METRO VANCOUVER REGIONAL DISTRICT
ZERO WASTE COMMITTEE

REGULAR MEETING

Friday, October 18, 2019
1:00 p.m.
28th Floor Committee Room, 4730 Kingsway, Burnaby, British Columbia

REVISED AGENDA

1. ADOPTION OF THE AGENDA

1.1 October 18, 2019 Regular Meeting Agenda
That the Zero Waste Committee adopt the agenda for its regular meeting scheduled for October 18, 2019 as circulated.

2. ADOPTION OF THE MINUTES

2.1 July 12, 2019 Regular Meeting Minutes
That the Zero Waste Committee adopt the minutes of its regular meeting held July 12, 2019 as circulated.

3. DELEGATIONS

3.1 Wil Tarnasky, SportsFleets Ventures Distributing

3.2 Lori Bryan, Waste Management Association of BC (WMABC)
Subject: WMACB’s position re Metro Vancouver Bylaws 307 and 309 as presented in Item 6.2

4. INVITED PRESENTATIONS

5. REPORTS FROM COMMITTEE OR STAFF

5.1 2020 - 2024 Financial Plan – Solid Waste Services
Designated Speaker: Paul Henderson, General Manager, Solid Waste Services

Note: Recommendation is shown under each item, where applicable.

October 24, 2019
Zero Waste Committee
5.2 GVS&DD Tipping Fee and Solid Waste Disposal Regulation Amendment Bylaw No. 330, 2019

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

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:
   - 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
   - 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.

5.3 2018 Construction & Demolition Waste Composition Study

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

That the Zero Waste Committee receive for information the report dated October 9, 2019 titled “2018 Construction & Demolition Waste Composition Study”.

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

Designated Speaker: Marian Kim, Lead Senior Engineer, Solid Waste Services

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”.

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

Designated Speaker: Lynne Vidler, Senior Project Engineer, Solid Waste Services

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”.

5.6 2019 Regional Food Scraps Recycling Campaign Update

Designated Speaker: Larina Lopez, Corporate Communications Division Manager, External Relations

That the Zero Waste Committee receive for information the report dated October 9, 2019 titled “2019 Regional Food Scraps Recycling Campaign Update.”
5.7 **2019 Abandoned Waste Campaign Results**  
*Designated Speaker: Larina Lopez, Corporate Communications Division Manager,  
External Relations*  
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.”

5.8 **Manager’s Report**  
*Designated Speaker: Paul Henderson, General Manager, Solid Waste Services*  
That the Zero Waste Committee receive for information the report dated October 10, 2019 titled “Manager’s Report”.

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

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

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 February 8, 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”.

Zero Waste Committee
10. ADJOURNMENT/CONCLUSION
That the Zero Waste Committee adjourn/conclude its regular meeting of October 18, 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
Minutes of the Regular Meeting of the Metro Vancouver Regional District (MVRD) Zero Waste Committee held at 9:00 a.m. on Friday, July 12, 2019 in the 28th Floor Committee Room, 4730 Kingsway, Burnaby, British Columbia.

MEMBERS PRESENT:
Chair, Mayor Jack Froese, Langley Township
Vice Chair, Councillor Craig Hodge, Coquitlam (departed at 10:03 a.m.)
Councillor Pietro Calendino, Burnaby
Councillor Doug Elford, Surrey
Councillor Helen Fathers, White Rock
Mayor Mike Little, North Vancouver District
Councillor Hunter Madsen, Port Moody
Councillor Gayle Martin, Langley City
Mayor Mike Morden, Maple Ridge
Councillor Harold Steves, Richmond
Councillor Mary Trentadue, New Westminster (arrived at 10:14 a.m.)

MEMBERS ABSENT:
Councillor Craig Cameron, West Vancouver
Councillor Pete Fry, Vancouver

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

1. ADOPTION OF THE AGENDA

1.1 July 12, 2019 Regular Meeting Agenda

It was MOVED and SECONDED
That the Zero Waste Committee:
  a) amend the agenda for its regular meeting scheduled for July 12, 2019 by varying the order of the agenda to consider Item 6.2 District of West Vancouver Motion on Municipal Jurisdiction to Regulate Single Use Items, after Item 3.1 Integrated Solid Waste and Resource Management Plan and the Roosevelt Regional Landfill; and
  b) adopt the agenda as amended.

CARRIED
2. **ADOPTION OF THE MINUTES**

2.1 **June 14, 2019 Regular Meeting Minutes**

*It was MOVED and SECONDED*

That the Zero Waste Committee adopt the minutes of its regular meeting held June 14, 2019 as circulated.

*CARRIED*

3. **DELEGATIONS**

3.1 **Integrated Solid Waste and Resource Management Plan and the Roosevelt Regional Landfill**

Nicholas Ponce, General Manager, and Jim Hutchinson, Director of Municipal Services, Republic Services (Republic), spoke to the Committee about Republic’s history, waste-by-rail system, Roosevelt Regional Landfill, metals recovery through ash monfill, and the landfill gas-to-Renewable Natural Gas facility. The delegation also commented on how Republic services relate to Metro Vancouver’s *Integrated Solid Waste and Resource Management Plan* goals highlighting the circular economy.

Executive summary and presentation material titled “Renewal Natural Gas Conversion Facility” are retained with the July 12, 2019 Zero Waste Committee agenda.

**Agenda Varied**

Pursuant to Item 1.1 of the agenda, the order of the agenda was varied to consider Item 6.2 at this point.

6.2 **District of West Vancouver Motion on Municipal Jurisdiction to Regulate Single Use Items**

Minutes excerpt from the District of West Vancouver’s June 24, 2019 Regular Council Meeting Minutes including a council resolution regarding municipal jurisdiction to regulate single-use items.

*It was MOVED and SECONDED*

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

6.2 District of West Vancouver Motion on Municipal Jurisdiction to Regulate Single Use Items dated June 24, 2019

*CARRIED*

Members commented on the BC Court of Appeal’s ruling on the City of Victoria’s bylaw banning plastic bags, provincial jurisdiction, prior Metro Vancouver and Union of British Columbia Municipalities efforts to support provincial...
harmonization, and the need for local government authority to ban single-use items.

**It was MOVED and SECONDED**
That the GVS&DD Board write a letter to the Province of BC and the Union of British Columbia Municipalities in support for municipal jurisdiction to regulate single use items, as it relates to the June 24, 2019 District of West Vancouver Council resolution.

CARRIED

**Agenda Order Resumed**
The order of the agenda resumed with Section 4. Invited Presentations being before the Committee.

4. **INVITED PRESENTATIONS**
No items presented.

5. **REPORTS FROM COMMITTEE OR STAFF**

5.1 **2019-2022 Board Strategic Plan**

Members were updated on the 2019-2022 Board Strategic Plan summarizing results from the Board Strategic Planning workshop, and highlighting common themes and strategic directions related to Solid Waste Services.

Members had no suggested changes to strategic directions related to Metro Vancouver’s solid waste function. In response to questions, members were informed about staff efforts exploring opportunities to address issues around organics processing in the region.

Presentation material titled “2019-2022 Board Strategic Plan Solid Waste Services” is retained with the July 12, 2019 Zero Waste Committee agenda.

**It was MOVED and SECONDED**
That the Zero Waste Committee endorse the Solid Waste Services Strategic Directions as presented in the attachment dated June 26, 2019, titled “2019-2022 Board Strategic Plan”.

CARRIED
5.2 Organics and Paid Recyclables Management at Metro Vancouver Transfer Stations

Report dated July 3, 2019 from Sarah Evanetz, Division Manager, Solid Waste Services, seeking GVS&DD Board approval of a funding and service model for organics and paid recyclables (including yard trimmings, clean wood, new gypsum and mattresses) at Metro Vancouver transfer stations.

Members were updated on organics and paid recyclables management at Metro Vancouver transfer stations.

In response to questions, members were informed about existing and proposed transfer station services and fees, how processed organic materials are being repurposed/reused, operational constraints, and staff considerations for moving forward with the procurement process.

Presentation material titled “Organics and Paid Recyclables Management at Metro Vancouver Transfer Stations” is retained with the July 12, 2019 Zero Waste Committee agenda.

It was MOVED and SECONDED

That the GVS&DD Board:

a) approve setting tipping fees for paid recyclables to recover operational costs, except where the risk of illegal dumping or other negative impacts exist, alternate fees structures will be considered;

b) approve providing municipal organics transfer services upon request and under contract with full cost recovery;

c) direct staff to initiate procurement for processing services for municipal organics from the North Shore Transfer Station; and

d) direct staff to develop a business case for the provision of commercial organics transfer services at Metro Vancouver transfer stations and report back on options.

CARRIED

5.3 Initiating Procurement for Bottom Ash Beneficial Use

Report dated July 5, 2019 from Sarah Wellman, Senior Engineer, Solid Waste Services, seeking GVS&DD Board approval to initiate a procurement process for bottom ash beneficial use.

It was MOVED and SECONDED

That the GVS&DD Board direct staff to initiate a procurement process for bottom ash beneficial use, as presented in the July 5, 2019 report titled “Initiating Procurement for Bottom Ash Beneficial Use”.

CARRIED
5.4 **Alternative Fuel and Recyclables Recovery Project Update**

Report dated July 5, 2019 from Terry Fulton, Project Engineer, Solid Waste Services, providing an update on the scope of a business case for an alternative fuel and recyclables recovery project approved by the GVS&DD Board in March 2019.

Members were updated on the Alternative Fuel and Recyclables Recovery Project highlighting purpose, goals, scope, small vehicle waste composition, benefits and an example of a concept drawing for a facility.

10:03 a.m. Councillor Hodge departed the meeting.

Members discussed existing and future capacity to process construction and demolition materials at regional facilities, and opportunities to reuse materials.

The Committee was informed that staff will report back at a future meeting with information on *BC Building Code* requirements, and challenges and opportunities for the reuse/repurpose of wood and construction materials, as it relates to the recovery of recyclables.

Presentation material titled “Alternative Fuel and Recyclables Recovery Project Update” is retained with the July 12, 2019 Zero Waste Committee agenda.

**It was MOVED and SECONDED**

That the Zero Waste Committee receive for information the report dated July 5, 2019, titled “Alternative Fuel and Recyclables Recovery Project Update”.

**CARRIED**

5.5 **2018 Single Use Items Waste Composition Study**

Report dated July 4, 2019 from Karen Storry, Senior Project Engineer, Solid Waste Services, providing an update on the results of the 2018 single-use items waste composition study.

Members were updated on the findings from the *2018 Single Use Items Waste Composition Study* highlighting disposed items by sector, plastic retail bags, cups, and utensils.

Presentation material titled “2018 Single Use Items Waste Composition” is retained with the July 12, 2019 Zero Waste Committee agenda.

**It was MOVED and SECONDED**

That the Zero Waste Committee receive for information the report dated July 4, 2019, titled “2018 Single Use Items Waste Composition Study”.

**CARRIED**
5.6 Status of Solid Waste Services Capital Expenditures to April 30, 2019
Report dated July 4, 2019 from Lynne Vidler, Senior Project Engineer, Solid Waste Services, providing an update on the status of utilities capital expenditures for Solid Waste Services to April 30, 2019.

It was MOVED and SECONDED
That the Zero Waste Committee receive for information the report dated July 4, 2019, titled “Status of Solid Waste Services Capital Expenditures to April 30, 2019”.

CARRIED

5.7 Manager’s Report

10:14 a.m. Councillor Trentadue arrived at the meeting.

Members were provided with a demonstration of the live camera technology service to be implemented at new regional transfer stations.

In response to questions, members were informed about current use of drone and time-lapse photography technology to assist staff in recording construction projects, policy to protect personal information in responding to Freedom of Information requests, and plans to communicate benefits of new facilities as they are developed.

It was MOVED and SECONDED
That the Zero Waste Committee receive for information the report dated July 2, 2019, titled “Manager’s Report”.

CARRIED

6. INFORMATION ITEMS

6.1 Letter from Regional District of Fraser-Fort George Re Single Use Plastics Ban, dated June 3, 2019
Correspondence dated June 3, 2019 from the Regional District of Fraser-Fort George, addressed to the Honourable George Heyman, Minister of Environment and Climate Change Strategy, regarding a ban on single use plastics.
It was MOVED and SECONDED
That the Zero Waste Committee receive for information the following Information Item:
6.1 Letter from Regional District of Fraser-Fort George Re Single Use Plastics Ban, dated June 3, 2019
CARRIED

6.2 District of West Vancouver Motion on Municipal Jurisdiction to Regulate Single Use Items
This item was previously considered.

7. OTHER BUSINESS
No items presented.

8. BUSINESS ARISING FROM DELEGATIONS
No items presented.

9. RESOLUTION TO CLOSE MEETING
No items presented.

10. ADJOURNMENT/CONCLUSION

It was MOVED and SECONDED
That the Zero Waste Committee conclude its regular meeting of July 12, 2019.
CARRIED
(Time: 10:20 a.m.)

Janis Knaupp, legislative Services Coordinator
Jack Froese, Chair
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 disposal 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
The purpose of our remarks is to follow up on our July 29 letter to Metro Vancouver concerning the Minister of Environment and Climate Change Strategy’s July 25th correspondence about the Region’s review of the proposed Bylaws 307 & 309, specifically the public involvement in the review of the Integrated Solid Waste & Resource Management Plan.

The WMABC has expressed concerns to the Minister about the previous lack of engagement, specifically a transparent and inclusive process, with the private waste services industry and the waste generators in the industrial, commercial and institutional (IC&I) sector to which Metro Vancouver’s Bylaws were specifically targeted. If the Metro Vancouver renewal of its Integrated Solid Waste & Resource Management Plan is to include proposed policy and regulations concerning waste diversion in the IC&I sector, meaningful engagement with those who are directly generating and managing these waste streams is paramount which we believe is one of the themes in the Minister’s correspondence to the Region.

The WMABC believes the private waste services industry, waste generators in the IC&I sector as well as Metro Vancouver need to come together in a collaborative, inclusive and transparent consultation process.

For further information, please contact Noel Massey, President of WMABC at nmassey@wmabca.ca or Lori Bryan, Executive Director for the WMABC at lbryan@wmabc.com
To: Zero Waste Committee

From: Paul Henderson, General Manager, Solid Waste Services

Date: October 11, 2019

Meeting Date: October 18, 2019

Subject: 2020 - 2024 Financial Plan – Solid Waste Services

RECOMMENDATION

PURPOSE
To present the 2020-2024 Financial Plan for Solid Waste Services for consideration by the Committee.

BACKGROUND
Metro Vancouver’s annual budget process includes the development of detailed annual budgets and the updating of five year financial plans for each of the four Metro Vancouver legal entities (Metro Vancouver Regional District, Metro Vancouver Housing Corporation, Greater Vancouver Water District and Greater Vancouver Sewerage and Drainage District) and related functions.

This report focuses on Solid Waste Services and presents the 2020 annual budget and the updated five year plan for the years 2020 to 2024 for committee consideration.

SOLID WASTE SERVICES PROGRAM
Solid Waste Services, within the Greater Vancouver Sewerage and Drainage District (GVS&DD), provides solid waste management planning, zero waste implementation, and transfer stations and disposal facility operations.

Solid Waste Services works collaboratively with member municipalities to provide waste management services to the region's 2.5 million people. The system is comprised of transfer stations and a waste-to-energy facility that handles approximately 900,000 tonnes of waste annually.

Solid Waste Services initiatives planned over the next five years are guided by direction provided in the 2019-2022 Board Strategic Plan, and the Integrated Solid Waste and Resource Management Plan, specifically:

Board Strategic Plan:
- Reduce waste, increase recycling and increase recovery of materials and energy from remaining waste. Dispose of residuals in a cost effective and environmentally sustainable manner.
• Develop and implement financial plans and policies that reflect a commitment to sound financial management and long-term planning, in consideration of current and future ratepayers.
• Strengthen awareness and engagement with the public, members, other orders of government, and key stakeholders on a range of initiatives that will reduce waste generated in the region.

**Integrated Solid Waste and Resource Management Plan:**
- Goal 1 - Minimize waste generation
- Goal 2 - Maximize reuse, recycling & material recovery
- Goal 3 - Recover energy from waste stream after material recovery
- Goal 4 - Dispose of all waste in landfill after recycling & energy recovery

**2020 BUDGET AND 2020 - 2024 FINANCIAL PLAN**
The five year financial plans for this cycle have been updated to address five central themes identified by the Metro Vancouver Board in its Strategic Plan to guide the development of plans and budgets. The five themes are as follows:

- Regional Growth
- Environmental Sustainability
- Financial Sustainability
- System Stewardship
- Regulatory and Legislative Environment

Attached are the 2020 - 2024 Solid Waste Services Financial Plan Operating Budget Summary (Attachment 1) and the 2020 - 2024 Solid Waste Services Capital Budget Summary (Attachment 2).

Also, each Metro Vancouver function has an Annual Work Plan that includes strategic directions, performance indicators and key actions to guide the work for the coming year. Each function also has a “What’s Happening” summary that highlights the program highlights for the next five years. The 2020 Annual Work Plans for the Solid Waste Services budget presented in this report are included in Attachment 3 and the “What’s Happening” highlights for Solid Waste Services for the years 2020 – 2024 are included in Attachment 4.

**Operating Budget Highlights**
The Solid Waste Services operating budget is separated into operating programs and funding required to support the expanding capital program (debt service and contribution to capital). It is proposed to increase by $6.9 million in 2020 for a total budget of $114.1 million (Attachment 1). This increase can essentially be attributed to increasing transfer station and Waste-to-Energy Facility operating costs based on volume, additional resources in support of the work to update the *Integrated Solid Waste and Resource Management Plan* beginning in 2020 (through 2022) along with debt service and contribution to capital. A significant portion of the increase can be attributed to increased contributions to capital of $1.7 million to support infrastructure investments required to meet service requirements and growth demands and increased debt service costs of $2.3 million due to the capital program primarily related to transfer station development work.
The 2020 operating budget includes the following key actions:

- Implementation of the Asset Management Program, including facility condition assessments;
- Complete Waste-to-Energy Facility biosolids processing preliminary design and district energy preliminary design and business case;
- Bottom ash beneficial use procurement;
- Autoscale software replacement plan;
- Initiate review of the Integrated Solid Waste and Resource Management Plan;
- Evaluate the transfer station network and potential improvements;
- Monitor implementation of the Disposal Ban Program;
- Evaluate the feasibility of an alternative fuel and recyclable recovery facility;
- Support programs for textiles, single-use items, seasonal wastes, food wastes, illegal dumping, and the Zero Waste Conference;
- Support the National Zero Waste Council including work on implementing the Circular Economy and Zero Plastics Waste;
- Support national solid waste benchmarking and applied waste research;
- Update regional waste composition monitoring;
- Track and manage waste flows;
- Update transfer stations customer service survey;
- Complete replacement Coquitlam Transfer Station construction and prepare for operations;
- Continue Surrey Recycling and Waste Drop-Off Facility development including beginning construction; and
- Inform, educate and engage the public in decision making on applicable solid waste initiatives.

Highlights of contracts and consulting projects anticipated to be undertaken in 2020 to respond to work plan requirements within the operating budget include the following:

- Transfer station scale projects, customer survey, asset condition assessments ($504,000);
- Waste-to-Energy Facility projects ($675,000);
- Integrated Solid Waste and Resource Management Plan review and update ($1,000,000); and
- Ashcroft Ranch McLean Lake Dam spillway ($150,000).

There are no new full-time staff positions proposed for 2020. The Solid Waste Services organization chart is included as Attachment 6.

Over the next five years, the Solid Waste Services budget is expected to increase an average of $6.8 million or 5.7% per year. Of this overall increase, funding related to the expanding capital program (debt servicing and contribution to the capital) is increasing $5.0 million on average over the next five years leaving the operating programs which are increasing, on average, by $1.8 million per year, roughly at the rate of inflation.

**Environmental Regulation and Enforcement**

Working with the private facility operators, staff will continue with initiatives ensuring compliance with Metro Vancouver’s solid waste regulatory bylaws. In 2020, the budget for Solid Waste’s Environmental Regulation and Enforcement program is consistent with the 2019 budget.
Capital Budget Highlights
The proposed Solid Waste Services capital budget for 2020 is $88.5 million (Attachment 2). The capital program is funded by long-term debt and contribution to capital from the annual operating budget as available.

Highlights of capital projects planned or ongoing for 2020 include the following:
- Coquitlam Transfer Station replacement and Coquitlam Landfill Closure;
- Surrey Recycling and Waste Drop-off Facility; and
- Refuse crane at the Waste-to-Energy Facility.

The capital expenditure budget for 2020 - 2024 totals $282.9 million, an average of $56.6 million per year. The largest five projects (each over $10 million) make up approximately 74% of the capital spending over the next five years, with an additional 25 projects on the plan making up the balance.

The capital program over the next five years is largely driven by the need to replace aging transfer stations and expand transfer station capacity through addition and expansion. Upgrades to the existing Waste-to-Energy Facility will ensure it continues to meet regulatory requirements and the addition of biosolids management at the Waste-to-Energy Facility and the Alternative Fuel and Recyclables Recovery project is expected to increase beneficial use of waste within the region. The following five key projects are the largest on the five year plan:

- Alternative Fuel and Recyclables Recovery Centre - $60.0M
- Coquitlam Transfer Station replacement - $77.6M
- Surrey Recycling and Waste Drop-off Facility - $62.3M
- Waste-to-Energy Facility Acid Gas Reduction - $41.0M
- Waste-to-Energy Facility Biosolids Processing - $20.5M

The proposed budgets for the Coquitlam Transfer Station replacement and Surrey Recycling and Waste Drop-Off have increased by $7.4 and $8.0 million respectively due to increased building and subdivision costs along with site specific issues related to developing the transfer station on a closed landfill for the Coquitlam Transfer Station, and updated costs estimates with the completion of detailed design for Surrey Recycling and Waste Drop-Off. Contingencies for both projects have been replenished with the proposed budget increases.

Business cases for the development of the Alternative Fuel and Recyclables Recovery Centre and biosolids management at the Waste-to-Energy Facility will be provided to the Zero Waste Committee and Board for consideration and specific approval of the projects.

2020 – 2024 Tipping Fee Projections
The following table shows the tipping fee projections based on the required revenue to offset expected expenditures. The tipping fees shown for 2020 through 2023 are consistent with those projected in the 2019 – 2023 Financial Plan.
Projected Tipping Fees for Municipal Solid Waste ($/tonne)

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
</tr>
</thead>
<tbody>
<tr>
<td>Municipal Tipping Fee</td>
<td>$108</td>
<td>$113</td>
<td>$120</td>
<td>$127</td>
<td>$134</td>
<td>$141</td>
</tr>
<tr>
<td>Small Vehicles (0-1t)</td>
<td>$142</td>
<td>$147</td>
<td>$154</td>
<td>$161</td>
<td>$168</td>
<td>$175</td>
</tr>
<tr>
<td>Medium Vehicles (1-8t)</td>
<td>$120</td>
<td>$125</td>
<td>$132</td>
<td>$139</td>
<td>$146</td>
<td>$153</td>
</tr>
<tr>
<td>Large Vehicles (&gt;9t)</td>
<td>$90</td>
<td>$99</td>
<td>$106</td>
<td>$113</td>
<td>$120</td>
<td>$127</td>
</tr>
</tbody>
</table>

Reserve Funds
There are no proposed applications of reserve funding in the 2020 – 2024 Financial Plan.

The 2020 - 2024 Projected Reserves for Solid Waste Services is included in Attachment 5.

WORK PLAN PERFORMANCE INDICATORS
High level performance indicators have been developed across the organization to evaluate trends, determine key actions for the coming year, and to assist in long-term planning. The 2020 Work Plans for Solid Waste Services are presented in this report. Within the Solid Waste Services Work Plans, four performance indicators have been developed and are being tracked. These include:

- Annual solid waste flows in Metro Vancouver system (tonnes);
- Availability of the Waste-to-Energy Facility (percent);
- Waste diversion rate (percent of solid waste flow diverted from final disposal); and
- Waste disposed per capita (tonnes).

The trend in these performance measures show waste diversion is experiencing ongoing but diminishing increases as easily recycled materials are removed from the waste stream. Previously observed decreases in disposed waste quantities are being offset by increases in regional population and other factors.

CONSISTENCY WITH THE 2019-2023 FINANCIAL PLAN
The updated five year financial plan has been developed to be consistent with the 2019 – 2023 financial plan. As shown in Attachment 1, the overall 2020 Solid Waste impact on the average regional household is generally consistent with prior year projections with an average regional household cost of $62 (2019 projection: $60). Regarding the 2021 – 2023 timeframe, the average regional household rate is projected to increase by $3 compared to the previous five year projection. The primary drivers for this change are adjustments to expected waste flows consistent with actual quantities, and consequently increased estimated per household waste quantities.

APPROVAL PROCESS
The proposed 2020-2024 Financial Plan and Annual Work Plans for Solid Waste Services are presented for consideration and endorsement before being forwarded to the Board for consideration.
The next steps of the process are:

- The 2020 – 2024 Financial Plan and Annual Work Plan will be presented for consideration at the Board Budget Workshop on October 23, 2019.

- The Board will consider adoption of the 2020 Budget and endorsement of the 2020-2024 Financial Plan on November 1, 2019.

**ALTERNATIVES**


**FINANCIAL IMPLICATIONS**

If the GVS&DD Board approves the 2020 Budget and endorses the Five Year Financial Plan for Solid Waste Services, as presented under Alternative 1, in 2020 the revenue from the tipping fees for the system will increase by $7.4 million (7.6%) to $105.8 million which will generate the majority of the $114.1 million in total revenue required to offset projected expenditures. The increase in the tipping fees represents a $4 increase in the cost to the average regional household to $62 (2019 forecast: $60.)

Over the term of the five year plan, the annual tipping fee revenue is projected to increase by an average of $6.5 million per year to provide the required revenue to offset projected expenditures. It is anticipated that the cost to the average regional household over the next five years will rise from $58 in 2019 to $73 in 2024 representing an average annual increase of $3.

Under Alternative 2, the Committee may wish to consider recommending amendments to the 2020 Budget and Five Year Financial Plan for Solid Waste Services for consideration at the Board Budget Workshop. Any changes to the plan may have an impact on the Solid Waste Services Financial Plan.

**SUMMARY / CONCLUSION**

The 2020 Budget and Five Year Financial Plan for Solid Waste Services has been prepared to respond to direction provided in the Board Strategic Plan and support the Integrated Solid Waste and Resource Management Plan. It is presented to Committee and Board members to provide overview information on activities and financial impacts for the years 2020 to 2024 for Solid Waste Services.

The presentation of the 2020 budget and five year financial plan for Solid Waste Services provides the opportunity for Metro Vancouver to share with its member jurisdictions the proposed capital projects and operating programs, and the financial impact of these projects, over the next five years. The financial plan illustrates how Metro Vancouver proposes to pay for Solid Waste investments that will be required to maintain our assets and to respond to our region’s growing population. It is intended to be used as a guiding document for member jurisdictions in the development of their five
year financial plans and includes projections on household impact to demonstrate how the plan will remain affordable for Metro Vancouver residents while keeping pace with our critical infrastructure requirements.

Staff recommend endorsing the 2020 - 2024 Budget and Five Year Financial Plan and Annual Work Plans for Solid Waste Services as presented under Alternative 1.

Attachments:
1. 2020 - 2024 Solid Waste Financial Plan
2. 2020 - 2024 Solid Waste Services Capital Budget Summary
3. 2020 Solid Waste Work Plans
4. 2020 - 2024 “What’s Happening” in Solid Waste
5. 2020 - 2024 Projected Reserves – Solid Waste
6. Organizational Chart – Solid Waste

33003628
### REVENUES

<table>
<thead>
<tr>
<th></th>
<th>2017 ACTUAL</th>
<th>2018 ACTUAL</th>
<th>2019 BUDGET</th>
<th>2020 BUDGET</th>
<th>% CHANGE</th>
<th>2021 FORECAST</th>
<th>% CHANGE</th>
<th>2022 FORECAST</th>
<th>% CHANGE</th>
<th>2023 FORECAST</th>
<th>% CHANGE</th>
<th>2024 FORECAST</th>
<th>% CHANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Solid Waste Tipping Fees</strong></td>
<td>$98,635,607</td>
<td>$102,036,530</td>
<td>$98,362,329</td>
<td>$105,822,892</td>
<td>7.6%</td>
<td>$117,787,451</td>
<td>4.7%</td>
<td>$125,918,930</td>
<td>6.9%</td>
<td>$130,900,548</td>
<td>4.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Energy Sales</strong></td>
<td>$5,642,942</td>
<td>$5,584,341</td>
<td>$5,627,304</td>
<td>$6,236,530</td>
<td>6.3%</td>
<td>$6,401,758</td>
<td>6.0%</td>
<td>$6,589,204</td>
<td>6.9%</td>
<td>$6,738,977</td>
<td>5.5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Other External Revenues</strong></td>
<td>$4,075,089</td>
<td>$2,507,229</td>
<td>$2,868,134</td>
<td>$3,492,679</td>
<td>26.3%</td>
<td>$3,579,902</td>
<td>2.1%</td>
<td>$3,654,275</td>
<td>2.2%</td>
<td>$3,721,250</td>
<td>2.1%</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL REVENUES</strong></td>
<td>$108,353,638</td>
<td>$110,128,100</td>
<td>$107,157,767</td>
<td>$114,088,624</td>
<td>6.5%</td>
<td>$122,263,419</td>
<td>7.2%</td>
<td>$127,769,111</td>
<td>4.5%</td>
<td>$136,141,409</td>
<td>6.6%</td>
<td>$141,370,775</td>
<td>3.8%</td>
</tr>
</tbody>
</table>

### EXPENDITURES

**Operating Programs:**

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>% CHANGE</th>
<th>2021</th>
<th>% CHANGE</th>
<th>2022</th>
<th>% CHANGE</th>
<th>2023</th>
<th>% CHANGE</th>
<th>2024</th>
<th>% CHANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Solid Waste Operations</strong></td>
<td>$16,621</td>
<td>$17,102</td>
<td>$26,437</td>
<td>$19,032</td>
<td>$19,777</td>
<td>$20,271</td>
<td>$20,376</td>
<td>$20,670</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Ashcroft Ranch</strong></td>
<td>$213,155</td>
<td>$343,551</td>
<td>$33,507,835</td>
<td>$33,342,259</td>
<td>2.1%</td>
<td>$31,396,072</td>
<td>2.1%</td>
<td>$33,953,572</td>
<td>4.8%</td>
<td>$39,443,566</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Landfills</strong></td>
<td>$37,591,183</td>
<td>$47,680,002</td>
<td>$47,119,553</td>
<td>$47,342,259</td>
<td>6.5%</td>
<td>$47,119,553</td>
<td>6.2%</td>
<td>$47,856,438</td>
<td>3.9%</td>
<td>$50,625,572</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Waste to Energy Facility</strong></td>
<td>$589,112,577</td>
<td>$99,912,924</td>
<td>$91,290,794</td>
<td>$93,562,796</td>
<td>2.3%</td>
<td>$99,953,305</td>
<td>4.8%</td>
<td>$98,887,488</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Solid Waste Planning**

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>% CHANGE</th>
<th>2021</th>
<th>% CHANGE</th>
<th>2022</th>
<th>% CHANGE</th>
<th>2023</th>
<th>% CHANGE</th>
<th>2024</th>
<th>% CHANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Policy and Facility Development</strong></td>
<td>$739,270</td>
<td>$658,352</td>
<td>$836,841</td>
<td>$726,126</td>
<td>10.4%</td>
<td>$751,521</td>
<td>1.7%</td>
<td>$769,597</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Zero Waste Implementation</strong></td>
<td>$1,327,223</td>
<td>$1,372,524</td>
<td>$1,419,398</td>
<td>$2,009,193</td>
<td>49.1%</td>
<td>$2,640,562</td>
<td>32.2%</td>
<td>$2,602,137</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Programs and Public Involvement</strong></td>
<td>$302,483</td>
<td>$262,322</td>
<td>$369,758</td>
<td>$695,157</td>
<td>22.1%</td>
<td>$714,582</td>
<td>1.8%</td>
<td>$734,582</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Administration and Department Support**

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>% CHANGE</th>
<th>2021</th>
<th>% CHANGE</th>
<th>2022</th>
<th>% CHANGE</th>
<th>2023</th>
<th>% CHANGE</th>
<th>2024</th>
<th>% CHANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Environmental Regulation and Enforcement</strong></td>
<td>$733,766</td>
<td>$747,823</td>
<td>$962,853</td>
<td>$958,275</td>
<td>6.4%</td>
<td>$978,119</td>
<td>2.1%</td>
<td>$1,016,362</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Allocation of Centralized Support Costs</strong></td>
<td>$3,976,545</td>
<td>$4,348,955</td>
<td>$4,674,251</td>
<td>$4,995,785</td>
<td>4.9%</td>
<td>$5,464,345</td>
<td>1.2%</td>
<td>$5,806,758</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Operating Programs</strong></td>
<td>$9,947,675</td>
<td>$10,923,576</td>
<td>$10,532,964</td>
<td>$10,463,336</td>
<td>2.8%</td>
<td>$10,953,962</td>
<td>5.1%</td>
<td>$10,517,006</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Debt Service**

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>% CHANGE</th>
<th>2021</th>
<th>% CHANGE</th>
<th>2022</th>
<th>% CHANGE</th>
<th>2023</th>
<th>% CHANGE</th>
<th>2024</th>
<th>% CHANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Contribution to Capital</strong></td>
<td>$581,197</td>
<td>$2,494,949</td>
<td>$4,837,308</td>
<td>$11,366,161</td>
<td>130.0%</td>
<td>$17,761,696</td>
<td>56.3%</td>
<td>$23,377,485</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total EXPENDITURES</strong></td>
<td>$97,528,872</td>
<td>$107,923,576</td>
<td>$107,157,767</td>
<td>$114,088,624</td>
<td>6.5%</td>
<td>$122,263,419</td>
<td>7.2%</td>
<td>$127,769,111</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Household Impact ($)**

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>% CHANGE</th>
<th>2021</th>
<th>% CHANGE</th>
<th>2022</th>
<th>% CHANGE</th>
<th>2023</th>
<th>% CHANGE</th>
<th>2024</th>
<th>% CHANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Zero Waste Committee</strong></td>
<td>$58</td>
<td>$62</td>
<td>$65</td>
<td>$68</td>
<td>5.3%</td>
<td>$68</td>
<td>5.3%</td>
<td>$70</td>
<td>5.5%</td>
<td>$73</td>
<td>4.1%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project Description</td>
<td>2020 CAPITAL BUDGET</td>
<td>2021 CAPITAL PLAN</td>
<td>2022 CAPITAL PLAN</td>
<td>2023 CAPITAL PLAN</td>
<td>2024 CAPITAL PLAN</td>
<td>2020 TO 2024 TOTAL</td>
<td>TOTAL PROJECT COSTS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------------------------------------------------------------------</td>
<td>---------------------</td>
<td>-------------------</td>
<td>-------------------</td>
<td>-------------------</td>
<td>-------------------</td>
<td>------------------</td>
<td>-------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>CAPITAL EXPENDITURES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SW Landfills Capital</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alternative Fuel and Recyclables Recovery Centre</td>
<td>$</td>
<td>-</td>
<td>$</td>
<td>-</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coquitlam Landfill Closure</td>
<td>3,000,000</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>3,000,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coquitlam Landfill East Closure</td>
<td>-</td>
<td>-</td>
<td>400,000</td>
<td>3,500,000</td>
<td>1,100,000</td>
<td>5,000,000</td>
<td>5,000,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coquitlam Landfill Fly Ash Cell 2 Closure Final Cover</td>
<td>1,820,000</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1,820,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coquitlam Landfill Gas Collection Upgrades</td>
<td>100,000</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>100,000</td>
<td>3,100,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coquitlam Landfill Gas Collection Upgrades Phase II</td>
<td>2,380,000</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2,380,000</td>
<td>3,600,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coquitlam Landfill Lot 3 Development</td>
<td>4,000,000</td>
<td>1,000,000</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>5,000,000</td>
<td>5,000,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coquitlam Landfill Pump Station Upgrade</td>
<td>400,000</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>400,000</td>
<td>600,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coquitlam Landfill: Leachate Collection System Grade Realignment</td>
<td>550,000</td>
<td>300,000</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>850,000</td>
<td>1,000,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$ 12,250,000</td>
<td>$ 1,300,000</td>
<td>$ 1,900,000</td>
<td>$ 18,500,000</td>
<td>$ 34,600,000</td>
<td>$ 68,550,000</td>
<td>$ 86,500,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SW Opportunity Capital</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WTE Facility District Heating Opportunities</td>
<td>$ 2,250,000</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$ 2,250,000</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2,250,000</td>
<td>2,300,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SW Transfer Stations Capital</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coquitlam Transfer Station Compactor Replacement</td>
<td>$ 2,500,000</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2,500,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------------------------------------------------</td>
<td>---------------------</td>
<td>-------------------</td>
<td>-------------------</td>
<td>-------------------</td>
<td>-------------------</td>
<td>--------------------</td>
<td>--------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coquitlam Transfer Station Replacement</td>
<td>35,000,000</td>
<td>15,000,000</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>50,000,000</td>
<td>77,600,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maple Ridge Transfer Station Upgrades</td>
<td>-</td>
<td>2,000,000</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2,000,000</td>
<td>2,000,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North Shore Transfer Station Compactor Replacement</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2,500,000</td>
<td>-</td>
<td>2,500,000</td>
<td>2,500,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surrey Recycling and Waste Drop-Off</td>
<td>20,300,000</td>
<td>18,000,000</td>
<td>10,000,000</td>
<td>-</td>
<td>-</td>
<td>48,300,000</td>
<td>62,300,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surrey Transfer Station Compactor Replacement</td>
<td>-</td>
<td>-</td>
<td>2,500,000</td>
<td>-</td>
<td>-</td>
<td>2,500,000</td>
<td>2,500,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$ 57,800,000</td>
<td>$ 35,000,000</td>
<td>$ 12,500,000</td>
<td>-</td>
<td>$ 2,500,000</td>
<td>$ 107,800,000</td>
<td>$ 149,400,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SW Waste to Energy Facility Capital</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>40,550,000</td>
<td>41,000,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acid Gas Reduction</td>
<td>$ 2,800,000</td>
<td>$ 17,750,000</td>
<td>$ 20,000,000</td>
<td>-</td>
<td>-</td>
<td>$ 40,550,000</td>
<td>$ 41,000,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biosolids Processing</td>
<td>400,000</td>
<td>10,000,000</td>
<td>10,000,000</td>
<td>-</td>
<td>-</td>
<td>20,400,000</td>
<td>20,500,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boiler Grate and Feed Table Supports Replacement</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4,500,000</td>
<td>4,500,000</td>
<td>4,500,000</td>
<td>4,500,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bottom Ash Crane Replacement</td>
<td>-</td>
<td>1,500,000</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1,500,000</td>
<td>1,500,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carbon Silo Replacement</td>
<td>-</td>
<td>1,200,000</td>
<td>1,200,000</td>
<td>-</td>
<td>-</td>
<td>2,400,000</td>
<td>2,400,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feed Hopper/Chute</td>
<td>1,800,000</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1,800,000</td>
<td>2,600,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feedwater Pump Replacement</td>
<td>720,000</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>720,000</td>
<td>1,000,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Generation Bank Replacement</td>
<td>-</td>
<td>6,000,000</td>
<td>3,000,000</td>
<td>-</td>
<td>-</td>
<td>9,000,000</td>
<td>9,000,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lime Silo Replacement</td>
<td>-</td>
<td>1,800,000</td>
<td>1,800,000</td>
<td>-</td>
<td>-</td>
<td>3,600,000</td>
<td>3,600,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Zero Waste Committee
## Greater Vancouver Sewerage and Drainage District

### Capital Programs and Project Totals

#### Solid Waste Services

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Primary Economizer Replacement</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary Economizer Replacement</td>
<td>2,000,000</td>
<td>3,000,000</td>
<td>-</td>
<td>-</td>
<td>5,000,000</td>
</tr>
<tr>
<td><strong>Refuse Crane</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refuse Crane</td>
<td>7,000,000</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>7,000,000</td>
</tr>
<tr>
<td><strong>Second Pass Superheater Replacement</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Second Pass Superheater Replacement</td>
<td>1,500,000</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1,500,000</td>
</tr>
<tr>
<td><strong>Secondary Economizers Replacement</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secondary Economizers Replacement</td>
<td>-</td>
<td>4,000,000</td>
<td>2,000,000</td>
<td>-</td>
<td>6,000,000</td>
</tr>
<tr>
<td><strong>Stack Refurbishment</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stack Refurbishment</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>350,000</td>
<td>350,000</td>
</tr>
</tbody>
</table>

**TOTAL CAPITAL EXPENDITURES**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>$348,150,000</strong></td>
<td><strong>$16,220,000</strong></td>
<td><strong>$45,250,000</strong></td>
<td><strong>$350,000</strong></td>
<td><strong>$4,500,000</strong></td>
<td><strong>$109,950,000</strong></td>
</tr>
<tr>
<td><strong>$102,000,000</strong></td>
<td><strong>$28,200,000</strong></td>
<td><strong>$57,500,000</strong></td>
<td><strong>$5,000,000</strong></td>
<td><strong>$7,000,000</strong></td>
<td><strong>$95,500,000</strong></td>
</tr>
</tbody>
</table>

### Capital Funding

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>New External Borrowing</td>
<td>$84,060,000</td>
<td>$78,250,000</td>
<td>$49,400,000</td>
<td>$17,150,000</td>
<td>$38,700,000</td>
<td>$267,560,000</td>
</tr>
<tr>
<td>Surplus from Prior Year/Reserves</td>
<td>4,460,000</td>
<td>3,300,000</td>
<td>3,000,000</td>
<td>1,700,000</td>
<td>2,900,000</td>
<td>15,360,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$88,520,000</strong></td>
<td><strong>$81,550,000</strong></td>
<td><strong>$52,400,000</strong></td>
<td><strong>$18,850,000</strong></td>
<td><strong>$41,600,000</strong></td>
<td><strong>$282,920,000</strong></td>
</tr>
</tbody>
</table>

### Debt Servicing Totals/Ratio

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Programs - Solid Waste Services</td>
<td>$103,500,000</td>
<td>$105,400,000</td>
<td>$105,900,000</td>
<td>$109,500,000</td>
<td>$109,600,000</td>
<td>$533,900,000</td>
</tr>
<tr>
<td>Debt Service - Existing</td>
<td>4,100,000</td>
<td>4,800,000</td>
<td>11,400,000</td>
<td>17,800,000</td>
<td>21,300,000</td>
<td>59,400,000</td>
</tr>
<tr>
<td>Debt Service - New</td>
<td>700,000</td>
<td>6,600,000</td>
<td>6,400,000</td>
<td>3,500,000</td>
<td>2,200,000</td>
<td>19,400,000</td>
</tr>
<tr>
<td>Debt Service - Up to 2019</td>
<td>4,100,000</td>
<td>4,100,000</td>
<td>4,100,000</td>
<td>4,100,000</td>
<td>4,100,000</td>
<td>20,500,000</td>
</tr>
<tr>
<td>Debt Service - 2020 and onward</td>
<td>700,000</td>
<td>7,300,000</td>
<td>13,700,000</td>
<td>17,200,000</td>
<td>19,400,000</td>
<td>58,300,000</td>
</tr>
<tr>
<td>Contribution to Capital</td>
<td>5,800,000</td>
<td>5,400,000</td>
<td>4,100,000</td>
<td>5,300,000</td>
<td>8,200,000</td>
<td>28,800,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$114,100,000</strong></td>
<td><strong>$122,200,000</strong></td>
<td><strong>$127,800,000</strong></td>
<td><strong>$136,100,000</strong></td>
<td><strong>$141,300,000</strong></td>
<td><strong>$641,500,000</strong></td>
</tr>
<tr>
<td>% Debt Service</td>
<td>4%</td>
<td>9%</td>
<td>14%</td>
<td>16%</td>
<td>17%</td>
<td>12%</td>
</tr>
</tbody>
</table>
SOLID WASTE SERVICES
Solid Waste Operations

Description of services
Solid Waste Services provides waste reduction and recycling planning and solid waste disposal services to the region under the authority of the Greater Vancouver Sewerage and Drainage District (GVS&DD). Solid Waste Operations is responsible for operating an integrated solid waste management system with service delivery focused on achieving Metro Vancouver’s zero waste objectives through reliable, cost-effective, safe and environmentally-sound operations. The regional solid waste system is a user pay model, primarily funded through tipping fees.

Metro Vancouver facilities include the North Shore, Coquitlam, Surrey, Maple Ridge, and Langley Transfer Stations; and Waste-to-Energy Facility; these facilities are managed through several large contracts. Metro Vancouver also manages the closed Matsqui Transfer Station, the closed Coquitlam Landfill, the Ashcroft Ranch and several other properties in Cache Creek.

Strategic directions and high level goals supported
Board Strategic Plan
- Continue to expand and enhance the disposal ban program
- Continue to expand recycling options at regional transfer stations
- Assess the viability of implementing district heating at the waste-to-energy facility

Integrated Solid Waste and Resource Management Plan
- Goal 2 - Maximize reuse, recycling & material recovery
- Goal 3 - Recover energy from waste stream after material recovery
- Goal 4 - Dispose of all waste in landfill after recycling & energy recovery

Performance indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Historical and/or Industry Benchmark</th>
<th>Current Performance</th>
<th>2020 Performance Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual solid waste flows in Metro Vancouver system (tonnes)</td>
<td>2018: 918,000  2017: 904,000  2016: 897,000</td>
<td>projected: 920,000</td>
<td>860,000</td>
</tr>
<tr>
<td>Availability of the Waste-to-Energy Facility</td>
<td>Contract Requirement: 90%  2018: 90.4%  2017: 91.1%  2016: 91.7%</td>
<td>projected: 91%</td>
<td>93%</td>
</tr>
</tbody>
</table>
2020 key actions

General
- Implementation of asset management program, including facility condition assessments
- Continue to work with Properties Division on surplus land disposition for the Ashcroft Ranch, Matsqui Transfer Station and Cache Creek properties

Transfer Stations
- Prepare for operation of the replacement Coquitlam Transfer Station
- Organics processing contracts for the North Shore, Langley and Maple Ridge Transfer Stations
- Autoscale software replacement plan and license plate recognition software

Waste-to-Energy Facility
- Complete upgrade and replacement projects including refuse crane, feed hopper/feed chutes, primary economizers, second pass superheaters, and feedwater pumps
- Complete biosolids processing preliminary design and district energy preliminary design and business case
- Operational certificate amendment
- Bottom ash beneficial use procurement

Landfills
- Coquitlam Landfill closure works including gas collection, surface water management and final cover
- Contingency disposal operating contract review
- Consulting contracts for Coquitlam Landfill to meet landfill gas and leachate regulations for Approval-In-Principle and Closure Plan reporting.
- Work with Water Services and Liquid Waste Services on soil disposal at the Vancouver Landfill

Ashcroft Ranch
- Drainage and irrigation improvements along with upgrades to the McLean Lake Dam spillway
SOLID WASTE SERVICES
Solid Waste Planning and Public Involvement

Description of services
Solid Waste Services provides waste reduction and recycling planning and solid waste disposal services to the region under the authority of the Greater Vancouver Sewerage and Drainage District (GVS&DD). Solid Waste Planning and Public Involvement is responsible for the implementation of initiatives as set out in the Integrated Solid Waste and Resources Management Plan (ISWRMP), including:

- develop and implement regional waste reduction and recycling initiatives in the ISWRMP, including bans, bylaws, recycling depots, etc.;
- identify, plan and develop regional infrastructure to fulfill future needs for waste transfer and disposal;
- provide engagement services to key solid waste projects.

To support Metro Vancouver’s commitment to protect the environment and conserve resources, Environmental Regulation and Enforcement negotiates and issues permits, orders and licenses and then promotes compliance, and enforces solid waste bylaws. According to a user-pay principle, these regulatory costs are recovered through fees.

Strategic directions and high level goals supported
Board Strategic Plan
- Expand actions that will reduce the amount of litter and waste that Metro Vancouver members manage
- Continue communication campaigns that increase diversion through reuse, repurposing or recycling
- Research opportunities to ensure sufficient capacity in regional recycling and waste diversion
- Identify future disposal alternatives with full life cycle, cost and greenhouse gas analyses

Integrated Solid Waste and Resource Management Plan
- Goal 1 - Minimize waste generation
- Goal 2 - Maximize reuse, recycling & material recovery
- Goal 3 - Recover energy from waste stream after material recovery
- Goal 4 - Dispose of all waste in landfill after recycling & energy recovery

Performance indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Historical and/or Industry Benchmark</th>
<th>2020 Performance Objective</th>
<th>2020 Performance Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waste diversion rate (percent of solid waste flow diverted from final disposal)</td>
<td>Canadian average*: 27.1%</td>
<td>64%</td>
<td>66% <em>(Aspirational goal of 80%)</em></td>
</tr>
<tr>
<td></td>
<td>Metro Vancouver historical: 2017: 63% 2016: 62%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Zero Waste Committee
<table>
<thead>
<tr>
<th>Indicator</th>
<th>Historical and/or Industry Benchmark</th>
<th>Current Performance</th>
<th>2020 Performance Objective</th>
</tr>
</thead>
</table>
| Waste disposed per capita (tonnes) | Canadian average*: 0.69  
Metro Vancouver historical:  
2018: 0.48  
2017: 0.49  
2016: 0.49 | Projected: 0.49 | 0.48 |

*Most recent figures (2016) from Statistics Canada. 255kg/cap diverted in 2016

**2020 key actions**

- Initiate review of the Integrated Solid Waste and Resource Management Plan
- Continue single-use items reduction strategy
- Evaluate the feasibility of an alternative fuel and recyclables recovery facility
- Evaluate the transfer station network and potential improvements
- Monitor implementation of Disposal Ban Program
- Support programs for textiles, single-use items, seasonal waste, food waste, illegal dumping, and the Zero Waste Conference
- Support the National Zero Waste Council including work on implementing the Circular Economy and Zero Plastics Waste
- Support national solid waste benchmarking and applied waste research
- Update regional waste composition monitoring
- Track and manage waste flows
- Update transfer stations customer service survey
- Complete replacement Coquitlam Transfer Station construction
- Continue Surrey Recycling and Waste Drop-Off Facility development including beginning construction
- Inform, educate and engage the public in decision-making on applicable solid waste initiatives
2020 to 2024 – WHAT’S HAPPENING

Below is a summary of the significant initiatives to be undertaken by the Solid Waste Department over the next 5 years.

<table>
<thead>
<tr>
<th>Initiative</th>
<th>Description</th>
<th>Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2020</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weigh scale software replacement</td>
<td>Autoscale software replacement plan</td>
<td>System Stewardship</td>
</tr>
<tr>
<td>Asset management Planning</td>
<td>Asset management program implementation and plan development.</td>
<td>System Stewardship</td>
</tr>
<tr>
<td>Biosolids utilization at the Waste-to-Energy Facility</td>
<td>Design of biosolids utilization system at the Waste-to-Energy Facility</td>
<td>Opportunities for Innovation and Enhanced Service</td>
</tr>
<tr>
<td>Transfer Station system evaluation</td>
<td>Evaluate the transfer station network and potential improvements.</td>
<td>Addressing Regional Growth</td>
</tr>
<tr>
<td>District energy system at the Waste-to-Energy Facility</td>
<td>Feasibility of a district energy system</td>
<td>Environmental Protection and Climate Action</td>
</tr>
<tr>
<td>Zero Waste Initiatives</td>
<td>Continue single use items reduction strategy</td>
<td>Environmental Protection and Climate Action</td>
</tr>
<tr>
<td>Bottom Ash Beneficial Use</td>
<td>Procurement for beneficial use of bottom ash</td>
<td>Environmental Protection and Climate Action</td>
</tr>
<tr>
<td>Alternative fuel and recyclables recovery</td>
<td>Evaluate feasibility of an alternative fuel and recyclables recovery facility</td>
<td>Environmental Protection and Climate Action</td>
</tr>
<tr>
<td>Coquitlam Transfer Station Replacement</td>
<td>Commence operations for the Coquitlam Transfer Station replacement</td>
<td>Addressing Regional Growth</td>
</tr>
<tr>
<td>Commercial Food Waste Receipt Business Case</td>
<td>Evaluate the business case to receive commercial food waste at regional transfer stations</td>
<td>Environmental Protection and Climate Action</td>
</tr>
<tr>
<td><strong>2021</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capital replacements at the Waste-to-Energy Facility</td>
<td>Continue capital replacements and upgrades, including primary and secondary economizers, generation bank, and bottom ash crane</td>
<td>System Stewardship</td>
</tr>
<tr>
<td>Surrey Recycling and Waste Drop-Off Facility</td>
<td>Commence operations for the Surrey Recycling and Waste Drop-Off Facility</td>
<td>Addressing Regional Growth</td>
</tr>
<tr>
<td>Zero Waste Initiatives</td>
<td>Research on additional materials to be targeted for further diversion programs such as the disposal ban program</td>
<td>Environmental Protection and Climate Action</td>
</tr>
<tr>
<td>Project</td>
<td>Description</td>
<td>Department</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Biosolids utilization at the Waste-to-Energy Facility</td>
<td>Commence construction of biosolids utilization system</td>
<td>Opportunities for Innovation and Enhanced Service</td>
</tr>
<tr>
<td>2022</td>
<td>ubby (p)</td>
<td>System Stewardship</td>
</tr>
<tr>
<td>Surrey Transfer Station Compactor Replacement</td>
<td>Replace Surrey Transfer Station compactor</td>
<td>System Stewardship</td>
</tr>
<tr>
<td>Capital replacements at the Waste-to-Energy Facility</td>
<td>Continue capital replacements and upgrades, including secondary economizers, generation bank, lime and carbon silos</td>
<td>System Stewardship</td>
</tr>
<tr>
<td>Zero Waste Initiatives</td>
<td>Monitor, review and develop waste diversion education, regulation, and economic incentives in the region</td>
<td>Environmental Protection and Climate Action</td>
</tr>
<tr>
<td>Alternative fuel and recyclables recovery</td>
<td>Commence construction of an alternative fuel and recyclables recovery facility</td>
<td>Environmental Protection and Climate Action</td>
</tr>
<tr>
<td>2023</td>
<td>ubby (p)</td>
<td>System Stewardship</td>
</tr>
<tr>
<td>Coquitlam Landfill Closure</td>
<td>Close eastern area of landfill</td>
<td>System Stewardship</td>
</tr>
<tr>
<td>Capital replacements at the Waste-to-Energy Facility</td>
<td>Continue capital replacements and upgrades, including stack refurbishment</td>
<td>System Stewardship</td>
</tr>
<tr>
<td>Zero Waste Initiatives</td>
<td>Monitor, review and develop waste diversion education, regulation, and economic incentives in the region</td>
<td>Environmental Protection and Climate Action</td>
</tr>
<tr>
<td>2024</td>
<td>ubby (p)</td>
<td>System Stewardship</td>
</tr>
<tr>
<td>Capital replacements at the Waste-to-Energy Facility</td>
<td>Continue capital replacements and upgrades, including boiler grate and feed table supports replacement project</td>
<td>System Stewardship</td>
</tr>
<tr>
<td>Zero Waste Initiatives</td>
<td>Monitor, review and develop waste diversion education, regulation, and economic incentives in the region</td>
<td>Environmental Protection and Climate Action</td>
</tr>
</tbody>
</table>
## OPERATING RESERVES

**2020-2024 PROJECTED RESERVES - SOLID WASTE SERVICES**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Solid Waste Services</strong></td>
<td>$14,633,768</td>
<td>$14,633,768</td>
<td>$149,040</td>
<td>-$</td>
<td>297,137</td>
<td>$15,079,945</td>
<td>$15,519,500</td>
<td>$15,817,440</td>
<td>$15,890,394</td>
<td>$16,427,551</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## DISCRETIONARY RESERVES

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Solid Waste Services</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Landfill Post Closure Reserve</td>
<td>$10,913,540</td>
<td>$10,913,540</td>
<td>-$</td>
<td>-$</td>
<td>218,271</td>
<td>$11,131,811</td>
<td>$11,354,447</td>
<td>$11,581,536</td>
<td>$11,813,167</td>
<td>$12,049,430</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Zero Waste Committee
To: Zero Waste Committee

From: Allen Jensen, Project Engineer, Solid Waste Services

Date: October 11, 2019

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

RECOMMENDATION
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.

PURPOSE
To recommend changes 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.

BACKGROUND
The Greater Vancouver Sewerage and Drainage District Tipping Fee and Solid Waste Disposal Regulation Bylaw No. 306, 2017 (Tipping Fee Bylaw) sets levies, rates, charges and disposal ban requirements at Metro Vancouver solid waste disposal facilities, under the authority of the Greater Vancouver Sewerage and Drainage District Act. The bylaw is typically amended or replaced on an annual basis as changes are needed. The current Tipping Fee Bylaw is a consolidation of the Greater Vancouver Sewerage and Drainage District Tipping Fee and Solid Waste Disposal Regulation Bylaw No. 306, 2017 (Adopted October 27, 2017) (Bylaw 306), Greater Vancouver Sewerage and Drainage District Tipping Fee and Solid Waste Disposal Regulation Amendment Bylaw No. 308, 2017 (Adopted November 24, 2017) (Bylaw 308), Greater Vancouver Sewerage and Drainage District Tipping Fee and Solid Waste Disposal Regulation Amendment Bylaw No. 312, 2018 (Adopted February 23, 2018) (Bylaw 312) and Greater Vancouver Sewerage and Drainage District Tipping Fee and Solid Waste Disposal Regulation Amendment Bylaw No. 323, 2018 (Adopted October 26, 2018) (Bylaw 323).
This report recommends changes to the garbage tipping fees and the recycling fee for source-separated organic waste, green waste and clean wood.

TIPPING FEE BYLAW CHANGES
The proposed changes to the Tipping Fee Bylaw include:

- increase the garbage tipping fees by $5 per tonne except for large loads (greater than 9 tonnes), which would increase by $9 per tonne; and
- increase the recycling fee for source-separated organic waste, green waste and clean wood by $5 per tonne.

The fee for large loads is proposed to increase proportionally more than the other garbage tipping fees so that in 2020, the average cost paid by commercial haulers will be the same as that paid by municipalities. The increases in garbage tipping fees are the same as the 2020 projections presented in the report titled “GVS&DD 2019 Budget and 2019 – 2023 Financial Plan”, which was endorsed by the Board on October 26, 2018.

The proposed increase in the recycling fee for source-separated organic waste, green waste and clean wood would allow for cost recovery for managing those materials. On July 26, 2019, the Board approved setting the recycling fee for source-separated organic waste, green waste and clean wood to recover operational costs.

The proposed amendments to the Tipping Fee Bylaw would take effect January 1, 2020. The amending bylaw is included as attachment 1 and a blackline version of the proposed changes is included as attachment 2.

If the proposed bylaw is approved, regional transfer station and disposal site customers, the public and other stakeholders will be advised through email notifications, website updates and communications at transfer stations and disposal sites.

ALTERNATIVES
1. 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:
         - 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.
2. That the GVS&DD Board receive the report dated October 11, 2019, titled “GVS&DD Tipping Fee and Solid Waste Disposal Regulation Amendment Bylaw No. 330, 2019” and provide alternate direction to staff.

FINANCIAL IMPLICATIONS

If the Board approves Alternative 1, these changes will be effective January 1, 2020. The Metro Vancouver solid waste function operates on a cost-recovery basis, with tipping fees funding over 90% of the Solid Waste Services budget, including the operation of the regional solid waste disposal system and Metro Vancouver zero waste planning initiatives. The garbage tipping fee is based on a number of factors including anticipated volume of waste received at regional facilities and system operating costs. The proposed garbage tipping fee and recycling fee increases are required to balance the Solid Waste Services budget proposed for 2020.

If the Board does not approve the proposed changes to the Tipping Fee Bylaw, 2019 tipping fees will remain in place and changes proposed in this report would not be implemented. If the garbage tipping fee and recycling fee are not changed, the Solid Waste Services financial plan proposed for the next five years would need to be revised and the Solid Waste Services budget for 2020 would need to be adjusted prior to consideration by the Board.

SUMMARY / CONCLUSION

Garbage tipping fees are proposed to increase by $5 per tonne for most waste categories in 2020 to recover costs and balance the Solid Waste Services budget proposed for 2020. Garbage tipping fees increased by $5 per tonne for most waste categories in 2019, $2-$4 per tonne in 2018 and did not increase in 2017. The garbage tipping fees are set based on a number of factors.

The proposal to increase the recycling fee for source-separated organic waste, green waste and clean wood allows for the recovery of operating costs for managing these materials. Staff recommend Alternative 1, that the Board amend the Tipping Fee Bylaw.

Attachments:
1. GVS&DD Tipping Fee and Solid Waste Disposal Regulation Amendment Bylaw 330, 2019 - Amends Bylaw 306, 2017
2. Blackline version of the proposed Table 1 & 3 compared to the existing Table 1 & 3 from Schedule B in the 2017 Tipping Fee Bylaw
GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT
BYLAW NO. 330, 2019
A Bylaw to amend Greater Vancouver Sewerage and Drainage District Tipping Fee and Solid Waste Disposal Regulation Bylaw No. 306, 2017

WHEREAS:

A. The Greater Vancouver Sewerage and Drainage District ("GVS&DD") Board (the "Board") adopted the "Greater Vancouver Sewerage and Drainage District Tipping Fee and Solid Waste Disposal Regulation Bylaw No. 306, 2017", as amended, a Bylaw to establish a scale of fees, levies and charges for services rendered by the GVS&DD and for the use of any of the GVS&DD’s waste disposal facilities; and

B. The Board wishes to amend the "Greater Vancouver Sewerage and Drainage District Tipping Fee and Solid Waste Disposal Regulation Bylaw No. 306, 2017",

NOW THEREFORE the Greater Vancouver Sewerage and Drainage District Board enacts as follows:

1.0 The "Greater Vancouver Sewerage and Drainage District Tipping Fee and Solid Waste Disposal Regulation Bylaw No. 306, 2017" (the "Bylaw") is hereby amended as follows:

1.1 Table 1 of Schedule B of the Bylaw is hereby deleted and replaced with Table 1 set out in the Schedule that is attached to and forms part of this Bylaw.

1.2 Table 3 of Schedule B of the Bylaw is hereby deleted and replaced with Table 3 set out in the Schedule that is attached to and forms part of this Bylaw.

2.0 The official citation for this bylaw is “Greater Vancouver Sewerage and Drainage District Tipping Fee and Solid Waste Disposal Regulation Amendment Bylaw No. 330, 2019”.

3.0 This bylaw comes into force and takes effect January 1, 2020.

Read a first, second and third time this _______ day of ____________________, _______.

Passed and finally adopted this _______ day of ____________________, _______.

Sav Dhaliwal, Chair

Chris Plagnol, Corporate Officer
### Table 1-Tipping Fees for Garbage and Special Handle Waste (including the Generator Levy and the Disposal Rate)

<table>
<thead>
<tr>
<th>Net Weight</th>
<th>North Shore Transfer Station(^1)</th>
<th>Surrey Transfer Station(^1)</th>
<th>Coquitlam Transfer Station(^1)</th>
<th>Maple Ridge Transfer Station(^1)</th>
<th>Langley Transfer Station(^1)</th>
<th>Waste-to-Energy Facility(^1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Municipal Garbage</td>
<td>All Loads</td>
<td>$113/tonne</td>
<td>$113/tonne</td>
<td>$113/tonne</td>
<td>$113/tonne</td>
<td>$113/tonne</td>
</tr>
<tr>
<td>All Garbage other than Municipal Garbage</td>
<td>0 to .99 tonnes</td>
<td>$147/tonne(^2)</td>
<td>$125/tonne(^4)</td>
<td>$99/tonne</td>
<td>$147/tonne(^2)</td>
<td>$125/tonne(^4)</td>
</tr>
<tr>
<td></td>
<td>1.0 to 8.99 tonnes</td>
<td>$147/tonne(^2)</td>
<td>$125/tonne(^4)</td>
<td>$99/tonne</td>
<td>$147/tonne(^2)</td>
<td>$125/tonne(^4)</td>
</tr>
<tr>
<td></td>
<td>9.0 tonnes or more</td>
<td>$147/tonne(^2)</td>
<td>$125/tonne(^4)</td>
<td>$99/tonne</td>
<td>$147/tonne(^3)</td>
<td>$125/tonne(^5)</td>
</tr>
<tr>
<td>Minimum Tipping Fee for Garbage</td>
<td>Minimum Tipping Fee during Peak Hours</td>
<td>$20/Load</td>
<td>$20/Load</td>
<td>$20/Load</td>
<td>$10/Load</td>
<td>$10/Load</td>
</tr>
<tr>
<td></td>
<td>Minimum Tipping Fee outside of Peak Hours</td>
<td>$10/Load</td>
<td>$10/Load</td>
<td>$10/Load</td>
<td>$10/Load</td>
<td>$10/Load</td>
</tr>
</tbody>
</table>

1. All Loads originating from Maple Ridge will be assessed an additional fee of $4/tonne.
2. To a maximum of $125 per Load.
3. To a maximum of $129 per Load.
4. To a maximum of $891 per Load.
5. To a maximum of $927 per Load.
### Table 3 – Recycling Fees for materials dropped off in designated Recycling Areas

<table>
<thead>
<tr>
<th></th>
<th>North Shore Transfer Station</th>
<th>Surrey Transfer Station</th>
<th>Coquitlam Transfer Station</th>
<th>Maple Ridge Transfer Station</th>
<th>Langley Transfer Station</th>
<th>Waste-to-Energy Facility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source-Separated Organic Waste</td>
<td>$100/tonne, $10 minimum</td>
<td>$100/tonne, $10 minimum</td>
<td>$100/tonne, $10 minimum</td>
<td>$100/tonne, $10 minimum</td>
<td>$100/tonne, $10 minimum</td>
<td>Not accepted.</td>
</tr>
<tr>
<td>Green Waste</td>
<td>$100/tonne, $10 minimum</td>
<td>$100/tonne, $10 minimum</td>
<td>$100/tonne, $10 minimum</td>
<td>$100/tonne, $10 minimum</td>
<td>$100/tonne, $10 minimum</td>
<td>Not accepted.</td>
</tr>
<tr>
<td>Clean Wood</td>
<td>$100/tonne, $10 minimum</td>
<td>$100/tonne, $10 minimum</td>
<td>$100/tonne, $10 minimum</td>
<td>$100/tonne, $10 minimum</td>
<td>$100/tonne, $10 minimum</td>
<td>Not accepted.</td>
</tr>
<tr>
<td>Gypsum – New: less than ½ tonne</td>
<td>$150/tonne, $10 minimum</td>
<td>$150/tonne, $10 minimum</td>
<td>$150/tonne, $10 minimum</td>
<td>$150/tonne, $10 minimum</td>
<td>$150/tonne, $10 minimum</td>
<td>Not accepted.</td>
</tr>
<tr>
<td>Gypsum – Used: less than ½ tonne</td>
<td>$200/tonne, $10 minimum</td>
<td>$200/tonne, $10 minimum</td>
<td>$200/tonne, $10 minimum</td>
<td>$200/tonne, $10 minimum</td>
<td>$200/tonne, $10 minimum</td>
<td>Not accepted.</td>
</tr>
<tr>
<td>Mattresses</td>
<td>$15 per Mattress</td>
<td>$15 per Mattress</td>
<td>$15 per Mattress</td>
<td>$15 per Mattress</td>
<td>$15 per Mattress</td>
<td>Not accepted.</td>
</tr>
</tbody>
</table>
Blackline version of the proposed Table 1 & 3 compared to the existing Table 1 & 3 from Schedule B in the Tipping Fee Bylaw

SCHEDULE "B"

TIPPING FEES, TRANSACTION FEE, RECYCLING FEES AND SURCHARGES

Table 1-Tipping Fees for Garbage and Special Handle Waste (including the Generator Levy and the Disposal Rate)

<table>
<thead>
<tr>
<th>Net Weight</th>
<th>NorthShore Transfer Station 1</th>
<th>Surrey Transfer Station 1</th>
<th>Coquitlam Transfer Station 1</th>
<th>Maple Ridge Transfer Station 1</th>
<th>Langley Transfer Station 1</th>
<th>Waste-to-Energy Facility 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Municipal Garbage</td>
<td>All Loads</td>
<td>$108.113/tonne</td>
<td>$108.113/tonne</td>
<td>$108.113/tonne</td>
<td>$108.113/tonne</td>
<td>$108.113/tonne</td>
</tr>
<tr>
<td>All Garbage other than Municipal Garbage</td>
<td>0 to .99 tonnes</td>
<td>$142.147/tonne</td>
<td>$120.125/tonne</td>
<td>$120.125/tonne</td>
<td>$120.125/tonne</td>
<td>$120.125/tonne</td>
</tr>
<tr>
<td></td>
<td>1.0 to 8.99 tonnes</td>
<td>$142.147/tonne</td>
<td>$120.125/tonne</td>
<td>$120.125/tonne</td>
<td>$120.125/tonne</td>
<td>$120.125/tonne</td>
</tr>
<tr>
<td></td>
<td>9.0 tonnes or more</td>
<td>$90.99/tonne</td>
<td>Not accepted.</td>
<td>Not accepted.</td>
<td>Not accepted.</td>
<td>Not accepted.</td>
</tr>
<tr>
<td>Minimum Tipping Fee for Garbage</td>
<td>Minimum Tipping Fee during Peak Hours</td>
<td>$20/Load</td>
<td>$20/Load</td>
<td>$20/Load</td>
<td>$10/Load</td>
<td>$10/Load</td>
</tr>
<tr>
<td></td>
<td>Minimum Tipping Fee outside of Peak Hours</td>
<td>$10/Load</td>
<td>$10/Load</td>
<td>$10/Load</td>
<td>$10/Load</td>
<td>$10/Load</td>
</tr>
</tbody>
</table>

1 All Loads originating from Maple Ridge will be assessed an additional fee of $4/tonne.
2 To a maximum of $120.125 per Load.
3 To a maximum of $124.129 per Load.
4 To a maximum of $810.891 per Load.
5 To a maximum of $846.927 per Load.
Table 3 – Recycling Fees for materials dropped off in designated Recycling Areas

<table>
<thead>
<tr>
<th></th>
<th>North Shore Transfer Station</th>
<th>Surrey Transfer Station</th>
<th>Coquitlam Transfer Station</th>
<th>Maple Ridge Transfer Station</th>
<th>Langley Transfer Station</th>
<th>Waste-to-Energy Facility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source-Separated Organic Waste</td>
<td>$95/tonne, $10 minimum</td>
<td>$95/tonne, $10 minimum</td>
<td>$95/tonne, $10 minimum</td>
<td>$95/tonne, $10 minimum</td>
<td>$95/tonne, $10 minimum</td>
<td>Not accepted.</td>
</tr>
<tr>
<td>Green Waste</td>
<td>$95/tonne, $10 minimum</td>
<td>$95/tonne, $10 minimum</td>
<td>$95/tonne, $10 minimum</td>
<td>$95/tonne, $10 minimum</td>
<td>$95/tonne, $10 minimum</td>
<td>Not accepted.</td>
</tr>
<tr>
<td>Clean Wood</td>
<td>$95/tonne, $10 minimum</td>
<td>$95/tonne, $10 minimum</td>
<td>$95/tonne, $10 minimum</td>
<td>$95/tonne, $10 minimum</td>
<td>$95/tonne, $10 minimum</td>
<td>Not accepted.</td>
</tr>
<tr>
<td>Gypsum – New: less than ½ tonne</td>
<td>$150/tonne, $10 minimum</td>
<td>$150/tonne, $10 minimum</td>
<td>$150/tonne, $10 minimum</td>
<td>$150/tonne, $10 minimum</td>
<td>$150/tonne, $10 minimum</td>
<td>Not accepted.</td>
</tr>
<tr>
<td>Gypsum – Used: less than ½ tonne</td>
<td>$200/tonne, $10 minimum</td>
<td>$200/tonne, $10 minimum</td>
<td>$200/tonne, $10 minimum</td>
<td>$200/tonne, $10 minimum</td>
<td>$200/tonne, $10 minimum</td>
<td>Not accepted.</td>
</tr>
<tr>
<td>Mattresses</td>
<td>$15 per Mattress</td>
<td>$15 per Mattress</td>
<td>$15 per Mattress</td>
<td>$15 per Mattress</td>
<td>$15 per Mattress</td>
<td>Not accepted.</td>
</tr>
</tbody>
</table>
To: Zero Waste Committee

From: Terry Fulton, Project Engineer, Solid Waste Services

Date: October 9, 2019

Subject: 2018 Construction & Demolition Waste Composition Study

RECOMMENDATION

That the Zero Waste Committee receive for information the report dated October 9, 2019 titled “2018 Construction & Demolition Waste Composition Study”.

PURPOSE

The purpose of this report is to update the Zero Waste Committee on the results of the 2018 Construction & Demolition Waste Composition Study.

BACKGROUND

Metro Vancouver monitors the composition of various elements of the municipal solid waste stream on a regular basis. This report provides the results of a 2018 waste composition study targeting construction & demolition waste.

This report is being brought forward so that the most recent information on construction & demolition waste is available to the Zero Waste Committee and the public.

2018 CONSTRUCTION & DEMOLITION WASTE COMPOSITION STUDY

Metro Vancouver monitors the region’s waste composition on a regular basis to track progress against the Integrated Solid Waste and Resource Management Plan (ISWRMP). The ISWRMP includes specific goals to increase diversion rates in different sectors of the waste stream, including the construction & demolition sector. Metro Vancouver’s last construction & demolition waste composition study was completed in 2015. The data shown in this report is based on 2018 waste composition analysis and 2017 waste quantities. The detailed report on construction & demolition waste composition is available on Metro Vancouver’s website and is provided as a reference at the end of this report.

Seventy-six percent of construction & demolition material generated in the region is recycled. The remainder is disposed at the Vancouver Landfill or private landfills within or out of the region. The 2018 Construction & Demolition Waste Composition Study analyzed the composition of the material disposed by visually inspecting representative samples at the Vancouver Landfill and Ecowaste Landfill, a private landfill in Richmond. In total, 99 samples were categorized into 43 material types based on the visually estimated percentage by volume of each material. The estimated volumes were then converted to weight, based on the established density of each material type. Table 1 shows the overall estimated composition and total tonnage of material disposed in the region.
Table 1: Comparison of Overall Regional C&D Waste by Material Type: 2015 and 2018

<table>
<thead>
<tr>
<th>Material Category by Type</th>
<th>% by Weight</th>
<th>Annual Weight (Tonnes)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2015</td>
<td>2018</td>
</tr>
<tr>
<td>Wood</td>
<td>56.5%</td>
<td>60.8%</td>
</tr>
<tr>
<td>Land Clearing</td>
<td>1.6%</td>
<td>0.5%</td>
</tr>
<tr>
<td>Paper</td>
<td>1.5%</td>
<td>1.6%</td>
</tr>
<tr>
<td>Plastic</td>
<td>6.3%</td>
<td>11.5%</td>
</tr>
<tr>
<td>Concrete</td>
<td>0.1%</td>
<td>0.4%</td>
</tr>
<tr>
<td>Asphalt</td>
<td>Pavement</td>
<td>&lt;0.1%</td>
</tr>
<tr>
<td></td>
<td>Roofing Materials</td>
<td>8.9%</td>
</tr>
<tr>
<td></td>
<td>Metals</td>
<td>2.0%</td>
</tr>
<tr>
<td></td>
<td>Masonry</td>
<td>0.3%</td>
</tr>
<tr>
<td></td>
<td>Misc. Building Material</td>
<td>7.4%</td>
</tr>
<tr>
<td></td>
<td>Glass and Ceramics</td>
<td>0.7%</td>
</tr>
<tr>
<td></td>
<td>Rubble/Soil</td>
<td>7.2%</td>
</tr>
<tr>
<td></td>
<td>Household Garbage</td>
<td>1.4%</td>
</tr>
<tr>
<td></td>
<td>Textiles</td>
<td>1.8%</td>
</tr>
<tr>
<td></td>
<td>Bulky Items</td>
<td>1.9%</td>
</tr>
<tr>
<td></td>
<td>Rubber</td>
<td>0.6%</td>
</tr>
<tr>
<td></td>
<td>Misc.</td>
<td>1.6%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Wood
Wood represents the largest component of construction & demolition material disposed in the region. The percentage of wood disposed increased slightly between 2015 and 2018, corresponding to an increase of approximately 20,000 tonnes. The majority of the wood received is painted, pressure treated or glued. Painted, pressure treated or glued wood can be used as an alternative fuel if authorized under emission permits.

Plastic
Plastic in the construction & demolition waste stream increased by an estimated 20,000 tonnes between 2015 and 2018, representing the largest relative increase in composition. Types of plastic commonly identified were PVC piping, home siding products and film plastics. These types of plastic are not managed by provincial extended producer responsibility programs and plastics containing PVC such as home siding products cannot be readily recycled by processors in the region.

Asphalt Roofing
Asphalt in the construction & demolition waste stream decreased by an estimated 15,000 tonnes between 2015 and 2018. The asphalt found in construction & demolition loads was primarily roofing material such as shingles and tar paper.
ALTERNATIVES
This is an information report. No alternatives are presented.

FINANCIAL IMPLICATIONS
Metro Vancouver’s waste composition monitoring program is ongoing and is included in the Solid Waste Services annual operating budget.

SUMMARY / CONCLUSION
Metro Vancouver monitors the composition of the waste stream on a regular basis to track progress against ISWRMP targets. The 2018 Construction & Demolition Waste Composition Study provides an estimate of waste composition in the construction & demolition sector and a comparison to 2015, when the sector was last analyzed. Composition estimates are based on visual analysis at local landfills.

Wood and plastic both increased by approximately 20,000 tonnes between 2015 and 2018. Plastic represented the largest relative increase in composition, from 6.3% to 11.5%. Asphalt, primarily roofing materials, has decreased by an estimated 15,000 tonnes.

Reference
2018 Construction & Demolition Waste Composition Study

30713324
To: Zero Waste Committee

From: Marian Kim, Lead Senior Engineer, Solid Waste Services

Date: October 9, 2019

Subject: **Update on Construction and Demolition Waste Reuse and Recycling in Metro Vancouver**

---

**RECOMMENDATION**

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”.

---

**PURPOSE**

To update the Zero Waste Committee on reuse and recycling practices for construction and demolition waste in Metro Vancouver.

**BACKGROUND**

At the July 12, 2019 Zero Waste Committee meeting, the Committee requested additional information on reuse and recycling activities in the construction and demolition sector. This report provides information on construction and demolition waste reuse and recycling practices, identifies opportunities for diversion and provides clarification on BC Building Code requirements related to wood reuse.

**REUSE AND RECYCLING OF CONSTRUCTION AND DEMOLITION MATERIAL**

Wood, concrete and asphalt are the most common building materials (up to 80% by weight) in single family homes. Used concrete is sometimes crushed and used on site, but it is more commonly hauled along with asphalt to concrete and asphalt recycling facilities. Concrete is primarily reprocessed and reused as aggregate for road-base or construction trench backfill. Asphalt may be used as aggregate or alternatively reprocessed into new asphalt.

Wood has unique opportunities and challenges related to reuse and recycling. Large timbers (generally 3” or thicker) are highly valued and sought-after for reuse as reclaimed flooring or for use in manufactured furniture. These larger timbers are mostly sourced from non-residential buildings. Some smaller wood items from residential buildings may be reused depending on the product, species, condition and quantity. For instance, hardwood flooring and solid wood doors are frequently recovered from demolition projects for reuse. The remaining wood waste can include smaller-dimension lumber, manufactured wood products (plywood, Medium Density Fiberboard (MDF) and Oriented Strand Board (OSB)), broken, damaged or painted flooring, siding and other items that were glued in place. Dimensional lumber that is not painted or glued can be used either as landscape mulch or fuel in various applications. Manufactured wood products and painted or glued materials can only be used for fuel applications where specifically permitted.
Performance Requirements for Used Building Material

Performance requirements can create barriers to the reuse of building materials because of code specifications, contract and warranty requirements, and energy performance. For example, lumber dimensions that used to be acceptable for structural applications such as roof trusses or load-bearing walls, are often no longer large enough to meet the evolving BC Building Code. The BC Building Code permits the reuse of materials, including wood, when they meet the requirements of the Code for new materials and are satisfactory for the intended use. Reuse of lumber in structural applications requires that it be re-graded because structural failure could be catastrophic. This adds cost and time and makes it difficult to compete with low-priced new lumber. It is possible for a builder to ask a local authority to accept an alternative method of verification, other than re-grading but any alternative process would not necessarily be less costly or complicated. At this time staff are not aware of any plans to review this requirement in the BC Building Code.

It is possible however to use salvaged wood, especially old-growth wood from older homes in non-structural applications such as flooring, staircases, cabinetry and furniture-making. Deconstruction can improve wood salvage for non-structural uses.

Deconstruction Initiatives

The establishment and operation of a locally operated non-governmental deconstruction hub to provide a central location for contractors to bring salvaged material for reuse is being considered within the region. In an effort to leverage ongoing initiatives, Metro Vancouver partnered with the University of British Columbia Sustainability Scholars Program to assess the feasibility of creating an online marketplace for materials generated from construction and demolition activities, and explore solutions to overcome barriers to reuse salvaged building materials (mainly wood) in the region. Several municipal initiatives encourage reuse and recycling of construction and demolition material, which are summarized below.

Municipal Initiatives to Encourage Reuse and Recycling

Several municipalities have adopted demolition waste recycling bylaws to encourage reuse and recycling and to help meet the region’s diversion goals. In order to promote higher-value use of demolition material some municipal demolition recycling bylaws have incorporated incentives for salvaging and reusing building materials.

Currently eight municipalities have requirements in place to increase recycling and reuse of demolition material. The requirements range from submission of a waste management declaration form, to meeting minimum recycling requirements of all demolition material generated on site. With the recent closure of construction and demolition waste processing facilities in the region however, meeting minimum demolition recycling requirements has become challenging. In March 2019 the Board approved proceeding with a business case for an alternative fuel and recyclables recovery project that can potentially process additional construction and demolition waste. With other private facilities expected to open up, an increase in construction and demolition material processing capacity is anticipated in the region in the next couple of years. Municipalities that can issue demolition and building permits separately have the ability to leverage compliance by linking the issuance of a construction permit to compliance of demolition recycling requirements.

Various requirements in municipal demolition recycling bylaws in the region are summarized below:
Table 1: Summary of Various Municipal Demolition Recycling Requirements in the Region

<table>
<thead>
<tr>
<th>Demolition Recycling Requirements</th>
<th>Deconstruction/Salvage Initiatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Completion of Hazardous Material Report and proper removal and disposal of any Hazardous Materials uncovered <em>(New Westminster, Coquitlam, Port Moody, City of North Vancouver, Vancouver)</em></td>
<td>• Deconstruction and salvage of at least 3 tonnes of wood for pre-1910 and heritage-listed houses <em>(Vancouver)</em></td>
</tr>
<tr>
<td>• Certification by a Qualified Professional that the structure is safe for demo prior to demo permit issuance <em>(Vancouver)</em></td>
<td>• Building materials salvaged credited at five times its actual weight towards diversion <em>(Vancouver)</em></td>
</tr>
<tr>
<td>• At the time of demo permit application, submission of:</td>
<td>• List houses for relocating or material salvage as an alternative to demolition through <em>The House Moving and Salvage Program</em> <em>(Richmond)</em></td>
</tr>
<tr>
<td>- Recycling and Reuse Plan <em>(Vancouver)</em></td>
<td>• Additional time (up to 6 months) may be granted to complete demolition for those applying for <em>The House Moving and Salvage Program</em> <em>(Richmond)</em></td>
</tr>
<tr>
<td>- Waste Management and Recycling Services Plan <em>(Richmond, Coquitlam, Surrey, New Westminster)</em></td>
<td></td>
</tr>
<tr>
<td>- Waste Management Plan <em>(Port Moody)</em></td>
<td></td>
</tr>
<tr>
<td>• Deposit required and released fully with submission of documentation demonstrating:</td>
<td></td>
</tr>
<tr>
<td>- 70% recycling/reuse <em>(Surrey, Richmond, New Westminster, Port Moody)</em></td>
<td></td>
</tr>
<tr>
<td>- 75% recycling/reuse for pre-1950 homes and 90% recycling/reuse for pre-1950 character homes of demolition waste <em>(Vancouver)</em></td>
<td></td>
</tr>
<tr>
<td>• Non-refundable administration fee <em>(Vancouver, Richmond, Surrey, New Westminster, Port Moody)</em></td>
<td></td>
</tr>
<tr>
<td>• Building permit held until Recycling and Reuse Compliance Report submitted and accepted by the City <em>(Vancouver)</em></td>
<td></td>
</tr>
<tr>
<td>• Submission of:</td>
<td></td>
</tr>
<tr>
<td>- Compliance Report and Receipts <em>(Richmond, New Westminster, Port Moody, Surrey)</em></td>
<td></td>
</tr>
<tr>
<td>- Waste Management Declaration Form <em>(Coquitlam)</em></td>
<td></td>
</tr>
<tr>
<td>- Demolition Material Recycling and Disposal Report stamped by Notary Public <em>(West Vancouver)</em></td>
<td></td>
</tr>
<tr>
<td>- Demolition Waste Recycling Checklist <em>(City of North Vancouver)</em></td>
<td></td>
</tr>
</tbody>
</table>
ALTERNATIVES
This is an information Report. No Alternatives are presented.

FINANCIAL IMPLICATIONS
Metro Vancouver’s initiatives to increase recycling and reuse of construction and demolition waste are carried out within the existing operating budgets.

SUMMARY / CONCLUSION
Construction and demolition waste is still a significant component of the region’s disposed waste stream and various initiatives at the municipal and regional level are underway to increase diversion, particularly for wood. Wood, concrete and asphalt are the most used building materials (up to 80% by weight) in single family homes. Performance requirements can create barriers for utilizing used building materials such as salvaged wood because of code specifications, contract and warranty requirements, and energy performance. It is possible however to use salvaged wood, especially old-growth wood from older homes in non-structural applications such as flooring, staircases, cabinetry and furniture-making. Municipal measures are an important tool in increasing reuse and recycling of construction and demolition material. Several municipalities have adopted demolition waste recycling bylaws to encourage reuse and recycling and to help meet the region’s diversion goals.
To: Zero Waste Committee

From: Lynne Vidler, Senior Project Engineer, Solid Waste Services

Date: October 9, 2019

Meeting Date: October 18, 2019

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

RECOMMENDATION
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”.

PURPOSE
To report on the status of the Solid Waste Services’ capital program and financial performance for the eight month period ending August 31, 2019.

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

This report is the second in a series of three reports for 2019 and looks at both the overall capital program for Solid Waste Services with a multi-year view of capital projects and actual capital spending for the 2019 fiscal year compared to the annual budget.

2019 SOLID WASTE CAPITAL EXPENDITURES

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

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

It is projected that the capital spending on all Solid Waste Services capital projects completed in 2019 or ongoing will require additional budget in the amount of approximately $14.3 million. These budget changes are as a result of a combination of increased building and subdivision requirements (Coquitlam Transfer Station) along with site specific issues related to developing the transfer station.
on a closed landfill, and updated cost estimates with the completion of the detailed design phase (Surrey Recycling and Waste Drop-Off). Updated budget proposals for several projects are part of the 2020 financial planning package.

Table 1 in Attachment 1 provides a summary of Solid Waste Services capital expenditures for both ongoing and completed projects. Completed Projects include a summary of actual spending compared to the Board approved spending limits while the Ongoing Projects include a summary of projected spending to completion compared to Board approved spending limits. With the rare exception, projects tend to complete with actual spending below the approved limits predominantly due to savings on budgeted contingency amounts.

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

2019 Capital Program Progress
The Metro Vancouver financial planning process includes Board approval of both an annual Operating Budget (operations, contribution to capital and debt service) and an annual Capital Budget for the planned capital infrastructure projects. The annual Capital budget comprises the projected spending for a list of capital projects either continuing or to be started within the calendar year.

In the first eight months of 2019, capital expenditures for Solid Waste Services were $12.6 million compared to a prorated capital budget of $59.5 million. Table 2 in Attachment 1 provides a summary of the 2019 actual capital spending compared to the Board approved Capital Budget.

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

FINANCIAL IMPLICATIONS
Capital expenditures are funded internally (pay-as-you-go) and through debt financing. As capital expenditures are incurred, short term financing is secured and converted twice per year to long term debt through the Municipal Finance Authority. If capital expenditures are less than budgeted for the year, this surplus, per policy, will be used in future years to fund capital and avoid debt.

SUMMARY / CONCLUSION
This is the second in a series of three capital expenditure progress reports for 2019. Solid Waste Services is projecting to require additional budget in the amount of approximately $14.3 million due to building/subdivision requirements and revised cost estimates. Updated budget proposals for several projects will be part of the 2020 financial planning package.

Attachments: (Orbit #32787480)
1. Capital Expenditure Summary – Solid Waste Services
2. Detailed Solid Waste Services Capital Expenditure Summary
3. Solid Waste Services Capital Project Status Information
## Metro Vancouver
Capital Expenditure Summary
Solid Waste Services
As of August 31, 2019

Table 1 – Ongoing and Completed Project Summary

<table>
<thead>
<tr>
<th>Solid Waste Services</th>
<th>Total Projected to Completion</th>
<th>Total Budget</th>
<th>Projected Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ongoing</td>
<td>$211,013,000</td>
<td>$196,700,000</td>
<td>$(14,313,000)</td>
</tr>
<tr>
<td>Completed</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Not Started</td>
<td>34,850,000</td>
<td>34,850,000</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>$245,863,000</td>
<td>$231,550,000</td>
<td>$(14,313,000)</td>
</tr>
</tbody>
</table>

Table 2 – 2019 Capital Spending Summary

<table>
<thead>
<tr>
<th>Solid Waste Services</th>
<th>2019 Budget</th>
<th>2019 Budget to August 31, 2019</th>
<th>Actual Expenditures to August 31, 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infrastructure Opportunity Program</td>
<td>$210,000</td>
<td>$140,000</td>
<td>-</td>
</tr>
<tr>
<td>Landfills</td>
<td>9,400,000</td>
<td>6,266,000</td>
<td>1,665,164</td>
</tr>
<tr>
<td>Transfer Station System</td>
<td>65,000,000</td>
<td>43,334,000</td>
<td>10,279,762</td>
</tr>
<tr>
<td>Waste to Energy Facility</td>
<td>14,600,000</td>
<td>9,733,000</td>
<td>689,678</td>
</tr>
<tr>
<td></td>
<td>$89,210,000</td>
<td>$59,473,000</td>
<td>$12,634,604</td>
</tr>
</tbody>
</table>
## Metro Vancouver Solid Waste Services Capital Expenditures Summary

### As of August 31, 2019

<table>
<thead>
<tr>
<th>Project Location</th>
<th>Total Project Expenditures to Date</th>
<th>Remaining Budget</th>
<th>Total Projected Expenditures</th>
<th>Projected Percent Complete</th>
<th>Status</th>
<th>Project Schedule?</th>
<th>Note</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Infrastructure Opportunity Program</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WTE Facility District Heating Opportunities</td>
<td>Burnaby</td>
<td>2,300,000</td>
<td>-</td>
<td>2,300,000</td>
<td>-</td>
<td>0%</td>
<td>Ongoing</td>
<td>Y</td>
</tr>
<tr>
<td>Landfills</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coquitlam Landfill Closure</td>
<td>Coquitlam</td>
<td>5,000,000</td>
<td>794,244</td>
<td>4,205,756</td>
<td>5,000,000</td>
<td>-</td>
<td>16%</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Coquitlam Landfill East Closure</td>
<td>Coquitlam</td>
<td>5,000,000</td>
<td>-</td>
<td>5,000,000</td>
<td>5,000,000</td>
<td>-</td>
<td>0%</td>
<td>Not Started</td>
</tr>
<tr>
<td>Coquitlam Landfill Fly Ash Cell 2 Closure Final Cover</td>
<td>Coquitlam</td>
<td>3,200,000</td>
<td>472,760</td>
<td>2,727,240</td>
<td>3,200,000</td>
<td>-</td>
<td>15%</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Coquitlam Landfill Gas Collection Upgrades Phase II</td>
<td>Coquitlam</td>
<td>3,300,000</td>
<td>413,665</td>
<td>3,286,335</td>
<td>3,300,000</td>
<td>-</td>
<td>13%</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Coquitlam Landfill Pump Station Upgrade</td>
<td>Coquitlam</td>
<td>600,000</td>
<td>5,068</td>
<td>594,932</td>
<td>600,000</td>
<td>-</td>
<td>-</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Coquitlam Landfill: Leachate Collection System Grade Realignment</td>
<td>Coquitam</td>
<td>1,000,000</td>
<td>-</td>
<td>1,000,000</td>
<td>1,000,000</td>
<td>-</td>
<td>0%</td>
<td>Not Started</td>
</tr>
</tbody>
</table>

### Notes:

- **Coordinating with other Coquitlam Landfill work.**

### Transfer Station System

<table>
<thead>
<tr>
<th>Project Location</th>
<th>Total Project Expenditures to Date</th>
<th>Remaining Budget</th>
<th>Total Projected Expenditures</th>
<th>Projected Percent Complete</th>
<th>Status</th>
<th>Project Schedule?</th>
<th>Note</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coquitlam Transfer Station Compactor Replacement</td>
<td>Coquitlam</td>
<td>2,000,000</td>
<td>-</td>
<td>2,000,000</td>
<td>2,000,000</td>
<td>-</td>
<td>0%</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Coquitlam Transfer Station Replacement</td>
<td>Coquitlam</td>
<td>70,200,000</td>
<td>15,731,592</td>
<td>54,468,408</td>
<td>77,600,000</td>
<td>(7,400,000)</td>
<td>22%</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Maple Ridge Transfer Station Upgrades</td>
<td>Maple Ridge</td>
<td>2,000,000</td>
<td>-</td>
<td>2,000,000</td>
<td>2,000,000</td>
<td>-</td>
<td>0%</td>
<td>Not Started</td>
</tr>
<tr>
<td>North Shore Transfer Station Compactor Replacement</td>
<td>Dist of North Van</td>
<td>2,000,000</td>
<td>-</td>
<td>2,000,000</td>
<td>2,000,000</td>
<td>-</td>
<td>0%</td>
<td>Not Started</td>
</tr>
<tr>
<td>Surrey Recycling and Waste Drop-Off</td>
<td>Surrey</td>
<td>42,300,000</td>
<td>1,804,331</td>
<td>40,495,669</td>
<td>50,300,000</td>
<td>(8,000,000)</td>
<td>4%</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Surrey Transfer Station Building Upgrades</td>
<td>Surrey</td>
<td>1,000,000</td>
<td>-</td>
<td>1,000,000</td>
<td>1,000,000</td>
<td>-</td>
<td>0%</td>
<td>Not Started</td>
</tr>
</tbody>
</table>

### Waste to Energy Facility

<table>
<thead>
<tr>
<th>Project Location</th>
<th>Total Project Expenditures to Date</th>
<th>Remaining Budget</th>
<th>Total Projected Expenditures</th>
<th>Projected Percent Complete</th>
<th>Status</th>
<th>Project Schedule?</th>
<th>Note</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acid Gas Reduction Project</td>
<td>Burnaby</td>
<td>47,000,000</td>
<td>450,000</td>
<td>46,550,000</td>
<td>47,000,000</td>
<td>-</td>
<td>1%</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Biosolids Processing</td>
<td>Burnaby</td>
<td>500,000</td>
<td>-</td>
<td>500,000</td>
<td>500,000</td>
<td>-</td>
<td>0%</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Bottom Ash Dischargers / Conveyors</td>
<td>Burnaby</td>
<td>1,700,000</td>
<td>1,379,959</td>
<td>320,041</td>
<td>1,687,000</td>
<td>13,000</td>
<td>95%</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Feed Hopper/Chute</td>
<td>Burnaby</td>
<td>2,600,000</td>
<td>-</td>
<td>2,600,000</td>
<td>2,600,000</td>
<td>-</td>
<td>0%</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Feedwater Pump Replacement</td>
<td>Burnaby</td>
<td>1,000,000</td>
<td>-</td>
<td>1,000,000</td>
<td>284,000</td>
<td>716,000</td>
<td>60%</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Furnace Liner Upgrade</td>
<td>Burnaby</td>
<td>2,500,000</td>
<td>1,998,239</td>
<td>501,761</td>
<td>2,515,760</td>
<td>342,000</td>
<td>95%</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Infrastructure Allowance</td>
<td>Burnaby</td>
<td>12,850,000</td>
<td>-</td>
<td>12,850,000</td>
<td>12,850,000</td>
<td>-</td>
<td>0%</td>
<td>Not Started</td>
</tr>
<tr>
<td>Primary Economizer Replacement</td>
<td>Burnaby</td>
<td>5,000,000</td>
<td>-</td>
<td>5,000,000</td>
<td>5,000,000</td>
<td>-</td>
<td>0%</td>
<td>Not Started</td>
</tr>
<tr>
<td>Refuse Crane</td>
<td>Burnaby</td>
<td>7,000,000</td>
<td>63,039</td>
<td>6,936,961</td>
<td>7,000,000</td>
<td>-</td>
<td>1%</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Second Pass Superheater Replacement</td>
<td>Burnaby</td>
<td>5,500,000</td>
<td>-</td>
<td>5,500,000</td>
<td>5,484,000</td>
<td>16,000</td>
<td>40%</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Secondary Economizers Replacement</td>
<td>Burnaby</td>
<td>6,000,000</td>
<td>-</td>
<td>6,000,000</td>
<td>6,000,000</td>
<td>-</td>
<td>0%</td>
<td>Not Started</td>
</tr>
</tbody>
</table>

### Grand Total Solid Waste Services

<table>
<thead>
<tr>
<th>Total Project Expenditures</th>
<th>Remaining Project Expenditures</th>
<th>Projected Percent Complete</th>
<th>Status</th>
<th>Project Schedule?</th>
<th>Note</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burnaby</td>
<td>91,650,000</td>
<td>3,891,237</td>
<td>87,758,763</td>
<td>90,563,000</td>
<td>1,087,000</td>
<td></td>
</tr>
</tbody>
</table>

**Grand Total Solid Waste Services**

| Burnaby | 231,550,000 | 23,112,897 | 208,437,103 | 245,863,000 | (14,313,000) |  |

### Notes:

- **Contractor authorized expenditure amount**

---

**ATTACHMENT 2**

Zero Waste Committee - Page 1 of 1 10/1/2019
Capital Project Status Information – Solid Waste Services
August 31, 2019

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

Transfer Station Program
- The Coquitlam Transfer Station replacement project construction started in May 2018 with site grading works. The full construction contract was awarded in December 2018. Construction is currently underway with anticipated commissioning of the new transfer station scheduled for the fourth quarter of 2020.
- The Surrey Recycling and Waste Drop-Off Facility project received rezoning and a development permit in late 2018. The project is currently in the detailed design phase and a building permit application has been submitted to the City of Surrey in May 2019. A request for proposals for construction are expected to be released in late 2019 for an anticipated construction start in early 2020.

Landfills Program
- The Phase 2 landfill gas collection system upgrade for the new Coquitlam Transfer Station has been designed and will be a combination of an active system at buildings and a passive system over the remainder of the transfer station site. A new control room at the blower flare station is required for the existing and future system upgrade. A building permit application will be submitted for the construction of the new control room in Q3 or Q4 2019. A tender will be issued for construction after a building permit has been issued. The landfill gas upgrade associated with the transfer station is expected to commence in 2019 with completion in 2020.

Waste-to-Energy Program
- The refuse crane replacement project commenced with preliminary engineering on February 14, 2019. The preliminary engineering report identified funding gaps which will be addressed through the 2021 budget cycle.
- The second pass superheater replacement project started on April 11, 2019. The replacement tubing has been received and installed on one boiler during the September 2019 fall outage. Installation will occur on the second boiler during the October 2019 fall outage and the third boiler during the 2020 spring outage.
- The feedwater pump replacement project commenced on May 3, 2019. A purchase order for the replacement pump has been issued and installation is scheduled for October 2019.
RECOMMENDATION
That the Zero Waste Committee receive for information the report dated October 9, 2019 titled “2019 Regional Food Scraps Recycling Campaign Update.”

PURPOSE
To update the Committee on the 2019 Regional Food Scraps Recycling Campaign.

BACKGROUND
In support of the Organics Disposal Ban, and the Integrated Solid Waste and Resource Management Plan’s diversion goals, a Food Scraps Recycling campaign was launched in 2014, in collaboration with Members, to encourage residents to separate food waste from their garbage. The campaign used humour in the form of unique food face characters telling us that “Food Isn’t Garbage” and “food scraps go in your green bin.” It has evolved each year to target specific items, like food-soiled paper, grease, and chopsticks, and specific audiences like multi-family residents.

This report is an update on the 2010 Food Scraps Recycling Campaign.

2019 REGIONAL FOOD SCRAPS RECYCLING CAMPAIGN

Campaign Approach

Campaign results have shown overall awareness of the issue, and diversion of organic waste into the green bin has been successful. However, education needs to be maintained as waste audits reveal that basic organics like fruit and vegetables are still being disposed of in the garbage. Additionally, 2018 data revealed that the percent of people reporting municipal food scraps collection as a barrier to preventing food waste almost doubled (from 10% in 2014 to 19% in 2018). A potential unintended consequence of encouraging people to recycle their organics is that they recycle food that could be consumed. Given that Metro Vancouver’s goal is overall waste reduction, the campaign message is being updated to ensure that people understand that reducing is critical. Plastic bag contamination and miscommunication regarding “biodegradable” or “compostable” bags also continues to be an issue.

For the sixth year of the Food Scraps Recycling campaign the creative, messages, and communication channels have been tailored to address these current challenges, and take a “back-to-basics” approach to remind people to put food scraps in the green bin.
The food face characters have become iconic to this campaign, with high recall noted in focus groups and surveys. So, for the sixth year the same look and feel has been maintained with small but significant changes in the characters and the message. To address the concern that residents are now potentially wasting more food because they have access to composting, the campaign creative has been adjusted so that we show food scraps, not avoidable food waste. (For example, the half eaten bagel character is no longer being used, but the egg shell is.) Several new fruit and veggie scraps characters have been created and the copy has been adjusted to “Food scraps aren’t garbage” (Attachment 1).

There is an emphasis through video (Reference 1) and website content on reminding people of why it’s important for our region to put food scraps in the green bin, and keep them out of the landfill.

A secondary message explaining plastic bag contamination is featured in online banner ads (Attachment 2) and targeted to the audience based on previous search activity.

The website (Reference 2) includes tips on how to make composting easier and provide information so residents can easily find details about food scraps recycling in their specific municipality.

The campaign is in market from Monday, September 9 to Sunday, October 20, 2019.

The campaign audience is all Metro Vancouver residents. Specific campaign components in 2019 include the following tactics:

- Targeted digital advertising, including YouTube videos, social media (Facebook, Instagram, and Twitter), banner ads (on premium sites and targeted based on search activity), Google Search ads, and a sponsored content article on Vancouver Is Awesome.
- Broad reach outdoor advertising, including transit shelter ads and bus ads throughout the region.
- Television PSAs (References 3 and 4) geo-targeted to the Metro Vancouver region across 14 networks.
- An interactive Q&A featuring experts from Metro Vancouver on Instagram Stories. This tactic is being tried based on the insight from focus testing that people need more specific information. The more people know the more questions they tend to have. (eg. If paper plates are compostable, does that mean any paper plate? What about the ones with a shiny coating?)

**Collaboration with Members**
Campaign details and creative materials were shared with Members’ solid waste and / or communications staff as developed, including fact-checking the links to their municipality’s food scraps recycling webpage. 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.

**ALTERNATIVES**
This is an information report. No alternatives are presented.
FINANCIAL IMPLICATIONS
The 2019 regional food scraps recycling campaign budget is $110,000, supported under the Zero Waste Communications Program of the 2019 General Government budget and managed by the External Relations Department.

SUMMARY / CONCLUSION
The Food Scraps Recycling campaign first launched in 2014 in support of the Organics Disposal Ban. The campaign encourages residents to separate food scraps from their garbage using humourous food face characters. Results have shown that the campaign successfully contributed to overall awareness of the issue, and diversion of organic waste into the green bin. However, education needs to be maintained as waste audits reveal that basic organics like fruit and vegetables are still being disposed of in the garbage. Plastic bag contamination and miscommunication regarding “biodegradable” or “compostable” bags also continues to be an issue. Additionally, a potential unintended consequence of encouraging people to recycle their organics is that they recycle food that could be consumed. For the sixth year of the Food Scraps Recycling campaign the creative, messages, and communication channels will be tailored to address these current challenges.

The 2019 Food Scraps Recycling campaign takes a “back-to-basics” approach to remind people to put food scraps in the green bin. The same look and feel has been maintained, with the characters being updated to show food scraps, not avoidable food waste. The key message has been adjusted to “Food scraps aren’t garbage.” A secondary message explaining plastic bag contamination is targeted to the audience based on previous search activity. The campaign is in market from September 9 to October 20, 2019. Campaign tactics include targeted digital advertising, broad reach outdoor advertising, television PSAs, and an interactive Q&A on Instagram Stories.

Campaign details and creative materials were shared with Members’ solid waste and / or 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.

Attachments:
1. Food Scraps Recycling Campaign Creative
2. Plastic Bag Contamination – Online Banner Ads

References:
1. Food Scraps Explainer Whiteboard Video
2. Food Scraps Recycling Campaign Website
3. Television PSA Video – “Intervention”
4. Television PSA Video – “Doctor”
FOOD SCRAPS RECYCLING CAMPAIGN CREATIVE

Sample Posters / Transit Shelter Ads

Apple / Orange (new)  Pineapple / Lime (new)  Pepper / Onion (new)

Eggshell (existing) / Bone (new)  Paper Napkin (existing)  Coffee Filter (existing)
Sample Animated Banner Ads
Desktop (Leaderboard)
Frame 1

metro vancouver
Hey! Food scraps aren’t garbage!

Learn more

Frame 2

metro vancouver
Fruit and veggie scraps go in your green bin.

Learn more

Mobile
Frame 1

metro vancouver
Hey! Food scraps aren’t garbage.

Frame 2

metro vancouver
Learn more

Bus Ads

metro vancouver
Hey! Food scraps aren’t garbage!

metrovancouver.org/foodscraps

metro vancouver
It’s true!

metrovancouver.org/foodscraps

metro vancouver
Fruit scraps go in your green bin!

metrovancouver.org/foodscraps

Zero Waste Committee
PLASTIC BAG CONTAMINATION – ONLINE BANNER ADS

Animated Banner Ad

Frame 1

Frame 2

Which of these plastic bags is biodegradable?

Frame 3

Frame 4

Can’t tell?

Neither can we.

Frame 5

Keep plastic bags out of your green bin.

Learn More
To: Zero Waste Committee

From: Larina Lopez, Division Manager, Corporate Communications, External Relations

Date: October 9, 2019  Meeting Date: October 18, 2019

Subject: Abandoned Waste – 2019 Waste in its Place Regional Campaign Results

RECOMMENDATION
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.”

PURPOSE
To update the Zero Waste Committee on the 2019 Waste in its Place regional campaign to reduce instances of abandoned waste, which took place in the spring of 2019.

BACKGROUND
Abandoned waste is a regional issue, with environmental, health and social impacts. The financial burden is also significant; local governments spend around $5 million annually for abandoned waste clean-up and bulky items pick-up programs for mattresses and furniture. In 2017, following Board direction and in collaboration with Members, Metro Vancouver developed and launched a regional abandoned waste education and awareness program to help reduce instances of abandoned waste. This report provides an overview of the 2019 Waste in its Place regional campaign results, as identified in the 2019 Zero Waste Communications Program and Committee Work Plan.

2019 WASTE IN ITS PLACE REGIONAL CAMPAIGN
The 2019 Waste in its Place regional campaign ran from April 15 to June 9, with additional digital advertising running until late December 2019. In its third year, the program focused on providing residents with clear information on legal disposal methods and programs. By helping residents understand their options, the campaign increased the likelihood that household items would be disposed of correctly.

Campaign Elements and Approach
The 2019 campaign used communications materials and tools developed from research conducted with Members and the public that identified regional priorities, public attitudes and behaviour related to abandoned waste. The 2019 campaign was primarily targeted towards those identified as most likely to dispose of household items incorrectly: multi-family dwelling residents aged 18-34. Campaign timing coincided with spring cleaning and the end of term, when post-secondary students were most likely to be moving from rental housing. The following tactics were used to discourage abandoned waste and generate awareness of legal dumping options:

- Targeted digital advertising, including YouTube pre-roll videos, social media and online display and search advertising directed to residents whose search behaviour suggests they are in the process of disposing of large items or moving.
• Transit advertising (SkyTrain stations and bus exteriors), targeting areas and routes with high densities of multi-family housing where abandoned waste is more likely to occur.
• Campus advertising, targeting students moving at end of term and potentially disposing of furniture and other large items.
• Sponsored content in online media, providing in-depth information on the impact of illegal dumping and legal disposal options.
• Print and online advertising in ethnic media outlets, to create awareness among non-English speaking audiences who otherwise may not be exposed to the campaign’s messaging.
• Media release and interviews to increase public awareness of illegal dumping and municipal programs.

Examples of campaign creative are provided in Attachment 1.

Collaboration with Members
The wasteinitsplace.ca campaign webpage featured each Member’s solid waste disposal programs, including illegal dumping reporting information and large-item pickup programs.

As with all Metro Vancouver campaigns, all Member jurisdictions were included in the media buy. This means that campaign ads appeared in every member jurisdiction, whether they were physical ads (e.g., transit advertising), print or online content, or targeted digital ads.

Members can amplify Metro Vancouver’s campaigns in their own communities by using materials provided by Metro Vancouver in their own assets (such as transit shelter posters, facility screens or social media channels). For all campaigns, Metro Vancouver sends information to all members before launching the campaign, makes materials available for download on the Metro Vancouver website and creates custom, co-branded materials for members when requested. At least five Member jurisdictions are known to have used materials from the campaign, including social media content, advertising materials and vehicle decals.

Evaluation
Metro Vancouver used various indicators to evaluate the campaign, including tracking webpage and digital metrics. The wasteinitsplace.ca webpage received 15,689 page views from April 15 to June 9, and continues to average 135 page views per day after these dates, based on supplementary digital advertising targeting residents in the process of moving or disposing of items. Webpage traffic was 23% higher than 2018 during the campaign dates, and will be approximately 40% higher for the entire year, as supplementary digital advertising is in place until late December. Webpage users spent nearly four minutes on the page per session, an indication that they were engaged with the content. This is a one minute increase over 2018 levels, and is likely due to new videos added to the page. About 7,000 residents used the site to obtain information on Members’ waste disposal programs during the campaign dates, compared to 4,000 in 2018, with the City of Vancouver the most selected (2,500 times), followed by the City of Burnaby (800 times) and the City of Surrey (600 times).

Digital advertising — comprising social media, online display and search advertising, and YouTube videos – was viewed by its audience 6.6 million times during the campaign.
Abandoned Waste – 2019 Waste in its Place Regional Campaign Results
Zero Waste Committee Meeting Date: October 18, 2019

Page 3 of 3

- Advertising on Instagram and Facebook reached 326,000 users an average of 11 times, with 90% of the advertising delivered on Instagram due to the campaign’s younger audience;
- YouTube video advertising reached 428,000 users an average of 4 times;
- online banner advertising reached 659,000 users an average of 2 times during the campaign window, with additional exposure post-campaign until late December 2019; and
- Google Search delivered a click-through rate of 8.67%, with the keywords “dispose of” and “how to dispose” achieving the highest rate of over 12%.

A regional post-campaign survey was conducted to assess residents’ recall of the campaign and its influence on their behaviour. Of those who saw the campaign advertising, 36% reported that they were less likely to dispose of unwanted household items in public spaces. Additionally, 36% of respondents reported that they have talked to others about the campaign’s message. Reaction to the simple, clear imagery used in the campaign advertising was largely positive.

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

FINANCIAL IMPLICATIONS
The 2019 Waste in its Place regional campaign budget is $135,000, supported under the Zero Waste Communications Program of the 2019 General Government budget, and managed by the External Relations Department.

SUMMARY / CONCLUSION
Abandoned waste is a regional issue, with environmental, health and social impacts. The financial burden is also significant; local governments spend around $5 million annually for abandoned waste clean-up and bulky items pick-up programs for mattresses and furniture. Metro Vancouver’s 2019 Waste in its Place regional campaign used communications materials and tools, based on research conducted with Members and public, to raise awareness of legal disposal options and to discourage abandoned waste. The campaign ran from April 15 to June 9 and featured digital advertising (YouTube pre-roll videos, social media, online display and search advertising), sponsored online editorial content, transit advertising (SkyTrain station posters and exterior bus signage), campus posters, and ethnic print. All materials promoted the wasteinitplace.ca webpage, which highlights regional disposal options and municipal programs and was viewed 15,689 times during the campaign’s nearly 2-month duration. A regional post-campaign survey was conducted to assess residents’ recall of the campaign and its influence on their behaviour. Of those who saw the campaign advertising, 36% reported that they were less likely to dispose of unwanted household items in public spaces. Additionally, 36% of respondents reported that they have talked to others about the campaign’s message. Reaction to the simple, clear imagery used in the campaign advertising was largely positive.

Attachment:
2019 Waste in its Place Regional Campaign Communications Materials
2019 Waste in its Place Regional Campaign Communications Materials

Getting rid of a mattress?
You have options

Getting rid of a couch?
You have options

Getting rid of stuff?
You have options

Getting rid of furniture?
RECYCLE | DONATE | DISPOSE

Getting rid of furniture?
See your options

Online banner ads (static and animated)

Google Search advertising
Facebook and Instagram advertising

:06-second YouTube pre-roll video stills
Organic social media promotion, including examples of Member participation

Bus exterior advertising
Campus washroom advertising

Online sponsored editorial content
To: Zero Waste Committee
From: Paul Henderson, General Manager, Solid Waste Services
Date: October 10, 2019

Subject: Manager’s Report

RECOMMENDATION
That the Zero Waste Committee receive for information the report dated October 10, 2019 titled “Manager’s Report”.

Waste-to-Energy Facility Biosolids Management
Metro Vancouver is exploring the potential co-management of biosolids at the Waste-to-Energy Facility, along with municipal solid waste. This would optimize the use of the Waste-to-Energy Facility and provide a reliable, cost-effective method to manage a portion of the region’s biosolids. Regional wastewater treatment plants currently generate 55,000 tonnes per year of biosolids with quantities rising to more than 100,000 tonnes per year within the next decade.

Test burning of biosolids has been conducted at the Waste-to-Energy Facility in each of the last three years to determine the quantity of biosolids that can be managed without impacting municipal solid waste processing quantities or environmental performance of the facility.

2019 testing confirmed that up to 25,000 tonnes per year of biosolids can be managed at the Facility without impacts to waste processing capacity or environmental performance. Test results and analysis are being submitted to the Ministry of Environment and Climate Change Strategy as part of requesting approval to manage biosolids at the Waste-to-Energy Facility as required in the Waste-to-Energy Facility Operational Certificate.

Work is underway on designing and costing a system to feed biosolids into the Waste-to-Energy Facility. The results of that work along with the results of a third party engineering review will be brought back to the Board for consideration in 2020.

2019 Zero Waste Conference - October 30 & 31, 2019 - Vancouver
The theme for Metro Vancouver’s ninth annual Zero Waste Conference is - A Future Without Waste: Mobilizing for Success in the Circular Economy. Featured keynote presentations include - Arthur Huang of Miniwiz, Tom Szaky of TerraCycle, Harald Friedl from Circle Economy, Valerie Craig from National Geographic Society and Skylar Tibbits from MIT - who will challenge and champion the concept of waste and opportunities to do more with less. The conference will also feature sessions on business transformation, food waste, circular cities, plastics and building towards a circular economy in Canada. In addition, Canadian innovators in waste prevention and circular models in textiles, food and marine plastics will be celebrated in the Canadian Innovation Showcase. As always, the Conference serves a dual role – it convenes a wide audience from government, business, NGO and academic sectors to learn from thought-leaders, innovators and change-makers but it is an important venue for networking so those opportunities have also been included in the program.
We anticipate an audience upwards of 500 at the Vancouver Convention Centre – East on October 30 and 31. This will be aided by our marketing and social media program and BizBash recognizing the Zero Waste Conference as one of the most influential annual gatherings in Vancouver and naming it to its Top 100 list.

Website: [http://www.zwc.ca/program/Pages/default.aspx](http://www.zwc.ca/program/Pages/default.aspx)

**Recycle BC Extended Producer Responsibility Plan Approval**

At the September 20, 2018, Zero Waste Committee meeting, the Committee received a report summarizing actions and activities related to Extended Producer Responsibility programs, including the draft Recycle BC Extended Producer Responsibility plan issued for consultation. In collaboration with member jurisdiction staff, Metro Vancouver staff submitted comments on Recycle BC’s plan related to streetscape collection, procedures to add multi-family residences and depot collectors, and to address performance measures.

On June 28, 2019, the Ministry of Environment and Climate Change Strategy approved Recycle BC’s plan, including Ministry-imposed amendments on streetscape and multi-family collection, among other issues. The deadline for Recycle BC to modify its plan to address the identified amendments, and consult with stakeholders, is August 31, 2020. Further, the Ministry provided guidance around setting performance measure targets, as well as addressing single-use items.

**Coquitlam Transfer Station – Recycle BC Contract**

As of September 17, 2019 a Recycle BC contract is in place for recyclables that are part of their program and collected in the recycling depot at the Coquitlam Transfer Station. The North Shore Transfer Station recycling depot has been included in the Recycle BC program since Metro Vancouver began operations of the recycling depot, but up to this year, Recycle BC did not include the Coquitlam Transfer Station in the program. Recycle BC revenues will reduce the cost of operating the depot. The net costs of operation are shared by Coquitlam, Port Coquitlam and Port Moody. 2020 net cost for the depot is expected to be approximately $90,000 reduced from $158,000 in 2019. 2021 costs are expected to increase with the opening of the new Coquitlam Transfer Station, with those costs shared between the Tri-Cities municipalities and New Westminster.

**Clean Wood Disposal Ban – End of Temporary Surcharge Waiver**

On December 24, 2018, surcharges for loads containing clean wood were waived at Metro Vancouver Transfer Stations for six months, in accordance with Section 5.16 of the *Greater Vancouver Sewerage and Drainage District Tipping Fee and Solid Waste Disposal Regulation Bylaw No. 306, 2017*. The waiver was later extended a further three months to September 24, 2019. These waivers responded to the closures of construction and demolition waste processing facilities at the end of 2018. Since then, new processing options have opened up and existing processors have made adjustments to the new market conditions. Staff communicated with customers and processors before ending the temporary surcharge waiver on September 24, 2019. A list of licensed wood recyclers currently operating in the region is shown below.
| Licensed Solid Waste and Recyclable Material Facilities – Wood Recycling |
|------------------------------------------|------------------------------------------|------------------------------------------|
| Inner City Demolition 11640 Twigg Place, Richmond | Bright Sky Disposal Ltd. 12857 116 Ave, Surrey | Ecowaste Industries Ltd. 4 Spruce St, New Westminster |
| Waste-Away Disposal Services 11560 Twigg Place, Richmond | Cloverdale Fuels Co. Ltd. 20408 102B Ave, Langley | Great West Disposal Inc. 7800 Anvil Way, Surrey |
| Augustine Soil & Mulch Ltd. 17949 Kennedy Rd, Pitt Meadows | Eagle Disposal Inc. 11611 Twigg Place, Richmond | Revolution Infrastructure Inc. 460 East Kent Ave S, Vancouver |
| AWS Transport Ltd. 118 Braid St, New Westminster | Ecowaste Industries Ltd. 15111 Williams Rd, Richmond |

**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
# Zero Waste Committee 2019 Work Plan

**Report Date: October 10, 2019**

## Priorities

<table>
<thead>
<tr>
<th>1st Quarter</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017 Solid Waste and Recycling - Annual Report</td>
<td>Complete</td>
</tr>
<tr>
<td>Solid Waste Regulatory Framework - Update</td>
<td>Complete</td>
</tr>
<tr>
<td>Electronic Disposal Ban Tool</td>
<td>Complete</td>
</tr>
<tr>
<td>2018 Waste Composition Monitoring Program</td>
<td>Complete</td>
</tr>
<tr>
<td>Recycling Markets Update</td>
<td>Complete</td>
</tr>
<tr>
<td>National Zero Waste Council Update</td>
<td>Complete</td>
</tr>
<tr>
<td>2018 Zero Waste Conference Results</td>
<td>Complete</td>
</tr>
<tr>
<td>2018 Create Memories Not Garbage Campaign Results</td>
<td>Complete</td>
</tr>
<tr>
<td>2018 Food Scraps Campaign Results</td>
<td>Complete</td>
</tr>
<tr>
<td>2019 Textiles Campaign Launch</td>
<td>Complete</td>
</tr>
<tr>
<td>Residential Used Gypsum Disposal Program Update</td>
<td>Complete</td>
</tr>
<tr>
<td>Customer Operational Notification</td>
<td>Complete</td>
</tr>
<tr>
<td>Asset Management Policy</td>
<td>Complete</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2nd Quarter</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018 Disposal Ban Inspection Program</td>
<td>Complete</td>
</tr>
<tr>
<td>Coquitlam Transfer Station Replacement – Update and Operations Contract</td>
<td>Pending</td>
</tr>
<tr>
<td>Single Use Item Reduction Strategy</td>
<td>Complete</td>
</tr>
<tr>
<td>Organics Regulatory Framework and Procurement Processes</td>
<td>Complete</td>
</tr>
<tr>
<td>Construction and Demolition Material Regulatory Framework</td>
<td>In progress</td>
</tr>
<tr>
<td>Transfer Station Paid Recyclables Funding Model</td>
<td>Complete</td>
</tr>
<tr>
<td>Love Food Hate Waste Canada – Campaign Updates</td>
<td>Complete</td>
</tr>
<tr>
<td>2018 Waste-to-Energy Facility Financial Summary</td>
<td>Complete</td>
</tr>
<tr>
<td>2018 Waste-to-Energy Facility Environmental Performance Summary</td>
<td>Complete</td>
</tr>
<tr>
<td>Waste-to-Energy Facility Non-Ferrous Metal Recovery System</td>
<td>Complete</td>
</tr>
<tr>
<td>Solid Waste Energy Policy</td>
<td>Complete</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3rd Quarter</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019 Zero Waste Conference</td>
<td>In progress</td>
</tr>
<tr>
<td>Extended Producer Responsibility</td>
<td>Complete</td>
</tr>
<tr>
<td>Expanded Polystyrene Disposal Ban Implementation Progress</td>
<td>Pending</td>
</tr>
<tr>
<td>Surrey Recycling and Waste Drop-Off Facility – Construction Contract</td>
<td>Pending</td>
</tr>
<tr>
<td>Unsecured Loads Surcharge Update</td>
<td>Pending</td>
</tr>
<tr>
<td>2019 Textiles Campaign Results</td>
<td>In progress</td>
</tr>
<tr>
<td>Waste-to-Energy Options</td>
<td>Pending</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4th Quarter</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020 Tipping Fee Bylaw Revisions</td>
<td>In progress</td>
</tr>
<tr>
<td>2020-2024 Financial Plan – Solid Waste Services</td>
<td>In progress</td>
</tr>
<tr>
<td>30-Year Financial Plan: Solid Waste Scenarios</td>
<td>Pending</td>
</tr>
<tr>
<td>Waste-to-Energy Facility – Biosolids Utilization Business Case and Conceptual Design</td>
<td>In progress</td>
</tr>
<tr>
<td>2018 Solid Waste and Recycling – Annual Report</td>
<td>Pending</td>
</tr>
<tr>
<td>2019 Abandoned Waste Campaign Results</td>
<td>In progress</td>
</tr>
<tr>
<td>Ellen MacArthur Foundation Membership</td>
<td>Pending</td>
</tr>
</tbody>
</table>
Dear Chair Dhaliwal and Directors, and Chair Froese and Board Members:

Thank you for your letter of April 15, 2019, regarding Metro Vancouver’s proposed Commercial Waste Hauler Licensing Bylaw (Bylaw 307) and Solid Waste and Recyclable Material Bylaw (Bylaw 309) that were originally submitted for approval to the Ministry of Environment and Climate Change Strategy on December 22, 2017.

The ministry has carefully reviewed your submission and accompanying documents. As Bylaws 307 and 309 are part of a larger Metro Vancouver regulatory update initiative that also includes a Generator Levy bylaw adopted by the Greater Vancouver Sewerage and Drainage District Board under the authority of the Greater Vancouver Sewerage and Drainage District Act, the Generator Levy has also been considered during the review of the proposed bylaws.

In evaluating your submission, I have considered the following factors when contemplating bylaw approval:

- Legality/authority of the bylaws: confirming that the bylaws are consistent with the authorities provided to regional districts in Part 3 of the Environmental Management Act;
- Consistency with Metro Vancouver’s Integrated Solid Waste and Resource Management Plan (ISWRMP);
- Adequacy of the consultation process;
- Environmental benefits and consequences; and
Comments and concerns raised by stakeholders. I have received extensive correspondence from both supporters and opponents of the proposed bylaws and I have also received a report from the Competition Bureau of Canada outlining its views on the bylaws.

Bylaws 307 and 309 appear consistent with Metro Vancouver’s ISWRMP that was approved on July 20, 2011. However, I do have several comments. The bylaws are consistent with general provisions in the approved ISWRMP that was drafted in 2011 and is due for review in 2021. However, it is difficult to fully evaluate the bylaws and their impacts on the current solid waste management system in the region and beyond because the ISWRMP is dated and does not necessarily reflect current priorities and practices. It would be beneficial if the bylaws could be reviewed in the context of an updated ISWRMP.

I note that the bylaw package is intended to promote source separation. I commend this intention though I note that without a renewed ISWRMP, it is difficult to conclusively evaluate if the bylaws will increase source separation and contribute to other positive environmental outcomes. Overall though, I agree that actions will likely increase source separation and will provide additional revenue to Metro Vancouver to manage municipal solid waste in the region.

Although there is no specific regulatory requirement to define the adequacy of consultation, I have concluded that initiatives that may result in a significant change to the waste management regulatory system, such as that which is contemplated through the proposed bylaws, would be best considered as part of a robust solid waste management planning process. I acknowledge that some of the principles behind Bylaws 307 and 309 were considered in the current ISWRMP; however, it appears that the consultation conducted during the development of the existing ISWRMP did not fully contemplate the details and extent of the regulatory changes that are proposed by these bylaws, and the impact of such changes.

As such, while I support Metro Vancouver’s intentions with respect to the stated outcomes anticipated through implementation of Bylaw 307 and Bylaw 309, I am delaying a final decision on approving the bylaws at this time to provide Metro Vancouver time to renew the ISWRMP to ensure the Plan and bylaws are aligned. Specifically, I am looking for the following in a revised ISWRMP:

- Linkages with CleanBC and its attendant objectives and programs to reduce greenhouse gasses;
- Promotion of the circular economy and clarity with respect to how increases in source separation will be achieved;
- Consideration of how the changes to the ISWRMP may affect the solid waste management system, both within Metro Vancouver and in neighbouring regional districts; and
- Clarity regarding Metro Vancouver’s plans to achieve the waste reduction targets that are currently in place for BC and intentions regarding future Waste-to-Energy initiatives.
I have asked ministry staff to work directly with Metro Vancouver staff on the ISWRMP renewal to ensure the concerns noted above are addressed and commit to expediting my review of the two bylaws and the revised ISWRMP once submitted for my review.

I would like to commend the Metro Vancouver Board and staff for their continued efforts to achieve waste diversion goals and protect the environment, and I look forward to continued collaboration between the ministry and Metro Vancouver to improve solid waste management in the region.

Sincerely,

George Heyman
Minister

cc: Paul Henderson, General Manager, Solid Waste Services, Metro Vancouver (paul.henderson@metrovancouver.org)
    Carol Mason, Commissioner/Chief Administrative Officer, Metro Vancouver (Carol.Mason@metrovancouver.org)
    A.J. Downie, Director, Authorizations – South, Environmental Protection Division, Ministry of Environment and Climate Change Strategy
July 30, 2019

Mr. Sav Dhaliwal, Chair and Directors
Metro Vancouver Regional District

Mr. Jack Froese, Chair and Board Members
Metro Vancouver Zero Waste Committee

Via Email: Maureen.Trainor@metrovancouver.org

Dear Chair Dhaliwal and Directors, and Chair Froese and Board Members,

Subject: Metro Vancouver Bylaws 307 and 309

On behalf of the Waste Management Association of BC (WMABC), I am writing you about the recent decision by the Minister of Environment & Climate Change Strategy regarding Metro Vancouver’s Bylaws 307 & 309 (Bylaws).

The WMABC supports the decision by the Minister that the Bylaws undergo a comprehensive review within Metro Vancouver’s Integrated Solid Waste & Resource Management Plan (ISWRMP) as a preferable option moving forward.

However, the WMABC has expressed concerns to the Minister about the previous lack of engagement of the private waste services industry and the waste generators in the industrial, commercial and institutional (IC&I) sector to which Metro Vancouver’s Bylaws were specifically targeted. If the Metro Vancouver renewal of its ISWRMP is to include proposed policy and regulations concerning waste diversion in the IC&I sector, meaningful engagement with those who are generating and managing these waste streams is paramount.

To that end, the WMABC believes the private waste services industry, waste generators in the IC&I sector as well as Metro Vancouver need to come together in a separate collaborative, inclusive and transparent consultation process. We are confident this approach will not only lead to the development of a fulsome IC&I waste diversion plan for Metro Vancouver but could also serve as a template for other regional districts across the province. This approach is supported by leading business and industry associations in Metro Vancouver and across B.C.

Chairman Froese, we stand ready and willing to work with your Committee. We would welcome an opportunity to meet with you and the Zero Waste Committee for a broader discussion on waste diversion in Metro Vancouver’s IC&I sector. Should you have any immediate questions, please feel free to reach out to me or our Executive Director, Lori Bryan at lbryan@wmabc.com

Sincerely,

As per:  

Noel Masse
President

The Hon. George Heyman, Minister of Environment & Climate Change Strategy
Mark Zacharias, Deputy Minister, Ministry of Environment & Climate Change Strategy
Lori Bryan, Executive Director, WMABC

Zero Waste Committee
City to Ask Supreme Court of Canada to Rule on Municipal Power to Regulate Business Use of Plastic Bags

Date: Wednesday, September 25, 2019

VICTORIA, BC — The City of Victoria will ask the Supreme Court of Canada to review the decision that set aside its business bylaw to regulate the use of plastic checkout bags.

In July, the BC Court of Appeal overturned a lower court ruling and set aside the City’s Checkout Bag Regulation Bylaw, which regulated businesses providing checkout bags to customers and included restrictions on the use of plastic checkout bags. The Court of Appeal ruled that the purpose of the bylaw was the protection of the natural environment and that it required approval from the Province of BC prior to being enacted.

After careful review, the City has decided to ask the Supreme Court of Canada to review the Court of Appeal decision to clarify a municipal government’s power to regulate unsustainable business practices that negatively impact the community.

“The BC Court of Appeal decision goes far beyond the issue of plastic bags. It strikes at the heart of the power of local governments to regulate business practices in line with 21st-century community values,” said Victoria Mayor Lisa Helps. “If the decision is allowed to stand it can potentially be interpreted to severely limit the power of local governments. This is why the City of Victoria is seeking leave to appeal to the Supreme Court of Canada.”

The Court of Appeal decision that the bylaw required provincial approval runs contrary to a principle previously mentioned by the Supreme Court of Canada that law-making and implementation are often best achieved at a level of government that is closest to the citizens affected and therefore most responsive to their needs and to local distinctiveness.

“Large and small local governments across British Columbia are enacting bylaws that regulate the use of single-use plastics, in response to the strong wishes of their citizens and businesses. These local governments are not wavering in their commitment, but a review of the BC Court of Appeal decision is critical,” said District of Tofino Mayor Josie Osborne. “Most municipalities simply don’t have the resources to respond to legal challenges or take issues like these all the way through the court system, so I welcome the City of Victoria’s decision and deeply appreciate their leadership.”

The City believes that the Court of Appeal applied a very restrictive interpretation of municipal power to regulate business, which could potentially affect other municipal bylaws not only in Victoria but across B.C. and

Zero Waste Committee
in other provinces that have similar municipal legislation. Therefore, this case raises issues of general importance and warrants consideration by the Supreme Court of Canada.

“As Squamish works to develop a bylaw towards eliminating single use items, I wish to recognize the City of Victoria for taking continued leadership with the development of its original bylaw, and now as the City seeks leave to appeal to the Supreme Court of Canada. Local governments of all sizes across Canada are grappling with complex issues such as climate change, environmental degradation, housing affordability, economic disruption, policing, and the list goes on,” said Squamish Mayor Karen Elliott. “We engage with our citizens, businesses and others to find local solutions that work in our particular circumstances, and that can potentially inspire other communities to act. As the government closest to the citizens, it is critical that our power to implement bylaws and regulations, in line with a community’s values and long-term goals, is protected to the fullest extent possible.”

The City of Victoria’s Checkout Bag Regulation Bylaw came into effect on July 1, 2018 and regulated the types of checkout bags that could be offered by businesses to customers. The bylaw was developed with extensive input from local businesses, industry and the community during a two-year engagement period. The implementation of the City’s checkout bag bylaw in 2018 was enthusiastically embraced by both businesses and customers and was used as a model by a number of other B.C. municipalities.

The bylaw was challenged by the Canadian Plastic Bag Association, an industry lobbying group, that alleged the bylaw was not a valid business regulation but rather an environmental regulation that required provincial approval prior to adoption by the City.

The Association’s challenge was dismissed by the BC Supreme Court in June 2018 when the judge found that the bylaw was, in fact, a business regulation and that any environmental effect of the bylaw was merely incidental and secondary to its main purpose to regulate business checkout transactions. In July 2019, the BC Court of Appeal overturned the lower court’s finding when it concluded that the bylaw was an environmental regulation.

Victoria has made sustainable business practices the new norm. Since the bylaw’s introduction, the community eliminated 17 million plastic bags from the waste stream which will result in both short-term and long-term cost savings for waste management. Although the Checkout Bag Regulation Bylaw has been set aside and has not been in effect since the Court of Appeal decision on July 11, most businesses in Victoria continue to operate as if the bylaw was still in effect – a testament to the wide community support of the bylaw.

Under the Supreme Court of Canada rules, the court decides whether or not it will hear the appeal. The City’s deadline to apply is September 30. It normally takes between four and six months for the decision on whether or not the Supreme Court of Canada will hear the case.

For More Information:

Bill Eisenhauer
Head of Engagement
City of Victoria
250.858.1061
beisenhauer@victoria.ca
To: Zero Waste Committee

From: Paul Henderson, General Manager, Solid Waste Services

Date: September 26, 2019

Subject: Integrated Public Engagement Process for the Metro Vancouver Clean Air Plan and Climate 2050

Meeting Date: October 18, 2019

The attached report titled “Integrated Public Engagement Process for the Metro Vancouver Clean Air Plan and Climate 2050” was considered by the Climate Action Committee at its meeting of September 20, 2019 and is presented here to the Zero Waste Committee for its information.

Attachment
To: Climate Action Committee

From: John Lindner, Air Quality Planner
       Jason Emmert, Senior Planner
       Laura Taylor, Public Engagement Coordinator
       Planning and Environment Department

Date: August 27, 2019

Meeting Date: September 20, 2019

Subject: Integrated Public Engagement Process for the Metro Vancouver Clean Air Plan and Climate 2050

RECOMMENDATION
That the MVRD Board, based on the report dated August 27, 2019, titled “Integrated Public Engagement Process for the Metro Vancouver Clean Air Plan and Climate 2050”:

a) approve the scope of the proposed Clean Air Plan as presented in the Clean Air Plan Backgrounder;

b) authorize staff to proceed with the engagement process on the Clean Air Plan; and

c) direct staff to integrate the Clean Air Plan engagement process with the Climate 2050 engagement process.

PURPOSE
To seek Metro Vancouver Regional District (MVRD) Board approval of the scope of the Clean Air Plan and seek authorization to begin the engagement process on the Clean Air Plan and integrate that process with Climate 2050 engagement.

BACKGROUND
Metro Vancouver has developed three previous air quality and greenhouse gas management plans, in 1994, 2005 and, most recently, the Integrated Air Quality and Greenhouse Gas Management Plan (IAQGGMP) in 2011. The Climate Action Committee 2019 work plan includes development of a discussion paper for the next regional air quality and greenhouse gas management plan. A new plan, the Clean Air Plan, will build on the 2011 plan and identify opportunities for accelerated emissions reductions, including greenhouse gas emission reduction actions. These actions will help protect human health and the environment and avoid dangerous levels of climate change. The Clean Air Plan will be the near-term implementation plan to achieve Metro Vancouver’s 2030 greenhouse gas reduction and air quality targets.

On April 26, 2019, the MVRD Board received a report describing the proposed development and engagement process for the Clean Air Plan. At its meeting on June 14, 2019, the Climate Action Committee received a report seeking feedback on an initial draft discussion paper for the Clean Air Plan, and resolved to:

a) endorse the draft Clean Air Plan Discussion Paper, as amended, in the report dated June 5, 2019, titled “Metro Vancouver Draft Clean Air Plan Discussion Paper”; and
b) direct staff to report back with a finalized Clean Air Plan Discussion Paper and associated engagement plan, for endorsement by the MVRD Board.

Additionally, at its July 26, 2019 meeting, the MVRD Board amended the Climate 2050 Strategic Framework to incorporate revised greenhouse gas reduction targets, including an interim 2030 target within the timeframe of the Clean Air Plan.

This report responds to the Committee direction in June, and the revised greenhouse gas reduction targets adopted by the Board in July. The report presents engagement materials, including a backgrounder on the Clean Air Plan framework (Attachment 1), an engagement plan (Attachment 2), the first of a series of associated discussion papers (Attachment 3, pertaining to the buildings issue area), and a summary of Committee feedback from the June meeting and how it was addressed (Attachment 4).

Staff are seeking authorization from the MVRD Board to proceed with engagement on the Clean Air Plan and integrate the Clean Air Plan process with Climate 2050 engagement.

**CLEAN AIR PLAN AND CLIMATE 2050**

The Clean Air Plan and Climate 2050 will be the key air quality and greenhouse gas planning documents for Metro Vancouver.

Climate 2050 is an overarching long-term strategy that will guide our region’s policies and collective actions to transition to a carbon neutral and resilient region over the next 30 years. Metro Vancouver is implementing Climate 2050 through ten issue area Roadmaps, which will describe long-term goals, targets, strategies and actions to reduce regional greenhouse gas emissions and ensure that this region is resilient to climate change impacts. Implementation of the Roadmaps will be driven by Metro Vancouver’s management plans and other policies, including the Clean Air Plan.

The Clean Air Plan is the near-term action plan that will set Metro Vancouver’s direction for air quality and greenhouse gas management in the region for the next ten years. The Plan will outline actions for all regional emission sources, identifying actions that can reduce emissions of air contaminants, including greenhouse gases. Where possible, these actions will seek to use the same policy or program and achieve co-benefit reductions in common air contaminants and greenhouse gases. The Plan will be organized around seven issue areas, which provide logical groupings of goals, targets and actions. Six issue areas in the Clean Air Plan match six of the Climate 2050 Roadmaps since the sources in these issue areas generate regional greenhouse gases and can also impact regional air quality.

**Issue Area Discussion Papers**

To address feedback received from the Committee in June, staff propose to separate the content from the draft Clean Air Plan discussion paper presented in June into a Clean Air Plan Backgrounder and seven Climate 2050-Clean Air Plan issue area discussion papers, as described below.

- **Clean Air Plan Backgrounder** – the backgrounder summarizes air quality issues, challenges and opportunities, and provides the proposed vision, proposed regional air quality targets, and Board-adopted greenhouse gas targets for the Plan:
vision: Metro Vancouver has healthy, clean and clear air, and is a carbon neutral region;

regional targets for 2030:
- reduce regional greenhouse gas emissions by 45% from 2010 levels (as adopted by the Board in the Climate 2050 Strategic Framework);
- ambient air quality in the region meets or is better than ambient air quality objectives and standards set by Metro Vancouver, and the BC and federal governments; and
- increase the amount of time that visual air quality is classified as excellent.

Climate 2050-Clean Air Plan issue area discussion papers, which will include:

- emissions reductions:
  - proposed long-term goal(s);
  - big Ideas: proposed actions or groups of actions that could lead to significant emission reductions within specific issue areas;
  - example targets and actions;

- climate adaptation:
  - expected climate hazards;
  - proposed long-term goal(s); and
  - example metrics, targets and actions.

These materials will support engagement to develop both the draft Climate 2050 Roadmaps and draft Clean Air Plan. The structure and content of the engagement materials respond to Committee feedback, including comments about integrating adaptation into the engagement process (Attachment 4). Staff will also work with a consultant to characterize and quantify the expected air contaminant and greenhouse gas emission reductions of the actions identified during the engagement, which will address Committee feedback that the targets included in the draft Clean Air Plan and draft Climate 2050 Roadmaps should be informed by realistic pathways.

The joint discussion paper format is intended to facilitate a more closely coordinated engagement process for the Clean Air Plan and Climate 2050, and provide interested parties with an opportunity to provide feedback on both initiatives through a single, more efficient process.

This report presents draft versions of the Clean Air Plan Backgrounder (Attachment 1) and the Buildings discussion paper (Attachment 3). Feedback from the Committee is sought on any of the engagement materials presented.

Discussion papers for the remaining six issue areas are under development, following the same format as the Buildings discussion paper. These will be provided to the Committee for information as they are completed. Additional issue area discussion papers may be written to support the development of the other Climate 2050 Roadmaps that are not within the scope of the Clean Air Plan; these would be presented as part of a separate process.
ENGAGEMENT PROCESS
Metro Vancouver is committed to engaging with the public, stakeholders and other orders of government, including First Nations, that have the potential to be impacted by the Clean Air Plan and Climate 2050, and will incorporate feedback into the two initiatives.

The engagement plan (Attachment 2) provides details about the activities, participants, and timelines for the engagement process. The engagement process would be conducted in accordance with the Board Policy on Public Engagement and would include targeted engagement methods to ensure that the Clean Air Plan and Climate 2050 Roadmaps reflect the varied needs and demands of the region. Engagement materials will be made available online and in hard copy. A website will be created for the engagement process, linked to the existing Climate 2050 website, and relevant events and informational videos will be advertised on Metro Vancouver social media channels.

Metro Vancouver intends to seek input on the Clean Air Plan and Climate 2050 Roadmaps in two phases, beginning with the first phase between October 2019 and March 2020. After the first phase, staff will incorporate feedback into the development of a draft Clean Air Plan, and then seek authorization to engage on the draft Plan. This second phase will occur later in 2020. Feedback would be reported to the Committee following both phases. Following the second phase, staff will incorporate feedback into the development of a final Clean Air Plan, and then seek adoption by the Board.

ALTERNATIVES
1) That the MVRD Board, based on the report dated August 27, 2019, titled “Integrated Public Engagement Process for the Metro Vancouver Clean Air Plan and Climate 2050”:
   a) approve the scope of the proposed Clean Air Plan as presented in the Clean Air Plan Backgrounder;
   b) authorize staff to proceed with the engagement process on the Clean Air Plan; and
   c) direct staff to integrate the Clean Air Plan engagement process with the Climate 2050 engagement process.

2) That the MVRD Board receive for information the report dated August 27, 2019, titled “Integrated Public Engagement Process for the Metro Vancouver Clean Air Plan and Climate 2050”, and provide alternate direction to staff.

FINANCIAL IMPLICATIONS
Under Alternative 1, the resources required to develop and engage on the Clean Air Plan and Climate 2050 Roadmaps have been approved in program budgets for 2019, including staff time, and consulting amounts of $160,000 to support the engagement process and evaluation of the air quality and climate impacts of actions. Integration of engagement activities for the Clean Air Plan with the development of the Climate 2050 Roadmaps is intended to make the best use of resources available, as well as minimize time commitments for interested parties providing feedback.

Under Alternative 2, the Committee and Board may wish to amend the scope of the proposed approach or provide alternate direction. While some amendments could likely be covered under the
approved program budgets, significant increases in scope may be more resource-intensive and require additional budget.

SUMMARY / CONCLUSION
Metro Vancouver is developing a *Clean Air Plan* to identify actions to reduce emissions of air contaminants, including greenhouse gases, in our region over the next 10 years. Metro Vancouver is also implementing *Climate 2050*, a long-term strategy to achieve a carbon neutral and resilient region over the next 30 years. The *Clean Air Plan* is the near-term implementation plan to achieve *Climate 2050* interim greenhouse gas reduction targets (for 2030), as well as 2030 air quality targets.

If approved by the Board, Metro Vancouver intends to seek feedback on the *Clean Air Plan* and *Climate 2050 Roadmaps* in two phases during 2019 and 2020. A backgrounder and an initial discussion paper on the buildings issue area has been prepared that identify goals, targets and example actions for major sources of air contaminants and greenhouse gases in our region, as well as hazards, metrics and example actions for climate adaptation. Additional discussion papers on another six issue areas are under development. Feedback from the public, stakeholders and other orders of government, including First Nations, will support the development of the *Clean Air Plan* and the *Climate 2050 Roadmaps*.

Staff recommend Alternative 1, for the Board to approve the scope of the *Clean Air Plan*, and authorize staff to proceed with the public engagement process, integrating with the *Climate 2050* engagement process that is already underway. Engagement is intended to provide sufficient opportunity to interested parties to learn about the *Clean Air Plan* and *Climate 2050 Roadmaps* and provide feedback.

*Attachments not included*
1. *Clean Air Plan Backgrounder*, draft dated September 2019
2. Engagement Plan for the Metro Vancouver *Clean Air Plan* and *Climate 2050 Roadmaps*
4. Summary of changes to discussion materials, following feedback at June 14, 2019 Climate Action Committee meeting

32199017