Capital Regional District

625 Fisgard St.,
Victoria, BC V8W 1R7

Notice of Meeting and Meeting Agenda
Environmental Services Committee

Wednesday, March 23, 2016 | **11:30 AM** | **6th Floor Boardroom**

V. Derman (Chair), R. Windsor (Vice Chair), R. Atwell, D. Blackwell, B. Desjardins (Board Chair, ex officio), C. Hamilton, R. Kasper, W. McIntyre, J. Ranns, K. Williams

1. Approval of Agenda

2. Adoption of Minutes

2.1. 16-434 Adoption of the Minutes of January 27, 2016

Recommendation: That the January 27, 2016, minutes of the Environmental Services Committee be adopted.

Attachments: 2016-01-27 Minutes Environmental Services Committee

3. Chair's Remarks

4. Presentations/Delegations

4.1. **16-454** Delegation: Kelly Gorman, re item 5.3

Attachments: Delegation Slides: Kelly Gorman, CRD Recycling 2016

5. Committee Business

5.1. 16-444 Integrated Resource Management Task Force - Chair Update

5.2. 16-445 Climate Change Priority - Chair Update

5.3. 16-429 Residential Curbside Collection of Packaging and Printed Paper - Glass Container Collection

Recommendation: That the Environmental Services Committee recommend to the Capital Regional District Board:

That the collection of glass containers, as part of the Capital Regional District (CRD) curbside blue box program, continue until the CRD contracts with Multi-Material BC and Emterra Environmental expire on April 30, 2019 and that curbside glass container collection be re-evaluated as part of curbside collection beyond April 30, 2019.

Attachments: Staff Report: Residential Curbside Collection - Glass Containers

Appendix A: Glass Collection Alternatives

5.4. 16-403 Hartland Transfer Station Kitchen Scraps Tipping Fee Rate

Recommendation: That the Environmental Services Committee recommend to the Capital Regional District Board:

That staff be directed to amend Bylaw 3881, Hartland Landfill and Tipping Fee Regulation Bylaw No. 6, to set the tipping fee rate for kitchen scraps at $120 per tonne beginning January 1, 2017.

Attachments: Staff Report: Hartland Transfer Station Kitchen Scraps Tipping Fee Rate

Appendix A: Briefing Note - CRD Information in AVICC Report

5.5. 16-402 Disposal of Asbestos Containing Materials at Hartland

Recommendation: That the Environmental Services Committee recommend to the Capital Regional District Board:

That staff be directed to amend the Hartland Tipping Fee and Regulation Bylaw No. 3881 to increase the tipping fee for in-region asbestos containing material to $400 per tonne and increase the tipping fee for out-of-region asbestos containing material to $500 per tonne, effective January 1, 2017.

Attachments: Staff Report: Disposal of Asbestos Containing Materials at Hartland

Appendix A: Letter from MOE - Authorization to Landfill Waste Asbestos

5.6. 16-428 Winter Shoreline Bacterial Levels - Core Area and Saanich Peninsula

Recommendation: That the Environmental Services Committee receive this report for information.

Attachments: Staff Report: Winter Shoreline Bacterial Levels

Appendix A: Sampling Station Maps and Sampling Results

6. Correspondence

6.1. 16-441 Ryan Windsor, Mayor, Central Saanich, 13 Jan. 2016, re: Curbside Glass Collection

Recommendation: That the correspondence be received for information.

Attachments: Letter: Central Saanich, 13 Jan. 2016, re Curbside Glass Collection

7. New Business

8. Adjournment

Next Meeting: April 27

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Capital Regional District

625 Fisgard St.,
Victoria, BC V8W 1R7

Meeting Minutes
Environmental Services Committee

Wednesday, January 27, 2016 | **11:30 AM** | **6th Floor Boardroom**

PRESENT
DIRECTORS: V. Derman (Chair), R. Windsor (Vice Chair), R. Atwell, D. Blackwell, C. Hamilton, L. Hundleby (for B. Desjardins, Board Chair, ex officio), R. Kasper, W. McIntyre, J. Ranns, K. Williams
STAFF: R. Lapham, Chief Administrative Officer; L. Hutcheson, General Manager, Parks and Environmental Services; G. Harris, Senior Manager, Environmental Protection; R. Smith, Senior Manager, Environmental Resource Management; B. Reems, Corporate Officer, and N. More, Committee Clerk (Recorder)

The meeting was called to order at 11:30 a.m.

1. Approval of Agenda

MOVED by Director Atwell, SECONDED by Director Blackwell,
That the agenda be approved.
CARRIED

2. Adoption of Minutes

2.1. 16-120 Adoption of Environmental Services Committee Minutes of November 25, 2015

MOVED by Director Blackwell, SECONDED by Director Williams,
That the Environmental Services Committee minutes of November 25, 2015, be adopted.
CARRIED

3. Chair's Remarks

Chair Derman remarked on the emphasis on climate change for this year, and on his intent to make the Committee as collaborative as possible. He remarked that on today's agenda was a brief roundtable where members could make suggestions for future agendas.

4. Presentations/Delegations

MOVED by Director Kasper, SECONDED by Director Hamilton,
That Andrew Pape-Salmon be allowed to speak as a delegation on behalf of the Roundtable on the Environment regarding item 5.4.
CARRIED
UNANIMOUS

4.1 16-159 Delegation: A. Pape-Salmon, Roundtable on the Environment, re item 5.4

A. Pape-Salmon spoke on behalf of the Roundtable on the Environment regarding item 5.4. He expressed that regional districts and municipalities in B.C. that have an energy plan have been shown to leverage funds leading to tangible benefits for residents. He spoke in favour of alternative 2 in the staff report, to prepare a business case for developing a regional energy strategy. The members of the Roundtable were prepared to volunteer their time to support the effort.

5. Committee Business

5.1. 16-123 Liaison to Roundtable on the Environment (verbal)

MOVED by Director Ranns, SECONDED by Director Atwell,
That Chair Derman be appointed as liaison to the Roundtable on the Environment.
CARRIED

5.2. 16-119 2016 CRD Board Standing Committee Terms of Reference and Work Programs (ESC)

L. Hutcheson provided highlights of the report, including a change to the terms of reference in that the Committee may also recommend to the Board to advocate to senior levels of government for programs and regulations to reduce emissions and/or prepare for climate change. As advised in the staff report, the Steering Committee on Climate Action could service that task but its terms of reference would need to be amended to add a Director to its membership in order to link it to the Board.

The Committee sought clarification on flexibility on dealing with topics that may not be covered by the terms of reference, as well as how to better share information between committees that cover topics in common.

On the motion, the Committee discussed being mindful of cost considerations and whether the proposed points are already covered under other CRD committees or commissions.

MOVED by Director Atwell, SECONDED by Director McIntyre,
That the Environmental Services Committee recommend to the Capital Regional District Board:
That a bullet point be added under the heading of 1.0 Purpose on page 1 of the Terms of Reference to indicate the Committee is concerned with and responsible for preservation and/or restoration of biodiversity and ecosystem health.
CARRIED
OPPOSED Blackwell, Hamilton, Kasper

MOVED by Director Windsor, SECONDED by Director Blackwell,
That the Environmental Services Committee recommend to the Capital Regional District Board:
That the Committee priorities and work program as outlined in the Priorities Dashboard be confirmed.
CARRIED

5.3. 16-107 Extension of Contract 13-1765 - Operation of the Hartland Landfill

MOVED by Director Williams, SECONDED by Director Blackwell,
That the Environmental Services Committee recommend to the Capital Regional District Board:
That Contract No. 13-1765 - Operation of the Hartland Landfill be extended until Dec 31, 2016.
CARRIED

5.4. 16-105 CRD Roundtable on the Environment Energy Strategy Proposed Initiatives

L. Hutcheson provided highlights of the report.

The Committee sought clarification on monitoring climate action initiatives, the link between energy and climate action, the service establishment bylaw for the climate action program, the budget and the FTE position that would be engaged in searching for grants.

On the motion, the Committee discussed climate change.

MOVED by Director Kasper, SECONDED by Director Blackwell,
That staff incorporate the Roundtable on the Environment recommendations which can be included within the current service delivery and that staff continue to pursue external grant opportunities that will support regional energy related planning and programming.
CARRIED

MOVED by Director Kasper, SECONDED by Director Williams,
That the above motion be recommended to the Capital Regional District Board for approval.
CARRIED

5.5. 16-94 Association of Vancouver Island and Coastal Communities Recommendations on Solid Waste Management for Vancouver Island (Postponed from February 5, 2016 meeting)

L. Hutcheson provided highlights of the report.

MOVED by Director Blackwell, SECONDED by Director Kasper,
That Director Windsor be appointed as the representative to continue participation on the Association of Association of Vancouver Island and Coastal Communities Special Committee on Solid Waste.
CARRIED

On the motion, the Committee discussed gasfication and the role of the CRD in solid waste management in the region.

MOVED by Director Blackwell, SECONDED by Director McIntyre,
That the Association of Vancouver Island and Coastal Communities Special Committee's proposed priority areas of work for continued discussion be endorsed.
CARRIED
OPPOSED Director Ranns

MOVED by Director Windsor, SECONDED by Director Blackwell,
That the Association of Vancouver Island and Coastal Communities Special Committee on Solid Waste's State of Solid Waste Management report be forwarded to the Capital Regional District Special Task Force on Integrated Resource Management for information.
CARRIED

6. Roundtable Discussion

6.1. 16-124 Roundtable Discussion (verbal)

Chair Derman invited members to suggest items they would like to see on future agendas. The Committee discussed the Paris convention on climate change, sewer sludge disposal, and regulations made prior to technological progress.

7. New Business

8. Motion to Close the Meeting

8.1. 16-129 Motion to Close the Meeting

MOVED by Director Windsor, SECONDED by Director McIntyre,
That the meeting be closed in accordance with the Community Charter Part 4, Division 3, 90 (1)(g) litigation or potential litigation affecting the regional district; (j) information that is prohibited, or information that if it were presented in a document would be prohibited, from disclosure under section 21 of the Freedom of Information and Protection of Privacy Act; and (m) a matter that, under another enactment, is such that the public may be excluded from the meeting.
CARRIED

The Committee moved to the closed session at 12:45 p.m.
The Committee rose from the closed session at 1:20 p.m. without report.

9. Adjournment

MOVED by Director Atwell, SECONDED by Director McIntyre,
That the meeting be adjourned at 1:20 p.m.
CARRIED

_____
CHAIR

_____
RECORDER

GLASS COLLECTION IN THE CRD

Agenda Item 5.3

ENVIRONMENTAL IMPLICATIONS

When glass is collected at curbside:

A) **Refillable containers are destroyed; this violates the CRD hierarchy of recycling REDUCE REUSE RECYCLE.**

A) **Curbside glass is the worst contaminant of the entire MMBC program.**

A) **When depots recycle glass it has a higher probability of going bottle to bottle.**

BENEFITS OF COLLECTING AT DEPOTS

A) Depots are an integral part of the CRD's solid waste management plan.
B) Exposes residents to the free recycling of banned landfill products that cause health and safety issues when placed in the garbage.
C) We believe that asking residents to return glass containers to depots is not introducing a new behavior.
D) Refundable beverage containers are the life line of all multi-material depots.

EXPERIENCE OF NANAIMO

A) **RDN calculated small amount of glass collected at curbside wasn't worth public investment.**
B) **Curbside collection is now paid for by producers not subsidized by taxpayers.**
C) **Nanaimo depots have reported an increase in overall volume of all commodities.**

ADVANTAGES TO LOCAL ECONOMY

A) **Collection at Depots provides more jobs per tonnage of glass.**

A) **All curbside beverage containers generate over $ 500,000 worth of refunds to stay in the CRD.**

B) **Reuse of refillable bottles benefits local beer and soft drink bottlers as well as having a positive effect on climate change.**

RECOMMENDATION

That the Environmental Services Committee recommend to the

Capital Regional District Board:

To support alternative #2 from the CRD report.

Current glass collection costs of $100,000/year with contamination fees of $120,000/year, along with the $500,000 cost to purchase grey bins outweigh any contract adjustment costs.

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ERM 16-23

REPORT TO ENVIRONMENTAL SERVICES COMMITTEE
MEETING OF WEDNESDAY, MARCH 23, 2016

SUBJECT **Residential Curbside Collection of Packaging and Printed Paper – Glass Container Collection**

ISSUE

To consider options for curbside collection of glass.

BACKGROUND

At its January 13, 2016 meeting, the Capital Regional District (CRD) Board approved a motion directing staff to report on the potential ramifications if the Board were to reconsider curbside collection of glass. The CRD has collected glass containers as part of its residential curbside blue box program since it began in 1988.

Recently implemented changes to the BC Recycling Regulation require producers to fund residential packaging and printed paper (PPP) recycling. Consequently, the CRD has entered into agreements with both Multi-Material BC (MMBC) and Emterra Environmental (Emterra) to collect residential PPP, including glass, through the curbside blue box program. The agreements are effective from May 1, 2015 to April 30, 2019. MMBC pays the CRD approximately $5 million annually to provide this recycling service on its behalf and the CRD, in turn, sub-contracts Emterra to conduct the blue box collection work. MMBC owns all the recyclable materials collected and has contracted the firm Green by Nature (GBN) to process and market them.

Glass containers collected at curbside need to be collected as a single separate stream to avoid glass contaminating other recyclables and ensure better quality of collected recyclable commodities. When approving the agreement with MMBC at its meeting of July 9, 2014, the CRD Board, after extensive deliberation, approved a motion to continue glass collection at the curb, as a separate stream, as part of the blue box program. Consequently, the CRD also moved forward with an extensive education and awareness campaign to facilitate the transition to curbside glass separation as an adjustment to the existing blue box program. The finalized MMBC contract stipulates that if blue box contamination, including glass being comingled with other materials, is not consistently below 3% the CRD is subject to fines of up to $120,000/year. In addition, MMBC has the right to request the Board to choose between purchasing and distributing to residents, a separate glass collection container or eliminating curbside glass collection and transition to depot collection of glass. CRD blue box contamination, based on information provided by MMBC audits, is trending downwards and is currently estimated at 8-10%.

ALTERNATIVES

That the Environmental Services Committee recommend to the Capital Regional District Board:

Alternative 1

That the collection of glass containers, as part of the Capital Regional District (CRD) curbside blue box program, continue until the CRD contracts with Multi-Material BC and Emterra Environmental expire on April 30, 2019 and that curbside glass container collection be re-evaluated as part of curbside collection beyond April 30, 2019.

Alternative 2

That staff be directed to:

1. work with Emterra Environmental to negotiate and execute a service level change to the existing curbside recycling contract to eliminate curbside glass collection service, for compensation of no more than $150,000 per year to offset Emterra's incremental glass collection capital investment, effective from January 1, 2017 until the end of the contract on April 30, 2019; and

2. develop and implement an education and awareness campaign to actively discourage the placement of glass at curbside for collection.

Alternative 3

That staff be directed to:

1. terminate the contract with Emterra Environmental by serving 180 days' written notice;

2. re-tender the work without curbside glass container collection; and

3. develop and implement an education and awareness campaign to actively discourage the placement of glass at curbside for collection.

See Appendix A for a summary of Alternatives.

CONTRACTUAL IMPLICATIONS

MMBC staff are prepared to consider amending the current agreement with the CRD to allow for the discontinuation of curbside glass collection if it were the CRD's desire to do so. Emterra has indicated to CRD staff, a willingness to adjust the CRD service level and stop collecting glass containers for a price that compensates Emterra for recent glass collection related capital investments required to collect the curbside glass stream.

Alternative 1 maintains the CRD's contractual obligations to provide curbside glass container collection until April 30, 2019. Staff would prepare a report to the CRD Board in January 2018, providing adequate time to seek direction regarding the CRD's future involvement in PPP curbside collection once the current contracts expire. The contract with MMBC specifies that segregated glass will be collected as part of the curbside service and that significant unsegregated glass contamination could result in MMBC requesting that the CRD either supply all households with glass collection containers or eliminate curbside collection and default to glass collection at depots.

Service level adjustments contemplated in Alternative 2 allow the CRD to evaluate the cost to adjust the contract and start re-educating residents about service level changes, against the value of more glass potentially being returned direct to depot.

Utilizing the termination for convenience clause in the Emterra contract, Alternative 3, would allow for glass collection to end without contractual implication. The entire curbside collection program would have to be retendered. If the retendered pricing was not acceptable to the Board (too expensive), the responsibility for the collection of curbside recycling would be turned back to MMBC. MMBC has indicated that in that case, given the substantial waitlist for BC communities to participate in the MMBC program, they would not be able to guarantee the CRD seamless continuation of curbside recycling service.

FINANCIAL IMPLICATIONS

The contract with MMBC specifies that segregated glass will be collected as part of the curbside service and that significant unsegregated glass contamination (greater than 3% by weight) is subject to annual curbside contamination fines of up to $120,000 per year, all three Alternatives are subject to curbside glass contamination charges. In addition, contamination violations allow MMBC to request that the CRD either supply all households with designated glass collection containers (~$500,000) or eliminate curbside collection and default to glass collection at depots (see Appendix A).

Alternative 1 maintains the status quo and would therefore have no impact on the 2016 to 2019 Environmental Resource Management (ERM) budget, MMBC funding covers CRD costs associated with curbside collection of PPP. The estimated net incremental cost of curbside glass collection through the current Emterra contract is $100,000 per year. This alternative is also subject to curbside glass contamination charges.

Alternative 2, adjust Emterra service level to no longer collect glass at curbside at a cost of no more than $150,000 per year. The service level adjustment payment would compensate Emterra for capital investments made to facilitate segregated glass collection. In addition, the requirement for a glass re-education campaign will likely result in additional financial expenditures in excess of $50,000. This alternative is also subject to curbside glass contamination charges.

Terminating the contract and retendering the work under Alternative 3 would eliminate the $100,000 per year incremental cost of curbside glass collection, but would require additional staff and legal resources to manage the tendering process. Retendering could result in overall higher prices, even without curbside glass collection, based on perceived risk associated with early termination of the contract. There will also be additional costs associated with an education campaign to inform residents of the discontinuation of glass collection service. This alternative is also subject to curbside glass contamination charges.

ENVIRONMENTAL IMPLICATIONS

There are no changes in environmental impact related to Alternative 1. The glass collected at curbside is recycled for other purposes, such as sand blasting media and reflective paint.

Alternatives 2 and 3 will shift collection of glass to depots, potentially resulting in an increase in the reuse of refillable bottles. It may also, through increased depot traffic, increase recycling of other stewardship materials that are accepted at depots. However, discontinuing curbside glass container collection has the potential to decrease the overall recycling rate of glass, if residents

perceive the depot alternative as too inconvenient and glass is instead discarded in the garbage. The Regional District of Nanaimo (RDN) observed a drop in glass container recycling when it switched from curbside to depot collection. There will also be an increase in greenhouse gas emissions as a result of an increase in single purpose trips to return glass to depots.

SOCIAL IMPLICATIONS

Alternative 1 maintains the same level of service to CRD single family households currently serviced by curbside blue box recycling collection until the agreements lapse on April 30, 2019. Alternatives 2 and 3 reduce the current level of service to residents and potentially creates confusion, given the recent CRD awareness campaign directing residents to separate their glass for curbside collection. The RDN discontinued curbside glass collection in 2010 and has met with sustained public resistance to the change. However, the removal of CRD curbside glass collection has the potential to create an opportunity to collect refundable glass beverage containers for community and charity fundraising. Unsolicited public feedback on residential glass collection has been in support of maintaining curbside collection service levels. There has been no feedback received in favour of discontinuing the service.

CONCLUSION

Continuing to provide curbside glass collection maintains existing levels of service, meets the CRD's current contractual obligations and provides an opportunity to monitor and evaluate the potential environmental, social and economic implications of curbside collection of glass. The costs and benefits of curbside glass collection can be re-evaluated as part of curbside collection contracting beyond April 30, 2019.

RECOMMENDATION

That the Environmental Services Committee recommend to the Capital Regional District Board:

That the collection of glass containers, as part of the Capital Regional District (CRD) curbside blue box program, continue until the CRD contracts with Multi-Material BC and Emterra Environmental expire on April 30, 2019 and that curbside glass container collection be re-evaluated as part of curbside collection beyond April 30, 2019.

Submitted by:	Russ Smith, Senior Manager, Environmental Resource Management
Concurrence:	Larisa Hutcheson, P.Eng., General Manager, Parks & Environmental Services
Concurrence:	Robert Lapham, MCIP, RPP, Chief Administrative Officer

TW:dd

Attachment: Appendix A – Glass Collection Alternatives

Glass Collection Alternatives

Alt. 1 - Blue Box

- Risk of Contamination Charges
- Ongoing Education
- Current Contract Cost (glass) $100,000

Alt. 2 - Depot

- Risk of Blue Box Contamination Charges
- Education + $50,000
- Contract Adjustment Cost <$150,000/year (until April 2019)

Alt. 3 - Retender

- Risk of Blue Box Contamination Charges
- Education + $50,000
- Unknown New Contract Cost vs. Risk of Service Continuation

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ERM 16-22

REPORT TO ENVIRONMENTAL SERVICES COMMITTEE
MEETING OF WEDNESDAY, MARCH 23, 2016

SUBJECT **Hartland Transfer Station Kitchen Scraps Tipping Fee Rate**

ISSUE

To seek direction on increasing Hartland's kitchen scraps transfer station tipping fee.

BACKGROUND

At its January 13, 2016 meeting, the Capital Regional District (CRD) Board approved the award of Contract 15-1851, Hauling and Processing of Kitchen Scraps, at an initial rate of $114.50 per tonne (March 2016 to December 2017). The Board then approved an additional motion directing staff to prepare a report providing options for eliminating the gap between the per tonne tipping fee charged at the Hartland kitchen scraps transfer station and the per tonne fees being paid to transport and process kitchen scraps.

The Hartland transfer station currently receives approximately 10,000 tonnes of kitchen scraps annually and charges a fee of $110 per tonne generating about $1,100,000 in revenue. Under Contract 15-1851, the cost to process the 10,000 tonnes will be $1,145,000 annually, meaning there would be a net cost to the CRD of approximately $37,500 for 2016 (or $45,000 on an annualized basis). The gap between the tipping fee revenue received and the processing costs paid will increase in 2017 because Contract 15-1851 contains an adjustment for inflation that will see the fee increase to $116.22 per tonne. This will result in a net cost of about $62,175 to the CRD in 2017 and a total net cost of $99,675 over the 22 month term of Contract 15-1851. This difference would be paid from the Environmental Resource Management (ERM) sustainability fund.

There has been some hesitancy to increase the general refuse tipping fee at Hartland due to concerns associated with general refuse being exported off Vancouver Island for more economic disposal elsewhere on the Lower Mainland or in Washington State. However, the 2015 Association of Vancouver Island and Coastal Communities (AVICC) solid waste study indicated that Hartland has some of the lowest tipping fees on Vancouver Island and the Sunshine Coast (see Appendix A – AVICC Briefing Note).

ALTERNATIVES

That the Environmental Services Committee recommend to the Capital Regional District Board:

Alternative 1

That staff be directed to amend Bylaw 3881, Hartland Landfill and Tipping Fee Regulation Bylaw No. 6, to set the tipping fee rate for kitchen scraps at $120 per tonne beginning January 1, 2017.

Alternative 2

That staff be directed to amend Bylaw 3881, Hartland Landfill and Tipping Fee Regulation Bylaw No. 6, to set the tipping fee rate for both kitchen scraps and general refuse at $111 per tonne beginning January 1, 2017.

ECONOMIC IMPLICATIONS

Private haulers typically require time to adjust their own rates and advise their clientele. Municipal haulers, who have already set their 2016 budgets, may be negatively affected by a sudden tipping fee rate change. Leaving the tipping fee at $110/tonne for the remainder of 2016 would allow all Hartland customers sufficient time to plan for a rate change effective January 1, 2017. By adjusting the kitchen scraps tipping fee to $120 per tonne effective January 1, 2017, as suggested in Alternative 1, the overall net cost of Contract 15-1851 can be reduced to near zero.

Although kitchen scraps are banned from disposal at Hartland, an increase in the kitchen scraps tipping fee rate to $120 per tonne would create a $10 per tonne price differential compared to the general refuse tipping fee of $110 per tonne. This may have the unintended consequence of increased landfill disposal of banned kitchen scraps, as disposal at $110 per tonne will be the more economic option. Adjusting the tipping fee for both kitchen scraps and general refuse to $111 per tonne beginning January 1, 2017, as outlined under Alternative 2, would result in no price differential and more than cover the cost of the kitchen scraps contract by generating about $120,000 in additional revenue from kitchen scraps and general refuse charges.

INTERGOVERNMENTAL IMPLICATIONS

Adjusting the tipping fees beginning January 1, 2017, as suggested in Alternatives 1 and 2, avoids an unbudgeted mid-year cost adjustment and will provide municipalities time to prepare their 2017 budgets accordingly.

CONCLUSION

The CRD currently charges $110 per tonne to receive source separated kitchen scraps from both private and municipal haulers and currently receives a total of about 10,000 tonnes annually. Under Contract 15-1851, the cost to haul and process kitchen scraps will result in a net cost to the CRD of approximately $100,000 over the 22 month term of the contract. However, it is possible to have kitchen scraps transfer station users cover the cost of this contract by adjusting the kitchen scraps tipping fee to $120 per tonne beginning January 1, 2017.

RECOMMENDATION

That the Environmental Services Committee recommend to the Capital Regional District Board:

That staff be directed to amend Bylaw 3881, Hartland Landfill and Tipping Fee Regulation Bylaw No. 6, to set the tipping fee rate for kitchen scraps at $120 per tonne beginning January 1, 2017.

Submitted by:	Russ Smith, Senior Manager, Environmental Resource Management
Concurrence:	Larisa Hutcheson, P.Eng., General Manager, Parks & Environmental Services
Concurrence:	Robert Lapham, MCIP, RPP

TW:dd

Attachment: Appendix A – Briefing Note – CRD Information in Association of Vancouver Island and Coastal Communities State of Waste Management Report

APPENDIX A

Making a difference...together

Briefing Note

File: 5200-40
General

January 22, 2016

SUBJECT **CRD INFORMATION IN ASSOCIATION OF VANCOUVER ISLAND AND COASTAL COMMUNITIES STATE OF WASTE MANAGEMENT REPORT**

ISSUE

Island-wide solid waste information resulting from work done by the Association of Vancouver Island and Coastal Communities (AVICC) Special Committee on Solid Waste.

BACKGROUND

Tetra Tech EBA was commissioned by Comox Valley Regional District to produce an AVICC State of Waste Management report. The Tetra Tech report was the basis for a facilitated discussion with the AVICC Special Committee to determine priority areas to focus continued solid waste discussion amongst the committee members (January 27, 2016 Environmental Services Committee staff report). The Tetra Tech report contains solid waste information that might be of interest to the CRD Board.

CRD Solid Waste profile (Appendix A)
- provides an overview of the CRD service and identifies key metrics and priorities

AVICC Comparative Solid Waste Overview (Appendix B)
- compares AVICC regional districts key solid waste operational metrics
  - CRD's waste disposal per capita is below the AVICC average
  - CRD has the second lowest tipping fee ($110/tonne)

AVICC Comparative Solid Waste Financial Summary (Appendix C)
- compares AVICC regional districts key solid waste financial metrics
  - CRD Solid Waste Service is the only regional district not using taxation as a revenue source to help fund the Service
  - Hartland landfill has the lowest per tonne operating costs

Solid Waste Management Trends – Waste to Energy section (Appendix D)
- a short overview of waste to energy technology, projects and indicative pricing

CONTACT

For further information, please contact:

Russ Smith, Senior Manager, Environmental Resource Management
Capital Regional District
rsmith@crd.bc.ca or Tel: 250-360-3080

Attachments: 4

4.2 Capital Regional District

CRD's jurisdiction is the Southern tip of Vancouver Island and the surrounding 70 Gulf Islands. CRD has 13 municipalities; Central Saanich, Colwood, Esquimalt, Highlands, Langford, Metchosin, North Saanich, Oak Bay, Saanich, Sidney, Sooke, Victoria, View Royal, and three electoral areas; Juan de Fuca, Southern Gulf Islands, Salt Spring Island.

Photo 3: Hartland Landfill

The CRD is directly accountable to municipal partners and electoral areas for regional and sub-regional services and is the local government for the electoral areas, where it provides many sub-regional and local services. The CRD has a direct relationship with individuals, households, businesses, organizations and institutions that access regional utilities and services, and with communities that collaborate for regional services on behalf of their residents. It also works collaboratively with First Nations and senior levels of governments. Their mission is "diverse communities working together to better serve public interest and build a livable, sustainable region".

Table 6: Capital Regional District Key Metrics

Description	Metric
Population	372,463
Per Capita Disposal	368 kg/year
Diversion Rate	52%
Tipping Fee	$110/tonne
Disposal Capacity	35 years

Photo 4: Mayne Island Recycling Depot

Programs and Infrastructure

Roughly 60% of the population has curbside garbage, recycling and food scraps collection. CRD has three private composting facilities that accept yard waste and wood waste. Food scraps are taken to Fisher Road in Cowichan Valley or Harvest Power in Metro Vancouver. CRD has seven recycling depots and two MRFs (mixed waste recycling facilities). The whole population is covered by MMBC subsidies. There are two landfills: Hartland and Tervita Highwest. Terivita accepts C&D (construction and demolition) waste. Additionally, there is a transfer station at Port Renfrew.

Priorities

- Finalize new Solid Waste Management Plan;
- Develop an integrated food waste processing facility in the region; and
- Develop a financially sustainable model for the solid waste management system.

Table 2: Association of Vancouver Island and Coastal Communities Member Solid Waste Overview

Metric	Alberni Clayoquot	Capital	Comox/ Strathcona	Cowichan Valley	Mount Waddington	Nanaimo	Powell River	Sunshine Coast	Total
General Information									
Population	31,061	372,463	104,950	81,704	11,523	150,404	19,480	29,584	**801,169**
Area (km²)	6,588	2,340	19,977	3,475	20,244	2,038	5,075	3,777	**63,514**
Density (population/km²)	4.7	153.8	5.25	23.1	0.57	71.9	3.9	7.6	**12.6**
SWMP* Approved (Year)	2008	1995	2013	1995	1996	2004	1996	2011	
SWMP Current Status		Stage 3		Amended 2007	Stage 1	Stage 2	Stage 3		
Disposal/Capita (kg)	699	369	610	286	542	335	236[4]	352	**399**
Diversion Rate	22%	52%	51%	74%	32%	68%	50%	50%	**57%**
Residual Management									
Generated/yr (MT)	21,597	137,306	64,292	23,333	6,243	52,237	4,604	10,229	**319,653**
Exported/yr (MT)	0	0	0	23,333	0	1,915	4,604	0	**29,852**
Landfill Capacity[1] (m³)	1,340,880	10,872,000	286,770	0	779,542	2,400,000	0	251,771	**15,930,963**
Landfill Capacity[1] (yrs)	80	35	25	0	80	25	0	15	
Tipping Fee	$95	$110	$120	$140	$115	$125	$215	$150	
Disposal Cost[2]	$2,051,715	$15,082,980	$7,715,040	$3,266,620	$717,911	$6,529,611	$2,283,945	$1,534,350	**$37,888,087**
Organics Management									
Generated/yr (MT)	409	15,219	4,690	11,356	2,011	26,250	902	3,318	**64,087**
Exported/yr (MT)	0	15,219	0	0	0	0	0	0	**15,219**
Capacity[3] (MT)				37,200		22,500	902		**60,602**
Recycling									
Generated/yr (MT)	4,700	132,057	62,436	66,918	986	86,603	3,713	5,563	**362,976**
Population served by MMBC	100%	100%	87%	100%	100%	100%	34%	100%	**97%**

[1]Including planned expansion. [2]Disposal cost = tipping fee x garbage generated.
[3]Excludes small, private yard/wood waste facilities. [4]Does not include C&D waste
*Solid Waste Management Plan (SWMP)

Table 4: Breakdown of Revenue Sources for Operating Budgets

Description	ACRD	CRD	CSWM	CoVRD	MWRD	RDN	PRRD	SCRD
Operating Budget[1]	**$3,289,500**	**$19,810,879**	**$11,754,067**	**$7,300,000**	**$973,417**	**$11,888,000**	**$1,780,407**	**$3,778,965**
Population	31,061	372,463	104,950	81,704	11,523	150,404	19,480	29,584
Area (km²)	6,588	2,340	19,977	3,475	20,244	2,038	5,075	3,777
Density (population/km²)	4.7	153.8	5.25	23.1	0.57	71.9	3.9	7.6
Revenue	**$3,289,500**	**$19,424,186**	**$11,754,067**	**$7,310,000**	**$1,150,237**	**$13,167,375**	**$1,780,407**	**$4,082,605**
Tipping Fees	*$2,126,543*	*$15,384,915*	*$8,502,565*	*$2,450,000*	*$370,886*	*$7,267,000*	*$861,735*	*$2,133,840*
MMBC/EPR Revenue	*$355,000*	*$3,331,124*	*$192,200*	*$600,000*	*$123,365*	*$1,024,375*	*$30,369*	*$135,000*
Taxation	*$183,264*	*$0*	*$707,135*	*$3,960,000*	*$536,976*	*$462,000*	*$236,906*	*$1,066,920*
Utility Fees	*$0*	*$0*	*$0*	*$0*	*$0*	*$3,183,000*	*$0*	*$746,845*
Surplus	*$603,693*	*$0*	*$257,422*	*$0*	*$0*	*$0*	*$0*	*$0*
Permits, Fines, Grants, Operations, Misc.	*$21,000*	*$708,147*	*$0*	*$300,000*	*$0*	*$1,231,000*	*$651,397*	*$0*
Loan	*$0*	*$0*	*$2,094,745*	*$0*	*$0*	*$0*	*$0*	*$0*
First Nation Requisition	*$0*	*$0*	*$0*	*$0*	*$119,010*	*$0*	*$0*	*$0*
Shortfall/Profit	**$0**	**($386,693)[3]**	**$0**	**$10,000**	**$176,820**	**$1,279,375[4]**	**$0**	**$303,640**
Cost/Capita[2]	**$106**	**$53**	**$112**	**$89**	**$84**	**$79**	**$91**	**$128**

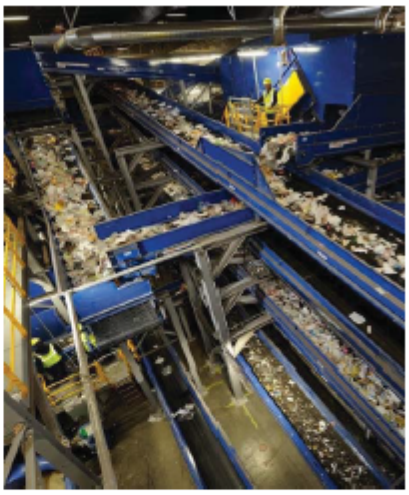
[1] Budget year: 2015 (ACRD, CSWM, CoVRD, RDN), 2014 (CRD, MWRD, PRRD, and SCRD).

[2] Based on operating budget only for the regional district (No municipal costs included). Some regional districts provide collection services to electoral areas, and other operate depots so financial numbers are not directly comparable as different services are offered.

[3] Funded with surplus

[4] Surplus includes money that is dedicated for transfer to reserve for landfill closure.

2.3 Mixed Waste Material Recovery Facility



Mixed waste material recovery facilities, also known as dirty MRFs accept mixed MSW and then separate out recyclable and compostable materials through a combination of manual and mechanical sorting. The residual waste is then disposed of. Although utilized by a number of U.S. cities, mixed waste MRFs remain a controversial approach to recycling. The quality of recyclables tends to be low after processing and materials are often downgraded (for example, fibre is composted rather than processed to be used as fibre again). Many facilities have not reached their diversion targets – although promising up to 80%, most facilities actually achieve around 50%.

The Fraser Valley Regional District is undergoing an assessment of mixed waste MRF and overall system diversion options. This includes the development of regional approaches to improve overall efficiency and cost of building and running an advanced MRF to sort garbage and remove recyclable commodities to conserving the long-term disposal capacity at landfills in the region.

2.4 Waste to Energy

Despite diversion programs, there is still residual waste that needs to be dealt with. Given the declining amount of landfill capacity and the significant challenges associated with siting new landfills, long-term disposal options are a high priority for regional governments. Waste to Energy (WTE) technologies are often considered a more viable option than landfilling since it converts waste materials to energy which can then be used in place of burning virgin fossil fuel. WTE facilities generate high pressure steam that can be used for industrial processes or to make electricity such as the WTE facility in Burnaby pictured below.

WTE facilities generally reduce the quantity of the residual waste materials. Depending on the technology used, expected reductions include the following:

- **Mass reduction:** 80% by weight; and
- **Volume reduction:** > 90%.

Environmental concerns associated with these systems include air emissions that could impact air quality, and residuals from the process (fly ash and bottom ash) that still require landfill disposal.

WTE technologies need to be operated at their designed processing capacity to be economical. If they are designed and sized appropriately to meet anticipated long term disposal capacities then the cost can be as projected. Two examples are summarized below.

2.4.1 Durham Region WTE Facility

Durham Region in Ontario is in the process of commissioning their mass burn WTE facility. It employs a similar thermal processing technology to Metro Vancouver's WTE facility in Burnaby. This facility is estimated to cost $260 million and process 140,000 tonnes per year.

Although this facility cost $260 million, much of the foundation and infrastructure was designed for a 400,000 t/yr facility. This facility has elevated capital costs which affects it unit processing cost. The calculated unit processing cost for the Durham WTEF is estimated to be $250 per tonne. This includes a 20 year amortization at a interest rate of 6%. If the facility was built for its design capacity, the unit processing cost is estimated to be $150 per tonne. This includes the cost for disposal of the residuals.

2.4.2 City of Edmonton WTE Facility

The City of Edmonton in Alberta is also commissioning a WTE facility that uses gasification technology from Enerkem. This facility is one of the first commercial scale gasification facilities in North America and cost over $210 million. It is designed to process 100,000 tonnes of MSW annually.

The unit processing cost was calculated for the Enerken facility. Additional pre-processing activities supports higher operating costs (estimated to be 20% higher than the Durham WTEF. The unit processing cost is estimated to be $195 per tonne.

2.4.3 Tri-Regional District WTE Feasibility Study

In 2010, the Tri-Regional District Solid Waste Study was commissioned that assessed the feasibility of thermal treatment (or WTE) technologies for MSW for the three southern Vancouver Island regional districts. The study assessed different technologies, considering the combined solid waste available from the three regional districts. The figure below illustrates the expected unit processing cost for thermal treatment technologies based on their design processing capacity. For the three regional districts, the design capacity was 200,000 tonnes per year. This indicates a unit processing capacity that is just over $100 per tonne. For more information see Section 3.5.

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ERM 16-21

REPORT TO ENVIRONMENTAL SERVICES COMMITTEE
MEETING OF WEDNESDAY, MARCH 23, 2016

SUBJECT **Disposal of Asbestos Containing Materials at Hartland**

ISSUE

To seek direction regarding the disposal of waste that contains asbestos at Hartland landfill.

BACKGROUND

Asbestos was commonly used in many construction materials pre-1990. As renovations and demolitions occur, waste asbestos containing materials (ACM) may be generated, such as asbestos in drywall mud compound. There is additional risk to worker and customer health and safety as a result of receiving ACM at the landfill, due to its potentially hazardous nature. Hartland landfill is authorized by the Ministry of Environment (MOE) to receive and landfill ACM under specific conditions (Appendix A).

WorkSafe BC has rules in place requiring Hazardous Material Surveys for commercial demolition or renovation projects. These surveys typically look for the presence of ACM and other hazardous materials such as lead-based paint. Homeowners conducting their own renovations are not subject to WorkSafe BC requirements and it is difficult for staff to determine whether the demolition waste contains ACM, as the homeowner has usually not done a hazardous material assessment or sampling.

There is an ongoing demand for ACM disposal at Hartland landfill in the order of 1,200 tonnes per year, increasing in 2015 up to a total of over 3,400 tonnes. Approximately 12% of disposed ACM is from outside the Capital Regional District (CRD). As a result of the increasing trend of asbestos disposal at Hartland in 2015, a review of ACM airspace use conducted in early 2016 indicates that asbestos disposal uses approximately five times as much air space as regular refuse since ACM cannot be compacted. Additional labour is also needed to properly manage ACM disposal.

To generate the same revenue per volume of air space ratio as refuse, the ACM tipping fee would need to be raised to $400 per tonne. That is without consideration of the extra labour costs for managing ACM. Increasing the tipping fee to $500 per tonne would also recover the extra labour costs associated with enquiries, appointments, paperwork, spotting deliveries, immediate covering and extra safety procedures.

Several landfills on Vancouver Island accept waste asbestos from local customers only. For a number of areas there are no local disposal options. The Regional District of Nanaimo (RDN) landfill will accept ACM from the Cowichan Valley Regional District (CVRD). RDN currently charges currently $250 per tonne for in region asbestos and $300 per tonne for CVRD asbestos. Other than RDN's acceptance of CVRD asbestos, Hartland landfill is the only Vancouver Island landfill that accepts out of region asbestos and is the only landfill in the CRD that accepts asbestos.

Drywall was banned from disposal at Hartland in 1991, but is received for recycling at several waste transfer stations in the region. As a result, CRD bylaws only allow drywall with proof of ACM to be received at Hartland landfill. Properly packaged and manifested ACM is currently accepted at Hartland for a tipping fee of $157 per tonne for in-region and $311 per tonne for out-of-region ACM.

ALTERNATIVES

That the Environmental Services Committee recommend to the Capital Regional District Board:

Alternative 1

That staff be directed to amend the Hartland Tipping Fee and Regulation Bylaw No. 3881 to increase the tipping fee for in-region asbestos containing material to $400 per tonne and increase the tipping fee for out-of-region asbestos containing material to $500 per tonne, effective January 1, 2017.

Alternative 2

That staff be directed to amend the Hartland Tipping Fee and Regulation Bylaw No. 3881 to increase the tipping fee for out-of-region asbestos containing material to $500 per tonne, leaving in-region asbestos at $157/tonne, effective January 1, 2017

Alternative 3

That staff be directed to amend the Hartland Tipping Fee and Regulation Bylaw No. 3881 to increase the tipping fee for in-region asbestos containing material to $400 per tonne and discontinue acceptance of out-of-region asbestos containing material, effective January 1, 2017

SOCIAL IMPLICATIONS

An increase in tipping fee for ACM may result in additional illegal dumping. This material is a hazardous waste regulated by the Ministry of Environment (MOE). Discontinuing acceptance of ACM from out-of-region would result in non-CRD customers needing to find alternative disposal sites.

ENVIRONMENTAL IMPLICATIONS

Waste asbestos is properly managed at Hartland landfill as required under the Authorization issued by the MOE. No change in handling practices are anticipated. There are potential environmental impacts from landfilling increasing volumes of ACM drywall including increased hydrogen sulfide (H_2S) in landfill gas and increased sulphides in leachate.

ECONOMIC IMPLICATIONS

Maintaining the tipping fee at $157 per tonne subsidizes ACM disposal at Hartland. An increase in the tipping fee for waste asbestos to $400 per tonne would provide the equivalent revenue per volume of air space ratio as refuse, and based on 2015 tonnage, would recover lost air space value in the order of $740,000 per year. Increasing the tipping fee to $500 per tonne for out-of-region ACM to cover air space value and extra labour cost of $75,000 per year for managing out-of-region ACM. As a result, Hartland staff are being reassigned work on a priority basis and there are enough auxiliary hours budgeted to manage the increased workload.

Adjusting the tipping fees beginning January 1, 2017 avoids an unbudgeted mid-year 2016 cost adjustment for industry and provides time to prepare their 2017 budgets accordingly.

CONCLUSION

The tipping fee for ACM at Hartland landfill does not currently recover the equivalent revenue per volume of air space ratio as refuse, as it cannot be compacted. The disposal of ACM poses a risk to worker and customer health and safety and requires special handling. An increase in the tipping fees for both in and out-of-region ACM is required to more fully recover these costs.

RECOMMENDATION

That the Environmental Services Committee recommend to the Capital Regional District Board:

That staff be directed to amend the Hartland Tipping Fee and Regulation Bylaw No. 3881 to increase the tipping fee for in-region asbestos containing material to $400 per tonne and increase the tipping fee for out-of-region asbestos containing material to $500 per tonne, effective January 1, 2017.

Submitted by:	Russ Smith, Senior Manager, Environmental Resource Management
Concurrence:	Larisa Hutcheson, P.Eng., General Manager, Parks & Environmental Services
Concurrence:	Robert Lapham, MCIP, RPP, Chief Administrative Officer

CR:dd

Attachment: Appendix A – Authorization to Receive and Landfill Waste Asbestos

BRITISH COLUMBIA

July 23, 2012

File: MR-12659, BCG 15394

Tom Watkins
Capital Regional District
625 Fisgard Street
Victoria BC V8W 1R7

Dear Mr. Watkins:

Re: Authorization to Dispose of Hazardous Waste Asbestos at the Hartland Landfill

The Hazardous Waste Regulation (HWR) requires that any landfill operator wishing to dispose of waste asbestos in a landfill other than a secure landfill must first receive Director's authorization for the disposal.

Pursuant to section 40(2)(e) of the HWR, the Capital Regional District is hereby authorized to deposit waste asbestos at the Hartland Landfill.

Disposal of hazardous waste asbestos must comply with all requirements of section 40 of the HWR. Further, pursuant to HWR section 40(2)(e), the following requirements must also be met (note that unless otherwise specified, the references to "asbestos" below refer to waste asbestos as defined in the HWR).

1. Incoming asbestos loads shall be inspected to verify that the material is properly contained and labeled. If incoming loads are not properly contained and labeled in accordance with the HWR, please contact this office, identifying the generator and transporter, and briefly describe the non-compliance.

2. Asbestos shall be managed in accordance with Section 40(2)(e) of the HWR.

3. The perimeter of asbestos disposal sites shall be clearly marked on the ground with appropriate signage and on site plans.

4. Warning signs shall be displayed at the facility entrance and at asbestos disposal sites. The signs shall read: "Asbestos Waste Disposal Site. Breathing asbestos dust may cause lung disease/or cancer".

RECEIVED
JUL 30 2012
HARTLAND

.../2

Ministry of Environment
West Coast Region
Environmental Protection Division
Mailing Address:
2080A Labieux Rd
Nanaimo BC V9T 6J9
Telephone: 250 751-3100
Facsimile: 250 751-3103
Website: www.gov.bc.ca/env

5. Asbestos sites shall be located in areas planned to be left undisturbed. The Regional Manager, Environmental Protection, shall be notified at least two weeks prior to disturbance of any area thought to contain an asbestos deposit where the planned disturbance could result in the uncovering of the asbestos.

6. Records of asbestos management shall be kept on file for the duration of facility operation and must be made available upon request. Records shall include the amount of asbestos accepted each year, the locations of the deposits, and a year to year tally of the total asbestos deposited at the facility.

7. Provisions for maintaining the integrity of the asbestos disposal locations shall be included in the closure plan for the facility.

It is also the responsibility of the landfill owner to ensure that all activities conducted under this authorization are carried out with regard to the rights of third parties, and comply with other applicable legislation that may be in force, including that addressing the occupational health and safety of employees at the landfill site.

Please note that generators or their contractors are not required to obtain authorization, in addition to the authorization provided by this letter, for the disposal of asbestos to an authorized landfill.

Please attach this letter to your operational certificate or permit.

Should you have any questions please contact the undersigned at 250 751-3254.

Yours truly,

Hubert Bunce
Section Head
for Director, *Environmental Management Act*

Making a difference...together

EEP 16-26

REPORT TO ENVIRONMENTAL SERVICES COMMITTEE
MEETING OF WEDNESDAY, MARCH 23, 2016

SUBJECT **Winter Shoreline Bacterial Levels – Core Area and Saanich Peninsula**

ISSUE

Investigations indicate a number of high-use public beaches in the Core Area and Saanich Peninsula have conditions that exceed Health Canada guidelines for recreational use during and after winter rainfall events.

BACKGROUND

There are two types of concerns at shoreline and beach areas during the winter related to rainfall events. During times of high rainfall when conveyance systems are overwhelmed, sewage overflows of highly dilute sewage occur, on average, one or two times per month in areas along the Core Area shoreline and very rarely on the Saanich Peninsula. During all rainfall events, including those that do not trigger overflows, contamination from stormdrains can enter the ocean.

Health Canada has set water quality guidelines for recreational contact with marine water using a risk management approach to safe recreational water quality. Island Health monitors Capital Regional District (CRD) swimming beaches from late May to early September (dry season) each year. Historically, no beach monitoring occurred during the winter due to the assumed lower level of public recreation.

Following discussions with Island Health staff, the CRD undertook a four-month investigation in the winter of 2015-2016 and collected samples for enterococci analysis at areas with the potential for high winter public use – nine beaches/shorelines in the Core Area and eight beaches/shorelines on the Saanich Peninsula (Appendix A, Maps 1 and 2). Staff collected seawater samples twice per month, approximately 1.5 m out from the shoreline, with a focus to target rainfall events when possible, although sampling also captured some dry periods.

This is a preliminary report of findings that are currently being discussed with Island Health and municipalities, which will be presented in the 2015 Core Area and Saanich Peninsula Stormwater Quality Annual Reports due in late 2016.

ENVIRONMENTAL IMPLICATIONS

As part of an integrated watershed management strategy, the CRD has improved efforts to evaluate receiving environment effects due to stormwater. Winter use of our nearshore waters has become more common in recent years; therefore, assessment of these conditions is prudent. Additionally, climate change is causing more intense rain events in the winter, which has the potential to increase loading of contaminants in stormwater. There are more than 1,000 stormwater discharges in the region and the majority are either at the shoreline or to watercourses that ultimately discharge to the ocean.

The results of shoreline sampling over the winter of 2015-2016 are presented in Appendix A, Tables 1 and 2. Island Health uses Health Canada guidelines to determine public health safety and the Integrated Watershed Management Program uses these same guidelines as an assessment tool. For enterococci, the guidelines are a geometric mean of 35 CFU/100 mL over five samples or a single sample exceeding 70 CFU/100 mL. In Tables 1 and 2, each result highlighted in a grey cell indicates a sample exceeding the single sample guideline. Black highlighted cells show locations that exceed the sample geometric mean over the study period (all samples are included rather than using the five-sample Health Canada guideline).

This data has been shared with Island Health and the relevant municipalities. Island Health monitors many local beaches during the peak usage time of May to September. Island Health data indicates that contamination is not widespread during the dry season. CRD sampling agrees with Island Health's dry season results where CRD sampling is done in the same locations.

The next steps in this work are to determine sources of bacteria in order to assist local governments to develop management actions. Enterococci bacteria can be from humans (e.g., sewage, septic tanks) or animals (e.g., deer, dogs, birds) and bacterial source tracking analysis can often determine the source. Different parts of the region have different issues. On the Saanich Peninsula, staff expect more contribution from animals and agriculture sources, whereas in the Core Area, more infrastructure-related issues are anticipated. This study did not assess different weather and tidal conditions nor the spatial distribution of bacteria in the water, and more work is needed to gather that data.

PUBLIC HEALTH IMPLICATIONS

Due to the findings in this report, the CRD will continue investigations and work with municipalities and Island Health to further assess the shoreline areas of high public use and develop public education and notification strategies for the 2016-2017 winter season.

FINANCIAL IMPLICATIONS

This work was funded from the 2015 and 2016 Core Area and Saanich Peninsula stormwater program budgets. Further studies in 2016 and 2017, if required, will be funded from these budgets by diverting funds from other work plan items, if needed. CRD staff will be undertaking 2016 summer and winter marine monitoring for District of Sooke and Juan de Fuca Electoral Area as part of the 2016 work plan, which will provide some nearshore bacterial data for the Sooke Harbour, Inlet and Basin.

CONCLUSIONS

Island Health data, supplemented with CRD data, indicate that summer conditions at beaches in the Core Area and Saanich Peninsula generally meet recreational contact guidelines. CRD data from the past winter indicate that bacterial levels in the ocean near stormdrains are likely to exceed those guidelines. All locations sampled by the CRD in the winter of 2015-2016 had at least one sample over the Health Canada guidelines and almost all sites exceed the longer-term average guideline. CRD, municipalities and Island Health will work together to collect more data and work on public education and notification strategies as needed for the 2016-2017 season.

RECOMMENDATION

That the Environmental Services Committee receive this report for information.

Submitted by:	Glenn Harris, Senior Manager, Environmental Protection
Concurrence:	Larisa Hutcheson, General Manager, Parks & Environmental Services
Concurrence:	Robert Lapham, Chief Administrative Officer

DG:cam

Attachment: Appendix A – Core Area and Saanich Peninsula Beaches Enterococci Sampling Station Maps and Sampling Results Tables

Table 1: Core Area Beaches Enterococci Sampling Results

Sampling Location		Enterococcus (CFU/100 mL)										
		Sampling Dates										Geomean
		15-Oct-15	26-Oct-15	24-Nov-15	08-Dec-15	29-Dec-15	04-Jan-16	18-Jan-16	05-Feb-16	22-Feb-16	23-Feb-16	
Cordova Bay	574-M	46	1,400	40	360	NS	NS	NS	NS	NS	NS	175
	578-M	220	450	10	1,600	32	10	12	14	1000	NS	76
Cadboro Bay	508-M	24	170	16,000	2,100	28	20	24	6	NS	9	77
	505-M	36	1,500	1	610	17	13	12	310	NS	4	36
	503-M	100	1,200	60	770	380	120	1200	3600	NS	1200	478
Willows Beach	322-M	7	1,000	74	280	14	170	34	350	NS	9	69
	320-M	11	1,500	1,800	9	76	280	1600	330	38	NS	169
McNeill Bay	249-M	9	560	7	40	14	12	9	8	85	NS	22
	245-M	3	78	49	600	92	140	29	37	1300	NS	79
Gonzales Bay	230-M	7	330	240	68	27	14	21	12	7	NS	31
	229-M	5	500	32,000	2,800	290	20	640	1300	NS	13	289
Ross Bay	222-M	15	870	13	79	10	31	19	5	60	NS	31
	216-M	72	27	21	240	17	41	130	230	210	NS	70
Upper Harbour, Swift St.	622-M	8	200	410	2,000	200	60	25	350	270	NS	149
Gorge Park	742-M	25	230	310	2,600	180	130	230	200	350	NS	229
Selkirk Trestle	641-M	1	330	230	3,100	25	48	87	67	NS	34	73
Total Rainfall (mm; previous 2 days and day sampling occured)		0.0, 0.0, 0.0	0.3, 9.8, 1.5	0.0, 7.7, 0.8	2.8,5.8,35.8	4.8, 0.3, 1.8	0.0, 0.2, 1.2	3.8, 2.5, 0.5	1.1, 2.2, 6.6	0.0, 0.0, 1.4	0.0, 1.4, 0.0	

Notes:

Samples were collected in the marine environment in front of stormwater discharges,. **NS=Not Sampled**

Grey shading indicates single sample values above the Health Canada recreational guideline for primary contact (70 CFU/100 mL)

Black shading indicates that the geomean of the past several sample results is greater than 35 Enterococci per sample

Rainfall data is for 2 days previous, 1 day previous to sampling and the day sampling occurred, in that order.

Rainfall data from KWL rainfall gauge, Douglas and Finalyson

Counts were estimated by lab on November 24, 2015 due to overgrowth at 508-M and 229-M

Sampling was targeted during rainfall, when possible.

Map 1: Core Area Enterococci Breach Sampling Stations

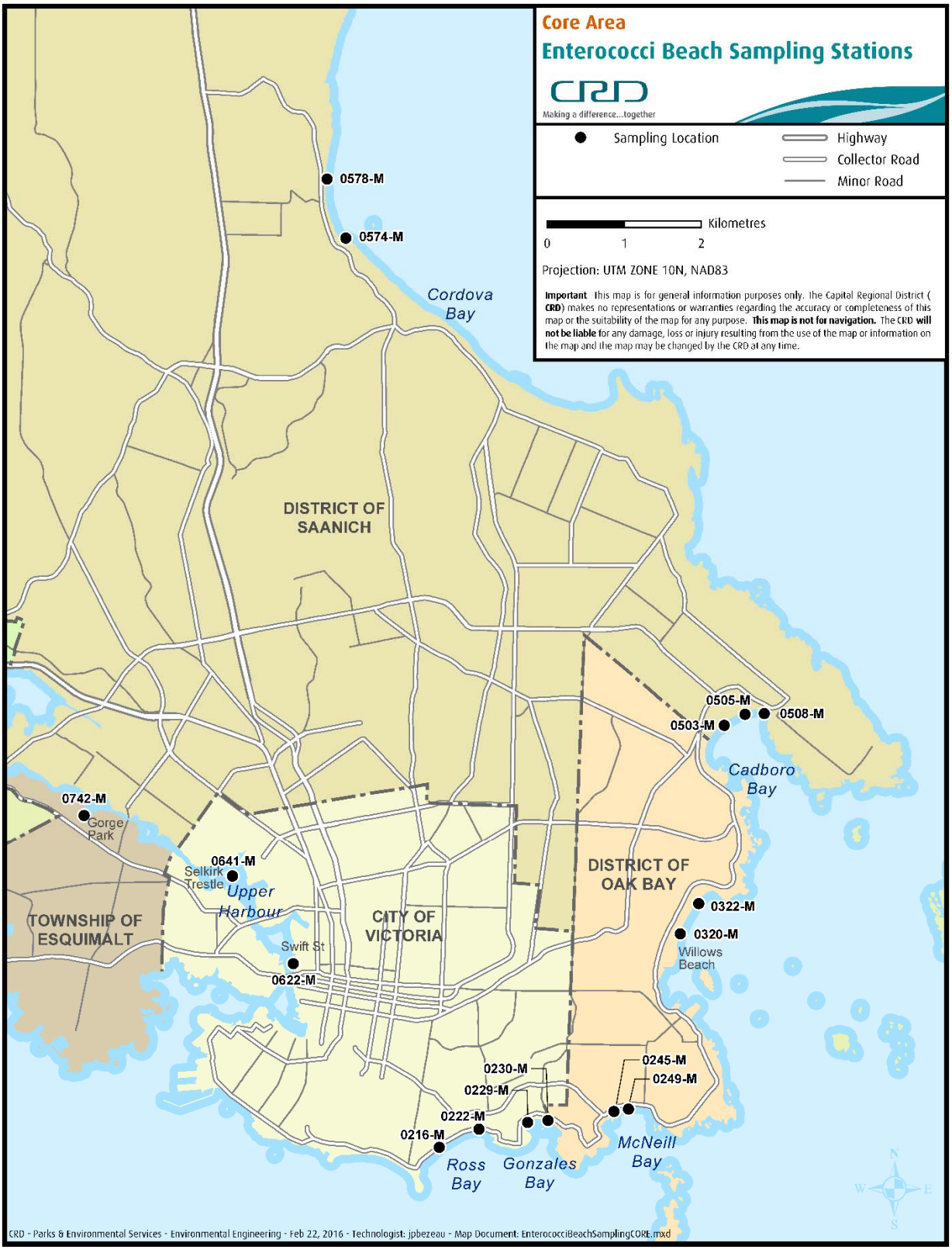


Table 2: Saanich Peninsula Beaches Enterococci Sampling Results

Sampling Location		Enterococcus (CFU/100 mL)										
		Sampling Dates										Geomean
		14-Oct-15	28-Oct-15	12-Nov-15	23-Nov-15	11-Dec-15	22-Dec-15	08-Jan-16	21-Jan-16	01-Feb-16	15-Feb-16	
Saanichton Bay	416-M	15	**1200**	**240**	16	ns	5	2	ns	25	ns	29
Bazan Bay, Tulista Park	446-M	1	**94**	**1800**	2	16	6	8	**1200**	1	2	15
	447-M	14	**1600**	**2400**	1	34	1	**730**	**840**	1	**370**	58
Robert's Bay	3005-M	13	**1500**	37	1	20	20	2	**10000**	4	**820**	42
	3006-M	1	**1600**	**700**	12	60	20	1	**2100**	11	**2500**	63
Deep Cove	3078A-M	12	**320**	35	4	7	16	10	**250**	14	**570**	32
	3079-M	36	**460**	20	9	38	21	5	**1000**	23	**250**	48
Coal Point	3087-M	12	**9100**	**1000**	13	34	9	1	**1800**	48	**1700**	96
Patricia Bay	3114-M	4	**150**	**94**	2	13	12	5	38	7	**100**	17
Coles Bay	3118-M	22	**270**	**2600**	37	14	40	5	**1700**	6	**1000**	83
	3120-M	14	**92**	**560**	16	21	16	3	**1200**	5	**1200**	49
Brentwood Bay	3142-M	16	**250**	**1600**	**130**	**79**	29	1	**1600**	**120**	**1200**	116
Total Rainfall (mm; previous 2 days and day sampling occured)		0.0, 0.0, 4.9	7.7, rain, 12.8*	4.0, 1.4, 22.6	0.0, 0.0, 8.6	some rain, 5.0, 0.0*	8.4 ,4.4, 3.4	0.4, 0.0, 0.0	trace, 3.8, 36.6	1.6, 1.4, 1.4	10.2, 2.0, 45.0	

Notes:

Samples were collected in the marine environment in front of stormwater discharges

Sampling occurred every two weeks and targeted rainy days, when possible.

ns = not sampled; beach was inaccessible due to tide levels.

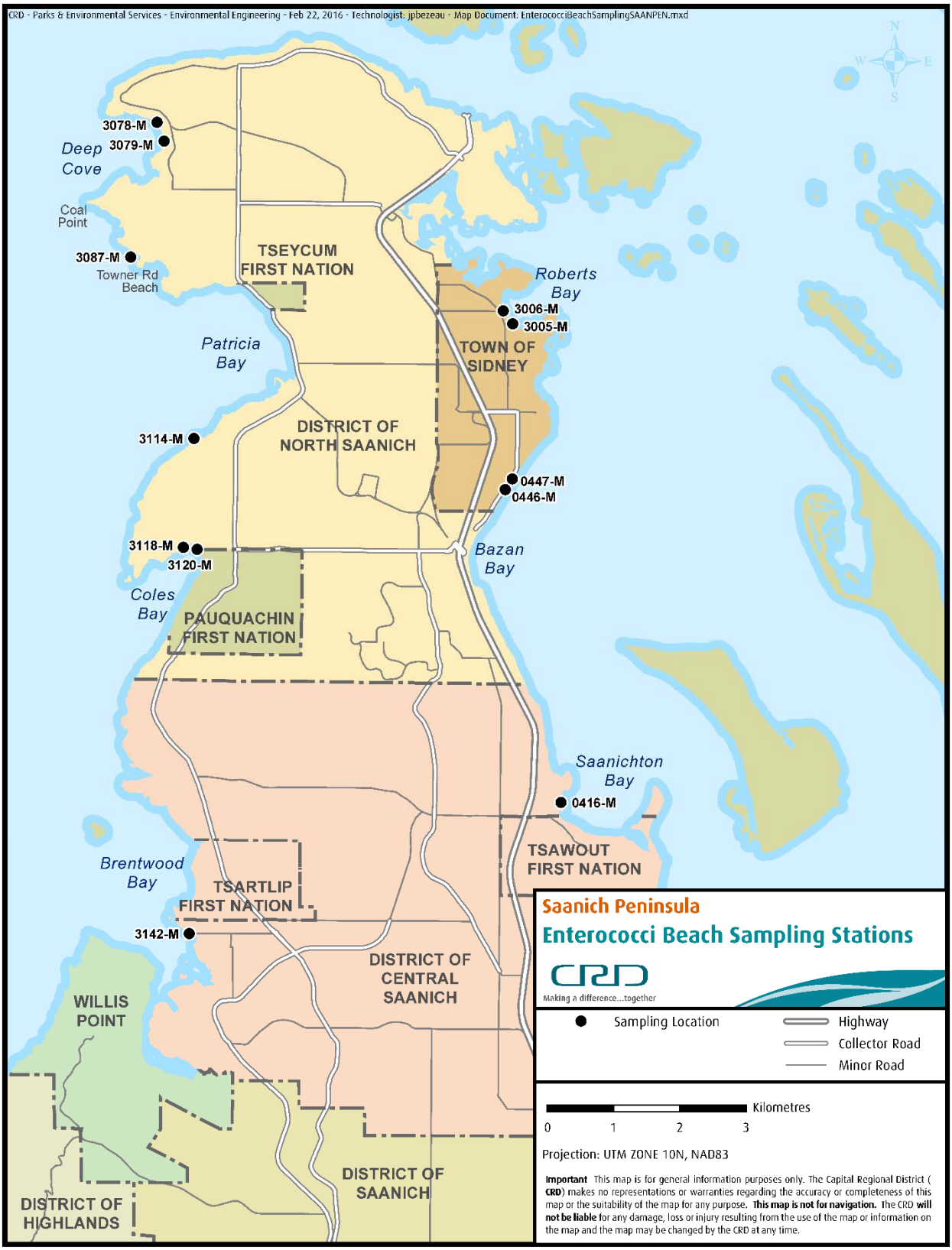
Rainfall data from Environment Canada for Victoria International Airport

*EC's rainfall data was missing on October 27 and December 9

Grey shading indicates single sample values above the Health Canada recreational guideline for primary contact (70 CFU/100 mL)

Black shading indicates that the geomean of the past several sample results is greater than 35 Enterococci per sample

Map 2: Saanich Peninsula Enterococci Beach Sampling Stations



The Corporation of the District of Central Saanich

January 13, 2016 File No. 0400-60/16

Capital Regional District
Parks & Environmental Services
PO Box 1000
625 Fisgard Street
Victoria, BC V8W 1R7

CRD PARKS & ENVIRONMENTAL SERVICES
JAN 21 2016
GM'S OFFICE

Attention: Larisa Hutcheson
General Manager

Dear Ms. Hutcheson:

Re: Curbside Glass Collection

Reference is made to a Notice of Motion submitted by Councillor Bob Thompson regarding glass recycling.

At the Regular Council Meeting held on December 21, 2015, the Municipal Council of the District of Central Saanich resolved as follows:

1007.15 That Council write to the Capital Regional District and request that the CRD:

- *Consider a media campaign to inform the public about the need to separate glass from other recyclables for the Blue Box curbside pickup, to encourage residents not to include deposit glass in recycling and to offer options for return of deposit glass; and,*
- *Update the CRD website Blue Box web pages to provide better information about (a) recycling and separating glass and (b) options for returning deposit glass.*

Should you have any questions with respect to this matter, please do not hesitate to contact the Corporate Officer, Ms. Liz Cornwell, at 250-544-4202.

Yours truly,

Ryan Windsor
Mayor

1903 Mount Newton Cross Road, Saanichton, B.C. V8M 2A9
Phone: (250) 652-4444 Fax: (250) 652-0135