To: Liquid Waste Committee

From: Peter Navratil, General Manager, Liquid Waste Services
Cheryl Nelms, General Manager, Project Delivery

Date: June 25, 2021 Meeting Date: July 15, 2021

Subject: Draft Liquid Waste Services 2022 – 2026 Capital Plan

RECOMMENDATION
That the Liquid Waste Committee receive for information the report dated June 25, 2021, titled "Draft Liquid Waste Services 2022 – 2026 Capital Plan".

EXECUTIVE SUMMARY
The draft 2022 – 2026 Liquid Waste Services Capital Plan has been prepared following direction received at the April 8, 2021 Metro Vancouver Board Budget Workshop and as part of Metro Vancouver's focus on enhancing transparency and governance over the capital plan. This is a new step in our budget process for this year and the intent is that the Liquid Waste Committee provide feedback and input, which will then be incorporated into the Fall budget presentations to the Committees and the Boards.

The estimated 2022 Capital Cash Flow is $675.8M with a total estimated spend of $4.6B over the five years. The 2022 Capital Cash Flow is $17.1M or 2.5% less than last year's projection for 2022. With respect to the common four years compared to the prior cycle's capital plan, the estimated spend has increased by $480.1M or 15%.

PURPOSE
To present to the Committee the draft Liquid Waste Services 2022 – 2026 Capital Plan for input and feedback, which will then be incorporated into the Fall Budget approvals.

BACKGROUND
On April 8, 2021, Metro Vancouver held a Board Budget Workshop with the objective to seek direction for the preparation of the 2022 – 2026 Financial Plan. This report provides the Liquid Waste Committee with the information needed to provide input and feedback specific to the capital plan that will be incorporated into the 2022 – 2026 Financial Plan. Going forward, this information will be included in the capital planning process to enhance the transparency and governance over the capital planning process.

Liquid Waste Customer Level of Service Objectives
Projects within the draft 2022 – 2026 Capital Plan over the five years are guided by the Liquid Waste Customer Level of Service Objectives specifically:

- Eliminate Discharges from the Sewer System
- Ensure that Authorized WWTP Discharges Meet Regulatory Requirements
- Improve Environmental Stewardship

- Minimize Timeline to recover from a Major Event

On an ongoing basis, staff monitor and evaluate the performance of the Liquid Waste infrastructure and its ability to achieve and/or maintain the service objectives. Where risks to service objectives are identified, mitigation actions are planned and incorporated into annual work plans. These actions may take the form of changes to operating and maintenance activities, changes to infrastructure or the development of emergency response procedures. The projects in the annual capital plan embody the infrastructure changes required to achieve the service objectives.

CAPITAL PLAN HIGHLIGHTS

The draft 2022 - 2026 Capital Plan includes $675.8M for 2022 and a total capital expenditure of $4.6B over the five years, an average of $918.6M per year (Attachment 1). The largest four projects make up 69% of the planned capital spending over the next five years. There are 137 projects on the 5-year plan.

The spending over the next 5 years is driven by infrastructure changes required as a result of:

- growth in the number of residents moving into the region, creating an increased demand for services (Growth);
- changing conditions that impact the ability to meet service objectives like regulatory requirements including the Federally mandated requirement for all wastewater treatment plants in Canada to meet a minimum of secondary level treatment and infrastructure required to achieve a service objective (Upgrade);
- needs for replacement or refurbishment of existing infrastructure to ensure that it continues to perform as required to meet the service objectives (Maintenance);
- ensuring that infrastructure is resilient to major events including power outages, seismic events and the results of climate change (Resilience);
- opportunities to reduce the life-cycle cost of services and/or achieve Board goals such as climate change mitigation (Opportunity).

Key capital projects planned or ongoing in 2022 – 2026 for Liquid Waste Services include the following:

- Annacis Island WWTP Trickling Filters Refurbishment (Maintenance)
- Burnaby Lake North Interceptor Expansion (Growth)
- Gilbert/Brighouse Trunk Pressure Sewer Twinning (Maintenance)
- Annacis Island Influent System Remediation (Maintenance)
- South Surrey Interceptor Johnston Section Expansion (Growth)
- North Surrey Interceptor Flow Management (Growth)
- New Westminster Interceptor West Branch and Columbia Extension Rehabilitation (Maintenance)
- Annacis Island WWTP Hydrothermal Processing Pilot (Opportunity)
- Port Coquitlam Pump Station Refurbishment (Maintenance)
- Biosolids Dryer (Opportunity)

The Project Delivery Department has responsibility for the delivery of four Liquid Waste Services major projects, specifically:

- North Shore WWTP Secondary Upgrade, Conveyance and Decommissioning (Upgrade)
- Annacis Island WWTP Stage 5 Expansion (Growth)
- Northwest Langley WWTP Expansion and Golden Ears Projects (Growth)
- Iona Secondary Wastewater Treatment Plant Upgrade (Upgrade)

The capital program for Liquid Waste Services is funded by long-term debt, reserves, contributions from the operating budget, external (interagency and senior level government grants) contributions and development cost charges (DCCs).

Capital Plan Changes

The implementation of multi-year projects is complex and are subject to change due to a variety of factors including: unforeseen ground conditions; property availability; permitting challenges; cost escalation; raw materials price volatility; skilled trades worker availability and changes in municipal growth projections. The breakdown of total revised 2022 – 2026 capital plan compared to the prior cycle capital plan is summarized below.

($ Millions)

Prior Cycle Capital Plan 2021-2025	Cashflow 2021	Adjustments to 2022-2025 Capital Plan					Cashflow 2026	Draft Capital Plan 2022-2026
		Carry-Forward	Deferrals/ Accel.	Risk	Scope	Total		
$4,205	($935)	$174	($182)	$379	$110	$480	$842	$4,593

ALTERNATIVES

This is an information report. No alternatives are presented.

FINANCIAL IMPLICATIONS

The draft 2022 - 2026 Capital Plan includes $675.8M for 2022 and a total of $4.6B over the five years, an average of $918.6M per year. The intent is that the Liquid Waste Committee provide feedback and input, which will then be incorporated into the Fall budget presentations to the Committees and the Boards.

SUMMARY / CONCLUSION

The 2022 – 2026 Capital Plan is the consolidated list of infrastructure projects required to meet and/or maintain the regional Liquid Waste Customer Level of Service Objectives and the financial impacts of these projects over the next five years.

The presentation of the draft 2022 – 2026 Capital Plan for Liquid Waste Services provides the opportunity for the Liquid Waste Committee to provide input and feedback which will then be incorporated into the Fall Budget budget presentations to the Committees and the Boards.

Attachment

Draft Liquid Waste Services 2022-2026 Capital Plan (46296611)

46266742

GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT
CAPITAL PORTFOLIO
LIQUID WASTE SERVICES
DRAFT 2022-2026 CAPITAL PLAN

	ACTUALS ESTIMATED TO DEC 31 2021	2022 CAPITAL CASH FLOW	2023 CAPITAL CASH FLOW	2024 CAPITAL CASH FLOW	2025 CAPITAL CASH FLOW	2026 CAPITAL CASH FLOW	ACTIVE STAGE	PRIMARY DRIVER
CAPITAL EXPENDUTURES								
Collections								
8th Avenue Interceptor Air Treatment Facilities	$ 326,462	$ -	$ -	$ -	$ -	$ 500,000	Design	Upgrade
Albert Street Trunk Sewer	9,893,508	255,000	-	-	-	-	Construction	Growth
Burnaby Lake North Interceptor Winston Section	24,811,549	20,050,000	59,300,000	12,000,000	-	-	Construction	Growth
Burnaby Lake North Interceptor Cariboo Section	-	500,000	700,000	1,800,000	15,500,000	10,500,000	Design	Growth
Burnaby South Slope Interceptor	-	250,000	750,000	650,000	3,500,000	4,450,000	Design	Growth
Cloverdale Pump Station Capacity Upgrade	340,845	350,000	900,000	900,000	900,000	15,000,000	Design	Growth
Cloverdale Trunk Sewer Capacity Upgrade	-	300,000	1,050,000	1,150,000	950,000	8,100,000	Design	Growth
Crescent Beach FM - Replacement	6,961,131	15,000,000	4,550,000	-	-	-	Construction	Maintenance
Front Street Pressure Sewer Upgrades	-	3,500,000	1,500,000	-	-	-	Construction	Maintenance
FSA River Crossing Scour Protection Program - Phase 1	-	830,000	3,330,000	1,550,000	630,000	-	Construction	Maintenance
FSA Sewer Relocations and Protections	10,250,000	16,300,000	5,250,000	-	-	-	Construction	Maintenance
FSA Statutory Right of Way Acquisitions Phase 1	9,000,000	9,000,000	9,000,000	8,100,000	-	-	Design	Maintenance
Gilbert/Brighouse Trunk Pressure Sewer	71,208,672	20,150,000	50,300,000	10,550,000	2,500,000	10,000,000	Construction	Maintenance
Glen Eagles Forcemain Replacement	3,254,915	600,000	4,000,000	2,250,000	-	-	Construction	Maintenance
Glen Eagles Pump Stations Phase 1	1,716,420	4,150,000	7,201,000	7,000,000	2,400,000	-	Construction	Maintenance
Glen Eagles Pump Stations Phase 2	-	-	-	5,000,000	-	-	Planned	Maintenance
Glenbrook Combined Trunk Kingsway Sanitary Section	679,836	1,000,000	4,000,000	1,500,000	-	-	Construction	Growth
Highbury Interceptor Diversion Junction Chamber Wall Rehabilitation	250,000	250,000	5,500,000	-	-	-	Design	Maintenance
Highbury Interceptor North Arm Crossing - Upgrade of Siphons	11,990,751	500,000	-	-	-	-	Construction	Resilience
Lozells Sanitary Trunk Golf Course Section	-	-	-	-	50,000	400,000	Planned	Growth
Manitoba Street Combined Trunk Sewer Separation	-	-	-	-	-	100,000	Planned	Upgrade
Marshend Pump Station	2,038,244	1,875,000	2,300,000	10,800,000	3,700,000	-	Design	Growth
New CSO Management Gates for New Westminster Interceptor	2,149,740	1,300,000	1,300,000	1,200,000	-	-	Construction	Upgrade
New West Interceptor - Annacis Section 2	4,861,676	4,800,000	8,350,000	5,700,000	6,600,000	6,600,000	Construction	Maintenance
New West Interceptor Grit Chamber	464,132	1,050,000	5,000,000	2,500,000	-	-	Construction	Maintenance
New Westminster Interceptor Repair Columbia St. Section	22,139,044	12,500,000	1,450,000	50,000	-	-	Construction	Maintenance
New Westminster Interceptor West Branch and Columbia Extension Rehabilitation	-	750,000	2,300,000	13,850,000	7,200,000	4,200,000	Design	Maintenance
North Road Trunk Sewer	6,649,023	1,000,000	2,800,000	1,200,000	-	-	Construction	Growth
North Road Trunk Sewer Phase 2	898,633	1,020,000	4,000,000	2,500,000	-	-	Construction	Growth
North Surrey Interceptor - Port Mann Section - Odour Control	348,647	500,000	1,150,000	4,500,000	1,000,000	-	Construction	Upgrade
North Surrey Interceptor Roebuck Section Rehabilitation - Phase 1	-	1,048,000	803,000	4,450,000	4,157,000	847,000	Design	Maintenance
NSI 104th Ave Extension	4,938,694	-	6,500,000	1,500,000	-	-	Construction	Growth
NSI Flow Management	7,167,147	2,650,000	2,450,000	20,000,000	30,000,000	30,000,000	Design	Upgrade
NSI Rehab or Replacement	6,477,382	4,813,000	3,200,000	11,400,000	11,500,000	5,000,000	Construction	Maintenance
Ocean Park Trunk Sewer - Air Management Facility	500,000	1,750,000	500,000	2,500,000	2,500,000	-	Design	Upgrade
Port Coquitlam Pump Station Refurbishment	1,000,000	1,300,000	1,100,000	11,600,000	22,300,000	14,800,000	Design	Maintenance
Port Moody Pump Station Capacity Upgrade	1,105,901	800,000	550,000	4,950,000	3,100,000	-	Design	Growth
Rosemary Heights Pressure Sewer Capacity Upgrade	-	150,000	500,000	650,000	4,800,000	2,500,000	Design	Growth
Royal Ave PS Rehabilitation	1,916,993	3,100,000	2,700,000	400,000	-	-	Construction	Maintenance

GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT
CAPITAL PORTFOLIO
LIQUID WASTE SERVICES
DRAFT 2022-2026 CAPITAL PLAN

	ACTUALS ESTIMATED TO DEC 31 2021	2022 CAPITAL CASH FLOW	2023 CAPITAL CASH FLOW	2024 CAPITAL CASH FLOW	2025 CAPITAL CASH FLOW	2026 CAPITAL CASH FLOW	ACTIVE STAGE	PRIMARY DRIVER
Sapperton Pump Station	92,070,426	1,000,000	950,000	-	-	-	Construction	Growth
Sapperton Pump Station Emergency Backup Power	-	1,500,000	3,000,000	500,000	-	-	Construction	Resilience
Sewer Heat Projects	-	1,300,000	2,700,000	5,200,000	7,800,000	9,000,000	Design	Opportunity
South Surrey Interceptor Johnston Section	51,644,314	1,800,000	10,500,000	13,000,000	7,000,000	-	Construction	Growth
SSI - King George Section - Odor Control Facility (OCF) and Grit Chamber	17,267,564	1,700,000	500,000	-	-	-	Construction	Growth
SSI Sulfide Odour and Corrosion Control	1,272,291	7,800,000	100,000	-	-	-	Construction	Upgrade
Stoney Creek Sanitary Trunk	-	700,000	1,500,000	1,500,000	4,000,000	12,000,000	Design	Growth
Surrey Central Valley Capacity Upgrade	-	-	-	-	-	150,000	Planned	Growth
Surrey Corrosion Control Facility Replacement	1,244,412	3,051,000	2,901,000	-	-	-	Design	Maintenance
VSA Emergency Backup Power	11,090,770	1,000,000	5,000,000	4,000,000	1,250,000	-	Construction	Resilience
VSA Flow Metering Program	870,502	600,000	600,000	1,000,000	1,000,000	1,000,000	Construction	Maintenance
VSA Sewer Relocations and Protections	6,015,626	20,250,000	4,300,000	-	-	-	Construction	Maintenance
Westridge Pump Stations 1 & 2 Refurbishment	958,912	4,420,000	5,400,000	5,000,000	450,000	-	Construction	Maintenance
White Rock Forcemain Rehabilitation	100,000	500,000	600,000	10,300,000	3,300,000	-	Design	Maintenance
Works Yard	26,700,000	4,400,000	900,000	-	-	-	Construction	Maintenance
Projects under $5M	6,258,649	20,338,000	10,922,000	4,788,000	2,750,000	1,600,000		
Total Collections	**$ 428,832,811**	**$ 203,750,000**	**$ 254,157,000**	**$ 197,488,000**	**$ 150,837,000**	**$ 136,747,000**		
Treatment Plants								
AIWWTP Ammonia Removal – Sidestream	$ 733,550	$ 150,000	$ -	$ -	$ -	$ -	Design	Upgrade
AIWWTP Cogeneration Backup Power	75,950,988	500,000	-	-	-	-	Construction	Resilience
AIWWTP Digester No. 5	-	-	300,000	2,500,000	2,800,000	5,500,000	Planned	Growth
AIWWTP Hydrothermal Processing Pilot	3,454,018	5,050,000	8,000,000	2,100,000	700,000	35,000	Construction	Opportunity
AIWWTP ICS Replacement Program	50,000	500,000	1,500,000	2,500,000	2,500,000	2,500,000	Construction	Maintenance
AIWWTP Influent System Remediation	529,780	500,000	1,850,000	14,500,000	20,700,000	1,000,000	Design	Maintenance
AIWWTP Secondary Clarifier Corrosion Repair	28,805,676	1,050,000	1,950,000	3,200,000	1,535,000	21,100,000	Construction	Maintenance
AIWWTP Stage 5 Expansion & Outfall System	686,507,049	73,700,000	64,386,000	91,000,000	116,398,000	108,165,000	Construction	Growth
AIWWTP Trickling Filter Media & Distributor Arms & Ducting Replacement	34,594,910	21,600,000	18,050,000	16,400,000	-	-	Construction	Maintenance
Biosolids Dryer	17,200,000	2,500,000	11,000,000	40,000,000	76,500,000	109,500,000	Design	Opportunity
IIWWTP - Biogas Lines Relocation	5,071,020	600,000	-	-	-	-	Construction	Resilience
IIWWTP Biosolids Dewatering Facility	59,587,954	620,000	1,050,000	-	-	-	Construction	Upgrade
IIWWTP Outfall Refurbishment	-	500,000	1,500,000	2,000,000	3,000,000	3,000,000	Design	Maintenance
IIWWTP Solids Handling Refurbishment	58,492,412	1,245,000	1,400,000	500,000	500,000	2,500,000	Construction	Maintenance
IIWWTP Standby Diesel Generators	200,000	650,000	1,050,000	1,300,000	1,300,000	500,000	Design	Resilience
Iona Secondary Wastewater Treatment - Phase 1	40,943,764	57,500,000	198,500,000	219,500,000	249,000,000	294,000,000	Design	Upgrade
LIWWTP Biogas Clean-up Project	11,476,580	500,000	1,800,000	-	-	-	Construction	Opportunity
LIWWTP Effluent Heat Recovery Project	1,800,000	3,000,000	3,700,000	1,500,000	-	-	Design	Opportunity
LIWWTP ICS Replacement Program	1,758,746	2,000,000	1,500,000	1,100,000	350,000	-	Construction	Maintenance
LIWWTP Power Reliability	3,184,456	3,000,000	2,000,000	-	-	-	Construction	Resilience
LIWWTP SCL Refurbishment	-	100,000	1,250,000	2,500,000	4,000,000	7,500,000	Design	Maintenance
LIWWTP Trickling Filter Refurbishment	-	500,000	1,000,000	2,000,000	10,500,000	12,500,000	Design	Maintenance

GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT
CAPITAL PORTFOLIO
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DRAFT 2022-2026 CAPITAL PLAN

	ACTUALS ESTIMATED TO DEC 31 2021	2022 CAPITAL CASH FLOW	2023 CAPITAL CASH FLOW	2024 CAPITAL CASH FLOW	2025 CAPITAL CASH FLOW	2026 CAPITAL CASH FLOW	ACTIVE STAGE	PRIMARY DRIVER
North Shore WWTP Secondary Upgrade and Conveyance	767,237,000	106,637,000	137,415,000	37,986,000	8,013,000	579,000	Construction	Upgrade
Northwest Langley Wastewater Treatment Projects	212,386,488	179,000,000	255,250,000	414,350,000	386,300,000	136,200,000	Construction	Growth
NWL WWTP 25 kV Substation Replacement	8,331,026	350,000	400,000	950,000	-	-	Construction	Maintenance
Projects under $5M	33,123,924	10,280,000	10,060,000	5,770,000	1,900,000	950,000		
Total Treatment Plants	**$ 2,051,419,341**	**$ 472,032,000**	**$ 724,911,000**	**$ 861,656,000**	**$ 885,996,000**	**$ 705,529,000**		
TOTAL CAPITAL EXPENDITURES	**$ 2,480,252,152**	**$ 675,782,000**	**$ 979,068,000**	**$ 1,059,144,000**	**$ 1,036,833,000**	**$ 842,276,000**		

SUMMARY BY DRIVER						
Growth	$ 1,111,561,576	$ 287,450,000	$ 417,236,000	$ 562,950,000	$ 549,998,000	$ 303,915,000
Maintenance	334,753,540	183,425,000	176,867,000	153,120,000	108,372,000	93,897,000
Resilience	113,794,878	9,950,000	13,000,000	7,650,000	2,950,000	750,000
Upgrade	883,966,555	182,307,000	343,465,000	286,186,000	290,513,000	325,179,000
Opportunity	36,175,603	12,650,000	28,500,000	49,238,000	85,000,000	118,535,000
Total	**$ 2,480,252,152**	**$ 675,782,000**	**$ 979,068,000**	**$ 1,059,144,000**	**$ 1,036,833,000**	**$ 842,276,000**

To: Liquid Waste Committee

From: Rick Gallilee, Director, Support Services and Strategic Initiatives, Liquid Waste Services

Date: July 7, 2021 Meeting Date: July 15, 2021

Subject: **Wet Weather Surcharge for Inflow and Infiltration Action**

RECOMMENDATION

That the Liquid Waste Committee receive for information the report dated July 7, 2021, titled "Wet Weather Surcharge for Inflow and Infiltration Action".

EXECUTIVE SUMMARY

GVS&DD and its member jurisdictions have made a commitment to eliminate sanitary sewer overflows, which are caused by Inflow and Infiltration (I&I) of rainwater and groundwater in the sanitary sewer systems in the region, which is largely occurring in privately owned sewer connections. Management of I&I is most effective when done at the source (sewer piping owned by residents) and efforts to promote action on I&I have been challenging and the frequency of overflows is increasing.

Metro Vancouver is considering the implementation of a Wet Weather Surcharge which will be in the order of approximately 1% of the GVS&DD Levy. Funds raised will contribute to a reserve fund that will be accessible to municipalities, on a cost-sharing basis, for I&I and Fats, Oil and Grease (FOG) management programs or projects targeted at addressing I&I or FOG at source, and reducing sanitary sewer overflows. An overview and general principles of the proposed Wet Weather Surcharge are provided in this report. The purpose of this report is to give the Committee an opportunity to provide feedback on the proposal.

PURPOSE

To provide the Liquid Waste Committee with an overview of a Liquid Waste Services Wet Weather Surcharge being considered to incentivize municipal action addressing I&I, including measures on private connections and municipal sewers, and to give the committee an opportunity to provide feedback on the proposed surcharge.

BACKGROUND

Inflow and Infiltration, the entry of rainwater into the region's sanitary sewage systems through either direct connection of rainwater leaders and gutter downspouts to sanitary sewers and leakage of rainwater or groundwater into underground sanitary sewer piping, is one of the highest risks facing Metro Vancouver's Liquid Waste utility. The volume of rainwater I&I into the regional system has become so severe that peak flows are more frequently overwhelming the system, resulting in numerous sanitary sewage overflows across the region each year. From 2015 to 2020, the average number of overflows increased from 25 per year to 45 per year. The increasing intensity and frequency of severe storms (atmospheric rivers) has been one factor contributing to this increase.

Sanitary sewer overflows are not permitted under the provincial *Environmental Management Act* and GVS&DD has made commitments to eliminate sanitary sewage overflows. Metro Vancouver has very limited ability to directly control I&I and in the past has attempted to support municipalities in taking measures to address I&I. Metro Vancouver's only available infrastructure response to I&I is to increase the capacity of the collection system and the treatment plants or add sanitary sewer overflow storage tanks into the system. Business cases demonstrate that source treatment of I&I may be more effective than expanding the capacity of the collection and treatment systems.

THE REGIONAL SEPARATED SEWER SYSTEM

The regional sanitary sewer collection systems consist of three primary components:

- Private laterals that carry domestic sewage and industrial wastewater from residences and businesses to municipal sewers or directly to regional trunk sewers. There are approximately 5,700 km of private laterals in the regional sanitary sewer system.
- Municipal sanitary sewers and pump stations that carry domestic sewage and industrial wastewater from the private laterals to regional trunk sewers (6,300 km).
- Regional trunk sewers that carry sewage and wastewater from the municipal sewer systems to the regional wastewater treatment plants (530 km).

The municipal and regional sewer systems are maintained by municipalities and Metro Vancouver through managed programs that monitor flows either on a continuous or periodic basis, perform periodic inspections of the system and maintain the sewer piping where issues are identified. The private portion of the sewer systems are typically not managed in a consistent, dedicated program.

WET WEATHER SURCHARGE

Jurisdictions across North America that are facing similar I&I challenges are implementing innovative actions to address the performance issues with private laterals. Many of these jurisdictions are responsible for all elements of the public sewer infrastructure (local sewers, trunk sewers and waste water treatment). It is more challenging for regional utilities serving multiple jurisdictions were the full cost of services are not borne by a single entity.

Metro Vancouver is proposing the implementation of a Wet Weather Surcharge, which will be based on wet weather flow from each municipality. The existing cost allocation model, where dry weather flow is used to apportion "base" costs for liquid waste services, will continue for now.

The Wet Weather Surcharge, which will be a minor portion of the overall cost of services, will be used to establish and maintain a reserve of funds that will be available to member jurisdictions wishing to implement I&I or FOG reduction actions. This surcharge will be the genesis of a wet weather apportionment strategy for regional operating expenditures.

While full details of the Wet Weather Surcharge Reserve (WWSR) are yet to be determined, some of the fundamental principles being considered are:

- The WWSR will be used to provide up to 50% funding for projects targeted to reduce I&I or FOG.
- Projects will be selected from annual project submissions by interested GVS&DD members based on the efficacy of reducing I&I or FOG at source within their catchments. Selection of

projects will be based on pre-determined criteria. Annual project selection results will be presented to the Liquid Waste Committee for endorsement and the GVS&DD Board for approval.

- The value of the surcharge and capacity of the Surcharge Reserve will be reviewed annually based on the number and scale of projects submitted. The surcharge will have a set upper limit that will be established through a Board policy.
- The surcharge will be managed as a Tier I cost, meaning that contributions will be applied to a common reserve for each sewerage area.
- Project funding available to any member jurisdiction will not be linked to the proportion of funds paid into the reserve by that member. Contributions to the reserve will be tracked for each member and distribution of any remaining funds upon dissolution of the Surcharge Reserve will be in proportion with contributions.
- The surcharge will be based on the wet weather performance of each sewerage area (wastewater treatment plant catchment) and the relative wet weather performance of each jurisdiction within the catchment.

IMPLEMENTATION PROCESS

Metro Vancouver proposes to introduce a policy and Bylaw to implement the Wet Weather Surcharge with the proposed 2022 budget. This policy will be reviewed with the Regional Engineers and Regional Finance Advisory Committees prior to presentation to the Liquid Waste Committee and the GVS&DD Board.

ALTERNATIVES

This is an information report. No alternatives are presented.

FINANCIAL IMPLICATIONS

The initial target for the Wet Weather Surcharge will be set to result in an average surcharge of 1% of the GVS&DD Levy. All surcharges collected will contribute to a reserve for each sewerage area dedicated to the reduction of I&I and FOG at source, and will not be used for any other purposes.

CONCLUSION

Excessive Inflow and Infiltration of rainwater into the regional sewer systems causes surcharging and overflows of wastewater from the sewer system during wet weather events. Overflows are not allowed to occur under the *Environmental Management Act* and the GVS&DD and its member jurisdictions have made a commitment to eliminate sanitary sewage overflows.

The majority of I&I is occurring through private connections, which make up the majority of the unmanaged sewers in the region. I&I can be resolved at the source, by managing private connections, or downstream by increasing the capacity of the regional sanitary sewers and treatment plants to handle peak wet weather and sanitary sewage flows. The cost of expanding the capacity of sewers and treatment plants throughout the region is significant and source management options are the lowest cost solution.

Efforts of the GVS&DD to manage I&I have been unsuccessful to date and the number of sanitary sewer overflows have steadily increased since 2015. Metro Vancouver is proposing the establishment

of a Wet Weather Surcharge that will provide an incentive for management of I&I at its source. The general intent and principles of this Wet Weather Surcharge are described as an opportunity for early feedback on this concept.

46324761

To: Liquid Waste Committee

From: Colin Meldrum, Director, Engineering, Design & Construction, Liquid Waste Services

Date: June 22, 2021 Meeting Date: July 15, 2021

Subject: **Liquid Waste Services Capital Program Expenditure Update as at April 30, 2021**

RECOMMENDATION

That the Liquid Waste Committee receive for information the report dated June 22, 2021, titled "Liquid Waste Services Capital Program Expenditure Update as at April 30, 2021".

EXECUTIVE SUMMARY

The capital expenditure reporting process as approved by the GVS&DD Board provides for regular status reports on capital expenditures three times per year. This is the first report for 2021 which includes the overall capital program for Liquid Waste Services with a multi-year view of capital projects, and the actual capital spending for the 2021 fiscal year to April 30, 2021 in comparison to the prorated annual budget. As of April 30, the 2021 capital expenditures for Liquid Waste Services are $73.0 million, compared to a prorated annual capital budget of $311.5 million. This shortfall is primarily due to payments expected later in the year and some project delays related to the timing of tenders, construction delays, and issues relating to Covid-19.

Forecasted expenditures for the current Liquid Waste Services capital program generally remain within the approved budgets through to completion.

PURPOSE

To report on the status of the Liquid Waste Services' capital program and financial performance for the 2021 fiscal year to April 30, 2021.

BACKGROUND

The capital expenditure reporting process as approved by the GVS&DD Board provides for regular status reports on capital expenditures with interim reports sent to the Water, Liquid Waste, Zero Waste, and Performance and Audit Committees, in July and October, with a final year-end report to the Committees and the Boards in April of each year.

This is the first in a series of three reports for 2021 and looks at both the overall capital program for Liquid Waste Services with a multi-year view of capital projects and the actual capital spending for the 2021 fiscal year to April 30, 2021 in comparison to the prorated annual budget.

2021 CAPITAL EXPENDITURES

Capital Program Funding

The capital spending for Liquid Waste Services is funded through the Liquid Waste Operating Budget by a combination of contribution to capital (pay-as-you-go funding) and debt service costs (principal

and interest payments) which is generated annually from the regional ratepayers. As a result, the annual impact on the ratepayers is significantly less than the level of budgeted capital expenditures.

Overall Capital Program

The overall capital program for Liquid Waste Services includes capital projects which require multiple years to complete. These projects are broken down into various phases such as project definition, pre-design, detailed design and construction. With the completion of each phase, more information is learned for the appropriate costing of subsequent phases.

It is expected that the capital spending on all Liquid Waste Services capital projects completed in 2021 or ongoing at some point in 2021 will be under their previously approved budgets by approximately $8.7 million, or 0.1% of total budget. For the most part, all of the projects include contingencies in their budgets. Often, these amounts are not fully expended, and will result in projects being completed under budget.

Table 1 in Attachment 1 provides a summary of Liquid Waste Services capital expenditures for both ongoing and completed projects. Completed Projects include a summary of actual spending compared to the Board approved spending limits while the Ongoing Projects include a summary of projected spending to completion compared to GVS&DD Board approved spending limits.

Attachment 2 provides the details behind the summary information including specific capital projects, summary financial information and notes where required. Attachment 3 provides additional project status information for some of the key projects included in Attachment 1 – Table 1.

2021 Capital Program Progress

The Metro Vancouver financial planning process includes Board approval of both an annual Operating Budget (operations, contribution to capital and debt service) and an annual Capital Budget for the planned capital infrastructure projects. The annual Capital Budget comprises the projected spending for a list of capital projects either continuing or to be started within the calendar year.

Table 2 in Attachment 1 provides a summary of the 2021 actual capital spending to April 30, 2021 compared to the GVS&DD Board approved capital budget. As of April 30, 2021, capital expenditures for Liquid Waste Services were $73.0 million compared to the prorated annual capital budget of $311.5 million. The total annual capital budget for 2021 is $934.5 million. These projects are managed either by the Project Delivery Department or internally by the Liquid Waste Services Department.

The underspend is due to a variety of factors, including payments expected later in the year, Covid-19 induced delays and permitting delays. Several projects have been delayed in tendering due to Covid-19, in part to ensure that work would not be adversely affected by the pandemic once under contract, while others may have had lower productivity due to public health recommendations. Some additional delays are due to delays in permitting and protracted property negotiations. As well, a number of projects are initiating construction this year, and as a result will see higher expenditure in the second half of the year.

Of note, a number of projects are forecasting milestone payments later this year. In addition, construction has recently started, or contracts are in the process of being awarded, for the following projects:

- Albert Street Trunk Sewer
- Crescent Beach Forcemain
- North Surrey Interceptor Rehabilitation – Phase 1
- AIWWTP Trickling Filter Rehabilitation, and
- AIWWTP Gravity Thickeners.

The following projects have had expenditures delayed due to tendering issues, resolving permits and property issues, and delays by outside parties:

- Burnaby Lake North Interceptor – Winston Section
- Gilbert Road Trunk Sewer – South and Central Sections
- Utility Relocations for Pattullo Bridge, Harbour East and West Interceptor, Fraser Surrey Docks and the Broadway Subway.

Capital Program Impacts from COVID-19

During these unprecedented times of health and economic uncertainty, all departments have been monitoring the impacts of the pandemic on their operations. This includes capital program expenditures.

Overall, the impact to the Liquid Waste Service's capital program has largely been schedule related, with few notable impacts to project expenditures confirmed to date. Staff are monitoring impacts on their projects regularly. Some impacts to project schedules or expenditures are included under the respective project section of Attachment 3.

ALTERNATIVES

This is an information report. No alternatives are presented.

FINANCIAL IMPLICATIONS

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

CONCLUSION

This is the first in a series of three reports on capital expenditures for 2021. Although the 2021 Liquid Waste Services capital expenditures are less than the budgeted amounts, the variance is generally a result of cash flow timing, with a number of projects having expenditures deferred to future years. Any surplus resulting from a 2021 underspend will be used to directly fund capital in 2022 and avoid future borrowing.

Attachments

1. Liquid Waste Services Capital Expenditure Summary as at April 30, 2021
2. Detailed Capital Expenditure Summary – Liquid Waste Services
3. Liquid Waste Services Capital Project Status Information

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Capital Expenditures Summary
Liquid Waste Services
As at Apr 30, 2021

Table 1 - Capital Program Summary by Status

Liquid Waste Services	Total Budget	Total Projected Expenditures At Completion	Projected Remaining Budget
Ongoing	$ 6,313,437,000	$ 6,305,114,000	$ 8,323,000
Completed	1,800,000	1,380,000	420,000
Not Started	280,355,000	280,805,000	(450,000)
Cancelled	53,300,000	2,894,000	50,406,000
	$ 6,648,892,000	**$ 6,590,193,000**	**$ 58,699,000**

Table 2 - 2021 April Capital Spending Summary

Liquid Waste Services	2021 Budget	Prorated Budget to April 2021	Actual Expenditures
Infrastructure Growth Capital	$ 270,800,000	$ 90,267,000	$ 54,241,299
Infrastructure Maintenance Capital	193,050,000	64,350,000	5,601,671
Infrastructure Resilience Capital	21,500,000	7,167,000	2,238,415
Infrastructure Upgrade – Waste Treatment Capital	426,278,000	142,093,000	7,024,985
Infrastructure Upgrade Capital	16,950,000	5,650,000	3,198,870
Opportunity Capital	5,950,000	1,983,000	740,323
	$ 934,528,000	**$ 311,510,000**	**$ 73,045,563**

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ATTACHMENT 2

Liquid Waste Services Capital Expenditures Summary
As of April 30, 2021

		Lifetime									
Project Name	**Project Location**	**Total Project Budget**	**Total Expenditures to Date**	**Remaining Budget**	**Projected Expenditures**	**Projected Remaining Budget**	**Percent Complete**	**Status**	**Project on Schedule?**	**Note**	**Comments**
Infrastructure Growth Capital											
AIWWTP Site Construction Layout	Delta	1,500,000	282,543	1,217,457	450,000	1,050,000	37%	Ongoing	Y		
Albert Street Trunk Sewer	Port Moody	8,250,000	3,717,726	4,532,274	10,140,000	(1,890,000)	45%	Ongoing	Y		Higher costs are expected due to challenging ground conditions, a switch to tunnelling, and a longer length of sewer.
Annacis Outfall System	Delta	378,000,000	135,824,925	242,175,075	378,000,000	-	36%	Ongoing	Y		
Annacis Stage 5 Expansion Phase 1 T1 & T2	Delta	243,500,000	235,898,670	7,601,330	243,500,000	-	100%	Ongoing	Y		
Annacis Stage 5 Expansion Phase 2	Delta	22,000,000	16,824,593	5,175,407	22,000,000	-	76%	Ongoing	Y		
Annacis Stage 5 Expansion Phase 2a	Delta	180,000,000	167,049,010	12,950,990	180,000,000	-	93%	Ongoing	Y		
Annacis Stage 5 Expansion Phase 2b	Delta	390,000,000	15,676,912	374,323,088	390,000,000	-	4%	Ongoing	Y		
Burnaby Lake North Interceptor Cariboo Section	Burnaby	41,000,000	-	41,000,000	41,000,000	-	0%	Not Started	N		Delayed to prioritize the Winston (upstream) section.
Burnaby Lake North Interceptor Winston Section	Burnaby	116,950,000	15,125,762	101,824,238	116,950,000	-	13%	Ongoing	Y		
Burnaby South Slope Interceptor West Branch Extension	Burnaby	13,200,000	-	13,200,000	13,200,000	-	0%	Not Started	Y		Future project scheduled to start in 2022
Cloverdale Pump Station Capacity Upgrade	Surrey	36,400,000	291,074	36,108,926	36,400,000	-	1%	Ongoing	N		Slight delay to determine scope of upgrades
Cloverdale Trunk Sewer Capacity Upgrade	Surrey	29,000,000	-	29,000,000	29,000,000	-	0%	Not Started	Y		Future project scheduled to start in 2022
Glenbrook Combined Trunk Kingsway Sanitary Section	Burnaby	7,200,000	295,541	6,904,459	7,200,000	-	4%	Ongoing	Y		
Hastings Sanitary Trunk Sewer No. 2	Burnaby	8,000,000	7,442,899	557,101	7,754,601	245,000	93%	Ongoing	Y	(1)(2)	Project in close out stages
Hastings-Cassiar Intake Connection	Vancouver	2,350,000	85,646	2,264,354	2,350,000	-	4%	Ongoing	N		Project delayed by one year to accommodate expanded scope (remotely operated gate) to improve functionality.
Lozells Sanitary Trunk Golf Course Section	Burnaby	27,650,000	-	27,650,000	27,650,000	-	0%	Not Started	Y		Future project scheduled to start in 2025
Lulu Island WWTP Digester No 3	Richmond	53,300,000	1,393,607	51,906,393	2,893,607	50,406,000	3%	Withdrawn	N		Project being withdrawn, some additional studies and analysis to improve system performance.
Marshend Pump Station Capacity Upgrade	Burnaby	13,775,000	553,832	13,221,168	13,775,000	-	4%	Ongoing	Y		
North Road Trunk Sewer	Coquitlam	11,675,000	6,635,795	5,039,205	11,675,000	-	57%	Ongoing	Y		
North Road Trunk Sewer Phase 2	Coquitlam	8,438,000	819,607	7,618,393	8,438,000	-	10%	Ongoing	Y		Project construction deferred until 2022-2023.
North Vancouver Interceptor - Lynn Branch Pre-build	Dist of North Van	3,950,000	3,212,264	737,736	3,950,000	-	81%	Ongoing	Y		Work is done, Waiting for Properties to negotiate an acceptable Highway Permit prior to paying MOTI
Northwest Langley Wastewater Treatment Projects	Langley Township	1,330,700,000	143,789,310	1,186,910,690	1,330,700,000	-	11%	Ongoing	Y	(5)	
NSI 104th Ave Extension	Surrey	12,950,000	4,938,694	8,011,306	12,950,000	-	38%	Ongoing	N		Project had been on hold for several years, and is being rescoped.
NSI Flow Management	Surrey	94,500,000	4,677,181	89,822,819	94,500,000	-	5%	Ongoing	N		Project delayed to improve scope definition and delivery method.
Port Moody Pump Station Capacity Upgrade	Port Moody	10,550,000	506,130	10,043,870	10,550,000	-	5%	Ongoing	N		Project on hold to allow proper scoping and budgetting.
Port Moody South Interceptor Capacity Upgrade	Port Moody	3,450,000	-	3,450,000	3,450,000	-	0%	Not Started	Y		Future project scheduled to start in 2022
Rosemary Heights Pressure Sewer Capacity Upgrade	Surrey	10,750,000	-	10,750,000	10,750,000	-	0%	Not Started	Y		Future project scheduled to start in 2022
Sapperton Pump Station	New Westminster	82,003,000	72,808,153	9,194,847	77,549,000	4,454,000	89%	Ongoing	N	(1)	Project nearing completion.
South Surrey Interceptor Johnston Section	Surrey	84,026,000	48,743,811	35,282,189	84,026,000	-	58%	Ongoing	N		Final section delayed due to protracted property and permitting issues.
SSI - King George Section - Odor Control Facility (OCF) and Grit Chamber	Surrey	19,500,000	16,081,216	3,418,784	18,500,000	1,000,000	82%	Ongoing	N		Project was delayed, but is now being commissioned.
		3,244,567,000	**902,674,901**	**2,341,892,099**	**3,189,301,208**	**55,266,000**					
Infrastructure Maintenance Capital											
AIWWTP Chemical Lab UPS System Replacement	Delta	600,000	-	600,000	600,000	-	0%	Not Started	Y		
AIWWTP Cogen Building Refurbishment	Delta	1,500,000	-	1,500,000	1,500,000	-	0%	Not Started	N	(4)	
AIWWTP Fibre Optic Infrastructure	Delta	1,500,000	1,286,060	213,940	1,400,000	100,000	86%	Ongoing	Y		
AIWWTP ICS Replacement Program	Delta	14,350,000	-	14,350,000	14,350,000	-	0%	Not Started	N		Late start to give way to Stage V Activities.
AIWWTP Influent System Remediation	Delta	82,500,000	366,822	82,133,178	82,500,000	-	1%	Ongoing	Y		
AIWWTP IPS Pump Building Roof Replacement Phase 2	Delta	830,000	-	830,000	830,000	-	0%	Not Started	N	(4)	Future project scheduled to start in 2024
AIWWTP Outfall Repair	Delta	1,800,000	-	1,800,000	1,800,000	-	0%	Not Started	N	(4)	Scope review underway to account for new inspection information.
AIWWTP Replacement of ICS Equipment in Galleries	Delta	2,895,000	1,819,933	1,075,067	2,895,000	-	63%	Ongoing	Y		
AIWWTP Scheduled 64kV Potential & Current Transformer Replacements	Delta	800,000	33,521	766,480	800,000	-	4%	Ongoing	N		
AIWWTP SCL Flow Balancing	Delta	2,450,000	913,895	1,536,105	2,450,000	-	37%	Ongoing	Y		
AIWWTP SCL Flow Control	Delta	31,500,000	15,367,147	16,132,853	31,500,000	-	49%	Ongoing	Y		
AIWWTP Scum Pump Replacement	Delta	1,350,000	-	1,350,000	1,350,000	-	0%	Not Started	N	(4)	Future project scheduled to start in 2024
AIWWTP Secondary Effluent Discharge Flowmeter Replacement	Delta	400,000	43,193	356,807	400,000	-	99%	Ongoing	Y	(2)	Project in final closeout phases, and will be completed significantly under budget by coordination with other works.
AIWWTP Spare Trickling Filter Pump & Motor Purchase	Delta	1,950,000	-	1,950,000	1,950,000	-	0%	Not Started	N	(4)	
AIWWTP Station Battery Replacement - PHASE 2	Delta	400,000	132,694	267,306	400,000	-	33%	Ongoing	Y	(2)	
AIWWTP Trickling Filter Media & Distributor Arms & Ducting Replacement	Delta	90,700,000	23,127,509	67,572,491	90,700,000	-	25%	Ongoing	Y		
Annacis Island WWTP - ICS Component Replacement and Upgrade Program	Delta	1,500,000	1,403,730	96,270	1,500,000	-	94%	Ongoing	Y		
Annacis MCC 80 051, 80 070, 80 071 Replacement	Delta	2,844,000	2,066,437	777,563	2,844,000	-	73%	Ongoing	Y		
Annacis Secondary Clarifier Corrosion Repair and Leveling Phase 2	Delta	22,000,000	8,589,445	13,410,555	22,000,000	-	39%	Ongoing	Y		
Big Bend Forcemain - Gate Replacement	Richmond	2,680,000	70,209	2,609,791	2,680,000	-	3%	Ongoing	N		Implementation Phase deferred to 2024
Cambie Trunk Sewer Relocation for Broadway Subway Project	Vancouver	4,500,000	1,925	4,498,075	4,500,000	-	1%	Ongoing	N		Project scope to be further defined after design/build team selected.
Combined Sewer Overflow Sampling Station Enhancements	Regional	1,900,000	284,286	1,615,714	1,900,000	-	15%	Ongoing	Y		

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ATTACHMENT 2

Liquid Waste Services Capital Expenditures Summary
As of April 30, 2021

		Lifetime									
Project Name	**Project Location**	**Total Project Budget**	**Total Expenditures to Date**	**Remaining Budget**	**Projected Expenditures**	**Projected Remaining Budget**	**Percent Complete**	**Status**	**Project on Schedule?**	**Note**	**Comments**
Crescent Beach FM - Replacement	Surrey	29,070,000	4,816,481	24,253,519	27,091,000	1,979,000	17%	Ongoing	Y		Phase 1 included design enhancements that allow Phase 2 to be deferred by several decades, resulting in a surplus.
English Bay/Balaclava Outfalls Improvement	Vancouver	900,000	-	900,000	900,000	-	0%	Not Started	Y		Future project scheduled to start in 2022
FSA Flow Metering Program	Regional	3,500,000	1,514,786	1,985,214	3,500,000	-	43%	Ongoing	Y		
FSA Statutory Right of Way Acquisitions Phase 1	Delta/Port Moody	24,000,000	-	24,000,000	24,000,000	-	0%	Not Started	Y		
Gilbert/Brighouse Trunk Pressure Sewer Rehab Phase 5	Richmond	23,200,000	-	23,200,000	23,200,000	-	0%	Not Started	Y		Future project scheduled to start in 2023.
Gilbert/Brighouse Trunk Pressure Sewer Twinning Phase 3	Richmond	54,300,000	14,456,592	39,843,408	54,300,000	-	27%	Ongoing	N		Delays in Phase 4 and causing impacts to Phase 3
Gilbert/Brighouse Trunk Pressure Sewer Twinning Phase 4	Richmond	41,800,000	1,020,453	40,779,547	41,800,000	-	2%	Ongoing	N		Contractual issues resulted in needing to retender the work.
Glen Eagles Forcemains Replacement Phase 2	West Vancouver	7,750,000	586,987	7,163,013	8,200,000	(450,000)	8%	Ongoing	Y		
Glen Eagles Pump Stations Phase 1	West Vancouver	22,500,000	1,024,479	21,475,521	22,500,000	-	5%	Ongoing	Y		
Glen Eagles Pump Stations Phase 2	West Vancouver	5,000,000	-	5,000,000	5,000,000	-	0%	Not Started	Y		Future project scheduled to start in 2022
Harbour Pump Station Discharge Header Repair and Valve Replacements	Vancouver	1,500,000	-	1,500,000	1,500,000	-	0%	Not Started	Y		
Harbour Pump Station Power Distribution Equipment Replacement	Vancouver	3,300,000	8,408	3,291,592	3,300,000	-	1%	Ongoing	Y		
Harbour West & East Interceptors Reloc & Protect	Vancouver	16,900,000	90,393	16,809,607	19,500,000	(2,600,000)	1%	Ongoing	Y		
Highbury Interceptor Diversion Junction Chamber Wall Rehabilitation	Vancouver	6,000,000	-	6,000,000	6,000,000	-	0%	Not Started	N		
IIWWTP Digester 4 Roof Replacement & Mixing Replacement	Richmond	24,800,000	17,469,398	7,330,602	19,307,842	5,492,000	90%	Ongoing	Y	(2)	
IIWWTP Grit System Refurbishment	Richmond	8,100,000	7,503,949	596,051	8,100,000	-	93%	Ongoing	Y		
IIWWTP ICS IPS Control Replacement	Richmond	1,750,000	385	1,749,615	1,750,000	-	1%	Ongoing	Y		
IIWWTP ICS Replacement Program	Richmond	750,000	-	750,000	750,000	-	0%	Not Started	Y		
IIWWTP Influent Gate Refurbishment	Richmond	1,350,000	428,876	921,124	1,110,641	239,000	32%	Ongoing	Y		
IIWWTP IPS Drive Remediation	Richmond	1,400,000	-	1,400,000	1,400,000	-	0%	Not Started	N	(4)	
IIWWTP MCC/Power Distribution Assess/Replace - Phase 2	Richmond	1,000,000	598,164	401,836	1,000,000	-	99%	Ongoing	Y	(2)	Project at close out stages and will see a surplus.
IIWWTP PA-Sed Tank & Gallery Wall Refurbishment	Richmond	925,000	-	925,000	1,375,000	(450,000)	0%	Not Started	N		Work delayed to confirm scope of repair.
IIWWTP Replacement of CoGen Control System	Richmond	2,470,000	1,088,501	1,381,499	2,470,000	-	44%	Ongoing	Y		
IIWWTP Siphon Chamber Refurbishment	Richmond	2,150,000	-	2,150,000	2,150,000	-	0%	Not Started	N		Project delayed to allow improved coordination of other related works and improve safe operating conditions for work site.
IIWWTP Solids Handling Refurbishment	Richmond	30,500,000	30,291,886	208,114	30,350,000	150,000	99%	Ongoing	Y	(2)	
Iona Island Control & Instrumentation Replacement 2011	Richmond	2,750,000	2,033,547	716,453	2,750,000	-	74%	Ongoing	Y		
Jervis Pump Station 25kV Voltage Conversion	Vancouver	1,300,000	3,358	1,296,642	1,300,000	-	1%	Ongoing	Y		
Kent Pump Station High Voltage Switchgear Replacement	Vancouver	2,000,000	-	2,000,000	2,000,000	-	0%	Not Started	Y		Future project scheduled to start in 2022
LIWWTP CCT Isolation Gates	Richmond	2,050,000	530,958	1,519,042	2,050,000	-	26%	Ongoing	Y		
LIWWTP High Efficiency Boiler	Richmond	1,330,000	90,917	1,239,083	1,330,000	-	7%	Ongoing	N	(4)	Rescheduled to after Biogas Cleanup Project is completed and in operation.
LIWWTP ICS Component Replacement	Richmond	360,000	336,972	23,028	360,000	-	94%	Ongoing	Y		
LIWWTP ICS Replacement Program	Richmond	6,750,000	296,436	6,453,564	6,750,000	-	4%	Ongoing	Y		
LIWWTP PA-Sed Tank Refurbishment	Richmond	4,115,000	39,093	4,075,907	4,115,000	-	1%	Ongoing	Y		
LSA Flow Metering Program	Richmond	300,000	76,399	223,601	300,000	-	25%	Ongoing	Y		
Marshend PS Rehab	Burnaby	7,000,000	1,037,109	5,962,891	7,000,000	-	15%	Ongoing	N		Project delayed to confirm scope.
New West Interceptor Grit Chamber	New Westminster	9,050,000	220,696	8,829,304	9,050,000	-	2%	Ongoing	Y		
New Westminster Interceptor Repair Columbia St. Section	New Westminster	32,782,000	1,595,415	31,186,585	32,782,000	-	5%	Ongoing	Y		
NLWWTP Screw Pump Replacement	Langley City	1,550,000	739,352	810,648	1,550,000	-	48%	Ongoing	Y		
North Surrey Interceptor Annieville Channel Crossing Scour Protection	Regional	995,000	378,315	616,685	995,000	-	38%	Ongoing	Y		
NSA Flow Metering Program	West Vancouver	900,000	190,639	709,361	900,000	-	21%	Ongoing	Y		
NSA Scour Protection Upgrades	Regional	2,250,000	-	2,250,000	2,250,000	-	0%	Not Started	Y		Future project scheduled to start in 2022
NSI Rehab or Replacement	Surrey	46,463,000	2,268,495	44,194,505	46,463,000	-	5%	Ongoing	N		Project delayed to improve scope definition, and coordination with other works.
NWI - Annacis Section 2 Improvement	Delta	45,000,000	858,213	44,141,787	45,000,000	-	2%	Ongoing	N		Project delayed to improve scope definition, and coordination with other works.
NWL WWTP 25 kV Substation Replacement	Langley Township	10,025,000	7,717,928	2,307,072	8,666,000	1,359,000	77%	Ongoing	Y	(1)	
Ocean Park Trunk Crescent Section (OPC) Pipe Rehabilitation/Replacement	Surrey	4,953,000	327,156	4,625,844	2,603,000	2,350,000	7%	Ongoing	N	(1)	Property acquisition delays.
Ocean Park Trunk Manholes Lining	Surrey	550,000	-	550,000	550,000	-	0%	Not Started	N		Future project scheduled to start in 2022
Port Coquitlam Pump Station Refurbishment	Port Coquitlam	9,250,000	5,779	9,244,221	9,250,000	-	1%	Ongoing	N		
Port Moody Storm Drain Rehabilitation	Port Moody	1,650,000	-	1,650,000	1,650,000	-	0%	Not Started	Y		Future project scheduled to start in 2022
Royal Ave PS Rehabilitation	New Westminster	7,238,000	1,133,236	6,104,764	8,169,988	(932,000)	16%	Ongoing	N		Scope to be reviewed pending final result of hydraulic study.
Sewer Relocations and Protections at Fraser Surrey Docks	Surrey	25,800,000	-	25,800,000	25,800,000	-	0%	Not Started	N		
Sewer Relocations and Protections for Pattullo Bridge Replacement Project	New Westminster	7,000,000	-	7,000,000	7,000,000	-	0%	Not Started	N		Project start based on 3rd party bridge contractor.
SSI Influent Control Chamber Repair and Replace Gates	Delta	1,305,000	13,554	1,291,446	1,305,000	-	1%	Ongoing	Y		
Surrey Corrosion Control Facility Replacement	Surrey	2,900,000	317,202	2,582,798	7,250,000	(4,350,000)	11%	Ongoing	N		Project delayed to resolve siting issues.
VSA Flow Metering Program	Regional	5,800,000	639,545	5,160,455	5,800,000	-	11%	Ongoing	Y		
Westridge FM Replacement	Burnaby	3,650,000	558,911	3,091,089	3,529,000	121,000	15%	Ongoing	Y	(3)	
Westridge Pump Stations 1 & 2 Refurbishment	Burnaby	16,250,000	576,505	15,673,495	16,250,000	-	4%	Ongoing	Y		
White Rock Forcemain Rehabilitation	White Rock/Surrey	8,700,000	-	8,700,000	8,700,000	-	0%	Not Started	Y		
Works Yard	Burnaby	32,000,000	26,550,793	5,449,207	32,000,000	-	83%	Ongoing	Y		
		889,880,000	**184,943,066**	**704,936,934**	**886,871,471**	**3,009,000**					
Infrastructure Resilience Capital											
AIWWTP 69 kV Substation Modifications	Delta	5,500,000	2,067,407	3,432,593	5,500,000	-	38%	Ongoing	Y		

Metro Vancouver

ATTACHMENT 2

Liquid Waste Services Capital Expenditures Summary
As of April 30, 2021

		Lifetime									
Project Name	**Project Location**	**Total Project Budget**	**Total Expenditures to Date**	**Remaining Budget**	**Projected Expenditures**	**Projected Remaining Budget**	**Percent Complete**	**Status**	**Project on Schedule?**	**Note**	**Comments**
AIWWTP Automation of Influent Gates	Delta	3,700,000	3,583,620	116,380	3,694,681	5,000	97%	Ongoing	Y		
AIWWTP Cogeneration Backup Power	Delta	75,003,000	67,963,628	7,039,372	75,003,000	-	91%	Ongoing	Y		Project nearing completion and expected to come in under budget.
AIWWTP PST Area Walkway & Column Remediation	Delta	1,800,000	1,382,297	417,703	1,380,000	420,000	100%	Completed	Y	(1)(2)	Under budget due to efficient design, competitive market pricing and less tank defects than anticipated.
AIWWTP UPS Condition Monitoring System	Delta	550,000	-	550,000	550,000	-	0%	Not Started	N	(4)	Construction on hold until resolution of design issues.
Highbury Interceptor North Arm Crossing - Upgrade of Siphons	Vancouver	12,500,000	11,624,920	875,080	12,500,000	-	93%	Ongoing	Y		
IIWWTP - Biogas Lines Relocation	Richmond	5,780,000	3,759,968	2,020,032	5,780,000	-	75%	Ongoing	N		Delay caused by contractor's inability to secure approvals, materials, and resources in an efficient manner to meet stated schedule.
IIWWTP Standby Diesel Generators	Richmond	5,000,000	2,653	4,997,347	5,000,000	-	1%	Ongoing	Y		
LIWWTP Power Reliability	Richmond	8,202,000	1,282,540	6,919,460	8,202,000	-	16%	Ongoing	Y		
SSI Sulfide Odour and Corrosion Control	Delta	7,700,000	994,080	6,705,920	7,700,000	-	13%	Ongoing	N		Project delayed due to permitting challenges.
VSA Emergency Backup Power	Vancouver	24,310,000	11,644,994	12,665,006	24,310,000	-	48%	Ongoing	N		4 of 7 units are complete, 1 is nearing completion, and 2 (Jervis and Chilco PS), are delayed due to protracted property and permitting issues.
		150,045,000	**104,306,107**	**45,738,893**	**149,619,681**	**425,000**					
Infrastructure Upgrade - WasteTreatment Capital											
Iona Secondary Treatment Upgrade	Richmond	750,000,000	17,063,367	732,936,633	750,000,000	-	2%	Ongoing	Y	(5)(6)	
North Shore WWTP Secondary Upgrade and Conveyance	Dist of North Van	1,057,867,000	370,135,998	687,731,002	1,057,867,000	-	35%	Ongoing	Y	(5)	
		1,807,867,000	**387,199,365**	**1,420,667,635**	**1,807,867,000**	**-**					
Infrastructure Upgrade Capital											
AIWWTP Ammonia Removal – Sidestream	Delta	125,900,000	733,551	125,166,449	125,900,000	-	1%	Ongoing	Y	(4)	Continuing with data collection with more analyses in 2022 to confirm study results.
AIWWTP Electrical Distribution System Protection Control and Monitoring	Delta	2,650,000	76,077	2,573,923	2,650,000	-	3%	Ongoing	Y		
AIWWTP Replacement of Protective Relays	Delta	3,258,000	2,156,041	1,101,959	3,258,000	-	66%	Ongoing	Y		
All WWTPs Power Quality Monitoring & Outage Alarming Network	Regional	2,870,000	2,118,632	751,368	2,870,000	-	74%	Ongoing	Y		
Biosolids Dryer	Langley City	211,700,000	74,112	211,625,888	211,700,000	-	0%	Ongoing	N		Property purchase delayed.
Ferguson Road Paving Refurbishment	Richmond	850,000	-	850,000	850,000	-	0%	Not Started	Y		
Glenbrook Combined Trunk Sewer Separation	New Westminster	73,450,000	199,359	73,250,641	73,450,000	-	1%	Ongoing	Y		
IIWWTP Biosolids Dewatering Facility	Richmond	61,300,000	46,363,116	14,936,884	61,300,000	-	76%	Ongoing	Y		
IIWWTP Sludge Lagoons Dewatering Facility	Richmond	4,000,000	112,876	3,887,124	4,000,000	-	3%	Ongoing	Y		
LIWWTP Effluent Heat Recovery Project	Richmond	10,000,000	-	10,000,000	10,000,000	-	0%	Not Started	Y		
New CSO Management Gates for New Westminster Interceptor	New Westminster	5,925,000	204,463	5,720,537	5,925,000	-	3%	Ongoing	Y		
Ocean Park Trunk Sewer - Air Management Facility	Surrey	7,750,000	-	7,750,000	7,750,000	-	0%	Not Started	Y		
WWTPs Electrical System Studies & Upgrades	Regional	1,900,000	2,303	1,897,697	1,900,000	-	1%	Ongoing	N	(4)	Awaiting completion of AI Stage 5 Ph1 and AI Cogen projects studies.
		511,553,000	**52,040,531**	**459,512,469**	**511,553,000**	**-**					
Opportunity Capital											
AIWWTP Hydrothermal Processing Pilot	Delta	19,380,000	875,304	18,504,696	19,380,000	-	10%	Ongoing	Y		
Fraser Sewerage Area Integrated Resource Recovery (IRR) Study	Regional	1,200,000	36,637	1,163,363	1,200,000	-	3%	Ongoing	N		
LIWWTP Biogas Clean-up Project	Richmond	13,800,000	11,066,370	2,733,630	13,800,000	-	80%	Ongoing	Y		
LIWWTP Pilot Digestion Optimization Facility	Richmond	3,100,000	973,113	2,126,887	3,100,000	-	31%	Ongoing	Y		
North Surrey Interceptor - Port Mann Section - Odour Control	Surrey	7,500,000	98,647	7,401,353	7,500,000	-	1%	Ongoing	Y		
		44,980,000	**13,050,070**	**31,929,930**	**44,980,000**	**-**					
Grand Total Liquid Waste Services		**6,648,892,000**	**1,644,214,041**	**5,004,677,959**	**6,590,192,000**	**58,700,000**					

Notes:

(1) Project will be completed under budget - savings due to competitive pricing.
(2) Full contingency not required.
(3) Design work done in house resulting in lower cost.
(4) Project on hold.
(5) Separate status reports are being provided to the Finance and Intergovernment committee, Liquid Waste Committee and Board.
(6) Project budget is for up to 2025 only.

ATTACHMENT 3

Capital Project Status Information
April 30, 2021

GREATER VANCOUVER SEWERAGE & DRAINAGE DISTRICT (Liquid Waste Services)

Major GVS&DD liquid waste capital projects are generally proceeding on schedule and within budget. The following capital program items and exceptions are highlighted:

Infrastructure Growth Program

- **FSA – Albert Street Trunk Sewer** – The Albert St. Trunk Sewer is a sanitary sewer located in the City of Port Moody that was constructed in the 1960's and is in need of a capacity upgrade. Phase 1 construction was completed in 2019. Phase 2 of the project includes the upgrade of a section that is approx. 200 m long and crosses Barnet Hwy just north of St. John St. The sewer surcharges in a residential area under heavy rain. Microtunneling was selected as the preferred method of construction. The tender was awarded in April 2021. Phase 2 Construction is expected to be complete by the end of 2021.

- **FSA – Burnaby Lake North Interceptor (also known as the Winston Street Sewer)** – Phase 1 of the sewer twinning along Lougheed Highway west of Sperling Street is complete. Phase 2 and 3, with diameters of 1050 mm to 1800 mm, involves 1.2 km of open cut and 2 km of tunneled sewer respectively, and will be located along Winston Street from Sperling to east of Piper Street on the north side of Burnaby Lake. The open cut portion of the work was awarded to JJM Construction Ltd. in February 2020 and the construction is now underway. The tunneling portion of the work is aimed to be tendered in Q3 of 2021. Construction is scheduled to be complete in 2023. Phase 4, which continues to Cariboo Street, will be completed at a later date. The project is expecting a surplus on the open cut section, and will report out on the overall surplus after the tunneled section is tendered.

- **FSA – South Surrey Interceptor – King George Section Odour Control Facility (OCF) and Grit Chamber**. This project involves three separate installations: two odour control facilities (at King George Boulevard near 56 Ave in Surrey and at Highway 10 and Highway 91 in Delta) and a grit chamber at the King George location. The grit chamber portion of this project is complete and in service. Tritech Group Ltd., the contractor for the odour control facilities, has completed the facility at Highway 91 and is still working on the King George facility. It is scheduled to be commissioned later in the summer of 2021. The project is projecting a surplus at the end of construction.

- **FSA – Sapperton Pump Station** – The construction contract was awarded to NAC Constructors in September 2016 and was substantially completed in 2020. The pump station is in service with some minor work being finished. The old pump station decommissioning has been postponed due to some operational constraints until 2022 or 2023. The project as a whole is projecting a surplus.

  A planned upgrade of the existing Sapperton PS generator is on hold due to some newly discovered issues in our system which are being addressed elsewhere.

- **FSA – Annacis Island WWTP Stage 5 Expansion Phase 1** – This work involves expansion of treatment process units including primary sedimentation tanks, secondary clarifiers, solid contact tanks, and odour control facilities. This construction contract was awarded to Graham and AECON Joint Venture in April 2017. The contract value is $266 million and the construction is nearing completion. Corporation Commissioning of the primary sedimentation tanks and the secondary clarifiers both began in April 2021 and is still ongoing. Corporation Commissioning of primary odour control facilities began in May 2021 and is still ongoing. The solid contact tanks are expected to start Corporation Commissioning in June 2021. Substantial completion of the overall project was also achieved in May 2021. Handover to the plant is expected to be completed by August 2021.

- **FSA – Annacis Island WWTP Outfall –** This project involves the construction of a new outfall with increased capacity to support population growth. The 4.2 m diameter outfall will be tunneled at a depth of approximately 40 m, and convey treated effluent approximately 1 km from the Plant to the Fraser River where it will discharge from a 2.5 m diameter, 250 m long diffuser manifold buried in the river bed. The construction contract was awarded in May 2019 to Pomerleau-Bessac General Partnership. The contractor has completed the excavation of the two vertical shafts. In-river construction started in June 2020. The installation of the temporary cofferdam (which facilitates installation of the River Riser) and the foundation piles for the River Riser are complete. Mining of the first tunnel started in February. Construction is scheduled to be complete by Spring 2024. In-river works are progressing slower than planned, and the launch of the Tunnel Boring Machine took longer than expected. With recovery plans in place, the completion dates are expected to be met. The project is projecting a surplus, and will report out on that as tunneling and other higher risk elements are completed.

- **FSA- Annacis Island WWTP Outfall – Surge Control** - This project involves the replacement of four hydraulic gates in the Influent Control Chamber and ancillary equipment to mitigate the risk of transient surges to upstream infrastructure. The construction contract was awarded to Maple Reinders Construction Limited in March 2021. The contractor is currently preparing submittals for long lead items such as hydraulic gates. Construction is approximately 5% complete. The project is tracking on schedule with the project scheduled for completion in Spring 2024.

<u>Infrastructure Maintenance Program</u>

- **LSA – Gilbert Trunk Sewer Twinning** - Construction of the 3.5 km long Phase 1 is complete. The remaining 3 Phases have a total length of 6.5 km consisting of 1.5 m and 1.8 m diameter sewers. Phase 2 construction from Blundell to north of Westminster Highway is 98% complete, with completion projected for Q2 of 2021. Phase 4, from Steveston Highway to the Lulu Island WWTP, was tendered in July of 2020 and has not yet been awarded due to contractual issues. Phase 3, which extends from Blundell Road south to the Steveston Highway will be completed last, with construction scheduled to start in 2022.

- **FSA - North Surrey Interceptor Rehab or Replacement -** This project involves rehabilitating approximately 220m of the existing NSI-156th Street section between creek structure and junction chamber. It also involves relocation and upgrading of City of Surrey connection to the NSI. Work is currently underway and is expected to completed before the end of 2021.

  The other part of this project is rehabilitation or replacement of approximately 760m of the existing NSI-Manson Road section. The project is currently in early conceptual design stage. Newly received input from the City of Surrey is being considered and may move focus from rehabilitation to replacement and upsizing. Construction is expected to commence in late 2023.

- **FSA - Crescent Beach FM – Replacement –** This project involves the design and construction of approximately 2 km of sanitary force main to replace the existing 500 mm diameter FRP (fibre reinforce plastic) pipe which is aging and in poor condition. The design is complete and the work has been tendered. This work is being is being executed in two parts. Part 1, Small Works, involves construction by MV Forces covering smaller works and tie-ins, and was completed in the fall of 2020. Part 2, Main Works, involves construction by an external contractor covering large main line replacement, trenchless crossings, and flow meter chamber has been tendered, and is anticipated to be completed between summer 2021 and spring 2022. During execution of the Part 1 construction work, archaeological artefacts were identified, resulting in extensive archeological and additional costs.

- **FSA - New Westminster Interceptor Repair – Columbia Street Section** – This project involves the rehabilitation of 1,600 m of the 1.5 m diameter New Westminster Interceptor from Front St. to McBride Blvd. The construction is planned to commence in Q3 of 2021. There is a potential to defer some work to a later due to operational restraints and Pattullo Bridge construction.

- **FSA - Ocean Park Trunk Crescent Section (OPC) Pipe Rehabilitation/Replacement** - This project involves the design and construction of a 420m long sewer between 24 Avenue & Bayview Street, in Surrey. The design has been completed, the construction tender awarded to a contractor and construction is set to commence in July of 2021. It is anticipated that the construction should be completed by the end of 2021. This work was to have been completed in 2020, but was delayed due to Covid-19 and property issues.

- **VSA – Iona Island WWTP Solids Handling Upgrade and Iona Digester 4 Roof Replacement** – These projects involve upgrades to the existing grit removal and sludge screening systems, increasing sludge thickening capacity, and improving the digester sludge mixing systems. Construction to refurbish the existing sludge thickener was completed in April 2016 and is back in full operation. The construction of the new screening, degritting and thickening facility was completed and in operation since August 2017. The Digester Mixing Upgrade contract started in November 2015 and, of the four digesters, Digesters No. 2, No. 3 and No. 4 upgrades are complete and back in service. Work on the last digester, Digester No. 1, started in July 2019 and substantial completion was achieved at the end of January 2021. The overall program is projected to have a surplus.

- **FSA – Annacis Island WWTP Secondary Clarifier Corrosion Repair** – This project involves replacing 12 secondary clarifier mechanisms that have been damaged by corrosion and are at the end of their service life. This project is combined with the Secondary Clarifier Flow Control project, which involves the addition of 12 new influent flow balancing gates and the replacement of 12 effluent launders and weirs. The current construction contract, awarded to NAC Constructors Ltd. in March 2019 for the amount of $17.8M, consists of the replacement of the 5 remaining mechanism units, the addition of 9 flow balancing gates and the replacement of the 12 existing effluent launders and weirs. Construction started in May 2020 and is scheduled to be complete by end of 2022. To date 9 mechanisms, 2 launders and weirs have been replaced, and 7 flow balancing gates have been installed.

- **FSA – Annacis Island WWTP Trickling Filter Media, Distributor and FOA Duct Replacement** – This project replaces the rotary distributors, plastic media and foul air ducting for the four Trickling Filters at the AIWWTP. These components have been in service for over 20 years and are reaching the end of their service life. The distributors and ducting have experienced significant corrosion, resulting in recent equipment failures requiring emergency maintenance in the past few years. The construction will be completed in two contracts, with the first contract for two TFs and the second contract for the remaining two TFs. This work is to be done over four years, one TF per year during the low flow

season. The first contract was awarded at $32.8M. The refurbishment for the first TF (TF 1) started in April 2020 and was successfully completed in September 2020 before the start of the wet weather season. Refurbishment of the second TF (TF 3) is started in mid-April 2021. The second contract for the refurbishment of the remaining two TFs (TF 2 and TF 4) is currently in procurement. All four TF are anticipated to be refurbished by the end of 2023.

- **FSA – Northwest Langley WWTP 25 kV Substation Replacement -** This project involves the design and construction of a new 25kV substation to replace the existing outdoor substation which transforms and distributes power to areas in the plant. Due to its age and poor condition of the switchgear enclosures, the existing substation has been assessed as unreliable for maintenance and operations. Construction commenced in Q1 2019. The new substation installation is complete and is ready for the new BC Hydro 25kV service connection and cutover to existing plant loads. The construction is anticipated to be completed by Q3 2021.

Infrastructure Resilience Program

- **FSA – Annacis Island WWTP Cogeneration System** – This $75 million resiliency project involves the installation of four new larger capacity cogeneration engines (2000 kW each) complemented by two new emergency stand-by diesel generators (3000 kW each) in order to: 1) provide rapid response emergency back-up power in case of BC Hydro utility outages, 2) optimize the use of digester gas produced at the plant, 3) increase the cogeneration capacity, 4) minimize the amount and cost of electricity imported from BC Hydro costs, and 5) minimize digester gas flaring.

  Construction started in October 2017 and was substantially completed as of September 2019. The new cogeneration engines and diesel generators have been functionally tested, commissioned and put into partial service as of March 2020 in order to offset BC Hydro costs. The final phase of commissioning began in November 2020. Some latent weaknesses in the plant's legacy electrical systems became evident during the November 2020 testing under certain operating scenarios of the new cogeneration system; these weaknesses have since been mostly rectified. There are some minor remaining deficiencies to address, an optimization project in the Summer of 2021 to upgrade the biogas fuel supply system, and two minor remaining operational tests in November 2021 (outside of disinfection season) to prove out additional ICS programming refinements. As a result, the project is considered 99% completed and is expected to post a surplus.

- **VSA – Emergency Backup Power -** This project involves design, supply and installation of standby emergency backup generators at the Chilco, Columbia, Harbour, Hudson, Jervis, Kent and Willingdon pump stations to allow the stations to remain operational during power failure events and reduce the risk of a spill. Three separate tenders for the Columbia, Harbour, Hudson, Kent and Willingdon upgrades were issued in Q4 2019. The construction at Harbour, Hudson, Kent and Willingdon pump stations was complete in 2020 and generators were commissioned. Columbia PS genset is scheduled to be commissioned in Q2 of 2021. The Vancouver Parks Board approved the Jervis Genset concept in the fall of 2019, and the design and permitting of the Jervis facility is advancing. Construction has been delayed due to unresolved property issues. The Chilco facility concept is currently being reviewed with the Vancouver Parks Board, prior to starting the detailed design. To prevent future spills during power outages, MV is actively working on design and installation of temporary gensets at both Chilco and Jervis PS later in 2021 or early 2022.

Infrastructure Upgrade Program

- **VSA – Iona Island WWTP Biosolids Dewatering Facility** – This project involves the construction of a mechanical dewatering facility to dewater on-going plant production of biosolids so that they can be transported for beneficial reuse or disposal. This facility will permit the decommissioning of the four existing digested sludge lagoons and the sludge drying area to make space for the construction of the new treatment plant. The $55 million design-build contract was awarded to NAC Constructors in April 2019. The design phase is 99% completed, and the construction phase is about 75% complete. Ground improvement and civil works underground piping, foundations and concrete works are complete. The two Digested Sludge Storage Tanks, Dewatering Building, Truck Load-out Building, Mechanical/Electrical/Control Rooms have been erected and enclosed – they are currently undergoing finishing. Almost all mechanical process equipment such as the centrifuges, hoppers, pumps, and screw conveyors have been delivered and installed since April 2021. The project has now entered the electrical installation phase – i.e. cable pulls, transformer installation, switchgear, motor control centres, and the wiring of field devices and instrumentation. The dewatering facility is targeted for acceptance by MV in Q4 2021 with Owner Commissioning beginning in Q1 2022.

Opportunity Program

- **FSA – Annacis Island WWTP Hydrothermal Liquefaction –** This work involves design and construction of a demonstration scale plant to convert wastewater biomass to biocrude as a low carbon fuel. The objective of the demonstration scale is to assess the technology performance and feasibility for full-scale implementation at an existing or future WWTP. Six separate contracts are anticipated as part of this project. Procurement of a progressive design build contractor for the HTL system is underway. Design of the supporting ancillary systems outside of the HTL system is currently underway. The entire HTL demonstration plant is scheduled to be completed in 2023 and put in operation from 2023 to 2024.

- **LSA - Lulu Island WWTP Biogas Cleanup Project** - This project involves the design and construction of a new digester gas clean-up facility at LIWWTP for producing pipeline quality RNG (a.k.a. bio-methane) for sale to Fortis Energy Inc. This project supports Metro Vancouver's commitment to protect public health and the environment. This innovative treatment system will result in a decrease in the flaring of digester gas, a reduction in regional greenhouse gas emissions, and the reuse of a sustainable resource. The system will produce enough renewable natural gas to heat 400 homes and gas production will increase as our local population grows. The project is 90% completed and is presently undergoing functional and operational testing of its sub-systems by the equipment suppliers and contractors. The overall system is expected to be accepted by MV to begin Owner Commissioning in June 2021.

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June 7, 2021

Metro Vancouver Zero Waste Committee
Board & Information Services
4730 Kingsway
Burnaby, BC V5H 0C6

delegations@metrovancouver.org

To Whom this May Concern:

RE: Application to speak to Metro Vancouver Zero Waste Committee Meeting

Please accept this letter and information herewith as our application to present to the Metro Vancouver Zero Waste Committee on Friday July 16, 2021.

Contact Information:	Janice Murray, Executive Assistant Ecowaste Industries Ltd. Direct: 236-454-2642 Email: jmurray@montroseproperties.com
Presenters:	Tom Land, President & CEO Christian Dietrich, General Manager
Committee:	Zero Waste Committee
Meeting Date:	Friday July 16, 2021
Subject of Presentation:	Extending the term and capacity of the Ecowaste Landfill

Action for the Committee:	Support our efforts of extending the life of the landfill by pushing for a timely correction of the Agriculture Land Reserve Regulation prohibiting the use of construction and demolition fill on landfills in the Agricultural Land Reserve. Support for the vertical expansion of the landfill with the City of Richmond, Agricultural Land Commission and the Ministry of the Environment
Summary of the presentation	Our presentation to the committee will cover the following points: a. Ecowaste Landfill, ALR non-farm use permit b. ALR Regulation change and prohibited materials c. Remaining Landfill life d. Impacts on planning of Materials Recycling Facility (MRF) e. Future benefits to the region of maintaining the Ecowaste facilities

If you have any questions, please do not hesitate to contact the undersigned. Thank you for considering our application and we look forward to your response.

Yours truly,

Janice Murray
Executive Assistant
Ecowaste Industries Ltd.

To: Zero Waste Committee

From: Stephanie Liu, Public Engagement Coordinator, Strategy and Stakeholder Relations, Solid Waste Services

Date: July 8, 2021 Meeting Date: July 16, 2021

Subject: **Pre-Engagement Results – Solid Waste Management Plan Update**

RECOMMENDATION

That the Zero Waste Committee receive for information the report dated July 8, 2021, titled "Pre-Engagement Results – Solid Waste Management Plan Update".

EXECUTIVE SUMMARY

Public engagement is critical in the development of an updated solid waste management plan. To deliver a robust engagement process that goes beyond Metro Vancouver's typical process, exceeds provincial requirements, and addresses previous concerns about engagement, a pre-engagement phase was introduced to help shape the engagement process. In addition, an Independent Consultation and Engagement Panel was formed to guide development and implementation of engagement, and Metro Vancouver will be engaging on the development of provincially required public and technical advisory committee(s).

Metro Vancouver received feedback from over 350 individuals via questionnaire responses, presentations, written submissions, meetings with staff, and presentations to the Solid Waste Management Plan Independent Consultation and Engagement Panel. Two entities that presented to the panel expressed concern about the presentation process, and a second opportunity to present to the panel was provided. Feedback indicated support for online and in person engagement opportunities including sector-specific discussions and early, continuous, and iterative opportunities to provide feedback.

Staff will report back later in the year with a proposed engagement program as well as the proposed structure and selection criteria for the public and technical advisory committee(s).

PURPOSE

The purpose of this report is to provide the Zero Waste Committee with an overview of feedback received during the pre-engagement phase of the solid waste management plan update process as well as next steps in the engagement process.

BACKGROUND

In November of 2019, the GVS&DD Board (the Board) authorized initiating an update of the regional solid waste management plan, as required by the provincial *Environmental Management Act* and according to the provincial guidelines to initiate a plan review before the 10-year anniversary of the current plan's approval.

On July 3, 2020, the Board received for information the terms of reference for the Solid Waste Management Plan Independent Consultation and Engagement Panel (Consultation and Engagement Panel) – a panel of four engagement experts to guide the development and implementation of a robust and inclusive engagement process. The establishment of this panel is a new process for Metro Vancouver and is beyond the committees required by the Province. The panel convened in October 2020 and has met approximately monthly to discuss engagement best practices and goals, and to advise on the design of engagement on the solid waste management plan update. Throughout the two to three-year plan development process, the panel will advise on engagement implementation. A summary of panel meetings to date is found in Attachment 1. Pre-engagement was developed and implemented with the panel's guidance.

This report outlines the feedback received during pre-engagement, and this information will be used to inform a draft public engagement program that will be brought to the Board later this year.

PRE-ENGAGEMENT ON THE SOLID WASTE MANAGEMENT PLAN UPDATE

The public pre-engagement phase of the regional solid waste management plan update ran from April 27 to May 28, 2021, with Indigenous pre-engagement extending to July 2 in alignment with Metro Vancouver's Crown Regulatory Engagement process. The goals of pre-engagement were to learn about preferred communication channels, methods of participation, information needs, and what can be done to facilitate participation among a broad range of audiences in future phases. Engaging at this early stage is critical to a robust and transparent engagement program that is responsive to the needs of various audiences. Pre-engagement feedback will shape a multi-phased engagement program on the solid waste management plan update.

Audiences had opportunities to provide feedback by completing an online questionnaire, meeting with staff or a consultant online or by phone, and presenting to the Consultation and Engagement Panel. Key audiences included governments, including Indigenous Nations, regulatory agencies, the waste and recycling industry, waste producers, industry and business associations, community groups, environmental and non-profit groups, and Metro Vancouver residents.

Indigenous Pre-engagement

In parallel, Metro Vancouver initiated pre-engagement on the solid waste management plan update with potentially impacted Indigenous Nations, to learn how Nations wish to participate, what their values and priorities are, and what their interests are in relation to waste reduction, recycling and economic development. The intent is to use these learnings to collaboratively develop an Indigenous engagement strategy. Pre-engagement letters were sent to 10 First Nations with reserves or treaty lands within Metro Vancouver, 23 First Nations whose territories encompass all or part of Metro Vancouver, and the Métis Nation of British Columbia. The letters introduced the project, provided background information and offered opportunities to provide feedback via a meeting, online questionnaire or email. An email with background about the project and a link to the questionnaire was also sent to 17 urban Indigenous organizations within the region.

Metro Vancouver received feedback from four First Nations, including requests for capacity funding, and concerns raised about litter and garbage in rivers and waterways.

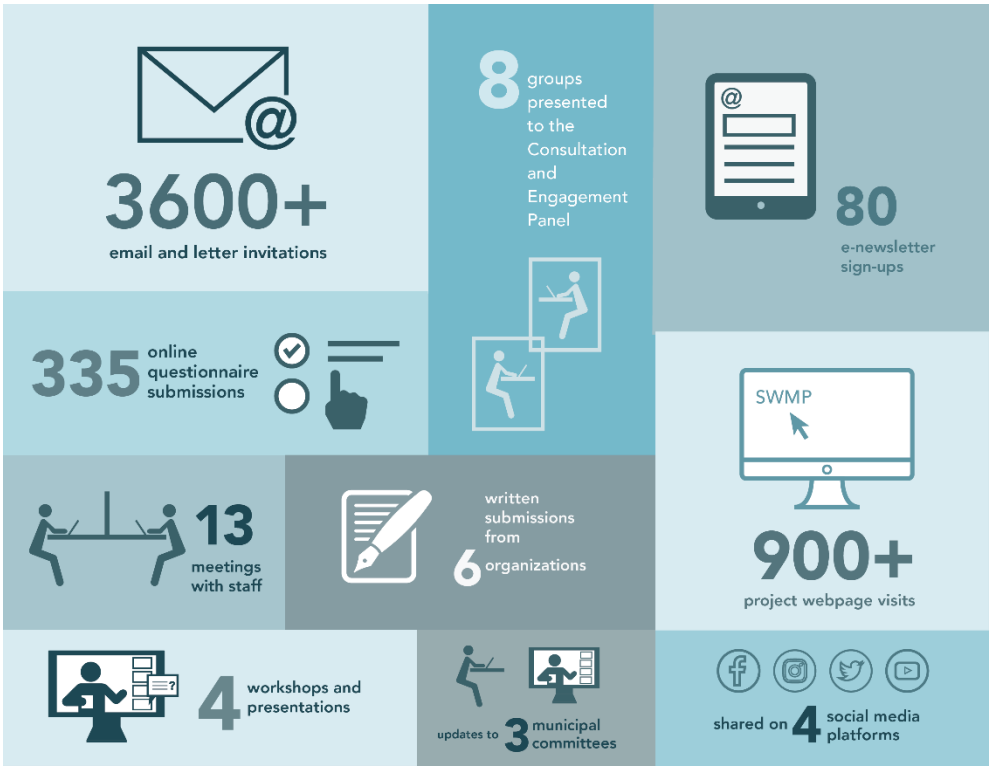
Public Pre-Engagement – Notifications Sent

At the start of pre-engagement, a project web page was launched and notifications sent to a broad range of audiences. Copies of email and letter notifications are found in Attachment 1.

- Letters were sent to Metro Vancouver member municipalities, adjacent regional districts, and Indigenous Nations.
- Emails were sent to over 3,600 contacts interested in receiving updates on Metro Vancouver solid waste topics or identified as being potentially impacted by the solid waste management plan. An additional follow-up email was sent to Boards of Trade and Chambers of Commerce in the region, and 27 organizations were sent a follow-up email to request meetings or interviews with staff.
- A social media promotion targeted residents and businesses in the Metro Vancouver region, and where possible, those interested in the environment and civic engagement, during the first and final weeks of the four-week pre-engagement period. The promotion during the final week resulted in 180 additional questionnaire submissions, with 97% of these responding on behalf of their household (as opposed to their organization). This demonstrates the effectiveness of social media to reach households and individual residents. Click-through rates were strong for Facebook (4.33%) and LinkedIn (3.11%). Social copy and creative assets were shared with member jurisdictions for their assistance in promoting the project.
- Website promotion included Metro Vancouver's home page, various solid waste related pages, and events page.

Summary of Participation

The following graphic displays a summary of pre-engagement through a variety of methods.



In addition to hearing from stakeholders and governments within the region, Metro Vancouver was invited to present to the Fraser Valley Regional District Board. The Metro Vancouver Chief Administrative Officer, Zero Waste Committee Chair, and the chair of the Consultation and Engagement Panel provided a presentation and engaged in a question and answer period. The Fraser Valley Regional District provided feedback on preferred communication and engagement channels, and followed up with a letter requesting clarity on waste-to-energy plans and potential impacts of the solid waste management plan to neighbouring regional districts (Attachment 2). Metro Vancouver provided the following information with respect to plans for future waste-to-energy:

> Metro Vancouver considers waste-to-energy to be a cost effective and environmentally sustainable way to manage residual garbage. Metro Vancouver's solid waste management plan update will focus on reduction, reuse, recycling and advancement of the circular economy. Our goal as a region is to avoid the requirement for any new disposal capacity, waste-to-energy or otherwise, through the success of our waste reduction actions.

The full Metro Vancouver response is included in Attachment 2. Metro Vancouver will continue to engage with the Fraser Valley Regional District and other adjacent regional districts throughout the plan development process.

Who We Heard From

During the pre-engagement phase, Metro Vancouver heard from organizations representing a variety of sectors potentially impacted by the solid waste management plan, listed below.

Sectors Providing Feedback During Pre-engagement	
Industry / Manufacturing	Tourism
Education and Post-Secondary	Government
Youth organization	Property Management
Environmental NGO	Non-governmental Organizations / Non-profits
Waste and Recycling Industry	Construction Industry
Retailer	Board of Trade / Chamber of Commerce / Business Improvement Association
Property Management	

In addition to the sectors listed above, Metro Vancouver heard from hundreds of residents/households, as described in the online questionnaire results section below. Attachment 1 documents all organizations, their sectors, and method(s) of participation.

Sector gaps

In addition to the broad call for feedback, 27 organizations representing key sector audiences were sent a follow-up request to participate in a meeting with staff. One or more organizations representing each of the following sectors met with Metro Vancouver staff:

- Academic Institutions / Post-Secondary
- Property Management
- Environmental NGO
- Waste and Recycling Industry
- Binner community

- Retail
- Tourism
- Youth
- Industry/Manufacturing (meetings requested by stakeholders)

Organizations representing the following sectors or community groups were invited to meet with staff but declined or did not respond. Note that some of these sectors did provide feedback via other mechanisms:

- Non English language speakers
- Cultural societies
- Small business
- Food service
- Construction and demolition
- Multi-family residences
- Resident community associations

Organizations that submitted online questionnaire responses primarily represented the waste and recycling industry and local government, followed by non-governmental organizations / non-profits. Few responses were submitted by the property management, industry/manufacturing, retailer, Board of Trade / Chamber of Commerce / BIA, Construction Industry, and Education sectors. No questionnaires were submitted by crown corporations, health authorities or medical facilities, seniors associations, youth associations, restaurant / food industry / grocery, or the accommodation sector. Respondents submitting questionnaires on behalf of their household were primarily from the City of Vancouver.

These learnings will be used to develop multi-phased engagement that includes strategies to reach out to less engaged sectors and work towards a more balanced geographical representation across the region, with the goal of designing and delivering a comprehensive engagement program that exceeds Metro Vancouver's typical process and provincial requirements.

Summary of Pre-Engagement Feedback

Stakeholders, including those who may have had previous concerns about engagement processes, were very supportive of the early pre-engagement phase and the establishment of the Consultation and Engagement Panel, demonstrating the importance and success of taking these early steps to shape a robust engagement program.

Several themes emerged through pre-engagement feedback as highlighted below. A table summarizing all feedback is in Attachment 1.

Engagement approach:

- early, continuous, and iterative opportunities to provide feedback
- clearly defined engagement purpose and expectations, and respect for the time required of busy stakeholders
- sufficient time allowed to gather and submit feedback
- more notifications and reminders to avoid missed messages
- transparency on how input is used, and factors considered when coming to a final decision
- collaboration with others to host engagement events and amplify communications

- fair and collaborative engagement that fosters active listening and an open mind, without pre-determined outcomes, thereby building or rebuilding trust among stakeholders and sectors

Engagement methods:

- a variety of online and in-person engagement opportunities
- focused, sector-specific discussions
- space for stakeholders with different interests to hear from each other, gain understanding of different perspectives, and form partnerships
- consider introducing incentives to encourage participation, and meeting audiences not typically engaged at their places of work/business, school, community, gathering places
- leverage existing committee and community group meetings (e.g. municipal and youth)

Language:
Note this feedback was given in English, in response to Metro Vancouver's notifications and information also provided in English

- English language communication is sufficient at this time (indicated by the majority of feedback)
- some requests for translation and support for the use of graphics
- some support for simplifying information, and other support for maintaining the complexity of concepts and options

Audiences:
Feedback included many suggestions for sector-specific contacts or organizations that should be included in future engagement on the solid waste management plan update. These contacts have been included in notify lists for future phases of engagement, and will be considered as future phases of engagement are designed. Some general categories that were highlighted included the following:

- equity-denied communities
- range of industry experts, including experts in new technology
- innovators
- small to medium businesses
- small haulers and small processing facilities
- associations: industry, tourism, building, business improvement Industry associations

Information required before providing feedback on solid waste management topics:

- accurate objective facts and data, including recycling and waste diversion statistics, as a foundation for conversations about the updated plan
- current solid waste management plan background
- existing solid waste systems and facilities (for collection and processing)
- trends in commodities markets
- fate of waste and recycling after it is collected
- private and public sector involvement in the waste and recycling system
- success stories of businesses and organizations
- who is responsible for solid waste management and zero waste policy, including the specific role of Metro Vancouver

- when presenting options, provide the impact of these options (e.g. financial and environmental)
- solid waste management challenges, including specific materials or sources that are difficult to recycle, reduce, or reuse
- global best practices
- latest research and new technologies
- specific scope of the solid waste management plan review (i.e. key topics and issues under consideration)

Solid waste areas of interest:
Areas of interest emerged through the pre-engagement process and are summarized in Attachment 1; these can be drawn upon when considering how to shape and design future phases of engagement on the content of the updated solid waste management plan.

Online questionnaire results:
While the summary of feedback above does incorporate learnings from online questionnaire responses, it is of interest to highlight a few unique details and insights provided by the questionnaire.

Metro Vancouver received 335 responses to the online questionnaire, predominantly from residents responding on behalf of their households (85%). Out of 50 that responded on behalf of their business or organization, the largest sector categories were the waste and recycling industry with 14 responses, and local government, government agencies and ministries with 11 responses. 79% of all respondents preferred email as a means of receiving information and updates on the solid waste management plan update process. This was followed by social media, notices in news media, and online presentations or meetings. 78% of all respondents preferred to provide feedback online via a questionnaire. This was followed by email, online comment sections, and online meetings or webinars.

Generally, feedback on preferred communication channels was similar between those responding on behalf of their household or organization, with email and online questionnaires being well supported. Note that for receiving information, organizations were more likely to prefer email and online presentations and meetings, whereas households were more likely to prefer social media and news media.

It is worth noting that these preferences represent the opinions of those who submitted feedback via an online questionnaire; therefore, the preferences for online engagement methods is understandable. Full questionnaire results are presented in Attachment 1.

Presentations to the Consultation and Engagement Panel
Eight stakeholder groups requested to speak with the Consultation and Engagement Panel. Participant groups were provided 10 minutes each to speak with the panel, including an introduction from the panel, presentation from the participant, and follow-up questions as time allowed. Three participants provided PowerPoint presentations, included in Attachment 1.

Two participants expressed concerns about the limited time provided for presenting to the panel, and miscommunication about how much time would be allotted. Both provided written submissions, included as the last two letters in Attachment 2. Recognizing the easy misinterpretation of meeting

instructions/time allotted, and unanticipated challenges that arose due to the online format, the Consultation and Engagement Panel offered all participants in the first round of meetings an additional opportunity to present to the panel. The two stakeholder groups expressing concerns participated in this additional opportunity. Following the additional presentation opportunity, the two stakeholder groups were sent follow-up emails inviting additional written feedback.

Opportunities will be provided for stakeholders to speak with the panel in each subsequent engagement phase of the solid waste management plan update. In response to feedback received, future opportunities will be designed to allow adequate time for stakeholders to present to the panel, and steps will be taken to ensure instructions and expectations are very clear at the outset to avoid misinterpretation.

Feedback from Consultation and Engagement Panel
Below is feedback provided directly by the Consultation and Engagement Panel on the design and implementation of the pre-engagement phase.

> The Solid Waste Management Plan Independent Consultation and Engagement Panel was pleased by Metro Vancouver's decision to have a pre-engagement phase as part of the solid waste management plan update. Our observation was that stakeholders also very much appreciated this effort and that it may be an effective practice for Metro Vancouver on all large plan updates to help build trust and reinforce a tone of an open and transparent engagement process.
>
> During the pre-engagement phase, the panel provided feedback and suggestions to staff for approaches to pre-engagement on both the public and Indigenous engagement strategies as well as connections to stakeholders in a variety of communities, especially those that are traditionally not well-represented in engagement on Metro Vancouver policy development. We also met with stakeholders that wanted to present to the panel, and our panel Chair was part of the Metro Vancouver delegation requested by the Fraser Valley Regional District.
>
> We substantially agree with the points that staff have made in their report on pre-engagement to the Zero Waste Committee. A few things that we would particularly highlight for reflection:
>
> - There is a trust deficit with some stakeholders. Ensuring the objectivity of how information is presented, and providing timely updates and access to information to allow stakeholders ongoing opportunities to provide additional input, will be important throughout the solid waste management plan update engagement process. We expect that contemplated committees, including the Industry Advisory Committee along with the provincially required public and technical advisory committee(s), will also play a key role.
> - The pre-engagement process saw very little participation from what Metro Vancouver has defined as equity-denied groups. This gives a good sense of the limits of relying on the usual distribution channels and speaks to the need for new and novel tactics in the solid waste management plan update engagement strategy to ensure that these communities are reached.
> - Engagement with Indigenous Nations and peoples will be a dynamic process as relationships evolve and deepen, and the expectations of new provincial legislation

are more fleshed out. The provincial government's recently released *Declaration on the Rights of Indigenous Peoples Act (DRIPA)* Draft Action Plan provides some emerging guidance to reflect on moving forward.

Public and Technical Advisory Committee(s)

Metro Vancouver will be convening individuals with relevant personal qualities and experiences to sit on public and technical advisory committee(s) for the solid waste management plan update, as required by provincial guidelines. The guidelines allow separate committees or a single combined committee. Committee members will have lived or technical experience related to reducing waste and advancing the circular economy and/or waste management in general, and members will be selected following an open call for applications. Engagement with Indigenous Nations and communities is expected to be coordinated through a parallel, collaborative process.

Consistent with Metro Vancouver's efforts to be fully transparent and consider as many perspectives as possible throughout the solid waste management plan development process, Metro Vancouver will engage on the structure and membership selection criteria of the committee(s) prior to initiating the call for applications.

A questionnaire will be issued to seek input on whether there be a single combined committee or separate technical and public committees, what sectors and interests should be represented on the committee(s), and what personal qualities and experience members should have, as described below. Stakeholders will also be invited to provide written feedback in addition to or instead of completing the questionnaire. The final criteria for selection of committee(s) members will be brought to the Zero Waste Committee and Board for consideration, and individual members will be recommended to the Zero Waste Committee and Board in a closed meeting following review of applications.

The following is an initial list of sectors/interests that could be represented by committee(s) members:

- Adjacent regional district elected official
- Circular economy
- Construction and demolition industry
- Extended producer responsibility programs
- Food service
- Government agencies and health authorities
- Large waste generators (e.g. academic institutions, transportation hubs, entertainment sector)
- Multi-family residences
- Non-governmental/non-profit organizations and environmental stewardship groups
- Public members-at-large (e.g. youth, seniors, and multicultural, accessibility, and resident/community associations)
- Recycling industry
- Retail/grocery
- Small- and medium-sized businesses
- Waste industry

The following is an initial list of committee(s) members' personal qualities, perspectives and experience:

- Demonstrates community/committee involvement and the ability to work collaboratively with others
- Demonstrates personal commitment to zero waste/circular economy goals
- Demonstrates the ability to advance innovation
- Experienced with waste and recycling (i.e. lived experience, technical expertise or both)
- May belong to a community that is typically underrepresented (e.g. women, LGBTQ2S+, Indigenous persons, immigrants, visible minority, persons with disabilities, youth etc.)
- Represents the interests/perspectives of a group of people/sector

Pre-Engagement Process Learnings

This is the first time that the Metro Vancouver Solid Waste Services Department has included a pre-engagement phase in a public engagement process, and it has proven to be a valuable component to a robust engagement program. Multiple stakeholders expressed support for early engagement, including pre-engagement. It also provided a mechanism to test run the level of reach using Metro Vancouver's usual engagement methods, and revealed areas where more analysis will be important to design future engagement to reach sectors that did not respond. Allowing more time for pre-engagement feedback and more opportunities for stakeholders to speak with the Consultation and Engagement Panel may be beneficial in the future.

It is also important to note that because the pre-engagement phase occurred during the height of COVID-19 pandemic restrictions in BC, many of the typical in-person engagement methods could not be used. In-person pre-engagement methods may have revealed some different pre-engagement feedback. As the solid waste management plan update process will be a multi-year process, there will be opportunities to respond future feedback on engagement process, and to adapt engagement approaches and methods even as subsequent phases of engagement are designed and launched. Attachment 3 presents an engagement timeline that will be updated as engagement progresses.

Publication of Written Correspondence Related to the Solid Waste Management Plan Update

In an effort to maintain transparency and allow stakeholders to view feedback from others throughout the engagement process, any written correspondence received in relation to the solid waste management plan update process will be included as attachments to publicly available engagement reports to the Zero Waste Committee and Board, and made available on the Metro Vancouver website for stakeholders to easily access and view, unless the author requests that the submission not be made public. Authors will be notified in advance of the intent to publish their submissions. To avoid duplication and ensure all submissions related to the solid waste management plan are published in a fair and equal manner, correspondence on this topic will not be additionally included as information items on Zero Waste Committee agendas. Written correspondence to be published includes:

- Letters (received by mail or electronically)
- Emails containing substantive comments in response to specific engagement phases, including attachments
- PowerPoint presentations submitted alone or as part of a presentation given to staff or the Consultation and Engagement Panel

ALTERNATIVES

This is an information report. No alternatives are presented.

FINANCIAL IMPLICATIONS

Activities related to planning for and implementing the pre-engagement phase of the solid waste management plan update are covered under the approved Solid Waste Services budget. There are no additional financial implications.

CONCLUSION

To deliver a robust engagement process that goes above and beyond Metro Vancouver's typical process, exceeds provincial requirements, and addresses previous concerns raised about engagement, a pre-engagement phase was introduced to help shape the engagement process and phases for the solid waste management plan update.

Feedback from the pre-engagement phase of the regional solid waste management plan update will inform an engagement program for the project which will be brought to the Board later this year, including timing and details for subsequent engagement phases. During pre-engagement, Metro Vancouver received feedback from over 350 individuals or groups on preferred communication channels, methods of participation, and information needs to support engagement in future phases of the solid waste management plan update process, via a variety of engagement methods. Feedback included support for a variety of online and in person engagement opportunities including focused, sector-specific discussions, and early, continuous opportunities to provide feedback. Participants supported collaborative, transparent engagement process.

A questionnaire will be issued to help inform the structure and membership selection criteria for public and technical advisory committee(s) for the solid waste management plan update. The results of that questionnaire and proposed structure and selection criteria of the committee(s) will be brought to the Board later this year prior to an open call for applications and establishment of the committee(s).

Attachment 3 presents an engagement timeline that will be updated as engagement progresses.

Attachments *(Orbit #46246217)*

1. Solid Waste Management Plan Update - Pre-Engagement Records
2. Written Submissions and Metro Vancouver Responses
3. Solid Waste Management Plan Engagement Timeline

References

Solid Waste Management Plan Pre-Engagement Video

45781820

Solid Waste Management Plan Update - Pre-Engagement Records

Index:

1 – Summary of Solid Waste Management Plan Independent Consultation and Engagement Panel Meetings

Meeting #1: October 27, 2020

- Learned about panel members' experiences and expertise
- Shared perspectives around meaningful engagement and professional experience

Meeting #2: November 23, 2020

- Received a high-level overview of solid waste and recycling management systems in the region
- Reviewed previous engagement leading up to development of the current solid waste management plan, and discussed learnings
- Discussed key audiences and reviewed Provincial guidelines for engagement

Meeting #3: December 14, 2020

- Drafted guiding principles and objectives of engagement
- Discussed pre-engagement strategies
- Discussed phases of engagement, audiences, and engagement methods

Meeting #4: January 12, 2021

- Reviewed detailed pre-engagement methods and approach
- Reviewed draft public engagement program

Meeting #5: February 16, 2021

- Discussed Indigenous engagement approach
- Reviewed pre-engagement plans
- Planned for upcoming Stakeholder / Panel meetings

Meeting #6: April 19, 2021

- Continue pre-engagement planning
- Discuss potential advisory committee structure and criteria

Meeting #7: May 17, 2021

- Series of stakeholder meetings with the Consultation and Engagement Panel
- Stakeholder / Panel meeting debrief
- Pre-engagement update

Meeting #8: June 18, 2021

- Review pre-engagement feedback

2 – Notification Emails and Letters

Email to solid waste database (3,566 successful recipients):

metrovancouver | SOLID WASTE

Join the Conversation:
Help Shape Solid Waste Policy in Metro Vancouver

You are receiving this message as you have subscribed to receive notifications about Metro Vancouver projects, services, and initiatives.

To continue receiving updates, please click here to sign up or adjust your topics of interest to include "Solid Waste Management Plan Update". ***Note that unless you are signed up to receive updates on this specific topic, you will not receive regular updates on this project.***

Metro Vancouver is responsible for waste reduction, recycling planning, and the operation of a series of solid waste facilities in the region. Metro Vancouver's solid waste management plan is due for an update. This long-range plan guides the management of solid waste and recyclable materials in the region including key goals, targets and strategies.

Your voice matters

Help shape the public engagement process. Let us know how and how often you'd like to hear from us, and what information you would need from us to provide feedback on solid waste management topics and issues.

To learn more or provide feedback:

- Visit our engagement web page to learn more about this project and complete our 3-minute pre-engagement questionnaire. The questionnaire closes **May 28, 2021**.
- Email zerowaste@metrovancouver.org to set up an online meeting with our staff project team or consultant.
- Sign up for a timeslot on **May 17, 2021** to speak directly with members of the Consultation and Engagement Panel, by emailing zerowaste@metrovancouver.org. This is an independent panel of engagement experts established to advise and guide Metro Vancouver as we develop and implement an engagement program. Panel members are listed on our web page.
- Sign up here to receive future updates and invitations to engagement events and activities. Be sure to click "Solid Waste Management Plan update" as a topic of interest.

Chat with the Chair

Watch Jack Froese, Chair of Metro Vancouver's Zero Waste Committee and host Jaeny Baik, a former CBC broadcaster, as they discuss how 'zero waste' can be achieved by working towards a circular economy.

SERVICES AND SOLUTIONS FOR A LIVABLE REGION

Email to Urban Indigenous contacts (17 successful recipients):

metrovancouver | SOLID WASTE

Join the Conversation:
Help Shape Solid Waste Policy in Metro Vancouver

You are receiving this message as you or your organization may be impacted by Metro Vancouver's solid waste management plan update.

If you do not wish to receive any future notifications about Metro Vancouver projects, services, and initiatives, please email zerowaste@metrovancouver.org.

Metro Vancouver is responsible for waste reduction, recycling planning, and the operation of a series of solid waste facilities in the region. Metro Vancouver's solid waste management plan is due for an update. This long-range plan guides the management of solid waste and recyclable materials in the region including key goals, targets and strategies.

Your voice matters

Help shape the Indigenous engagement approach. Metro Vancouver is committed to collaborating with Indigenous Nations, communities and organizations in developing

and implementing a solid waste management plan that responds to your values and priorities. We would like to learn about your priorities and areas of interest in waste reduction, recycling, and economic development, and how you would like to engage with us.

To learn more or provide feedback:

- Complete our short Indigenous pre-engagement questionnaire **by July 2, 2021.**
- Visit our engagement web page if you'd like to learn more about this project.
- Email zerowaste@metrovancouver.org to set up an online meeting with our staff project team or consultant.
- Sign up for a timeslot on **May 17, 2021** to speak directly with members of the Consultation and Engagement Panel, by emailing zerowaste@metrovancouver.org. This is an independent panel of engagement experts established to advise and guide Metro Vancouver as we develop and implement an engagement program. Panel members are listed on our web page.

Chat with the Chair

Watch Jack Froese, Chair of Metro Vancouver's Zero Waste Committee and host Jaeny Baik, a former CBC broadcaster, as they discuss how 'zero waste' can be achieved by working towards a circular economy.

SERVICES AND SOLUTIONS FOR A LIVABLE REGION

Email to organizations identified as being potentially impacted by solid waste management plan – notify only at milestones or at launch of new phases of engagement (99 successful recipients):

metrovancouver | SOLID WASTE

Join the Conversation:
Help Shape Solid Waste Policy in Metro Vancouver

You are receiving this message as you or your organization may be impacted by Metro Vancouver's solid waste management plan update.

To receive regular updates on this project, please click here to sign up – select "Solid Waste Management Plan Update" as your topic of interest. ***You will not be automatically added to this list.***

If you do not wish to receive any future notifications about Metro Vancouver projects, services, and initiatives, please email zerowaste@metrovancouver.org.

Metro Vancouver is responsible for waste reduction, recycling planning, and the operation of a series of solid waste facilities in the region. Metro Vancouver's solid waste management plan is due for an update. This long-range plan guides the management of solid waste and recyclable materials in the region including key goals, targets and strategies.

Your voice matters

Help shape the public engagement process. Let us know how and how often you'd like to hear from us, and what information you would need from us to provide feedback on solid waste management topics and issues.

To learn more or provide feedback:

- Visit our engagement web page to learn more about this project and complete our 3-minute pre-engagement questionnaire. The questionnaire closes **May 28, 2021**.
- Email zerowaste@metrovancouver.org to set up an online meeting with our staff project team or consultant.
- Sign up for a timeslot on **May 17, 2021** to speak directly with members of the Consultation and Engagement Panel, by emailing zerowaste@metrovancouver.org. This is an independent panel of engagement experts established to advise and guide Metro Vancouver as we develop and implement an engagement program. Panel members are listed on our web page.
- Sign up here to receive future updates and invitations to engagement events and activities. Be sure to click "Solid Waste Management Plan update" as a topic of interest.

Chat with the Chair

Watch Jack Froese, Chair of Metro Vancouver's Zero Waste Committee and host Jaeny Baik, a former CBC broadcaster, as they discuss how 'zero waste' can be achieved by working towards a circular economy.

SERVICES AND SOLUTIONS FOR A LIVABLE REGION

Follow-up email to Boards of Trade and Chambers of Commerce – May 20, 2021:

SPRING 2021

Metro Vancouver Management Plan Update

Upcoming Engagement Opportunities

At Metro Vancouver, we rely on our relationships with the business community to help plan for a livable, prosperous and sustainable region. As we prepare to update long-term management plans across a number of our core services, we are seeking your input, to better understand your members' realities, values and challenges.

To ensure you're aware of opportunities to have your voice heard across all the management plan updates, we would like to regularly reach out, on a quarterly basis, with a summary of current and upcoming engagement opportunities - from panel discussions, webinars, workshops and online feedback, to direct communication and presentations to your board of trade / chamber of commerce. We hope this approach will make it easier for your organization to provide feedback.

To make sure these updates are reaching the most appropriate members of your organization, please let us know the best person to contact as opportunities for engagement arise.

Metro Vancouver Management Plans

Long-term, integrated management plans are the foundational documents that guide Metro Vancouver's areas of legislated responsibility: Drinking Water, Regional Parks, Liquid Waste, Solid Waste, Air Quality, Housing and Regional Growth. To ensure that these regional plans capture current realities and needs, they are regularly updated every 8 to 10 years.

In this first of a regular series of updates, we are highlighting two management plan engagement opportunities, for the *Solid Waste Management Plan* and the *Clean Air Plan*.

Help our region shape a new *Solid Waste Management Plan*

Metro Vancouver is responsible for waste reduction, recycling planning, and the operation of a series of solid waste facilities in the region.

The regional *Solid Waste Management Plan* contains goals, targets, and actions for waste reduction and recycling. The plan is due for an update, to identify opportunities to accelerate waste reduction and diversion while reducing

greenhouse gases and
promoting a circular economy.

We'd like to hear more about your preferred communication channels, methods of participation, key information required, and what is needed to make participation easier.

Read more about the *Solid Waste Management Plan* update and let us know how you'd like to participate in engagement.

- Solid Waste Management Plan pre-engagement questionnaire
- Schedule a call with Metro Vancouver staff or a consultant who can summarize your feedback

Solid Waste Management Plan Engagement

Solid Waste Management Plan Engagement

Metro Vancouver's draft *Clean Air Plan* – comment period open to June 15

Metro Vancouver's draft 2021 *Clean Air Plan* is the regional plan for managing air quality and greenhouse gases over the next 10 years. Actions in the plan will reduce air contaminant emissions, including greenhouse gases, and support the commitment to a carbon neutral region by 2050. The *Clean Air Plan* will also help improve air quality in the region.

The draft plan includes over 130 actions and recommendations in key are to reduce emissions from the largest sources in this region transportation of people and goods, buildings we live and work in, industrial sources, a others.

Your input is valued

Metro Vancouver is seeking comments and feedback on the proposed actions, and suggestions for implementation. You are invited to review the plan and provide your feedback through a public forum and/or by submitting a feedback form. Learn more about the Clean Air Plan.

- Draft *Clean Air Plan*
- Draft *Clean Air Plan* summary
- Provide feedback on the Draft *Clean Air Plan*
- Email the project team directly to provide feedback or request more information

Clean Air Plan Engagement

Clean Air Plan Engagement

SERVICES AND SOLUTIONS FOR A LIVABLE REGION

Letter to Metro Vancouver member jurisdictions:
*Note that Tsawwassen First Nation received the solid waste management plan pre-engagement letter sent the letter to Local First Nations, and is therefore not included in the list below.

Bowen Island Municipality	City of Richmond
City of Burnaby	City of Surrey
City of Coquitlam	City of Vancouver
City of Delta	City of White Rock
City of Langley	District of North Vancouver
City of Maple Ridge	District of West Vancouver
City of New Westminster	Electoral Area A
City of North Vancouver	Township of Langley
City of Pitt Meadows	Village of Anmore
City of Port Coquitlam	Village of Belcarra
City of Port Moody	Village of Lions Bay

Executive Offices
Tel. 604 432-6215 or via email
CAOAdministration@metrovancouver.org

April 27, 2021

File: PE-13-01

[redacted]
VIA EMAIL: [redacted]

Dear [redacted]

Metro Vancouver's Solid Waste Management Plan Update

Metro Vancouver is updating its solid waste management plan, and would like to learn how [redacted] would like to be engaged in the development of the new plan over the next two to three years.

The *Integrated Solid Waste and Resource Management Plan* was approved by the Provincial Government in 2011 and requires an update. By applying a framework of resilience, equity and prosperity, the updated plan will build on the current plan's strengths and identify opportunities for accelerated waste reduction and diversion, while reducing greenhouse gases and promoting a circular economy.

A comprehensive engagement program involving a broad range of stakeholders and perspectives will be critical in the development of an updated solid waste management plan. Metro Vancouver's engagement on this project is guided by an Independent Consultation and Engagement Panel, a group of engagement experts established to advise and guide Metro Vancouver staff and Board.

Seeking Your Feedback

Metro Vancouver would like to learn how [redacted] would like to be notified of engagement opportunities and provide input at various stages in the plan development process (e.g. preferred channels of communication, level and frequency of updates). The information we receive will help shape an engagement program that describes engagement phases, methods and audiences, and strives to align with the priorities and preferences of a broad range of audiences. This pre-engagement phase will close on **May 28, 2021**.

Metro Vancouver will work closely with municipal staff through the REAC-Solid Waste Sub-Committee to understand and identify opportunities to advance waste reduction and recycling in key

priority areas, such as single-use items, illegal dumping, and construction and demolition waste. Although the development of a new solid waste management plan is anticipated to be a two- to three-year process, Metro Vancouver and municipal staff will continue to work together in the interim to advance efforts in these key areas.

An engagement web page has been developed and is available here or at metrovancouver.org by searching 'solid waste management plan engagement'. The web page describes the project, outlines the phases of engagement, and links to a 3-minute questionnaire.

If you have any questions or comments about the review and update of Metro Vancouver's solid waste management plan, require additional information, or wish to schedule an online meeting or presentation with Metro Vancouver, a third party consultant that will summarize feedback, or the Consultation and Engagement Panel, please contact Sarah Evanetz, Division Manager, Strategy and Stakeholder Relations, by email at Sarah.Evanetz@metrovancouver.org or by phone at 778-995-3476.

Thank you in advance for your consideration.

Your sincerely,

Sav Dhaliwal
Chair, Metro Vancouver Board

Jack Froese
Chair, Zero Waste Committee

SD/JF/PH/sl

44113443

Letter to adjacent regional districts:
**the following letter was sent to the Fraser Valley Regional District, Sunshine Coast Regional District, and Squamish-Lillooet Regional District*

Executive Offices
Tel. 604 432-6215 or via email
CAOAdministration@metrovancouver.org

April 28, 2021

File: PE-13-01

[redacted] Regional District
[redacted]
[redacted]
VIA EMAIL: [redacted]

[redacted]:

Metro Vancouver's Solid Waste Management Plan Update

Metro Vancouver is updating its solid waste management plan and would like to learn how the [redacted] would like to be engaged in the development of the new plan over the next two to three years.

The *Integrated Solid Waste and Resource Management Plan* was approved by the Provincial Government in 2011 and requires an update. By applying a framework of resilience, equity and prosperity, the updated plan will build on the strengths of the current plan and identify opportunities for accelerated waste reduction and diversion, while reducing greenhouse gases and promoting a circular economy.

A comprehensive engagement program involving a broad range of stakeholders and perspectives will be critical in the development of an updated solid waste management plan. Metro Vancouver's engagement on this project is guided by an Independent Consultation and Engagement Panel, a group of engagement experts established to advise and guide Metro Vancouver staff and Board.

Seeking Your Feedback

Metro Vancouver would like to learn how the [redacted] would like to be notified of engagement opportunities and provide input at various stages in the plan development process (e.g. preferred channels of communication, level and frequency of updates). The information we receive will help shape an engagement program that describes engagement phases, methods and audiences, and strives to align with the priorities and preferences of a broad range of audiences. This pre-engagement phase will close on **May 28, 2021**.

45031013

An engagement web page has been developed and is available here or at metrovancouver.org by searching 'solid waste management plan engagement'. The web page describes the project, outlines the phases of engagement, and links to a 3-minute questionnaire.

In addition to the questionnaire, below are several other opportunities to provide feedback on the engagement process for the development of a new solid waste management plan:

- Presentation to the [redacted] Regional District Board
- Meeting with Metro Vancouver
- Meeting with a third party consultant that will summarize feedback
- Meeting with Metro Vancouver's Independent Consultation and Engagement Panel

If you have any questions or comments about the review and update of Metro Vancouver's solid waste management plan or would like to schedule one of the above opportunities, please contact Sarah Evanetz, Division Manager, Strategy and Stakeholder Relations, by email at Sarah.Evanetz@metrovancouver.org or by phone at 778-995-3476.

Thank you in advance for your consideration.

Your sincerely,

Sav Dhaliwal
Chair, Metro Vancouver Board

Jack Froese
Chair, Zero Waste Committee

SD/JF/PH/sl

45031013

Letter to Local First Nations:

Katzie First Nation
Kwantlen First Nation
Kwikwetlem First Nation
Matsqui First Nation
Musqueam Indian Band
Qayqayt First Nation
Semiahmoo First Nation
Squamish Nation
Tsawwassen First Nation
Tsleil-Waututh Nation

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

April 27, 2021

File: CP-16-01

[redacted]
VIA EMAIL: [redacted]

Metro Vancouver's Solid Waste Management Plan Update

[redacted]:

Metro Vancouver is updating its solid waste management plan, and would like to learn how the [redacted] wishes to participate in the development of the new plan over the next two to three years.

Developed by Metro Vancouver's Board and approved by the Provincial Government in 2011, the current *Integrated Solid Waste and Resource Management Plan* established goals and targets for waste reduction and recycling, and contained supporting strategies and actions for Metro Vancouver and its member jurisdictions. For reference, the plan can be downloaded from metrovancouver.org by searching "solid waste management plan".

Over the next two to three years, Metro Vancouver is updating the plan and hopes to engage with Indigenous peoples, stakeholders, governments, and communities of interest. By applying a framework of resilience, equity and prosperity, the updated plan will build upon the strengths of the current plan to identify opportunities to accelerate waste reduction and diversion, while reducing greenhouse gases and promoting a circular economy that minimizes waste, maintains materials at their highest value, and generates economic opportunities in the region. Metro Vancouver's engagement on this project is guided by the Independent Consultation and Engagement Panel, a group of engagement experts established to advise and guide Metro Vancouver staff and Board.

43634479

Metro Vancouver is committed to collaborating with [redacted] in developing and implementing a solid waste management plan that responds to your values and priorities. We would like to learn about your community's priorities and areas of interest in waste reduction, recycling, and economic development and how you would like to engage with us. We welcome your input via email, letter, online submission (available here) or a meeting, to help shape an Indigenous engagement strategy for this project.

Given the current COVID-19 meeting constraints, we would be pleased to schedule an online meeting with your staff, or alternatively can present to Chief and Council at your convenience to determine how we can best work together toward the development of the new plan for solid waste in the region.

We would appreciate meeting with or receiving comments from you before **July 2, 2021** about how to structure engagement on developing the plan. If you're not able to participate in this initial phase we understand, but do hope we can connect at a later date on the content of the plan. There will be multiple future opportunities to help shape the content of the solid waste management plan.

If you have any questions or require additional information regarding the update of Metro Vancouver's solid waste management plan, or wish to schedule a meeting or presentation with Metro Vancouver, a third party consultant that will summarize feedback, or the Engagement Panel, please contact Nanette van Doorn by email at Nanette.vanDoorn@metrovancouver.org or by phone at 604-451-6073. More information is available here or at metrovancouver.org by searching 'solid waste management plan engagement'.

Thank you in advance for your consideration and I look forward to the opportunity of working together.

Yours sincerely,

Sav Dhaliwal
Chair, Metro Vancouver Board

SD/PH/sl

43634479

Letter to First Nations whose territories encompass all or part of Metro Vancouver, and the Métis Nation of British Columbia:

Cowichan Tribes	Skawahlook First Nation
Douglas Band (Xa'xtsa)	Snaw-Naw-As First Nation (Nanoose First Nation)
Halalt First Nation	Soowahlie First Nation
Lake Cowichan First Nation	St'at'imc Chiefs Council (Lillooet Tribal Council)
Lyackson First Nation	Sto:lo Nation
Pauquachin First Nation	Sto:lo Tribal Council
Penelakut Tribe	Stz'uminus First Nation
Peters First Nation	Te'mexw Treaty Association
Samahquam First Nation	Tsartlip First Nation
Seabird Island Band	Tsawout First Nation
Shxw’ow'hamel First Nation	Tseycum First Nation
Skatin Nations	Métis Nation of BC

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

April 28, 2021

File: PE-13-01

[redacted]
[redacted]
[redacted]
[redacted]
VIA EMAIL: [redacted]

Metro Vancouver's Solid Waste Management Plan Update

Dear [redacted]:

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43940884

We would like to learn about your priorities and areas of interest in waste reduction, recycling, and economic development and how you would like to engage with us. We welcome your input via email, letter or online submission (available here), to help shape an Indigenous engagement strategy for this project.

We would appreciate receiving comments from you before **July 2, 2021** about how to structure engagement on developing the plan. If you're not able to participate in this initial phase we understand, but do hope we can connect at a later date on the content of the plan. There will be multiple future opportunities to help shape the content of the solid waste management plan.

If you have any questions or require additional information regarding the update of Metro Vancouver's solid waste management plan, or wish to schedule a meeting or presentation with Metro Vancouver, a third party consultant that will summarize feedback, or the Engagement Panel, please contact Nanette van Doorn by email at Nanette.vanDoorn@metrovancouver.org or by phone at 604-451-6073. More information is available here or at metrovancouver.org by searching 'solid waste management plan engagement'.

Thank you in advance for your consideration and I look forward to the opportunity of working together.

Yours sincerely,

Sav Dhaliwal
Chair, Metro Vancouver Board

SD/PH/nvd

43940884

3 – Sectors and Organizations Providing Feedback

Organization Name	Sectors Providing Feedback During Pre-engagement	Method of participation / input
BSIbio Packaging Solutions Inc.	Industry / Manufacturing	• Interview with staff • Presentation to the panel • Questionnaire
Simon Fraser University (SFU)	Post-Secondary	• Interview with staff
Building Owners and Managers Association (BOMA)	Property Management	• Interview with staff
Associated Labels and Packaging	Industry / Manufacturing	• Interview with staff • Questionnaire
Share, Reuse, Repair Initiative	Environmental NGO	• Interview with staff
Binners' Project	Waste and Recycling Industry	• Interview with staff • Questionnaire
Recycling Council of BC	Waste and Recycling Industry	• Interview with staff
Supernova Waste to Energy Inc.	Waste and Recycling Industry	• Interview with staff • Questionnaire
Retail Council of Canada	Retailer	• Interview with staff
Waste Connections of Canada	Waste and Recycling Industry	• Presentation to the panel • Written submission
Revolution Resource Recovery	Waste and Recycling Industry	• Presentation to the panel • Written submission
Clothing retailer (requested to be anonymous)	Retailer	• Email
Tourism Vancouver	Tourism	• Interview with staff
BCIT	Post-Secondary	• Interview with staff
CityHive	Youth	• Interview with staff
Waste Management Association of BC	Waste and Recycling Industry	• Letter • Presentation to the panel
Super Save Group	Waste and Recycling Industry	• Presentation to the panel
Fraser Valley Regional District	Government	• Letter • Invited presentation at FVRD Board meeting
HSR Zero Waste	Waste and Recycling Industry	• Questionnaire • Presentation to the panel
Revolution Resource Recovery	Waste and Recycling Industry	• Questionnaire • Presentation to the panel • Written submission
Master Recycler	Environmental NGO	• Presentation to the panel
Republic Services	Waste and Recycling Industry	• Presentation to the panel
Waste Management Association of BC (WMABC)	Waste and Recycling Industry	• Presentation to the panel • Written Submission • Questionnaire
Agricultural Advisory Committee		• Presentation
LandlordBC	Property Management	• Interview questions via email • Questionnaire
OneEarth	Environmental NGO	• Interview with staff

Metro Vancouver member municipalities	Government	• Municipal Workshop • Letter (City of Port Moody and Village of Belcarra
Ministry of Environment	Government	• Municipal workshop
• BC Used Oil Management Association • BentallGreenOak • Business Council of BC • Cadillac Fairview • City of Burnaby • City of North Vancouver • City of North Vancouver • City of Surrey • Ecowaste Industries Ltd. • Empower Environmental Solutions • EZEE Hoarding Inc. • North Shore Table Matters network • Recycling Committee of Marina Housing Co-op (multi-family building in Vancouver) • Regional District of Nanaimo • Rethink2gether • Sea to Sky Removal • Squamish-Lillooet Regional District • Surrey Schools • Sustainabiliteens • Tri-Cities Chamber of Commerce • Tymac Launch Service Ltd. • Urban Development Institute • Vancouver Native Housing Society • Willowbrook Recycling Inc • Zwapitico	• Waste and recycling industry – 28% • Local Government, Government Agencies and Ministries – 22% • Non-Governmental Organizations / Non-profits – 16% • Other sectors: Property management, Industry/Manufacturing, Construction Industry, Education, Retailer, Board of Trade / Chamber of Commerce / Business Improvement Association	• Questionnaire

4 – Issues Identified

Issue #	Category	Issue / Feedback	Source(s) by Engagement Method	Source(s) by Sector
1	Audiences	Bring in multiple jurisdictions with different responsibilities to the table. Let stakeholders hear from each other to gain a better understanding. Systems between adjacent regions are highly interconnected and partnerships have the potential to bring improvements to waste diversion, the environment, airshed health, and economy	Interviews and Written submission	Industry / Manufacturing, Government
2	Audiences	Include construction contractors	Interview	Post-Secondary
3	Audiences	Include the food industry, and manufacturers of food packaging and labels	Interview	Industry/Manufacturing
4	Audiences	Include innovators, small to medium businesses who are adopting circular economy practices, production, and economic development, as well as representative from finance, insurance/risk, culture/people	Interview	Environmental NGO
5	Audiences	Include adjacent regional districts, smaller businesses, small haulers, small processing facilities	Interview	Waste and Recycling Industry
6	Audiences	Engage with employees on the ground - elevate those perspectives as experts in their own organizations.	Interview	Tourism
7	Audiences	Engage a wide range of industry experts	Presentation to the panel	Waste and Recycling Industry
8	Audiences	Youth groups are keen to engage on sustainability	Workshop / Presentation	Government
9	Audiences	Include Chambers of Commerce, Boards of Trade, and business councils	Workshop / Presentation	Government
10	Audiences	Engage with industry associations, tourism associations, building associations, and Business Improvement Areas	Workshop / Presentation	Government
11	Audiences	Reach out to schools through existing environmental outreach programs in partnership with school districts	Workshop / Presentation	Government
12	Audiences	Engage youth through existing networks. Youth are interested and eager to understand the system, process, roles and responsibilities	Interview	Youth associations

13	Audiences	For youth not currently engaged in existing networks: meet them where they are at. Partner with service agencies or community groups. Offer incentives, honorariums or food.	Interview	Youth associations
14	Communication	Work with partners on the ground to distribute or display educational materials		Environmental NGO, Government, Waste and Recycling Industry
15	Communication	Lots of communication is best and promotes transparency. Often reminders are necessary as stakeholders are busy.	Presentation to the panel	Waste and Recycling Industry
16	Communication	Information needs to be presented and communicated in a firm and honest manner	Written submission	Waste and Recycling Industry
17	Engagement approach	Allow sufficient time for thorough engagement and provision of feedback.	Interviews and Presentations to the panel	Post-Secondary, Waste and Recycling Industry
18	Engagement approach	Early and continuous engagement and communication is key, including involving community members and industry prior to decision making or changes. Iterative process that brings parties together multiple times, not just individual voices. Modify the process if needed.	Interviews and Presentations to the panel	Waste and Recycling Industry, Post-Secondary, Tourism, Propoerty Management, Industry/Manufacturing, Environmental NGO
19	Engagement approach	Transparency on how input was used and reasons why decisions were made. Strong feedback loops. Especially important if decisions are made contrary to stakeholder feedback. Work with stakeholders to understand reasons, or explore alternatives together.	Interviews and Presentations to the panel	Post-Secondary, Waste and Recycling Industry, Industry/Manufacturing
20	Engagement approach	Favour a hands on approach. Beyond being heard, we want to be part of pilots or activities to find solutions. Engagement process itself is an opportunity to network and advance and activate initiatives and partnerships even while we go through the planning process	Interviews	Industry / Manufacturing, Environmental NGO

21	Engagement approach	Be respectful of time. Many key audiences are very busy. Design engagement to accommodate busy schedules. Compensation may be beneficial.	Interviews and Presentations to the panel	Industry / Manufacturing, Environmental NGO, Waste and Recycling Industry, Retail
22	Engagement approach	Clearly define purpose of engagement and expectations of the participant, what components of the plan are up for discussion / what issues will or will not be considered, and what participants should expect at the end of the process	Interviews and Presentations to the panel	Waste and Recycling Industry, Environmental NGO
23	Engagement approach	Engagement is needed during the implementation phase of the plan as well	Presentation to the panel	Industry / Manufacturing, Waste and Recycling Industry
24	Engagement approach	Listen actively and reflect concerns objectively	Interview and Presentation to the panel	Retail, Waste and Recycling Industry
25	Engagement approach	Need to have an open mind to foster open, fair, balanced, and collaborative engagement. No pre-determined outcomes	Presentation to the panel and Written submission	Waste and Recycling Industry
26	Engagement approach	Support for the Consultation and Engagement Panel	Written submission	Waste and Recycling Industry
27	Engagement approach	Build trust by actively listening to and truly considering feedback.	Presentation to the panel	Waste and Recycling Industry
28	Engagement approach	Gain buy-in; have stakeholders engaged and feel ownership over the process and outcome	Presentation to the panel, Interview	Waste and Recycling Industry
29	Engagement events	Suggest working with partners on the ground to help host and facilitate sector-specific engagement events, possibly as part of existing meetings or events. Examples of partners: non-profit organizations, community groups, community centres, libraries, community advisory groups and policy councils, municipalities.	Presentation to the panel, Municipal Workshop, and Interview	Environmental NGO, Government, Waste and Recycling Industry

30	Engagement methods	Prefer real time engagement at a physical location, with decision-makers present to hear comments first hand.	Interview	Industry / Manufacturing, Waste and Recycling Industry
31	Engagement methods	Prefer face to face meetings and delegations to elected officials	Written submission	Government
32	Engagement methods	Focused, sector-specific discussions are preferred	Interview	Industry / Manufacturing, Environmental NGO, Retail, Property Management, Waste and Recycling Industry
33	Engagement methods	Email was generally supported as a means of notification or receiving information	Interviews, Questionnaire (79% of respondents prefer email notifications, followed by social media, news media, and onlin presentation/ meeting)	Multiple
34	Engagement methods	Online questionnaire, email, online comment sections, and online meetings or webinars were generally favoured as means of providing feedback.	Questionnaire (78% preferred online questionnaire)	Multiple, Resident
35	Engagement methods	Those representing organizations are more likely to prefer email or online presentations or meetings; wherease those representing their household are more likely to prefer email and social media	Questionnaire	Multiple, Resident
36	Engagement methods	Meet small business operators at their place of business	Interview and Presentation to the panel	Waste and Recycling Industry

37	Engagement methods	Suggest putting up posters to reach the wider community, including posters at bottle depots	Interview	Waste and Recycling Industry
38	Engagement methods	Smaller online and in-person meetings, with opportunities to hear others in a larger group setting	Interview	Retail
39	Engagement methods	Workshops are appreciated	Interview, written submissions	Government, Post-Secondary
40	Engagement methods	Prefer to provide feedback via written responses	Interview	Property Management
41	Engagement methods	Include website, online events, Facebook, mail, telephone polling, and in-person events when possible.	Presentation to the panel	Waste and Recycling Industry
42	Engagement methods	Request to be included in a working group and have the opportunity to contribute to its development, including objectives and outcomes.	Presentation to the panel	Waste and Recycling Industry
43	Engagement methods	Email, newspaper, social media, website, webinar, in-person meetings, community events, 1-on-1 meetings, existing industry association meetings	Presentation to the panel	Waste and Recycling Industry
44	Engagement methods	Develop take-home engagement kits to support engagement to facilitate discussion at community or youth group meetings	Workshop / Presentation	Government
45	Engagement methods	Municipalities prefer progress updates at regular meetings, dedicated municipal meetings / workshops, and some 1 on 1 meetings	Workshop / Presentation	Government
46	Engagement methods	Pre-packaged social media materials are easy to re-post to spread the word	Workshop / Presentation	Government
47	Engagement methods	Request written updates to member municipalities at major milestones, as engagement opportunities arise, and throughout all phases of engagement and solid waste management plan development	Workshop / Presentation, Written submission	Government

48	Engagement methods	Regular updates to committee and opportunities for input at key milestones	Workshop / Presentation	Agriculture
49	Engagement methods	Support for online methods including questionnaires, forums, comment boxes	Interviews, Questionnaire, Presentations to the panel	Multiple
50	Engagement methods	Online portal where stakeholders can log in to view information and provide feedback	Questionnaire	Multiple, Resident
51	Engagement methods	Municipal newsletters, posters, billboards, existing committee meetings, written updates to municipal Mayors and Council	Questionnaire	Multiple, Resident
52	Engagement methods	Opportunities for feedback in places that stakeholders already go, such as the mall or grocery store; chat circles with politicians	Questionnaire	Multiple, Resident
53	Information required	Require up-to-date information on new technologies, and draw on industry expertise for this.	Interview and Presentation to the panel	Industry / Manufacturing, Waste and Recycling Industry
54	Information required	Simple, easy to understand documents for review and comment, use graphics	Interview	Waste and Recycling Industry, Retail, Environmental NGO

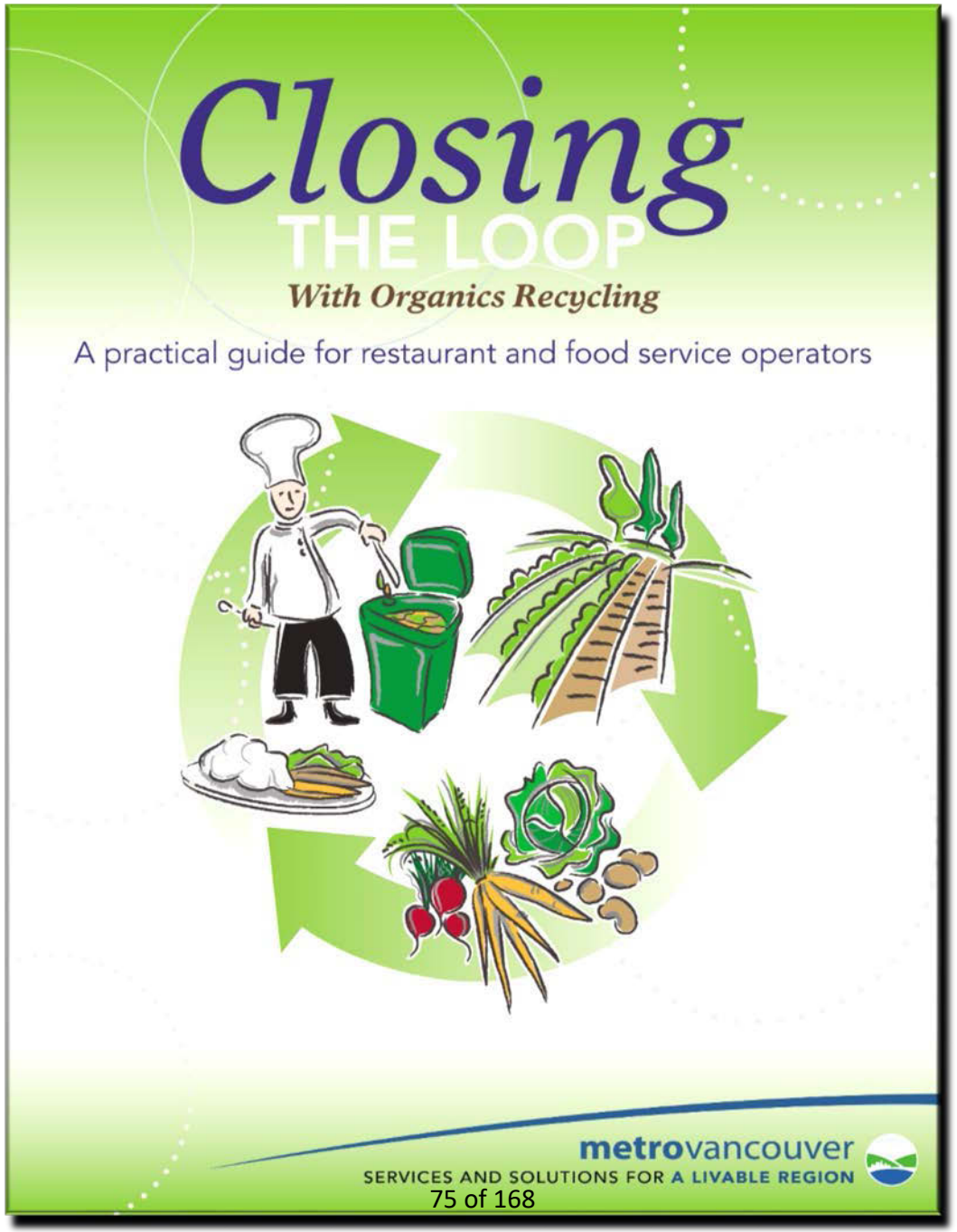
55	Information required	Sector-specific data (including financial analysis, comparisons to other jurisdictions, and waste audit information)	Interview	Tourism, Property Management
56	Information required	Trends in commodities market, where recyclables end up, brokers and processors locally and elsewhere, information on the regional solid waste system (facilities)	Interview	Post-Secondary
57	Information required	More communication is needed, including data sharing on Metro Vancouver's system and processes; previous lack of communication	Presentation to the panel	Waste and Recycling Industry
58	Information required	Include educational components on how the waste and recycling system works, including public and private sector, and facilities within and outside of the region	Presentation to the panel	Waste and Recycling Industry
59	Information required	Acknowledge the complexities of potential options, and don't overly simplify.	Presentation to the panel	Waste and Recycling Industry
60	Information required	As part of engagement, feature success stories of businesses and organizations.	Presentation to the panel	Waste and Recycling Industry
61	Information required	Methods and assumptions that are used to calculate diversion rates	Written submission	Waste and Recycling Industry
62	Information required	Information on people's current practises and barriers for zero waste living	Interview	Environmental NGO

63	Information required	Require information on context, what is happening across the region, who is responsible for solid waste management and zero waste policy, partners for implementation.	Interview	Youth associations
64	Information required	Current solid waste management plan background; fate of waste and recycling after it is collected; waste diversion statistics; financial and environmental impact of options; solid waste management challenges; global best practices; latest research and technologies; scope of solid waste management plan update	Questionnaire	Multiple, Resident
65	Information required	Present accurate, objective facts and data at the outset, as a foundation for conversations about the plan, leveraging industry expertise where needed.	Presentation, Presentations to the panel	Government, Waste and Recycling Industry
66	Methods	Methods effective for youth include targeted social media, campaigns, video, partnering with influencers, Facebook (for older youth), instagram, Tick tock, informal webinar, hubs/places of gathering, community boards at shops, engagement events, short surveys. Partner with groups that work with youth to host events and communicate to networks.	Interview	Youth associations
67	Pre-engagement	Appreciate the proactive approach to pre-engagement, by involving stakeholders as early as possible	Presentation to the panel	Waste and Recycling Industry, Environmental NGO

68	Research	Suggestion to review example solid waste plans in Portland, York Region, and City of Toronto, which have circular economy and waste reduction focuses	Interview	Environmental NGO
69	Timing	Don't engage during the summer months	Presentation to the panel	Waste and Recycling Industry
70	Timing	Require adequate time to provide feedback, especially to accommodate local government council, committee or Board meetings (4-6 week turnaround is insufficient)	Workshop / Presentation; written submission	Government
71	Translations	In general, no need for translated materials at this time. A few requests for Chinese language information, and other languages mentioned including French, Spanish, Punjabi, Croatian, Greek, Hindi, Japanese, Korean, German, Tagalog, Vietnamese.	Interviews, Questionnaire (93% reponded that translations not required)	Multiple
72	Translations	Translation necessary. Use graphics as well.	Interview	Environmental NGO

5 – Stakeholder Presentations to the Consultation and Engagement Panel

Presentation from BSIbio



What's In. What's Out.

So what does compostable mean? In Metro Vancouver, it refers to materials that are accepted for processing by regional organics recycling facilities.

That said, the mandatory organics waste ban that will come into effect in 2015 in our region will focus on removing food from the garbage. The easiest and best place for restaurants to tackle this process is back-of-house where pre-consumer (prep trim, spoilage) and post-consumer (plate scrapings, uneaten breads, tea bags) food waste can be collected and directed to dedicated green bins.

What's In	What's Out
• White or kraft paper napkins	• Plastic and foil condiment packages
• Plain, unlined paper plates and boxes	• Plastic wrap and trays
• Plain, uncoated plant fibre-based (bagasse) plates, bowls and clamshells	• Polystyrene #6 plastic cutlery
• Wax-coated bags and wrap paper*	• Polystyrene #6 (Styrofoam) plates and clamshells
• Plain and food-grade wax-coated wooden cutlery and chopsticks*	• 100% PLA cold cups, clamshells, cutlery and straws
**If using wax coating, check with your hauler or organics recycler to see if it is accepted.*	• PLA-coated or lined paper hot cups, plates, wrappers and take-out boxes
	• Biodegradable corn or potato starch plastic containers
	• Oxo-degradable plastic bags

Take-Out. Delivery.

There is an ever-increasing variety of next-generation take-out packaging and disposable serving ware for food service.

In order for restaurant customers to recycle the compostable clamshells and plates they take home, you should choose products that are accepted by residential green bin programs around Metro Vancouver and not only acceptable for commercial purposes.

This category includes:

- uncoated paper plates, bowls and napkins made of 100% paper, preferably high in pcf (post-consumer fibre) recycled content.
- fibrewares (bagasse, sugar cane, bamboo, palm leaf) – that are plants or plant by-products pressed into sturdy moisture-resistant containers and plates. An effective substitute for polystyrene or plastic-coated paper.
- folding cardboard containers that are increasingly made with 100% recycled paper content. Only uncoated and unlined products are accepted by organics recyclers.
- wooden cutlery and serving accessories like forks, knives, spoons and chopsticks. These are acceptable as long as any coating is plant-based.
- Wax coatings may be acceptable. Check with your hauler or organics recycler to see if it's accepted.

The following materials were once accepted in specialized commercial facilities, however, they are no longer accepted.

- Corn or plant-based polylactic acid (PLA) plastics that replaced non-recyclable (#6) plastics. PLA can replace plastic as a moisture-resistant lining in paper hot cups, folding boxes and as a coating on paper sandwich or burger wrappers. There are also 100% PLA cold cups, clamshells, cutlery and straws. However, PLA is no longer recommended as compostable or biodegradable.
- Plant starch-based packaging and cutlery. This is a plastic substitute made from potato or other vegetable starches. Some brands, however, still add conventional plastics which means they are only biodegradable.
- Oxo-degradable plastic bags.

Always check with your hauler or supplier to confirm whether your chosen product is accepted as compostable in either municipal or specialized commercial facilities.

Is a compostable product always the best choice?

From an environmental point-of-view, the answer is most often 'yes.' From the operational side, however, the answer is 'it depends'. To avoid confusing your staff and customers, it's always best not to mix compostables and non-compostables within a product category such as cups, straws, napkins or in common combinations such as a cup, lid and straw.

Go re-usable! Where viable, a re-usable foodware program is always the better choice.

What`s Out

- 100% PLA Cold cups, clamshells, cutlery & straws

What`s Out

- PLA coated or lined paper hot cups, plates, wrappers and take-out boxes

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That said, the mandatory organics waste ban that will come into effect in 2015 in our region will focus on removing

restaurants to tackle this process is back-of-house where pre-consumer (prep trim, spoilage) and post-consumer (plate scrapings, uneaten breads, tea bags) food waste can be collected and directed to dedicated green bins.

What's In	What's Out
• White or kraft paper napkins	• Plastic and foil condiment packages
• Plain, unlined paper plates and boxes	• Plastic wrap and trays
• Plain, uncoated plant fibre-based (bagasse) plates, bowls and clamshells	• Polystyrene #6 plastic cutlery
• Wax-coated bags and wrap paper*	• Polystyrene #6 (Styrofoam) plates and clamshells
• Plain and food-grade wax-coated wooden cutlery and chopsticks*	• 100% PLA cold cups, clamshells, cutlery and straws
	• PLA-coated or lined paper hot cups, plates, wrappers and take-out boxes
	• Biodegradable corn or potato starch plastic containers
	• Oxo-degradable plastic bags

*If using wax coating, check with your hauler or organics recycler to see if it is accepted.

10 Closing the Loop with Organics Recycling

Take-Out. Delivery.

There is an ever-increasing variety of next-generation take-out packaging and disposable serving ware for food service.

In order for restaurant customers to recycle the ostable clamshells and plates they take home, you choose products that are accepted by residential bin programs around Metro Vancouver and not only table for commercial purposes.

ategory includes:

- coated paper plates, bowls and napkins made of 0% paper, preferably high in pcf (post-consumer fibre) ycled content.
- fibrewares (bagasse, sugar cane, bamboo, palm leaf) – that are plants or plant by-products pressed into sturdy moisture-resistant containers and plates. An effective substitute for polystyrene or plastic-coated paper.
- folding cardboard containers that are increasingly made with 100% recycled paper content. Only uncoated and unlined products are accepted by organics recyclers.
- wooden cutlery and serving accessories like forks, knives, spoons and chopsticks. These are acceptable as long as any coating is plant-based.
- Wax coatings may be acceptable. Check with your hauler or organics recycler to see if it's accepted.

The following materials were once accepted in specialized commercial facilities, however, they are no longer accepted.

- Corn or plant-based polylactic acid (PLA) plastics that replaced non-recyclable (#6) plastics. PLA can replace plastic as a moisture-resistant lining in paper hot cups, folding boxes and as a coating on paper sandwich or burger wrappers. There are also 100% PLA cold cups, clamshells, cutlery and straws. However, PLA is no longer recommended as compostable or biodegradable.
- Plant starch-based packaging and cutlery. This is a plastic substitute made from potato or other vegetable starches. Some brands, however, still add conventional plastics which means they are only biodegradable.
- Oxo-degradable plastic bags.

Always check with your hauler or supplier to confirm whether your chosen product is accepted as compostable in either municipal or specialized commercial facilities.

Go re-usable! Where viable, a re-usable foodware program is always the better choice.

Is a compostable product always the best choice?

From an environmental point-of-view, the answer is most often 'yes.' From the operational side, however, the answer is 'it depends'. To avoid confusing your

The following materials … are no longer accepted.
- Corn or plant based… plastics...
- PLA is no longer recommended as compostable or biodegradable

- Plant starch based packaging and cutlery…

What's In. What's Out.

So what does compostable mean? In Metro Vancouver, it refers to materials that are accepted for processing by regional organics recycling facilities.

That said, the mandatory organics waste ban that will come into effect in 2015 in our region will focus on removing food from the garbage. The easiest and best place for restaurants to tackle this process is back-of-house where pre-consumer (prep trim, spoilage) and post-consumer (plate scrapings, uneaten breads, tea bags) food waste can be collected and directed to dedicated green bins.

What's In

- White or kraft paper napkins
- Plain, unlined paper plates and boxes
- Plain, uncoated plant fibre-based (bagasse) plates, bowls and clamshells
- Wax-coated bags and wrap paper*
- Plain and food-grade wax-coated wooden cutlery and chopsticks*

**If using wax coating, check with your hauler or organics recycler to see if it is accepted.*

What's Out

- Plastic and foil condiment packages
- Plastic wrap and trays
- Polystyrene #6 plastic cutlery
- Polystyrene #6 (Styrofoam) plates and clamshells
- 100% PLA cold cups, clamshells, cutlery and straws
- PLA-coated or lined paper hot cups, plates, wrappers and take-out boxes
- Biodegradable corn or potato starch plastic containers
- Oxo-degradable plastic bags

What's In. What's Out.

The mandatory organics waste ban that will comeinto effect in 2015 in our region will focus on removing ood from the garbage and landfill. The easiest and best place for restaurants to tackle the process is the back-of-house food preparation (prep trim and spoilage), and front of house food waste (plate scrapings, leftovers,tea bags). This food waste can be collected and directed to dedicated green bins. To make the most of your organics collection you may be able to add compostable paper and food service and packaging materials (paper napkins, uncoated fibre containers and fibre clamshells. Check with your hauler for a complete list of accepted items

Compostable & ACCEPTED

- Kitchen scraps
- left over food
- white/kraft paper napkins
- plain, uncoated plant fibre-based boxes and clamshells
- plain, uncoated wooden cutlery and chopsticks

NOT Compostable = NOT ACCEPTED

- Plastic and foil condiment packages
- Plastic wrap and trays
- Plastic cutlery (is it recyclable?)
- Plastic plates and clamshells (is it recyclable and clean?)
- Plastic bags
- Oxodegradable plastic bags
- Plastic coated paper cups
- Plastic coated paper & containers

Compostable & NOT SURE?

Some **certified** compostable materials / packaging are only accepted in some facilities. Please check with your waste hauler on the following items:

- 100% PLA cups
- PLA coated paper and containers
- Wax coated paper and containers
- Certified compostable cutlery
- Wax coated wooden cutlery

COMPOSTABLE IN INDUSTRIAL FACILITIES
BPI

OK compost VINÇOTTE

What does compostable mean? In Metro Vancouver, compostable is an internationally recognised standard where products must physically disintegrate into compost, actually biodegrade (be consumed by microorganisms), and have no negative impact on the ability of the compost to support plant growth.

Take-Out. Delivery.

There is an ever-increasing variety of next-generation take-out packaging and disposable serving ware for food service.

In order for restaurant customers to recycle the compostable clamshells and plates they take home, you should choose products that are accepted by residential green bin programs around Metro Vancouver and not only acceptable for commercial purposes.

This category includes:

- uncoated paper plates, bowls and napkins made of 100% paper, preferably high in pcf (post-consumer fibre) recycled content.
- fibrewares (bagasse, sugar cane, bamboo, palm leaf) – that are plants or plant by-products pressed into sturdy moisture-resistant containers and plates. An effective substitute for polystyrene or plastic-coated paper.
- folding cardboard containers that are increasingly made with 100% recycled paper content. Only uncoated and unlined products are accepted by organics recyclers.
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Go re-usable! Where viable, a re-usable foodware program is always the better choice.

Is a compostable product always the best choice?

From an environmental point-of-view, the answer is most often 'yes.' From the operational side, however, the answer is 'it depends'. To avoid confusing your staff and customers, it's always best not to mix compostables and non-compostables within a product category such as cups, straws, napkins or in common combinations such as a cup, lid and straw.

Take-Out. Delivery.

There is an ever-increasing variety of next-generation take-out packaging and disposable serving ware for food service.

In order for restaurant customers to recycle the compostable clamshells and plates they take home, you should choose products that are accepted by residential green bin programs.

This category of products includes:

- uncoated paper plates, bowls and napkins made of 100% paper, preferably high in pcf (post-consumer fibre)recycled content.
- fibre-wares (bagasse/sugar cane, bamboo, palm leaf)-plants or plant by-products pressed into sturdy moisture-resistantcontainers and plates. An effective substitute for polystyrene or plastic-coated paper.
- folding cardboard containers are increasingly made with 100% recycled paper content. Only uncoated and unlined products are accepted by organics recyclers.
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The acceptance of certified compostable packaging varies between facilities in the Lower Mainland. Between rapid product growth and composting technology, some compostable packaging may not be accepted in residential green bin programs .

- **Corn or plant-based polylactic acid (PLA)** bio-plastics are commonly used in food containers, cups, cutlery, and as barrier coating on paper products. Though fully compostable under optimum commerical compost conditions, PLA products are best suited to commercial facilities that are able to identify it for processing. Choosing PLA packaging requires that suppliers, haulers and facilities work together to ensure material acceptance.
- **Plant starch-based bio-plastics** are made from potato or other vegetable starches. Certified compostable products are available, however some brands still add conventional plastic to the starch resinand then claim to be"biodegradable". Biodegradable does not mean compostable.
- **"Biodegradable" plastics** are common in the market-place. Biodegradable products should not be used in your compostable packaging program unless the product is also certified compostable.
- **Photo- or Oxo-degradableplastics** are conventional plastic products with additives that work to break the plastic bonds into smaller fragments. These products are not accepted in commercial compost systems.

Always check with your hauler and packaging supplier to confirm whether your chosen product is accepted in regional commercial facilities

Closing the Loop with Organics Recycling 11

MASTER RECYCLER

Serving the Vancouver Lower Mainland

Recommendations to the Metro Van SWMP UPdate Consultation & Engagement Panel

May 17, 2021

Provided by: Emily McGill

We acknowledge that meeting takes place on **unceded** and **occupied Coast Salish territory**, specifically that of the **Skwxwú7mesh** (Squamish), **xʷməθkʷəy̓əm** (Musqueam), and **mi ce:p kʷətxʷiləm** (Tsleil-Waututh) Nations.

Master Recycler Program Overview

- Annual 8-week community “train-the-trainer” course (~22h in-class, 30 hours outreach + field trips)
- Plus micro-courses for business and municipalities (4 sessions + outreach mentoring)
- Course topics include:
    - *Circular economy | Waste Prevention Hierarchy | Organics diversion & composting | EWaste | Repair | Entrepreneurship | Behaviour change | Outreach and Marketing*
- 5-year wait list; 155 participants to date, 80+ graduates
- 3000+ outreach hours, centered on education

MASTER RECYCLER
Serving the Vancouver Lower Mainland

Context on Emily's Experience re: Today's Input

- **How Metro Vancouver works** *Several years consulting for NZWC PD&P Working Group, engagement in stakeholder consultation processes*
- **Solid Waste Management Planning Processes** *2 years as Jr. Engineer with Tetra Tech Canada, involved in SWMP updates, waste audits and reports for businesses, regions, municipalities*
- **Policy Impacting Waste Reduction and Entrepreneurship on-the-ground** *Assessing, convening feedback on, and reporting via Tetra Tech, Textile Lab for Circularity, Master Recycler Vancouver*
- **Providing feedback in public consultation processes** *Member of Talk Vancouver, federal policy inputs, working groups on various aspects of organic waste management*

MASTER RECYCLER
Serving the Vancouver Lower Mainland

Recommendations to the Engagement Panel

- **Clarify purpose and establish expectations of public consultation**
  - *E.g. Citizen sense of ownership of SWMP outcomes. Set precedent for effective input from public on regional SWMP updates. Qualitative AND quantitative feedback.*
- **Create a webpage tracking progress of SWMP update (and ways to engage)**
- **Create a feedback tracking system to avoid double-entries across multiple input streams**
  - *Potential 'member logins': Make it fun/engaging/gamified to encourage consistent participation.*
- **Outsource facilitation of virtual workshops to gather public input**
  - *Process: Establish workshop procedures, inputs/outputs, tracking*
  - *Potential partners: Master Recycler | Village Vancouver | Friendship Center(s) | Community Centers | Libraries | Local non-profits like SPEC | SRRI | BrandsForBetter*

MASTER RECYCLER
Serving the Vancouver Lower Mainland

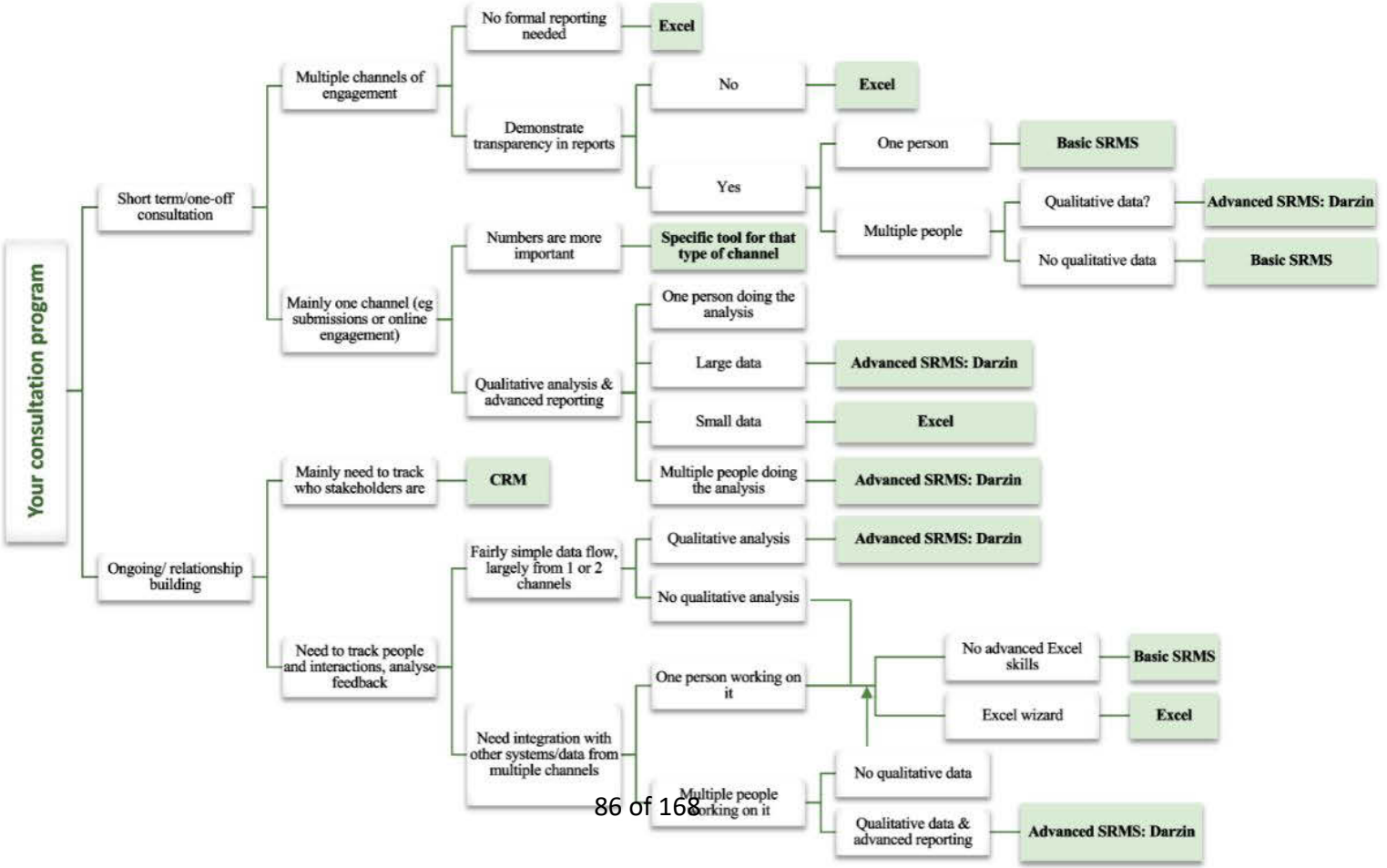
High-Level Hopes

- Supports education that is already ‘in the wild’
  (re: prevention hierarchy)
- Highly transparent and digestible approach, appropriate for different cultures and linguistic needs
- Actively engages “hot” communities in areas of expertise - a way to access highly engaged folks that is fair to those who are less engaged
- Actively advocates for ‘green job’ development; integrates with existing initiatives

MASTER RECYCLER
Serving the Vancouver Lower Mainland

Choosing the right software for your needs

Some clear CRM management software is highly possible and recommended! This decision tree is just an example of how clear the choice can be.



Thank you!

And good luck!

emily@masterrecyclervancouver.ca

MASTER RECYCLER
Serving the Vancouver Lower Mainland

Republic Services

Roosevelt Regional Landfill &
H.W. Hill Renewable Natural Gas Facility

Republic Services at a Glance

Fortune 500 / RSG

We believe in a cleaner, safer and healthier world where people thrive – not just for today but for generations to come.

14 million
customers in the U.S. and Canada

33,000+
employees

340
collection operations

201
transfer stations

64
recycling centers

192
active solid waste landfills

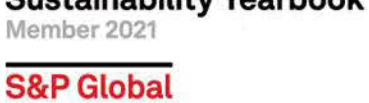
5 Million
tons of recyclable materials managed annually

2,800
natural gas (RNG) trucks

Safety Priority
41% better than Industry average

REPUBLIC SERVICES

Recognized as a Leader in the Industry (partial list)



Roosevelt Regional Landfill Operated by Republic Services

- Accepted first load of BC waste in 1991.
- Permitted for 2.3 million tonnes of MSW Annually.
- Customers have included: Metro Vancouver RD, Cowichan Valley RD, qathet RD, commercial generators, Whistler, Coastal First Nations and & Northern Affairs Canada.
- Operates under the Klickitat County Comprehensive Solid Waste Management Plan approved by Washington State.

- Republic Services is a current residual disposal services provider to MVRD.

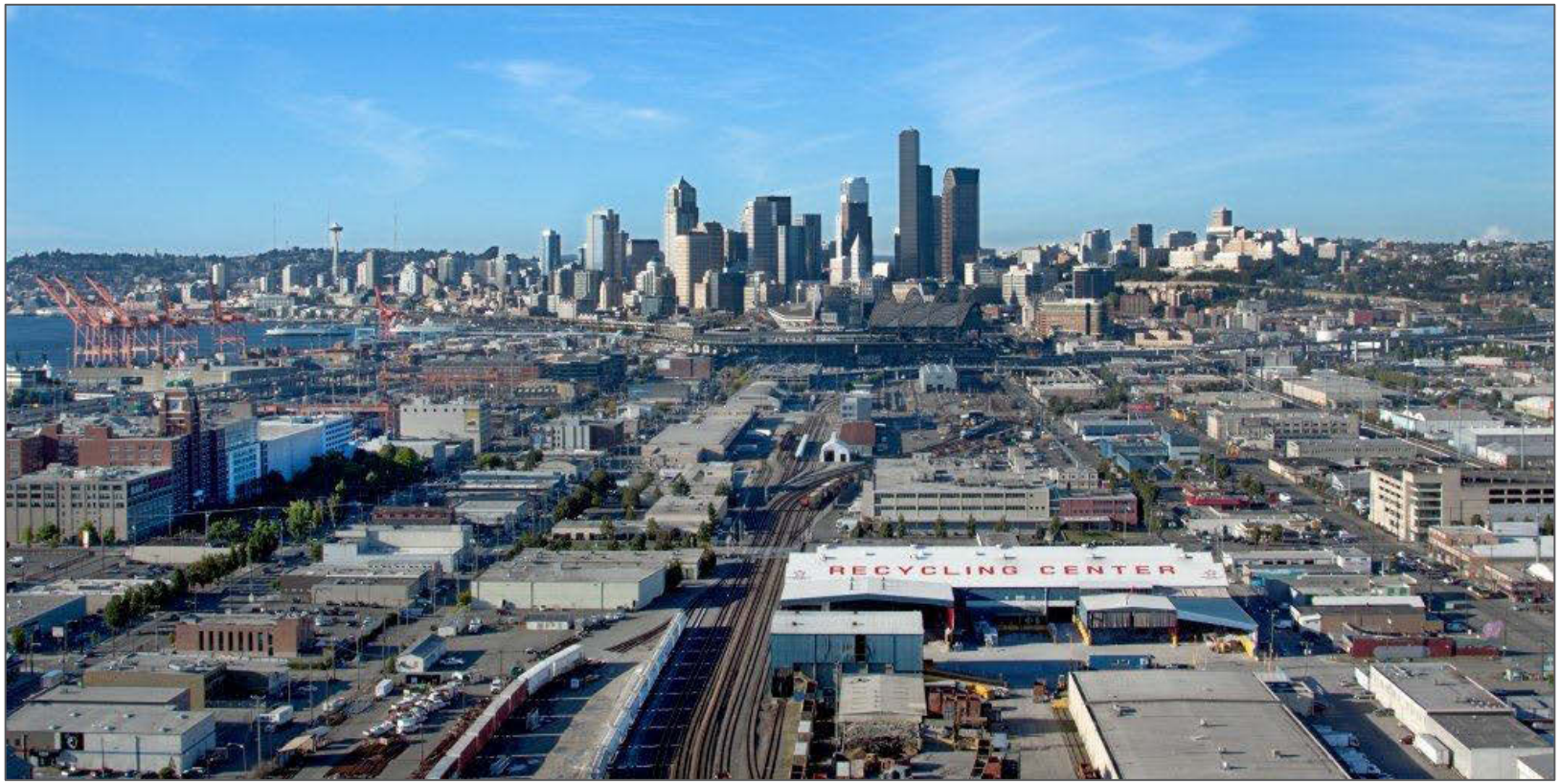
Roosevelt's methane capture rate is the best in the Pacific Northwest. Communities who value the least GHG contributions to their waste disposal choose Republic Services.

Klickitat PUD- H.W. Hill Renewable Natural Gas Facility Located at Roosevelt Landfill

- Partnership with Klickitat County Public Utility District at Roosevelt Regional Landfill
- Largest RNG Facility in United States
- Harvesting Methane and other Gases generated through the natural organic breakdown of waste
- Producing RNG volumes the equivalent of 68 Million Liters of Gasoline each year
- Demonstrated 95% Gas Capture Rate
- RNG Distributed through the BP Williams Pipeline servicing Western Washington and British Columbia.

Washington State Governor Jay Inslee *participates in the ribbon cutting of the Renewable Natural Gas facility at the landfill. Governor Inslee spoke about this plant on numerous occasions, as well as during his State of the State Address in front of the legislature in 2020.*

Republic Services – Seattle Materials Recovery Facility



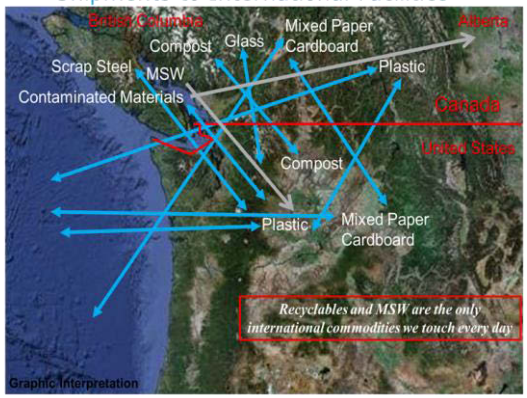
Largest Recycling Facility in the Pacific Northwest

Pre-Engagement – Shaping the Process

Guiding Principles:

- Information should include educational components on how recycling works; all three parts of waste stream – recyclables, organics and residuals, are commodities. For those that are exported to reach facilities that provide resiliency to our system, export is protected under international trade agreements.

Shipments to International Facilities



- Acknowledgement should be given to the strengths of the current system that utilizes a complement of facilities located in and out of region and a competitive environment in both procurement processes for service providers and within the private sector that supports the local recycling industry.

Ideas Generation:

- Realistic perspectives and expectations management should be adopted based on experience that technology and behavioral changes always take longer than one may want.

Shaping the Process Continued

Options Analysis:

- Solid waste is a complex topic. Simplistic slogans work for behavioural change but not for analyzing potential options.
- Don’t dumb it down.
- GHG emission calculations should include a wholistic approach that recognizes the full compliment of factors that contribute to environmental impacts.

Engagement on Draft Plan:

- Listen actively and reflect those concerns objectively.

Other feedback:

- No consultations during the summer months.
- Provide findings throughout the Phases.
- Allow online dialogue amongst participants.
- Provide the list of participants publicly.
- Communicate in real time – online, as much as possible and monthly at the least.
- Don’t include social medias such as Twitter or Instagram.
- Do include a website, online, Facebook, snail mail.
- Consider telephone polling.
- Hold in-person events when possible, to complement virtual sessions.

Thank You.

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6 – Solid Waste Areas of Interest

Areas of interest that emerged through the pre-engagement process are summarized below.

Circular Economy / systems approach	• Circular economy • Share, reuse, repair • Single-use item strategies • Greenhouse gas emissions • Environmental stewardship • Green jobs • Holistic approach – including elements higher up the waste hierarchy, and factors beyond waste such as social justice, environment, land/air/water, economy • Zero waste and lighter living
Recycling	• Commercial waste and recycling challenges • Extended producer responsibility • Co-mingled and source separated recycling • Communications on how to recycle and the efficacy and efficiency of recycling processes • Calculation of recycling rates (methodology)
Infrastructure	• Systems, facilities, and industry to advance zero waste and circular economy • Waste-to-energy as a means to handle residual waste • Technological innovations • Local management of recyclable materials • Alternative fuel
Disposal	• Landfill and waste-to-energy • Illegal dumping • Long term waste disposal
Social Considerations	• Equity and inclusion • Social impact • Change management • Social enterprises supporting waste diversion • Access to eco-friendly goods • Citizen ownership over solid waste management plan, and connection to day-to-day activities, habits, practices
Financial Considerations	• Cost (and cost incentives) of using and purchasing sustainable materials • Direct and indirect costs as a result of solid waste policies, including affordability for businesses • Tipping fee revenue • Procurement • Economic development
Sectors or Material Types	• Construction • Compostable plastics and packaging • Recyclable packaging • Soft plastics • Food • Food packaging and labels • Textiles

	• Consumer goods • Electronics
Other	• Inter-municipal coordination • Reporting metrics • Metro Vancouver's roles in regulation and service provision • Waste flow bylaws potentially impacting neighbouring jurisdictions • Coordination between regulations and plans

7 – Online Public Pre-Engagement Questionnaire Results

Respondent Profile

	Count	Percentage
Total number of respondents	335	100%
Respondents who live in the Metro Vancouver region	321	96%
Responding on behalf of…	Organization: 50 Household: 285	Organization: 15% Household: 85%

Organization Type

The 50 respondents who completed the questionnaire on behalf of their organization, company or group identified their organization as the following types:

Organization Type	Count	Percentage
Waste and Recycling Industry	14	28%
Local Government, Government Agencies and Ministries	11	22%
Non-Governmental Organizations / Non-Profits	8	16%
Other	8	16%
Property Management	3	6%
Industry / Manufacturing	2	4%
Retailer	1	2%
Board of Trade / Chamber of Commerce / Business Improvement Association	1	2%
Construction Industry	1	2%
Education (high school and post-secondary)	1	2%
Total	**50**	

The following organizations identified their organization name:

Associated Labels and Packaging
BC Used Oil Management Association
BentallGreenOak
Binners' Project
BSIbio Packaging Solutions Inc
Business Council of BC
Cadillac Fairview
City of Burnaby
City of North Vancouver
City of North Vancouver
City of Surrey
Ecowaste Industries Ltd.
Empower Environmental Solutions

EZEE Hoarding Inc.
HSR Zero Waste
LandlordBC
North Shore Table Matters network
Recycling Committee of Marina Housing Co-op (multi-family building in Vancouver)
Regional District of Nanaimo
Rethink2gether
Revolution
Sea to Sky Removal
Squamish-Lillooet Regional District
Supernova Waste to Energy Inc.
Surrey Schools
Sustainabiliteens
Tri-Cities Chamber of Commerce
Tymac Launch Service Ltd.
Urban Development Institute
Vancouver Native Housing Society
Waste Management Association of BC
Willowbrook Recycling Inc
Willowbrook Recycling Inc
Zwapitico

Over the next 2-3 years, Metro Vancouver will provide progress updates and ask for feedback on aspects of the solid waste management plan update. How do you prefer to receive this information? Select all that apply.

How to Receive Information	**Responding on behalf of organization**	**Responding on Behalf of Household**	**Total**	**Percent**
Email	48	216	**264**	**79%**
Social Media	7	114	**121**	**36%**
Notices in news media	10	94	**104**	**31%**
Online presentation or meeting	23	56	**79**	**24%**
Mail	2	21	**23**	**7%**
Text message	1	24	**25**	**7%**

Do not want to receive updates	2	11	**13**	**4%**
Other	1	5	**6**	**2%**
Total Survey Respondents in this category	50	285	**335**	

How do you prefer to receive information ("Other"):

A online portal for the update process where I (or a set of randomly selected citizens) have a login & can weigh in as feedback is required, alerted via text, social and email when feedback rounds are live. Similar to "Talk Vancouver".
If online presentation, I would value the opportunity to ask questions and have a dialogue.
Metro Van website
Metro Vancouver website
Municipal newsletters, if exists.
Posters, billboards
Through MWRCC meetings and bi-annual or annual written updates to be able to provide to Mayor and Council
Twitter

How do you prefer to provide feedback on the solid waste management plan update? Select all that apply

How to Receive Feedback	**Responding on Behalf of Organization**	**Responding on Behalf of Household**	**Total**	**Percent**
Online via a questionnaire	36	226	**262**	**78%**
Email	33	133	**166**	**50%**
Online via a comment section	12	69	**81**	**24 %**
Online meeting or webinar	22	49	**71**	**21%**

In-person event at a community event (when safe to do so)	14	33	**47**	**14%**
In-person event at a nearby community center (when safe to do so)	12	34	**46**	**14%**
Mail-in survey	2	34	**36**	**11%**
Over the phone	10	11	**21**	**6%**
Other	2	3	**5**	**1%**
Total Survey Respondents in this category	50	285	**335**	

How do you prefer to provide feedback ("Other")?:

(Online via questionnaire)...and comment section.
At places I already go, when I am in the active minset of consumption - like the mall or grocery store.
If there are relevant issues to the development industry, we could setup a meeting with you.
in-person event at Metro Vancouver offices
Mayor &/or councillors host a coffee & chat circle - e.g. like cops do at shops &/or drop in to strata Amenity room; carry forward views heard
Social media
Social media
Via an online portal as I've described above. Provides opportunity for higher quality feedback and deeper engagement. AND through existing waste-centric communities; tap local grassroots orgs to convene feedback sessions.
We can do a video conference meeting through ZOOM, TEAM or Skype.

What information do you need before providing feedback on solid waste management topics and issues? Select all that apply:

	Count	**Percent**
Information about current solid waste management in the region	279	83%
Information on how solid waste is handled in other jurisdictions	200	60%
Copy of the previous solid waste management plan	169	50%
Not sure	40	12%
Other	38	11%

What information do you require to provide feedback on the solid waste management plan update ("Other")?:

1) Provincial and regional recycling and waste diversion statistics that are honestly prepared full chain of life audit and accountability; and 2) Full, true and plain disclosure about Metro's conflicting roles as industry regulator and competitor.
A more accessible breakdown of what the what Metro Vancouver's role is and what kind of feeback I can provide - like transport 2050 from translink
A synopsis of the major challenges of solid waste management and the major sources of solid waste that can not be recycled, reduced or reused.
annual recycling and waste reports for Metro Vancouver and City of Vancouver who look after VLF
any external jurisdiction/province/country if they have ideas proven to work well or better
best practices and how close we are to meeting them,
Comparative of the first 3.
Comparative table works; succinct content less jargon
Detail about the guiding principles of the initiative now, and any foundational assumptions which are not already made explicit in current documentation that is being shared.
Emerging issues, life cycle plans for solar panel replacements; lithium ion batteries at the end of life; life cycles of products that heavy metal and rare earth metals; solid waste from Port Authorities, others that I am still thinking about
Food Waste data for Metro Vancouver, including households AND HRI (Hotels, Restaurants and Industries)
From other countries who have been successful.
Future plans
Global best practices, what progress has MV made against the current plan, what are biggest problem areas
How solid waste is handled in other parts of the world by leaders in sustainability
How Stewardship Agency's can better work with Metro Van
How will recycling options for multi-unit residential buildings be improved and made easier for residents?
Ideally some information about key priorities staff/panelists have already identified as areas of focus
Information about future plans for solid waste
Information about what is in the new Plan
Information from researchers or schools on next gen/new tech solutions
Information on barriers of having certain materials recycled.
Information on how it is being improved in metro Vancouver
information on the key topics and issues Metro Vancouver is considering. The scope of the review.
Information on what's possible and the impact of these options eg, cost to taxpayers, toll on the environment
Informationabout current waste management in Germany
Latest research on impact of using an open 'blue box' for recycling plastics that can be blown out by the wind or taken out by animals. Responsibily when the blue box is emptied into the recycling truck and the loose bits of plastic fall onto ground.
Main highlights/summary of current solid waste plan and how the targets were met/not met since it was created. What are the troubles the old plan clearly does not address. What is the goal (zero waste?)? What needs to happen to get there?
Maybe updated / current information that I may not be aware of
MetroVan rationale for the update
Most recent changes that have been brought into place.
N/A as already involved in MWRCC

none, have been studying the topic for decades
Other initiatives being planned.
Possible new solutions for next plan
Presentation / summary of previous solid waste plan
Proposed ideas and suggestions that you are currently considering.
Radical Success stories are very inspiring
Rationale for updating the plan; what are the current challenges we're trying to fix.
Research and statistics about behaviour around waste
Stop falsifying the information where exactly solid waste is going
the most effective solid waste disposal proposals in the world!
The process that Metro is undertaking to revise the SWMP (overall stages, guidelines, constraints, assumptions). Ideally in a shareable 2minute video format :)
The proposed changes from old to new swmp
understanding of current plans and stakeholders engaged in development of future plans.
What happens to the waste and recycling after it is picked up? If more info was available about where is goes and how it is handled, more residents would trust the system.
What the management plan is for recyclable and compostbale flexible packaging systems
What you are seeking to change, and how it is different than current rules
Your answer to household soft plastic and when you will start picking it up from houses and also when you will work on education for non English speakers from experience they don't understand the recycling and lots gets in the trashcan.

Municipality where the organization, company or group I represent is based:

Municipality	**Count**	**Percent**
Bowen Island	1	0.3%
Burnaby	24	7%
Coquitlam	13	4%
Delta	4	1%
Electoral Area A	1	0.30%
Langley City	4	1%
Langley Township	9	3%
Lions Bay	4	1%
New Westminster	9	3%
North Vancouver City	15	4%
North Vancouver District	22	7%
Pitt Meadows	2	0.6%
Port Coquitlam	8	2 %
Port Moody	3	0.9%
Richmond	8	2%
Surrey	16	5%
Vancouver	136	41%
West Vancouver	4	1%
White Rock	3	0.9%

Maple Ridge	10	3%
Other	10	3%
(blank)	29	9%
Total	**335**	

Are there any people in your organization, company or group who would need education materials or meetings translated into languages other than English in order for them to fully participate?

	Count	**Percent**
Yes	20	93%
No	311	6%
(Blank)	4	1%

If yes, which languages?

Cantonese	5
Mandarin	4
French	4
Spanish	3
Punjabi	1
Croatian	1
Greek	1
Hindi	1
Japanese	1
Korean	1
German	1
Tagalog	1
Vietnamese	1

WMABC

April 29, 2021

Andrea Reimer, Chair
Solid Waste Management Plan Independent Consultation and Engagement Panel

Via E-Mail: zerowaste@metrovancouver.org

Subject: Stakeholder Engagement for Metro Vancouver's Integrated Solid Waste Management Plan

Dear Ms Reimer,

I'm writing to you on behalf of the Waste Management Association of BC's (WMABC) concerning the Independent Panel's public and stakeholder engagement for Metro Vancouver's renewal of its Integrated Solid Waste and Resource Management Plan (ISWRMP).

We are pleased that Metro Vancouver has created and engaged a Solid Waste Management Plan Independent Consultation and Engagement Panel. On behalf of our members and the customers we serve in the MV region, we trust that our experience, input and active engagement would result in a collaborative approach that helps meet the region's sustainability goals. We would be remiss if we did not also raise the importance of the ICI&I generator. It is this sector that generates most of the waste in the Region and is one of the biggest challenges for waste diversion in Metro Vancouver. It has been our past experience that these consultations are often undertaken in absence of those who contribute to the various commodity or waste streams and ultimately bear the cost of the resulting policies.

By way of background, the WMABC is composed of private waste and recycling service providers, processors and suppliers with over 3,000 employees that provide a majority of the waste and recycling services across the province. As an active participant in the waste management services sector in B.C., we have and continue to provide a critical role in the delivery of efficient and cost-effective waste diversion, recycling and disposal services for the municipal and the IC&I sector.

As an industry, we are particularly proud of our leadership role in waste diversion across the province. The members of the WMABC have played a pivotal role in enhancing the diversion of materials in both the municipal and IC&I sectors by providing our strengths in logistics and infrastructure to collect and process these materials in an environmentally responsible manner and return them to the economy as secondary resources. We regard these as examples of a sustainable approach to resource reallocation and promotion of a circular economy.

We stand ready and willing to work to support yours and Metro Vancouver's goals and support our mutual interests. In the interim, should you have any immediate questions, please do not hesitate to contact us.

Regards

Josh J

Josh Jansen van Doorn
Committee Chair, WMABC

Waste Management Association of BC
PO Box 3322, Station Main
Mission, BC V2V 4J5
info@wmabc.ca 778-775-7960

Fraser Valley Regional District

www.fvrd.ca | info@fvrd.ca

May 5, 2021

Chair Sav Dhaliwal and Board of Directors
Metro Vancouver
Metrotower III, 4730 Kingsway
Burnaby, B.C. V5H 0C6

Via email: chair@metrovancouver.org, jfroese@tol.ca

RE: Metro Vancouver's Solid Waste Management Plan – Pre-Engagement

Dear Chair Dhaliwal and Director Froese,

Thank you for the recent letter announcing Metro Vancouver's intention to update your Integrated Solid Waste Management Plan and the desire to obtain input as part of a pre-engagement phase. Our two regions are highly interconnected. Not only do we share a border and a sensitive airshed, but the solid waste systems within each of our regions are inextricably integrated. Decisions made in one region affects the other, which is why collaboration, partnerships, and meaningful dialogue is so valuable.

The Fraser Valley Regional District (FVRD) is committed to working with all stakeholders on zero waste goals and promotion of the circular economy. The solid waste industry is ever changing, and we believe that new partnerships can emerge that will support sustainable solid waste management practices across our regions that are good for the environment, good for the health of our airshed, and good for the economy. Metro Vancouver's new solid waste management plan is an opportunity for our Regional Districts to find solutions to solid waste challenges we both face and to further support local waste diversion efforts and airshed protection priorities.

The FVRD welcomes the opportunity to participate and would like to learn more about the process, the options for providing feedback, the role of the Independent Consultation and Engagement Panel, and of course, the proposed content of the solid waste management plan itself.

For the benefit of the FVRD Board of Directors, we would like to invite Metro Vancouver and a representative of the Independent Consultation and Engagement Panel to present at the next FVRD Board meeting, scheduled for May 27, 2021 at 19:00. This appears to be the only opportunity to present to our Board before the pre-engagement process closes on May 28, 2021, as outlined in your letter.

Please contact Kristen Kohuch, Executive Assistant to CAO and Board of Directors at kkohuch@fvrd.ca to confirm participation at this meeting. We look forward to receiving information about your engagement strategy and to learn more about your new solid waste management plan.

Sincerely,

Jason Lum
Chair, Fraser Valley Regional District Board

June 9, 2021

Chair Dhaliwal and Board of Directors
Metro Vancouver
Metrotower III, 4730 Kingsway,
Burnaby, B.C. V5H 0C6

Via email: chair@metrovancouver.org, jfroese@tol.ca

RE: Metro Vancouver's Solid Waste Management Plan – Pre-Engagement Feedback

Dear Chair Dhaliwal and Director Froese,

Thank you for the delegation to the Fraser Valley Regional District (FVRD)'s Board on May 27, 2021 to speak on Metro Vancouver's engagement strategy for an updated Solid Waste Management Plan. The FVRD Board members appreciate the update and the opportunity to ask questions about this important initiative.

The FVRD is committed to working with all stakeholders to find solutions to solid waste challenges we all face. Below is a summary of the feedback from the FVRD regarding Metro Vancouver's proposed plan and consultation:

- **Development or utilization of additional incineration capacity –** The delegation stated that Metro Vancouver's focus is on "reducing, reusing, recycling, and advancing the circular economy. Metro Vancouver's goal is that it won't have to build additional (incinerator) capacity."

  We interpret this to mean that Metro Vancouver has no current or long-term plans to increase the level of garbage incineration, either through expanded or new waste-to-energy facilities or by diverting additional solid waste to cement plants or other incinerators. We expect this intent will be reflected in the updated Solid Waste Management Plan. If this is Metro Vancouver's vision, the FVRD views this intention with great relief.

  If our interpretation is incorrect, however, we expect that Metro Vancouver will clarify. We value your commitment to a positive, transparent engagement process, including an honest discussion about Metro Vancouver's plans for incineration so that this consultation can be meaningful and productive. The FVRD wants stakeholders to be fully informed if additional incineration, in any capacity, is still being contemplated for the future.

- **Impacts to neighbouring jurisdictions –** Our understanding is that the Province has instructed Metro Vancouver to consider how changes to their Solid Waste Management Plan, including draft waste flow bylaws, will limit the free-market flow of waste and consequently impact neighbouring jurisdictions. We assume Metro Vancouver will be commissioning a study to research this issue, and we ask that the FVRD be provided with the opportunity to be involved.

- **Time provided for feedback –** We respectfully ask that adequate time be provided to stakeholders for feedback and comments. We know that you acknowledge it can often take several weeks or longer for items or reports to be thoroughly reviewed by staff and then be discussed at the appropriate committee

or Board meeting. We appreciate Metro Vancouver's willingness to work with stakeholder timelines and capacities.

- **Communication method –** In general, the FVRD is open to using a variety of means in which to be consulted, but face-to-face staff meetings or workshops are preferable. We also hope delegations from Metro Vancouver to the FVRD Board will continue as this process moves forward to allow for interactions and dialogue between elected officials.

The FVRD supports a regional approach to waste management and recognizes that collaboration among local governments, Indigenous communities, the Province, and industry, is needed to succeed. We look forward to working with Metro Vancouver on identifying opportunities for partnerships and collectively build a circular and clean economy. Thank you for the opportunity to provide comments as part of this pre-engagement phase of the consultation.

Sincerely,

Jason Lum
Chair, Fraser Valley Regional District Board

cc: Honourable George Heyman, Minister of Environment and Climate Change Strategy (ENV.Minister@gov.bc.ca)

Carol Danyluk, Section Head - Municipal Solid Waste, BC Ministry of Environment and Climate Change Strategy (Carol.Danyluk@gov.bc.ca)

Andrea Reimer, Chair of the Independent Consultation and Engagement Panel (andrea.reimer@citizenandrea.ca)

metrovancouver
SERVICES AND SOLUTIONS FOR A LIVABLE REGION

Executive Offices
Tel. 604 432-6215 or via email
CAOAdministration@metrovancouver.org

July 7, 2021

File: PE-13-01

Chair Jason Lum
Fraser Valley Regional District
45950 Cheam Avenue
Chilliwack, BC V2P 1N6
VIA EMAIL: jlum@fvrd.ca; kkohuch@fvrd.ca

Dear Chair Lum:

Metro Vancouver's Solid Waste Management Plan – Pre-Engagement Feedback

Thank you for your letter dated June 9, 2021 (received by email June 11, 2021), providing the Fraser Valley Regional District (FVRD) Board's pre-engagement feedback on Metro Vancouver's solid waste management plan update. It was our pleasure to attend and present at the FVRD Board meeting on May 27, 2021. Metro Vancouver is committed to maintaining open and transparent communication with the FVRD, while working collaboratively to advance our common goals in waste reduction, diversion, and circular economy as we update the regional solid waste management plan.

Metro Vancouver strives to provide adequate time for feedback in each phase of engagement, as we understand that different audiences have varying needs and expectations. In this respect, Metro Vancouver recognizes that the FVRD and other government bodies often require several weeks for staff review, followed by discussion at scheduled committee or Board meetings. We also note your preference for face-to-face staff meetings and workshops; therefore, we would be happy to present and receive feedback at future FVRD Board meetings as requested.

Your letter also requests additional information on Metro Vancouver's future plans for waste-to-energy, as well as potential impacts of an updated solid waste management plan on neighbouring jurisdictions.

Waste-to-Energy:
Metro Vancouver considers waste-to-energy to be a cost effective and environmentally sustainable way to manage residual garbage. Metro Vancouver's solid waste management plan update will focus on reduction, reuse, recycling and advancement of the circular economy. Our goal as a region is to avoid the requirement for any new disposal capacity, waste-to-energy or otherwise, through the success of our waste reduction actions.

To further maximize the beneficial use of residual waste, Metro Vancouver is initiating procurement for an interim processing strategy of small load waste received at regional solid waste facilities, which

currently disposes as garbage. This waste is composed primarily of wood and other building materials, and the interim processing strategy would allow the material to be sent to existing construction and demolition facilities to recover recyclables and create an alternative fuel product from any residual material. This interim strategy will provide valuable information on environmental performance, including associated emissions reductions (expected to be up to 20,000 tonnes CO_2 equivalent per year), as Metro Vancouver considers a more permanent solution.

In late 2019, Metro Vancouver provided a summary of the alternative fuel and recyclables recovery project to stakeholders, and following the receipt of feedback including feedback from the FVRD, the project scope was updated to address air quality concerns and ensure the highest and best end use of available material.

Waste Flows and Potential Impacts to Neighbouring Jurisdictions:
In consideration of Metro Vancouver's proposed *GVS&DD Commercial Waste Hauler Licensing Bylaw No. 207, 2017* and proposed updates to Metro Vancouver's private facility licensing bylaw (*GVS&DD Solid Waste and Recyclable Material Regulatory Amending Bylaw No. 309, 2017*), your letter expressed that the Ministry of Environment and Climate Change Strategy noted specific items they would be looking for in an updated solid waste management plan; in particular, the Ministry will consider how changes to the plan "may affect the solid waste management system, both within Metro Vancouver and in neighbouring regional districts". Potential impacts to neighbouring jurisdictions will be among the considerations in the development of a new solid waste management plan. We look forward to exploring these issues with adjacent regional districts including the FVRD through studies or other mechanisms.

In place since January 1, 2018, the Generator Levy requires waste haulers who deliver waste to a facility other than a Metro Vancouver or City of Vancouver solid waste facility to collect and remit the Generator Levy to Metro Vancouver. The Generator Levy ensures that all generators contribute to the cost of the regional solid waste management system in an equitable manner.

Thank you once again for taking the time to submit your feedback during the pre-engagement phase of Metro Vancouver's solid waste management plan update process. Your letter and Metro Vancouver's response will be included in a publicly available Zero Waste Committee report summarizing pre-engagement feedback. Pre-engagement feedback will inform an engagement program for the solid waste management plan update.

Yours sincerely,

Sav Dhaliwal
Chair, Metro Vancouver Board

Jack Froese
Chair, Zero Waste Committee

SD/JF/PH/sl

46211456

cc: Honourable George Heyman, Minister of Environment and Climate Change Strategy
Carol Danyluk, Section Head – Municipal Solid Waste, Ministry of Environment and Climate Change Strategy
Andrea Reimer, Chair, Solid Waste Management Plan Independent Consultation and Engagement Panel
Jennifer Kinneman, Chief Administrative Officer, Fraser Valley Regional District
Stacey Barker, Director, Regional Services, Fraser Valley Regional District

46211456

VILLAGE OF BELCARRA

"Between Forest and Sea"

4084 BEDWELL BAY ROAD, BELCARRA, B.C. V3H 4P8
TELEPHONE 604-937-4100 FAX 604-939-5034
belcarra@belcarra.ca • www.belcarra.ca

May 11, 2021

Sav Dhaliwal, Chair
Metro Vancouver Board
4730 Kingsway
Burnaby, BC V5H 0C6
Via email: chair@metrovancouver.org

Dear Chair Dhaliwal,

Re: Metro Vancouver's Solid Waste Management Plan Update

Please be advised that at a Regular meeting of Belcarra Council held on May 10, 2021, the following motion was passed:

> "That staff advise Sav Dhaliwal, Chair, Metro Vancouver Board that the preferred communication for Belcarra will be with Mayor Ross, the Chief Administrative Officer and a Councillor Wilder; and
> That Belcarra representatives have the ability to connect with Metro Vancouver Zero Waste panel members; and
> That a time frame be obtained for participation."

We look forward to working with you on Metro Vancouver's Solid Waste Management Plan Update.

Sincerely,

Lorna Dysart
Chief Administrative Officer

cc Jack Froese, Chair, Zero Waste Committee, jfroese@tol.ca
Sarah Evanetz, Division Manager, Strategy & Stakeholder Relations, sarah.evanetz@metrovancouver.org
Mayor Jamie Ross, Village of Belcarra, jross@belcarra.ca
Councillor Liisa Wilder, Village of Belcarra, lwilder@belcarra.ca

PORT MOODY
CITY OF THE ARTS

100 Newport Drive, Port Moody, B.C., V3H 5C3, Canada
Tel 604.469.4500 Fax 604.469.4550
www.portmoody.ca

May 13, 2021

File No. 5360-01

Sarah Evanetz,
Metro Vancouver
4730 Kingsway
Burnaby, BC V5H 0C6

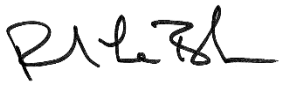
Dear Sarah Evanetz,

Re: Metro Vancouver's Solid Waste Management Plan Update

The City of Port Moody thanks Metro Vancouver for the opportunity to provide feedback on the engagement process as Metro Vancouver works to update the region's Solid Waste Management Plan.

For the City of Port Moody's ongoing involvement and support please continue to notify the City in writing as engagement opportunities arise, significant milestones are achieved, and throughout all key phases as the Solid Waste Management Plan updates evolve.

Yours truly,



Paul LeBlanc
Manager, Solid Waste, Fleet & Shared Services
Engineering & Operations

From: Ralph McRae
To: Metro Vancouver Solid Waste Management Plan Update
Cc: "Rob Deane [redacted]"
Subject: RE: Solid Waste Management Plan Consultation and Engagement
Date: Friday, May 21, 2021 11:01:15 AM
Attachments: Metro Presentation Consultation May 2021.pdf

To: All Members of The Solid Waste Management Plan Independent Consultation and Engagement Panel ("Panel"), established by the Greater Vancouver Sewerage and Drainage District ("GVS&DD") Board.

Please assure that this email is timely delivered to all members of the Panel and advise me by return email when that has been done.

I received an unsolicited invitation to present to the Panel on May 17, 2021. By my email of May 1, 2021 I accepted that invitation. You replied on May 4, 2021 with the email below. Therein you state:

> *Please confirm whether this time slot works for you:*
> ***1:40pm-2:10pm on May 17, 2021***
> *You will be allotted* ***10 minutes*** *to present at approximately 1:40-1:50pm. You will enter a waiting room initially.* [emphasis added]

I have presented many times to the GVS&DD Board and its Committees. It is your usual practice to provide me five quiet minutes to make my presentation, followed by a question and answer period. The process you outlined above, by all appearances, followed that pattern. Based on those clear instructions, I prepared a presentation that would take almost precisely 10 minutes for me to read to you. I wished to be respectful of your time and instructions and wanted to use only the 10 minutes allocated to me for that purpose. I anticipated the balance of the 20-30 minutes would be dedicated to questions, discussion or debate.

I have spoken to others who received the same invitation from you. Their expectations were no different than mine.

I was in the waiting room of the provided *Zoom* call link at precisely 1:40pm on the 17th instant. The meeting commenced slightly before 1:45pm. Mayor Froese opened with a greeting and introduction. At my first opportunity I told him my presentation would take slightly more than the 10 minutes allotted. He said nothing in direct response and proceeded to ask each of the Panel members on the call to introduce themselves. Those introductions dragged on for the better part of five minutes.

I was then asked to present. Two to three minutes into my 10 minute presentation, Mayor Froese interrupted me saying that the entire call was only scheduled to last 10 minutes and I needed to wrap up. I was shocked. The portion of my presentation read, without the context of the balance, would at best be confusing. I protested the interruption and truncation of time and explained the reason for my distress. All Mayor Froese could say was that he understood "how the instructions could have been misleading", or words to that effect. He then talked over me for the balance of the 10 minute call.

I have read your instructions several times now, both before and since. They are neither complex nor confusing. They provided me the opportunity to present for "10 minutes", not two. The promised opportunity was denied me.

What is even more troubling is that it quickly became obvious I was not the first person to raise this issue with you. Why then - when I had made it clear at the outset I intended to take the full 10 minutes to present - would you ignore me and eat up the majority of the time by telling me in great detail who you each were? That was not only disrespectful it, upon reflection, seems intentionally designed to further limit my time to speak.

My experience with GVS&DD consultations is that they are at best pro forma processes crafted to tick some legal box and convince the uninitiated that their voices have been heard. They are not consultative in the least. You may from time to time hear, but you never listen. After more than a decade of this the reason has become clear: you have an established agenda and have absolutely no interest in the advice, views or opinions of those you regulate and compete with unless – of course - they slavishly support that agenda.

I tried to outline for you a basis upon which Revolution and I could work with you to achieve a better outcome for a region we love and our business has supported for more than three decades. It's so very clear that you could care less about us or what we have to say.

But I can also see how tactics like these benefit you. They so frustrate your potential opponents that many lose the needed motivation to stay involved and your chosen path forward is cleared of obstacles. However, these matters are of such critical import to Revolution and our community that each time you behave so cavalierly, it only steels our resolve to shine the light on and oppose your selfish, misguided interests.

Being an eternal optimist, I prayed this time might be different and the inclusion of Andrea Reimer as Chair of the Panel actually gave me hope. Without her presence, history would have told me to not even waste any time on this. I can now clearly see that regardless of who is involved, you are once again pressing forward with a process bathed in disrespect and disdain for your constituents and that whatever plan you create will be as doomed to failure as those past. To quote Peter Townshend: *We Won't Get Fooled Again*.

Despite my better judgement I enclose the text of the presentation I had intended to make, for whatever twisted record you'll now fashion.

Sincerely,

Revolution

Ralph D. McRae

Chairmand & CEO

[redacted]

From: Metro Vancouver Solid Waste Management Plan Update

Sent: May 4, 2021 2:08 PM

To: Ralph McRae

Subject: RE: Solid Waste Management Plan Consultation and Engagement

Hi Mr. McRae:

Thank you for your interest in meeting with the Independent Consultation and Engagement Panel on May 17, 2021, to discuss how you would like to participate in the solid waste management plan update process over the next 2-3 years. The panel's role is to advise Metro Vancouver staff and Board on the development and implementation of the engagement process related to the solid waste management plan update.

Note at this initial stage of engagement Metro Vancouver is seeking feedback on how you would like to be updated and provide feedback on components of the new plan as it's being developed. This first step will help shape/design our engagement program moving forward. There will be many opportunities in the future to provide feedback on various components of the updated plan itself.

Please confirm whether this time slot works for you:

1:40pm-2:10pm on May 17, 2021

You will be allotted **10 minutes** to present at approximately 1:40-1:50pm. You will enter a waiting room initially.

Please reply to this email to confirm the following details:

- What group, organization or association do you represent?
- Will you have a PowerPoint presentation?
- How many people will be joining the call? Please provide names and position titles if possible.
- Please confirm your attendance, based on the information provided above and the time slot assigned.

Upon your reply to this email to confirm your meeting with the panel, you will receive a calendar invitation with Zoom meeting details and instructions.

Other ways to provide feedback:

Visit our solid waste management plan engagement web page to learn more and complete our 3-minute questionnaire.

Sign up here to receive future updates and invitations to engagement events and activities. Be sure to click "Solid Waste Management Plan update" as a topic of interest.

From: Ralph McRae [mailto:Ralph@mcraegroup.ca]

Sent: Saturday, May 1, 2021 12:05 PM

To: Metro Vancouver Solid Waste Management Plan Update <zerowaste@metrovancouver.org>

Subject: Solid Waste Management Plan Consultation and Engagement

As indicated on your website (http://www.metrovancouver.org/services/solid-waste/engagement/swmp/Pages/default.aspx), I would appreciate the opportunity to speak to the Consultation and Engagement Panel on May 17, 2021.

Please let me know what time works best and provide contact information. My telephone number is below.

Ralph D. McRae

[redacted]

May 17, 2021

Metro Vancouver Consultation

I have two issues to address:

- First, the fundamental assumptions you use to justify your policies; and
- Second, the absolute necessity that you resolve your incompatible conflict as both my regulator and competitor.

Your past efforts at regulatory change failed because your real agenda was different than you claimed. You strove to protect your MSW disposal monopoly, not seek "Zero Waste".

You present "source separation only" systems as a panacea because your industry supporters have for 40 years lived by them and because they will forever produce excessive levels of garbage for you to bury, burn and profit from.

Any initiative that conflicts with that approach – no matter how worthy - is besmirched, hampered and inevitably crushed. The result has been a lost decade.

I could go on for hours, but as time is short, I will focus on two specific real-World examples that, if you open your minds, will explain why you keep falling short of your goals.

RECYCLING RATES:

This is a QUOTE from your own Project Overview:

> *Today, the Metro Vancouver region recycles 63% of the waste generated (compared to a North American average of 26.5%...)*

That is incredible. It's also a bald-faced lie, and provably so. To say it you need to grossly manipulate statistics and ignore the truth. If you use this as the basis for your plan, it will once again fail. So now is the time to come clean and redefine the problem. There will not be another.

Here are some of the simple facts:

- You most recently claim 1.3M tonnes disposed and 2.2M tonnes recycled. That's 63% of 3.5M tonnes. But the sectors you regulate: Residential and ICI, together generate less than 2M tonnes of all types of material.
- To create your bloated statis you throw in Construction & Demolition and claim it achieves a 77% diversion rate, yet your own reports show that every C&D recycling facility in the region is mired in the mid-20's, or below.
- So, you have to jack up your numbers by adding 700,000 tonnes of concrete; something that is 100% recycled and you don't even regulate. The same is true of metals. The result: 25% of your 63% is padding: 40% of your total.
- Why stop there. Start counting old cars and contaminated soils? You're in the MUNICIPAL SOLID WASTE REGULATORY BUSINESS. LIMIT YOUR ANALYSIS TO THAT.

- But it gets worse. You also fail to do the most basic thing needed to drive reliable statistics: a comprehensive supply chain audit **through to end of life**. In your World, when 100,000 tonnes is delivered to a "recycler" you count the entire 100,000 tonnes as being recycled, even if – as is the case with plastics - 90% is landfilled or burned. It's an environmental Ponzi scheme.
- You claim to enforce an Organics ban at your transfer stations, yet when Harvest Power failed in late 2018 you "temporarily" raised the acceptable organic content level per load 500% from 5 to 25%, and burned it. There are plenty of legitimate composters in the Region who would love to recycle that material. You do this because organics are heavy and you need the tipping fee revenue to balance your budget. Do you see the conflict?

Any plan must be built on a firm **and honest** foundation. You delude yourself to our collective detriment. Imagine telling every person in the Region that a new Metro COVID vaccine achieved a 100% immunity rate, with zero side effects. People would quickly forego all others for yours. What if you misled them knowing the true effectiveness was really 50%; half that? Of course, you'd never do that, so why lie about your recycling rates? They are really in the mid-30% range - not the stratospheric mid-60's you claim - and when your voters figure this out they'll be furious.

Here's a shocking example of the truth:

- Recycle BC is mandated to achieve a 73% diversion rate. They last reported an astounding 78%. You, without more, say "bravo" and jam those bogus statistics into your numbers.
- Until last spring Recycle BC was operated by *Green by Nature*, a consortium that included Cascade Paper, Emterra (your transfer station operator) and Merlin Plastics.
- On April Fools Day last year, Recycle BC contacted us. They said they had several thousand tonnes of "mixed paper", jammed into one of Emterra's facilities that they simply couldn't recycle. They asked if we could compost it so they could include that tonnage in their diversion stats. Otherwise, they had to landfill it, dropping their recycling rate well below the 73% threshold. They were in deep trouble.
- They told us the bales contained less than 5% plastic contamination. We asked to pick up a sample to test their claim.
- We took the bale to our MRF and picked through it. [Attachment "A"] 10-man hours later, here is the result: more than 40% plastic contamination. It's garbage, not recyclable material.
- We told them the only way we could help was to manually process everything at a cost of over $200 per tonne. As they pleaded with us to solve their problem it became clear they had a lot more material than they first admitted and were petrified they had a multi-million dollar disaster on their hands that was about to be exposed.
- Merlin's main recycling facility is located on Gifford St in New Westminster. It is regulated by Metro and has strict limits on how much material can be stored there. But, ten blocks away – at 401 Salter Street - is a dilapidated warehouse and storage yard that as you can see on these Google Maps photos at Attachment "B" is littered with thousands of bales of contaminated paper and plastic.
- Salter Street is owned by an affiliate of Merlin and leased to yet another affiliate of Merlin. It is NOT regulated by Metro and to you might as well be China. By my

calculations it is the dumping ground for more than 10,000 tonnes of garbage. The very same type of waste Recycle BC tried to foist on us as recyclable material.

- The cost disposing of that contaminated mess would run well into the millions of dollars. You call it "recycled".
- A few short months later, in the night of October 12, 2020 [Attachment "C"], a **"suspicious"** fire erupted at the secret Salter storage facility and, "ABARACADABRA", all that "garbage" magically disappeared into our air shed. Search the *Global TV* video from that night. You'll be shocked at what you see: https://globalnews.ca/news/7393536/massive-blaze-burning-in-industrial-area-of-new-wests-queensborough-neighbourhood/
- Did you and Recycle BC back those numbers out of your recycling statistics? Go check.
- Just a few years ago that garbage would have been loaded into shipping containers and sent to Asia where it would have ended up in the *Great Pacific Garbage Patch.* You would have counted it as recycled back then too. When that game evaporated, nothing truly changed and unless you do, nothing soon will.

Anecdotally, when Harvest Power shut down two years ago and left **300,000** tonnes of organics rotting on Port land in Richmond, most driven below ground. It was effectively landfilled, not recycled; and it's still there. Did you go back into your files and reverse those huge quantities out of your stratospheric recycling statistics? Of course not. The impact would have been huge.

Nowhere on Earth are municipal recycling rates as high as you claim they are here. What magical alchemy do we have in Metro Vancouver that doesn't exist elsewhere? None, of course.

So why not just accept our real mid-30% rate and work to improve on it?

REGULATORY CONFLICT:

- Your first flow control effort in 2013 took dead aim at Revolution's then new Vancouver MRF. You feared we would recycle the 300,000 tonnes of MSW you wanted to incinerate.
- That fight cost us millions, but we persevered. Today, the facility you so viciously derided, consistently recycles more 80% of the almost 200,000 tonnes it receives every year. We succeeded where others fail by doing things differently; and despite you.
- But your staff still can't stand that we prevailed. They constantly harass us with petty inspections and make detailed drawings of our processes so you can emulate them in your new Coquitlam facility. You use your regulatory powers to spy on us and the confidential information you steal to compete with us.
- And here is how it manifests...
- On February 4, 2021 your Paul Henderson sent a letter to Revolution that included this graph [Attachment "D"]. It shows Revolution's disposal tonnage at Metro dropping by 39% over 29 months, compared to an industry average of 6% he related to COVID. Essentially, Revolution cost Metro more than $5M in tipping fees, and he was mad.
- He demanded that I explain the reason for the drop. To responded constructively to him I would have to divulge our confidential information to a competitor.
- He shortly thereafter reported me to Ray Robb, your Solid Waste Manager and head of enforcement. I then had a call with Ray, where I jokingly mocked him as a tool of the policy

group; which he has always claimed not to be. His shockingly honest reply: *Well, Ralph, you complain about your competitors and Paul is just doing the same.*

- On April 23, Ray Robb wrote, accusing us of shipping waste out of the Region around your system, violating the Generator Levy and, the greatest sin of all: costing you money. Not one thought was given to the prospect that we had actually figured out a better way to recycle. No curiosity. Just accusations.
- The truth is, we have been achieving dramatically improved recycling results and that chart proves it. You could care less, until it hits your pocket.

During the 2013 flow control debate that engulfed Revolution's facility, then Councillor Reimer asked one of the most commonsensical questions I've heard in this venue: *If their facility even gets 1% greater recovery than we otherwise would, and they are taking all the risk, why not let them try?* No one voiced the true answer: *Because they will steal tipping fee revenue from us and we won't be able to build our shiny new incinerator.*

That very facility – that your staff condemned in the harshest terms as a "Dirty MRF", now out-recycles your real average by 250%.

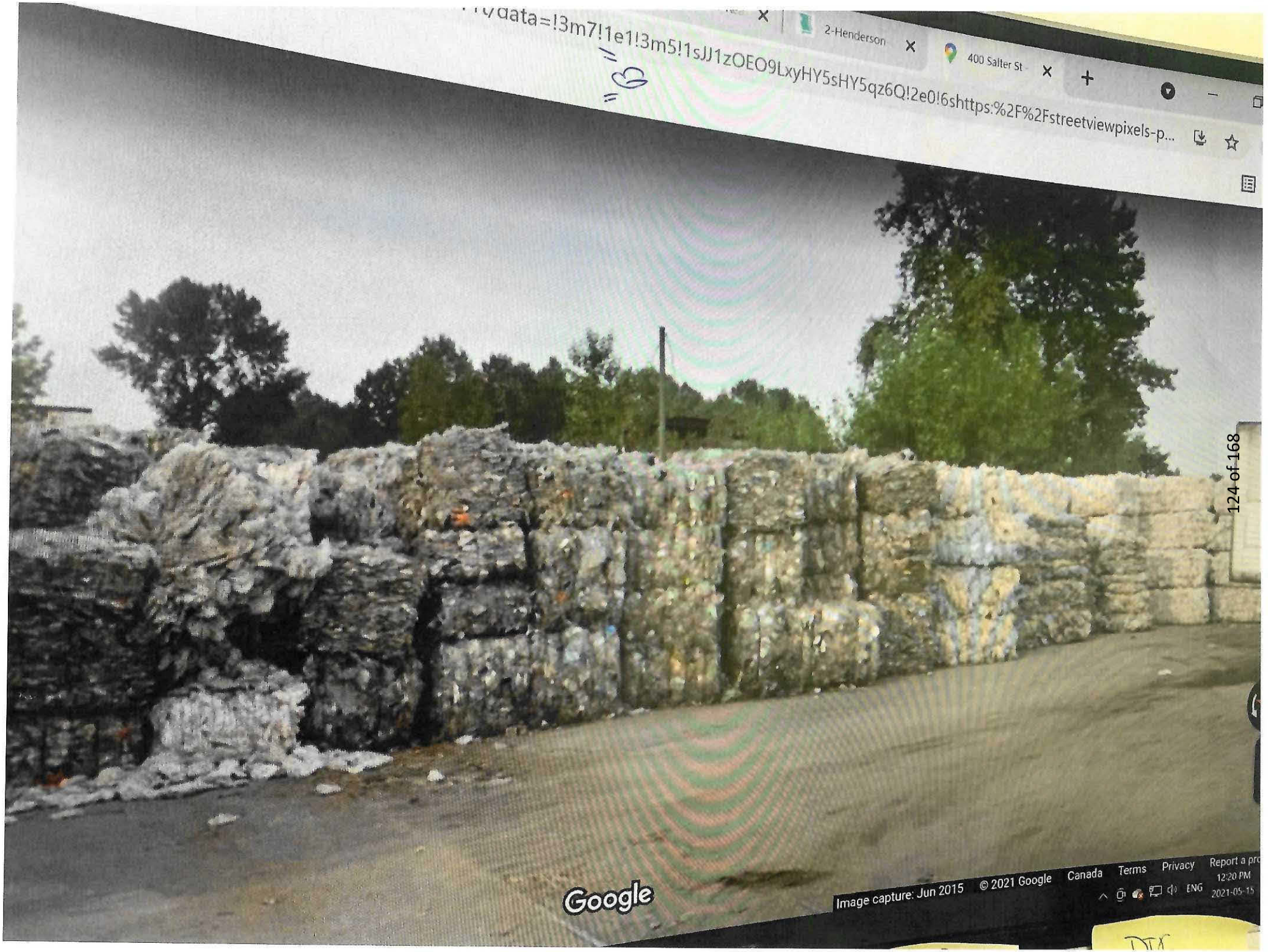
It appears to me that nothing tangible has changed in the past ten years. You don't talk of incinerators anymore, but you still want all the garbage you can lay your hands on, regardless of the impact on recycling rates. When you fine someone for bringing recyclables to your transfer stations, you don't recycle it, you dump it in the pit and burn it. When are you going to admit that Zero Waste actually means Zero Metro and you can't tolerate that? Your only hope is to sell off your transfer stations and focus on constructive regulation and motivation.

Leaving these two issues unresolved dooms any plan you develop to failure. If, however, you come clean and your motivations are pure, I'm your biggest supporter.

Thank you for listening.

"A"

401 Salter St,
New Westminster, BC...
Aecon
"B"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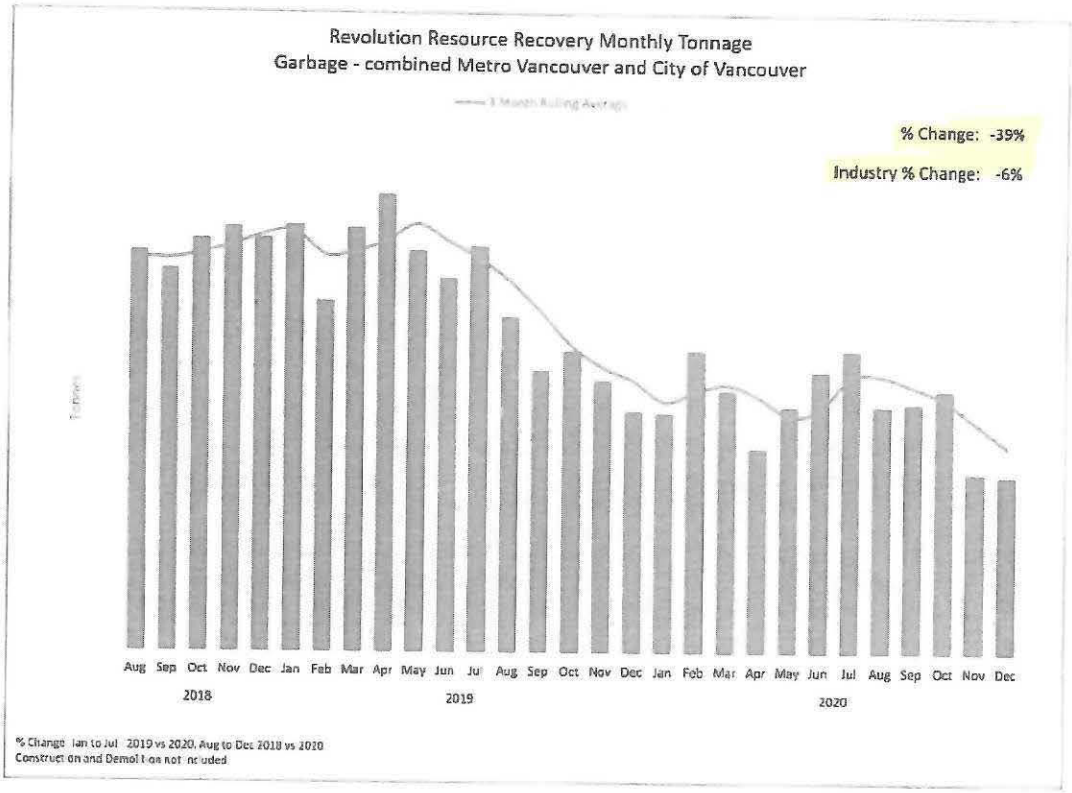
"C"

401 SALTUK ST.
NEW WEST.
OCT 12, 2020

Ralph D. McRae, Revolution Resource Recovery
Waste Quantities Delivered to Metro Vancouver and City of Vancouver Solid Waste Facilities
Page 2 of 2

Attachment: Revolution Waste Quantities at Metro Vancouver and City of Vancouver Solid Waste Facilities



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WASTE CONNECTIONS OF CANADA

June 23, 2021

The Solid Waste Management Plan Independent Consultation and Engagement Panel
Metrotower 3
4730 Kingsway
Burnaby, BC
V5H 0C6
Attn: Andrea Reimer, Chair

Dear Ms Reimer,

I want to thank you for providing an additional opportunity to present our input to your Panel. Your response is an important acknowledgement of the negative feedback you received. Nevertheless, I feel it is important to place on the record my concerns about our first appearance before your Panel.

On Monday, May17th, our team from Waste Connections of Canada made a presentation to the Consultation and Engagement Panel. As I ended my comments, I specifically noted that I would be honest and forthright with the Panel throughout the process. In that spirit of honesty, I have to say I was taken aback and disappointed by the format of this so-called consultation and I want to express my dissatisfaction at this time, lest anyone be left with the misapprehension that this was properly handled.

Throughout the call, I was confused as to whether we had misread the invitation. But when we went back to verify, we discovered that the email stated, **"Please confirm whether this time slot works for you: 2:20pm-2:50pm on May 17, 2021. You will be allotted 10 minutes to present at approximately 2:20-2:30pm. You will enter a waiting room initially."** We prepared our presentation and allocated time according to those ground rules

We structured a 9-minute presentation, with a further 21 minutes remaining for what we assumed would be dialogue with the panelists. We joined the call at 2:20 pm and were informed that the 10 minutes included the time during which the panelists would introduce themselves. At 2:24 pm we were given the floor. We spoke until 2:29 pm, whereupon we were thanked and told that there would be no time for questions. I ended with a commentary that we want to be cooperative and helpful, although I was honestly not reassured by what had just occurred.

We were planning to expound on the elements of a consultation process to be followed-up with a thoughtful summary of our exchange. However, I am now left doubting the sincerity of this entire process and I want to go on the record to say that this does not constitute consultation by any reasonable definition of the word. We entered this consultation in good faith hoping to contribute to a

process that we could buy into. We prepared to present ideas. We were misled and given the short shrift.

When we look back at the experience of the processes that led to Bylaws 280, as well as 307/8/9, we see a pattern of behaviour that seems to view Industry feedback as an inconvenience. The decisions appeared pre-baked and the process seemed intended to support an outcome, rather than shape an outcome.

I certainly hope that our next encounter with the Panel will prove to be an opportunity for true dialogue that will form the basis of an open and transparent consultation.

Sincerely,

Izzie Abrams
Vice President Government & External Affairs

WASTE CONNECTIONS OF CANADA

July 7, 2021

Via email: icentre@metrovancouver.org

The Solid Waste Management Plan Independent Consultation and Engagement Panel
Andrea Reimer, Chair
Metrotower 3
4730 Kingsway
Burnaby, BC
V5H 0C6

Thank you for the follow up email. We appreciated the opportunity to provide a more fulsome presentation.

In answer to your questions:

1. In the context of ongoing engagement, we would be interested to hear your thoughts on when you see the process ending – for example, when the plan is approved or as it is being implemented.

We believe engagement should continue through implementation albeit, it may be in a different format. It will be important to regularly check in with industry representatives to understand the impact on the ground and be able to make necessary adjustments.

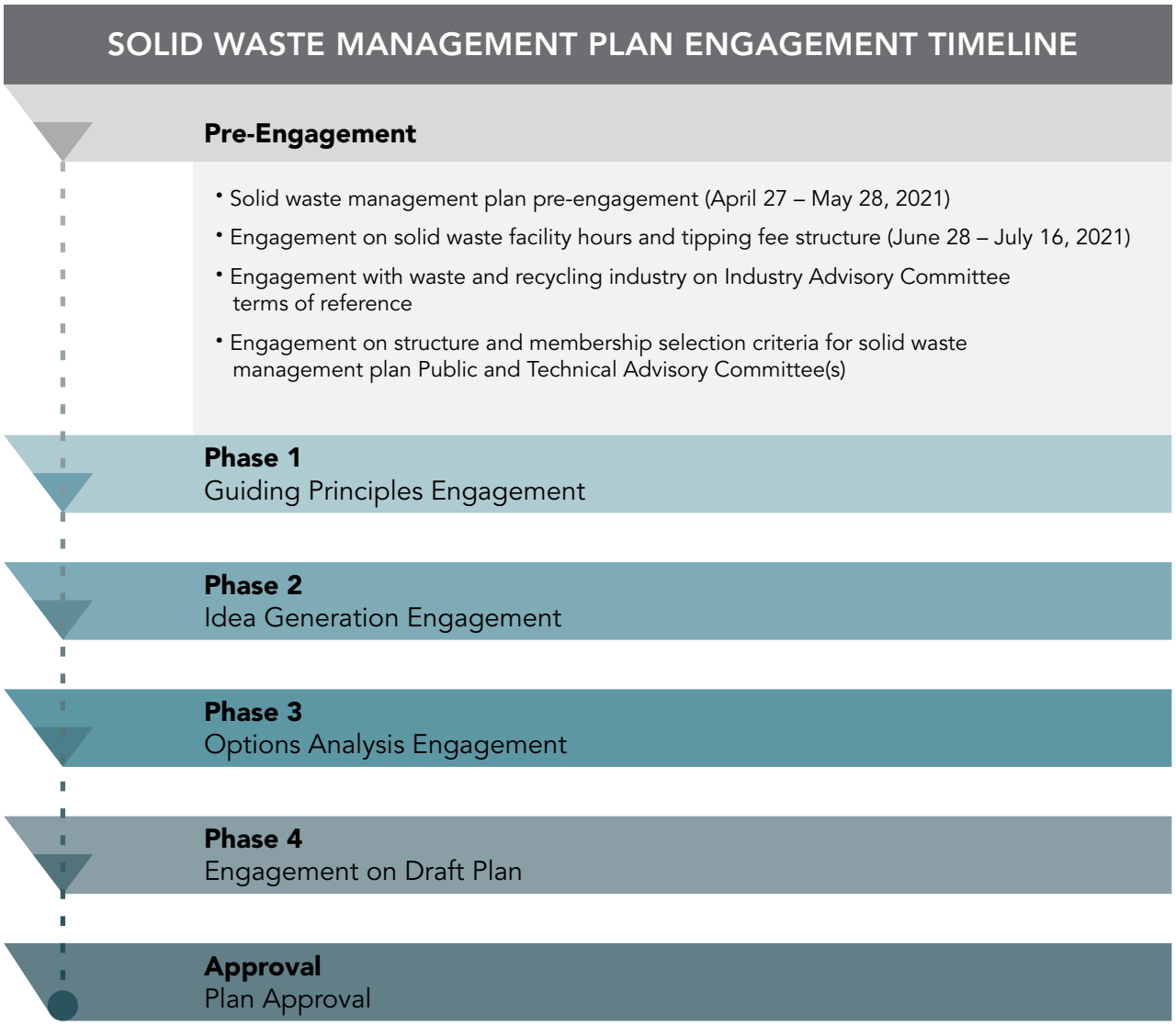
2. The Industry Advisory Committee is one possible vehicle for engagement during plan development and implementation. When the draft Terms of Reference are published on July 9, we will forward you a link, and would be interested in your thoughts on whether it meets the tests you described for a successful framework for industry engagement.

We look forward to reviewing the Terms of Reference and hopefully to participating on the Committee. We would also like to take this opportunity to emphasize that WMABC does not represent Waste Connections of Canada or the industry as a whole. May we suggest you consider including representation from the Solid Waste Association of North America (SWANA) and/or the National Waste and Recycling Association (NWRA). Both associations are North America wide and as such view the issues through a broader lens.

Again, thank you for the opportunity to respond. As discussed during our presentation, we will follow up by providing information with respect to baseline data for the purposes of consultation and engagement.

Regards,

Izzie Abrams
Vice President- Government Relations & External Affairs


SOLID WASTE MANAGEMENT PLAN ENGAGEMENT TIMELINE
Pre-Engagement
• Solid waste management plan pre-engagement (April 27 – May 28, 2021)
• Engagement on solid waste facility hours and tipping fee structure (June 28 – July 16, 2021)
• Engagement with waste and recycling industry on Industry Advisory Committee terms of reference
• Engagement on structure and membership selection criteria for solid waste management plan Public and Technical Advisory Committee(s)
Phase 1
Guiding Principles Engagement
Phase 2
Idea Generation Engagement
Phase 3
Options Analysis Engagement
Phase 4
Engagement on Draft Plan
Approval
Plan Approval

To: Zero Waste Committee

From: Lynne Vidler, Lead Senior Engineer, Solid Waste Operations, Solid Waste Services

Date: July 8, 2021 Meeting Date: July 16, 2021

Subject: **Solid Waste Services Capital Program Expenditure Update as of April 30, 2021**

RECOMMENDATION

That the Zero Waste Committee receive for information the report dated July 8, 2021, titled "Solid Waste Services Capital Program Expenditure Update as of April 30, 2021".

EXECUTIVE SUMMARY

The capital expenditure reporting process, as approved by the GVS&DD Board (the Board), provides for regular status reports on capital expenditures three times per year. This is the first report for 2021, and includes the overall capital program for Solid Waste Services with a multi-year view of capital projects and the actual capital spending compared to the prorated budget to April 2021. For the first four months of 2021, the capital expenditures for Solid Waste Services were $16.7 million compared to a 2021 prorated capital budget of $32.6 million. The underspend is primarily due to longer than expected pre-construction phases for Waste-to-Energy Facility projects, and the property purchase timing for the North Surrey Recycling and Waste Centre depot development. Projects underway are expected to be completed within approved budgets.

PURPOSE

The purpose of this report is to report on the status of the Solid Waste Services capital program and financial performance to April 30, 2021.

BACKGROUND

The capital expenditure reporting process, as approved by the Board, provides for regular status reports on capital expenditures with interim reports sent to the Water, Liquid Waste, Zero Waste, and Performance and Audit Committees in June/July, October/November, and a final year-end report to the Committees and the Boards in April of the following year.

This is the first report for 2021 and presents the overall capital program for Solid Waste Services with a multi-year view of capital projects and the actual capital spending from January to April 2021 compared to the prorated budget for this period.

2021 CAPITAL EXPENDITURES

Solid Waste Capital Program Funding

The capital spending for Solid Waste Services is funded through the Solid Waste Services operating budget by a combination of contribution to capital (pay-as-you-go funding) and debt service costs, (principal and interest payments) which is generated annually from the regional ratepayers through tipping fees. As a result, the annual impact on the ratepayers is less than the level of budgeted capital expenditures.

Overall Capital Program

The overall capital program for Solid Waste Services includes capital projects that require multiple years to complete. These projects are broken down into various phases such as project definition, pre-design, detailed design and construction. The status at the completion of each phase informs appropriate costing of subsequent phases.

Table 1 in Attachment 1 provides a summary of Solid Waste Services capital expenditures for both ongoing and completed projects. Completed projects include a summary of actual spending compared to the Board approved spending limits, while the ongoing projects include a summary of projected spending to completion compared to Board approved spending limits. With the rare exception, projects tend to complete with actual spending below the approved limits predominantly due to savings on budgeted contingency amounts. The majority of projects that were not started in 2021 are not scheduled to begin until 2022 or later.

Attachment 2 provides detail behind the summary information, including specific capital projects, summary financial information and notes. Attachment 3 provides additional project status information of some of the key projects.

2021 Capital Program Summary

The Metro Vancouver financial planning process includes Board approval of both an annual operating budget (operations, contribution to capital and debt service) and an annual capital budget for the planned capital infrastructure projects. The annual capital budget comprises the projected spending for a list of capital projects either continuing or to be started within the calendar year.

For January to April 2021, capital expenditures for Solid Waste Services were $16.7 million compared to an annual capital budget of $32.6 million, representing an overall expenditure rate of 51%. The underspend is primarily due longer than expected pre-construction phases for a number of Waste-to-Energy Facility projects. The pre-construction phases include detailed design and third party engineering reviews. Biosolids management at the Waste-to-Energy Facility required approval by the Ministry of Environment and Climate Change Strategy. That approval is now in place. The 2021 budget includes funding for purchase of property for a recycling depot at the North Surrey Recycling and Waste Centre. Property acquisition is taking longer than planned, with the expectation that it will proceed in 2022. Construction is nearing completion for the United Boulevard Recycling and Waste Centre. Construction of the Central Surrey Recycling and Waste Centre began in July 2020 with completion anticipated by the end of 2021 or early 2022.

Table 2 in Attachment 1 provides a summary of the capital spending compared to the prorated capital budget as of April 30, 2021.

ALTERNATIVES

This is an information report. No alternatives are presented.

FINANCIAL IMPLICATIONS

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

CONCLUSION

This is the first in a series of three capital expenditure progress reports for 2021. Solid Waste Services is underspent in its annual capital budget by $16 million. The variance is primarily due to timing of the procurement phase for projects in progress.

Although the Solid Waste Services capital budget as of April 30, 2021 shows an underspend, the variance is a result of cash flow timing. Ongoing capital projects will be monitored to ensure they remain within total project budgets.

Attachments *(Orbit # 46274985)*

1. Capital Expenditure Summary – Solid Waste Services
2. Detailed Solid Waste Services Capital Expenditure Summary
3. Solid Waste Services Capital Project Status Information

46274985

Metro Vancouver

Capital Expenditures Summary
Solid Waste Services
As at Apr 30, 2021

Table 1 - Capital Program Summary by Status

Solid Waste Services	Total Budget	Total Projected Expenditures At Completion	Projected Remaining Budget
Ongoing	$ 257,550,000	$ 257,304,710	$ 245,290
Completed	-	-	-
Not Started	257,850,000	257,850,000	-
Cancelled	-	-	-
	$ 515,400,000	**$ 515,154,710**	**$ 245,290**

Table 2 - 2021 April Capital Spending Summary

Solid Waste Services	2021 Budget	Prorated Budget to April 2021	Actual Expenditures
Infrastructure Opportunity Program	$ 2,050,000	$ 683,000	$ 81,743
Landfills	7,400,000	2,466,000	635,884
Recycling and Waste Centres	62,800,000	21,477,000	15,880,083
Wast-to-Energy Facility	24,000,000	7,998,000	53,799
	$ 96,250,000	**$ 32,624,000**	**$ 16,651,510**

Metro Vancouver **ATTACHMENT 2**

Solid Waste Services Capital Expenditures Summary

As of April 30, 2021

		Lifetime									
Project Name	**Project Location**	**Total Project Budget**	**Total Expenditures to Date**	**Remaining Budget**	**Projected Expenditures**	**Projected Remaining Budget**	**Percent Complete**	**Status**	**Project on Schedule?**	**Note**	**Comments**
Infrastructure Opportunity Program											
WTE Facility District Heating Opportunities	Burnaby	2,300,000	224,672	2,075,328	2,300,000	-	10%	Ongoing	Y		
		2,300,000	**224,672**	**2,075,328**	**2,300,000**	**-**					
Landfills											
Alternative Fuel and Recyclables Recovery Centre	Coquitlam	60,000,000	-	60,000,000	60,000,000	-	0%	Not Started	Y		
Coquitlam Landfill Closure*	Coquitlam	5,000,000	4,605,720	394,280	5,000,000	-	92%	Ongoing	Y		
Coquitlam Landfill East Closure	Coquitlam	5,000,000	-	5,000,000	5,000,000	-	0%	Not Started	Y		Dependent on area development
Coquitlam Landfill Fly Ash Cell 2 Closure Final Cover*	Coquitlam	3,200,000	2,942,982	257,018	3,200,000	-	92%	Ongoing	Y		
Coquitlam Landfill Gas Collection Upgrades*	Coquitlam	3,100,000	2,613,635	486,365	3,100,000	-	84%	Ongoing	Y		
Coquitlam Landfill Gas Collection Upgrades Phase II*	Coquitlam	3,600,000	2,851,247	748,753	3,600,000	-	79%	Ongoing	Y		
Coquitlam Landfill Lot 3 Development*	Coquitlam	5,000,000	-	5,000,000	5,000,000	-	0%	Ongoing	Y		
Coquitlam Landfill Pump Station Upgrade*	Coquitlam	800,000	97,158	702,842	800,000	-	12%	Ongoing	Y		
Coquitlam Landfill: Leachate Collection System Grade Realignment	Coquitlam	1,000,000	-	1,000,000	1,000,000	-	0%	Not Started	Y		
		86,700,000	**13,110,743**	**73,589,257**	**86,700,000**	**-**					
Recycling and Waste Centre System											
United Boulevard Recycling and Waste Centre Compactor	Coquitlam	2,500,000	1,919,492	580,508	2,400,000	100,000	77%	Ongoing	Y		
United Boulevard Recycling and Waste Centre	Coquitlam	77,600,000	58,919,893	18,680,107	77,600,000	-	76%	Ongoing	Y		Facility expected to open in summer 2021
Langley Recycling and Waste Centre Recycling Depot Expansion	Langley Township	5,500,000	-	5,500,000	5,500,000	-	0%	Not Started	Y		
Maple Ridge Recycling and Waste Centre Upgrades	Maple Ridge	2,000,000	-	2,000,000	2,000,000	-	0%	Not Started	Y		
North Shore Recycling and Waste Centre Compactor Replacement	North Vancouver	2,500,000	-	2,500,000	2,500,000	-	0%	Not Started	Y		
Central Surrey Recycling and Waste Centre	Surrey	62,300,000	24,042,470	38,257,530	62,300,000	-	39%	Ongoing	Y		Facility expected to open in spring 2022
North Surrey Recycling and Waste Centre Compactor Replacement	Surrey	2,500,000	-	2,500,000	2,500,000	-	0%	Not Started	Y		
North Surrey Recycling and Waste Centre Recycling Depot Expansion	Surrey	25,500,000	-	25,500,000	25,500,000	-	0%	Not Started	Y		
Western Region Recycling and Waste Centre Replacement	Regional	75,000,000	-	75,000,000	75,000,000	-	0%	Not Started	Y		
		255,400,000	**84,881,855**	**170,518,145**	**255,300,000**	**100,000**					
Waste to Energy Facility											
Acid Gas Reduction	Burnaby	41,000,000	450,000	40,550,000	41,000,000	-	1%	Ongoing	Y		Operational Certificate amendment pending
Biosolids Processing	Burnaby	20,500,000	330,202	20,169,798	20,367,710	132,000	2%	Ongoing	Y		
Bottom Ash Crane Replacement	Burnaby	1,500,000	-	1,500,000	1,500,000	-	0%	Not Started	Y		
Bottom Ash Processing	Burnaby	6,800,000	6,068,930	731,070	6,800,000	-	89%	Ongoing	Y		
Carbon Silo Replacement	Burnaby	2,400,000	-	2,400,000	2,400,000	-	0%	Not Started	Y		
Compressed Air System Replacement	Burnaby	3,000,000	-	3,000,000	3,000,000	-	0%	Not Started	Y		
District Energy	Burnaby	40,000,000	-	40,000,000	40,000,000	-	0%	Not Started	Y		
Electrical Transformers Replacement	Burnaby	5,000,000	-	5,000,000	5,000,000	-	0%	Not Started	Y		
Fabric Filter Hopper and Pulse Header Refurbishment	Burnaby	2,250,000	-	2,250,000	2,250,000	-	0%	Ongoing	Y		
Feed Hopper/Chute	Burnaby	2,600,000	1,121,722	1,478,278	2,587,000	13,000	43%	Ongoing	Y		
Fly Ash Silo Refurbishment	Burnaby	1,000,000	-	1,000,000	1,000,000	-	0%	Not Started	Y		
Generation Bank Replacement	Burnaby	9,000,000	-	9,000,000	9,000,000	-	0%	Not Started	Y		
Lime Silo Replacement	Burnaby	3,600,000	-	3,600,000	3,600,000	-	0%	Not Started	Y		
Primary Economizer Replacement	Burnaby	5,000,000	53,799	4,946,201	5,000,000	-	1%	Ongoing	Y		
Primary Superheaters Replacement	Burnaby	4,000,000	-	4,000,000	4,000,000	-	0%	Not Started	Y		
Programmable Logic Controllers Replacement	Burnaby	2,000,000	-	2,000,000	2,000,000	-	0%	Not Started	Y		
Pug Mill Enclosure Ventilation System Replacement	Burnaby	1,000,000	-	1,000,000	1,000,000	-	0%	Not Started	Y		
Refuse Crane	Burnaby	14,000,000	73,539	13,926,461	14,000,000	-	1%	Ongoing	Y		
Secondary Economizers Replacement	Burnaby	6,000,000	-	6,000,000	6,000,000	-	0%	Not Started	Y		
Stack Refurbishment	Burnaby	350,000	-	350,000	350,000	-	0%	Not Started	Y		
		171,000,000	**8,098,192**	**162,901,808**	**170,854,710**	**145,000**					
Grand Total Solid Waste Services		**515,400,000**	**106,315,462**	**409,084,538**	**515,154,710**	**245,000**					

NOTE:

* Coquitlam Landfill projects being completed as a part of the United Boulevard Recycling and Waste Centre construction project

Capital Project Status Information – Solid Waste Services

April 30, 2021

Major GVS&DD solid waste capital projects are proceeding on schedule and within budget. Project details are highlighted below:

Recycling and Waste Centre Program

- The United Boulevard Recycling and Waste Centre construction started in May 2018 with site grading works. The full construction contract was awarded in December 2018. Construction is currently near completion with anticipated opening of the new facility in the summer 2021.
- The Central Surrey Recycling and Waste Centre project received rezoning and a development permit in late 2018. The construction contract was awarded in the summer of 2020. Construction was initiated in July of 2020. Construction is underway and expected to be completed by the end of 2021 or potentially early 2022, and operating in early 2022.

Landfills Program

- Construction of Phase 2 landfill gas collection system upgrades is being completed as a part of the construction of the United Boulevard Recycling and Waste Centre. The system has been designed as a combination of an active system at buildings and a passive system over the remainder of the recycling and waste centre site. Installation of the active gas wells was completed in 2019. Installation of the passive system along with laterals and header pipes for the active system was completed in late 2020. The new landfill gas infrastructure will be commissioned prior to United Boulevard Recycling and Waste Centre opening. A new control room and compressor at the blower flare station are required and procurement for this work is expected to start in 2021.

Waste-to-Energy Program

- The refuse crane replacement project commenced with preliminary engineering on February 14, 2019. The preliminary engineering report identified a funding gap which was addressed through the 2021 budget cycle. Covanta has submitted a detailed budget estimate which has been reviewed by a third party engineering firm. Covanta is now preparing procurement documents to for the next phase of the project which will include detailed design and the refuse crane purchase.
- The second pass superheater replacement project started on April 11, 2019. The replacement tubing has been received and installed on all three boilers. This project is now essentially complete pending final billing from Covanta.
- The feedwater pump replacement project commenced on May 3, 2019. The pump was installed in November 2019 and commissioned in January 2020. Covanta has worked with the pump manufacturer and the pump is now operating at full specifications. Final commissioning work was completed during the July 2020 outage. Covanta is now preparing a funding request to

replace the back-up feedwater pumps as they have reached the end of their useful life and require replacing.

- The feed hopper / chute replacement project started on October 28, 2019. Two feed chutes were installed in the fall 2020 shutdowns and one unit was installed in the spring 2021 shutdown. Two feed chute inlet hoppers will be replaced in 2021 and one in 2022 as they could not be completed during the same shutdowns as the feed chutes.
- The biosolids processing preliminary design project started on October 28, 2019. The preliminary design report is under review.
- The primary economizer project commenced with engineering and procurement services on November 6, 2020. The RFP is currently posted on BC Bid, closing on June 22.
- Compressed Air System Replacement Project: Covanta has shortlisted a proponent and issued a funding request for an engineering study to replace the compressors.
- Fabric filter hopper and pulse header refurbishment: Covanta is preparing procurement documents and will initiate an RFQ shortly.

To: Zero Waste Committee

From: Lynne Vidler, Lead Senior Engineer, Solid Waste Operations, Solid Waste Services

Date: July 8, 2021 Meeting Date: July 16, 2021

Subject: **Draft Solid Waste Services 2022 – 2026 Capital Plan**

RECOMMENDATION

That the Zero Waste Committee receive for information the report dated July 8, 2021, titled "Draft Solid Waste Services 2022 – 2026 Capital Plan".

EXECUTIVE SUMMARY

The draft 2022 - 2026 Solid Waste Services Capital Plan has been prepared following direction received at the April 8, 2021 Metro Vancouver Board Budget Workshop and as part of Metro Vancouver's focus on enhancing transparency and governance over the capital plan. This is a new step in our budget process for this year and the intent is that the Zero Waste Committee provide feedback and input, which will then be incorporated into the fall budget presentations to the Committees and the Boards.

The estimated 2022 Capital Cash Flow is $52.1M with a total estimated spend of $283.0M over the five years. The 2022 Capital Cash Flow is $24.2M (31.7%) less than last year's projection for 2022, primarily because the Acid Gas Reduction project spending was deferred as a result of an amendment to the Waste-to-Energy Facility operational certificate. With respect to the common four years compared to the prior cycle's capital plan, the estimated spend has increased by $30.4M, or 15.0%. Changes in overall capital are primarily due to carry-forward of budgets for projects not completed in 2021. Actual budget increases were offset by deferrals of projects out of the capital planning window.

PURPOSE

To present to the Zero Waste Committee the draft Solid Waste Services 2022 – 2026 Capital Plan for input and feedback, which will then be incorporated into the fall budget approvals.

BACKGROUND

On April 8, 2021, Metro Vancouver held a Board Budget Workshop with the objective to seek direction for the preparation of the 2022 - 2026 Financial Plan. In addition, Metro Vancouver is looking to enhance the transparency and governance over the capital planning process and give the opportunity to the Committee to provide input and feedback earlier to be incorporated into the 2022 - 2026 Financial Plan.

Solid Waste Services

Solid Waste Services' initiatives within the draft 2022 – 2026 Capital Plan are guided by customer levels of service objectives, specifically:

- Offering exceptional customer service at Metro Vancouver solid waste facilities;

- Continuously improving services offered at the recycling and waste centres, including enhanced recycling opportunities;
- Providing cost effective disposal for ratepayers through sound financial management and long-term planning; and
- Monitoring and enhancing performance metrics.

CAPITAL PLAN HIGHLIGHTS

The draft 2022 - 2026 Capital Plan includes $52.1M for 2022 and a total of $283.0M over the five years, or an average of $56.6M per year (Attachment 1). There are 39 projects and the largest six projects make up 66% of the capital spending over the next five years. The 2022 capital cash flow is $24.2M (31.7%) less than last year's projection for 2022.

The primary reason for the reduction in 2022 cash flow is that the Acid Gas Reduction project has been deferred by three years as a result of an amendment to the Waste-to-Energy Facility operational certificate. Deferral of the acid gas reduction project allows for additional air monitoring to confirm ambient concentration levels of acid gases (hydrogen chloride and sulphur dioxide). Dispersion modelling submitted to the Ministry of Environment and Climate Change Strategy in December 2018 indicated that with current emissions and operational certificate permitted levels, maximum ambient air concentrations of hydrogen chloride and sulphur dioxide are not expected to exceed ambient air criteria. Nearly a year of ambient air monitoring data has shown ambient air concentrations of hydrogen chloride and sulphur dioxide are less than 5% of ambient air quality objectives and well below modelling results. Monitoring data has been posted monthly since December 2020 on the Metro Vancouver website and a consultant is being engaged to evaluate the data for reporting to the Ministry of Environment and Climate Change Strategy.

The spending over the next five years is driven by the need to improve the resiliency of the solid waste system, replace aging systems particularly related to the Waste-to-Energy Facility, and provide opportunities for waste reduction and greenhouse gas emissions reduction. Biosolids processing at the Waste-to-Energy Facility will strengthen the regional solid waste system and liquid waste systems. The Waste-to-Energy Facility District Energy system will substantially reduce greenhouse gas emissions in the region. The alternative fuel and recyclables recovery system will process small load waste which will increase diversion and reduce greenhouse gas emissions by offsetting fossil fuel use.

Key capital projects planned or ongoing in 2022 – 2026 for Solid Waste Services include the following:

- North Surrey and Langley Recycling and Waste Centre recycling depots
- Central Surrey Recycling and Waste Centre completion
- Waste-to-Energy Facility District Energy
- Waste-to-Energy Facility Biosolids Processing
- Alternative Fuel and Recyclables Recovery Centre
- Waste-to-Energy Facility Capital Replacement/Upgrade Projects:
    - Acid Gas Reduction
    - Refuse Crane Replacement
    - Special Handle Waste Direct Feed System

Initial funding for a western region recycling and waste centre replacement is included in the last two years of the financial plan with business casing, and needs assessment work to be brought forward for the Board's consideration in the coming years.

The capital program for Solid Waste Services is funded by long-term debt, contributions from the operating budget, and some external (interagency) contributions.

Capital Plan Changes
The completion of multi-year projects is complex and are subject to change, due to a variety of factors including schedule changes, inflation, market volatility and the impact of the COVID-19 pandemic. The breakdown of total revised 2022 – 2026 capital plan compared to prior cycle capital plan is summarized below:

($ Millions)

Prior Cycle Capital Plan 2021-2025	Cashflow 2021	Adjustments to 2022-2025 Capital Plan					Cashflow 2026	Draft Capital Plan 2022-2026
		Carry-Forward	Deferrals/ Accel.	Risk	Scope	Total		
298.8	(96.3)	26.6	(20.1)	17.0	7.0	30.5	50.0	283.0

ALTERNATIVES
This is an information report. No alternatives are presented.

FINANCIAL IMPLICATIONS
The draft 2022 - 2026 Capital Plan includes $52.1M for 2022 and a total of $283.0M over the five years, an average of $56.6M per year. Any feedback and input from the Zero Waste Committee will be incorporated into the fall budget presentations to the Committees and Boards.

SUMMARY / CONCLUSION
The 2022 – 2026 Capital Plan illustrates how Solid Waste Services supports projects that enhance recycling opportunities and provide cost-effective disposal for ratepayers, and the financial impacts of these projects over the next five years.

The presentation of the draft 2022 – 2026 Capital Plan for Solid Waste Services provides the opportunity for the Zero Waste Committee to provide input and feedback which will be incorporated into the fall budget budget presentations to the Committees and Boards.

Attachment
Draft Solid Waste Services 2022-2026 Capital Plan *(Orbit #46483298)*

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GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT
CAPITAL PORTFOLIO
SOLID WASTE SERVICES
2022-2026 PROJECTED CASH FLOW

	ACTUALS ESTIMATED TO DEC 31 2021	2022 CAPITAL CASH FLOW	2023 CAPITAL CASH FLOW	2024 CAPITAL CASH FLOW	2025 CAPITAL CASH FLOW	2026 CAPITAL CASH FLOW	ACTIVE STAGE	PRIMARY DRIVER
CAPITAL EXPENDUTURES								
Landfills								
Alternative Fuel and Recyclables Recovery Centre	$ -	$ -	$ -	$ -	$ 1,500,000	$ 20,000,000	Feasibility Study	Opportunity
Coquitlam Landfill East Closure	-	-	400,000	3,500,000	1,100,000	-	Planned	Resilience
Coquitlam Landfill Gas Collection Upgrades	6,192,788	500,000	-	-	-	-	Construction	Maintenance
Coquitlam Landfill Lot 3 Development	2,000,000	-	3,000,000	-	-	-	Feasibility Study	Resilience
Projects under $5M	-	200,000	800,000	-	-	-		
Total Landfills	**$ 8,192,788**	**$ 700,000**	**$ 4,200,000**	**$ 3,500,000**	**$ 2,600,000**	**$ 20,000,000**		
Recycling and Waste Centres								
Central Surrey Recycling and Waste Centre	$ 41,755,223	$ 16,000,000	$ -	$ -	$ -	$ -	Construction	Growth
Langley Recycling Depot Development	-	250,000	3,000,000	2,250,000	-	-	Design	Upgrade
North Surrey Recycling Depot Development	15,000,000	5,250,000	3,000,000	2,250,000	-	-	Design	Upgrade
United Boulevard Recycling and Waste Centre	77,400,000	200,000	-	-	-	-	Construction	Growth
Western Region Recycling and Waste Centre Replacement	-	-	-	-	5,000,000	30,000,000	Planned	Resilience
Projects under $5M	-	200,000	4,300,000	-	2,500,000	-		
Total Recycling and Waste Centres	**$ 134,155,223**	**$ 21,900,000**	**$ 10,300,000**	**$ 4,500,000**	**$ 7,500,000**	**$ 30,000,000**		
Waste To Energy Facilities								
Acid Gas Reduction	$ 450,000	$ -	$ 2,800,000	$ 7,750,000	$ 30,000,000	$ -	Preliminary Design	Upgrade
Biosolids Processing	750,000	10,050,000	8,000,000	1,700,000	-	-	Design	Resilience
Bottom Ash Processing	6,600,000	200,000	-	-	-	-	Construction	Opportunity
Electrical Transformers Replacement	-	200,000	4,500,000	300,000	-	-	Design	Maintenance
Feedwater Pump Replacement	800,000	200,000	-	-	-	-	Design	Maintenance
Generation Bank Replacement	-	-	100,000	5,900,000	3,000,000	-	Planned	Maintenance
Refuse Crane	1,000,000	5,000,000	5,000,000	3,000,000	-	-	Construction	Maintenance
Secondary Economizers Replacement	-	250,000	1,750,000	3,000,000	1,000,000	-	Design	Maintenance
Special Handle Waste Direct Feed System	-	-	5,000,000	-	-	-	Planned	Opportunity
WTE Facility District Heating	-	5,000,000	15,000,000	20,000,000	15,000,000	-	Design	Opportunity
Projects under $5M	3,600,000	7,550,000	10,550,000	2,550,000	2,400,000	-		
Total Waste To Energy Facilities	**$ 13,200,000**	**$ 28,450,000**	**$ 52,700,000**	**$ 44,200,000**	**$ 51,400,000**	**$ -**		
Opportunity								
Projects under $5M	$ 1,300,000	$ 1,000,000	$ -	$ -	$ -	$ -		

GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT
CAPITAL PORTFOLIO
SOLID WASTE SERVICES
2022-2026 PROJECTED CASH FLOW

	ACTUALS ESTIMATED TO DEC 31 2021	2022 CAPITAL CASH FLOW	2023 CAPITAL CASH FLOW	2024 CAPITAL CASH FLOW	2025 CAPITAL CASH FLOW	2026 CAPITAL CASH FLOW	ACTIVE STAGE	PRIMARY DRIVER
Total Opportunity	**$ 1,300,000**	**$ 1,000,000**	**$ -**	**$ -**	**$ -**	**$ -**		
TOTAL CAPITAL EXPENDITURES	**$ 156,848,011**	**$ 52,050,000**	**$ 67,200,000**	**$ 52,200,000**	**$ 61,500,000**	**$ 50,000,000**		

SUMMARY BY DRIVER						
Growth	$ 119,155,223	$ 16,200,000	$ -	$ -	$ -	$ -
Maintenance	11,592,788	13,900,000	26,200,000	14,750,000	8,900,000	-
Resilience	2,750,000	10,250,000	12,200,000	5,200,000	6,100,000	30,000,000
Upgrade	15,450,000	5,500,000	8,800,000	12,250,000	30,000,000	-
Opportunity	7,900,000	6,200,000	20,000,000	20,000,000	16,500,000	20,000,000
Total	**$ 156,848,011**	**$ 52,050,000**	**$ 67,200,000**	**$ 52,200,000**	**$ 61,500,000**	**$ 50,000,000**

To: Zero Waste Committee

From: Brent Kirkpatrick, Lead Senior Engineer, Solid Waste Operations, Solid Waste Services

Date: July 8, 2021 Meeting Date: July 16, 2021

Subject: **Waste-to-Energy Facility 2020 Financial Update**

RECOMMENDATION

That the Zero Waste Committee receive for information the report dated July 8, 2021, titled "Waste-to-Energy Facility 2020 Financial Update."

EXECUTIVE SUMMARY

The Metro Vancouver Waste-to-Energy Facility continues to be an environmentally sound, low-cost regional disposal option. In 2020, the Waste-to-Energy Facility processed 244,362 tonnes of municipal solid waste, at a net unit cost of $69.84 per tonne for operation and maintenance. The Waste-to-Energy Facility costs increased as compared to 2018 and 2019 primarily due to the decrease in processed tonnage, an increase in bottom ash disposal costs, and reduced electrical revenue due to scheduled maintenance. In 2018 and 2019 more than 75,000 tonnes of bottom ash was beneficially used in the construction of the United Boulevard Recycling and Waste Centre. In 2020, all bottom ash was disposed of at the Vancouver Landfill. A procurement process for long-term beneficial use of bottom ash is underway.

PURPOSE

The purpose of this report is to provide the Zero Waste Committee with a 2020 financial update for the Metro Vancouver Waste-to-Energy Facility located in Burnaby.

BACKGROUND

Annually, results of the operation of the Waste-to-Energy Facility and contract with Covanta Burnaby Renewable Energy, ULC (Covanta), including tonnages, expenditures, revenues, service level and performance, and unit costs, are provided to the Zero Waste Committee for information.

2020 WASTE-TO-ENERGY FACILITY FINANCIALS

Table 1 provides the past three years of expenditures for the Waste-to-Energy Facility. No debt charges were incurred in 2019 and 2020, due to completion of debt payments for the 2003 turbine generator installation. Total expenditures include operations and maintenance of the Waste-to-Energy Facility and ash management. Ash management costs were reduced in 2018 and 2019 with the beneficial use of bottom ash in the construction of the United Boulevard Recycling and Waste Centre from October 2017 to August 5, 2019, and increased to historic levels in 2020 with the return to landfill disposal. In total more than 75,000 tonnes of bottom ash were beneficially used as part of the construction of the United Boulevard Recycling and Waste Centre. Metro Vancouver has initiated procurement for long-term beneficial use of bottom ash.

Table 1: 3-Year Expenditures for the Waste-to-Energy Facility

	2018	2019	2020
Operating Cost	$17,974,820	$18,525,517	$19,292,506
Fly Ash Disposal Costs	$1,385,142	$1,453,703	$1,256,519
Bottom Ash Disposal Costs	$257,461	$559,382	$2,016,633
Debt Charges *	$879,800	$0	$0
Total Expenditure	$20,497,223	$20,539,052	$22,565,658
Tonnage	253,123	253,148	244,362
Unit Cost / Tonne **	$80.98	$81.13	$92.35

* Debt charges are payments for principles and interests on long term financing.
** Includes debt servicing costs (debt costs reduced to zero in 2019).

Table 2 outlines Metro Vancouver's portion of offsetting revenues. Electrical revenue in 2020 was reduced, due to a scheduled turbine generator maintenance which occurs every six years. The turbine maintenance period was longer than anticipated due to pandemic-related supply chain challenges. This impacted electrical revenues. Metal revenue includes revenue from the non-ferrous metals recovery system that was installed in the fall of 2018 and commissioned in 2019.

Table 2: Metro Vancouver's Portion of Electrical and Metal Revenues for the Waste-to-Energy Facility

	2018	2019	2020
Electrical Revenue	$5,584,341	$5,793,404	$5,308,843
Metals Revenue	$191,495	$199,889	$191,800
Tonnage	253,123	253,148	244,362
Unit Revenue / Tonne	$22.82	$23.68	$22.51

Table 3 shows net cost per tonne for the Waste-to-Energy Facility from 2018 to 2020. An approximately $12 per tonne increase in net costs were observed between 2018 to 2020. This increase is primarily due to the decrease in processed tonnage along with increased bottom ash disposal costs and reduced electrical revenue. The Waste-to-Energy Facility operates at maximum throughput, the annual tonnage processed is impacted by waste quality, equipment availability, and boiler outages. In 2020 the Waste-to-Energy Facility experienced electrical issues with the boiler air fans which reduced solid waste processing capacity, this electrical issue was rectified in January 2021.

Table 3: 3-Year Net Unit Cost for Operation and Maintenance of the Waste-to-Energy Facility (including debt servicing)

	2018	2019	2020
Unit Cost / Tonne (from Table 1)	$80.98	$81.13	$92.35
Unit Revenue / Tonne (from Table 2)	$22.82	$23.68	$22.51
Net Unit Cost / Tonne	$58.16	$57.45	$69.84

ALTERNATIVES

This is an information report. No alternatives are presented.

FINANCIAL IMPLICATIONS

The Waste-to-Energy Facility costs increased in 2020 relative to 2018 and 2019 primarily due to the decrease in processed tonnage along with the increase in bottom ash disposal costs and reduced electrical revenue, due to scheduled maintenance. Metro Vancouver continues to work with Covanta to minimize facility costs and, overall, the Waste-to-Energy Facility continues to be a cost-effective regional disposal option.

CONCLUSION

Expenditures in 2020 for the Waste-to-Energy Facility totaled $22.6 million, resulting in an expenditure of $92.35 per tonne. Metro Vancouver's portion of electrical and metals revenues totaled $5,500,643 or $22.51 per tonne. Based on the plant processing 244,362 tonnes of municipal solid waste, the net unit cost per tonne for operation and maintenance of the Waste-to-Energy Facility in 2020 was $69.84 per tonne. Tipping fee revenues are accounted for separately and are not included in this analysis.

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SERVICES AND SOLUTIONS FOR A LIVABLE REGION

To: Zero Waste Committee

From: Larina Lopez, Division Manager, Corporate Communications, External Relations
Jay Soper, Communications Specialist, External Relations

Date: May 19, 2021 Meeting Date: July 16, 2021

Subject: **2021 Regional Clothing Waste Reduction Campaign Results**

RECOMMENDATION
That the Zero Waste Committee receive for information the report dated May 19, 2021, titled "2021 Regional Clothing Waste Reduction Campaign Results."

EXECUTIVE SUMMARY
Now in its third year, Metro Vancouver's "Think Thrice About Your Clothes" ("Think Thrice") behavior change campaign, performed strongly in terms of engagement and the number of Metro Vancouver residents reached. The campaign's goal is to increase diversion of textiles from the waste stream by raising awareness of the textile waste problem and empowering residents to take action. The creative platform included updates to key messaging and ad creative based on post-2020 campaign research and focus group testing. The strategy included both broad reach and targeted digital tactics and delivered over 69 million impressions. Overcoming barriers and effecting long-lasting behavior change can take several years to achieve and requires a long term commitment. However, a range of indicators can be employed to measure campaign efficacy over time, including engagement, public attitudes research, and changes in clothing disposal identified through annual solid waste composition studies.

PURPOSE
To update the Committee on the results of the 2021 regional clothing waste reduction campaign, "Think Thrice About Your Clothes."

BACKGROUND
Clothing is one of the fastest growing waste streams due to rapidly changing fashion trend cycles and low prices, leading to increased clothing consumption and disposal. Approximately 20,000 tonnes of clothing waste is disposed annually in Metro Vancouver, despite local options to swap, sell or donate unwanted clothing. Metro Vancouver residents throw out an average of 8 kg of clothing per person per year, equivalent to the weight of 44 t-shirts per person per year.

2021 marked the third year of the Think Thrice campaign, a behaviour change campaign which supports Metro Vancouver's commitment to zero waste. Overcoming barriers and effecting long-lasting behavior change can take several years to achieve and requires a long term commitment. While tangible results can also take several years to identify, they can be measured through campaign engagement, public attitudes research, and clothing disposal metrics identified through Metro Vancouver's annual waste composition studies.

This report provides an update on the results of the 2021 Think Thrice campaign, as identified in the 2021 Zero Waste Committee Work Plan.

2021 REGIONAL "Think Thrice About Your Clothes" CAMPAIGN

Campaign Timing

The campaign was in market February 22–May 2, 2021, with some elements (e.g. Google Search) in-market all year long. This report covers results of the Think Thrice campaign from February 22–May 2, 2021.

Campaign Approach

This is the third year of Metro Vancouver's regional clothing waste reduction campaign using the "Think Thrice" platform. The campaign's objectives are to raise awareness of the clothing waste issue and empower residents to take action to reduce their textile waste (reduce, repair, donate/recycle).

The 2021 campaign focused on hopeful and action-oriented messaging, while addressing associated barriers to adopting desired behaviours. Insights from the 2020 campaign and post-campaign research were leveraged to refine the audience demographics, adjust campaign messaging and creative and strengthen associated calls to action. Audiences were directed to the corresponding areas of the www.clothesarentgarbage.ca website, based on the particular message being delivered.

While the campaign targeted all Metro Vancouver residents, the primary audience was adults aged 18–64, with a secondary segment of adults aged 18–34 who were identified as above-average shoppers also being targeted. Additional emphasis was put on reduce and reuse options this year for all audience demographics.

Website

The campaign website was refreshed to ensure continued accuracy and accessibility, add new video content, and adjust messaging to ensure understanding of both clothing donation and recycling options. The campaign website focuses on three main areas of messaging:

- Reduce – tips for identifying quality items when purchasing new or second-hand clothing, including rental options.
- Repair – tips for better care and repair of clothing, including laundry and stain removal, as well as clothing repair and alteration options and ideas.
- Donate/Recycle – what to do with unwanted clothing, including information on reselling, repurposing, recycling and donating.

Media Plan

A combination of digital and out-of-home targeted placements were employed to reach residents throughout Metro Vancouver. Tactics included digital (YouTube, Facebook, Instagram, Spotify, sponsored content in The Daily Hive, search ads, an interactive Facebook Live Series), a television PSA, and out-of-home (transit shelter ads, bus sides). New for 2021 were the Spotify video ads intended to reach the 18-34 demographic and the television PSA which was featured on a variety of TV networks available to Telus and Shaw subscribers. All tactics drove residents to the campaign website (www.clothesarentgarbage.ca).

Community Outreach
While outreach events have been included as a tactic for this campaign in previous years, in-person events were not pursued this year due to COVID-19 and public health protocols.

Facebook Live Virtual Events
The Facebook Live events provided an opportunity to feature a variety of guest speakers and subject matter experts to engage residents on a range of clothing campaign related messaging and topics between February and March, 2021. In total, five events were executed virtually, with the host and guest speakers conferencing in from their respective home or work locations via computer.

Each segment covered a different clothing waste reduction-related topic and provided opportunities for residents to engage with subject matter experts to ask questions in real time. The live stream videos were subsequently posted to Metro Vancouver's Facebook page after each segment, where they generated additional engagement. Topics covered included common clothing repairs, thrifting, shopping online for clothes that last and fit, and organizing your closet. The events also highlighted a few clothing organizations that are tackling clothing waste.

Engagement of Metro Vancouver Members
Campaign materials were made available to all Metro Vancouver members, including social media content and co-branded assets like posters and digital transit shelters. Several members used the materials on their social media channels and throughout their municipalities.

Results
Website Traffic

- The campaign webpages had 24,899 page views (400+ page views/day) from February 22–May 2, 2021.
- The majority of users (over 70%) accessed the campaign website via a mobile device.
- Besides the landing page, the most visited pages were within the donation section of the website (i.e. 'Where can I donate my clothes'), indicating there's still a need to focus campaign messaging on providing information about what clothing can be donated and where.

Earned Media
The campaign received additional media coverage beyond paid advertising from late winter to spring 2021, with approximately 90 total earned media hits. A mid-April article was circulated nationally via the Postmedia network, with broad pickup in online community papers and print editions in the Vancouver Sun and Vancouver Province. Earned media coverage reached a cumulative audience of approximately 3,139,500 people, and had an estimated ad equivalency value of about $36,123 CAD.

Digital Media Performance

- The digital components delivered 7.8 million impressions overall, the majority of which came from Facebook and Instagram.
- YouTube video ads reached a total of 528,201 people, generating over 755,700 video views.
- The Daily Hive sponsored content article had over 5,969 reads, and had over 4,000 engagements (comments, reactions, clicks and shares).
- Spotify video ads ran for a shorter two-week flight (March 22–April 4) and reached over 40,000 people.

NG Media PSA

- The NG Media PSA was aired a total of 2,084 times, receiving a total of 1,456 spots on Telus and 628 spots on Shaw.

Out–of-Home Placements

- Transit shelters and bus side ads throughout the region delivered over 60 million impressions.

Facebook Live

- The five livestream events generated over 16,000 video views and 1,991 post engagements (likes, shares, comments, etc.).
- The livestream events continue to be an effective interactive element to support campaign objectives.

Plans for 2022 Regional Campaign

The campaign will run again in early 2022. It will likely continue to use the existing creative platform, with continued evolution of messaging and ad creative. The target audience and key messages are to be determined, but will be based on insights from 2021's campaign, post-campaign research and any additional data from Solid Waste Services.

ALTERNATIVES

This is an information report. No alternatives are presented.

FINANCIAL IMPLICATIONS

The 2021 clothing campaign was provided within a budget of $160,000 supported under the Zero Waste Communications Program of the 2021 General Government budget, managed by the External Relations Department. The campaign generated approximately $36,000 CAD worth of additional publicity through earned media.

CONCLUSION

This is the third year of Metro Vancouver's clothing waste reduction behaviour change campaign using the "Think Thrice" platform. The campaign's objectives were to raise awareness of the clothing waste issue and empower residents to take action to reduce their textiles waste (reduce, repair, donate/recycle). The campaign was in-market from February 22–May 2, 2021, with some elements (e.g. Google Search) running throughout 2021.

A range of indicators can be employed to measure campaign efficacy and behavior change over time, including engagement, public attitudes research, and changes in clothing disposal identified through Metro Vancouver's annual solid waste composition studies. The 2021 "Think Thrice About Your Clothes" campaign performed strongly in terms of engagement and the number of Metro Vancouver residents reached. These indicators, along with additional research, will inform future iterations of the Think Thrice campaign and provide the ability to measure behavior change over time.

Attachments:

1. Posters
2. Transit Shelters

3. Bus Sides
4. Social Media Ads
5. Facebook Live

References:

1. Textiles Waste Reduction Website
2. Clothing Waste Reduction PSA
3. Facebook Live Event: Finding Clothes Online That Last and Fit – March 3, 2021

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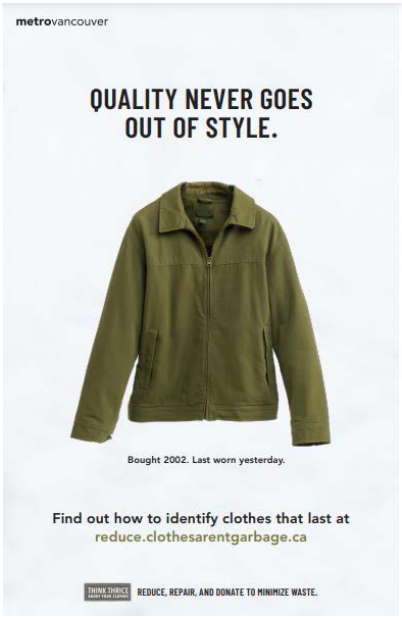
Posters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QUALITY NEVER GOES OUT OF STYLE.
Bought 2002. Last worn yesterday.
Find out how to identify clothes that last at
reduce.clothesarentgarbage.ca
THINK THRICE ABOUT YOUR CLOTHES
REDUCE, REPAIR, AND DONATE TO MINIMIZE WASTE.


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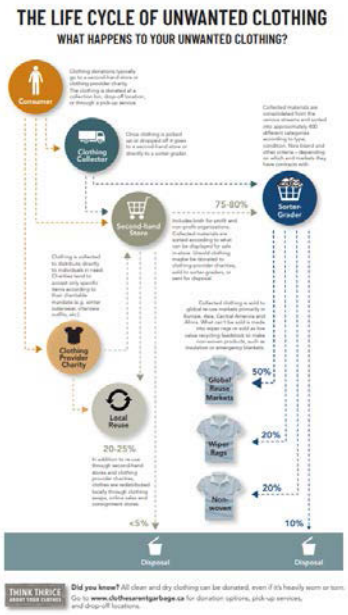
SMALL REPAIRS MAKE A BIG DIFFERENCE.
Learn how to care for clothes
so they'll last longer at
repair.clothesarentgarbage.ca
THINK THRICE ABOUT YOUR CLOTHES
REDUCE, REPAIR, AND DONATE TO MINIMIZE WASTE.


THE LIFE CYCLE OF UNWANTED CLOTHING
WHAT HAPPENS TO YOUR UNWANTED CLOTHING?
Consumer
Clothing Collector
Second-Hand Store
Sorter-Grader
75-80%
Clothing Provider Charity
Local Reuse
20-25%
Global Reuse Markets
50%
Wiper Rags
20%
Non-reuse
20%
<5%
10%
Disposal
Disposal
THINK THRICE ABOUT YOUR CLOTHES
Did you know? All clean and dry clothing can be donated, even if it's heavily worn or torn.
Go to www.clothesarentgarbage.ca for donation options, pick-up services, and drop-off locations.

Transit Shelters

Bus Side


2000
2010
2021
QUALITY NEVER GOES OUT OF STYLE.
Find out how to identify clothes that last at
reduce.clothesarentgarbage.ca
THINK THRICE
ABOUT YOUR CLOTHES
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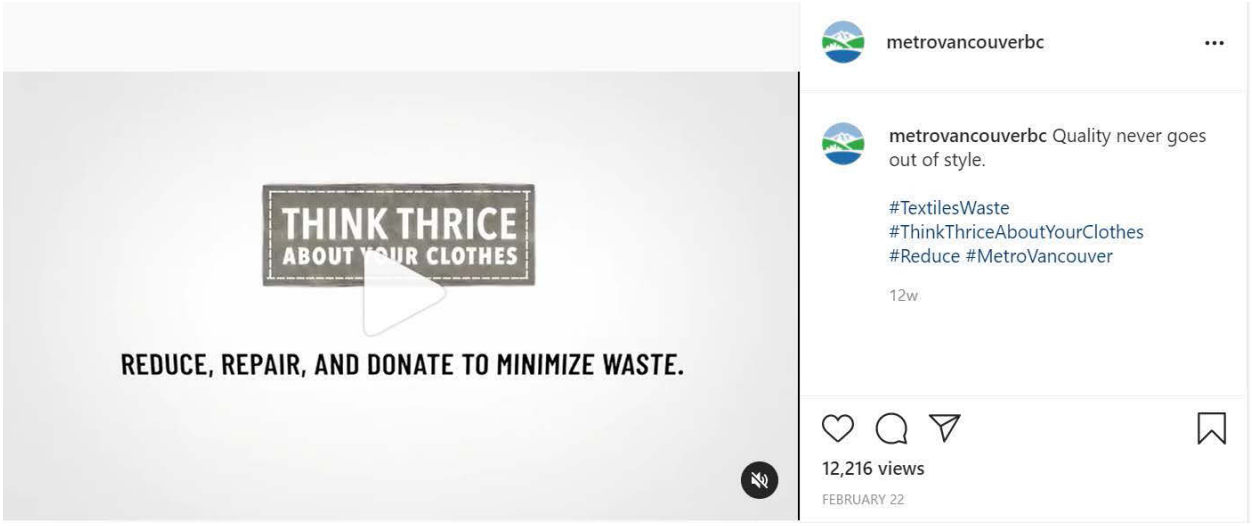
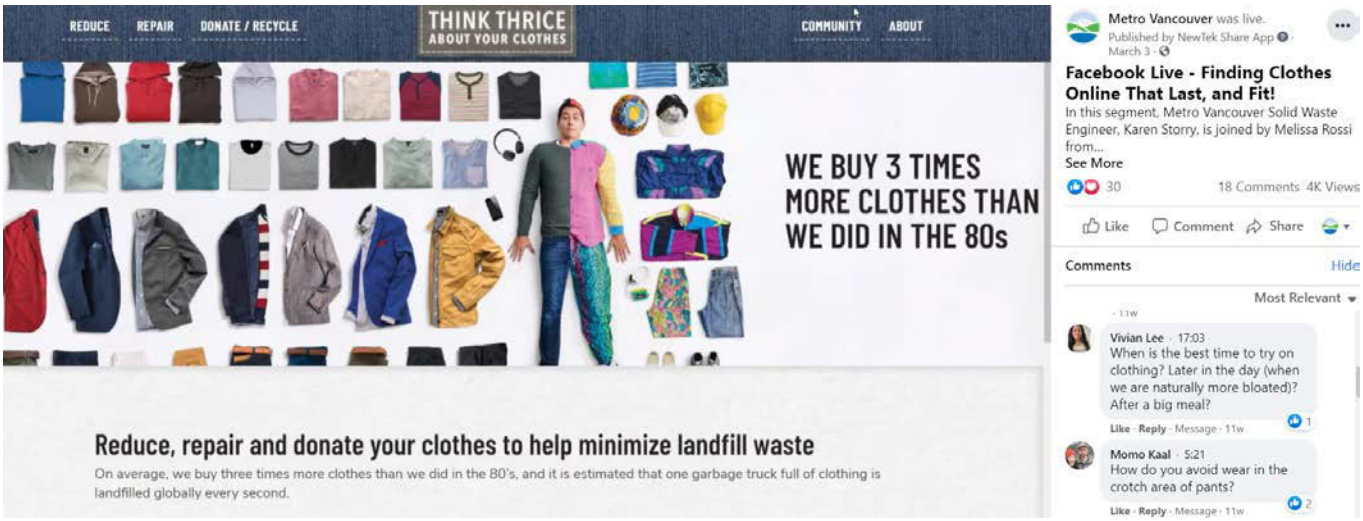
QUALITY NEVER GOES
OUT OF STYLE.

Social Media Ads



Facebook Live



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SERVICES AND SOLUTIONS FOR A LIVABLE REGION

To: Zero Waste Committee

From: Larina Lopez, Division Manager, Corporate Communications, External Relations
Alison Schatz, Senior Communications Specialist, External Relations

Date: May 19, 2021 Meeting Date: July 16, 2021

Subject: **Update on Metro Vancouver's Engagement with the Love Food Hate Waste Canada Campaign**

RECOMMENDATION

That the Zero Waste Committee receive for information the report dated May 19, 2021, titled "Update on Metro Vancouver's Engagement with the Love Food Hate Waste Canada Campaign."

EXECUTIVE SUMMARY

As part of its commitment to preventing waste, Metro Vancouver is a campaign partner in Love Food Hate Waste Canada (LFHW). An initiative of the National Zero Waste Council (NZWC), LFHW inspires and empowers people to prevent household food waste. There are 11 campaign partners, including two provincial agencies, seven local governments (including Metro Vancouver), and two grocery chains (Walmart and Sobeys). As a partner, Metro Vancouver receives creative for regional activations, and benefits from national media buys and access to influencers and celebrity chefs. Research about the impact of COVID-19 on consumer behaviours and food waste found 24% were wasting less than usual and 94% were motivated to reduce their household's avoidable food waste. In response, LFHW activations in 2020 and 2021 had a theme of "We're Here to Help." The regional campaign delivered 14.5 million total impressions and reached 320,000 people; the national campaign delivered over seven million impressions.

PURPOSE

To update the Committee on Metro Vancouver's engagement with the Love Food Hate Waste Canada behaviour change campaign.

BACKGROUND

Metro Vancouver launched a regional Love Food Hate Waste campaign in May 2015. The objective was to prevent avoidable household food waste. The campaign was licensed from Waste and Resources Action Programme UK.

In July 2018, building on the success of the Metro Vancouver campaign, the National Zero Waste Council (NZWC) launched a national campaign, Love Food Hate Waste Canada (LFHW; Reference 1). The NZWC holds the Canadian license and manages LFHW as a self-sustaining campaign available in English and French. Partnership fees cover the national expenses, and all partners commit additional resources for local activation. Metro Vancouver is a founding partner in the national campaign.

There are now 11 campaign partners with LHFW Canada: the cities of Toronto, Vancouver, Victoria, and Winnipeg; Capital Regional District; Metro Vancouver; Guelph-Wellington; RECYC-QUÉBEC; Province of British Columbia; and grocery retailers Sobeys and Walmart.

The LFHW campaign aligns with Metro Vancouver's "Food Scraps Aren't Garbage" campaign, which has the related but distinct objective of diverting food waste to the green bin (in support of the Organics Disposal Ban).

This report provides an update on the past year of Metro Vancouver's engagement with the Love Food Hate Waste Canada behaviour change campaign, as identified in the 2021 Zero Waste Committee Work Plan.

LOVE FOOD HATE WASTE CANADA (LFHW)

Regional Activation and Results

Metro Vancouver ran a regional version of the national campaign in summer / fall 2020 that included digital media (programmatic banners and social media), out of home (bus sides and retail ad bars), and a television PSA. The campaign leveraged a combination of the "We're Here to Help" (Attachment 1) and "Rediscover the Value of Food" (Attachment 2) creative platforms. It delivered 14.5 million total impressions in the Metro Vancouver region and reached 320,000 people.

Metro Vancouver also participated in nation-wide coordinated social media activity during Waste Reduction Week 2020 (Attachment 3) and regularly shares social media content from LFHW on Metro Vancouver's social media channels.

National Campaign Highlights and Results

Highlights from the third year of the national campaign include several promotions, learning from the COVID-19 pandemic, and coordinated activity among all campaign partners. It delivered over 7.7 million impressions and 40+ earned media hits over the past year.

In summer 2020, LFHW ran a national promotion called "We're Here to Help." Based on the insight that people were going to the grocery store less during COVID-19, the campaign offered tips to use up leftovers and food that is past its best, such as leftover rice and bruised berries (Attachment 1). Using targeted programmatic banner ads, the promotion delivered 4.7 million impressions and reached over 1.2 million people across the country.

The National Zero Waste Council conducted research in June 2020 to understand the impact of COVID-19 on consumer behaviours and attitudes related to food and food waste. Key findings from the report, *Food Waste in Canadian Homes* (Reference 2), include that 24% of respondents were wasting less than usual and 94% reported being motivated to reduce their household's avoidable food waste. The report was released in September 2020 with a press release, infographic, and social media. It generated strong interest and website traffic, and 23 earned media hits.

The fall 2020 national campaign leveraged the "Rediscover the Value of Food" creative platform (Attachment 2). It used digital tactics (programmatic video and banners, social media) and a national television PSA. It delivered more than 3 million impressions across Canada and a significant increase

in website traffic during the campaign period (1,400 sessions per day). Concurrently, LFHW engaged national influencers to create and share seasonal food waste prevention content. These included chefs Christine Tizzard and Hubert Cormier (Attachment 4).

During Waste Reduction Week, on Food Focus Friday (October 23, 2020), LFHW coordinated social media activity among campaign partners. LFHW created a social media post using data from the consumer insights research, and all partners shared the post and information on their social media profiles (Attachment 3). Waste Reduction Week also shared the post on their social media.

LFHW recently launched the spring 2021 campaign, called "5 Ways With." This content (Attachment 5) offers engaging tips and ideas to use up the most commonly wasted foods and seasonal produce (e.g. 5 ways with apples, 5 ways with bread crusts, 5 ways with fresh herbs). A new "5 Ways With" section has been added to the website, and the campaign comes to life on social media through earned media and a national micro-influencer campaign. LFHW has also continued its relationship with celebrity chef Bob Blumer as a food waste champion and campaign ambassador (Attachment 4). Additional highlights from the past year include the launch of a monthly LFHW newsletter (Reference 3) and new website content, including guidance on date labels and a fulsome A-Z Storage Guide. The campaign is active on social media, with regular posts that follow seasonal themes.

PLANS FOR 2021 / 2022

Metro Vancouver plans to continue amplifying the national Love Food Hate Waste Canada campaign with regional activations and participating in coordinated partner activity. Metro Vancouver is launching a regional amplification of the "5 Ways With" campaign in early June 2021. The campaign will leverage the national campaign creative and include social media (Facebook, Instagram, Pinterest) and local social media influencers.

As the COVID-19 pandemic eases, and once safe and appropriate to do so, Metro Vancouver will once again do outreach events at farmers' markets and community events.

ALTERNATIVES

This is an information report. No alternatives are presented.

FINANCIAL IMPLICATIONS

The 2021 budget for Metro Vancouver's participation in the Love Food Hate Waste Canada campaign is $82,000, supported under the Zero Waste Communications Program of the 2021 General Government budget and managed by the External Relations department.

CONCLUSION

The Love Food Hate Waste Canada campaign aims to prevent household food waste across Canada. As a campaign partner, Metro Vancouver is included in national media buys and campaign activities. We also activate the campaign locally using materials created and provided by the National Zero Waste Council. Highlights from the past year of the campaign include the "We're Here to Help" promotion, Food Waste in Canadian Homes report, coordinated social media activity during Waste Reduction Week, working with celebrity chefs and influencers, a new A-Z Storage Guide, and the launch of the "5 Ways With" promotion. Metro Vancouver plans to continue to participate in national

coordinated activities and activate the campaign regionally, with a regional "5 Ways With" promotion launching in June 2021.

Attachments:
1. "We're Here to Help" Creative Samples
2. "Rediscover the Value of Food" Creative Samples
3. Waste Reduction Week 2020 Coordinated Social Media Activity
4. Food Waste Champions
5. "5 Ways With" Creative Samples

References:
1. Love Food Hate Waste Canada Website
2. Food Waste in Canadian Homes Report (September 2020)
3. Love Food Hate Waste Canada Newsletter

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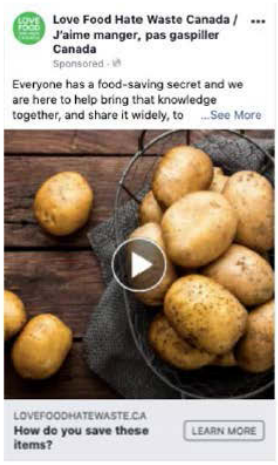
"We're Here to Help" Creative Samples

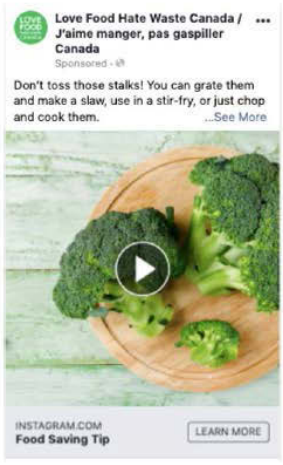
Animated Banner Ad

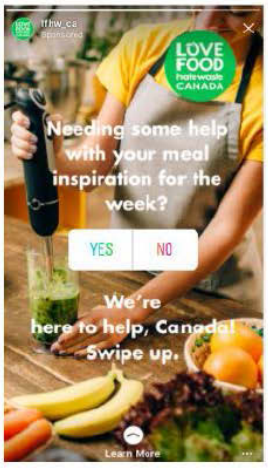
Frame 1

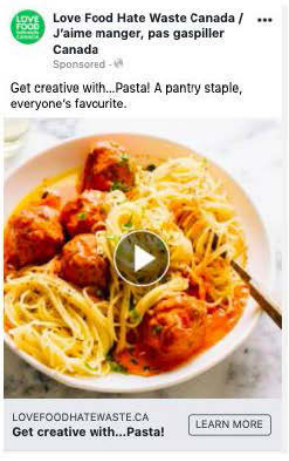
Frame 2

Sample Social Media Posts









"Rediscover the Value of Food" Creative Samples

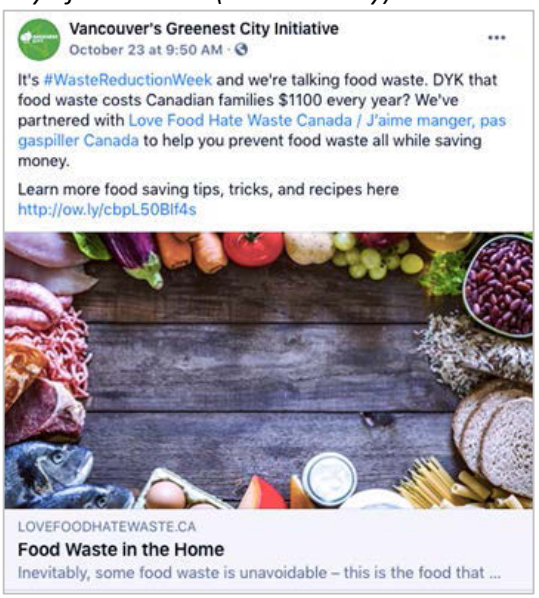
Posters

Grocery Ad Bar and Bus Sides

Waste Reduction Week 2020 Coordinated Social Media Activity

Metro Vancouver

City of Vancouver (Greenest City)



Capital Regional District

City of Victoria

City of Toronto

Guelph-Wellington (Our Food Future)

Recyc-Quebec

Sobeys

Walmart Canada

National Zero Waste Council

Waste Reduction Week in Canada

Food Waste Champions

Christine Tizzard

Video Example: All Things Turkey

Article Example: 5 Ways to Have a Waste-Free Pumpkin Season (Vita Daily)

DINING

5 Ways To Have A Waste-Free Pumpkin Season

OCTOBER 5, 2020

SHARE:

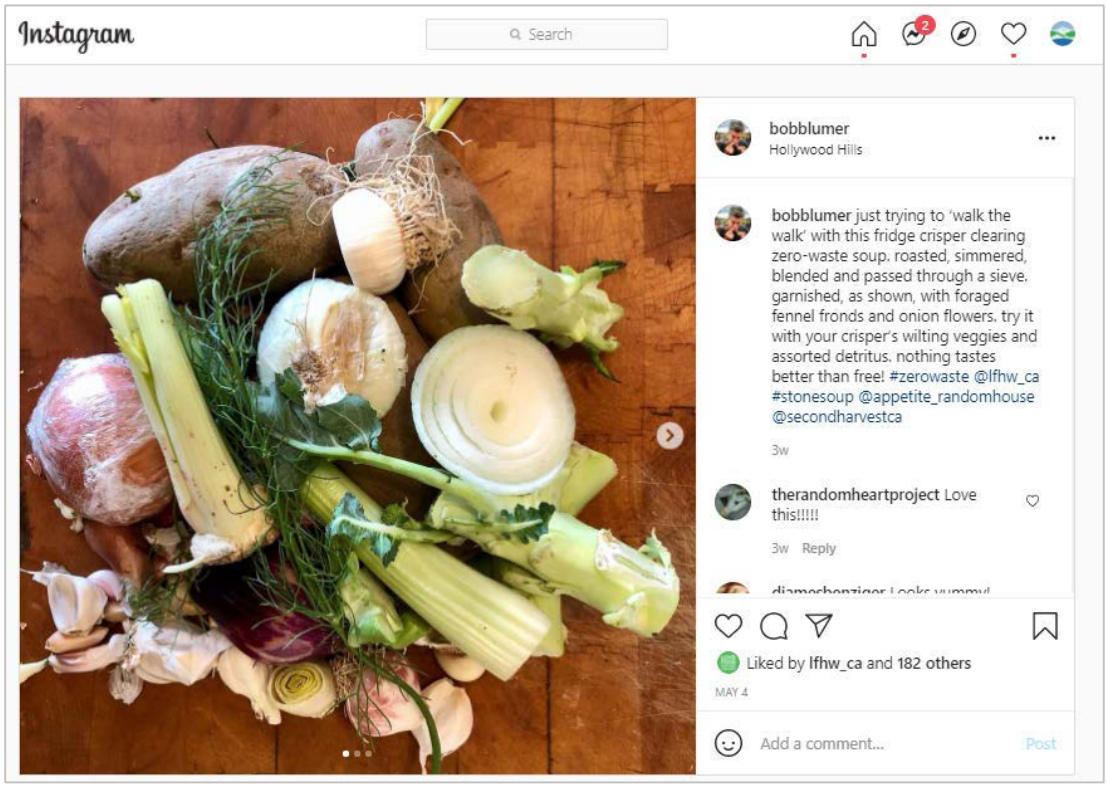
Whether it's revealed via a neighbourhood stroll, trip to the grocery store or scroll through Instagram, the fact that pumpkin time has arrived is abundantly clear! Whether a classic orange beauty on your porch or mini pastel ones along your mantle, pumpkins are the décor darling of the season. But, did you know though there are tonnes of edible options for them, too? Love Food Hate Waste Canada—Canada's hub for food-waste-prevention tips—has teamed up with zero-waste cookbook author Christine Tizzard to share these top ways to use up your pumpkin, skin to seeds. —*Vita Daily*

Bob Blumer

Sample Interviews

- CBC BC Today
- CBC Let's Go Montreal

Sample Social Media Mention

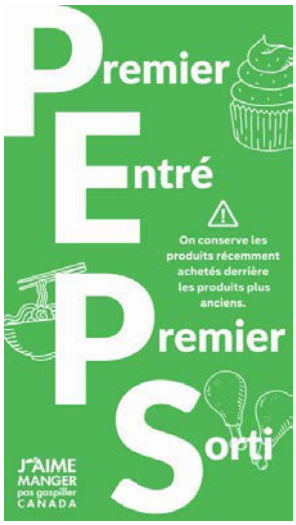


Hubert Cormier (French Only)

Sample Social Media Post (Instagram Story)

Frame 1

Frame 2



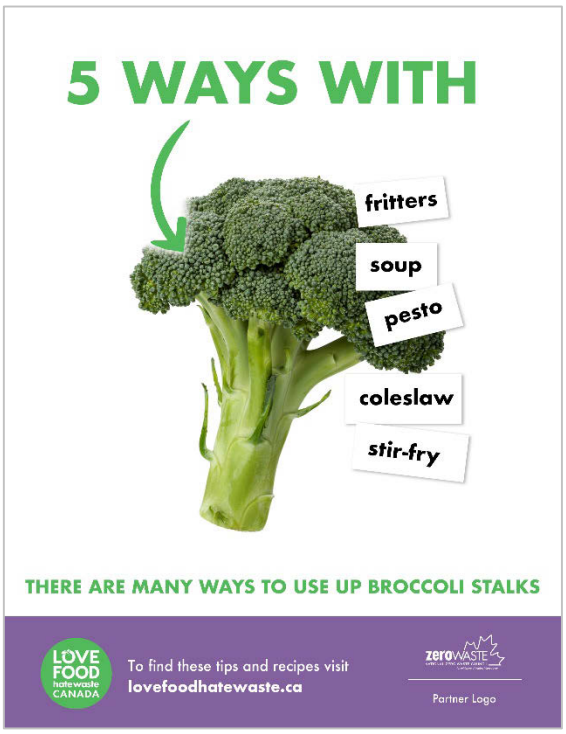
Frame 3

"5 Ways With" Creative Samples

Website

"5 Ways With" Campaign Landing Page

Posters



Social Media Images