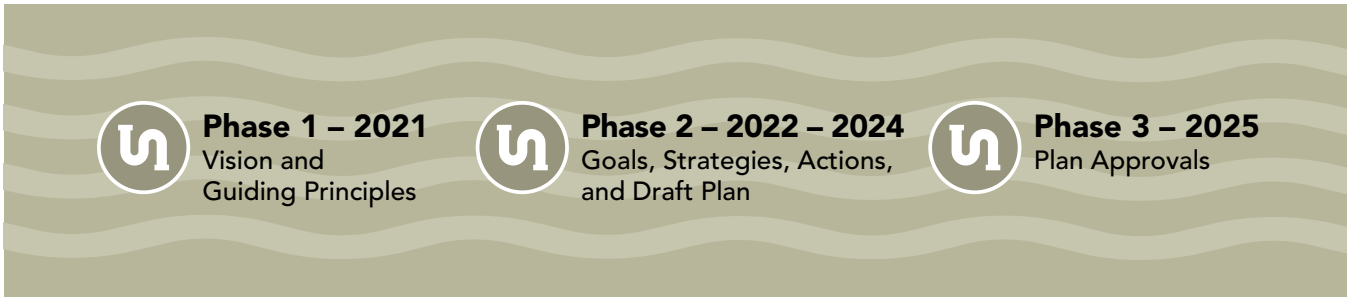
In urban areas, most rainwater goes into storm sewers (via street drains), which typically empty directly into rivers, creeks, or the ocean. As rainwater travels to storm sewers, it picks up pollution along the way, which can be harmful to plants and wildlife.

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: q̓iċəy̓ (Katzie), q̓ʷɑːn̓ƛ̓ən̓ (Kwantlen), kʷikʷəƛ̓əm (Kwikwetlem), máthxwi (Matsqui), xʷməθkʷəy̓əm (Musqueam), qiqéyt (Qayqayt), Semiahmoo, Sḵwx̱wú7mesh Úxwumixw (Squamish), scəẇaθən məsteyəxʷ (Tsawwassen), and səlilwətaɬ (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 metrovancouver.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**
In this phase, we reviewed the current plan and identified successes, opportunities for improvement, and gaps. Input informed the development of a draft vision and concepts for guiding principles.	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. A draft plan based on this phase of engagement was developed for Liquid Waste Committee feedback and direction.	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. We shared the final draft plan with First Nations for their review and input and held a final public engagement period. Input from the final phase is being considered for incorporation into the updated plan. 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. 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.

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.

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.

Golden Ears Pump Station

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.

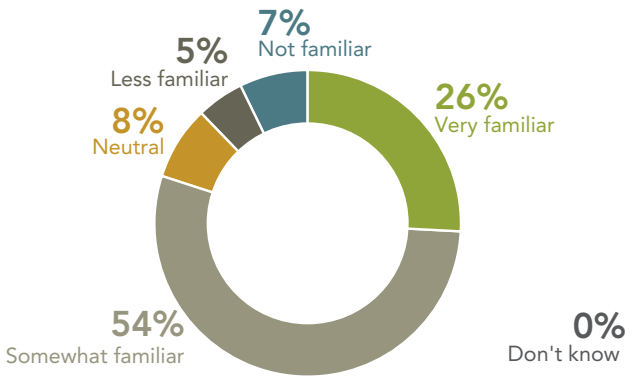
As part of the online survey, participants were asked where they lived. The highest number of respondents lived in Vancouver (25%), Surrey (11%), and the District of North Vancouver (8%).

Annacis Island Wastewater Treatment Plant

What We Heard

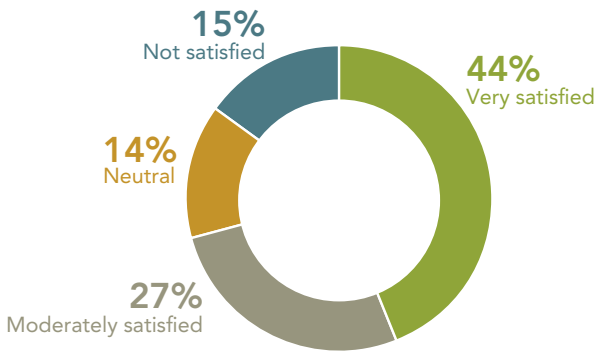
Through the online survey, participants were asked for feedback on new and notable actions in the draft Liquid Waste Management Plan. The feedback on the survey questions is provided below, followed by a more fulsome description of the themes that emerged through the open questions in the survey, comments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

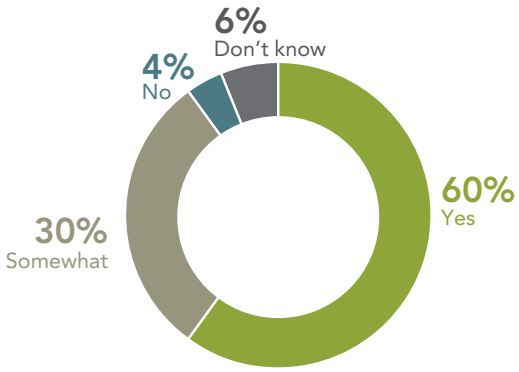


The majority of participants indicated they were satisfied with the direction of the updated Liquid Waste Management Plan's goals for guiding wastewater management in the region (71%), while the rest were either neutral about the goals (14%), or unsatisfied (15%).

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.

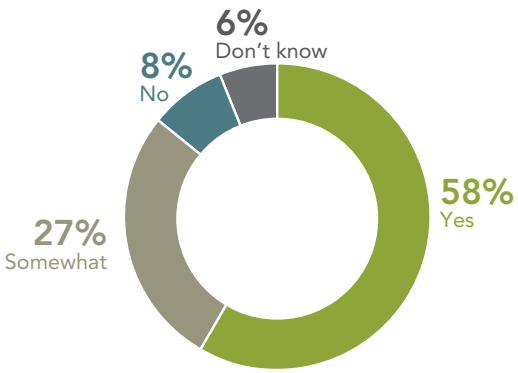


The vast majority of participants supported using master sewer servicing plans to plan for growth and urban development in a changing climate (90%).

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.

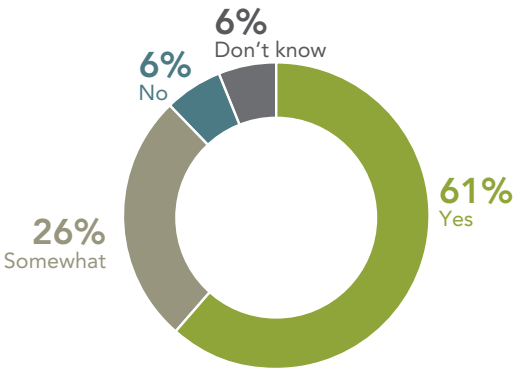


The majority of participants supported providing incentives to homeowners to help them rehabilitate leaky pipes on their property, which contribute to excess water in the sewer system, in turn contributing to the need for costly wastewater treatment plant upgrades, as well as sewer overflows.


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.



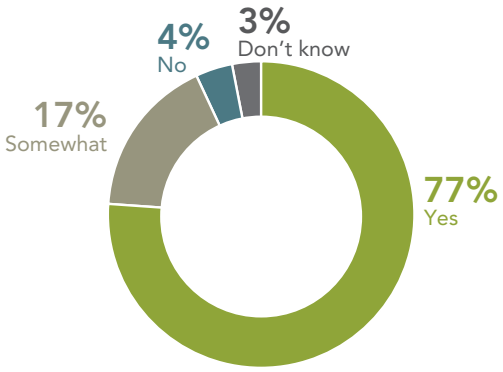
Most respondents supported using and regularly adjusting wet weather sewer pricing to incentivize members to take action on leaky pipes in their municipal system, which contribute to excess water in the system.

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.

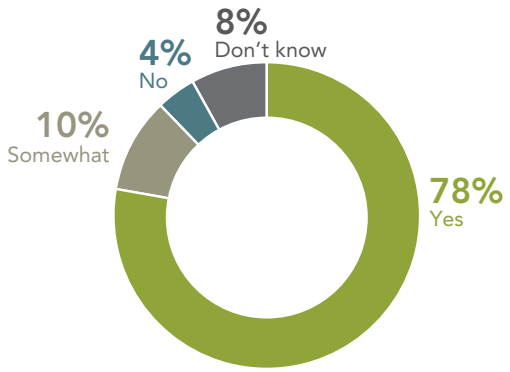


The vast majority of respondents (94%) supported optimizing system operations to minimize sewage from combined sewers to reduce the impact of any overflows on the environment.

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?

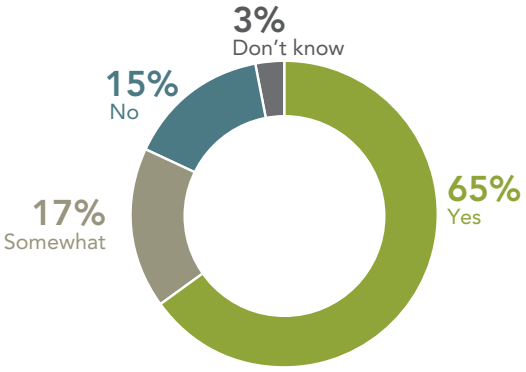
Action 9.6: Prevent flows from creeks, lakes, and underground streams from entering combined sewers to create more capacity for sanitary sewage, helping to eliminate sewer overflows.



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.



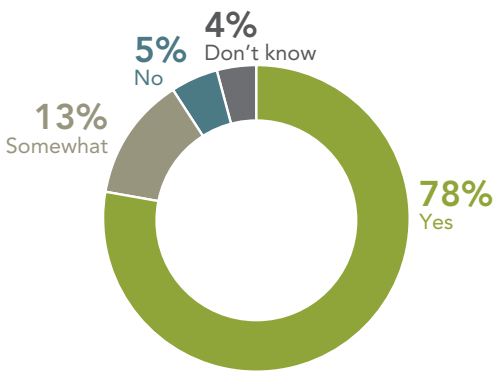
The majority of respondents (82%) supported involving First Nations in watershed planning to help restore ecological systems.

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


Golden Ears Pump Station

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

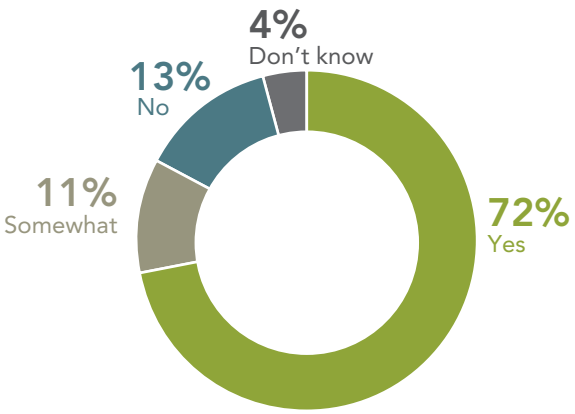
Action 11.1: Dedicate municipal budget to rainwater management so communities can proactively plan for, respond to, and mitigate rainwater challenges.



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

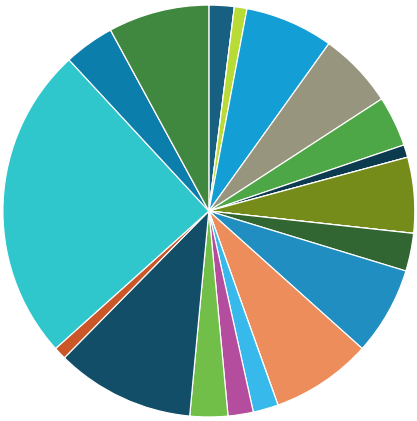
Question: Does this action reflect your priorities for wastewater management in the region?

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%)
- Belcarra (0%)
- Bowen Island Municipality (0.99%)
- Burnaby (6.93%)
- Coquitlam (5.94%)
- Delta (3.96%)
- Electoral Area A (0.99%)
- City of Langley (0%)
- Township of Langley (5.94%)
- Lions Bay (0%)
- Maple Ridge (0%)
- New Westminster (2.97%)
- City of North Vancouver (6.93%)
- District of North Vancouver (7.92%)
- Pitt Meadows (0%)
- Port Coquitlam (1.98%)
- Port Moody (1.98%)
- Richmond (2.97%)
- Surrey (10.89%)
- sc̓awaθən məsteyəxʷ (Tsawwassen First Nation)(0.99%)
- Vancouver (24.75%)
- District of West Vancouver (3.96%)
- White Rock (0%)
- 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.	Metro Vancouver updates regional and municipal population projections on a regular basis to guide land use and infrastructure planning. 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. Some of the proposed actions for Metro Vancouver and members to address population growth and urban density include: • 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).	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. 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.

What We Heard	How We're Responding
Theme: Cost Escalation, Oversight, and Delivery of Major Projects	
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 have insight into project management. 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.

Residents learning about the wastewater system

What We Heard	How We're Responding
Theme: First Nations' Priorities	
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 Liquid Waste Management Plan, and will continue throughout its implementation. Some specific actions in the updated Liquid Waste Management Plan to enhance First Nations involvement in regional wastewater management include: • 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.
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." Comments asking if this goal goes far enough to meet Metro Vancouver's responsibilities under the Declaration on the Rights of Indigenous Peoples Act. 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.	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. 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**.

What We Heard	How We're Responding
Theme: Rainwater Management	
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.	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. 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. 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.
Comments supporting the use of green infrastructure. Suggestions for Metro Vancouver to support municipalities with these efforts. 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.	A key focus for rainwater management in the updated Liquid Waste Management Plan is the enhancement and expansion of green infrastructure in the region. Some proposed actions for Metro Vancouver and members include: • 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. 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.

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.	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.* 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. 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.
Concern about the cost implications to residents to achieve the goals set out in the draft plan.	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. 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.

What We Heard	How We're Responding
Theme: Wastewater Treatment	
Comments about the need to prioritize upgrades to all wastewater treatment plants to remove more pollutants.	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. 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.
Comments urging Metro Vancouver to address odour at wastewater treatment plants and across the wastewater system.	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.
Theme: Combined Sewer Separation	
Comments about Metro Vancouver and its combined members taking action on sewer separation to reduce and eliminate combined sewer overflows.	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**. Other actions focus on reducing **combined sewer overflows** and their impacts on the receiving environment, through **system optimization** and operational controls.

What We Heard	How We're Responding
Theme: Resource Recovery and Biosolids	
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.	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. 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. 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.
Theme: Public Education	
Calls for more public education about the importance of source control to prevent pollution.	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. 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.
Theme: Measuring Progress	
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.	Timelines have been assigned to all actions in the Liquid Waste Management Plan that are time-bound. 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 Liquid Waste Management Plan commitments. Metro Vancouver may also identify and implement new performance indicators over time to continue to improve accountability and outcomes.

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.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