Presentation to the Liquid Waste Committee, Metro Van At 9 AM Oct 10, 2024 at 4515 Central Boulevard, Burnaby B. C.

Purpose

Present the Alternative solution to the present plan to spend \$3.86 Billion on the North Shore Waste Water Treatment Plant (NSWWTP) which will save Metro Van taxpayers in the range of \$1-\$2 Billion in Capital Costs

> Mike Fillipoff, P. Eng Brian Walker, P. Eng. (Retired)

Working, living, and learning on the traditional, ancestral and unceded territory of First Nations

Highlights

- This presentation is forward looking and positive with respect to North Shore sewage and the future.
- Contrary to recent reports, there has been and continues to be a viable alternative to the \$3.86 Billion North Shore Waste Water Treatment Plant (NSWWTP) for managing North Shore sewage to ultimately meet Federal regulations.

Highlights

- It is very important to note that the NSWWTP cost overrun amount of \$2.8 Billion has not yet been spent.
- And does not need to be spent on the NSWWTP if the Alternative conveyance project is approved by Metro Van.

Highlights

 The viable and cost-effective solution is to convey all the North Shore sewage by pipelines directly from the new pumpstation at Lions Gate Bridge to the expanded Iona Island Waste Water Treatment Plant (IIWWTP)

Highlights-Key Dates



Concerns by Taxpayers in Metro Van

As Metro Van taxpayers we are deeply concerned because:

- The project has gone terribly wrong and the capital cost of the NSWWTP has increased from the Metro Van approved \$700 Million to \$3.86 Billion (a cost over-run of \$3.16 Billion).
- Metro Van has voted to fund the cost overrun by taxing municipalities
- The Districts of West Van, North Van and City of North Van are to shoulder 37 % of the over-run costs of \$2.8 Billion (This is not reasonable because the North Shore makes up only 7 % of the region's population).
- Each household in the North Shore will face an increase in sewage costs of \$590/year for 30 years that will create financial hardships for many families and add to the affordability crisis
- Other sewage areas such a Vancouver (\$150/yr), Fraser (\$90/year), Lulu Island (\$80/yr) will face payments for 15 years.

Highlights (Cont'd)

- **BENCHMARK PROJECT**
- A similar Tertiary Wastewater Treatment plant to serve 300,000 residents in Victoria B. C. was recently completed.
- The Victoria McLoughin Point Wastewater Treatment Plant was designed and constructed in a 6 years (completed in 2021) at a capital cost of \$775 Million.

Photo of Victoria McLoughin Point Wastewater Treatment Plant under construction



Photo of Victoria McLoughin Point Wastewater Treatment Plant Showing Primary, Secondary and Tertiary Process (similar to NSWWTP)



Photo of Completed Victoria McLoughin Point Wastewater Treatment Plant



PROPOSAL FOR CONVEYANCE BY PIPELINES OF NORTH SHORE SEWAGE TO IONA ISLAND WWTP

Capital Cost savings of \$1-\$2 Billion

 Pipeline route from existing Lions Gate Pump Station to Iona Island via Highbury Interceptor



Conceptual Designs and Cost Estimates for conveying North Shore Sewage to Iona Island

- Metro had contracted Stantec Dayton & Knight to develop options including conveyance of North Shore Sewage to Iona Island.
- Conveyance of North Shore sewage from the existing North Shore pumpstation, then two 7 km long subsea pipelines to the existing Highbury pump station at 1st Avenue. At Highbury connect to the existing concrete interceptor and twin force mains to the Iona Waste Water Treatment Plant.

Recommendations

- It is recommended that the North Shore sewage be conveyed by 2 pipelines to the Iona Island Waste Water Treatment Plant to save \$1-2 Billion in Capital Costs.
- The updated Class 4 Capital Cost Estimate including design allowances, inflation and contingency is in the range of \$900 Million to \$1.1 Billion with completion in 2030.
- The North Shore sewage would only add 10-15 % to the flow and to the organic load which can be accommodated in the present design of the Iona Island WWTP at minimal additional cost.



Metro Vancouver Region

2025 – 2029 Financial Plan Overview

Jerry W. Dobrovolny, P. Eng, MBA

Commissioner / Chief Administrative Officer

Harji Varn GM Financial Services / Chief Finance Officer

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METRO VANCOUVER BUDGET APPROACH



2025 BUDGET CYCLE TIMELINE



COMMUNICATIONS AND ENGAGEMENT

Public Engagement Period, July 31 – September 16

- 291,956+ budget video views
- 14 days at PNE (90,000 showcase visitors)
- 8,483 PNE budget game players
- 1,453 budget webpage visits
- 422 online survey responses
- 79 paper survey responses
- 36 promotional and educational posts on social



COMMUNICATIONS AND ENGAGEMENT

Overall Communications / Member Engagement

- Budget webpage with video
- Budget Overview one pager
- MetroUpdate newsletter article
- Live stream Committee and Board meetings
- Regional Advisory Committees
- Council of Council meetings
- Budget communications throughout the year



COMMITMENT TO CONTINUOUS IMPROVEMENT

- Continue culture of continuous improvement
- Continue to Monitor financial performance
- Continue to utilize data to drive decision making
- Continue to seek alternative funding strategies/sources
- Continue with long range planning and procurement strategies for multi-year programs and project delivery



CONTINUOUS IMPROVEMENT – 2024 COMPLETED OR ONGOING

Initiative	Outcomes						
Cyber Resilience (CS)	 Improve cyber security and resilience to proactively mitigate the risks posed by evolving cyber security threats 						
Weigh Scale Software Upgrade Implementation (SWS)	 Range of new features: license plate readers, emailing bills, real-time customer feedback; system resilience. 						
Refined Environmental Management System (WS)	 Revised the review and approval process for regulatory reporting, which is freeing up time for our frontline, engineering, and legal teams 						

CONTINUOUS IMPROVEMENT – 2025 NEW

Initiative	Outcomes					
Waste-to Energy District Energy (SWS)	 Up to 70,000 tonnes GHG per year emissions reduction. 					
Biosolids Hauling de-carbonization (LWS)	 Trials of low-carbon hauling vehicles (battery electric vehicles and hydrogen electric vehicles) for short to medium haul routes. 					
Project Quality Management (PD)	 Consistent implementation of Project Quality Management and reduction of quality related risks. Efficiencies due to risk avoidance and streamlined processes. 					

MAJOR DRIVERS – CAPITAL PROGRAM

WHAT WE ARE DOING

- Long-term financial planning
- Cost estimating framework
- Reviewing scope and timing of over 300 projects
- Partnership funding



Fleetwood Reservoir Roof slab



Annacis WWTP Digesters



Widgeon Marsh Development



Central Surrey Recycling and Waste

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Cape Horn Reservoir Condition Assessment and Structural Repair	500,000	250,000	1,130,000	1,000,000			AMWITP OF	LM Building Rd	Universit			100,000	100,000	300,000	1,200,000	1,100,000
Capitano Energy Recovery Facility 66" PRV Replacement			1,450,000	350,000	3,500		AM/WTP Ou	rtal Repair						400,000	750,000	400,000
Capitana Energy Recovery Facility Operational Upgrades	1,800,000	750,000	450,000	300,000			ANVIET PV	V0 line refurbis	hment/heplacer	10 and		1,654,000	250,000	1,400,000		
Central Park Reservair Structural Improvements			400,000	1,700,000	1,200		AMUNTP IN	placement of P	rolocitus Relays			3,050,000	\$0,000			
Clayton Reservoir	25,750,000	50,000					AMWIP Sci	heduled 64ky P	startial & Curn	ert Transformer		400,000	90,000		-	
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Pebble Hill Reservoir No. 3 Seismic Upgrade	500,000	50,000	-	-			44400 70 70	Address Filling Ma	ALC: N COLUMN	where a factor		50 200 000	5.405.000	1255000	10,005,000	
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Rearries bracional memory Automatics	1,200,000	1,200,000	1,000,000				Annach Infly	vent System So	rge Control Beh	orbishment.		22,800,000	2,100,000	400,000	\$3,000	50,800
Salarial Reservor Refurbativities	400,000	250,000	796,000	1,300,000	500		Annacis MO	C 80 951, 80 83	0, 80 ET1 Rayla	cement		2,850,000	\$0,000	\$56,000		
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							INWATE CER	PT Polymer Line	Replacement			3,300,000	1,790,000	256,000		
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							INWATE IPS	Drive Remodia	tion			2,800,000	125,000	200,000	400,000	\$75,000
							INVATE NO.	C/Fower Distri	bution Assess,R	uplace - Phase 2		1,806,080	\$0,000	300,000		

WWTP Studge Control Building Electrical Room MLRC upgrade	850,000	425,000					425,000	Construction	Maintenance	
WWTP Stage 5 Expansion*	1,004,356,000	62,790,000	65,000,000	80,000,000	75,000,000	91,008,000	373,780,000	Multiple	Growth	
WWTP Station Battery Replacement	1,258,000	50,000					56,000	Multiple	Maintenance	
WWTP Truking Filter Media & Distributor Arms & Ducting Replacement	90,706,000	5,485,000	3,295,000	90,006,000			18,786,000	Construction	Maintenance	
WWTP UPS Condition Monitoring System	\$58,000	50,000	256,000	250,000			\$50,000	Construction	Realization	
WWTPs Power Quality Monitoring & Outage Alanming Network	3,800,000	50,000					50,000	Construction	Upprade	
mack influent System Surge Control Refurbishment	22,800,000	2,100,000	400,000	\$3,000	50,800		2,680,900	Construction	Growth	
mack MCC 80 051, 80 070, 80 071 Replacement	2,850,000	50,000	\$56,000				600,000	Construction	Maintenance	
mack Outfall System*	356,858,000	11,500,000	1,556,000	\$3,008	50,800	71,658,000	84,800,000	Construction	Growth	
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WWTP bicsolids Dewstering Facility	61,300,000	1,150,000	56,000				1,290,000	Construction	Upprade	
WWTP CEPT Polymer Line Replacement	3,300,000	1,790,000	256,000				2,000,000	Construction	Maintenance	
WWTP CEPT Wintersution	1,500,000	1,100,000	256,000				1,150,000	Construction	Maintenance	
WWTP ICS IPS Control Replacement	1,756,000	700,000					790,000	Construction	Maintenance	
WWTP ICS Migration Program	-		500,000	3,000,000	4,000,800	3,006,000	18,500,000	Not Started	Maintenance	
WWTP ICS Replacement Program	754,000	300,000	200,000	100,000			600,000	Construction	Maintenance	
WWTP Influent Gate Refurbishment	1,850,000	100,000					100,000	Construction	Maintenance	
WWTF IPS Drive Remediation	2,800,000	125,000	200,000	400,000	575,000	754,000	2,050,000	Construction	Maintenance	
WWTP MCC/Power Distribution Assess/Replace - Phase 2	1,800,000	50,000	300,000				350,000	Construction	Maintenance	
WWTP Non-Domestic Trucked Liquid Waste Alternative	805,000	50,000	500,000	153,000			200,000	Construction	Maintenance	
WWTP Outful Refurbulment*	20,000,000	2,000,000	1,000,000	1,000,000	63,000,800	72,008,000	143,000,000	Design	Manserance	
WWTP PA Tariks Improvement	7,500,000	1,500,000	1,556,000	1,300,000	1,150,800	1,205,000	6,500,000	Construction	Maintenance	
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MAJOR DRIVERS – INFLATION AND COST ESCALATION

WHAT WE ARE DOING

- Strengthening procurement strategies
- Examining revenue sources and partnerships
- Timing and scope of projects and programs



MAJOR DRIVERS - POPULATION GROWTH

WHAT WE ARE DOING

- Examining impacts to infrastructure
- Regular updates and review of DCCs
- Alignment with Province and member jurisdictions



MAJOR DRIVERS - CLIMATE CHANGE AND RESILIENCE

WHAT WE ARE DOING

- Infrastructure resilience
- Metro 2050 Policy
- Climate action strategies and programs



King tide in West Vancouver



Minnekhada fire



Climate Literacy Program



Smoky conditions in Metro Vancouver

MAJOR DRIVERS – BELOW MARKET RENTAL HOUSING

WHAT WE ARE DOING

- Metro Vancouver Housing development and renewal projects (2,100+ units underway)
- Partnerships with member jurisdictions, development community and others
- Historic funding agreement with Province; new federal program



APRIL 2023 BOARD BUDGET WORKSHOP DIRECTION

That the MVRD/MVHC/GVS&DD/GVWD Board at the April 19, 2023 Board Budget Workshop:

- a) direct staff to proceed through the 2024 budget cycle with household impact targets as follows
 - *i.* 2024 12%
 - *ii.* 2025 11%
 - *iii.* 2026 5%
 - iv. 2027 5%
- b) direct staff to prepare the 2024–2028 Financial Plan with the following development cost charge (DCC) rate assumptions:
 - *i.* Liquid Waste Development Cost Charges moving to a 1% assist factor with interest as part of the 2024–2028 Financial Plan
 - *ii.* Water Development Cost Charges moving to a 1% assist factor with interest as part of the 2024–2028 Financial Plan; and
 - *iii.* Implementation of a Development Cost Charge for Regional Parks and move to a 1% assist factor within the 2024–2028 Financial Plan

MARCH 2024 BOARD MEETING

- The DCC Bylaws received Provincial Inspector Approval in February 2024
- On March 22, 2024, the MVRD/ GVS&DD/ GVWD Board had 4th reading and final adoption of the 3 DCC Bylaws
- The DCC Bylaws have a 3-year phase-in January 1, 2025; January 1, 2026; and January 1, 2027

SPRING 2024 BOARD BUDGET WORKSHOPS DIRECTION

April 17 and May 17, 2024 Board Budget Workshops direction to staff was to continue with the direction from April 2023 which were to:

- Maintain the following HHI targets:
 - 2025 11%
 - 2026 5%
 - 2027 5%
 - 2028 5%
- Continue with Liquid Waste DCCs, Water DCCs, and Regional Parks DCCs to a 1% assist factor with interest as part of the financial plan

BOARD BUDGET WORKSHOP DIRECTION

May 2024 Board Budget Workshop Resolution

That the GVS&DD Board direct staff to prepare the 2025 Budget and 2025–2029 Financial Plan by allocating the \$2.8B required to complete the NSWWTP Program according to Option 3 from Table 6 in the report dated May 10, 2024, titled "2025 Budget and 5-Year Financial Plan Scenarios for Consideration."

That the GVS&DD Board direct staff to prepare the 2025 Budget and 2025–2029 Financial Plan by allocating the \$2.8B required to complete the NSWWTP Program according to Option 4 from Table 7 in the report dated May 10, 2024, titled "2025 Budget and 5-Year Financial Plan Scenarios for Consideration."

	2025	2026	2027	2028	2029
VSA	+\$150	-	-	-	-
NSSA	+\$118	+\$118	+\$118	+\$118	+\$118
LIWSA	+\$80	-	-	-	-
FSA	+\$90	-	-	-	-

2025–2029 FINANCIAL PLAN OVERVIEW

2025 Budget – Bottom Line

11.0%	Prior Projection for 2025
\$88	Increase for the average household in 2025 (Water: \$14, Liquid Waste: \$69, Solid Waste: \$3, MVRD: \$2)
\$884	Average annual cost for all Metro Vancouver services
9.9%	Proposed 2025 Budget

\$79	Increase for the average household in 2025 (Water: \$11, Liquid Waste: \$63, Solid Waste: \$3, MVRD: \$2)
\$875	Average annual cost for all Metro Vancouver services

OVERALL AVERAGE HOUSEHOLD IMPACT 2025–2029

	2024	NSWWTP Amended	2025	2026	2027	2028	2029
Water Services	\$189	\$189	\$200	\$211	\$215	\$218	\$218
Liquid Waste Services	\$349	\$447	\$510	\$549	\$587	\$627	\$672
Solid Waste Services	\$68	\$68	\$71	\$74	\$78	\$82	\$86
Regional District Services	\$92	\$92	\$94	\$84	\$85	\$86	\$87
Total Household Impact	\$698	\$796	\$875	\$918	\$965	\$1,013	\$1,063
Prior Year Forecast - amended			\$884	\$933	\$981	\$1,033	

VSA TOTAL AVERAGE HOUSEHOLD IMPACT 2025–2029

	2024	NSWWTP Amended	2025	2026	2027	2028	2029
Water Services	\$189	\$189	\$200	\$211	\$215	\$218	\$218
Liquid Waste Services	\$432	\$582	\$650	\$706	\$755	\$799	\$869
Solid Waste Services	\$68	\$68	\$71	\$74	\$78	\$82	\$86
Regional District Services	\$92	\$92	\$94	\$84	\$85	\$86	\$87
Total Household Impact	\$781	\$931	\$1,015	\$1,075	\$1,133	\$1,185	\$1,260

NSSA TOTAL AVERAGE HOUSEHOLD IMPACT 2025–2029

	2024	NSWWTP Amended	2025	2026	2027	2028	2029
Water Services	\$189	\$189	\$200	\$211	\$215	\$218	\$218
Liquid Waste Services	\$464	\$582	\$782	\$980	\$1,123	\$1,262	\$1,401
Solid Waste Services	\$68	\$68	\$71	\$74	\$78	\$82	\$86
Regional District Services	\$92	\$92	\$94	\$84	\$85	\$86	\$87
Total Household Impact	\$813	\$931	\$1,147	\$1,349	\$1,501	\$1,648	\$1,792

LIWSA TOTAL AVERAGE HOUSEHOLD IMPACT 2025–2029

	2024	NSWWTP Amended	2025	2026	2027	2028	2029
Water Services	\$189	\$189	\$200	\$211	\$215	\$218	\$218
Liquid Waste Services	\$295	\$375	\$418	\$464	\$496	\$505	\$515
Solid Waste Services	\$68	\$68	\$71	\$74	\$78	\$82	\$86
Regional District Services	\$92	\$92	\$94	\$84	\$85	\$86	\$87
Total Household Impact	\$644	\$724	\$783	\$833	\$874	\$891	\$906

FSA TOTAL AVERAGE HOUSEHOLD IMPACT 2025–2029

	2024	NSWWTP Amended	2025	2026	2027	2028	2029
Water Services	\$189	\$189	\$200	\$211	\$215	\$218	\$218
Liquid Waste Services	\$301	\$391	\$421	\$434	\$454	\$485	\$512
Solid Waste Services	\$68	\$68	\$71	\$74	\$78	\$82	\$86
Regional District Services	\$92	\$92	\$94	\$84	\$85	\$86	\$87
Total Household Impact	\$650	\$740	\$786	\$803	\$832	\$871	\$903

BUDGET OVERVIEW

2025 MVRD Budget

Expenditure by Department



- Air Quality and Climate Action (\$16.3M)
- E911 Emergency Telephone Service (\$7.3M)
- General Government Administration (\$8.8M)
- General Government-Zero Waste Collaboration Initiatives (\$700K)
- Housing Planning and Policy (\$7.7M)
- Invest Vancouver (\$4.8M)
- Regional Emergency Management (\$200K)
- Regional Employers Services (\$4.4M)
- Regional Global Positioning System (\$500K)
- Regional Parks (\$89.5M)
- Regional Land Use Policy (\$4.8M)
- Sasamat Fire Protection Service (\$900K)

METRO VANCOUVER HOUSEHOLD IMPACT % CHANGE

Proposed 2025–2029 Financial Plan



2025 -2029 Proposed Financial Plan

Metro Vancouver

METRO VANCOUVER OPERATING BUDGET

Expenditures

Overview:

- 2024 Operating Budget: \$1,216.0M
- 2025 Operating Budget: \$1,463.7M

Drivers:

- Operating Program is inflationary over the 5 years
- Funding capital program through debt service and contribution to capital in accordance with Board policy



METRO VANCOUVER OPERATING BUDGET

Revenues

Overview:

- Primary funding sources: water sales, sewer levy, tipping fees, rents, MVRD requisition
- · Relative stability for primary sources

Drivers:

- Anticipated DCC revenues received and applied having downward pressure on HHI
- Continuously seeking partner funding for support



METRO VANCOUVER CAPITAL PLAN

Expenditures

Overview:

- 2024 capital cash flow \$1.42B
- 2025 capital cash flow \$1.77B

Drivers:

- Continued activity on previously approved projects
- Regulatory upgrades and growth projects







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Howe Sound / Salish Sea

2025 – 2029 FINANCIAL PLAN LIQUID WASTE SERVICES

Peter Navratil, P.Eng, MPA

General Manager, Liquid Waste Services

Liquid Waste Committee – October 10, 2024 68633643

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LIQUID WASTE OVERVIEW

19 member jurisdictions, with a population of approximately 2.7 million residents

530 kilometers of trunk sewers, 34 pump stations and 3 storage tanks

5 regional treatment plants

Average of 1.2 billion litres of wastewater per day

3 Urban Drainage Areas: Still Creek/Brunette, Port Moody/Coquitlam and University

SERVICE OBJECTIVES

Service Objective	KPI Metric	Current (2023)	Target (2030)	Goal
	Sanitary Sewage Overflow (SSO) events (#)	33	32	0 (2040)
Eliminate Overflows from	Combined Sewage Overflow (CSO) volume (ML)	20,157	30,000	0 (2075)
the Sewer System	Rainfall derived inflow and infiltration (RDII) (ML)	30,700	30,000	10,000 (2040)
	Facilities not meeting basic service or regulations in next 10 years (%)	22%	15%	0% (2035)
Protect Public Health and	Duration of events not in compliance with operational certificates (hrs)	18.25	0	0 (2030)
the Environment – Authorized WWTP Discharges	Duration of events not in compliance with WSER (hrs)	8,760	0	0 (2040)
	Recreational water quality (% of tests not meeting criteria)	0.1%	1.5%	0 (2040)
	Biosolids beneficially used (%)	100%	100%	100% (2030)
Improve Environmental Stewardship	Net GHG emissions (kg of CO2 / ML treated)	20.5	(2.1)	0 (2050)
Stewardship	Odour complaints (#)	11	10	0 (2035)
Minimize Timeline to	Targeted assets resilient to seismic event (%)	Undefined	Defined	100% (2050)
Recover from a Major	Targeted assets resilient to power outage event (%)	91%	100%	100% (2035)
Event	Targeted assets resilient to climate change event (%)	Undefined	Defined	100% (2100)

SANITARY SEWER OVERFLOW TREND

Demand Side Management is critical



CONTINUOUS IMPROVEMENT - 2024

Contracted-in Construction Crew



Benefits

Savings between 15-20% in labor costs

Reduced administration and procurement costs associated with tendering

Enhanced expertise within the department

Improved ability to adapt to changing construction scheduling demands and urgent emergency or high-priority projects

Reduced change orders

INNOVATION – 2025

Lulu Island WWTP Hydrogen Pilot

- Nuisance ammonia capture for conversion to Hydrogen
- Export hydrogen as low carbon fuel
- Potential at LIWWTP for 128 tonnes of Hydrogen per year
- 2025 Workplan: Initiate preliminary design; selection of Hydrogen Production Unit; develop hydrogen off-take agreements

GREEN HYDROGEN PRODUCTION



CONTINUOUS IMPROVEMENT – 2024 ONGOING

Liquid Waste Services

Initiative	Outcomes
Conservation versus Infrastructure to manage excess rainwater	Work with members to provide and share tools, experiences, public communications to reduce I&I into private laterals
Science World activation	Interactive display that highlights the connection between household wastewater and our aquatic environment, focusing on the role of wastewater treatment, environmental monitoring, and actions that residents can take
Nano-Bubble Technology	First application of nano bubble aeration technology on primary effluent to improve overall effluent quality
On-line Project Controls Tool	Creation of on-line project tools to streamline project management processes, improve forecasting of project progress and provide up-to-date information on project status

CONTINUOUS IMPROVEMENT – 2025 NEW

Liquid Waste Services

Initiative	Outcomes
Biosolids Hauling De-carbonization	Trials of low-carbon hauling vehicles (battery electric vehicles and hydrogen electric vehicles) for short to medium haul routes which could reduce hauling GHG emissions by 130 tonnes of CO_2e per year
Customer Service Excellence	Structured training for staff who work in public-serving and public-facing roles to improve skills for interacting with community members more effectively
Expanding Construction Crew	Continued development of construction crew and expansion of scope and breadth of technical work including pipeline construction
Incubator – Red Tape Resolution	Initiative lead by staff at positions throughout the department to identify processes that slows progress and to come up with solutions to improve productivity

BUDGET OVERVIEW

2025 Operating Budget Breakdown - Liquid Waste Services



OPERATING EXPENDITURES

Liquid Waste Services Financial Plan

Overview:

2024 Operating Budget: \$487.9M 2025 Operating Budget: \$681.9M

39.8% increase

Drivers for Change:

- Increasing contribution to capital and debt service to fund capital program
- Operating programs are largely inflationary with some increases on chemical costs to maintain compliance with regulations



2025 - 2029 Liquid Waste Services Financial Plan

OPERATING FUNDING

Liquid Waste Services Financial Plan

Overview:

2024 Operating Budget: \$487.9M 2025 Operating Budget: \$681.9M

39.8% increase

Millions

\$

Drivers for Change:

- Growing capital program
- Increasing usage of DCCs to fund debt servicing

1,300 1,200 1,100 1,000 900 800 700 600 500 400 300 200 100 0 2024 2025 2026 2027 2028 2029 Liquid Waste Services Levy BOD/TSS Industrial Charges Other

2025 - 2029 Liquid Waste Services Financial Plan

OPERATING HIGHLIGHTS – 2025

Liquid Waste Services

Division	
PPA	Complete update and provincial approval of the Liquid Waste Management Plan
ED&C	Provide structured training for project managers to improve skills for interacting with community members more effectively
O&M-WWT	Award a new "Reduced Emissions Residuals Hauling" contract
O&M-WWCD	Continued development of construction crew and expansion of scope and breadth of technical work including pipeline construction
EMQC	False Creek water quality monitoring and assessment in collaboration with Friends of False Creek, Raincoast Conservation Foundation and the City of Vancouver
SS&SI	Conduct on-site monitoring at Lulu Island WWTP to quantify GHG emissions from wastewater treatment process units

OPERATING HIGHLIGHTS – 2026-2029

Liquid Waste Services

Budget Year	Initiative	Description
2026	Liquid Waste Services Comprehensive Long Range Plan	Complete plan outlining strategy for long- term infrastructure needs
2027	Annacis Island WWTP HTP Demonstration Facility	Commence operation of the HTP Demonstration Facility
2028	Stoney Creek Sanitary Trunk Sewer	Begin operation of expanded trunk sewer
2029	North Shore WWTP	Preparations for plant start-up including on- boarding of WWTP operating staff

CAPITAL EXPENDITURES

Liquid Waste Services Capital Plan

Overview:

 2024 Capital Cash Flow:
 \$781.2M

 2025 Capital Cash Flow:
 \$1,010.4M

29.3% increase

Drivers for Change:

- North Shore WWTP Regulatory
 Upgrade
- Iona Island WWTP Regulatory
 Upgrade
- Northwest Langley WWTP Expansion
- Annacis Island WWTP Expansion
- Regional Biosolids Dryer
- Gilbert / Brighouse Trunk Sewer





CAPITAL FUNDING

Liquid Waste Services Capital Plan

Overview:

 2024 Capital Cash Flow:
 \$781.2M

 2025 Capital Cash Flow:
 \$1,010.4M

29.3% increase

Others

Drivers for Change:

- Utilizing borrowing
- Increasing usage of Development Cost Charges
- Continuing to work with external partners for funding



New Borrowing funded by DCC

2025 – 2029 Liquid Waste Services Capital Funding

LIQUID WASTE 2025 - 2029 CAPITAL PLAN

	2025	2026	2027	2028	2029			
Annual Capital Expenditures (millions)								
LWS	\$252	\$266	\$291	\$321	\$241			
PD	\$759	\$950	\$1,116	\$1,386	\$1,478			

Drivers:

- LWS 143 projects in the 2025 2029 capital plan
- **Project Delivery** 8 projects in the 2025 2029 capital plan



Project Delivery Liquid Waste

CAPITAL PROGRAM HIGHLIGHTS

Liquid Waste Services

Budget Year	Capital Project	Description
2025	Annacis Island WWTP	Outfall construction complete Commence design of Digester #5 and Biosolids Dryer
2026	Gilbert Trunk Sewer South Surrey Interceptor	Twinning of the trunk sewer complete Twinning of the Johnston Road section complete
2027	Annacis Island WWTP New Westminster Interceptor	Commence construction of Trickling Filter 5/6, TF Pump Station Complete rehabilitation of West Branch and Columbia St.
2028	lona Island WWTP Northwest Langley WWTP	Commence detailed design Commence outfall construction
2029	Annacis Island WWTP	Commence construction of Digester #5 Commence construction of regional Biosolids Dryer

LIQUID WASTE SERVICES FINANCIAL PLAN SUMMARY

Liquid Waste Services Overall

	2024	NSWWTP Amended	2025	2026	2027	2028	2029
Total Expenditures (\$ Millions)	\$487.9	\$609.1*	\$681.9	\$797.0	\$915.3	\$1,042.6	\$1,202.9
% Change			12.0%	16.9%	14.8%	13.9%	15.4%
Liquid Waste Service Levy (\$ Millions)	\$389.5		\$575.6	\$630.7	\$687.3	\$748.6	\$817.8
Total Capital Cash Flow (\$ Million)	\$781.2		\$1,010.4	\$1,215.7	\$1,407.1	\$1,707.0	\$1,719.4
Household Impact (\$)	\$349	\$447*	\$510	\$549	\$587	\$627	\$672
% Change			14.0%	7.8%	6.8%	6.8%	7.2%
Prior Cycle Household Impact Change (%)			15.3%	9.1%	7.8%	7.4%	N/A

LIQUID WASTE SERVICES FINANCIAL PLAN SUMMARY - VSA

Vancouver Sewerage Area

	2024	NSWWTP Amended	2025	2026	2027	2028	2029
Total Expenditures (\$ Millions)	\$141.3	\$185.3*	\$205.4	\$231.7	\$263.6	\$296.7	\$341.5
% Change			10.8%	12.8%	13.7%	12.6%	15.1%
Liquid Waste Service Levy (\$ Millions)	\$125.9		\$190.3	\$209.5	\$228.9	\$246.9	\$274.1
Total Capital Cash Flow (\$ Million)	\$141.1		\$184.9	\$244.2	\$329.6	\$487.8	\$490.8
Household Impact (\$)	\$432	\$582*	\$650	\$706	\$755	\$799	\$869
% Change			11.6%	8.7%	7.0%	5.7%	8.8%
Prior Cycle Household Impact Change (%)			13.9%	6.3%	10.0%	10.8%	N/A

LIQUID WASTE SERVICES FINANCIAL PLAN SUMMARY - NSSA

North Shore Sewerage Area

	2024	NSWWTP Amended	2025	2026	2027	2028	2029
Total Expenditures (\$ Millions)	\$41.7	\$51.4*	\$69.4	\$94.4	\$122.5	\$152.6	\$181.4
% Change			35.1%	36.1%	29.7%	24.6%	18.9%
Liquid Waste Service Levy (\$ Millions)	\$38.0		\$64.3	\$81.4	\$94.7	\$108.0	\$121.7
Total Capital Cash Flow (\$ Million)	\$317.6		\$467.3	\$592.4	\$670.7	\$554.0	\$382.9
Household Impact (\$)	\$464	\$582*	\$782	\$980	\$1,123	\$1,262	\$1,401
% Change			34.5%	25.2%	14.7%	12.4%	11.0%
Prior Cycle Household Impact Change (%)			32.7%	34.4%	19.0%	9.8%	N/A

LIQUID WASTE SERVICES FINANCIAL PLAN SUMMARY - LIWSA

Lulu Island West Sewerage Area

	2024	NSWWTP Amended	2025	2026	2027	2028	2029
Total Expenditures (\$ Millions)	\$36.7	\$45.5*	\$50.4	\$57.9	\$65.1	\$70.2	\$76.2
% Change			10.9%	14.9%	12.3%	7.9%	8.5%
Liquid Waste Service Levy (\$ Millions)	\$32.2		\$46.1	\$51.9	\$56.4	\$58.6	\$60.8
Total Capital Cash Flow (\$ Million)	\$47.4		\$57.3	\$53.0	\$26.5	\$26.5	\$35.2
Household Impact (\$)	\$295	\$375*	\$418	\$464	\$496	\$505	\$515
% Change			11.6%	11.1%	6.7%	2.0%	2.0%
Prior Cycle Household Impact Change (%)			16.8%	9.9%	6.5%	3.1%	N/A

LIQUID WASTE SERVICES FINANCIAL PLAN SUMMARY - FSA

Fraser Sewerage Area

	2024	NSWWTP Amended	2025	2026	2027	2028	2029
Total Expenditures (\$ Millions)	\$265.2	\$323.8*	\$353.1	\$409.3	\$460.4	\$519.2	\$599.8
% Change			9.0%	15.9%	12.5%	12.8%	15.5%
Liquid Waste Service Levy (\$ Millions)	\$190.5		\$271.5	\$284.4	\$303.6	\$331.3	\$357.4
Total Capital Cash Flow (\$ Million)	\$274.6		\$299.4	\$325.2	\$379.1	\$638.7	\$810.4
Household Impact (\$)	\$301	\$391*	\$421	\$434	\$454	\$485	\$512
% Change			7.7%	3.0%	4.5%	6.9%	5.7%
Prior Cycle Household Impact Change (%)			8.9%	4.9%	3.7%	4.9%	N/A

*Estimated based on amended NSWWTP budget

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LIQUID WASTE SERVICES FINANCIAL PLAN SUMMARY Drainage

Drainage

	2024	2025	2026	2027	2028	2029
Total Expenditures (\$ Millions)	\$3.1	\$3.6	\$3.6	\$3.9	\$3.9	\$4.0
% Change		15.1%	2.5%	5.9%	—%	2.7%
Liquid Waste Service Levy (\$ Millions)	\$2.9	\$3.3	\$3.4	\$3.6	\$3.7	\$3.8
Total Capital Cash Flow (\$ Million)	\$0.5	\$1.6	\$1.0	\$1.4	\$0.1	\$-

BENCHMARK OF UTILITY COSTS

Liquid Waste (\$ CAD)

Liquid Waste (Average household rate)	
Metro Vancouver (2025 - Proposed)	\$510
Capital Region District (2024)	\$330
MV municipal regional average (MV 2025 + 2025 estimated municipal household rate)	\$510 + \$525 = \$1,035
Portland, OR (2024)	\$1,050
Seattle, WA (2024)	\$1,270
San Francisco, CA (2024)	\$1,300

Comparative sewer service rates are calculated based on the average water use for each community.

APPORTIONMENT AND RESERVE BYLAWS

Liquid Waste

GVS&DD Cost Apportionment Bylaw Amendment

• Establish apportionment for the North Shore program additional costs as directed by the Board at the Board Budget Workshop May 31, 2024.

North Shore WWTP Reserve Bylaw

- Establish reserves for each sewerage area to reflect the levy phasing directed by the Board at the Board Budget Workshop May 31, 2024.
- This will result in an estimated \$60 million in debt service savings over the next five years by reducing borrowing.



Annacis Island Wastewater Treatment Plant



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