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SERVICES AND SOLUTIONS FOR A LIVABLE REGION

METRO VANCOUVER REGIONAL DISTRICT
ZERO WASTE COMMITTEE

REGULAR MEETING

Friday, November 15, 2019
9:00 a.m.
28th Floor Committee Room, 4730 Kingsway, Burnaby, British Columbia

REVISED AGENDA[1]

1. ADOPTION OF THE AGENDA

1.1 Zero Waste Committee Regular Meeting Agenda
That the Zero Waste Committee adopt the agenda for its regular meeting scheduled for November 15, 2019 as circulated.

2. ADOPTION OF THE MINUTES

2.1 October 18, 2019 Regular Meeting Minutes
That the Zero Waste Committee adopt the minutes of its regular meeting held October 18, 2019 as circulated.

3. DELEGATIONS

3.1 Tom Land, President and CEO, Ecowaste Industries Ltd.
Subject: Ecowaste Industries Facility to Divert Construction and Demolition Waste

3.2 Wil Tarnasky, SportsFleets Ventures
Subject: Technology as a Resource to Reduce Single Use Plastic Waste

On table
3.3 Michael Stephen, P. Ag.
Subject: Plastic Debris in Compost related to Metro Vancouver's Recycling and Solid Waste Management 2018 Report

4. INVITED PRESENTATIONS

5. REPORTS FROM COMMITTEE OR STAFF

5.1 Recycling and Solid Waste Management 2018 Report
Designated Speakers: Adriana Velazquez, Project Engineer, Solid Waste Services
Maria Lo, Assistant Project Engineer, Solid Waste Services

[1] *Note: Recommendation is shown under each item, where applicable.*

That the GVS&DD Board receive for information the report dated November 8, 2019 titled "Recycling and Solid Waste Management 2018 Report".

5.2 Solid Waste Management Plan Update

Designated Speaker: Sarah Evanetz, Division Manager Solid Waste Programs and Public Involvement, Solid Waste Services

That the GVS&DD Board:

a) authorize initiating an update of the regional solid waste management plan; and
b) direct staff to notify the public and First Nations of its intention to review the plan and bring an engagement plan to the Board in early 2020 in advance of initiating consultation on the plan update.

5.3 B.C.'s Plastic Action Plan Policy Consultation Paper Feedback

Designated Speakers: Sarah Evanetz, Division Manager Solid Waste Programs and Public Involvement, Solid Waste Services

Karen Storry, Senior Project Engineer, Solid Waste Services

That the GVS&DD Board write to the Minister of Environment and Climate Change Strategy in response to B.C.'s Plastics Action Plan Policy consultation paper expressing support for: (i) province-wide restrictions on the sale and use of problematic single-use plastics and authority for local governments to restrict the distribution of problematic single-use items in their communities in addition to any province-wide bans; (ii) increasing materials included in the Provincial Recycling Regulation; and (iii) other measures to reduce plastics overall and capture more plastics.

5.4 2018 Regional Solid Waste System Summary

Designated Speaker: Allen Jensen, Project Engineer, Solid Waste Services

That the Zero Waste Committee receive for information the report dated November 8, 2019 titled "2018 Regional Solid Waste System Summary".

5.5 Alternative Fuel and Recyclables Recovery Project Procurement Update

Designated Speaker: Terry Fulton, Project Engineer, Solid Waste Services

That the Zero Waste Committee receive for information the report dated November 7, 2019 titled "Alternative Fuel and Recyclables Recovery Project Procurement Update".

5.6 2019 "Create Memories, Not Garbage" Campaign – Update

Designated Speaker: *Larina Lopez, Division Manager, Corporate Communications*

That the Zero Waste Committee receive for information the report dated November 4, 2019 titled "2019 Create Memories, Not Garbage" Campaign – Update."

5.7 Manager's Report

Designated Speaker: Paul Henderson, General Manager, Solid Waste Services

That the Zero Waste Committee receive for information the report dated November 7, 2019 titled "Manager's Report".

6. INFORMATION ITEMS

Added **6.1 Correspondence re Vancouver Landfill Technical Liaison Committee from Mayor George V. Harvie, City of Delta dated November 8, 2019**

7. OTHER BUSINESS

8. BUSINESS ARISING FROM DELEGATIONS

9. RESOLUTION TO CLOSE MEETING

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

That the Zero Waste Committee close its regular meeting scheduled for November 15, 2019 pursuant to the *Community Charter* provisions, Section 90 (1) (e) and (g) as follows:

"90 (1) A part of the meeting may be closed to the public if the subject matter being considered relates to or is one or more of the following:

(e) the acquisition, disposition or expropriation of land or improvements, if the board or committee considers that disclosure could reasonably be expected to harm the interests of the regional district; and

Added (g) litigation or potential litigation affecting the regional district".

10. ADJOURNMENT/CONCLUSION

That the Zero Waste Committee adjourn/conclude its regular meeting of November 15, 2019.

Membership:

Froese, Jack (C) - Langley Township
Hodge, Craig (VC) - Coquitlam
Calendino, Pietro - Burnaby
Cameron, Craig - West Vancouver
Elford, Doug - Surrey
Fathers, Helen - White Rock
Fry, Pete - Vancouver
Little, Mike - North Vancouver District
Madsen, Hunter - Port Moody
Martin, Gayle - Langley City
Morden, Mike - Maple Ridge
Steves, Harold - Richmond
Trentadue, Mary - New Westminster

METRO VANCOUVER REGIONAL DISTRICT
ZERO WASTE COMMITTEE

Minutes of the Regular Meeting of the Metro Vancouver Regional District (MVRD) Zero Waste Committee held at 9:00 a.m. on Friday, October 18, 2019 in the 28th Floor Committee Room, 4730 Kingsway, Burnaby, British Columbia.

MEMBERS PRESENT:
Chair, Mayor Jack Froese, Langley Township (arrived at 9:09 a.m.)
Vice Chair, Councillor Craig Hodge, Coquitlam
Councillor Pietro Calendino, Burnaby
Councillor Doug Elford, Surrey
Councillor Helen Fathers, White Rock
Councillor Pete Fry, Vancouver
Mayor Mike Little, North Vancouver District
Councillor Hunter Madsen, Port Moody (arrived at 9:06 a.m.)
Councillor Gayle Martin, Langley City
Mayor Mike Morden, Maple Ridge (arrived at 9:14 a.m.)
Councillor Harold Steves, Richmond (arrived at 9:06 a.m.)
Councillor Mary Trentadue, New Westminster

MEMBERS ABSENT:
Councillor Craig Cameron, West Vancouver

STAFF PRESENT:
Paul Henderson, General Manager, Solid Waste Services
Carol Mason, Chief Administrative Officer
Janis Knaupp, Legislative Services Coordinator, Board and Information Services

In the absence of the Chair, Vice Chair Hodge chaired the meeting.

1. ADOPTION OF THE AGENDA

1.1 October 18, 2019 Regular Meeting Agenda

Members were informed about a late delegation application for consideration.

It was MOVED and SECONDED
That the Zero Waste Committee:
a) amend the agenda for its regular meeting scheduled for October 18, 2019 by adding Item 3.2 Lori Bryan, Waste Management Association of BC (WMABC); and
b) adopt the agenda as amended.

CARRIED

2. ADOPTION OF THE MINUTES

2.1 July 12, 2019 Regular Meeting Minutes

It was MOVED and SECONDED
That the Zero Waste Committee adopt the minutes of its regular meeting held July 12, 2019 as circulated.

CARRIED

3. DELEGATIONS

3.1 Wil Tarnasky, SportsFleets Ventures Distributing

The delegation was not present when called upon by the Chair.

3.2 Lori Bryan, Waste Management Association of BC (WMABC)

The delegation was not present when called upon by the Chair.

4. INVITED PRESENTATIONS

No items presented.

5. REPORTS FROM COMMITTEE OR STAFF

5.1 2020 - 2024 Financial Plan – Solid Waste Services

Report dated October 11, 2019 from Paul Henderson, General Manager, Solid Waste Services, presenting the 2020-2024 Financial Plan for Solid Waste Services for consideration by the Committee.

9:06 a.m. Councillors Madsen and Steves arrived at the meeting.

Members were provided a presentation on the 2020-2024 Financial Plan for Solid Waste Services providing an overview of the Solid Waste function and highlighting 2020 revenues, tipping fees, expenditures, budget and key actions, capital program, and 2020-2024 key actions, tipping fees, financial summary and plan.

9:09 a.m. Chair Froese arrived at the meeting and assumed the Chair.
9:14 a.m. Mayor Morden arrived at the meeting.

In response to questions, members were informed about:

- tipping fees being driven by capital, debt servicing and operational costs
- challenges with projecting waste flow and waste diversion
- future waste flows expected to remain approximately the same therefore future tipping fee increases being primarily the result of increasing debt servicing as new facilities come online
- staff efforts to develop the 30-year financial plan as it relates to projecting future major capital investments beyond 2024

- staff efforts related to business casing commercial food waste receipt
- 2020 review of the Integrated *Solid Waste and Resource Management Plan*
- the generator levy and operational costs of managing waste
- staff reporting to committee on waste diversion and disposal in November 2019
- process for estimating project costs and establishing contingencies using external engineering firms

Presentation material titled "2020-2024 Financial Plan Solid Waste Services" is retained wit the October 18, 2019 agenda.

It was MOVED and SECONDED
That the Zero Waste Committee endorse the 2020 - 2024 Financial Plan for Solid Waste Services as presented in the report "2020 - 2024 Financial Plan – Solid Waste Services" dated October 10, 2019 and forward it to the Greater Vancouver Sewerage and Drainage District Board Budget Workshop on October 23, 2019 for consideration.

CARRIED

5.2 GVS&DD Tipping Fee and Solid Waste Disposal Regulation Amendment Bylaw No. 330, 2019

Report dated October 11, 2019 from Allen Jensen, Project Engineer, Solid Waste Services, seeking GVS&DD Board adoption of amendments to *Greater Vancouver Sewerage and Drainage District Tipping Fee and Solid Waste Disposal Regulation Bylaw No. 306, 2017* for garbage tipping fees and the recycling fee for source-separated organic waste, green waste and clean wood.

It was MOVED and SECONDED
That the GVS&DD Board:

a) approve the following amendments to the Tipping Fee Bylaw effective January 1, 2020:
   I. Tipping fees to change as follows:
      i. Tipping fees for garbage (per tonne):

Municipal garbage	$113
Up to 1 tonne	$147
1 tonne to 9 tonnes	$125
9 tonnes and over	$99

      ii. Recycling fee for source-separated organic waste, green waste and clean wood change to $100 per tonne;

b) give first, second and third reading to *Greater Vancouver Sewerage and Drainage District Tipping Fee and Solid Waste Disposal Regulation Amendment Bylaw No. 330, 2019*; and

c) pass and finally adopt *Greater Vancouver Sewerage and Drainage District Tipping Fee and Solid Waste Disposal Regulation Amendment Bylaw No. 330, 2019*.

CARRIED

Agenda Varied
The order of the agenda was varied to reconsider Section 3 at this point.

3.1 Wil Tarnasky, SportsFleets Ventures Distributing
The delegation was not present when called upon by the Chair for a second time.

3.2 Lori Bryan, Waste Management Association of BC (WMABC) (Continued)
Lori Bryan, WMABC spoke to members regarding the WMABC correspondence to the Minister of Environment and Climate Change presented in Item 6.2 of the agenda. Ms. Bryan reiterated WMABC's position and spoke about interest to work with Metro Vancouver going forward on solid waste matters.

On-table executive summary was distributed to members and is retained with the October 18, 2019 agenda.

Agenda Order Resumed
The order of the agenda resumed with Item 5.3 being before the Committee.

5.3 2018 Construction & Demolition Waste Composition Study
Report dated October 9, 2019 from Terry Fulton, Project Engineer, Solid Waste Services, providing an update on the results of the 2018 *Construction and Demolition Waste Composition Study*.

Members suggested staff explore opportunities to engage with the construction and demolition industry on the study.

In response to questions, members were informed about:

- challenges with determining the cause of changes in specific materials in the waste stream due to heterogeneous loads coming to waste facilities and range of factors affecting waste composition
- public communication regarding gypsum recycling
- increasing WorkSafe BC efforts to monitor asbestos in building demolition
- monitoring recycling performance through compliance with local bylaws

It was MOVED and SECONDED
That the Zero Waste Committee receive for information the report dated October 9, 2019 titled "2018 Construction & Demolition Waste Composition Study".

CARRIED

5.4 Update on Construction and Demolition Waste Reuse and Recycling in Metro Vancouver

Report dated October 9, 2019 from Marian Kim, Lead Senior Engineer, Solid Waste Services, providing an update on reuse and recycling practices for construction and demolition waste in Metro Vancouver.

Members discussed the *BC Building Code* as it relates to the use of used lumber in new construction.

Members suggested staff explore strategies for engaging the construction and demolition industry on wood recycling, and explore incentives for businesses showing leadership in recycling.

It was MOVED and SECONDED

That the Zero Waste Committee receive for information the report dated October 9, 2019 titled "Update on Construction and Demolition Waste Reuse and Recycling in Metro Vancouver".

CARRIED

5.5 Solid Waste Services Capital Program Expenditure Update as of August 31, 2019

Report dated October 9, 2019 from Lynne Vidler, Senior Project Engineer, Solid Waste Services, reporting on the status of the Solid Waste Services' capital program and financial performance for the eight-month period ending August 31, 2019.

It was MOVED and SECONDED

That the Zero Waste Committee receive for information the report dated October 9, 2019, titled "Solid Waste Services Capital Program Expenditure Update as of August 31, 2019".

CARRIED

5.6 2019 Regional Food Scraps Recycling Campaign Update

Report dated October 9, 2019 from Larina Lopez, Corporate Communications Division Manager, External Relations, providing an update on the 2019 Regional Food Scraps Recycling Campaign.

It was MOVED and SECONDED

That the Zero Waste Committee receive for information the report dated October 9, 2019 titled "2019 Regional Food Scraps Recycling Campaign Update."

CARRIED

5.7 2019 Abandoned Waste Campaign Results

Report dated October 9, 2019 from Larina Lopez, Corporate Communications Division Manager, External Relations, providing an update on the 2019 *Waste in its Place* regional campaign to reduce instances of abandoned waste, which took place in the spring of 2019.

It was MOVED and SECONDED
That the Zero Waste Committee receive for information the report dated October 9, 2019 titled "Abandoned Waste – 2019 Waste in its Place Regional Campaign Results."

CARRIED

5.8 Manager's Report

Report dated October 10, 2019 from Paul Henderson, General Manager, Solid Waste Services, updating the Zero Waste Committee on efforts to explore potential co-management of waste-to-energy facility biosolids, the 2019 National Zero Waste Conference event, approval of Recycle BC's Extended Producer Responsibility Plan, Recycle BC contract for the Coquitlam Transfer Station, end of the temporary surcharge waiver related to the clean wood disposal ban, and the Committee's 2019 Work Plan.

In response to questions, members were informed about:

- efforts to explore mechanical processing of dog waste from streetscape and park bins at an economical rate with City of Vancouver staff
- Waste-to-Energy Facility management of biosolids reducing long-distance trucking and greenhouse gas emissions and their being no odor concerns with processing

It was MOVED and SECONDED
That the Zero Waste Committee receive for information the report dated October 10, 2019 titled "Manager's Report".

CARRIED

6. INFORMATION ITEMS

6.1 Letter from Minister George Heyman re Bylaw 181 Update and Commercial Waste Hauler Licensing Bylaw Request for Approval, dated July 25, 2019

Correspondence dated July 25, 2019 from the George Hyman, Honourable Minister of Environment and Climate Change Strategy, regarding the status of Metro Vancouver's proposed Commercial Waste Hauler Licensing Bylaw (Bylaw 307) and Solid Waste and Recyclable Material Bylaw (Bylaw 309) submitted for approval to the Ministry of Environment and Climate Change Strategy on December 22, 2017.

6.2 Letter from WMABC re Metro Vancouver Bylaws 307 and 309, dated July 30, 2019

Correspondence dated July 30, 2019 from Noel Massey, President, Waste Management Association of BC, addressed to GVS&DD Board Chair Sav Dhaliwal, and Metro Vancouver Zero Waste Committee Chair, Jack Froese, regarding Metro Vancouver's proposed Commercial Waste Hauler Licensing Bylaw (Bylaw 307) and Solid Waste and Recyclable Material Bylaw (Bylaw 309).

6.3 Media Release from the City of Victoria re City to Ask Supreme Court of Canada to Rule on Municipal Power to Regulate Business Use of Plastic Bags, dated September 25, 2019

City of Victoria Media Release dated September 15, 2019, regarding the City's request to the Supreme Court of Canada to rule on municipal power to regulate business use of plastic bags.

6.4 Integrated Public Engagement Process for the Metro Vancouver *Clean Air Plan*, and *Climate 2050*, August 27, 2019

Report dated September 26, 2019 from Paul Henderson, General Manager, Zero Waste Committee, together with report dated August 27, 2019, regarding the Integrated Public Engagement Process for the Metro Vancouver Clean Air Plan and Climate 2050, presented to the Climate Action Committee at its meeting of September 20, 2019.

It was MOVED and SECONDED

That the Zero Waste Committee receive for information the following Information Items:

6.1 Letter from Minister George Heyman re Bylaw 181 Update and Commercial Waste Hauler Licensing Bylaw Request for Approval, dated July 25, 2019

6.2 Letter from WMABC re Metro Vancouver Bylaws 307 and 309, dated July 30, 2019

6.3 Media Release from the City of Victoria re City to Ask Supreme Court of Canada to Rule on Municipal Power to Regulate Business Use of Plastic Bags, dated September 25, 2019

6.4 Integrated Public Engagement Process for the Metro Vancouver Clean Air Plan, and Climate 2050, August 27, 2019

CARRIED

7. OTHER BUSINESS

No items presented.

8. BUSINESS ARISING FROM DELEGATIONS

No items presented.

9. RESOLUTION TO CLOSE MEETING

It was MOVED and SECONDED

That the Zero Waste Committee close its regular meeting scheduled for October 18, 2019 pursuant to the *Community Charter* provisions, Section 90 (1) (g) and (k) as follows:

"90 (1) A part of the meeting may be closed to the public if the subject matter being considered relates to or is one or more of the following:

(g) litigation or potential litigation affecting the regional district; and

(k) negotiations and related discussions respecting the proposed provision of a regional district service that are at their preliminary stages and that, in the view of the board or committee, could reasonably be expected to harm the interests of the regional district if they were held in public."

CARRIED

10. ADJOURNMENT/CONCLUSION

It was MOVED and SECONDED
That the Zero Waste Committee adjourn its regular meeting of October 18, 2019.

CARRIED
(Time: 10:28 a.m.)

_____ _____
Janis Knaupp, Jack Froese, Chair
Legislative Services Coordinator

33158339 FINAL

ECOWASTE

October 31, 2019

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

To Whom this May Concern:

RE: Application to speak to Metro Vancouver Zero Waste Committee Meeting on November 15, 2019

Please accept this letter and information herewith as our application to present to the Metro Vancouver Zero Waste Committee on Friday, November 15th, 2019.

1. **Contact Information:** Carmen Garbett, Executive Assistant
   Ecowaste Industries Ltd.
   Direct: 236-454-2642 / Cell: 604-916-7074
   cgarbett@montroseproperty.com

2. **Presenter:** Tom Land, President & CEO
   Ecowaste Industries Ltd.

3. **Committee:** Zero Waste Committee

4. **Committee Meeting Date**: November 15, 2019

5. **Subject of Presentation**: The regional impact of Ecowaste Industries' plans to build a fully automated facility to divert Construction & Demolition waste and extend the life of its landfill by up to 20 years.

6. **Action for Committee**: Enforce regulations consistently across all participants in the region. Don't get into competition with the private sector. Include Ecowaste Industries as a knowledgeable resource in the upcoming update to the Integrated Solid Waste and Resource Management Plan.

7. Presentation Summary

a. Brief history and background of Ecowaste Industries Ltd. and parent company Montrose Property Holdings Ltd.
b. Overview of Ecowaste's investment in diversion recycling and disposal activities.
c. Local disposal options, statistics and remaining landfill life.
d. Ecowaste's diversion plans.
e. Impact our investment will have on the regional diversion rate.

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,

Carmen Garbett
Executive Assistant
Ecowaste Industries Ltd.

Zero Waste Committee Presentation summary:
Re: 100% natural alternative to single use plastic bags in Canada

As the Canadian distributor of this new natural alternative to single use plastic bags, we want to present a brief overview of the science of this natural plastic alternative product. We will briefly discuss the key points of what makes the product so different, precedents requiring companies to become innovative in reducing wasteful activities and our initiative to minimize both costs and waste deposal of plastic bags stocks to help municipalities change to alternatives now.

The initiative offers municipalities purchase credit towards compostable bags worth as much as they paid for their current plastic bag inventory, potentially allowing for huge discounts on a product that is soil-saving and pollution-preventing.

We will create a PowerPouint presentation and keep the talk informative and brief.

Best regards,
Wil Tarnasky, owner and presenter,
Svi Distributing/Beyond Green-bioDOGradable

info@sportsfleets.com
778-371-9541

To: Metro Vancouver Zero Waste Committee
From: Michael R. Stephen, P.Ag.

Date: November 13, 2019 Meeting Date: November 15, 2019

Subject: **Plastic Debris in Compost related to Item 5.1 on agenda for November 15, 2019**

RECOMMENDATION
That the Zero Waste Committee:

a) Consider the possibility that a significant proportion of the yard and food waste that is reported as recycled in Item 5.1 of today's agenda was contaminated with plastic and other debris (collectively known as "foreign debris"), and that this material did not comply with the applicable standards.
b) Direct staff to create and implement a policy whereby Metro Vancouver's members use only compost products that are virtually free of foreign debris.
c) Ask the federal and provincial governments to help compost producers to quickly comply with the applicable government standards regarding foreign debris.
d) Direct staff to create and implement a region-wide plan that applies to all compost production and use, ensuring it is virtually free of foreign debris.
e) Direct staff to map and rate according to risk level the location of soils that have been contaminated with foreign debris from compost products, starting with sensitive sites such as community gardens and farms. Staff should then remediate or develop containment plans for these contaminated soils.

PURPOSE
To inform the Zero Waste Committee about plastic and other debris contamination in compost products, and to recommend initial solutions.

BACKGROUND
The issue of plastic and glass fragments contaminating compost is relevant to the "Recycling" section on the top of page 3 of agenda item 5.1: *Recycling and Solid Waste Management 2018 Report*.

Agenda item 5.1 indicates that 430,000 tonnes of yard and food waste were recycled in 2018. However, my research indicates that at least 100,000 tonnes of this compost was produced at Harvest Power in Richmond and was contaminated with significant quantities of foreign debris which did not comply with the applicable standards. Some of these standards include the following:

- B.C. Organic Matter Recycling Regulation (OMRR)
- B.C. Environmental Management Act; Public Health Act; Code of Practice for Soil Amendments
- Canadian Fertilizers Act and Regulations.

THE ISSUE

I frequently observe that the City of Vancouver and private companies use soil products derived from compost that is heavily contaminated with plastic and other debris This is a region-wide issue, as I find this debris within almost every sample of compost-derived soil that I stop to inspect anywhere I go within Metro Vancouver.

Foreign debris is mainly comprised of sheet plastic, but also includes sharp fragments of glass and hard plastic. For example, this month I noticed that contaminated soil had been recently spread over the boulevard in front of a private home (see **Photo 1**). This photo shows the debris that I picked from this soil in only about one minute. The home owner's response was dismay: "I pay $50,000 per year in property taxes and the city dumps garbage on my front lawn?"

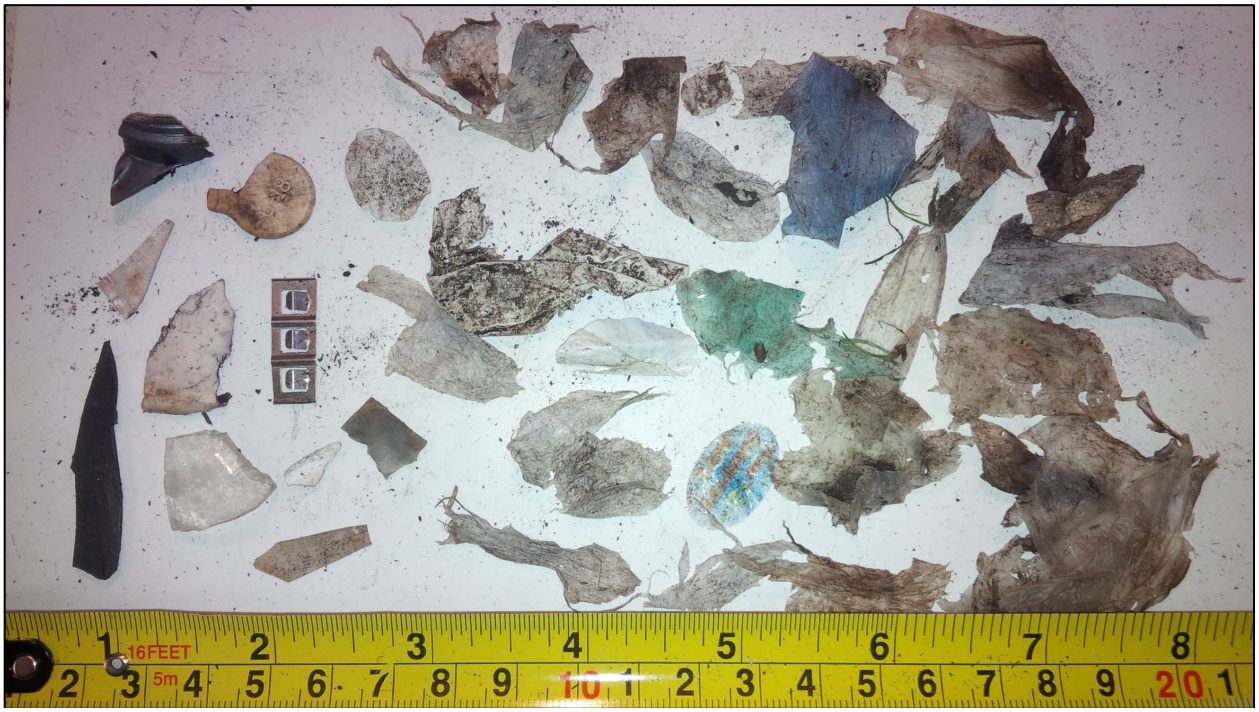


Photo 1: Foreign debris collected in one minute from city boulevard soil.

In addition to aesthetic consequences, sharp debris is a safety hazard, and plastic waste causes well-recognized environmental harm. Furthermore, recently published scientific research shows that plastic can be physically and chemically incorporated into plant tissue in food crops. Of special concern, therefore, is the use of contaminated compost for growing food: the soil of every community garden in Metro Vancouver that I have visited contains obvious quantities of plastic debris.

Compost production can be an important way to divert organic waste from landfills while creating a valuable soil amendment. However, great care is needed to keep unwanted garbage out of the compost ingredients. Local governments can use their legislative authority, buying power, and public education abilities to greatly improve compost quality within their regions.

To: Zero Waste Committee

From: Adriana Velázquez, Project Engineer, Solid Waste Services
Maria Lo, Assistant Project Engineer, Solid Waste Services

Date: November 8, 2019 Meeting Date: November 15, 2019

Subject: **Recycling and Solid Waste Management 2018 Report**

RECOMMENDATION
That the GVS&DD Board receive for information the report dated November 8, 2019 titled "Recycling and Solid Waste Management 2018 Report".

PURPOSE
The purpose of this report is to update the Zero Waste Committee and Board on the overall reduction, recycling and disposal of municipal solid waste from the Metro Vancouver region in 2018.

BACKGROUND
Metro Vancouver collects reuse, recycling and disposal data throughout the year and prepares an annual summary of these municipal solid waste quantities in the region. Municipal solid waste includes waste generated from residents, commercial/institutional businesses, and construction & demolition activity, but does not include industrial waste or agricultural waste. The data is typically provided at the end of year for the previous year because the data is assembled from various sources including private facilities, Extended Producer Responsibility agencies and others. Annual reporting of waste management data allows Metro Vancouver to track progress towards its waste reduction goals.

ANNUAL SUMMARY
ISWRMP Targets
The overriding principle of the *Integrated Solid Waste and Resource Management Plan* (ISWRMP) is the avoidance of waste through an aggressive waste reduction campaign and through the recovery of materials and energy from the waste that remains. In line with this principle, the ISWRMP outlines targets for waste reduction and diversion of materials from disposal. For waste reduction, ISWRMP includes a target for Metro Vancouver to reduce the quantity of waste generated per capita within the region to 90% or less of 2010 waste generation by 2020, using a 5-year rolling average. For waste diversion from disposal, ISWRMP outlines a target of 80% diversion by 2020 and 70% diversion by 2015.

Diversion
Waste diversion is calculated using the amount of material recycled as a fraction of the total amount of material generated. Metro Vancouver's target is 80% diversion. In 2018, approximately 64% of all material was diverted. This is 1% higher than the 63% diverted in 2017. As shown in the table below, the single family diversion rate for 2018 is 64%, the multi-family rate is 37%, the commercial/institutional rate is 46% and the construction & demolition sector rate is 78%.

The table shows the multi-family rate increasing and the commercial/institutional sector decreasing. The combined diversion rate of multi-family and commercial/institutional waste decreased by 1%. Waste and recyclables from the multi-family and commercial/institutional sectors are typically combined in collection, disposal and processing. The relative change between the sectors is a result of an update to the calculation methodology. The increased recycling rate in the construction & demolition sector is due to increased concrete recycling.

Metro Vancouver has limited regulatory tools to encourage diversion in the commercial/institutional and multi-family sectors. Metro Vancouver's recently proposed solid waste regulatory updates would increase transparency and accountability in these sectors as well as the construction & demolition sector, and encourage more waste diversion.

WASTE SECTOR		**DISPOSED (tonnes)**		**RECYCLED (tonnes)**		**DIVERSION RATE (%)**		
		2017	**2018**	**2017**	**2018**	**2017**	**2018**	**% change**
Residential	**tonnes**	**501,476**	**494,048**	**581,081**	**585,565**	**54%**	**54%**	**0%**
	tonnes/capita	**0.19**	**0.19**	**0.22**	**0.22**			
Single Family	tonnes	270,578	256,824	477,832	447,639	64%	64%	0%
Multi-Family	tonnes	230,898	237,224	103,249	137,926	31%	37%	6%
Commercial/ Institutional	**tonnes**	**389,729**	**397,021**	**385,553**	**337,283**	**50%**	**46%**	**-4%**
	tonnes/capita	**0.15**	**0.15**	**0.15**	**0.13**			
Construction & Demolition	**tonnes**	**399,965**	**391,683**	**1,267,420**	**1,394,202**	**76%**	**78%**	**2%**
Total	**tonnes**	**1,291,169**	**1,282,752**	**2,234,055**	**2,317,050**	**63%**	**64%**	**1%**
	tonnes/capita	**0.49**	**0.48**	**0.86**	**0.87**			
	tonnes/ household	**1.31**	**1.28**	**2.27**	**2.32**			

Waste Reduction

Waste reduction can be quantified by estimating changes in waste generation over time. Waste generation includes all material that is either recycled or disposed. In 2018, waste generation was calculated using municipal surveys, weigh scale data, private waste facility data and reports from Extended Producer Responsibility organizations. Total waste generation in 2018 was approximately 3.6 million tonnes, or 1.36 tonnes/capita. Using the 5-year rolling average methodology outlined in the ISWRMP, this represents 90% of 2010 levels, and meets the reduction target identified in the ISWRMP.

Reuse

Metro Vancouver quantifies materials that are reused, rather than recycled or disposed, using data from the second hand clothing industry, hospitality sector, food rescue organizations, online marketplace and other common reuse stakeholders. Reuse has increased from approximately 82,000 tonnes in 2017 to approximately 88,100 tonnes in 2018. This metric was new in 2017, and is being refined over time. Reuse tonnage is not included in the waste diversion calculations for the region.

Recycling
In 2018, approximately 2.3 million tonnes of material was recycled. The most commonly recycled materials were concrete (approximately 830,000 tonnes), yard and food waste (approximately 430,000 tonnes), and paper fibre (approximately 280,000 tonnes). Recycling has increased from 0.86 tonnes/capita in 2017 to 0.87 tonnes/capita in 2018.

Disposal
Municipal solid waste from residential and commercial/institutional sources was disposed at the Vancouver Landfill, the Metro Vancouver Waste-to-Energy Facility, and two remote landfills under contract to Metro Vancouver. Construction & demolition waste was disposed at the Vancouver Landfill and private licensed facilities. In 2018, an estimated 1.3 million tonnes or 0.48 tonnes per capita were disposed. This is slightly lower than the 0.49 tonnes per capita disposed in 2017.

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

FINANCIAL IMPLICATIONS
Metro Vancouver's waste reduction and diversion initiatives are implemented within the annual budget for the Solid Waste Services department.

SUMMARY / CONCLUSION
In 2018, residents, commercial/institutional businesses, and construction & demolition activity generated an estimated 3.6 million tonnes of municipal solid waste in Metro Vancouver, of which 64% (2.3 million tonnes) was diverted from disposal. The ISWRMP has a target of 80% diversion by 2020. Concrete, yard and food waste, and paper fibre represented the largest quantities of recycled materials. The remaining 1.3 million tonnes of waste was sent to disposal. Waste generation is at 90% of 2010 levels, which meets the ISWRMP target for waste reduction. Regulatory tools proposed by Metro Vancouver would increase transparency and accountability and encourage more waste diversion. This report will be shared with the Ministry of Environment and Climate Change Strategy along with member jurisdictions.

The detailed information used to generate this report is available online at Metro Vancouver's website with the link included as a reference to this report.

Reference
Recycling and Solid Waste Management 2018 Report

32872673

metrovancouver
SERVICES AND SOLUTIONS FOR A LIVABLE REGION

5.2

To: Zero Waste Committee

From: Sarah Evanetz, Division Manager Solid Waste Programs and Public Involvement, Solid Waste Services

Date: November 8, 2019 Meeting Date: November 15, 2019

Subject: **Solid Waste Management Plan Update**

RECOMMENDATION

That the GVS&DD Board:

a) authorize initiating an update of the regional solid waste management plan; and
b) direct staff to notify the public and First Nations of its intention to review the plan and bring an engagement plan to the Board in early 2020 in advance of initiating consultation on the plan update.

PURPOSE

To seek GVS&DD Board authorization to initiate updating the regional solid waste management plan.

BACKGROUND

The provincial *Environmental Management Act* requires regional districts to develop plans for the management of municipal solid waste and recyclable materials that are subject to approval by the Minister of Environment and Climate Change Strategy. Provincial guidelines recommend that on or before the 10-year anniversary of the current plan's approval, regional district boards approve initiating a plan review. Metro Vancouver's *Integrated Solid Waste and Resource Management Plan* was approved by the Minister of Environment in July 2011, and is due for an update.

The purpose of this report is to seek authorization to initiate updating the solid waste management plan and to seek authority to notify the public, First Nations and other stakeholders that the process of updating the solid waste management plan is commencing.

SOLID WASTE MANAGEMENT PLAN UPDATE

Metro Vancouver has developed three previous solid waste management plans in 1985, 1995 and most recently in 2011. The current plan includes an aspirational target of achieving an 80% diversion rate by 2020 and focuses on 4 goals including: minimize waste generation, maximize reuse, recycling and material recovery, recover energy from the waste stream after material recycling and dispose of all remaining waste in landfill, after material recycling and energy recovery.

In the nine years since Metro Vancouver's *Integrated Solid Waste and Resource Management Plan* was approved, while not achieving all of the targets in the plan, the region has progressed substantially towards its Zero Waste and circular economy goals and is recognized as a North American leader in waste diversion and recycling. In calendar 2018, the diversion rate was 64%. The single family and construction and demolition sectors have higher diversion rates than the multi-family and commercial/institutional sectors.

An 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. Themes such as climate action, regional growth, innovation, financial sustainability, system stewardship and collaboration will be central to the process. Metro Vancouver will work closely with other levels of government to ensure linkages and alignment with other plans and initiatives such as CleanBC, member municipalities' waste reduction initiatives, adjacent regional district solid waste management plans and Metro Vancouver's *Board Strategic Plan*, *Metro 2050*, *Climate 2050* and *Clean Air Plan*, among others.

The Solid Waste Services' 2020-2024 Financial plan projects that plan development will be completed by 2022 or 2023, a timeline similar to the development of previous solid waste management plans.

Provincial Guidelines for Solid Waste Management Planning
To ensure alignment with provincial priorities and expectations for solid waste management plan updates, Metro Vancouver intends to follow the provincial recommendations for solid waste management planning as described in the document *A Guide to Solid Waste Management Planning.* The guide outlines the following steps for planning and consultation:

- Step 1 – Initiate the Planning Process
    - Establish teams and committees
    - Design the consultation process
    - Develop the budget

- Step 2 – Set the Plan Direction
    - Identify principles, goals and targets
    - Address current solid waste management system
    - Consider trends affecting solid waste management
    - Consult the public

- Step 3 – Evaluate Options
    - Develop potential strategies
    - Assess implications
    - Consult the public and stakeholders

- Step 4 – Prepare and Adopt the Plan
    - Consult the public and stakeholders on draft plan
    - Ministry review and approval

Technical Studies
A number of research and technical studies are planned to support the development of an updated solid waste management plan for Metro Vancouver. Metro Vancouver regularly collects and analyses data on the state of waste reduction, reuse, recycling and disposal in the region and reports annually on progress, in addition to biennial reporting on progress against the goals and strategies in the *Integrated Solid Waste and Resource Management Plan*. These existing reports provide baseline

information and data on the current state of the regional solid waste management system. New studies are planned in the following areas:

- Regional Solid Waste System Assessment (including regional transfer station assessment)
- Circular Economy and Waste Reduction
- Recycling Economic and Environmental Benefits and Opportunities

Details of these studies will be communicated to the Zero Waste Committee and Board as the studies progress.

Engagement Process

Metro Vancouver is committed to engaging with the public, industry, adjacent regional districts and other levels of government, including First Nations, that have the potential to be impacted by the solid waste management plan, and will incorporate feedback received into the plan.

Staff will report back to the Board in early 2020 with an engagement plan that will provide details about the activities, participants and timelines for the engagement process. The engagement will be conducted in accordance with the *Board Policy on Public Engagement* and will include targeted tactics to ensure input is received about the varied needs and demands of the region. In designing the engagement plan, staff will consider the level of impact on the entire community and specific stakeholders or community groups, including those facing barriers to participation and whose views are under-represented. Metro Vancouver will look to an independent engagement process expert to review and report out on all phases of plan development to ensure the consultation is robust and adequate, and feedback is received from a variety of stakeholders.

Metro Vancouver will also be sharing information and engaging with First Nation communities on this plan update. A separate First Nations engagement plan will be developed and implemented.

ALTERNATIVES

1. That the GVS&DD Board:
   a) authorize initiating an update of the regional solid waste management plan; and
   b) direct staff to notify the public and First Nations of its intention to review the plan and bring an engagement plan to the Board in early 2020 in advance of initiating consultation on the plan update.

2. That the Zero Waste Committee receive for information the report dated November 8, 2019 titled "Solid Waste Management Plan Update" and provide alternate direction to staff.

FINANCIAL IMPLICATIONS

If the Board approves Alternative 1 and authorizes initiating a solid waste management plan update process, staff will notify the public and First Nations that a plan update is being initiated and report back to the Board with an engagement plan for the Board's consideration.

Under Alternative 2, the Committee and Board may wish to provide alternate direction related to initiating a review of the solid waste management plan.

SUMMARY / CONCLUSION

Metro Vancouver's *Integrated Solid Waste and Resource Management Plan,* approved by the Minister of Environment in 2011 is due for an update. An 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. The Solid Waste Services' 2020-2024 Financial Plan projects that the plan review will be completed by 2022 or 2023. Staff will report back to the Board in early 2020 with an engagement plan that provides details about the activities, participants and timelines for the engagement process. Staff recommend Alternative 1 that the Board approve initiating a review of the region's solid waste management plan and notify First Nations, the public and stakeholders that the plan update is commencing.

Reference

Metro Vancouver Integrated Solid Waste and Resource Management Plan

33339404

metrovancouver
SERVICES AND SOLUTIONS FOR A LIVABLE REGION

5.3

To: Zero Waste Committee

From: Sarah Evanetz, Division Manager Programs and Public Involvement, Solid Waste Services
Karen Storry, Senior Project Engineer, Solid Waste Services

Date: November 8, 2019 Meeting Date: November 15, 2019

Subject: **B.C.'s Plastics Action Plan Policy Consultation Paper Feedback**

RECOMMENDATION

That the GVS&DD Board write to the Minister of Environment and Climate Change Strategy in response to B.C.'s Plastics Action Plan Policy consultation paper expressing support for: (i) province-wide restrictions on the sale and use of problematic single-use plastics and authority for local governments to restrict the distribution of problematic single-use items in their communities in addition to any province-wide bans; (ii) increasing materials included in the Provincial *Recycling Regulation*; and (iii) other measures to reduce plastics overall and capture more plastics.

PURPOSE

To provide a summary of the B.C. Plastics Action Plan Policy consultation paper and to seek Board approval to write to the Minister of Environment and Climate Change Strategy with feedback on the consultation paper.

BACKGROUND

The Province of British Columbia released its Plastics Action Plan policy consultation paper on July 25, 2019 and requested comments by September 30, 2019. Metro Vancouver responded to the Province and advised that to ensure fulsome engagement with municipal staff and elected officials, Metro Vancouver would provide feedback on the consultation paper by the end of November.

While Metro Vancouver does not have authority to restrict the sale and use of single-use items, Metro Vancouver and member municipalities have advanced initiatives to reduce single-use items over the past number of years, complementing many of the actions proposed in the Plastics Action Plan. This report summarizes feedback on the Plastics Action Plan consultation paper and recommends that the Board write to the Province with feedback on the Plastics Action Plan.

PLASTIC ACTION PLAN CONSULTATION AND METRO VANCOUVER FEEDBACK

Policy Consultation Paper

As part of the Province's broader CleanBC initiative to reduce pollution and use more clean and renewable energy, including diverting waste from landfills and reducing waste emissions, the Province is seeking feedback on initiatives to reduce plastic waste through a Plastics Action Plan policy consultation paper. The paper proposes new policy options and amendments to the Provincial *Recycling Regulation* including bans on single-use packaging, increasing recycling options through expanded Extended Producer Responsibility, expanded plastic bottle and beverage container returns, national recycled content regulations and reducing plastics overall.

Plastics and Single-Use Items in Metro Vancouver

In 2018 in Metro Vancouver, municipal solid waste from residential and commercial/institutional sources contained 16.4% plastics (57 kg/capita). Furthermore, 1.1 billion single-use items were disposed or about 440 items per person, representing about 2.4% of the waste stream. Of these items, 57% were plastic, 22% were paper-lined plastic and the remaining 21% were paper or wood.

CleanBC Plastics Action Plan Proposed Feedback

Metro Vancouver engaged with member municipal staff to seek input on the Plastics Action Plan. Member municipal staff expressed support for Province-wide bans on problematic plastics. They also supported giving local governments the authority to ban the sale or use of problematic plastic items in their communities should they choose to. Participants also expressed support for contemplated amendments to the Province's Recycling Regulation to expand materials collected under Extended Producer Responsibility and simplify beverage container returns for consumers.

The feedback from this engagement is the basis for the following proposed feedback on the Plastics Action Plan:

- The Province is best suited to ban the sale and use of problematic plastics including straws, utensils, bags, coffee pods, takeout containers and cups. In addition, local governments should be given clear authority to restrict the sale and use of single-use items above and beyond any base level ban implemented by the Province in order to protect their local environment.
- Metro Vancouver supports contemplated amendments to the *Recycling Regulation* including:
  - Increased beverage container deposits; and
  - The addition to the *Recycling Regulation* of packaging-like and highly recyclable products such as freezer/sandwich bags; straws; stir-sticks; moving boxes; coat hangers; reusable plastic containers and storage tubs; disposable plates, bowls, cups and party supplies; metal pots and pans; plastic kids toys; canning jars and wrapping paper to residential recycling.
- Metro Vancouver supports regulation of problematic plastic types including foam food packaging and biodegradable, compostable, and composites such as plastic-lined paper.
- While the focus on reduction of plastics is important, Metro Vancouver encourages the Province to minimize unintended consequences of alternative products that replace plastics through evidence-based decision-making; and consider health, safety, accessibility and affordability impacts of policies or regulations.
- The Province should also consider whether an expansion of the Extended Producer Responsibility program for packaging and paper products to the commercial/institutional sector is warranted, and the potential benefits and challenges of such an expansion.

ALTERNATIVES

1. That the GVS&DD Board write to the Minister of Environment and Climate Change Strategy in response to B.C.'s Plastics Action Plan Policy consultation paper expressing support for: (i) province-wide restrictions on the sale and use of problematic single-use plastics and authority for local governments to restrict the distribution of problematic single-use items in their communities in addition to any province-wide bans; (ii) increasing materials included in the Provincial Recycling Regulation; and (iii) other measures to reduce plastics overall and capture more plastics.

2. That the Zero Waste Committee receive the report dated November 8, 2019 "B.C.'s Plastic Action Plan Policy Consultation Paper Feedback" and provide alternate direction to staff.

FINANCIAL IMPLICATIONS

If the GVS&DD Board approves Alternative 1, a letter will be sent to the Minister of Environment and Climate Change Strategy providing feedback on the B.C. Plastic Action Plan Policy consultation paper. Funding for behavior change initiatives for single use item reduction is included in the 2020 Operating Budget. The Zero Waste Committee may choose to provide alternate direction to staff.

SUMMARY / CONCLUSION

The Province of British Columbia released its Plastics Action Plan Policy consultation paper on July 25, 2019 with a targeted date for feedback of September 30, 2019. Metro Vancouver responded to the Province and advised that to ensure fulsome engagement with municipal staff and elected officials, a response would come in November. The feedback from engagement with member municipal staff is the basis for the proposed feedback to Minister of Environment and Climate Change Strategy in response to the Plastics Action Plan Policy consultation paper expressing support for:

- province-wide restrictions on the sale and use of problematic single-use plastics and authority for local governments to restrict the distribution of problematic single-use items in their communities in addition to any province-wide bans
- increasing materials included in the *Recycling Regulation*
- other measures to reduce plastics overall and capture more plastics

Reference

CleanBC Plastics Action Plan

31069389

To: Zero Waste Committee

From: Allen Jensen, Project Engineer, Solid Waste Services

Date: November 8, 2019 Meeting Date: November 15, 2019

Subject: **2018 Regional Solid Waste System Summary**

RECOMMENDATION
That the Zero Waste Committee receive for information the report dated November 8, 2019 titled "2018 Regional Solid Waste System Summary".

PURPOSE
To provide the Zero Waste Committee with an overview of the waste management services provided by the regional solid waste system in 2018.

BACKGROUND
Metro Vancouver's network of solid waste facilities serves residents and businesses throughout the region. Zero Waste Committee members have identified that a summary of the regional solid waste system would assist the Committee and the public in understanding the solid waste services provided by Metro Vancouver. This report provides an overview of the key statistics for the regional solid waste system in 2018 as well as fact sheets with details on each Metro Vancouver transfer station and the Waste-to-Energy Facility. The fact sheets will be available on Metro Vancouver's website.

REGIONAL SOLID WASTE SYSTEM
The regional solid waste management system, includes:

- Metro Vancouver facilities:
  - North Shore Transfer Station;
  - Coquitlam Transfer Station;
  - Surrey Transfer Station;
  - Maple Ridge Transfer Station;
  - Langley Transfer Station; and
  - Waste-to-Energy Facility.
- City of Vancouver facilities:
  - Vancouver South Transfer Station; and
  - Vancouver Landfill.

Transfer stations all provide a range of services including receipt of municipal solid waste and paid recycling, such as clean wood, organics, gypsum and mattresses. Metro Vancouver provides free recycling (drop-off of recyclables) at recycling depots at the North Shore Transfer Station and the Coquitlam Transfer Station.

The non-profit Ridge Meadows Recycling Society operates a recycling depot adjacent to the Maple Ridge Transfer Station. The new Surrey Recycling and Waste Drop-Off facility and the replacement

Coquitlam Transfer Station will both have recycling depots. Recycling facilities are also available at City of Vancouver facilities. As part of the upcoming regional solid waste system assessment study opportunities to improve recycling services at the Surrey and Langley Transfer Stations will be investigated.

Customer Use of Metro Vancouver Solid Waste Facilities

Table 1 provides a summary of the number of customers and material quantities received at Metro Vancouver's solid waste facilities.

Table 1: 2018 Metro Vancouver Solid Waste System Summary Data

MATERIAL(S)	CUSTOMERS	TONNES
Garbage	**565,862**	**782,067**
Clean Wood, Organics & Other Paid Recycling	**160,865**	**57,883**
Gypsum	**12,477**	**1,036**
Mattresses	**56,846 units**	**2,019**
Free Recycling	**377,295**	**10,457**

Metro Vancouver facilities received 968,700 customer visits in 2018. This number was calculated by combining the garbage, clean wood, organics, gypsum and mattress customers and portion of the free recycling customers at the North Shore and Coquitlam Transfer Stations. Some recycling depot customers at the North Shore and Coquitlam Transfer Stations dropped off both garbage and recycling on the same trip and therefore are only counted once in the total. Of the garbage loads delivered to Metro Vancouver transfer stations, 85% or approximately 450,000 are loads less than 1 tonne with an average load weight of 200 kg.

Paid Recycling includes yard trimmings, clean wood and gypsum along with other limited recyclables received at the Surrey and Langley Transfer Stations. All recycling at the Surrey and Langley Transfer Stations is located behind the scales. Users typically combine recyclables with waste and pay the garbage rate on the full load.

Compared to 2017, system-wide customers and material quantities stayed approximately the same for 2018.

Waste Flows and Disposal Destination

Table 2 provides a summary of residential and commercial/institutional waste quantities and tonnages that were handled by the regional solid waste management system including Vancouver facilities and their disposal destination.

Table 2: 2018 Regional Garbage Disposal Destination

DESTINATION	MUNICIPAL SOLID WASTE (tonnes)
Vancouver Landfill	**619,514**
Waste-to-Energy Facility	**239,421**
Contingency Disposal	**58,679**
Total	**917,614**

As noted in Table 2, the overall residential and commercial/institutional waste delivered to Metro Vancouver and City of Vancouver facilities in 2018 equaled 917,614 tonnes. This compares to 903,750 tonnes of residential and commercial/institutional waste delivered to the system in 2017. In addition to residential and commercial/institutional waste, the Vancouver Landfill received an additional 98,394 tonnes of construction and demolition material and utility residuals for a total Operational Certificate disposal quantity of 717,908 tonnes. The Waste-to-Energy Facility received 13,705 tonnes of utility residuals and international waste for a total Operational Certificate disposal quantity of 253,126 tonnes.

In 2018, 42,539 tonnes of bottom ash were generated at the Waste-to-Energy Facility and were beneficially used as part of the construction of the new Coquitlam Transfer Station at the former Coquitlam Landfill. Metro Vancouver is initiating a procurement process for beneficial uses of bottom ash. The 10,479 tonnes of fly ash from the Waste-to-Energy Facility in 2018 was sent to a landfill in Oregon under contract to Metro Vancouver.

Contingency disposal tonnage in 2018 equaled 58,679 tonnes compared to 85,779 tonnes in 2017. Contingency disposal waste was sent to two landfills in Washington and Oregon under contract to Metro Vancouver.

Individual Metro Vancouver Solid Waste Facilities Statistics

Fact sheets with details of each of Metro Vancouver's solid waste facilities are included in Attachment 1, and will be posted on the Metro Vancouver website.

Tables 3 & 4 show the same information as Table 1, broken down by facility.

Table 3: Summary of Annual Customers at Facilities

MATERIAL (customers)	NORTH SHORE	COQUITLAM	SURREY	MAPLE RIDGE	LANGLEY	WASTE-to-ENERGY FACILITY	TOTAL
Garbage	**122,996**	**141,368**	**138,900**	**86,066**	**51,174**	**25,358**	**565,862**
Clean Wood, Organics & Other Paid Recycling	**48,830**	**27,144**	**32,747**	**28,026**	**24,118**	**n/a**	**160,865**
Gypsum	**3,524**	**2,310**	**1,852**	**2,224**	**2,567**	**n/a**	**12,477**
Mattresses (units)	**14,403**	**17,780**	**12,747**	**4,669**	**7,247**	**n/a**	**56,846**
Free Recycling	**210,729**	**166,566**	**n/a**	**n/a**	**n/a**	**n/a**	**377,295**

Table 4: Summary of Annual Waste & Recyclables Quantities at Facilities

MATERIAL (tonnes)	NORTH SHORE	COQUITLAM	SURREY	MAPLE RIDGE	LANGLEY	WASTE-to-ENERGY FACILITY	TOTAL
Garbage	124,322	182,969	217,287	10,156	7,814	239,520	782,067
Clean Wood, Organics & Other Paid Recycling	37,489	7,214	5,506	3,682	3,992	n/a	57,883
Gypsum	385	232	148	146	126	n/a	1,036
Mattresses	807	537	325	223	126	n/a	2,019
Free Recycling	5,295	5,162	n/a	n/a	n/a	n/a	10,457

The North Shore Transfer Station has the highest number of overall customer visits because of the number of recycling depot users. Paid Recycling at the North Shore Transfer Station includes single family residential organics collected by the North Shore municipalities. Surrey Transfer Station received the most garbage.

2018 Project Highlights

The 2018 project highlights for the five Metro Vancouver transfer stations include:

- Scale replacements at 3 solid waste facilities (Langley Transfer Station, Maple Ridge Transfer Station and the Waste-to-Energy Facility).
- Signature pads to replace printed duplicate tickets.
- Matsqui Transfer Station deconstruction.
- Transfer station lighting upgrades to reduce energy use at North Shore and Surrey Transfer Stations.

ALTERNATIVES

This is an information report; therefore, no alternatives are presented.

FINANCIAL IMPLICATIONS

This report provides information on customer trips and waste quantities in the regional solid waste system. Financial reporting for the regional solid waste system is included in annual budget reports.

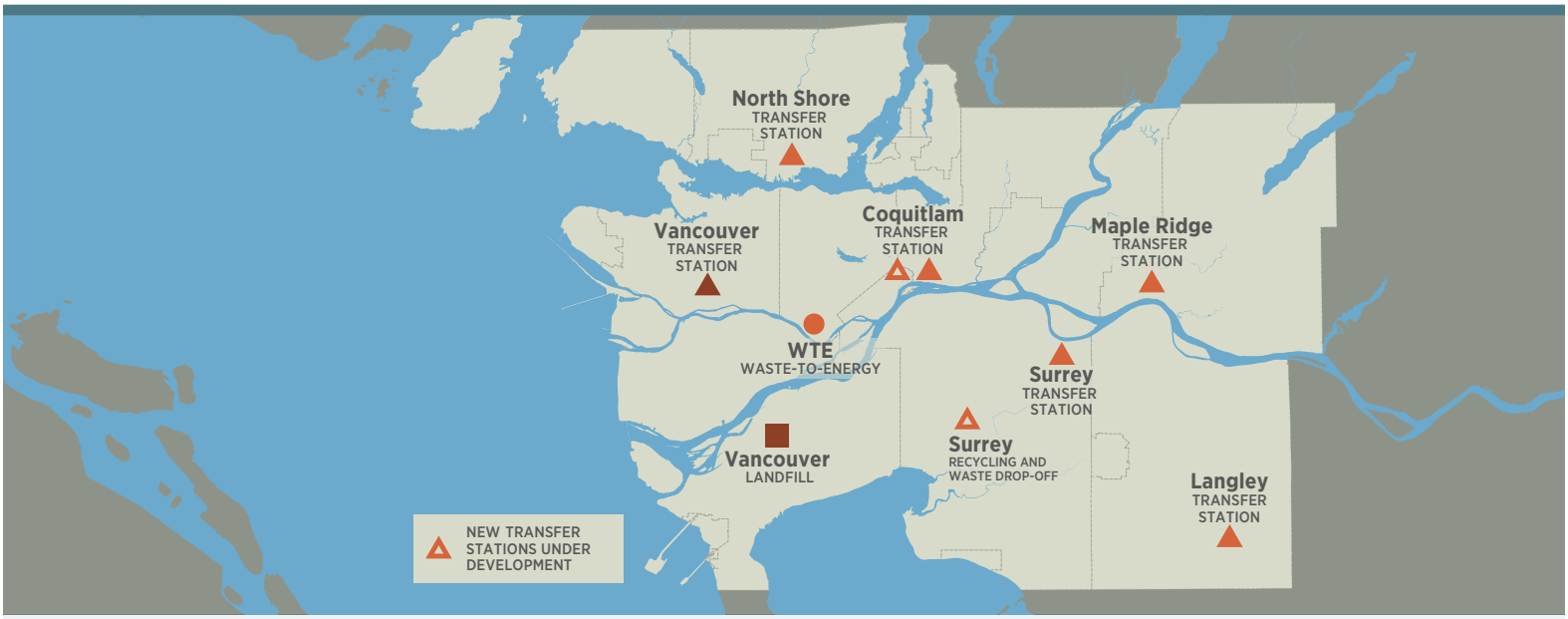
SUMMARY / CONCLUSION

Metro Vancouver operates five transfer stations and the Waste-to-Energy Facility. The City of Vancouver operates the Vancouver Transfer Station and the Vancouver Landfill. These facilities make up the regional solid waste system. This report provides summary information with respect to facility operations in 2018. Detailed fact sheets are included as attachments to the report and will be provided on the Metro Vancouver website. Overall the Metro Vancouver Solid Waste system served 968,700 customers in 2018, approximately the same number of customers as in 2017. Overall regional residential and commercial/institutional waste quantities equaled 917,614 tonnes up slightly from 2017.

Attachment

Metro Vancouver Solid Waste System Fact Sheets

33423191



Metro Vancouver

Solid Waste System

System Description

Metro Vancouver is responsible for waste reduction, recycling planning, and the operation of a series of solid waste facilities in the region. Planning for less waste, improving reuse and recycling systems and managing the remaining waste reflects the public's expectations of high environmental stewardship, as well as the desire to keep waste management affordable.

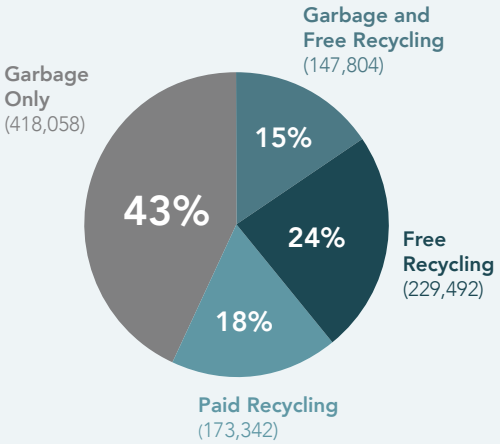
Metro Vancouver operates five transfer stations where residents and businesses drop off garbage, yard trimmings and a variety of other recyclable materials. Garbage remaining after recycling is managed at the Metro Vancouver Waste-to-Energy Facility and the Vancouver Landfill. The Vancouver Landfill and Vancouver Transfer Station are owned and operated by the City of Vancouver. Garbage in excess of what can be managed at local facilities is shipped to remote landfills for disposal.

Metro Vancouver also created the National Zero Waste Council and runs a number of behavior change campaigns such as Love Food Hate Waste, Food Scraps Recycling, Create Memories not Garbage, and Think Thrice About Your Clothes.

Annual number of customers: 968,696
Garbage: 917,614 tonnes*
Paid Recycling: 60,938 tonnes
Free Recycling: 10,457 tonnes

MATERIAL(S)	CUSTOMERS	TONNES
Garbage	565,862	782,067
Clean Wood, Organics & Other Paid Recycling	160,865	57,883
Gypsum	12,477	1,036
Mattresses	56,846 units	2,019
Free Recycling	377,295	10,457

2018 Customer Use of Solid Waste Facilities



*In addition to residential and commercial/institutional waste the Waste-to-Energy Facility received 13,705 tonnes of utility residuals waste and international waste. The Vancouver Landfill received 86,663 tonnes of construction & demolition and 19,447 tonnes utility residuals. In 2018, 42,539 tonnes of bottom ash from the Waste-to-Energy Facility was beneficially used as fill at the former Coquitlam Landfill, the site of the new Coquitlam Transfer Station. The 917,614 tonnes of garbage is the regional total, while the number of customers is only based on Metro Vancouver facilities.

30 Riverside Drive, North Vancouver

North Shore
Transfer Station

Facility Description

The North Shore Transfer Station accepts garbage and a wide range of recyclables from both small and large vehicles. It has both attended and automated scales, the latter for use mainly by account customers with mechanically unloaded vehicles. Garbage is unloaded onto a tipping floor in the main building and a front end loader pushes the waste into an underground compactor for shipment to disposal. Green waste, clean wood, gypsum and mattresses are accepted for recycling for a fee. A recycling depot where customers can drop off materials for free is located ahead of the scales. Accepted materials include batteries, electronics, cardboard, metal, expanded polystyrene, containers and plastic bags, light bulbs, cooking oil, books and textiles.

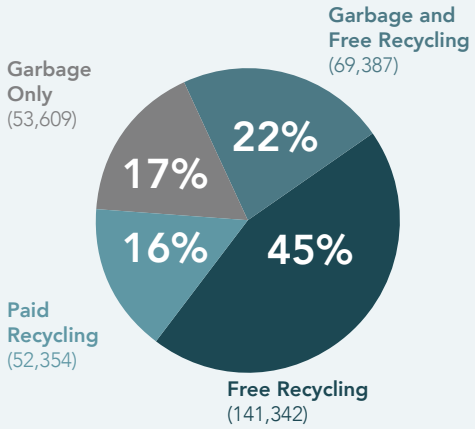
Site Area: 1.78 hectares (4.4 acres) including green waste yard

Building Area: 51 m x 61 m = 3,100 m^2

Annual number of customers: 316,692

MATERIAL(S)	CUSTOMERS	TONNES
Garbage	122,996	124,322
Clean Wood, Organics & Other Paid Recycling	48,830	37,489
Gypsum	3,524	385
Mattresses	14,403 units	807
Free Recycling	210,729	5,295

Customer Use of North Shore Transfer Station



1200 United Boulevard, Coquitlam

Coquitlam

Transfer Station

Facility Description

The Coquitlam Transfer Station accepts garbage and a wide range of recyclables from both small and large vehicles. It has both attended and automated scales, the latter for use mainly by account customers with mechanically unloaded vehicles. Garbage is unloaded onto a tipping floor in the main building and a front end loader pushes the waste into an underground compactor for shipment to disposal. Green waste, clean wood, gypsum and mattresses are accepted for recycling for a fee. A recycling depot where customers can drop off materials for free is located ahead of the scales. Accepted materials include batteries, electronics, cardboard, metal, expanded polystyrene, glass packaging, light bulbs, cooking oil, books and thermostats.

Site Area: 2.681 hectares (6.625 acres)

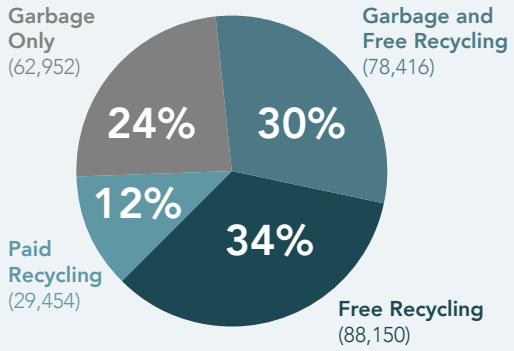
Building Area: 50 m x 78 m = 3,900 m^2

Annual number of customers: 258,972

MATERIAL(S)	CUSTOMERS	TONNES
Garbage	141,368	182,969
Clean Wood, Organics & Other Paid Recycling	27,144	7,214
Gypsum	2,310	232
Mattresses	17,780 units	537
Free Recycling	166,566	5,162

Metro Vancouver is constructing a new transfer station on the former Coquitlam Landfill site one kilometre west of the current location. Construction is ongoing and the new transfer station will open at the end of 2020.

Customer Use of Coquitlam Transfer Station



9770 192nd Street, Surrey

Surrey Transfer Station

Facility Description

The Surrey Transfer Station accepts garbage and a limited number of recyclables from both small and large vehicles. It has both attended and automated scales, the latter for use mainly by account customers with mechanically unloaded vehicles. Garbage is unloaded into a pit for mechanical unloading vehicles and onto the tipping floor for small vehicles. A front end loader pushes the waste into an underground compactor for shipment to disposal. Green waste, clean wood, gypsum and mattresses and a number of other materials are accepted for recycling for a fee. General recyclables such as metals are managed within the transfer station building, and customers typically pay for the recyclables based on weight along with garbage.

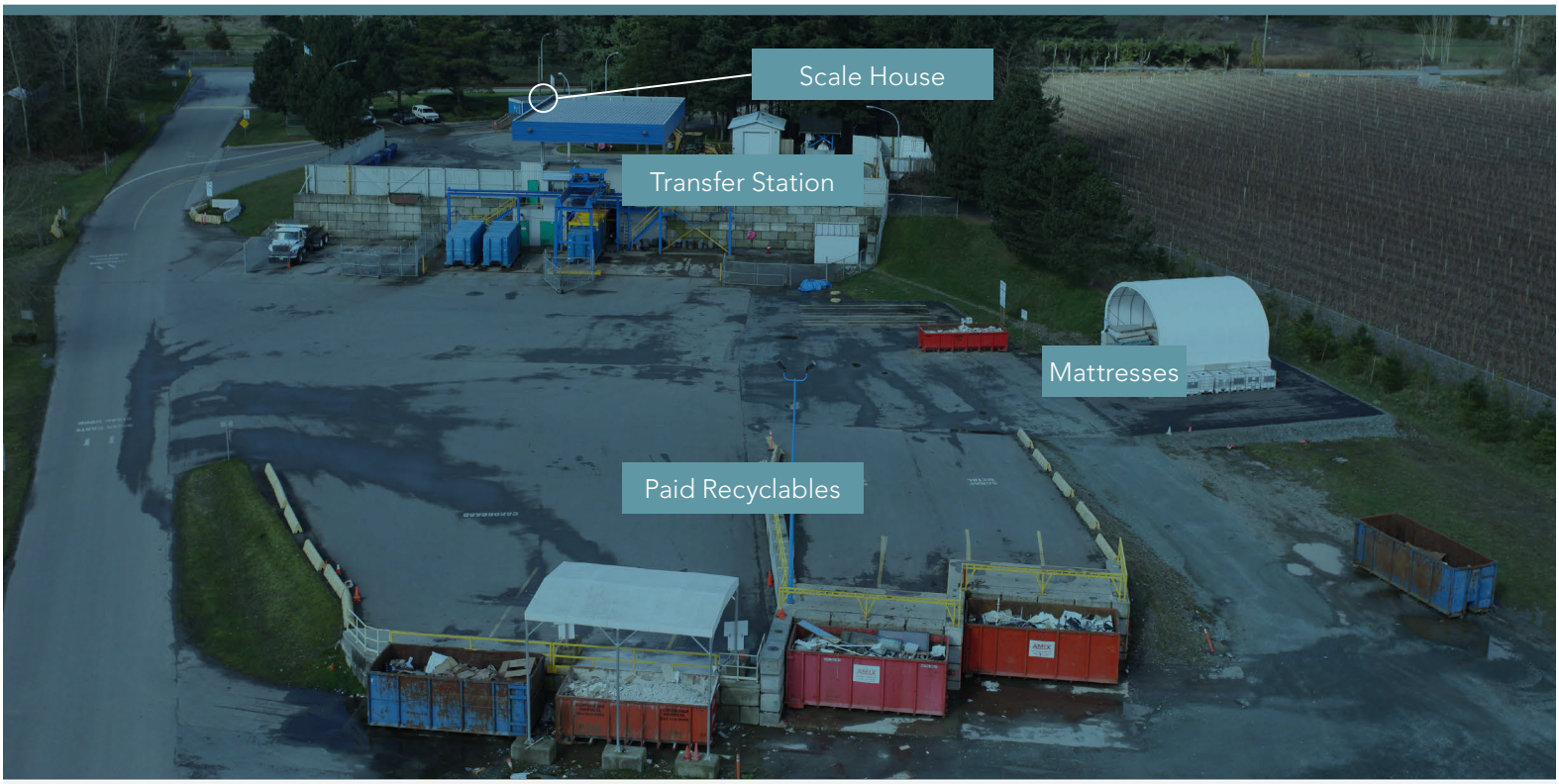
MATERIAL(S)	CUSTOMERS	TONNES
Garbage	138,900	217,287
Clean Wood, Organics & Other Paid Recycling	32,747	5,506
Gypsum	1,852	148
Mattresses	12,747 units	325

Metro Vancouver is developing a new recycling and solid waste drop-off facility at 6711 – 154 Street in Surrey to increase the convenience of recycling and waste management for residents, reduce traffic and help to reduce illegal dumping. The new drop-off facility is expected to open in 2021.

Site Area: 2 hectares (5 acres)

Building Area: 60 m x 88 m = 5,400 m^2

Annual number of customers: 173,499



1070 – 272nd Street, Aldergrove

Langley Transfer Station

Facility Description

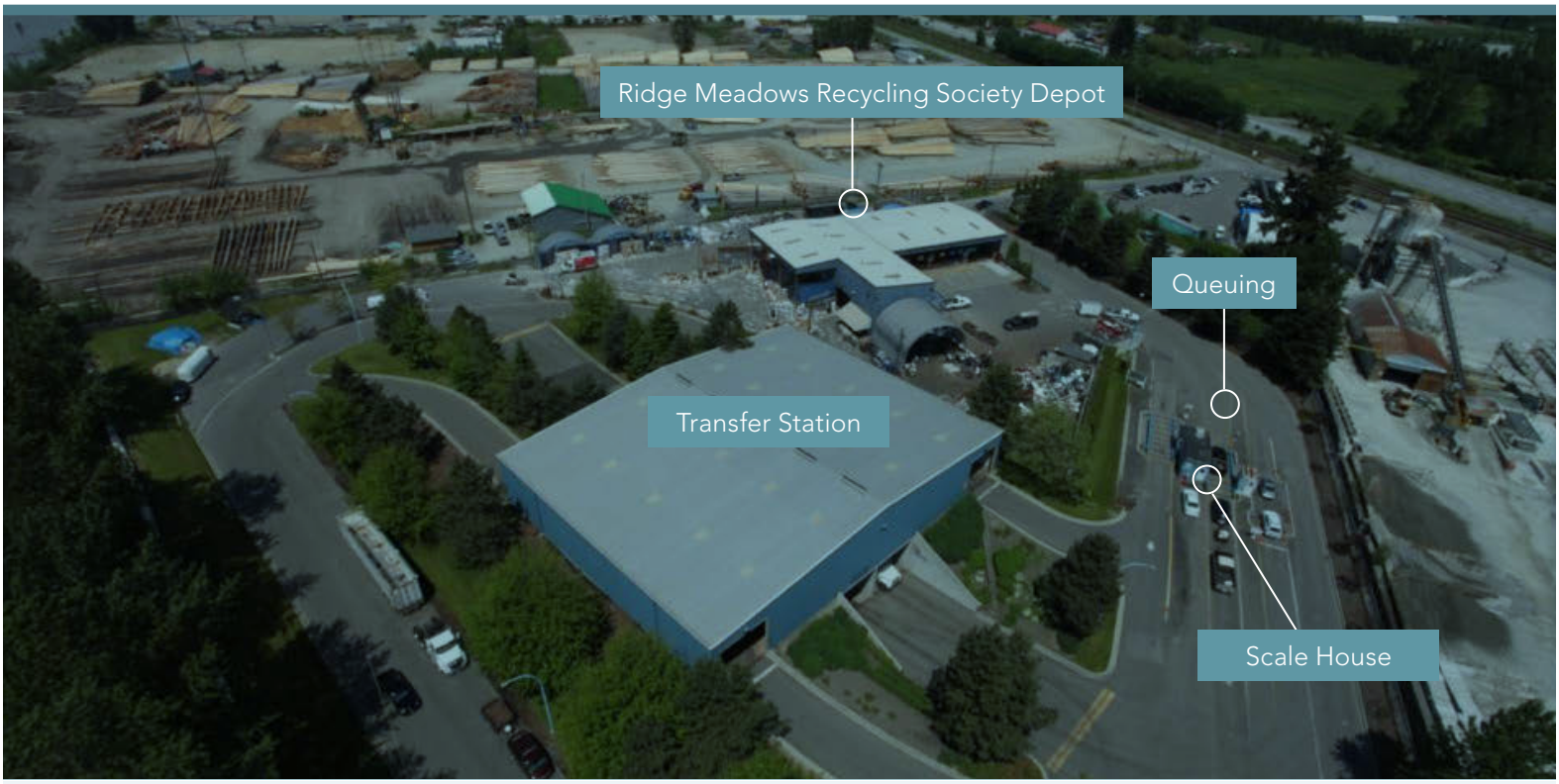
The Langley Transfer Station accepts garbage and limited recyclables from customers in small vehicles. It has attended scales only, and is not used by mechanically unloading trucks. Garbage is hand-unloaded by customers onto a walking floor that is then loaded into a compactor container. Recyclables accepted for a fee include green waste, clean wood, gypsum and mattresses. Other recyclables such as batteries, cardboard, metals, plastic bags and containers, refillable propane tanks and oil filters, are accepted within the transfer station area, and customers typically pay for the recyclables based on weight along with garbage.

MATERIAL(S)	CUSTOMERS	TONNES
Garbage	51,174	7,814
Clean Wood, Organics & Other Paid Recycling	24,118	3,992
Gypsum	2,567	126
Mattresses	7,247 units	126

Site Area: 3.86 hectares (9.5 acres)

Building Area: 1,672 m^2

Annual number of customers: 77,859



10092 – 236th Street, Maple Ridge

Maple Ridge Transfer Station

Facility Description

The Maple Ridge Transfer Station accepts garbage and a number of recyclables from small vehicles that are hand-unloaded. It has attended scales only, and is not used by mechanically unloading trucks. Garbage is unloaded directly into trailers located below the tipping floor. Green waste, clean wood, new and used gypsum and mattresses are accepted for recycling for a fee. A recycling depot, operated by Ridge Meadows Recycling Society, accepts recyclable materials for free and is adjacent to the transfer station.

MATERIAL(S)	CUSTOMERS	TONNES
Garbage	86,066	10,156
Clean Wood, Organics & Other Paid Recycling	28,026	3,682
Gypsum	2,224	146
Mattresses	4,669 units	223

Site Area: 2.43 hectares (6 acres), part of site leased to Ridge Meadows Recycling Society

Building Area: 45 m x 35 m = 1,575 m^2

Annual number of customers: 116,316

5150 Riverbend Drive, Burnaby

Waste-to-Energy Facility

Facility Description

Metro Vancouver's Waste-to-Energy Facility has operated in Burnaby since 1988 and handles about 250,000 tonnes of garbage per year – roughly a quarter of the region's garbage. It is a mass-burn facility that turns waste into electricity (enough to power 16,000 homes) and recovers approximately 6,500 tonnes of ferrous and 500 tonnes of non-ferrous metal annually.

The waste-to-energy process is monitored 24 hours a day, seven days a week, 365 days a year from a control room located on site. Facility emissions data and compliance reports are available on Metro Vancouver's website in real time. The range of emissions monitored, includes common air contaminants such as nitrogen oxides (NOx) and particulate matter (PM), as well as acid gases, trace metals, trace organics, and dioxins / furans.

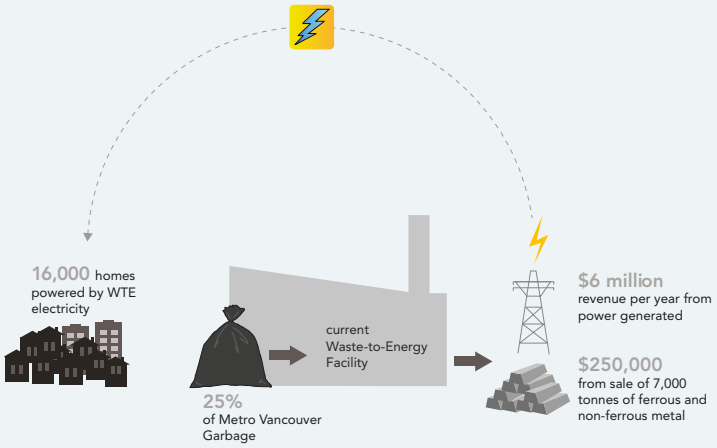
The facility receives waste from an average of 80 mechanically unloading trucks per day that empty their loads into a large garbage bunker.

Site Area: 1.8 hectares (4.4 acres)

Building Area: 70 m x 70 m = 4,900 m^2

Annual number of customers: 25,358

2018 tonnage: 253,126 tonnes



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5.5

To: Zero Waste Committee

From: Terry Fulton, Project Engineer, Solid Waste Services

Date: November 7, 2019 Meeting Date: November 15, 2019

Subject: **Alternative Fuel and Recyclables Recovery Project Procurement Update**

RECOMMENDATION
That the Zero Waste Committee receive for information the report dated November 7, 2019 titled "Alternative Fuel and Recyclables Recovery Project Procurement Update".

PURPOSE
The purpose of this report is to update the Zero Waste Committee on the procurement status and project scope for the alternative fuel and recyclables recovery project business case.

BACKGROUND
On July 12, 2019, the Zero Waste Committee was updated on business case development for an alternative fuel and recyclables recovery centre. The project would involve segregating small vehicle loads delivered to regional transfer stations and processing that material to recover recyclables and alternative fuel at the Coquitlam Landfill. Since July, staff have sought input on the scope of the business case, and shortlisted consulting firms to undertake the business casing work. This report updates the Zero Waste Committee on the project progress, and provides information on the feedback received on the draft project scope.

ALTERNATIVE FUEL AND RECYCLABLES RECOVERY PROJECT
On July 19, 2019, Metro Vancouver publicly posted a Request for Qualifications for the alternative fuel and recyclables recovery project business case. Five consulting firms responded and two were shortlisted to continue to the Request for Proposals process.

Prior to proceeding with a formal Request for Proposals, Metro Vancouver provided a summary of the alternative fuel and recyclables recovery project to solid waste and recycling associations, potential end users, private waste haulers, member jurisdictions, and the Ministry of Environment and Climate Change Strategy.

Metro Vancouver received feedback from the Fraser Valley Regional District and Sue Maxwell on behalf of Zero Waste B.C. The project scope was updated to address air quality concerns and ensure the highest and best end use of available material. The updated scope is included in Attachment 1. Copies of the correspondence from the Fraser Valley Regional District and Zero Waste B.C. are provided as Attachments 2 and 3. The Request for Proposals, was sent to shortlisted proponents in early November. The business case is expected to be initiated in early 2020.

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

FINANCIAL IMPLICATIONS

Funding for conducting the business case will be provided from the 2020 Solid Waste Services budget as previously reported to the Board. The expected cost of the business case is approximately $300,000. The business case will include expected costs and revenues related to the proposed alternative fuel and recyclables recovery project for the Board's consideration.

SUMMARY / CONCLUSION

Procurement is underway for the alternative fuel and recyclables recovery project business case. Metro Vancouver received feedback on the proposed scope of work from the Fraser Valley Regional District and Sue Maxwell on behalf of Zero Waste B.C. The Request for Proposals was issued in early November. The business case is expected to be initiated in early 2020.

Attachments *(Orbit #33417569)*

1. Scope of Services for Alternative Fuel and Recyclables Recovery Project Business Case
2. Letter from Lance Lilley, Manager of Environmental Services, Fraser Valley Regional District re: Feedback on Alternative Fuel and Recyclable dated September 24, 2019
3. E-mail from Zero Waste B.C., re: Feedback for MV's Alternative Fuel and Recyclable Material Recovery Project dated September 24, 2019

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DRAFT RFP SCOPE OF SERVICES – ALTERNATIVE FUEL AND RECYCLABLES RECOVERY PROJECT

Metro Vancouver is seeking Consulting services to complete the following tasks:

1. Task 1: Concept Design

   1.1. Review existing Metro Vancouver studies and evaluate material processing options.

   1.2. Participate in 10 – 15 meetings at various locations within the region (approximately 1.5 hours per meeting) with interested parties to discuss project scope and business case constraints and opportunities. Metro Vancouver expects interest from cement plants and the Cement Association, other wood-based fuel users, recyclables processors, construction and demolition haulers and processors, construction and development companies, GVS&DD member jurisdictions, industry associations and others.

   1.3. In consultation with Metro Vancouver, develop and analyze three concept design options. Key questions to be addressed include:

   - What type of processing equipment will likely be utilized and how does that impact site design? What recovery rate can be expected from each option?
   - What types of vehicles will be expected and how will that impact the design of the site? (e.g. transfer trailers, demolition trailers, roll-off trucks etc.)
   - How will vehicles be scaled in and out of the facility?
   - How much on-site storage of material should be accommodated based on end market demand and utilization timeframe?
   - How will landfill gas and landfill cover systems meet landfill closure plan requirements?
   - What is the optimum area for a processing building on the site given site constraints and the following criteria:
     - Ability to support large vehicle and material loads
     - Material management features (e.g. push walls)
     - All material storage to be fully enclosed
     - Appropriate HVAC for dust and emissions controls
     - Vector control features
     - Flexibility to accommodate a variety of conveyor, screening and shredding equipment layouts
     - Office area either integrated into the building or dedicated
     - Energy efficient and sustainable design based on the Envision Sustainability Infrastructure Scoring System with the approach being to track scoring, but not register.

   1.4. Recommend measures to minimize the potential for hazardous materials and maximize recyclables recovery by analyzing:
     - Small vehicle waste composition

- Transfer station recycling systems
- Metro Vancouver solid waste educational and monitoring systems
- Alternative Fuel and Recyclables Recovery system processing/equipment

2. Task 2: Business Case

2.1. Based on the preferred concept design, develop capital costs related to the development of the facility including:
- Permitting
- Design and engineering
- Geotechnical site improvements
- Building(s)
- Active and passive landfill gas collection network expansion
- Landfill cover system meeting the current approved landfill closure plan
- Scale system for weighing materials in and out compatible with Metro Vancouver systems
- Circulation areas
- Bulk material handling and storage areas
- Site access and parking
- Security and camera systems
- Landscaping and other ancillary design requirements

2.2. Identify and evaluate up to five potential business models for service delivery (e.g. design, build, operate; Metro Vancouver provides building and contractor provides and operates equipment; Metro Vancouver provides building and equipment and contractor operates, Metro Vancouver operates with own forces, etc.)

2.3. Evaluate expected cost per processed tonne, royalty and payback scenarios. The analysis should be based on Metro Vancouver delivering up to 50,000 to 60,000 tonnes per year of small vehicle waste with the potential for the facility operator to source additional feedstock including construction and demolition waste or source separated materials such as clean wood for a total processing capacity of up to approximately 100,000 to 125,000 tonnes per year.

2.4. Identify any barriers/risks to proceeding with the project, and mitigation strategies to manage the barriers/risks.

2.5. Develop a risk/responsibility/benefit distribution matrix for the project with recommendations on a range of issues including but not limited to:
- Procurement strategy/elements/timing including specifying various contracts required to undertake initiative
- Contract term
- Permitting responsibilities
- Risk allocation including risk related to material and product characteristics
- Contract requirements related to waste diversion and end use
- Contract oversight

- Financial security

2.6. For each category of recyclable material or alternative fuel to be recovered from the facility, identify potential types of users of the materials and describe the associated regulatory framework and/or regulatory approval processes for each type of user related to using the recovered materials.

3. Task 3: Impact Analysis

3.1. For each potential end user of the alternative fuel product:
- Assess the potential change in emissions through use of alternative fuel
- Recommend any enhancements to monitoring and reporting requirements due to use of the alternative fuel

3.2. Conduct impact assessments for traffic, dust, noise and odour for the proposed facility and recommend mitigation strategies if applicable.

3.3. Compare greenhouse gas emission reductions to business as usual scenarios considering:
- Displacement of conventional fossil fuels
- Recovery and use of materials
- Landfill disposal avoidance

3.4. In addition to the Envision Sustainability Infrastructure Scoring System criteria, determine other environmental, social and economic benefits of project including:
- Analyze greenhouse gas emission reduction allocation scenarios and provide recommendations with respect to contract provisions to maximize opportunities for Metro Vancouver to recognize greenhouse gas emission reduction benefits for the corporation as well as member jurisdictions
- Expected quantities and types of recoverable materials
- Economic and social impact with respect to value of recovered materials and job creation opportunities

Fraser Valley Regional District

www.fvrd.ca | info@fvrd.ca

September 24, 2019

Attn.: Terry Fulton
Project Engineer, Solid Waste Services
Metro Vancouver
Burnaby, BC. V5H 0C6
terry.fulton@metrovancouver.org

Re: Feedback on Alternative Fuel and Recyclable Material Recovery Project by Metro Vancouver

The Fraser Valley Regional District (FVRD) has reviewed Metro Vancouver's proposed development of a facility at the Coquitlam Landfill to utilize waste dropped off from small vehicles as well as construction and demolition waste as alternative fuels in facilities such as cement plants. Metro Vancouver is currently in the process of developing a business case for this project, and is seeking input from interested stakeholders.

The Lower Fraser Valley is a unique airshed and, as such, needs to be given special consideration in any decisions regarding air quality issues. The FVRD constantly advocates for improving air quality and strongly opposes any form of waste incineration in our sensitive airshed due to health and environmental concerns from air pollution. Air emissions from burning garbage, including painted or treated wood waste, includes toxic chemicals, fine particular matter, and heavy metals. The broad range of contaminated materials in garbage makes air emissions more unpredictable and difficult to control.

It is important that Metro Vancouver consider the costs for greater air emission control technology, increased monitoring and reporting, and the costs of air pollution within the airshed within the scope of their business case. The FVRD is a key stakeholder in this proposed project and we look forward to seeing how our air quality concerns are addressed within the request for proposal. We also expect to be kept informed of the status of this project and to be given future opportunities to review and comment.

If you have any questions or would like to discuss air quality concerns further, please contact Marina Richter, FVRD Environmental Policy Analyst, at mrichter@fvrd.ca.

Sincerely,

Lance Lilley
Manager of Environmental Services

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ATTACHMENT 3

From: [redacted]
To: Terry Fulton
Cc: [redacted]
Subject: Feedback for MV"s Alternative Fuel and Recyclable Material Recovery project
Date: Tuesday, September 24, 2019 11:47:28 AM
Attachments: Feedback alternative fuel and recycable material.docx

Hi Terry,

Thank you for the opportunity to provide feedback on the Alternative Fuel and Recyclable Material Recovery. I am a member of Zero Waste BC and while recovering materials makes sense, we have concerns about the energy recovery portion. Please see the feedback in the attached document.

Sincerely,
Sue Maxwell

Feedback for MV's Alternative Fuel and Recyclable Material Recovery project

Metro Vancouver has done a lot of work on the solid waste file since the last Solid Waste Management Plan update and should be congratulated on its push for composting of organics, advocating for more and improved EPR programs and campaigns on waste reduction. Since that last plan, the following has changed:

- Metro Vancouver has proved that pursuing strategic actions higher on the Zero Waste hierarchy are less costly and more effective than pursuing waste to energy.
- We are now in a climate emergency where it makes more sense to save as much energy and refrain from burning materials wherever possible, even to the point of considering sequestering of certain materials instead of using them for energy.
- The Province has set guidelines where "waste management to only be undertaken at one level when all feasible opportunities for pollution prevention at a higher level have been taken[1]". While much has been done, it is clear from the latest waste composition study with remaining high amounts of compostable or recyclable materials that much remains to be done.
- Studies show that much more energy used in the production of a product (embodied energy) and its use[2] rather than the energy that could be gained by energy recovery (embedded energy)[3]. In fact the EU which had been promoting waste to energy has now changed its policies to focus on the first three Rs.[4]
- The federal and provincial governments are pursuing strategies to decrease plastic use. This will also decrease the energy component of waste.

Thus it is puzzling that Metro Vancouver is pushing waste to energy (or "energy recovery"). The updated Strategic Plan has a few areas that are of concern:

- 1.4 looks to identify future disposal alternatives with a life cycle and GHG analysis. It is important to make sure these also look at the ability of local government to scale back waste without penalty or need to generate enough waste to feed the future systems. It is also important that the GHG analysis looks at the impact of alternatives such as actual waste reduction, better recycling, sequestering carbon, destruction of materials (especially non-renewables), etc. To date waste to energy has been consistently shown to be costly and detrimental to waste reduction activities.
- 2.1 looks at possible district heating around the Burnaby Waste to Energy facility. This is problematic in that the Burnaby facility has already lasted beyond the usual lifespan of such a facility[5] so does it make sense to invest more money in a system that may not be there long-term, that requires a certain amount of waste continually to keep it running, is essentially based on fossil fuel and where people will be living right next to it with concerns around pollution.
- 2.1 also considers seeking out public and private partnerships to facilitate the recovery of materials and energy. This needs to be done very thoughtfully to ensure that there is a transparent and accountable system that cannot be corrupted and that it is working towards the goal of zero waste and circular economy, not continued or increased wasting. It needs to fosters design change instead of locking in systems to rely on poorly designed products.
- While Air Quality and Climate Change 3.3 notes "Pursue partnerships with other orders of government to fund innovative projects that will generate clean, renewable sources of energy from Metro Vancouver utilities", it is important to note that burning garbage (or thermal treatment) is neither clean, nor renewable as the single biggest contributor to the energy (over 40% and increasing) comes from plastics.
- Point 3 under Solid Waste looks to design out waste, expand EPR programs and change public behaviour. Pursuing waste to energy (aka energy recovery) using mixed waste undermines these actions.

With regards to the Alternative Fuel and Recyclable Material work, there seems to be a lot of focus on alternative energy and very little on recycling the materials. A drop off depot with materials coming from small vehicles, is a great opportunity to both educate citizens as well as require separation of materials. The work should focus on maximizing the use of the materials (as materials not energy) as well as looking at this as a living lab -what kinds of materials or

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[1] https://www2.gov.bc.ca/assets/gov/environment/waste-management/garbage/waste_for_energy_recovery.pdf)_.

[2] Stolaroff, J. https://www.researchgate.net/publication/327060546_Products_Packaging_and_US_Greenhouse_Gas_Emissions

[3] Morris, J. https://www.rcbc.ca/files/u7/ZW_JeffMorrisReport_0907.pdf

[4] ZW Europe. https://zerowasteeurope.eu/2019/02/european-parliament-steps-forward-to-stop-burning-eu-funds/

[5] GAIA. The. Age of Incinerators in the US is ending. https://www.no-burn.org/failingincineratorsreport/

products are coming in? Why? Does a system already exist to recycle them? Can the amounts be reduced? Do we need an EPR program or better regulations and who by? What role could Mechanical Recovery, Biological Treatment play? What is the GHG impact and what GHG could be saved by decreasing this waste?

The report noted that "Alternative fuels produced from construction and demolition waste are already being used in local cement plants, district heating systems, and at pulp and paper mills. " That may be the case but this does not mean that this is the right course of action. It is convenient for Metro Vancouver as this form of waste destruction slips under the radar in a way that building a new incinerator would not but most of the same concerns hold true for this also. It destroys materials, wastes embodied energy, reduces the drive towards better product and system design and it still pollutes. These systems were not designed for this type of fuel and there is even less transparency around these systems than for public facilities. In Europe, where this has happened, communities have come out strongly against it.[6]

The report also notes that "Greenhouse gas emissions reductions through use of the alternative fuel would equal approximately 1 tonne of carbon dioxide equivalent per tonne of alternative fuel, depending on the fuel replaced. In total, the project could therefore result in greenhouse gas emission reductions of between 70,000 to 85,000 tonnes per year of carbon dioxide equivalent." This fails to note that it also depends on what is in the alternative fuel (as noted plastics which are a fossil fuel are the main energy component in mixed waste) and that far more GHG could be saved through reduction of waste. So if GHGs are the focus, let the business case focus on reduction, reuse and recycling.

It is important the business case is not designed to support waste to energy (as it appears to be heading towards given the consultation with cement companies but not others) but instead looks comprehensively at the opportunity costs, real GHG impacts and other alternatives that may provide better yields at lower costs while moving towards sustainability which is still noted as a key Metro Vancouver value.

[6] Zero Waste Europe. https://zerowasteeurope.eu/2014/03/when-waste-ends-up-in-acement-kiln/

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5.6

To: Zero Waste Committee

From: Larina Lopez, Division Manager, Corporate Communications

Date: November 4, 2019 Meeting Date: November 15, 2019

Subject: **2019 "Create Memories, Not Garbage" Campaign – Update**

RECOMMENDATION
That the Zero Waste Committee receive for information the report dated November 4, 2019 titled "2019 Create Memories, Not Garbage" Campaign – Update."

PURPOSE
To update the Committee on the 2019 "Create Memories, Not Garbage" campaign to reduce the amount of unnecessary waste entering the region's waste streams during the holiday season.

BACKGROUND
The holidays are a heavy consumption season, when customs and traditions can result in unnecessary waste through decorations, gift wrap, packaging, food, and gifts.

The "Create Memories, Not Garbage" (CMNG) campaign was originally established and continues to support the Metro Vancouver Board Strategic Plan which calls for increasing diversion rates of materials that can be reused, repurposed or recycled; and continuing the expansion of behavior change campaigns that support the objectives of zero waste.

The objectives of the campaign are to:

- Raise awareness of the needless waste produced over the holiday season
- Create behaviour change by having audiences choose to celebrate the holidays in a way that produces less waste
    - Encourage people to do just one thing differently
- Long term: reduce the amount of waste produced in Metro Vancouver over the holiday season

The foundation of the campaign is based on the idea that many gift recipients say that their best gift ever is one that was an experience with friends and family, or something that generated memories for years to come. The value of the CMNG campaign is to provide tips and ideas that make low-waste celebrating easier for residents, while fostering what makes the holiday season memorable.

This report provides an overview of the 2019 CMNG campaign plans, as identified in the 2019 Zero Waste Committee Work Plan.

2019 REGIONAL "CREATE MEMORIES, NOT GARBAGE" CAMPAIGN

Campaign Approach

This is the 12th year of Metro Vancouver's holiday waste reduction campaign, and the 9th year using the "Create Memories, Not Garbage" (CMNG) platform.

The 2019 CMNG campaign will continue to promote the two behaviours that residents are most receptive to in order to reduce their waste – buying low-waste gifts and using low-waste wrap.

As in the previous two years, the 2019 campaign will be divided into three phases: Early Shopper Campaign (Oct 7-Nov 12), Main Campaign (Nov 13-Dec 25), and Post-Christmas Campaign (Dec 26-Jan 12).

The campaign will target residents aged 25-54 with a skew towards women aged 25-34 as 2018 Omnibus results show that directionally, interest in producing less waste decreases slightly with age. Further to age, we are targeting those doing the shopping, wrapping, and decorating for the holidays. The audience is non-denominational as research has shown that Christmas tends to be the main gift-giving occasion for many, including non-Christians.

New to this year is the campaign's strategy to integrate its message into existing Christmas content – for example, Christmas programming on television, Christmas playlists in Spotify and targeting those looking for Christmas-related content online. The campaign will also have its own CMNG Christmas song (composed and performed by local musicians) playing on 103.5 QMFM – the region's Christmas station. The CMNG campaign will leverage the debut of the song for its launch on November 25th – one month before Christmas Day. Beyond Christmas content, this year's campaign will also be using the power of local, like-minded influencers to help disseminate the CMNG message to their thousands of followers.

Creative Materials and Campaign Elements

Similar to 2018, the CMNG headline will be prominently featured in all creative with the primary message "This season, do one thing differently to celebrate with less waste." Users will be encouraged to "find ideas" on the campaign website.

The art direction remains bright, festive and evocative of the holiday season and the tone remains light-hearted and positive. We're continuing to focus on the Merry Memory Maker app that's been live and expanding since 2017 with more than 170 ideas for gifts that last or experiences within desired price ranges.

Main campaign elements include:

- online display ads (animated and interactive), YouTube and social media (Facebook, Instagram, Pinterest)
- Georgia Straight – native content (x2 articles)
- Global TV and City TV – visuals and PSAs during morning show Christmas giveaways
- CBC - :10 sec spots in Christmas programming
- radio - :30 sec spot on QMFM – Vancouver's Christmas Station

- Spotify - :30 sec audio ad and banner ads
- engagement at holiday markets around the region where campaign representatives will encourage residents to interact with the Merry Memory Maker app, demonstrate low-waste wrapping ideas and giveaway customizable gift certificates and a colouring sheet that can be used for wrapping. Five markets have been confirmed to date.

Website features
The campaign website is the content hub for the CMNG campaign. Features include low-waste ideas and tips for low-waste giving, wrapping, decorating and cooking. A post-Christmas section is added just before Christmas day to help residents dispose of things like packaging, Christmas trees, and unwanted gifts.

Within the low-waste giving section is the Merry Memory Maker app. This web-based app was designed in 2017 to help residents make low-waste giving easier. Residents can choose their preferred price range and type of gift, and are then offered a list of ideas that they can browse through. Each gift idea comes with a brief explanation of what makes it low-waste, a map of where they can find the item nearby and the option to add any ideas that they like to a 'wish list' that they can save for future reference.

Campaign Performance
A post-campaign survey and online metrics will be used to help assess the impact of the campaign. Online metrics will include:

- Video views and banner interaction
- Website traffic and engagement
- Merry Memory Maker app analytics
- Social media engagement
- Influencer engagement

Collaboration with Members
Campaign details and creative materials are shared via email and regular meetings with members' communication staff and the Municipal Waste Reduction Coordinator's Committee. As with all Metro Vancouver behavior change campaigns, Members have opportunities to co-brand all campaign materials and share the creative and messages on any of their communication channels (social media, facility posters, community holiday events, etc.).

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

FINANCIAL IMPLICATIONS
The 2019 CMNG campaign budget is $190,000, supported under the Zero Waste Communications Program of the 2019 General Government budget and managed by the External Relations Department.

SUMMARY / CONCLUSION

This is the 12th year of Metro Vancouver's holiday waste reduction campaign, and the 9th year using the "Create Memories, Not Garbage" (CMNG) platform. The campaign continues to promote the two behaviours that residents are most receptive to in order to reduce their waste – buying low-waste gifts and using low-waste wrap.

Similar to 2018, the CMNG headline will be prominently featured in all creative with the primary message "This season, do one thing differently to celebrate with less waste." Users will be encouraged to "find ideas" on the campaign website where they'll find the Merry Memory Maker app with more than 170 low-waste gift ideas within various price ranges.

The 2019 campaign will be divided into three phases: Early Shopper Campaign (Oct 7-Nov 12), Main Campaign (Nov 13-Dec 25), and Post-Christmas Campaign (Dec 26-Jan 12). New to this year is the campaign's strategy to integrate its message into existing Christmas content as well as working with local like-minded influencers that will act as credible sources supporting the message.

Promotional tactics include online display ads, YouTube, social media (Facebook, Instagram, Pinterest), the Georgia Straight, television, Spotify and Vancouver's Christmas radio station, QMFM. The campaign will also be onsite at holiday markets around the region where campaign representatives will encourage residents to interact with the Merry Memory Maker app, demonstrate low-waste wrapping ideas and giveaway customizable gift certificates and a colouring sheet that can be used for wrapping.

Campaign details and creative materials are shared by email and through meetings with Members' solid waste and communications staff as developed. Members have opportunities to co-brand all campaign materials, and share the creative and messages on any of their communication channels.

Attachment

Sample of Campaign Artwork and Marketing Materials

References

1. Create Memories, Not Garbage Website
2. Create Memories, Not Garbage – Merry Memory Maker app

33352711

Sample of Campaign Artwork and Marketing Materials

Poster sample  	Outreach Display mock-up 
Videos – Pre-Christmas Merry Memory Maker (:30) PSA Wise Wrapping (:30) PSA Holiday Packaging (:30) PSA Videos – Post-Christmas O Christmas Tree (:30) Reuse/Recycle Wrapping Paper (:30)	Digital Banner Ad sample (rotating)   Sing-A-Long Banner Ad sample (animated) – COMING SOON
Pinterest sample – COMING SOON	

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SERVICES AND SOLUTIONS FOR A LIVABLE REGION

5.7

To: Zero Waste Committee

From: Paul Henderson, General Manager, Solid Waste Services

Date: November 8, 2019 Meeting Date: November 15, 2019

Subject: **Manager's Report**

RECOMMENDATION
That the Zero Waste Committee receive for information the report dated November 8, 2019 titled "Manager's Report".

Waste-to-Energy Facility Operational Certificate
As part of Operational Certificate 107051 that the BC Ministry of Environment and Climate Change Strategy issued for the Waste-to-Energy Facility on December 15, 2016 there was a requirement for a contaminant dispersion evaluation and health risk assessment study to be completed within 24 months. This work was completed and results showed that at current emission and operational certificate permitted levels of sulphur dioxide and hydrogen chloride from the Waste-to-Energy Facility, maximum ambient air concentrations of hydrogen chloride and sulphur dioxide are not expected to exceed ambient air criteria. Resulting from these findings on March 1, 2019, Metro Vancouver submitted a request to amend the Waste-to-Energy Facility operational certificate to defer the reduction in discharge limits for sulphur dioxide and hydrogen chloride from December 31, 2022 to March 3, 2025. The extension request coincides with the expiry of the current operating contract and the BC Hydro Electricity Purchase Agreement.

In order to confirm ambient levels of these compounds near the facility, Metro Vancouver is installing an air quality monitoring station in the northwest corner of the Waste-to-Energy Facility site, which is near the maximum point of impingement identified by the dispersion modelling. The Waste-to-Energy Facility ambient monitoring station will be installed in early 2020, and will continuously measure hydrogen chloride, sulphur dioxide and nitrogen oxides. Equipment to monitor hydrogen chloride will also be installed at an existing Metro Vancouver air quality monitoring station where modeling has predicted some of the highest concentrations of hydrogen chloride outside of the area immediately surrounding the Facility. Monitoring data is expected to be collected for a minimum of two years, and the data will be used to compare ambient concentrations to both dispersion modelling results and applicable ambient air quality objectives. Data and results of the monitoring program will be reported to the Ministry of Environment and Climate Change Strategy at minimum of once per year during the monitoring period.

Major Appliance Recycling Roundtable (MARR) Pilot Project
Currently at the four Metro Vancouver transfer stations where ozone depleting substance containing appliances are serviced there are about 12,000 appliances a year that fall under the Major Appliance Recycling Roundtable (MARR) program and about another 750 a year that aren't under the MARR program. Non-MARR appliances are typically ammonia containing fridges from recreational vehicles.

Since mid-2018 Metro Vancouver has been participating in a pilot program with MARR, which provides a financial reimbursement per appliance, as well as covering the costs of ozone depleting substance removal, for program materials collected and recycled. Currently the North Shore, Langley and

Coquitlam Transfer Stations are participating with the Surrey Transfer Station being scheduled to join the program on December 1, 2019. The Maple Ridge Transfer Station is not part of this pilot as the applicable materials are handled at the adjacent Maple Ridge Recycling Facility.

A long term contract is being developed for 2020 and this will result in annual reimbursement of about $200,000 to Metro Vancouver which offsets program administration costs, ozone depleting substance removal costs and land costs.

Temporary Transfer Station Closure Notices – Public Communications
Metro Vancouver Transfer stations operate 363 days per year with a high degree of reliability. Nonetheless, there are periodic short duration service disruptions typically due to issues such as power outages, accidents, hazardous material incidents and fires. Metro Vancouver has developed a new mechanism to ensure that customers are advised of any service disruptions in real time. Customers are now able to sign-up to receive text message notification of any facility closures. This is done either via a QR code or sending a message to a specific sign-up phone number. In addition to the text message notifications, webcams are in place at transfer stations (with the exception of Coquitlam given it is being replaced) so that customers can see queuing areas in real-time.

Expanded Polystyrene Disposal Ban Update
Metro Vancouver implemented a disposal ban on expanded polystyrene packaging on July 1, 2018, to encourage recycling of the material rather than disposal. A surcharge of 100% of the tipping fee applies to garbage loads received at regional disposal facilities containing over 20% expanded polystyrene packaging by weight or volume. The ban applies to white expanded polystyrene that is used for protecting and distributing products but excludes food and beverage containers, packing peanuts and expanded polystyrene that is painted, soiled or treated. Local recycling options exist for both residentially and commercially generated expanded polystyrene. Businesses can deliver their expanded polystyrene to processors for a fee or arrange collection services with haulers, while residents can drop the material off for free at certain recycling depots.

Twelve expanded polystyrene disposal ban surcharges were issued in July 2018, the start of the expanded polystyrene disposal ban implementation. Since then, the number of surcharges has remained relatively low at an average of 5 per month. Around the time of the ban implementation, retailers, manufacturers, recyclers and haulers reported an increase in the amount of expanded polystyrene being recycled in the region. There is also anecdotal evidence that expanded polystyrene is being replaced by alternative materials in many packaging uses. This was reflected in the 2018 waste composition study where the expanded polystyrene comprised only 0.5% by weight (4,588 tonnes) of the regional disposed waste, compared to 0.8% by weight in 2016 and 1.7% weight in 2015.

Unsecured Loads Surveys at Transfer Stations
On January 1, 2017, a surcharge in the amount of 50% of the applicable Tipping Fee to a maximum of $50 was implemented for unsecured loads entering a disposal facility and after an educational period enforcement began in July 2017.

An unsecured load survey was undertaken from May 22 to June 20, 2018 and May 30 to June 9, 2019 at Metro Vancouver's transfer stations and the City of Vancouver's Landfill and South Transfer Station. Survey results continue to show that many loads, particularly pickup and trailer loads, are not fully secured, but awareness of the requirements is growing. Going forward, there will be a refresh of the

educational resources for customers in 2020/21, continuation of enforcement and issuance of surcharges where appropriate.

Single-Use Item Reduction Toolkit
At the February Zero Waste Committee meeting, staff provided an update on Metro Vancouver's efforts to reduce single-use items. Staff was requested to report back to the Zero Waste Committee on the development of a best practices guide for local governments on regulatory approaches to reduce single-use items. Staff held workshops with member municipalities and businesses to shape the development of the "Single-Use Item Reduction Toolkit" which is now available online on Metro Vancouver website. The toolkit covers potential policy options and key considerations for priority single-use items as well as what government and businesses innovators are doing to reduce single-use items.

Transfer Station Facilities Construction Update
The new Coquitlam Transfer Station construction project has been progressing steadily since the beginning of the year. The facility will include a 6,200 m^2 (67,000 sq ft.) flat-floor transfer building (roughly 50% bigger than the existing facility to ensure sufficient space for future waste diversion initiatives), an extensive on-site queuing area, a dedicated recycling area ahead of the scales with grade separated drop-off area, canopies and bunkers.

As of the end of October, construction of the new Coquitlam Transfer Station is approximately 15%-20% completed with most of the storm and sanitary utilities installed and the completion of the lower foundations and walls of the main transfer station building. The administration building has been framed, roofed and walled. Scale system foundations are excavated. The transfer station metal building is scheduled for delivery onsite for installation in mid-December. The project is expected to be completed in late 2020.

The Surrey Recycling and Waste Drop-Off Facility construction RFP (19-313) was issued to six shortlisted general contractors on October 23, 2019. The new facility site, at 6711 154th Street in Surrey, is ready for construction to commence. The facility will include a 3,200m^2 (34,000 sq ft.) flat-floor transfer building, extensive on-site queuing area, a dedicated recycling area ahead of the scales with grade separated drop-off area, canopies and bunkers.

2019 Zero Waste Committee Work Plan
The attachment to this report sets out the Committee's work plan for 2019. The status of work program elements is indicated as pending, in progress or complete. The listing is updated as needed to include new issues that arise, items requested by the Committee and changes in the schedule.

Attachment
Zero Waste Committee 2019 Work Plan

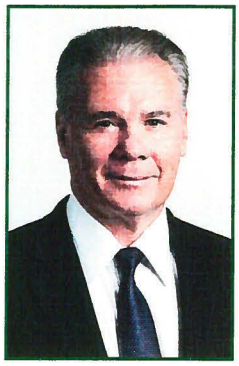
3095396

ATTACHMENT

Zero Waste Committee 2019 Work Plan
Report Date: November 8, 2019

Priorities

1st Quarter	**Status**
2017 Solid Waste and Recycling - Annual Report	Complete
Solid Waste Regulatory Framework - Update	Complete
Electronic Disposal Ban Tool	Complete
2018 Waste Composition Monitoring Program	Complete
Recycling Markets Update	Complete
National Zero Waste Council Update	Complete
2018 Zero Waste Conference Results	Complete
2018 Create Memories Not Garbage Campaign Results	Complete
2018 Food Scraps Campaign Results	Complete
2019 Textiles Campaign Launch	Complete
Residential Used Gypsum Disposal Program Update	Complete
Customer Operational Notification	Complete
Asset Management Policy	Complete
2nd Quarter	
2018 Disposal Ban Inspection Program	Complete
Coquitlam Transfer Station Replacement – Update and Operations Contract	In progress
Single Use Item Reduction Strategy	Complete
Organics Regulatory Framework and Procurement Processes	Complete
Construction and Demolition Material Regulatory Framework	Complete
Transfer Station Paid Recyclables Funding Model	Complete
Love Food Hate Waste Canada – Campaign Updates	Complete
2018 Waste-to-Energy Facility Financial Summary	Complete
2018 Waste-to-Energy Facility Environmental Performance Summary	Complete
Waste-to-Energy Facility Non-Ferrous Metal Recovery System	Complete
Solid Waste Energy Policy	Complete
3rd Quarter	
2019 Zero Waste Conference	Complete
Extended Producer Responsibility	Complete
Expanded Polystyrene Disposal Ban Implementation Progress	In progress
Surrey Recycling and Waste Drop-Off Facility – Construction Contract	In progress
Unsecured Loads Surcharge Update	In progress
2019 Textiles Campaign Results	Complete
Waste-to-Energy Options	Pending
4th Quarter	
2020 Tipping Fee Bylaw Revisions	Complete
2020-2024 Financial Plan – Solid Waste Services	Complete
30-Year Financial Plan: Solid Waste Scenarios	Pending
Waste-to-Energy Facility – Biosolids Utilization Business Case and Conceptual Design	Complete
2018 Solid Waste and Recycling – Annual Report	In progress
2019 Abandoned Waste Campaign Results	Complete
Ellen MacArthur Foundation Membership	Pending



CITY OF DELTA
Office of The Mayor, George V. Harvie

November 8, 2019

Mayor Jack Froese, Chair
Metro Vancouver Zero Waste Committee
Metrotower III, 4730 Kingsway
Burnaby, BC V5H 0C6

Dear Chair Froese and Committee members,

Re: Vancouver Landfill Technical Liaison Committee

At the October 28, 2019 Regular Meeting, Delta Council considered the enclosed report by the Corporate Services Department dated October 17, 2019 regarding Vancouver Landfill Technical Liaison Committee and unanimously endorsed the recommendations contained therein.

Accordingly, this letter and report are provided for your information.

Yours truly,

George V. Harvie
Mayor

Enclosure

cc: Paul Henderson, General Manager Solid Waste, Metro Vancouver
Delta Council
Sean McGill, City Manager
Mel Cheesman, Director of Corporate Services
Mike Brotherston, Manager, Climate Action & Environment

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T: 604-946-3210 Fax: 604-946-6055 E: MayorHarvie@delta.ca

City of Delta
COUNCIL REPORT
Regular Meeting

To: **Mayor and Council**

From: **Corporate Services Department**

Date: **October 17, 2019**

Vancouver Landfill Technical Liaison Committee

The following report has been reviewed and endorsed by the City Manager.

- **RECOMMENDATIONS:**

A. THAT a copy of this report be provided to the City of Vancouver's Mayor Kennedy Stewart and Council; Mr. Sadhu Johnston, City Manager; and Cheryl Nelms, Acting General Manager of Engineering Services.

B. THAT a copy of this report be provided to Metro Vancouver's Zero Waste Committee.

- **PURPOSE:**

To provide information to Council on the subject of a recent meeting of the Vancouver Landfill Technical Liaison Committee.

- **BACKGROUND:**

At the April 11, 2011 Regular Meeting of Delta Council, the establishment of a Vancouver Landfill Technical Liaison Committee was endorsed in response to concerns raised by Delta regarding landfill gas emissions. The committee meets quarterly to discuss issues relating to the Vancouver Landfill and consists of senior staff from the City of Delta (Delta) and City of Vancouver (Vancouver). A map showing the phases of the Vancouver Landfill is included as Attachment A. Phase 1, Phase 2, Phase 3 West, Phase 3 Southeast, and a significant portion of the Western 40 Hectares have been closed. The current active area of the Landfill is Phase 4 South.

- **DISCUSSION:**

A meeting of the Vancouver Landfill Technical Liaison Committee (the committee) was held on September 13, 2019. The following items were discussed:

Landfill Gas Collection and Progressive Landfill Closure Works

Landfill gas is created during the decomposition of organic waste. Given the environmental impacts of landfill gas, which are explained further in this report, it is important to collect as much gas as possible from the landfill. A target efficiency of 75% is set out in the *BC Landfill Gas Management Regulation*. Overall landfill gas collection efficiency was 73.2% for August and 69.6% year to date in 2019. This reduction compared to 2018, where the

collection efficiency was 75% for the year, is due to the need for a number of landfill gas wells to be temporarily disconnected to allow for the landfill closure work. It is anticipated the gas collection efficiency will increase as the closure work is completed.

Significant improvements have been made to landfill gas collection efficiency since 2011 and these efforts are continuing. This has resulted in a greater amount of landfill gas available for beneficial use. Vancouver and FortisBC have signed an agreement regarding the installation of a system to clean the gas so that it can be injected into the natural gas pipeline as "renewable natural gas". An application is currently under review by the BC Utilities Commission.

Landfill closure work includes the construction of an impermeable liner, landfill gas collection piping and surface drainage infrastructure. The $23 million closure project for the Western 40 Hectares at Vancouver Landfill is nearing completion with just some topsoil and hydroseeding work remaining. The closure of Phase 3 Northeast is anticipated to be complete by the end of this year. The current area of filling is Phase 4 South which is expected to be closed in 2020 and work is underway on the design of the closure for this area. These closure areas are shown on Attachment A.

Greenhouse Gas Emissions

While Vancouver is striving to collect as much landfill gas as possible, there still is a quantity of methane that is not collected and emitted to the atmosphere. Methane has a global warming potential that is 25 times greater than an equivalent amount of carbon dioxide. As a result, the estimated quantity of methane emissions from the landfill are multiplied by 25 to get emissions that are reported in carbon dioxide equivalents.

It is unknown exactly how much methane actually escapes to the atmosphere since the portion of gas not collected (25%) does partially degrade through natural processes as the methane passes through the cover soil of the landfill. Vancouver is conducting a five-year study using aerial remote monitoring technology to get a better understanding on the quantity and locations of methane that is escaping from the landfill.

In 2018, the quantity of landfill gas collected and either beneficially used or flared was equal to 548,750 tonnes of carbon dioxide equivalents. This reduction in emissions is the same as taking approximately 110,000 passenger cars off the road. The estimated quantity of gas not collected is equal to 182,920 tonnes of carbon dioxide equivalent. As noted above, the actual quantity of methane not collected is only an estimate based on models and Vancouver is seeking to obtain better information on actual emissions.

Landfill Operations

The landfill is operated in accordance with a Landfill Design, Operation and Progressive Closure Plan. The landfill is authorized to accept up to 750,000 tonnes of municipal solid waste (including demolition waste) for disposal each year. In 2018, 717,906 tonnes of waste were received at the landfill and a similar amount is projected for 2019. Vancouver has initiated a project to upgrade the landfill entry and scales along with the residential drop off area where additional recycling opportunities will be available for residents. Construction is currently underway and expected to be complete later this year.

Based on the results of a successful pilot project an area of approximately 1.3 hectares was identified for a future full-scale construction and demolition material recovery facility. This site has been preloaded and a business case is in development for the facility.

Currently clean stormwater run-off from closed sections of the landfill are being mixed with leachate and piped to the Annacis Wastewater Treatment Plant. There are regulatory requirements to separate clean stormwater and Vancouver is investigating options to discharge their clean stormwater in a manner that does not negatively affect Burns Bog or the surrounding agricultural areas. In addition to discussions with Delta staff, Vancouver has initiated discussions with the Delta Farmers' Institute and the Burns Bog Ecological Area Scientific Advisory Panel on this subject.

Vancouver advised that the Ministry of Environment and Climate Change Strategy is reviewing a request to dispose of treated waste residues from sterilization of biomedical waste (non-anatomical and waste sharps) in an autoclave unit. The sterilized waste is generated by a company called Stericycle at a facility in Port Coquitlam. Approximately 4,000 tonnes of waste is proposed for disposal each year which would be directly buried in the landfill. Vancouver's Occupational Health and Safety Committee has reviewed the proposal and has not identified any concerns with handling this type of waste material.

Regulatory Reporting

It was confirmed at the committee meeting that Delta was receiving regular information on landfill gas, water quality and leachate monitoring from Vancouver. Since the last committee meeting, the 2018 Annual Report, 2018 Landfill Gas Report and 2018 National Pollutant Release Inventory (NPRI) reports have been submitted. The annual provincial and federal greenhouse gas emission reports were also completed. It was also noted that a compliance inspection was completed by Ministry of Environment and Climate Change Strategy staff and Vancouver was advised inspections will continue on an annual basis. The results from the inspection have not yet been received.

Complaints

A list of the complaints received since the last meeting was reviewed by the committee. No formal odour complaints have been received where the landfill was identified to be the source. Delta has also not received any formal odour complaints that were attributed to the Vancouver Landfill since the last meeting.

Implications:
Financial Implications – There are no financial implications

- **CONCLUSION:**

A summary of items discussed at the last meeting of the Vancouver Landfill Technical Liaison Committee is provided for information. This committee is an important mechanism for ensuring ongoing communication between Vancouver and Delta staff related to Vancouver Landfill issues.

Mel Cheesman
Director of Corporate Services

Department submission prepared by: Mike Brotherston, Manager of Climate Action and Environment

This report has been prepared in consultation with the following listed departments.

Concurring Departments		
Department	Name	Signature
Engineering	Steven Lan	

- **ATTACHMENT:**
  A. Vancouver Landfill fill plan

Fill Phases & Progressive Closure Dates

CITY OF VANCOUVER

Active | Closed | Closure in progress | Future | Stormwater pond

Attachment A
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