Regional District of Central Kootenay
JOINT RESOURCE RECOVERY COMMITTEE
Open Meeting Addenda

Date: Wednesday, December 7, 2022

Time: 1:00 pm

Location: Hybrid Model - In-person and Remote

Directors will have the opportunity to participate in the meeting electronically. Proceedings are open to the public.

Pages

1. WEBEX REMOTE MEETING INFO

To promote openness, transparency and provide accessibility to the public we provide the ability to attend all RDCK meetings in-person or remote.

Join by Video:

https://nelsonho.webex.com/nelsonho/j.php?MTID=md000a7fc48b8ec52152f456978575618

Join by Phone:

1-844-426-4405 Canada Toll Free
+1-604-449-3026 Canada Toll (Vancouver)

Meeting Number (access code): 2464 622 8955
Meeting Password: aGrVuVXU722

2. CALL TO ORDER & WELCOME

Director Popoff to call the meeting to order at 1:00 pm (PST) / 2:00 pm (MST).

2.1 TRADITIONAL LANDS ACKNOWLEDGEMENT STATEMENT

We acknowledge and respect the indigenous peoples within whose traditional lands we are meeting today.

2.2 ADOPTION OF THE AGENDA

RECOMMENDATION:
The agenda for the December 7, 2022 Joint Resource Recovery meeting

be adopted as circulated.

2.3 RECEIPT OF MINUTES 4 - 10

The October 12, 2022 Joint Resource Recovery minutes, have been received.

3. RURAL ORGANICS ALTERNATIVE TECHNOLOGY ASSESSMENT 11 - 27

The December 1, 2022 Committee Report from Alayne Hamilton, Environmental Projects Lead, presenting the preliminary findings of a high-level cost comparison, a greenhouse reduction comparison, and diversion estimates for rural organics programs that could utilize in-home foodwaste processing systems, traditional curbside, or a combination thereof, has been received.

RECOMMENDATION:

That the Board direct staff to take no further steps investigating at-home food dehydrators/grinders or other at-home systems at this time for rural areas deemed feasible to receive conventional curbside collection services.

4. HB TAILINGS FACILITY REMEDIATION & CLOSURE PROJECT - PROJECT UPDATE & FINANCIAL PLAN AMENDMENT *28 - 39*

The ***REVISED*** December 1, 2022 Committee Report from Alayne Hamilton, Environmental Projects Lead, providing an update on the HB Closure and Remediation project including cost increases, and to request approval for a financial plan amendment for additional tasks related to completion of the project, has been received.

RECOMMENDATION:

That the Board direct staff to amend the 2022 Financial Plan for Service S187 Central Resource Recovery to increase the Capital Expenses Account 60000 by an additional $714,084 for the HB Tailings Facility Remediation and Closure Project, and increase Account 43100 Proceeds from Borrowing by $543,834, and increase Contribution from Central Resource Recovery Regular Reserve by $170,250.

5. RURAL CURBSIDE CONSULTATION / NEW SERVICE APPROVAL PROCESS 40 - 57

The December 1, 2022 Committee Report from Matt Morrison, Organics Coordinator, providing a framework of tools staff are planning to use as part of the Phase 2 Consultation with identified Electoral Area residents, and seek direction on the planning for a method of obtaining Service Establishment Bylaw approval for the proposed curbside collection services, has been received.

RECOMMENDATION:

That the Board direct staff to proceed with the framework of tools presented for the Phase 2 Consultation with Electoral Area residents, with the final consultation package to be brought back to the Committee for review in January 2023 and an additional $992 for consultation costs be incorporated into the Draft 2023 Financial Plan in Service A102 Resource Recovery;

AND FURTHER that, the Board direct staff to plan for adoption of the future service establishment bylaw for waste collection services using the Assent Voting

Process and that $60,000 be added to the Draft 2023 Financial Plan for Service A102 Resource Recovery.

6. ***RECYCLE BC DRAFT PLAN CONSULTATION & FEEDBACK LETTER*** *58 - 119*

The November 25, 2022 Committee Report from Travis Barrington, Resource Recovery Technician, presenting a brief background on the history of the Recycle BC (RBC) extended producer responsibility (EPR) program, its role in recycling in the RDCK, and an analysis of the proposed changes to RBC's EPR plan, has been received.

7. ***CRESTON LANDFILL PHASE 1E CLOSURE FUNDING***

The Committee Report from Amy Wilson, Resource Recovery Manager, requesting request direction on funding the recently completed Creston Landfill Phase 1E closure works, ***will be laid on the table***.

Staff Update: Uli Wolf, General Manager of Environmental Services, will provide a verbal report on the Creston Landfill Phase 1E Closure Funding. The Committee Report ***will not be laid on the table*** and will be presented to the East Resource Recovery Committee at their January 13, 2023 meeting.

8. ***RESOURCE RECOVERY PLAN REVIEW BY MINISTRY OF ENVIRONMENT*** *120 - 121*

Amy Wilson, Resource Recovery Manager, will provide a verbal report on the timeline for the review of the Resource Recovery Plan by the Ministry of Environment. The DRAFT letter requesting to expedite the review by the Ministry, has been received.

9. ***2023 SUB-REGIONAL RESOURCE RECOVERY COMMITTEE BUDGET MEETINGS***

Amy Wilson, Resource Recovery Manager, will provide a verbal update on the 2023 Sub-regional Resource Recovery Committee Budget meetings.

10. **PUBLIC TIME**

The Chair will call for questions from the public and members of the media at 3:00 pm (PST) / 4:00 pm (MST).

11. **ADJOURNMENT**

RECOMMENDATION:

The Joint Resource Recovery Committee meeting adjourn at _____ pm (PST) / _____ pm (MST).

Regional District of Central Kootenay
JOINT RESOURCE RECOVERY COMMITTEE MEETING
Open Meeting Minutes

A Joint Resource Recovery Committee meeting was held on Wednesday, October 12, 2022 at 1:00 pm by remote meeting due to Novel Coronavirus 2019 (COVID-19).

ELECTED OFFICIALS PRESENT	Director G. Jackman	Electoral Area A (Chair)	In-person
	Director T. Wall	Electoral Area B	In-person
	Director A. Casemore	Electoral Area C	In-person
	Director A. Watson	Electoral Area D	In-person
	Director R. Faust	Electoral Area E	
	Director T. Newell	Electoral Area F	
	Director H. Cunningham	Electoral Area G	In-person
	Director W. Popoff	Electoral Area H	In-person
	Director A. Davidoff	Electoral Area I	
	Director R. Smith	Electoral Area J	In-person
	Director P. Peterson	Electoral Area K	In-person
	Director D. Rye	City of Castlegar	In-person
	Councillor A. DeBoon	Town of Creston	
	Director S. Hewat	Village of Kaslo	In-person
	Alt. Director J. Hughes	Village of Nakusp	In-person
	Alt. Director K. Page	City of Nelson	
	Director C. Moss	Village of New Denver	In-person
	Director D. Lockwood	Village of Salmo	In-person
	Director L. Main	Village of Silverton	In-person
	Director J. Lunn	Village of Slocan	
STAFF PRESENT	U. Wolf	GM of Environmental Services	In-person
	Y. Malloff	GM of Finance, IT, ED	
	A. Wilson	Resource Recovery Manager	In-person
	S. Eckman	Meeting Coordinator	In-person

1. WEBEX REMOTE MEETING INFO

Join by Video:
https://nelsonho.webex.com/nelsonho/j.php?MTID=mc3c8418d6a3c9c52eb1f634f98855bb4

Join by Phone:
1-844-426-4405 Canada Toll Free
+1-604-449-3026 Canada Toll (Vancouver)

Meeting Number (access code): 2466 238 0539
Meeting Password: s4aJNMbS3S2

The following location has been determined to hold the in-person meetings for the Joint Resource Recovery Committee:

Location Name: RDCK Board Room
Location Address: 202 Lakeside Drive, Nelson, BC

The facility listed above was able to accommodate the remote requirements for the meeting.

2. CALL TO ORDER

Director Jackman assumed the chair and called the meeting to order at 1:00 pm.

2.1 TRADITIONAL LANDS ACKNOWLEDGEMENT STATEMENT

We acknowledge and respect the indigenous peoples within whose traditional lands we are meeting today.

2.2 ADOPTION OF THE AGENDA

Moved and seconded,
And resolved:

The Agenda for the October 12, 2022 Joint Resource Recovery Committee meeting be adopted as circulated.

Carried

2.3 RECEIPT OF MINUTES

The September 21, 2022 Joint Resource Recovery Committee Minutes have been received.

3. SNOW REMOVAL & SITE MAINTENANCE – CONTRACT AWARD

The October 5, 2022 Committee Report from Travis Barrington, Resource Recovery Technician, presenting the bids submitted to the Request for Quotes: Snow Removal & Maintenance – Recycling Depots & Transfer Stations and to receive authorization to award the Goods and Services Agreements to the recommended bidders, has been received.

Director Lunn joined the meeting at 1:03 pm
Director Davidoff joined the meeting at 1:07 pm.

Moved and seconded,
And resolved that it be **recommended** to the Board:

That the Board approve the RDCK enter into a Goods and Services Agreement with Akokli Construction for the snow removal and maintenance services at the Boswell Transfer Station and Recycling Depot and Crawford Bay Transfer Station and Recycling Depot for a three period commencing November 1, 2022 with an option to renew the Agreement for two (2) x one (1) year

terms, for an estimated value of $149,625 (excluding GST), and that the Chair and Corporate Officer be authorized to sign the necessary documents;

AND FURTHER, that the costs be paid from Service S186 East Resource Recovery and Service A116 East Resource Recovery Recycling.

Carried

Moved and seconded,
And resolved that it be **recommended** to the Board:

That the Board approve the RDCK enter into a Goods and Services Agreement with Brenton Industries for the snow removal and maintenance services at the Kaslo Transfer Station and Recycling Depot and Marblehead Transfer Station and Recycling Depot for a three year period commencing November 1, 2022 with an option to renew the Agreement for two (2) x one (1) year terms, for an estimated value of $110,880 (excluding GST), and that the Chair and Corporate Officer be authorized to sign the necessary document;

AND FURTHER, that the costs be paid from Service S187 Central Resource Recovery and Service A117 Central Resource Recovery Recycling.

Carried

Moved and seconded,
And resolved that it be **recommended** to the Board:

That the Board approve the RDCK enter into a Goods and Services Agreement with Kline Motors for the snow removal services at the Grohman Narrows Transfer Station and Recycling Depot and Nelson Lakeside Recycling Depot for a three year period commencing November 1, 2022 with an option to renew the Agreement for two (2) x one (1) year terms, for an estimated value of $120,015 (excluding GST), and that the Chair and Corporate Officer be authorized to sign the necessary documents;

AND FURTHER, that the costs be paid from Service S187 Central Resource Recovery and Service A117 Central Resource Recovery Recycling.

Carried

Moved and seconded,
And resolved that it be **recommended** to the Board:

That the Board approve the RDCK enter into a Goods and Services Agreement with 1022117 Alberta Ltd. o/a Dynamic Landscaping & Renos for the snow removal services at the Central Transfer Station, Ymir Transfer Station, Crescent Valley Recycling Depot and Winlaw Recycling Depot for a three year period commencing November 1, 2022 with an option to renew the Agreement for two (2) x one (1) year terms, for an estimated value of $59,535 (excluding GST), to be paid from Service S187 Central Resource Recovery and $87,098 be paid from Service A118

West Resource Recovery Recycling;

AND FURTHER, that the Chair and Corporate Officer be authorized to sign the necessary documents.

Carried

Moved and seconded,
And resolved that it be **recommended** to the Board:

The Board direct Staff to negotiate and complete a month-to-month Goods and Service Agreement with Goat Mountain Enterprises for snow removal services at the Rosebery Transfer Station and New Denver Recycling Depot until a new contract is in place;

AND FURTHER that the Board direct Staff to issue a new procurement for these services.

Carried

Moved and seconded,
And resolved that it be **recommended** to the Board:

That the Board direct staff to engage with the Ministry of Transportation of Infrastructure regarding all transfer station access points and ensuring adequate snow removal service;

AND FURTHER, that should it require Board support that it be brought back to the Board for support.

Carried

4. PROPOSED TIPPING FEE INCREASE FOR 2023

Amy Wilson, Resource Recovery Manager, provided a verbal report on the proposed tipping fee increase for 2023 to reflect inflation, summarized below.

- *It is anticipated that the Mixed Waste Tipping Fee will increase in 2023.*
- *Estimated increase of $10.00/tonne for Mixed Waste.*
- *Staff requested direction to issue letters to all municipalities advising of the potential increase.*

Moved and seconded,
And resolved that it be **recommended** to the Board:

The Board direct Staff to inform municipalities and contractors that due to inflation, the RDCK will be reviewing all rates and we anticipate a potential 10% increase in tipping fees for 2023.

Carried

5. RECYCLE BC'S DRAFT PACKAGING & PAPER PRODUCT EPR PLAN

Recycle BC's Packaging and Paper Product Extended Producer Responsibility Plan Consultation Draft Plan dated September 29, 2022 has been received for information purposes, with it noted that Appendix B has new information on curbside eligibility, has been received.

- *Staff briefly introduced the Recycle BC's Packaging and Paper Product EPR Plan, Consultation Draft, dated September 29, 2022.*
- *Important updates include new material categories (i.e. single use and packaging like products starting January 2023), combination of material types (other flexible plastics may be comingled with overwrap starting January 2023) and changes to the curbside adjacency and equivalency criteria (page 34 in Plan).*
- *The curbside changes include removal of the requirement for 2 years of curbside garbage collection to qualify for RBC curbside collection and adjacent services would not require same service provider.*
- *They also proposed changes for depot eligibility criteria that may affect cores depots, financial incentive methodology, performance targets, contamination and audits.*
- *Travis Barrington, RRT, attended the RBC Collector's Conference on October 6-7, 2022 and will be preparing a written report detailing RBC's proposed changes for the next JRRC meeting.*

6. BURTON & EDGEWOOD TRANSFER STATIONS - CONTRACTOR TRANSFER OF OWNERSHIP

Amy Wilson, Resource Recovery Manager, provided a verbal report on the transfer of ownership of the Central Kootenay Garbage Club overseeing the Burton and Edgewood Resource Recovery Facilities, summarized below.

- *The current contractor for the Burton & Edgewood Transfer Stations, Central Kootenay Garbage Club, is in transition to a new owner, Chris Jackins.*
- *The new owner will be required to abide by all contract requirements including insurance and security.*
- *Transition is expected to occur in the fourth quarter of 2022.*
- *Staff have and will continue to engage with the new owner to discuss contract obligations and provide training.*

7. PUBLIC TIME

The Chair called for questions from the public and members of the media at 2:37 pm.

8. ADJOURNMENT

Moved and seconded,
And resolved:

The October 12, 2022 Joint Resource Recovery Committee meeting adjourn at 2:38 pm.

Carried

CERTIFIED CORRECT

Director G. Jackman
Chair, October 12, 2022 Joint Resource Recovery Committee meeting

BOARD RESOLUTIONS AS ADOPTED AT THE OCTOBER 12, 2022 JOINT RESOURCE RECOVERY COMMITTEE MEETING

RECOMMENDATION #1
That the Board approve the RDCK enter into a Goods and Services Agreement with Akokli Construction for the snow removal and maintenance services at the Boswell Transfer Station and Recycling Depot and Crawford Bay Transfer Station and Recycling Depot for a three period commencing November 1, 2022 with an option to renew the Agreement for two (2) x one (1) year terms, for an estimated value of $149,625 (excluding GST), and that the Chair and Corporate Officer be authorized to sign the necessary documents;

AND FURTHER, that the costs be paid from Service S186 East Resource Recovery and Service A116 East Resource Recovery Recycling.

RECOMMENDATION #2
That the Board approve the RDCK enter into a Goods and Services Agreement with Brenton Industries for the snow removal and maintenance services at the Kaslo Transfer Station and Recycling Depot and Marblehead Transfer Station and Recycling Depot for a three year period commencing November 1, 2022 with an option to renew the Agreement for two (2) x one (1) year terms, for an estimated value of $110,880 (excluding GST), and that the Chair and Corporate Officer be authorized to sign the necessary document;

AND FURTHER, that the costs be paid from Service S187 Central Resource Recovery and Service A117 Central Resource Recovery Recycling.

RECOMMENDATION #3
That the Board approve the RDCK enter into a Goods and Services Agreement with Kline Motors for the snow removal services at the Grohman Narrows Transfer Station and Recycling Depot and Nelson Lakeside Recycling Depot for a three year period commencing November 1, 2022 with an option to renew the Agreement for two (2) x one (1) year terms, for an estimated value of $120,015 (excluding GST), and that the Chair and Corporate Officer be authorized to sign the necessary documents;

AND FURTHER, that the costs be paid from Service S187 Central Resource Recovery and Service A117 Central Resource Recovery Recycling.

RECOMMENDATION #4
That the Board approve the RDCK enter into a Goods and Services Agreement with 1022117 Alberta Ltd. o/a Dynamic Landscaping & Renos for the snow removal services at the Central Transfer Station, Ymir Transfer Station, Crescent Valley Recycling Depot and Winlaw Recycling Depot for a three year period commencing November 1, 2022 with an option to renew the Agreement for two (2) x one (1) year terms, for an estimated value of $59,535 (excluding GST), to be paid from Service S187 Central Resource Recovery and $87,098 be paid from Service A118 West Resource Recovery Recycling;

AND FURTHER, that the Chair and Corporate Officer be authorized to sign the necessary documents.

RECOMMENDATION #5
The Board direct Staff to negotiate and complete a month-to-month Goods and Service Agreement with Goat Mountain Enterprises for snow removal services at the Rosebery Transfer Station and New Denver Recycling Depot until a new contract is in place;

AND FURTHER that the Board direct Staff to issue a new procurement for these services.

RECOMMENDATION #6
That the Board direct staff to engage with the Ministry of Transportation of Infrastructure regarding all transfer station access points and ensuring adequate snow removal service;

AND FURTHER, that should it require Board support that it be brought back to the Board for support.

RECOMMENDATION #7
The Board direct Staff to inform municipalities and contractors that due to inflation, the RDCK will be reviewing all rates and we anticipate a potential 10% increase in tipping fees for 2023.

Committee Report

Date of Report:	December 1, 2022
Date & Type of Meeting:	December 7, 2022 Joint Resource Recovery Committee
Author:	Alayne Hamilton, Environmental Projects Lead
Subject:	RURAL ORGANICS ALTERNATIVE TECHNOLOGY ASSESSMENT
File:	12-6210-20
Electoral Area/Municipality:	All sub-regions

SECTION 1: EXECUTIVE SUMMARY

The purpose of this report is to present the preliminary findings of a high-level cost comparison, a greenhouse gas reduction comparison, and diversion estimates for rural organics programs that could utilize in-home foodwaste processing systems, traditional curbside, or a combination thereof.

SECTION 2: BACKGROUND/ANALYSIS

At the July 21, 2022, Open Regular Board Meeting, the following resolution was passed:

> #495/22: *That the Board direct staff to investigate composting technology (eg: at-home food recyclers/composters, inter alia) that may be the most appropriate composting alternatives for use in the electoral areas and small municipalities that are not a part of the current Creston and Castlegar Organic Waste Curbside Programs Phase 1 process, with a report back at the December 7, 2022 Joint Resource Recovery Meeting*

As a result of resolution 495/22, Staff have been working on a preliminary high-level cost assessment to compare traditional curbside organics collection for rural areas deemed feasible to receive curbside to that of a program utilizing an in-home countertop dehydrator/grinder (pre-treatment) appliance. As part of this review, Staff have also revisited greenhouse gas (GHG) reductions estimates, diversion potential, and completed a cursory review of the in-home Bokashi system, based on a pilot project in Comox Valley Regional District.

The purpose of this exercise is to provide adequate information to the Committee to determine if they would like to proceed with additional investigations, including an independent third-party consultant review of the feasibility of an in-home countertop dehydrator program, or would like questions around the in-home systems worked into the upcoming consultation program for rural areas that could feasibly receive curbside services.

Rural Collection and In-Home System Cost Comparison

The cost comparison that has been developed is only looking at the same rural areas where a conventional curbside program was considered feasible in the 2020 Rural Curbside Collection Feasibility Study, as we have fairly detailed costing information on that proposed program.

For the cost comparison, Staff looked at an in-home countertop unit that dehydrates and grinds foodwaste into a soil amendment. This material is not composted but can, under specific conditions, be put into home composters or be dug into surficial soils; however, special care is required to ensure that the material does not decompose in anaerobic (without oxygen) conditions which could then eliminate some or all of the GHG reductions benefits of

the diversion from the landfill. The dehydrated material can also be sent to the RDCK's compost facilities but some special handling considerations are required to properly process it without causing odor or equipment issues.

Staff opted to use a FoodCycler brand in-home unit for the cost comparison as there is sufficient information on wider-scale use of the units due to the number of pilot studies currently in progress or completed in North America and Staff were able to meet with FoodCycler representatives to discuss potential options for rural areas. It should be noted that there are other similar in-home units and that only an open competitive procurement process could determine exact pricing and which units could meet the requirements of a potential rural program. Staff did look into costing and material processing capacity/acceptability of other similar in-home dehydrator systems, and found they were comparable so FoodCycler costing was carried through the assessment.

The cost comparison spreadsheet is included in Attachment A. The comparison looks at 4 different scenarios for using an in-home dehydrator/grinder and/or curbside collection. The 4 scenarios are:

- **Scenario 1** - In-home dehydrator use with community drop off points for end product. Self-haul of all materials to transfer stations. No curbside collection of any kind.
- **Scenario 2** - In-home dehydrator use with curbside collection of only organics 12 times per year. Self-haul of residual organics and garbage to transfer stations. No curbside collection of garbage.
- **Scenario 3** - In-home dehydrator use with curbside collection of bi-weekly garbage and organics 12 times per year.
- **Scenario 4** - conventional curbside for weekly organics collection only under Scenario 4a, and conventional curbside for weekly organics and bi-weekly garbage and recycling collection, under Scenario 4b.

Scenarios 1 through 3 try to quantify costs that would be paid by residents as a result of using any in-home dehydrator/grinder as those are still costs borne by each household as part of a diversion program, even if they are not applied to a parcel tax or a direct bill.

Each scenario also has a low and a high cost option based on the cost of the initial capital investment, although the final costs for each scenario are very similar despite the initial capital investment differences. Scenarios 1 through 3 all have similar base case scenarios (FoodCycler purchase, procurement support, communications, and education) and annual operating conditions (power, filters, etc). Scenarios 4a and 4b outline conventional curbside collection costs as well as capital and start-up costs associated with bin purchases, procurement support, communications, and education. For any scenario that includes collection costs, the model utilizes recent costing received from other municipalities and regional districts for collection contract and bin costs and assumes that is applicable in this region.

The findings of the cost comparison are detailed in Section 3 – Financial Analysis.

Diversion Potential

Part of the cost comparison includes disposal costs (tipping fees), so estimated tonnages were provided for all scenarios. Staff did not apply diversion or tonnage values from the FoodCycler pilots, or other marketing material from other brands, in the cost comparison and instead used waste audit and actual tonnage data from comparable regional districts and communities. The reasoning for this decision is as follows:

1. The estimated RDCK foodwaste disposal rate of 120 kilograms per household per year (kg/HH/yr) for conventional curbside diversion is based on established, community-wide programs in BC that are measured by weight. The disposal rate value was prepared using a methodology generally accepted by solid waste planners. The estimated quantity of organic material available through curbside collection is

based on the 2018 RDCK per capita disposal rate (487 kg), the percentage of total disposal from single family residential households (40%), the percentage of organic material in the waste stream (35%), the estimated recovery/capture rate (80%), and the average number of persons per household in the RDCK according to the 2016 Census (2.2). Studies have consistently shown that 80% of households generally participate in curbside programs, so this 120 kg/HH/yr represents that 80% participation rate averaged across 100% of households. This value typically represents those that were disposing of all organics in the garbage or an organics curbside bin, and the residual materials that cannot be backyard composted (meat, bones, dairy, etc).

2. FoodCycler pilot data from all completed studies indicates that the average processing rate for a unit is ~270 kg/HH/year (data from FoodCycle Science). The 270 kg/HH/yr is derived from the number of buckets processed per week (self-reported) and then FoodCycler and/or the community completing the pilot estimates tonnages from the number of buckets processed – pilot participants do not use a scale to weigh the material they are processing and instead a volume-to-weight conversion of 1 kg per bucket is used.

   As the pilot data is self-reported by those who participated, it reflects rates for 100% participation and likely captures a large portion of foodwaste that was already being diverted from the landfill previously via backyard composting; as an example, 39% of Nelson's pilot program participants already managed their foodwaste via backyard composting, 29% did a combination of garbage pickup and composting, and 10% generally indicated a combination of garbage pickup and composting in exit survey comments. Since most of the participants diverted food waste beforehand or were interested in using the unit (pilots are not randomized), the data presents inflated diversion estimates due to lack of control sample groups or real-world participation levels in a given diversion program. Staff feel that there is a large amount of uncertainty in this self-reported data and that claims made of per household weight diversion in FoodCycler pilots may not be representative of true diversion potential on a systems scale where participation is less voluntary. Staff are also uncertain that the method of deriving a weight per bucket is sufficiently accurate to estimate diversion and brought up this concern with FoodCycler. FoodCycler mentioned that in the future they will have information from third-party independent consultants on the validation of the weight estimation methodology but that it was not publicly available at this time; they did indicate that the system enacted in their pilots is generally supported in these third-party studies.

3. Performance measures collected from ~12 communities in BC have measured total waste generation (waste, recycling, organics) at approximately 400-500 kg/HH/yr (for example Trail is 500, Smithers 475, Castlegar 450, and Salmon Arm 375). Foodwaste on average makes up approximately 35% of total waste, as per waste composition studies. Using an assumption of all waste generated at 450 kg/HH/year for single family residential from these smaller communities in BC, this equates to roughly 157 kg/HH/yr of food waste if 100% of food waste is diverted. Staff felt that this estimated tonnage further puts into question if the diversion attributed to the FoodCycler at 270 kg/HH/year would apply in this region. It is possible that part of the remaining difference not detailed in item 2 above could be explained by differences in existing diversion programs and per household waste amounts in other provinces or regions where many of the other FoodCycler pilots have been completed. For example, the per household disposal rate from a 2020-2021 waste audit from the Niagara Region of Ontario was 711 kg/HH/yr for total waste generated which would push the available organics amount to 213 kg/HH/yr.

As a result of the differences in the way participation and tonnage estimates are developed for curbside programs and FoodCycler use, and that many FoodCycler estimates are derived from self-reporting in communities with different existing waste generation rates and include foodwaste that was previously being diverted from the

landfill, for the cost comparison exercise Staff have utilized 120 kg/HH/year for all scenarios that include curbside, but have used 100 Kg/HH/yr in Scenario 1 (in-home dehydrator use with community bins) due to lower convenience levels and decreases in diversion that are typically seen in self-haul situations. Although Staff feel that an in-home unit that cannot process all materials would certainly divert less than any conventional curbside program, utilizing a single tonnage for costing purposes for the scenarios that include curbside allows for a more direct comparison of costs.

GHG Reductions Review

Staff also completed a very simple review of GHG transportation emissions and diversion reductions based on the Province's GHG calculators. There are several different GHG calculators available - Staff chose to use the Province's GHG calculators associated with the Organics Infrastructure Program fund as they are simple, and provide site-specific reduction estimates based on precipitation, gas capture, decay rates, oxidization, and methane and nitrous oxide emissions for the specific type of composting that is done once the organics are diverted from the landfill. The GHG review does not go into detail surrounding emissions from manufacturing or shipping of any in-home dehydrator/grinder units or curbside collection bins.

GHG reductions associated with diverting foodwaste from the landfill were estimated using the Province's GHG Compost Facility Calculator. The calculator uses site-specific emissions factors for individual landfills, so the estimated diversion tonnage for each scenario can be input into the calculator and a reduction in tonnes per year of CO_2 is produced. For Scenario 1 (in-home dehydrator with community bins), due to the large number of barriers and that in-home dehydrators do not process all types of materials, the maximum diversion from the landfill is estimated to be 100 kg/HH/yr (pre-dehydration weight) or 871 tonnes per year from the 8,710 households that could feasibly receive curbside. For Scenario 4 (3-stream conventional curbside), the diversion potential estimated by Carey McIver and Associates is 120 Kg/HH/yr or 1,045 tonnes per year.

The large difference in RDCK's assumed diversion potential and that of estimates provided by FoodCycler for this assessment is that Staff feel it is unreasonable to assume that more organics could be diverted from the landfill using a system that does not process all household organics, and has significant barriers to participation, particularly in a scenario that requires self-hauling. FoodCycler estimates also include an unknown amount of foodwaste that was previously backyard composted. If tonnages are removed for those that composted beforehand, Staff feel that 100 Kg/HH/yr (before dehydration) is a reasonable estimate, and have discussed this estimate with our waste planning experts. Staff recognize that these numbers are quite different than FoodCycler pilot data, so these numbers should be revisited when independent studies on FoodCycler diversion estimates have been released.

GHG emissions for transportation were estimated using the Province's GHG transportation calculator. It is difficult to estimate the number of kilometers that would be driven on rural collection routes, as collection routes would be determined by the hauler. For Scenario 1 (in-home with community bins), Staff assumed 15,000 km per year are driven by a F450 diesel (or equivalent) to complete pickups of the dehydrated material and transport it to a composting facility on a bi-weekly basis. For Scenario 4 (3-stream conventional curbside), as a very conservative estimate, Staff assumed 200,000 km would be driven each year (2 trucks, 384 km/day per truck), and the diesel fuel consumption rating was taken from the largest roll-off truck in the RDCK's fleet.

The simplified summary of the GHG calculators is as follows:

Scenario 1 (In-Home Dehydrator with Community Bins) Total Annual Reductions: 2,330.23 tCO_2e/yr

Reductions associated with diversion from the landfill:

How much **food waste** will be sent to the compost facility in the first year?	871	**Tonnes Each Year**
How much is the amount of food waste expected to grow each year?	3%	

GHG Calculations

Project Emissions (tCO_2e)	
Composting	2,075
Total GHG Emissions	**2,075**
Average Yearly GHG Emissions	**189**

Average Yearly GHG Reductions

2,338 tCO_2e

Emissions associated with transportation:

Distance Traveled Annually (Km)	Fuel Consumption Rating	GHG Emissions - Based on Vehicle Km
Diesel (km)	Diesel (l/100km)	Diesel (tonnes CO2e)
15,000	19.7	**Total = 7.77**

Scenario 4 (3 Stream Conventional Curbside) Total Annual Reductions: 3,005 tCO_2e/yr

Reductions associated with diversion from the landfill:

How much **food waste** will be sent to the compost facility in the first year?	1,045	**Tonnes Each Year**
How much is the amount of food waste expected to grow each year?	3%	

GHG Calculations

Project Emissions (tCO_2e)	
Composting	4,914
Total GHG Emissions	**4,914**
Average Yearly GHG Emissions	**246**

Average Yearly GHG Reductions

3,246 tCO_2e

Emissions associated with transportation:

Distance Traveled Annually (Km)	Fuel Consumption Rating	GHG Emissions - Based on Vehicle Km
Diesel (km)	Diesel (l/100km)	Diesel (tonnes CO_2e)
200,000	45.7	**Total = 241**

In the Scenario 1 estimate, the 871 tonnes of diversion and resulting 2,330.23 tCO2e/yr in GHG reductions is assuming all of this material gets properly composted or properly managed at home. There is a high level of uncertainty in this estimate and that the actual emission reduction could be much lower as there is no way to measure emissions if the material is buried or placed in a backyard compost, and the material decomposes anaerobically which can be common in poorly managed backyard composters. Without access to curbside, due to lack of convenience it is also possible that the material is placed back into the garbage, which has been reported in some pilots, and would eliminate any emissions reductions benefits.

Although it is clear that transportation emissions would increase in any scenario that utilizes curbside collection, there also must be consideration given that rural residents currently travel the transfer stations or recycle depots on average every 2 to 3 weeks, often with the sole purpose of the trip being waste management and that those emissions are not accounted for in any assessment. It should also be noted that GFL Environmental just launched the first fully electric automated side loader collection truck in Squamish, so electric options for collection vehicles are becoming available within Province, and the RDCK could pursue options to decarbonize curbside collection transportation in the future, if a rural collection program proceeds.

The Provincial GHG calculators show that diversion from the landfill is the single most important factor in emissions reductions, opposed to transportation. Although emissions from transportation increase from a traditional curbside program, the option that diverts the most waste from the landfill and into a process that is guaranteed to decompose aerobically would result in the most GHG emissions reductions. Staff feel that the option that will divert the most foodwaste from the landfill and ensure it is composted in aerobic conditions is 3 stream curbside collection.

Items not Captured in Cost Comparison or GHG Review

As the use of an in-home dehydrator/grinder is oversimplified, there are additional items as part of all scenarios that were not addressed or able to be captured in the cost-comparison or GHG review but should be considered as part of the overall program assessment:

- FoodCycler does not actually produce compost, and additional time and proper decomposition via microbial processes is needed to make the nutrients bio-available and reduce GHG emissions. Some other countertop systems do provide some capacity to “activate” microbes by keeping the processing foodwaste at a lower temperature and moisture content so that when it leaves the unit it breaks down faster than an inert material, but it still should not be considered compost.
- An in-home dehydrator downloads more responsibility onto residents than a traditional curbside program (managing what the unit is loaded with to ensure correct processing and no damage, emptying multiple buckets per week when cycle is complete, cleaning bucket, managing end-product, refilling filters, coordinating repairs, paying increased electrical bills) which increases barriers to participation. Successful waste diversion programs are those that offer the most convenience and the least amount of barriers. Scenario 1 (in-home dehydrator with community bins), although the lowest cost of the in-home options, has the most barriers and is the least convenient for residents so it would likely see the lowest participation levels.

- The costs for the FoodCycler Maestro (larger unit with a 5L bucket) has been carried through the cost assessment, but it does come with higher power consumption at 1.5 kwh/cycle which increases costs if it is run more often when the bucket is not completely full. There are smaller units available that use less energy per cycle which would be great for smaller families or individuals, but administering a program with multiple unit types would increase complexities.
- Some rural residents live in tiny homes/campers and/or have limited power supply (off-grid).
    - Requiring power as a condition to participation will eliminate a small portion of rural residents from being able to use the unit.
    - Space in tiny homes or campers is very limited, and having a large countertop device to store indoors could be difficult. Many of these residents have sheds built for garbage storage to maximize living space, but those sheds often do not have power and therefore could not be used to store and run an in-home dehydrator/grinder.
- Scenario 1 (in-home dehydrator use with community bins) could see similar traffic volumes at RDCK landfills and transfer stations. All other scenarios should see a slight decrease in traffic volumes, with Scenario 4b (3 stream conventional curbside) seeing the largest reduction in traffic. The cost comparison has not quantified potential site operations cost reductions for seeing a significant decrease in site traffic, but it should be taken into consideration for overall project feasibility/cost considerations. With an effective 3 stream curbside program, it may be possible to remove some satellite recycling depots.
- The in-home systems cannot process everything freely. Some items need to be cut up prior to processing (fibrous herbs, paper towel, corn cobs, onions, apples, celery, other fibrous plants), others can only be processed in small amounts (starches, sauces, pork and lamb bones, hard pits, dairy products, jellies and jams), or not at all (oils and fats, beef bones, candy, and food soiled paper cardboard). This is likely the largest single barrier that exists with the units, as some residents wont spend time chopping up these items or planning out each bucket for optimal processing – some of this material will likely end up in the garbage unless alternative options are provided. Staff have not looked at the impacts of these residual materials needing options for diversion or ending up in the landfill.
- There is a small percentage of rural residents that burn their garbage. Providing 3 stream collection (Scenario 4b) is likely the best option to have these residents properly dispose of their wastes as it is the same cost as the lowest cost in-home dehydrator options and has the least barriers to participation.
- If the RDCK enacts an organics ban, in-home units do not process everything so residents with the units would not be in compliance without having access to more frequent curbside organics collection or self-hauling residual organics to a landfill or transfer station.
- For any scenarios utilizing an in-home dehydrator, although the RDCK would certainly support residents in using the soil amendment at their properties, it would need to be carefully directed through a detailed education program; however, there is no way to ensure that is being done correctly so it is not decomposing in anaerobic conditions resulting in similar GHG production as it would if the organics were disposed of in the landfill.
- Processing the material at one of the RDCK composting facilities is expected to increase costs as: the material will require 4 times more water than wet foodwaste, as estimated by Tetra Tech, and watering at Creston is already one of the more time consuming tasks; the material can apparently get gummy when wet so needs to be added in small amounts to the mixer; and, as large amounts of the material in a composting pile can apparently generate significant odors, it may need to be stored separately so it can be mixed in at a specific ratio so as to not cause odors, with the additional storage requiring space and a bin. Due to these factors, the tipping fee in the cost assessment is estimated at $150/tonne, but a formal tipping fee will not be set until there is a better understanding of how to process the material.
- There are several recent reviews on Facebook specific to this region, which indicate that the dehydrated material still acts as an animal attractant so the wildlife prevention aspect of these units may not be as

valuable as previously indicated. There are other local reviews that also outline that the units break often, have a smell, are noisy, and extremely finicky, or that the unit can leak or blow electrical breakers.

- A traditional curbside program can be well monitored with the ability to know how many kilograms per week are being picked up in certain areas compared to expected amount, and what the levels of contamination are. If issues are noted, a targeted education program or bulletin about contamination can be completed. This is much more difficult with an in-home dehydrator with community drop offs.

Bokashi Cycle System

Bokashi Cycle ™ (Bokashi) is a patented acidic anaerobic fermentation process for processing organic waste, with a number of products available from household DIY fermentation kits to scaled-up commercial operations for processing large volumes of agriculture, food processing, and large volumes of collected food scraps.

The Bokashi system will process plant, meat and dairy products. The process requires an airtight sealed container, such as a bucket or bin. The patented fermented bran culture is added to organic waste, such as food scraps, in layers; each addition of organic waste is compressed to remove air pockets and push the liquid portion (Tea) to a collection area at the bottom of the vessel, where it is drained weekly through a spigot. The Tea is rich in micronutrients and can be applied directly to garden soils and plants as a fertilizer. Full fermentation is complete in approximately 7-10 days after the container is full. The processed waste is then mixed in with garden or planter soil, and can be used immediately for planting.

The company claims that virtually all GHG are eliminated, and that virtually all carbon sequesters to the soil, where it is safely and slowly taken up by microbes, fungi and plants; and that no gases are produced. As a result of this GHG benefit of the Bokashi system, Staff did not complete the same level of analysis on claims such as GHG reduction in the earlier GHG assessment. Bokashi fermenting also produces no heat, requires no power, can be done all throughout the year, and does not attract wildlife.

As the process does not require further processing, such as composting, a curbside service to transport the material to either RDCK Composting Facilities would not be necessary, however there is potential for a small scale centralized drop off/ processing facility for rural properties not considered feasible for a curbside service.

The Bokashi system was not incorporated into the cost comparison due to the difference in the programs which would make a direct comparison to the other scenarios difficult; however, a rural Bokashi program could involve distributing Bokashi kits to residents for DIY processing. Each household receive a composting system, containing two 19L air-tight, draining processing bins with 3-4 months worth of Bokashi culture mix (approximately $116 each CAN, with bulk discount = $1,010,360 for 8710 homes). An additional five year supply (11.4 Kg) of Bokashi Culture mix, at a discounted rate of approximately $88 CAN per household could be purchased for 8710 homes for a cost of $766,480. Total costs for five years is $1,776,840 + shipping and distribution, which averages $355,368/year). RDCK to distribute the materials, and provide educational resources.

Similar barriers to participation exist for the Bokashi system as the in-home dehydrator/grinder, in that it does take additional effort and care to ensure the material is processed correctly, and there are still materials that cannot be processed. Although the Bokashi system provides added benefit that the material is composted when processing is complete, staff feel it may not be an effective solution to maximize diversion from rural areas that could feasibly receive curbside.

Conclusions:

The RDCK has a responsibility to provide the most effective services at the lowest cost to residents. Staff feel that the option that has been proven most effective, provides the highest level of service at the lowest cost, maximizes diverting foodwaste from the landfill, has the least amount of barriers to participating, and manages the waste in method that will ensure aerobic decomposition is maintained should be pursued, and that option is Scenario 4b (3-stream curbside collection).

Staff feel the in-home dehydrator systems certainly would be beneficial for locations without access to curbside or other organic diversion options (remote rural areas, backcountry lodges, etc.); however, it's benefits are less certain in areas where curbside services are considered feasible. To summarize concerns, staff are not confident that we would get the diversion rates projected from pilot studies; the unit requires daily efforts from users; it takes up space within the home; will likely cost more than a curbside program; cannot divert all organics generated in a household; and requires management (or disposal) of the residual product.

Staff feel that until there is reliable, independently verified data available on these systems that no further investigation should be completed. In areas where curbside is not feasible or does not proceed, in the future, if studies confirm the in-home dehydrator units provide a viable organics diversion option, the RDCK could look at implementing an in-home dehydrator program for some rural residents. Staff see all options to divert waste from landfills as beneficial, but in an area that could receive curbside, Staff feel that at this time in-home dehydrators are not appropriate method of waste diversion that a local government should be investing in when there are other more cost-efficient methods that will divert more waste from landfills, and therefore reduce more GHG emissions.

SECTION 3: DETAILED ANALYSIS

3.1 Financial Considerations – Cost and Resource Allocations:

Included in Financial Plan:	☐ Yes ☒ No	**Financial Plan Amendment:**	☐ Yes ☒ No
Debt Bylaw Required:	☐ Yes ☒ No	**Public/Gov't Approvals Required:**	☐ Yes ☒ No

The cost comparison is outlined in Attachment A. The spreadsheet has been reviewed by the RDCK's General Manager of Finance and the team at Carey McIver and Associates.

The following scenarios are detailed in the cost comparison:

- **Scenario 1** - In-home dehydrator use with community drop off points for end product. Self-haul of all materials to transfer stations. No curbside collection of any kind.
- **Scenario 2** - In-home dehydrator use with manual curbside collection of only organics 12 times per year. Self-haul of residual organics and garbage to transfer stations. No curbside collection of garbage.
- **Scenario 3** - In-home dehydrator use with manual curbside collection of bi-weekly garbage and organics 12 times per year.
- **Scenario 4** - Conventional curbside for weekly organics collection only under Scenario 4a, and conventional curbside for weekly organics and bi-weekly garbage and recycling collection, under Scenario 4b. Both sub-scenarios contemplate a manual collection scenario.

There is very little public information available on implementing a rural program utilizing these in-home systems. Staff want to be very clear with every assumption that was made in the cost comparison so each row within the document has details on any assumption or where the cost was pulled from.

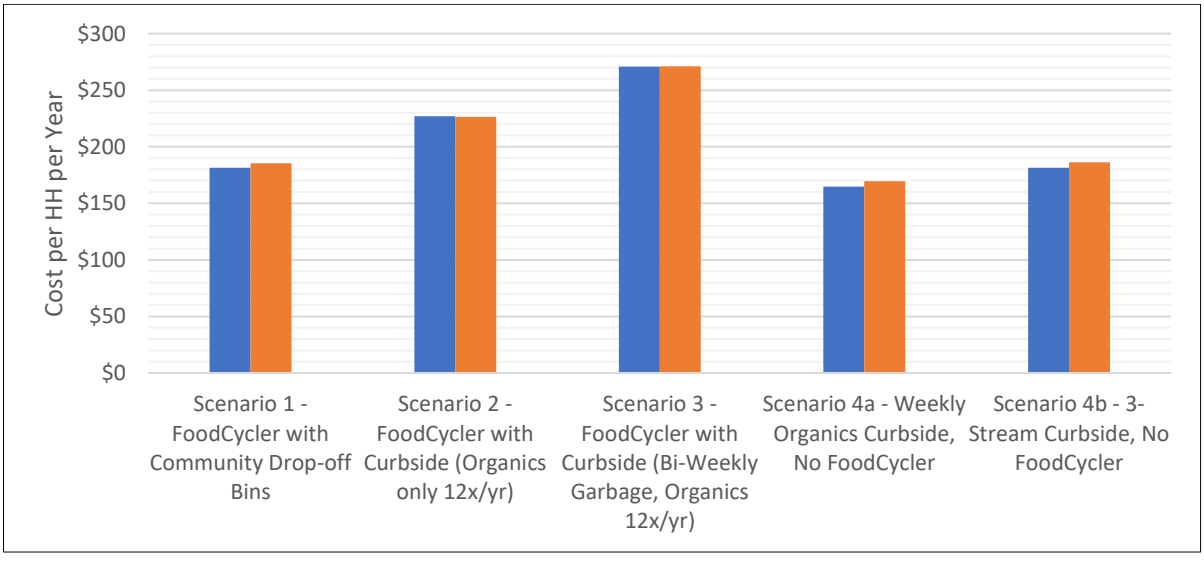
The cost comparison includes costing for base conditions for up-front capital costs for all scenarios that involve the in-home dehydrator units, as well as base conditions for all scenarios that include on-going operations and

maintenance of the in-home dehydrator unit (Scenarios 1 to 3). These base conditions are then applied to each Scenario that includes an in-home dehydrator. FoodCycler has indicated that they are looking at leasing or renting the units $60 to $80/year but the annual cost is roughly equal to the capital cost when amortized over the units approximate 7 year lifespan so the rental option was not built into the cost comparison. In all scenarios, other asset replacement costs for bins and kitchen catchers were also not included. Additionally, any large capital purchases would likely be completed through short-term borrowing. Currently, short-term financing is around 4.5% and is expected to remain high for several years. Staff have purposely not included interest or borrowing costs in the cost comparison, as it would complicate what is intended to be a simple comparison as the bins and FoodCycler have different lifespans, and the short-term borrowing would only apply for 5 years.

Grant funds received through the Organics Infrastructure and Collection Program were not applied to any scenario utilizing an in-home dehydrator, as OICP did not provide funding to any program that utilized one of these units. Staff only applied a modest $100,000 grant funding reduction for any scenario utilizing a FoodCycler, as there is currently little available funding for the units, and Federation of Canadian Municipalities Green Municipal Fund which has grants up to $500,000 for pilot studies indicated that they would not fund any more programs for FoodCycler until the City of Nelson had completed their independent third-party study on the units.

Curbside collection costs included in Scenarios 2 to 4b were developed based on costing provided from other regional districts or municipalities that recently signed collection contracts but the per household contract cost has to remain confidential. As a result, that collection contract information is hidden within a larger collection cost that also include tipping fees, 10% contingency, ongoing staff time, and ongoing communications and education. The tipping fees that were applied are: wet organics at $80/tonne, dehydrated organics at $150/tonne, garbage at $137.50/tonne. Scenarios 4a and 4b include the curbside collection costs, as well as all costs for program start-up that were included in the OICP application, which includes bin purchases, program start-up communications and education, consultation, bin distribution, consultation, and RFP support.

Staff found that Scenario 1 (in-home dehydrator with community bins) and Scenario 4b (3 stream conventional curbside) are similar costs at roughly $170 to $180 per year; however, Scenario 1 only provides a limited option for foodwaste and a lower service level (i.e. residents must still self-haul their garbage) whereas Scenario 4b provides curbside collection of garbage, organics, and recycling. The graph below shows the 4 different scenarios, with the blue bar being the lower initial capital investment, and the orange bar being the higher cost capital investment.



Staff found that Scenario 4b is the lowest cost option with likely the highest diversion potential and highest potential other cost savings for the RDCK. It will likely result in a reduction in site traffic, as well as quantifiable organics diversion so GHG reduction credits obtained through the Local Government Climate Action Program could be used to plan and implement climate action projects that will further reduce emissions, create new opportunities for people in the clean economy, and help prepare our region for future climate impacts.

The cost outlined in Scenario 4b also includes tipping fees for garbage and organics which if residents were self-hauling would be paid out-of-pocket. Overall costs for 3 stream curbside collection could be roughly equal to what some families pay to self-haul and dispose of waste at the transfer stations. True collection costs will not be known until a Request for Proposal process is completed, should the program proceed after public consultation. It should be noted that staff have prior Committee approval (September 21, 2022 meeting) to proceed with rural collection consultation utilizing a $180 to $240 range. The difference in costing presented is that a large contingency was added to the consultation cost to reflect uncertainties in pricing over the next 18 months, and that a consultation would be voided if the service pricing came in above what was consulted on and an additional consultation program would be required before the service establishment process could proceed.

Due to the lower cost and increased benefits of 3 stream curbside collection, Staff are recommending no further investigation at this time into in-home dehydrators/grinders for rural areas that have been deemed feasible for conventional curbside collection.

In areas where curbside is not feasible or does not proceed, in the future, if studies confirm the in-home dehydrator units could provide a viable organics diversion option, the RDCK could look further into at implementing an in-home dehydrator program, or other in-home systems like the Bokashi, for some rural residents and suggest an appropriate next step at that time would be a feasibility study completed by a waste professional to assess all potential options.

3.2 Legislative Considerations

A rural program of any kind would, as a stand alone service, require a Service Establishment Bylaw. The potential to establish a collection program was included in the RRP; however, it is currently uncertain if there is adequate detail on the proposed program in the RRP to allow for service establishment without the approval of the electors, under provisions of the *Environmental Management Act*. Staff have engaged with the Ministry of Municipal Affairs and Housing to determine if a separate approval of the electors process is required or if the service could proceed under the Ministerial approval of the RRP. Currently uncertainty remains on whether an exemption for elector approval based on the current RRP submission would succeed. However, if the regional district was able to provide evidence of elector engagement and public opinion capture of the more detailed and localized information from additional consultation, the Inspector may consider the exemption.

3.3 Environmental Considerations

A rural program could increase organics diversion within the regional district which could reduce GHG emissions and conserve additional landfill space. Initiating curbside collections services will advance eligibility of RDCK EAs to obtain Recycle BC curbside collection services.

3.4 Social Considerations:

A rural program would be a new service for the RDCK. Some residents would be willing to pay more for convenience whereas others may not.

Although the cost of a rural collection program would be comparable to self-haul and less than private collection, it may be difficult to have residents accept another imposed fee during already financially difficult times. Engagement with residents in these areas will help to both inform the public on the benefits of curbside collection services while supporting staff in gauging the level of support for incurring additional annual household costs.

3.5 Economic Considerations:

Although a rural curbside collection program in areas that currently have no private hauler options could increase jobs or contracts available within the community, a program that focuses on both garbage and organics in areas with existing private garbage collection could put small local private garbage haulers out of business if they were not the successful proponent in a procurement process. However, sub-regional contracts to maintain fair competition can be developed.

3.6 Communication Considerations:

An extensive public consultation process is required to gauge if there is adequate public support to justify proceeding with the service establishment process. The framework for an effective set of consultation tools is being presented at this December 7, 2022 Committee meeting , with the intent to launch the consultation program in early 2023.

3.7 Staffing/Departmental Workplace Considerations:

The Organics Coordinator will lead the implementation of the RDCK's organics diversion program, with support from the Resource Recovery Manager, Environmental Projects Lead, and the consulting team at Carey McIver and Associates.

3.8 Board Strategic Plan/Priorities Considerations:

Organics diversion is a major component of advancing the RDCK Board's priority of Waste Management and Alternatives, and RDCK's Strategic Objective to adapt to our changing climate and mitigate greenhouse gas emissions. Continuing the investigation into a rural curbside collection program is also in line with the RDCK's Strategic Objective to continually innovate to reduce the impact of solid waste.

SECTION 4: OPTIONS & PROS / CONS

Option 1: That the Board direct staff to take no further steps investigating at-home food dehydrators/grinders or other at-home systems for rural areas deemed feasible to receive conventional curbside.

PROS:

- Proceeds with the rural collection program planning as currently outlined in the grant funding and as previously directed by the Board.

CONS:

- None noted.

Option 2: That the Board direct staff to engage an independent third-party consultant to complete a feasibility study of in-home dehydrator/grinder systems in rural areas that could currently feasibly receive conventional curbside.

PROS:

- Would provide more certainty in costs, diversion potential, and GHG reductions than what is included in this preliminary assessment.

CONS:

- An additional cost that has not been accounted for in 2023 budget.
- There are no other completed studies or programs that have fully rolled out, so even consultants would likely struggle to develops firm estimates.
- Will require additional staff resources and can not be fit into the current workplan w/o eliminating other tasks.

Option 3: That the Board direct staff to include questions surrounding in-home dehydrators/grinders in the rural collection consultation program to gauge level of public interest in using the units.

PROS:

- Would provide early information on if the public would support the use of these units if there was a high amount of responsibility and cost downloaded onto the resident.

CONS:

- Would increase complexities of consultation, and may confuse residents on the purpose of consultation.
- Could increase consultation timelines, which may put grant funding at risk as timelines are already very tight.

SECTION 5: RECOMMENDATIONS

That the Board direct staff to take no further steps investigating at-home food dehydrators/grinders or other at-home systems at this time for rural areas deemed feasible to receive conventional curbside collection services.

Respectfully submitted,

Alayne Hamilton – Environmental Projects Lead

CONCURRENCE

Resource Recovery Manager – Amy Wilson
General Manager of Environmental Services – Uli Wolf

ATTACHMENTS:
Attachment A: Rural Organics Diversion Cost Comparison

Total Cost Review for Rural - In-Home System vs Conventional Curbside

Scenario 1 - Capital expenditures plus annual operating costs for rural FoodCycler use with community drop off points for end product
Scenario 2 - Capital expenditures plus annual operating costs for rural FoodCycler use with curbside collection of only organics 12 times per year
Scenario 3 - Capital expenditures plus annual operating costs for rural FoodCycler use with curbside collection of bi-weekly garbage and organics 12 times per year
Scenario 4 - Capital expenditures plus annual operating costs for traditional curbside for both weekly organics collection only, and for weekly organics and bi-weekly garbage collection

Description	Quantity	Option 1 - Low initial CAP Investment, per HH Estimate	Option 1 Total	Option 2 - Higher initial CAP Investment, per HH Estimate	Option 2 Total	Assumptions/Questions
Base Conditions for Scenarios 1 to 3 - Capital Expenditures						
Public Consultation and RFP support from consultants	8,710	$2.71	$23,578	$3.72	$32,419	**Option 1:** assumes a lower quality (20% reduction from OICP costs) consultation program (mail only with survey link), which for a complex program would likely not result in public support. Includes $10k for RFP development, evaluation, oversight from consultant. **Option 2:** uses OICP costs for standard rural collection program consultation, plus 10%. This cost is for general consultation items (mailers, ads, posters, Bang the Table etc.), as well as consultant support for RFP development, evaluation, oversight. 10% increase is for additional consultation time for added complexities of program, and limited comparable programs for easier development of resources.
Program roll out Communications	8,710	$4.13	$35,943	$6.19	$53,915	**Option 1:** assumes lower quality communications package, based on 80% of communication estimate in OICP application. Consultant have indicated that a poorly funded/developed communications program for a complex program is not likely to result in full participation or compliance, or will results in high volumes of contamination. **Option 2:** assumes full cost from OICP application with an additional 20% to account for a more robust program being required due to additional steps/barriers to participation (loading, processing, emptying FoodCycler unit, storing material, managing filters, additional power costs, separating items that cant be processed, how to manage larger loads).
FoodCycler or Similar Unit Purchase Cost (7 Year Lifespan)	8,710	$400.00	$3,484,000	$663.00	$5,774,730	Both options assume a FoodCycler Maestro unit with 5 L bucket capacity. Costs for units include end of life recycling through the extended producer responsibility program. Does not include interest associated with short-term financing that would be required, as there is also rental options available at similar costing, but with changes to maintenance/filter costing. **Option 1:** costs from discussion with FoodCycler. Would only include 1 year warranty, no "free" carbon filter refills. **Option 2:** assumes RDCK could negotiate a similar contract to the City as outlined in Nelson Star at $1.06M for 1,600 units ($663/unit) which includes 7 yr warranty and included carbon refills.
Kitchen Catchers or other container that residents need to purchase themselves	8,710	$4.23	$36,800	$6.50	$56,615	**Option 1:** based on low-end price of recent kitchen catcher RFP's from other (undisclosed) communities, plus 30% based on inflation, especially in resin products **Option 2:** based on mid-range price of recent kitchen catcher RFPs, plus 30% based on inflation, especially in resin products
FoodCycler distribution to residents	8,710	$2.50	$21,775	$6.00	$52,260	**Option 1:** assumes residents need to pick unit up from an RD office, rec centre, or other locations. Accounts for fuel, time and small amount of RD cost to distribute to pick-up locations, and to residents that are not able to pick-up. Downloads responsibility onto residents. **Option 2:** assumes $6 per HH for delivery with launch package, which is a $1 increase from the cost of distribution for curbside bin based on other municipalities that recently rolled out curbside programs as bins can be nested to limit truck space and bins are more durable (can be left in the elements) so slightly less care would be needed on delivery. Eliminates barriers for people getting unit (those without vehicles, those with mobility issues, etc.).
Staff for launch support (ambassadors etc.)	8,710	$3.82	$33,280	$5.49	$47,840	**Option 1:** assumes low levels of staffing at a 20% decrease from OICP estimates, likely resulting in lower success rate for implementation. **Option 2:** assumes 20% increase in additional staffing support (answering phone questions, 3 ambassadors in the field, etc.) costs as outlined in OICP due to complexities of program and additional supports required to ensure appropriate registration and use of unit.
Available grant funding	8,710	-$11.48	-$100,000	$0.00	$0	Limited grant funding opportunities currently for FoodCycler devices due to asset lifespan and lack of options for assessing true diversion numbers (not all material goes over scales). City's awards were for pilot programs and conditional to independent 3rd party studies going ahead. FCM Green Municipal Fund, which provides $500k towards pilot programs is not available for any additional FoodCycler pilots at this time. OIP/OICP will not currently fund. **Option 1:** assumes limited funding, or several small grants can be obtained **Option 2:** assumes no grant fund is available
Total Capital Cost	**8,710**	**$405.90**	**$3,535,376**	**$690.90**	**$6,017,779**	
Total Capital Cost Per Year Split Over 7 Year FoodCycler Lifespan	**8,710**	**$57.99**	**$505,053.65**	**$98.70**	**$859,682.71**	

Base Conditions for Scenarios 1 to 3 - Annual Operating Costs						
Description	**Quantity**	**Option 1 - Low initial CAP Investment, per HH Estimate**	**Option 1 Total**	**Option 2 - Higher initial CAP Investment, per HH Estimate**	**Option 2 Total**	**Assumptions/Questions**
Carbon filters	8,710	$40.00	$348,400	$10.00	$87,100	**Option 1:** Assumes residents need 3-4 carbon refills per year, with each refill costing $5 to $10 (from FoodCycler). **Option 2:** assumes higher cost FoodCycler purchase includes replacement filters and carbon pellets for the 7 year duration of the program. $10 assumes the download of costs/time to residents to remove the filter packs, take them to location for refills (even if at convenient location) and return home and place in unit - 3 times per year, plus adjustments for RDCK staff time administer refill portion of program, coordinate with businesses that host refill stations.
Power costs for FoodCycler operation for average HH	8,710	$28.91	$251,833	$38.55	$335,777	Both options use Fortis 2022 rates (12.356 cents/kwh, and FoodCycler Maestro average power consumption 1.5 kwh/cycle). From 20 communities FoodCycler pilot results, average number of cyclers per week is 4.19 with 2.5 L bucket. **Option 1:** assumes smaller household or lower participation in program, cycling 3 times per week with 5 L bucket. **Option 2:** assumes average household cycling 4 times per week with 5 L bucket.
Maintenance costs	8,710	$25.00	$217,750	-	-	**Option 1:** assumes lower cost units only have 1 year warranty (typical for unit single purchase) but that over remaining 6 years of the program RDCK needs to provide options for local maintenance and repairs, including locations to bring units or parts to, staffing, parts supply, etc. **Option 2:** assumes repairs/maintenance costs are built into higher cost of purchase.
Total annual operating costs	**8,710**	**$93.91**	**$817,983**	**$48.55**	**$422,877**	
Scenario 1 - FoodCycler with Community Drop-off Bins						
Description	**Quantity**	**Option 1 - Low initial CAP Investment, per HH Estimate**	**Option 1 Total**	**Option 2 - Higher initial CAP Investment, per HH Estimate**	**Option 2 Total**	**Assumptions/Questions**
Capital Cost Per Year from Base Conditions	**8,710**	**$57.99**	**$505,054**	**$98.70**	**$859,683**	
Community Drop-off Bins Capital Expense	8,710	$2.03	$17,675	$3.46	$30,100	**Option 1:** assumes 7 smaller 243 Gal bear/water proof bins - 1 at each TS and landfill within the service area. Using informal quote from TuffBoxx at $2525/bin including shipping. Smaller bins would require more frequent pickup, but with less likelihood of product sitting/rotting between transportation. **Option 2:** assumes 7 larger 4 yard bear proof front load bin that can be picked up by collection vehicles. Assumes $3300 each with shipping +$7k for shipping, as per Bearicuda informal quote.
Total Capital Cost per Year	8,710	**$58.19**	**$506,821**	**$99.05**	**$862,693**	
Annual Operating Costs from Base Conditions	8,710	**$93.91**	**$817,983**	**$48.55**	**$422,877**	
Annual cost for residents to go to community drop off locations	8,710	$0.00	$0	$10.00	$87,100	**Option 1:** assumes residents use transfer stations regularly and can drop off FoodCycler material during regular site use. **Option 2:** considers that not all residents have the ability or option to drive, or use the transfer stations (have private garbage subscription service, mobility issues etc.), so will need to complete separate stops to drop off FoodCycler material or have separate subscription added to their service.
Ongoing Program Support	8,710	$23.11	$201,269	$22.18	$193,218	Ongoing communications and engagement, general program promotion, administration and management staff costs. Based on ongoing costs for curbside programs, as reported from other organizations that are worked into collection costs. **Option 1:** assumes 25% increase from traditional curbside costs due to complexity of this program, and that smaller bins would require more frequent monitoring and oversight. **Option 2:** assumes 20% increase from traditional curbside costs due to complexity of this program, but that the larger bins would require slightly less frequent monitoring and oversight.
Servicing of Community Drop off Bins - contract cost for transfer of material, servicing/cleaning of bins, disposal fees.	8,710	$6.22	$54,195	$5.65	$49,195	**Option 1:** Bins are smaller so needs more frequent servicing. Disposal at $150/tonne. Assume each HH generates 30 kg/hh/yr based on 100kg/HH/yr (pre-dehydration) and then a 70% reduction in weight (from CWMA and Transform). Assumes $15k for pickup/servicing from 7 locations, weekly. **Option 2:** Larger bins so assumes slightly less frequent pick-up. Disposal at $150/tonne. Assume each HH generates 30kh/hh/yr. Assumes $10k for pickup/servicing from 7 locations, bi-weekly.
Scenario 1 Total Annual Cost	**8,710**	**$181.43**	**$1,580,268**	**$185.43**	**$1,615,083**	

Scenario 2 - FoodCycler with Curbside (Organics only 12x/yr)						
Description	**Quantity**	**Option 1 - Low initial CAP Investment, per HH Estimate**	**Option 1 Total**	**Option 2 - Higher initial CAP Investment, per HH Estimate**	**Option 2 Total**	**Assumptions/Questions**
Capital Cost Per Year from Base Conditions	8,710	**$57.99**	**$505,053.65**	**$98.70**	**$859,683**	
Annual Operating Costs from Base Conditions	8,710	**$93.91**	**$817,983**	**$48.55**	**$422,877**	
Curbside Bin Purchase amoritized over 10 years	9,500	$3.25	$30,875	$8.25	$78,375	Both options split costs over 10 years, based on average lifespan of bins seen in other communities/RD's that operate in similar climates. Both options do not include any potential interest that would apply if a particular sub-region wanted to complete bin purchases through short-term borrowing. **Option 1:** basic 57L bin, no bear resistance, 5 yr warranty, 10 yr life with no issues is standard, as per information provided by other municipalities and RD's. Costs from OICP application, plus 30% based on inflation, especially in resin prices, between OICP application and purchase. **Option 2:** same as above, but includes $50 for bear resistance locking mechanism, which is an aftermarket addition. Although FoodCycler claims the dehydrating will reduce bear interactions, assumes there could be benefits with a bear resistant bin lid so that residents could still put wet organics (items that FoodCycler cant process) in bin in the week leading up to pickup.
Ongoing Program Support	8,710	$15.13	$131,796	$14.21	$123,745	Both options include ongoing communications and engagement, general program promotion, administration and management staff costs. Based on ongoing costs for curbside programs, as reported from other organizations, that are worked into collection costs. Reduced from amount included in Scenario 1 based on percentage of this cost being included in collection costs below.
Curbside collection, 12 FoodCycler pick ups per year	8,710	$56.71	$493,948	$56.71	$493,948	Both options assume disposal rate of $150/tonne and average tonnage being reduced by 70% due to dehydration (total 36kg/hh/yr disposed at curb) with collection service based on recent contract costs for manual curbside collection in other municipalities and RD's with an adjustment made for anticipated length of routes/distances/increased hours required each day for servicing rural areas. Assumes monthly pickup are not proportionally less expensive, as few contractors would supply single truck for collection monthly, without financial incentive or other streams includes, as per discussions with haulers so a 20% markup for per household cost has been applied. Costs include program administration staff time, 10% contingency, ongoing promotion and education costs, as is applied to all other scenarios that include curbside component.
Scenario 2 Total Annual Cost	8,710	$226.99	$1,977,087	$226.42	$1,972,110	

Scenario 3 - FoodCycler with Curbside (Bi-Weekly Garbage, Organics 12x/yr)						
Description	**Quantity**	**Option 1 - Low initial CAP Investment, per HH Estimate**	**Option 1 Total**	**Option 2 - Higher initial CAP Investment, per HH Estimate**	**Option 2 Total**	**Assumptions/Questions**
Baseline Capital Costs Split Over 10 Years	8,710	**$57.99**	$505,054	**$98.70**	$859,683	
Baseline Annual Operating Costs per Year	8,710	**$93.91**	$817,983	**$48.55**	$422,877	
Curbside bin initial purchase amoritized over 10 years	9,500	$3.25	$30,875	$8.25	$78,375	Both options split costs over 10 years, based on average lifespan of bins seen in other communities/RD's that operate in similar climates. Both options do not include any potential interest that would apply if a particular sub-region wanted to complete bin purchases through short-term borrowing. **Option 1:** basic 57L bin, no bear resistance, 5 yr warranty, 10 yr life with no issues is standard, as per information provided by other municipalities and RD's. Costs from OICP application, plus 30% based on inflation, especially in resin prices, between OICP application and purchase. **Option 2:** same as above, but includes $50 for bear resistance locking mechanism, that is an aftermarket addition. Although FoodCycler claims the dehydrating will reduce bear interactions, assumes there could be benefits with a bear resistant bin lid so that residents could still put wet organics (items that FoodCycler cant process) in bin in the week leading up to pickup.
Ongoing Program Support	8,710	$8.05	$70,075	$8.05	$70,075	Ongoing communications and engagement, general program promotion, administration and management staff costs. Based on ongoing costs for curbside programs, as reported from other organizations, that are worked into collection costs. Reduced from amount included in Scenarios 1 and 2 based on a higher component of this cost being included in collection costs below.
Curbside collection, bi-weekly garbage, and 12 FoodCycler pick ups per year	8,710	$107.60	$937,219	$107.60	$937,219	Both options assume disposal rate of $150/tonne and average tonnage being reduced by 70% due to dehydration (total 36kg/hh/yr disposed at curb) with collection service based on recent contract costs for manual curbside collection in other municipalities and RD's with an adjustment made for anticipated length of routes/distances/increased hours required each day for servicing rural areas. Assumes monthly pickup are not proportionally less expensive, so a 5% increase has been applied. Assumes monthly pickup are not proportionally less expensive. Assume split packer truck that collects garbage in both compartments in 3 runs per month, then uses split packer to collect FoodCycler material in the 4th run so additional trips are needed once per month. Assume a 5% increase in contract costs from other RD's due to needing a split packer 1/4 of the time but paying for increased truck cost. Costs include program administration staff time, 10% contingency, ongoing promotion and education costs. Applies a 10% increase to garbage tipping fees, as per potential increases in 2023.
Scenario 3 Total Annual Cost	8,710	$270.80	$2,358,638	$271.15	$2,361,711	

Scenario 4 - Conventional Curbside (No FoodCycler)						
Description	**Quantity**	**Option 1 - Low initial CAP Investment, per HH Estimate**	**Option 1 Total**	**Option 2 - Higher initial CAP Investment, per HH Estimate**	**Option 2 Total**	**Assumptions/Questions**
Scenario 4a - Weekly Organics Curbside, No FoodCycler						
Consultation and RFP support from consultant	8,710	$3.38	$29,472	$3.38	$29,472	Consultation and consulting for program roll-out minus 20% based on only focus on organics
Program roll out Communications	8,710	$5.16	$44,929	$5.16	$44,929	Using costs included in OICP and budgets based on other community roll-outs plus 20 contingency.
Collection Bins	9,500	$32.50	$308,750	$82.50	$783,750	Both options do not include any potential interest that would apply if a particular sub-region wanted to complete bin purchases (costs after grant funding) through short-term borrowing **Option 1:** basic 57L bin, no bear resistance, 5 yr warranty, 10 yr life with no issues is standard, as per information provided by other municipalities and RD's. Costs from OICP application, plus 30% based on inflation, especially in resin products, between OICP application and purchase. **Option 2:** same as above, but includes $50 for bear resistance locking mechanism, that is an aftermarket addition.
Kitchen catchers	9,500	$4.23	$40,138	$6.50	$61,750	**Option 1:** based on low-end price of recent kitchen catcher RFP's from other (undisclosed) communities, plus 30% based on inflation, especially in resin products **Option 2:** based on mid-range price of recent kitchen catcher RFPs, plus 30% based on inflation, especially in resin products
Bin distribution to residents	8,710	$5.00	$43,550	$5.00	$43,550	Using costs included in OICP and budgets.
Staff for consultation and launch support (ambassadors etc.)	8,710	$4.78	$41,600	$4.78	$41,600	Using costs included in OICP and budgets.
Capital cost after grant funding	8,710	$18.52	$161,347	$23.42	$203,960	Grant funds received - OICP = $334691.33, CBT = $4912 for consultation, $7488 for communications, $454k for bear resistant locking mechanism.
Cost per HH/yr for collection service (weekly organics only)	8,710	$146.14	$1,272,836	$146.14	$1,272,836	This is single stream see 'Curb Trad Org' estimate. Dedicated truck for organics with manual collection. Cost is based on other municipalities and regional districts that recently signed new collection contracts with an adjustment made for anticipated length of routes/distances/increased hours required each day for servicing rural areas. Costs include program administration staff time, 10% contingency, ongoing promotion and education costs.
Scenario 4a Total Annual Cost (weekly organics)	**8,710**	**$164.66**	**$1,434,183**	**$169.55**	**$1,476,795**	Capital and asset replacement avg'd over 10 years, plus annual collection cost for 2024.
Scenario 4b - 3-Stream Curbside, No FoodCycler						
Cost per HH/yr for collection service (3 stream)	8,710	$162.87	$1,418,586	$162.87	$1,418,586	Uses split packer truck with manual collection. Cost is based on other municipalities and regional districts that recently signed new collection contracts with an adjustment made for anticipated length of routes/distances/increased hours required each day for servicing rural areas. Costs include program administration staff time, 10% contingency, ongoing promotion and education costs. Applies a 10% increase to garbage tipping fees, as per potential increases in 2023.
Scenario 4b Total Annual Cost (weekly organics, bi-weekly garbage/recycling)	**8,710**	**$181.39**	**$1,579,933**	**$186.29**	**$1,622,546**	

Committee Report

Date of Report:	December 1, 2022
Date & Type of Meeting:	December 7, 2022 Joint Resource Recovery Committee
Author:	Alayne Hamilton, Environmental Projects Lead
Subject:	HB REMEDIATION AND CLOSURE – PROJECT UPDATE AND FINANCIAL PLAN AMENDMENT – REVISED REPORT
File:	12-6300-HBD-01
Electoral Area/Municipality	Central Sub-Region

SECTION 1: EXECUTIVE SUMMARY

The purpose of this report is to update the Committee on the HB Closure and Remediation project including cost increases, and to request approval for a financial plan amendment for additional tasks related to completion of the project.

SECTION 2: BACKGROUND/ANALYSIS

HB Project Completion

The HB Remediation and Closure Project is now complete, with construction periods occurring between early June and November 24, 2021 and early July through September 13, 2022.

The project construction works completed between 2021 and 2022 included:

- Major expansion of 2 borrow areas and 1 quarry around the Central Landfill and HB property to provide adequate material for project works;
- Draining and backfilling the tailings pond to remove water storage against the dam;
- Raising the downstream toe berm by 9 m to stabilize the entire dam structure so it can survive the maximum credible earthquake;
- Expanding the spillway to pass the probable maximum flood event, which is the largest conceivable flood for this area based on climate change models forecasted to the year 2100;
- Installing 12 survey hubs on the dam face and raising existing instrumentation;
- Installing ~1.2km of lined surface water conveyance channels, with energy dissipation structures;
- Installing an upstream beach area that grades from the dam crest to the conveyance channels, to prevent water from pooling near the dam;
- Covering the entire 26 hectare tailings surface with 30 cm of clean imported fill to prevent tailings erosion and transport downstream; and,
- Seeding the entire project disturbance area.

Some major design changes included:

- Adding geo-composite beneath the tailings pond backfill due to extreme soft ground conditions;
- Reducing the tailings surface drainage channel capacity due to constructability concerns; and,
- Constructing a landform (mound) to place soils imported from the downstream Ross property remediation (works completed by Teck Resources) due to a disconnect in construction schedules between the RDCK and Teck.

Other issues or significant challenges experienced during both construction seasons included:

- Boils or tailings volcanoes that erupt after repeat equipment or vehicle trafficking on the tailings surface;
- Excess porewater pressures in the surface water conveyance channels;
- Crew availability and limited experience in soft ground conditions;
- Equipment downtime due to supply chain and staffing issues;
- Covid, which prevented shift-boss certification through Ministry of Mines, and increased costs associated with cleaning, hotels, and travel;
- 2021 heat dome and extended drought, which shut down any clearing, grubbing, stripping, or blasting work on the project for 6 weeks; and,
- 2021 atmospheric river event in November, which shut the project down unexpectedly, leaving the site completely unvegetated and prone to erosion.

Although the project schedule did not go as planned, and some costs increased as a result of the extended construction schedule and construction difficulties, Staff and other stakeholders are generally pleased with the condition of site.

Staff had 2 members of the tailings facility Independent Tailings Review Board (ITRB) attend site in mid-October, and met with the remaining member virtually to discuss the project completion. The ITRB is made up of 3 senior geotechnical, tailings, and environmental engineers that are involved in complex tailings projects around the world. The response and advice from the ITRB members on the project completion was overwhelmingly positive and they outlined that in the face of extreme difficulties, compared to other closure projects the RDCK has done incredibly well, in a shorter amount of time, and as a local government, with less funding and staffing resources.

There is one small repair item that will need to be completed in the spring of 2023, as some additional rip rap is required to armor the spillway entrance (photo 5 below). The spillway entrance was completed to design; however, one of the ITRB members mentioned on site that the riprap was likely not suitably sized to pass a very large (greater than 1 in 200 year) flood event. SRK Consulting Inc. is currently working on the as-built construction report, and once that is completed they will run the flood modelling through the as-constructed spillway entrance. Appropriate rip rap sizing will be developed based on the model. The repair is expected to be minimal and can be completed in less than 1 day by a small local excavator contractor, as there are already existing stockpiles of rip rap immediately adjacent to the repair area. There are also a few additional minor post-construction items that staff will have to monitor, including some new groundwater seeps (photo 6), potential for new tailings boils to erupt as the snow melts off the cover, a few small punctures in the conveyance channel liners, and some large bulges beneath the conveyance channel liners (photo 7). The ITRB has assured staff and the facility's engineer-of-record that these are normal conditions or issues that arise after projects in soft-ground, and that only monitoring is required at this point. Staff are waiting on the ITRB's post construction summary report, which likely will not be received until Q2 2023.

As the project is now complete, the site is now in the active-care phase which requires increased geotechnical, environmental, and geochemical monitoring to ensure the Facility is performing as outlined in the HB Tailings Facility Remediation and Closure Plan, and the conditions set out in the Facility's *Mines Act* permit. On completion of the active-care phase, estimated to be in 3 to 5 years, the RDCK can apply for a permit amendment to significantly reduce monitoring frequencies.

Some final completion photos from recent site visits are included below:

Photo 1: looking east across spillway inlet (foreground) and surface water conveyance channels on the freshly seeded tailings surface.

Photo 2: looking northwest across the tailings cover, with the Ross imported soil landform (small mound) in the distance near the tree line.

Photo 3: looking west down the final segment of the surface water conveyance channel at the blasted rock face of the bedrock portion of the spillway.

Photo 4: looking west across the downstream slope of the dam and the newly raised toe berm.

Photo 5: looking south across the spillway inlet where the lined surface water conveyance channel meets the blasted rock portion of the spillway. ITRB members identified that this section required some additional rip rap armoring.

Photo 6: looking east from the center of the tailings deposition area at a groundwater seepage area.

Photo 7: looking south across a surface water conveyance channel, and a large bulge of liquefied tailings that has formed beneath the geotextile (LLDPE) liner.

Despite the few minor items for repair or ongoing monitoring, Staff are thrilled that this very long and complex project is now complete. For a very brief bit of background information for new directors, this project started to develop in 2012 after the dam suffered a near failure event (photo below) and then subsequent investigations showed that the dam was at risk even after significant repairs were completed due to a potentially liquefiable layer within the dam, an old timber crib near the dam foundation that was rotting, and similar clay foundation conditions to those that caused the failure at Mt. Polley. The project has now been 6+ years in the making with many Committee meetings at each step of the way from the initial options assessment, the preliminary design, permitting processes, and procurement. Staff are planning to organize a site tour in the early summer of 2023 for any interested directors, as well as staff and local engineers that were involved in the 2012 slough event response.

Photo 8: looking northeast at the downstream slope of the dam and the failure area, with a person in a high-vis vest on the right hand side of the collapse area for scale (July 5, 2012).

Project Costs and Financial Plan Amendment

Staff brought an in-camera report to Committee on June 15th, 2022, that detailed potential cost overages and legal items associated with the completion of the HB Remediation and Closure project. This report outlined that a Financial Plan amendment would likely be needed to finish the project, but that given the uncertainties around costs and potential change orders that may come up during construction, that Staff should return on project completion and final project payments to request a Financial Plan amendment, if one would be needed.

The following resolutions were passed at the June 16, 2022, Board meeting:

#427/22: That the Board accept the combined Proposed Change Orders from Integrated Sustainability Consultant's Ltd. in the amount of $543,338.02 for the HB Remediation and Closure Project and seek project completion in 2022;

AND FURTHER, that the funds be paid from Service S187 Central Resource Recovery;

AND FURTHER, that the Board direct staff to return to the Committee once final project costs are known to complete a Financial Plan amendment, if required.

#428/22: That Resolution 694/21 being:

That the Board of the Regional District of Central Kootenay authorizes up to a maximum amount of $900,000 be borrowed, under Section 403 of the Local Government Act, from the Municipal Finance Authority, for Service S187 Central Resource Recovery for the purpose of HB Remediation and Closure Project and construction overages; and that the loan be repaid within 5 years, with no rights of renewal;

Be amended to read:

That the Board of the Regional District of Central Kootenay authorizes up to a maximum amount of $1,443,338 be borrowed, under Section 403 of the Local Government Act, from the Municipal Finance Authority, for Service S187 Central Resource Recovery for the purpose of HB Remediation and Closure Project and construction overages; and that the loan be repaid within 5 years, with no rights of renewal.

Staff are returning today as final invoices have been received from the construction contractor, Integrated Sustainability, the project environmental consultants, SLR Consulting (Canada) Ltd. (SLR), and the project engineers, SRK Consulting (Canada) Inc. (SRK). Staff are requesting a 2022 Financial Plan amendment to cover the additional costs that were required in order to complete the project. The Draft 2023 Financial Plan will reflect changes in borrowing including adjustments to the overall loan value and interest rates.

SECTION 3: DETAILED ANALYSIS

3.1 Financial Considerations – Cost and Resource Allocations:

Included in Financial Plan:	☐ Yes	☒ No	**Financial Plan Amendment:**	☒ Yes	☐ No
Debt Bylaw Required:	☐ Yes	☒ No	**Public/Gov't Approvals Required:**	☐ Yes	☒ No

In the June 15th, 2022 In-Camera Committee Report, Staff presented 2 options to proceed with the project. The direction to Staff at that Committee meeting was to proceed with the option that would have the project completed in 2022. In this option, the RDCK would pay some additional costs for quantity increases from the 2020 "Issued for

Tender" package and some design modifications but not have to take on the risk and associated costs with having the project delayed to 2023.

The table below outlines the costs that were presented to the Committee in the June 15th, 2022 staff report, and the actual project completion costs. This table only details costs associated with the construction contract, and does not include environmental or engineering costs which are detailed in a separate table below.

HB Scope Completion	Integrated Proposed Change Requests (Presented June 15, 2022 JRRC)	Actual Construction Costs	Comments
Costs for 2021 Scope Completion			
All 2021 PCR's including additional pond backfill, blasting, fuel, etc.	$543,338.02	$543,338.02	
Subtotal Expenditures in 2022 for 2021 Work	**$543,338.02**	**$543,338.02**	
2022 Fixed Price Scope of Work			Scope as per 2021 Contract.
2022 Expenditures for all remaining fixed price scope	$658,615.61	$546,666.00	
Credits for Qty's Not Completed/Required	-$100,000.00		Some qty's could not be fully reimbursed to the contract due to materials already being purchased. All excess materials, liner, geotextile, mulch, etc left on site for use on future projects. Credits included in amount above.
Subtotal 2022 Fixed Price Scope of Work	**$558,615.61**	**$546,666.00**	
Additional Costs - 2022 Force Account Work			
Mob/demob	$35,000.00	$35,000.00	
Installation of additional combigrid for remainder of tailings pond backfill	$15,000.00	$6,309.00	
Access Roads	$3,300.56	$0.00	Included in $546,666 amount above.
Tailings Pond Gen Fill	$209,580.00	$201,839.00	
Water management	$4,000.00	$45,297.00	All costs split 50% with Contractor. Estimated volume of water was 6,000m3. Actual quantity pumped was approximately 45,000m3 using a combination of 3 water trucks, 2 three inch pumps and 1 six inch

HB Scope Completion	Integrated Proposed Change Requests (Presented June 15, 2022 JRRC)	Actual Construction Costs	Comments
			pump over the course of 2 months.
Ross Soils	$0.00	$0.00	Teck will pay for all costs so no costs to RDCK.
Borrow Slope Regrading	$25,000.00	$20,138.00	
Conveyance Channel Optimization	-$50,000.00	$0.00	Significant challenges were encountered with constructability due to tailings boil propagation. Optimization savings were offset by constructability issues with the soft tailings.
Total 2022 Construction-Force Account Work	**$241,880.56**	**$308,583.00**	
Total 2022 Expenditures for Integrated	**$1,343,834.19**	**$1,398,587.02**	
2022 Construction Budget (Per Financial Plan)	$800,000	$800,000	Total budget with HB is $970k minus consultant fees.
Surplus Construction Budget	**-$543,834.19**	**-$598,587.02**	

Construction expenditures for the contractor were $54,752.83 above what was presented to the Committee in the June 15th, 2022, in-camera report, with the bulk of that cost being associated with the additional dewatering that was required on the site.

Additional overages were also encountered for both SRK and SLR for engineering and environmental oversight of the project. The largest of these costs increases for SRK was that the construction schedule was initially intended to be 3 weeks for budget purposes but ran for 9 weeks instead, with a full time engineer being required on site for that duration.

Additionally, in mid-June a large number of tadpoles were discovered on the site, so a large amphibian salvage program was unexpectedly and urgently needed in early July to recover the tadpoles from the wetted areas of the tailings surface. The 2022 amphibian salvage program was an additional $53,500. There was also a $11,800 scope change signed with SLR in September to provide event-driven monitoring for the duration of the year as although the site was seeded, due to an extended drought into the fall little of the seed germinated so the site still remains in a mostly unvegetated state, which is at risk of erosion so frequent monitoring is still required. Those costs are not included in the table above but are instead outlined in the table below, which compares costs included in the 2022 Financial Plan in CAP809-101 to actual project costs.

Scope of Work	2022 Financial Plan Amount	Projected Project Completion Amount
Site engineering (as-built report, construction oversight, maintenance and freshet support)	$120,421	*$163,421
Environmental monitoring	$52,000	$125,000
Construction Works	$800,000	$1,398,587.02
Miscellaneous extras (pump rentals, equipment for staff)	$5,000	$4,918.54
Total Cost	**$977,421**	**$1,691,926.56**
Total Difference Between 2022 FP and Actual Construction Costs		**$714,084.56**

*2022-12-06 Addendum, reduced this cost by $17,960 due to an accidental inclusion of a cost that assigned to Teck Resources. All corresponding values have been decreased by the same $17,960 in the remainder of the report.

There are also a number of costs that will be recovered via invoicing to Teck that have not been captured in the above tables. Staff will be initiating the invoicing processes next week, and funds should be received before fiscal year end. The amounts to be invoiced to Teck include $44,085 for Tailings pond backfilling, $17,960 for a metal leaching and acid rock drainage assessment in the landfill gravel borrow, and $92,623.40 for Teck Hauling Support. The total amount anticipated from Teck should be $154,668. Staff will also be negotiating with Teck on seeding costs for the borrow area that they used, and seeding of the landform (mound) that stores the Ross property soils but it is not currently known how much Teck will be responsible for, so the seeding cost is included in both tables above and is currently reflected as a 100% RDCK cost.

The short-term borrowing resolution detailed in Section 2 that was increased from $900,000 to $1,443,338 covered the $543,834 of the additional construction costs that were outlined in the June 15th, 2022 In-Camera Committee Report. Based on the other increases that occurred over the construction period, there is now an additional $170,250 that is not captured under the current borrowing authorization.

Option 1: Staff are recommending the short-term borrowing authorization (428/22) that was detailed in Section 2 be rescinded and the authorization be increased by the remaining $170,250 for a total short-term borrowing authorization amount of $1,616,588. Staff are also requesting approval for an amendment to the 2022 Financial Plan from S187 Central Resource Recovery Account 60000 to include the increased construction costs for the HB Remediation and Closure Project in the amount of $714,084 and that Account 43100 Proceeds from Borrowing is increased by the equivalent amount. The current short-term financing rate available through the Municipal Finance Authority is 4.51%.

Option 2: Staff are recommending the short-term borrowing authorization (428/22) that was detailed in Section 2 be used to draw the existing approved loan amount of $1,443,338, and utilize reserves for the remaining $170,250. Staff are requesting approval for an amendment to the 2022 Financial Plan from S187 Central Resource Recovery Account 60000 to include the increased construction costs for the HB Remediation and Closure Project in the amount of $714,084, and that Account 43100 Proceeds from Borrowing is increased by $543,834 (borrowing amount approved in resolution 428/22), and that revenues are increased by the remaining construction cost difference of $170,250 through contribution from reserves (from Central Resource Recovery Regular Reserves). The current balance for regular reserves is $706,802 with an expected withdrawal of approximately $300,000 for other 2022 capital works leaving sufficient funds for the proposed addition of $170,250.

3.2 Legislative Considerations (Applicable Policies and/or Bylaws):

None at this time.

3.3 Environmental Considerations:

The completion of the HB Remediation and Closure project has greatly improved environmental conditions at the site, in that the risk of tailings erosion and transport downstream has been greatly reduced or eliminated.

3.4 Social Considerations:

None at this time.

3.5 Economic Considerations:

None at this time.

3.6 Communication Considerations:

None at this time.

3.7 Staffing/Departmental Workplace Considerations:

Coordination of the operations, maintenance, monitoring and surveillance of the Facility will continue to be the responsibility of the Environmental Projects Lead.

3.8 Board Strategic Plan/Priorities Considerations:

None at this time.

SECTION 4: OPTIONS & PROS / CONS

Option 1: **That the Board rescinds resolution #428/22 which authorized up to $1,443,338 in short-term borrowing for HB Remediation and Closure planning and construction; AND FURTHER that the Board authorizes up to a maximum amount of $1,616,588 be borrowed, under Section 403 of the *Local Government Act*, from the Municipal Finance Authority, for the purpose of HB Closure Project planning and construction overages; and that the loan be repaid within 5 years, with no rights of renewal; AND FURTHER that the Board direct staff to amend the 2022 Financial Plan for Service S187 Central Resource Recovery to increase the Capital Expenses Account 60000 by an additional $714,084 for the HB Tailings Facility Remediation and Closure Project, and increase Account 43100 Proceeds from Borrowing by the equivalent amount.**

PROS:

- Ensures adequate funds are available to cover project costs.

CONS:

- Requires a Financial Plan amendment
- Short-term borrowing rates through the Municipal Finance Authority have increased recently.

Option 2: **That the Board direct staff to amend the 2022 Financial Plan for Service S187 Central Resource Recovery to increase the Capital Expenses Account 60000 by an additional $714,084 for the HB Tailings Facility Remediation and Closure Project, and increase Account 43100 Proceeds from Borrowing by $543,834, and increase Contribution from Central Resource Recovery Regular Reserve by $170,250.**

PROS:

- Requires less funds to be borrowed than in Option 1, which will save on interest payments.
- Ensures adequate funds are available to cover project costs.

CONS:

- Requires a Financial Plan amendment.
- Still requires using the existing short-term borrowing authorization to draw funds, and short-term borrowing rates through the Municipal Finance Authority have increased recently.

SECTION 5: RECOMMENDATIONS

That the Board direct staff to amend the 2022 Financial Plan for Service S187 Central Resource Recovery to increase the Capital Expenses Account 60000 by an additional $714,084 for the HB Tailings Facility Remediation and Closure Project, and increase Account 43100 Proceeds from Borrowing by $543,834, and increase Contribution from Central Resource Recovery Regular Reserve by $170,250.

Respectfully submitted,

Alayne Hamilton – HB Tailings Facility Technologist

CONCURRENCE

Resource Recovery Manager – Amy Wilson
General Manager of Environmental Services – Uli Wolf

ATTACHMENTS: None

Committee Report

Date of Report:	December 1, 2022
Date & Type of Meeting:	December 7, 2022 Joint Resource Recovery Committee
Author:	Matt Morrison, Organics Coordinator
Subject:	CONSULTATION TOOLS PRESENTATION AND INITIATING PLANNING FOR PROCESS TO ADOPT FUTURE SERVICE ESTABLISHMENT BYLAW FOR CURBSIDE COLLECTION SERVICES FOR FEASIBLE ELECTORAL AREA RESIDENTS
File:	12-6210-20
Electoral Area/Municipality	Electoral Areas A, B, C, D, E, F, G, H, I, and J, Village of Salmo and Village of Slocan.

SECTION 1: EXECUTIVE SUMMARY

The purpose of this report is to provide a framework of tools staff are planning to use as part of the Phase 2 Consultation with identified Electoral Area residents, and seek direction on the planning for a method of adopting the future potential Service Establishment Bylaw for the proposed curbside collection services, should consultation indicate the establishment process proceed.

SECTION 2: BACKGROUND/ANALYSIS

Background:

The Regional District of Central Kootenay (RDCK) Resource Recovery Plan (RRP) has been submitted to the BC Minister of Environment and Climate Change Strategy for review and approval. The Organics Waste Diversion Strategy currently being implemented is a major feature of the RRP, and describes how the RDCK can meet its Resource Recovery goals.

The RDCK has received significant grant funding to enable investment into the infrastructure necessary for regional organic waste diversion from landfills. The timelines associated with these grants commit the RDCK to implementing the services, specifically, as described in the Organic Infrastructure Curbside Program (OICP) grant Shared Cost Agreement by March 2024. A key action of the RRP is to increase organics diversion through the provision of curbside collection services to Electoral Area (EA) residents.

At the September 21, 2022 Joint Resource Recovery Committee (JRRC) meeting, staff presented a report (Attachment A) detailing the organizational conditions related to EA residential curbside collection services, including grant funding, feasibility studies, earlier consultation results, and the planning process for establishing services. The recommendation from that report adopted by the Board on September 22, 2022 was:

Res. #557/22: *That the Board direct staff to proceed with a Phase 2 Consultation Program to inform residents and gauge the level of public support in identified areas for the proposed Electoral Area curbside collection program;*

AND FURTHER, that for consultation purposes, the Board direct staff to utilize the most appropriate costing at the time per household per year for the estimated cost of the potential service.

Phase 2 Consultation Planning

Identified areas for the proposed EA curbside collection program were refined using updated parameters and were included in a Request for Information (RFI) released in August, 2022. Despite lack of responses, staff are prepared to proceed with the draft service area boundaries as presented in the RFI for the Phase 2 Consultation period, with the option to revise based on stakeholder and community input acquired during the consultation. The catchment of households within the potential service area boundaries is 15,300, however 8,710 estimated households was used in Phase 1 Consultation, and included in the OICP grant. This number will be further validated through Phase 2 Consultation.

Phase 2 Consultation (henceforth the consultation) targeted to EA single family residential households within the potential service area boundaries is scheduled to occur middle of January to the middle of April, 2023. This consultation is meant to evaluate the opinions of identified EA residents and their willingness to pay for the proposed service. The proposed service cost to be used in the consultation will be confirmed at the January JRRC meeting, and is expected to be in the range of $180 - $240/hh/year, but could be higher. The method of cost recovery will also be confirmed at a later date when drafting of the service establishment bylaw, but is expected to be a utility bill applied to residents receiving the service. All residents within the proposed service area boundary will be invited to participate in the consultation. The tools used for the consultation will be a mix of online, mail-based, and in-person options to maximize the accessibility, participation, and diversity of perspectives within the impacted residential population. The tools are still being refined, and are only presented here as a framework (Table 1.). The final tools and strategies selected will be presented to the Committee in January for final approval before the consultation period launches later in January.

Table 1. EA Curbside Consultation Tools

Method	Consultation Service	Description
Direct Mail Product	Direct to-door communication delivered by Canada Post - targeted to addresses that exist within the potential service area boundary	The direct mail product to impacted residents will provide high-level background information, with an invitation to participate in the consultation via use of the online engagement platform, attendance at a community information session, or by completing a survey over the phone. Addresses will be generated from internal database and will include impacted homeowners who live elsewhere.
Online Engagement Platform	Bang the Table - EngagementHG. Requires registration, but will open to anyone. Respondents will self-identify as potential receivers of the service.	An RDCK Specific URL that provides a platform for a diversity of engagement opportunities, including completion of a survey. Additional tools with Bang the Table allow for Q&A with staff, active forums, uploading of relevant media content, and space for attaching resources and links for additional information
Phone-In Survey	Residents will be provided a phone number to call to complete a survey administered by a staff member	Survey will be completed over the phone by a staff member, and results will be directly input into a survey.

Method	Consultation Service	Description
In-Person Engagement	Community Information Sessions	Community engagement sessions are proposed as a face-to-face opportunity for impacted residence. A presentation followed by Q&A and in-person opportunities for completion of the survey will be provided.
Hand-out information	Handouts with project information	High-level information and initiation to engage/access additional information via online engagement platform. Distributed at RDCK Facilities (Waste, Offices, and Recreation).
Community Bulletins	Sandwich boards, posters with project information.	Community bulletins (Sandwich boards) placed at RDCK facilities (CEN, GRO, OOT, CRE) and posters put up at community boards throughout impacted service areas with invitation to participate.
Online Updates	Online information updates	Website updates and social media posts to boost awareness of consultation period and access to participation. Provide links to engagement platform.
Media Release	News based promotion/education	Media releases to announce consultation period will promote the engagement platforms and invite participation
Radio and Newspaper Adverts	Advertising	Paid media advertisements can be used to promote the engagement and build awareness of the consultation period

Curbside Recycling

At this time Recycle BC (RBC) requires an area to have garbage collection services in place for 2 years prior to initiating RBC provided collection services. However, RBC has proposed changes to the eligibility criteria in their Draft Stewardship Plan which are being considered by the Ministry of Environment and Climate Change Strategy (MoECCS) and are expected to allow for the establishment of curbside recycling contracts with RBC to coincide with establishment of new garbage curbside collection services. At such a time if EA residents are eligible for recycling collection based on other RBC parameters such as population, density, and distance, this waste stream could be considered for integration into RDCK waste collection services. It is expected that clear direction on the possibility to include recycling into the EA curbside collection consultation will be provided by the end of 2022. Staff will indicate at the January JRRC meeting if curbside recycling can be included in the consultation, including associated costing, which are expected to be largely or fully covered by RBC.

Service Establishment Planning

Upon completion of Phase 2 consultation in April 2023, staff will present a report to the JRRC on the results, and provide a recommendation on whether or not to proceed with drafting of a service establishment bylaw. While the results of the consultation period may influence the method of adopting the future service establishment bylaw, staff are anticipating the need to begin planning for a process that involves the approval of the electors. The window of time available to successfully complete legal service establishment is narrow due to grant funding deadlines and the likelihood of internal and external delays. Therefore, receiving direction on which method the RDCK should implement the service establishment bylaw needs to be decided in advance of consultation to allow sufficient time

in the event the initiative proceeds. In addition, providing this direction within the upcoming consultation will help inform residents on the impact of their participation and increases overall transparency of the process.

There are three main options currently available to the RDCK for establishing new waste collections services for EA residents. These are:

1. Pending Ministerial approval of the RRP, the *Environmental Management Act* (EMA) allows Regional Districts to adopt the services as described in their Solid Waste Management Plans (the RRP), providing the service was adequately described and consulted upon.
2. The Alternate Approval Process (AAP)
3. Assent Voting (Referendum)

Environmental Management Act

The *Environmental Management Act* provides the authority for local governments to establish services through Solid Waste Management Plans, should they be approved by the Minister of Environment and Climate Change Strategy (henceforth Minister/Ministry of Environment). Currently the RDCK has a Solid Waste Management Plan, referred to as a Resource Recovery Plan (RRP), awaiting Ministerial approval, with no clear sense on timelines for that approval, or the potential for necessary revisions. Within the RRP, curbside collection services for EA residents are described, Phase 1 consultation results are presented, and a Phase 2 Consultation is discussed as part of the process. However, concerns have been presented that indicate that establishing a service through the RRP may not be in the best interest in the public. As well, it is unclear if the Ministry of Municipal Affairs and Housing would consider the details provided in the RRP as sufficient for adopting a service establishment bylaw. If the EMA and the RRP are to be used as the method of service establishment, the process first requires the approval of the RRP from the Minister of Environment. The Ministry of Municipal Affairs and Housing would have to provide an exception for electoral approval based on the acceptance of the RRP, therefor allowing for statutory approval of a bylaw by the Inspector of Municipalities without needing a referendum or AAP. This process is known as the Waste Management Plan Exception. While potentially less costly, pursuing this option does not reduce uncertainty on the approval, comment, or rejection of the RRP from the Ministry of Environment.

Alternate Approval Process

The Alternate Approval Process remains an option for service establishment, and provides the benefit of being part of the approval of the electors process, with reduced cost and organizational complexity. As an inverse petition, the AAP only provides the opportunity for dissenting voices to register in the process, with no method for those in favour of the proposal to vote. This method can be effective for issues that are uncontroversial, or where there is confidence in the likelihood of the proposal to avoid organized dissent. Ten percent of voters are able to reject a given proposal through the AAP, so the threshold to determine the outcome of the proposal is comparably low from the Assent Voting process. The RDCK has recently proposed changes to its bylaws through the AAP that have failed, so confidence is low that this proposed method would allow for widespread service establishment. However, the AAP is substantially less expensive than Assent Voting, and there is the potential that the upcoming consultation could indicate strong support for the proposed services.

Assent Voting

The Assent Voting process, commonly referred to as a Referendum requires 50.1% of votes to register in support of a proposal to be carried. While the threshold for service establishment is higher than the AAP, the referendum process provides the opportunity for both dissenting and supporting residents to participate in the process. In the context of establishing waste collection services for EA residents, a referendum would provide the opportunity for the most robust consultation and opportunity to register a greater volume of opinion and votes for or against the proposal. A referendum on the establishment of services is expected to provide greater confidence in the process,

increase transparency, and would be insightful in assessing the level of support, opposition, and general sentiments around solid waste management services for EA residents in the RDCK. However, holding a referendum is costly and requires a lengthy planning process.

Timing Considerations

Each option for service establishment has unique timing considerations that will impact the ability of the RDCK to implement an EA curbside program within the current grant funding deadlines of March 2024.

The steps for adopting a service establishment bylaw depend on the method selected, however, generally are as follows:

- Service establishing bylaw drafted and board gives it three readings (2 to 3 months)
- Municipal council or electoral area director provide consent (if applicable)
- Provincial review and statutory approval by the Inspector of Municipalities (6-12 weeks)
- Approval of the electors (if applicable, 8-11 weeks – may be longer due to internal RDCK timelines)
- Adoption of the bylaw by the board
- Period during which bylaw can be challenged by applying to Supreme Court (1 month)
- Adopted bylaw submitted to the Ministry of Municipal Affairs for their records

In total, from the date in which staff receive direction on proceeding with service establishment bylaw development, a timeline of ten to twelve months is needed to implement the new bylaw, assuming Phase 2 Consultation results indicate the process should continue.

Staff are recommending if Phase 2 consultation deems the public is interested in advancing that the process of Assent Voting be used to determine elector assent to adopt the future service establishment bylaw for the services of curbside collection of feasible residential Electoral Area waste.

SECTION 3: DETAILED ANALYSIS

3.1 Financial Considerations – Cost and Resource Allocations:

Included in Financial Plan:	Yes	☐ No	**Financial Plan Amendment:**	☐ Yes	☒ No
Debt Bylaw Required:	☐ Yes	☒ No	**Public/Gov't Approvals Required:**	☐ Yes	☒ No

Consultation Costs

The Phase 2 consultation program budget, developed by consultants Carey McIver and Associates as part of the OICP application, was included in the 2022 Financial Plan in Service A102 for a total of $32,204.40. The OICP grant is available to cover up to $21,474 for this work and a Columbia Basin Trust grant will cover $5,365.20, with the remainder ($5360.2) to be paid by the RDCK.

The updated cost estimates for the framework of consultation tools are presented in Table 2, with a revised total of $33,200.

Table 2. Cost Estimates for Phase 2 Consultation tool.

Method	Cost Description	Estimated Costs
Direct Mail	Letter describing project and invitation to participate in survey/engagement platform	$8,000
Online Engagement Platform	1 year, single project or 6 month organizational trial subscription to the engagement platform Bang the Table	$10,000
Phone-In Survey	Staff time	In-Kind
In-Person Engagement	Staff time, space rental	$1,000
Hand-out information	Paper costs, graphic designer	$2,000
Community Bulletins	Staff time, paper costs, graphic designer	$750
Online Updates/media releases	Staff time	In-Kind
Radio/Newspaper Adverts	Cost of service	$2,000
Consultant Support	Planning, support, admin, advice	$9,450
	Total	**$33,200**

At this time, the proposed tools and framework exceed the allocated budget by $992. Staff welcome input on what tools to reduce allocation towards, or would like to request the additional $992 be allocated in the Draft 2023 Financial Plan to Service A102 to provide full engagement capacity, making the RDCK contribution a total of $6,360.80.

Service Establishment Process

The organizational costs for adopting the service establishment bylaw vary depending on the method selected. If directed to proceed with using EMA and the RDCK RRP to adopt the future bylaw, there is no additional staff time required specifically. However, as this method requires the assumption that EMA and the RRP are available in advance of the approval from the Minister of ECCS, there may be unforeseen costs, including costs to delaying the process in the absence of timeline certainty. This could include not acquiring Ministerial approval with sufficient time to expend grant funding by March 2024. If directed to proceed with establishing the service through this method, significant cost reductions will occur for the process, as no approval of the electors process would be required.

Based on recent costing from completed AAPs, the RDCK could expect to spend an estimated $24,000 to facilitate the process. This includes staff time, statutory notifications, and contract services for a household mailer to the affected households. That doesn't include any of the costs associated with public meetings or advertising to inform people of the proposed service.

Based on recent costing from completed Assent Voting, the RDCK could expect to spend an estimated $60,000 to facilitate the process. This includes staff time, statutory notifications, contracted services, operating supplies and venues for the voting.

Staff are recommending that the process of Assent Voting be used for adopting the future service establishment bylaw for the services of curbside collection of feasible residential Electoral Area waste, and that $60,000 be added

to the 2023 Financial Plan for Service A102 and the appropriate Corporate Administration Service, upon receiving direction to proceed with this option. The allocation of costs for the Assent Voting are drafted in Table 3, as estimated from real costs incurred from the recent Assent Voting in Area H for the Local Conservation Fund.

Table 3. Estimated Cost of Assent Voting for EA Curbside Services

Item	Estimated Cost
Salaries, Wages, and Benefits (Staff and Election Workers) -	$4,740
Advertising (Statutory Notices) -	$3,595
Contracted Services (Ballot Printing and Mail Services) -	$14,681
Operating Supplies (Poll Supplies) -	$2,582
Venues (Polls) -	$4,402
Total	$60,000

3.2 Legislative Considerations (Applicable Policies and/or Bylaws):

A rural collection program would require a Service Establishment Bylaw. The potential to establish a collection program was included in the RRP; however, it is currently uncertain if there is adequate detail on the proposed program in the RRP to allow for service establishment without the approval of the electors, under provisions of the *Environmental Management Act*. Staff have engaged with the Ministry of Municipal Affairs and Housing to determine if a separate approval of the electors process is required or if the service could proceed under the Ministerial approval of the RRP. Currently uncertainty remains on whether an exemption for elector approval based on the current RRP submission would succeed. However, if the regional district was able to provide evidence of elector engagement and public opinion capture of the more detailed and localized information from additional consultation, the Inspector may consider the exemption.

3.3 Environmental Considerations

A regional collection program could increase organics diversion within the regional district which could reduce GHG emissions and conserve additional landfill space. Initiating curbside collections services will advance eligibility of RDCK EAs to obtain Recycle BC curbside collection services.

3.4 Social Considerations:

Curbside collection would be a new service for the RDCK. Some residents would be willing to pay more for convenience whereas others may not.

Although the cost of a rural collection program would be comparable to self-haul and less than private collection, it may be difficult to have residents accept another imposed fee during already financially difficult times. Engagement with residents in these areas will help to both inform the public on the benefits of curbside collection services while supporting staff in gauging the level of support for incurring additional annual household costs.

3.5 Economic Considerations:

Although a rural curbside collection program in areas that currently have no private hauler options could increase jobs or contracts available within the community, a program that focuses on both garbage and organics in areas with existing private garbage collection could put small local private garbage haulers out of business if they were not the successful proponent in a procurement process. However, sub-regional contracts to maintain fair competition can be developed.

3.6 Communication Considerations:

An extensive public consultation process is required to gauge if there is adequate public support to justify proceeding with the service establishment process. An effective communications strategy and set of tools would be developed by Carey McIver and Associates over the coming months, with the intent to launch the consultation program in early 2023.

3.7 Staffing/Departmental Workplace Considerations:

The Organics Coordinator will lead the public consultation process, with support from the Resource Recovery Manager, Environmental Projects Lead, and the consulting team at Carey McIver and Associates.

3.8 Board Strategic Plan/Priorities Considerations:

Organics diversion is a major component of advancing the RDCK Board's priority of Waste Management and Alternatives, and RDCK's Strategic Objective to adapt to our changing climate and mitigate greenhouse gas emissions. Continuing the investigation into a rural curbside collection program is also in line with the RDCK's Strategic Objective to continually innovate to reduce the impact of solid waste.

SECTION 4: OPTIONS & PROS / CONS

FOR SELECTING THE FRAMEWORK OF TOOLS

Option 1.1: That the Board direct staff to proceed with the framework of tools presented for the Phase 2 Consultation with Electoral Area residents, with the final consultation package to be brought back to the Committee for review in January 2023 and an additional $992 for consultation costs be incorporated into the Draft 2023 Financial Plan in Service A102 Resource Recovery.

PROS:

- Tools presented are considered to be suitable for effective consultation that reaches impacted residents and provides diverse opportunities to participate
- Additional tools may be considered and included in final consultation plan
- Tools will provide quality data to help assess the levels of support, resistance, or uncertainty around the issue of waste collection/diversion services

CONS:

- Proposed tools are over the available budget by $992 and require additional funds allocated in 2023 to the service or reduction in cost through removing or reducing tool allocation.

Option 1.2: That the Board direct staff not to proceed with the framework of tools presented for the Phase 2 Consultation with Electoral Area residents in January 2023, and instead provide a final framework of tools based on feedback at the next JRRC.

PROS:

- None noted

CONS:

- Delays planning for consultation period

FOR THE SELECTION OF LEGAL METHOD OF ADOPTING SERVICE ESTABLISHMENT BYLAW

Option 2: That the Board direct staff to plan for adoption of the future service establishment bylaw for waste collection services using the Environmental Management Act and the service as described in the RRP and refined through the Phase 2 Consultation

PROS:

- EMA process is less expensive, as the cost of producing the RRP is imbedded in the service establishment process, so no additional funds for service establishment are needed
- Phase 2 Consultation will proceed as planned, and results may indicate that an approval of the electors is not required due to overwhelming support

CONS:

- High uncertainty of timelines and the legal ability to use this method as the RRP does not yet have Ministerial approval
- Potentially could reduce public trust by not providing an opportunity for electoral assent around an issue that has previously been identified as contentious
- Results of Phase 2 Consultation could indicate uncertain or lack of support, so proceeding with EMA would be unfavourable to electors and could been seen as less transparent a process

Option 3: That the Board direct staff to plan for adoption of the future service establishment bylaw for waste collection services using the Alternate Approval Process and that $24,000 be added to the Draft 2023 Financial Plan for Service A102 Resource Recovery.

PROS:

- Provides electoral assent process, but is lower cost and less complicated than Assent Voting
- Low threshold of assent provides a good chance of service establishment in the case that consultation results prove favourable, and the risk of organized dissent is considered low
- Provides legal certainty for the process of service establishment
- Has shorter timelines associated with the process, and could provide the fastest pathway to adopting the future service establishment bylaw

CONS:

- AAP may be considered less transparent due to reduced opportunity for input from the electors
- Lower threshold of failure, as organized dissent may easily reach the necessary 10% of registered voter signatures in the context of a contentious or costly issue, such as the proposed service

Option 4: That the Board direct staff to plan for adoption of the future service establishment bylaw for waste collection services using the Assent Voting Process and that $60,000 be added to the Draft 2023 Financial Plan for Service A102 Resource Recovery.

PROS:

- Would provide the greatest amount of long-term certainty should the results be favourable to service establishment
- Provides opportunity for both supporting and dissenting votes, which can enable more comprehensive public discourse, which represents an opportunity to more broadly assess the sentiments of the effected population
- Process provides greatest transparency and could help to build public trust

CONS:

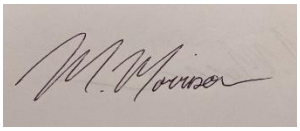
- Most costly and complicated process, requiring significant resources to conduct
- Requires a longer process to conduct the process, similar to elections.
- High threshold to establish service

SECTION 5: RECOMMENDATIONS

That the Board direct staff to proceed with the framework of tools presented for the Phase 2 Consultation with Electoral Area residents, with the final consultation package to be brought back to the Committee for review in January 2023 and an additional $992 for consultation costs be incorporated into the Draft 2023 Financial Plan in Service A102 Resource Recovery;

AND FURTHER that, the Board direct staff to plan for adoption of the future service establishment bylaw for waste collection services using the Assent Voting Process and that $60,000 be added to the Draft 2023 Financial Plan for Service A102 Resource Recovery.

Respectfully submitted,



Matt Morrison – Organics Coordinator

CONCURRENCE

Resource Recovery Manager – Amy Wilson
General Manager of Environmental Services – Uli Wolf

ATTACHMENTS:
Attachment A: 2022-09-21_ORG_JRRC_RFI_EA_Consultation_Report_Only

Committee Report

Date of Report:	September 15, 2022
Date & Type of Meeting:	September 21, 2022 Joint Resource Recovery Committee
Author:	Matt Morrison, Organics Coordinator
Subject:	REQUEST FOR INFORMATION RESULTS AND PHASE 2 CONSULTATION FOR CURBSIDE COLLECTION OF GARBAGE AND ORGANIC WASTE
File:	12-6210-20
Electoral Area/Municipality	Electoral Areas A, B, C, D, E, F, G, H, I, and J. Village of Salmo and Village of Slocan.

SECTION 1: EXECUTIVE SUMMARY

The purpose of this report is to present the results of a Request for Information that went to collection haulers associated with the proposed regional curbside collection program, and to obtain direction from the Joint Resource Recovery Committee to start the second phase of consultation to support the proposed collection program.

SECTION 2: BACKGROUND/ANALYSIS

Background:

In August 2021, the Regional Board directed staff to submit the final draft of the Resource Recovery Plan (RRP) to the BC Minister of Environment and Climate Change Strategy for review and approval. Once approved, it will replace the previous 2010 Plan and serve to guide recycling, composting, landfilling, and ensure sustainable waste management practices for years to come.

A feature of the RRP is the Organic Waste Diversion Strategy (OWDS) which identifies diverting organic waste from landfills as a solid waste management priority. Diverting organic waste from landfills is a known and effective way to reduce greenhouse gas emissions, reduce landfill leachates, and save on landfill airspace. The RDCK has engaged with community stakeholders, municipal partners and consultants to develop a strategy for managing organics and removing them from the waste stream. With the successful start of the Town of Creston's curbside collection organics program, and the expected implementation of organic waste diversion in the Cities of Castlegar and Nelson, RDCK staff are now looking to assess the interest and feasibility of providing curbside services to Electoral Area (EA) residents and other municipalities where desired to maximize the organic waste diversion potential of residents.

2020 Feasibility Study:

In 2020 a feasibility study was completed by consultants Maura Walker and Associates (MWA) to assess different options for delivering curbside collection to EA residents and the Villages of Salmo, Kaslo, New Denver, Silverton, Slocan and Nakusp. In the study, it was identified that expanding services to certain EA residents and/or certain municipalities that request services offers an opportunity to maximize diversion and achieve key Resource Recovery goals. Feasible areas were defined as being within a 50 km radius of a disposal facility and in higher housing densities, along or adjacent to highway corridors. Additionally, MWA acquired information from local haulers and EA Directors to help assess and identify feasibility for each EA. Inclusion of EA residents and feasible municipalities

was estimated to increase participation from 42% to up to 83% of households regionally, and increase total tonnage arriving at the RDCK composting facilities by 60% (from 1,626 to 2,577 tonnes/year).

MWA provided high-level service cost estimates, potential service area boundaries, private sector consultation feedback, and potential delivery options. Manual bi-weekly garbage and weekly organics co-collection was estimated to cost $135 - $180 per household each year. The cost estimate was also based on a range of annual household costs for other regional districts with collection programs with comparable demographics (population) and geography (density and location). In 2020, the private waste collectors offering subscription service in parts of the RDCK charged $250 to $390 a year per household depending on the service level offered.

The Regional Curbside Organics Collection Program Feasibility Study (MWA, 2020) recommended the following:

- That the RDCK consider the establishment of a weekly food scraps and bi-weekly garbage collection service in practical areas for EA households and for feasible municipalities that request the service.
- That the RDCK include the potential for establishing a regional collection service in the Draft Resource Recovery Plan (RRP), including a public consultation program that includes the results of the feasibility study.

Phase 1 Consultation and the RRP

The recommendations from the feasibility study were included in the draft Resource Recovery Plan (RRP) on the direction of the Board on December 9, 2020. A dedicated consultation in tandem with the RRP consultation occurred to determine if there was public interest in establishing curbside collection of garbage and food waste under the parameters identified in the feasibility study.

It is worth noting that the consultation occurred during the Covid-19 pandemic which prevented any face-to-face engagement, and may have contributed to relatively low response rate to the RRP survey. While **58% (775/1341)** of respondents responded favorably to the proposed question of the RDCK investigating curbside collection for feasible Electoral Area (EA) households, results varied by EA. The results of that first round of consultation are attached for reference (Technical Memorandum – Regional Curbside Collection Service Consultation Results - Attachment A).

The results of that consultation indicated that there is enough interest to continue to explore the potential service. Consequently, the following steps were outlined in the RRP:

- Obtain more detailed and localized information related to households, densities, and accessibility to allow for more refined service area boundaries and cost estimates.
- Undertake a second phase of public consultation (Phase 2 consultation) based on refined service area boundaries, service levels and costing. The results of this consultation should provide Electoral Area Directors with sufficient feedback to determine whether they would support the establishment of a curbside collection service in portions of their respective electoral areas.
- Subject to Ministry approval of the Final RRP and the results of Phase 2 consultation, a service establishment process would occur with direction from the Board, an RFP for service provision would be issued and a contract for the service awarded.

Grant Awards

In late 2020, the Province announced the Organics Infrastructure Collection Program (OICP), a grant program designed to increase curbside collection of residential organics and to decrease Greenhouse Gas (GHG) emissions from landfills. The RDCK submitted an application which included seeking funds on behalf of Creston, Castlegar and the Electoral Areas to cover up to ⅔ of the cost of procuring up to 8,700 curbside bins and kitchen catchers, communications and engagement costs, staff time, and consultant support. In August, 2021, the RDCK was advised

the application was successful. Through the support of the OICP grant funding, electoral areas could divert up to 1,045 tonnes of organic waste from landfills annually, or 47% of the organic waste tonnage within the RDCK as estimated by OICP diversion estimates. Successfully diverting EA organic waste tonnages is a key deliverable of grant requirements.

In March of 2022, the RDCK received two additional grant funding awards from the Columbia Basin Trust (CBT). One grant is to support the education and outreach work of the RDCK related to establishing curbside collection services for EA residents, including Phase 2 consultation. The other is for the procurement of bear-safe locking mechanisms for curbside bins and relevant educational material to support the implementation of EA collection services, should they proceed.

Curbside Recycling

At this time Recycle BC (RBC) requires an area to have garbage collection services in place for 2 years prior to initiating RBC provided collection services. At such a time if EA residents are eligible for recycling collection based on other RBC parameters such as population, density, and distance, this waste stream could be considered for integration into RDCK waste collection services.

Request for Information – August 2022

In the RRP, it was detailed that a Request for Expression of Interest would occur prior to initiating Phase 2 consultation, however, staff felt that an RFI was a more appropriate template for the gathering of information in advance of receiving direction to proceed with consultation.

Staff issued a Request for Information (RFI) on August 15, 2022 directed towards curbside collection haulers with the aims of updating high-level costing estimates, further refining service area boundaries, and identifying service areas of interest from respondents (Request for Information – Curbside Collection Services of Garbage and Organic Waste for Electoral Area Residents - Attachment B). The RFI results could provide staff with information and data directly from the marketplace for the preparation of a robust Phase 2 consultation plan.

Staff provided maps detailing potential service area boundaries for garbage and organics collection that highlighted areas considered potentially feasible for service provision. These maps are included in Attachment B were developed from the following parameters:

- Households occurred with 50km driving distance to a disposal facility with organic waste receiving
- Households occurred within 200 meters elevation change from a highway
- Households within the Villages of Salmo and Slocan were excluded
- Households did not extend northward of the Village of Slocan
- Households did not extend west of Syringa Provincial Park in Area J
- Households did not extend south of the Highway 6/3 Junction in Area G

15,300 households were identified within the RFI parameters. The RFI closed on September 12, 2022 and no responses were received.

Phase 2 Consultation Planning

As set out in the RRP, the purpose of this next phase of consultation is three-fold. (1) Inform EA residents of the results to the 2021 Phase 1 consultation (completed as part of the RRP consultation process), (2) advise of the next steps, and (3) to obtain input regarding level of interest based on refined service area boundaries and updated collection cost estimates. This consultation, based on the parameters outlined in the RFI would then include some or all of Electoral Areas A, B, C, E, F, G, H, I, and J. Some of Electoral Area D could be included, however staff had

received guidance to exclude Area D from the boundaries presented in the RFI. Electoral Area K would not be included in the Phase 2 consultation due to lack of access to infrastructure at this time The Villages of Salmo and Slocan are the only municipalities that are considered feasible at this time for inclusion into rural curbside services due to proximity to organic waste collection infrastructure. Other municipalities could be considered for servicing of organic waste at such a time as nearby organic waste collection or composting infrastructure is available.

A letter to council and staff at the Villages of Salmo and Slocan could be sent requesting their interest in the RDCK consulting with their residents as part of the Phase 2 consultation. Alternatively, the municipality could conduct their own assessment. Staff suggest this is an offer to extend the same curbside service as in surrounding EAs into the municipality for the same cost per household. A modified version of the curbside program for municipalities would add complexity to the consultation, procurement, and program delivery and as such is not recommended at this time.

Staff are proposing that planning for Phase 2 consultation will be completed by the end of 2022, with the actual consultation activities occurring January to March, 2023. The timing of this consultation coincides with the program implementation schedule to maintain access to grant funding as described above.

As referenced in the previous section of this report, staff had hoped that the RFI process would result in industry respondents confirming the feasibility of providing curbside collection to EA residents, and informing the estimated collection fees to be used in Phase 2 consultation.

Due to the lack of responses, staff have developed the following fiscally conservative guidelines to inform high-level costing and feasibility in the absence of responses for key details related to Phase 2 Consultation:

- Given the systemic supply chain issues resulting in procurement challenges, manufacturing delays and cost increases for key collection equipment such as trucks, plus the tight labour market for collection personnel, the collection cost estimates used in the 2020 phase of consultation have been increased 30%.
- Up to 8,710 EA households could be serviced (estimated number of households within OICP for bin procurement).
- Contract administration and staff overhead costs could increase by 5% each year and have been projected to 2024.
- Tipping fees cost estimates use $110/tonne (rate as of report date)
- A contingency of 20% has been used
- A conservative (high) estimate will provide assurance to staff, Directors, and electors that true costs will not be above the high-end range.
- The feasibility parameters provided in the RFI are considered sufficient for high-level cost estimates and service feasibility until further information is received from haulers, a Request for Proposal process, or ground-truthing to determine local geographic feasibility.

Taking into account these refined assumptions and information gathered from other local governments who have recently awarded new collection contracts, a revised cost range of **$180 to $240** is proposed to be used for Phase 2 consultation. This cost estimate uses the curbside collection service model of manually co-collected weekly food scraps and bi-weekly garbage. The high end of the estimate is expected to be higher than actual costs. Providing this higher costing estimates ensures Phase 2 consultation results will remain valid into the future where inflationary and other pressures are uncertain.

Staff will utilize a number of tools to engage residents. These could include: a newsletter to EA residents and municipalities that request the service; website updates; media releases; newspaper ads; social media posts;

display materials; surveys; presentations; and webinars. With the anticipated easing of Covid-19 social distancing restrictions, staff will also explore face-to-face options such as attending events, having one-on-one conversations at RDCK facilities such as transfer stations, and hosting information sessions at community locations.

It is anticipated that Phase 2 planning will be completed by the end of 2022, with Phase 2 consultation occurring January to March, 2023. Once consultation is complete, a consultation summary report will be brought to the Committee for review and discussion. Based on the consultation results, a Board decision on whether to proceed with the service establishment process could occur as early as April 2023. Should the service proceed, it could potentially start by May 2024 to coincide with OICP grant deadlines.

Staff are recommending the Committee support proceeding with the planning and implementation of Phase 2 Consultation for expanded curbside collection services of garbage and organic waste to EA residents identified as feasible, and to engage with the municipalities of the Village of Salmo and Slocan to assess the interest participating in the curbside program and in having consultation extend to their residents.

SECTION 3: DETAILED ANALYSIS

3.1 Financial Considerations – Cost and Resource Allocations:

Included in Financial Plan:	Yes	☐ No	**Financial Plan Amendment:**	☐ Yes	☒ No
Debt Bylaw Required:	☐ Yes	☒ No	**Public/Gov't Approvals Required:**	☐ Yes	☒ No

Consultation Costs

As part of the 2022 budget development, Carey McIver and Associates provided a proposal that included $6,825 of consultant support for the Phase 2 consultation program planning, including a detailed work plan, support with service area boundary refinement, and Phase 2 consultation program design. An additional $2,625 was included in the proposal for general program administration, advice and assistance.

If approved, the Phase 2 consultation program will launch in early 2023. The OICP grant application included $26,840 to engage and consult with EA residents in advancing the RRP actions with respect to residential organics collection. The grant will cover up to $17,895 of those costs. A Columbia Basin Trust (CBT) grant award is available to fund 50% ($4,471) of the remaining 1/3 the RDCK could expect to pay.

The OICP grant application also includes a 20% contingency on all items, which increases the total available approved amount for Phase 2 Consultation program to $32,208.

These revenues (with the exception of the CBT grant funds) and expenses were included in the 2022 Financial Plan in Service A102.

Regional Collection Program Costs for Consultation Purposes

Detailed collection program costing will be provided through a Request for Proposal process. As part of 2023 budget development, staff will review all costing information that was included in the OICP for collection container purchases, and will bring updated costing to the Committee with the Phase 2 consultation summary report. Note, grant revenue and expenses for the rural curbside program design, containers, and education was included in the 2022 Financial Plan for year 2023 in all three sub-regions (Services S186, S187, S188).

Staff are recommending that the Phase 2 consultation process proceed, and that for consultation purposes a cost range of $180- $240 per household per year be utilized for the estimated cost of the potential service.

3.2 Legislative Considerations (Applicable Policies and/or Bylaws):

A rural collection program would require a Service Establishment Bylaw. The potential to establish a collection program was included in the RRP; however, it is currently uncertain if there is adequate detail on the proposed program in the RRP to allow for service establishment without the approval of the electors, under provisions of the *Environmental Management Act*. Staff are currently engaging with the Ministry of Municipal Affairs and Housing to determine if a separate approval of the electors process is required or if the service could proceed under the Ministerial approval of the RRP.

3.3 Environmental Considerations

A regional collection program could increase organics diversion within the regional district which could reduce GHG emissions and conserve additional landfill space. Initiating curbside collections services will advance eligibility of RDCK EAs to obtain Recycle BC collection services.

3.4 Social Considerations:

Curbside collection would be a new service for the RDCK. Some residents would be willing to pay more for convenience whereas others may not.

Although the cost of a rural collection program would be comparable to self-haul and less than private collection, it may be difficult to have residents accept another imposed fee during already financially difficult times. Engagement with residents in these areas will help to both inform the public on the benefits of curbside collection services while supporting staff in gauging the level of support for incurring additional annual household costs.

3.5 Economic Considerations:

Although a rural curbside collection program in areas that currently have no private hauler options could increase jobs or contracts available within the community, a program that focuses on both garbage and organics in areas with existing private garbage collection could put small local private garbage haulers out of business if they were not the successful proponent in a procurement process. However, sub-regional contracts to maintain fair competition can be developed.

3.6 Communication Considerations:

An extensive public consultation process is required to gauge if there is adequate public support to justify proceeding with the service establishment process. An effective communications strategy and set of tools would be developed by Carey McIver and Associates over the coming months, with the intent to launch the consultation program in early 2023.

3.7 Staffing/Departmental Workplace Considerations:

The Organics Coordinator will lead the public consultation process, with support from the Resource Recovery Manager, Environmental Projects Lead, and the consulting team at Carey McIver and Associates.

3.8 Board Strategic Plan/Priorities Considerations:

Organics diversion is a major component of advancing the RDCK Board's priority of Waste Management and Alternatives, and RDCK's Strategic Objective to adapt to our changing climate and mitigate greenhouse gas emissions. Continuing the investigation into a rural curbside collection program is also in line with the RDCK's Strategic Objective to continually innovate to reduce the impact of solid waste.

SECTION 4: OPTIONS & PROS / CONS

Option 1: That the Board direct staff to proceed with the Phase 2 Consultation Program for the proposed rural curbside collection program; AND FURTHER, that for consultation purposes, $180 - $240 per household per year be utilized for the estimated cost of the potential service.

PROS:

- Proceeds with next step in rural collection planning, as outlined in the RRP.
- Grant funding is in place to complete the consultation program.
- Will provide directors with information on the level of public support for the program.
- Rural collection would increase organics diversion, and preserve landfill space.
- Likely similar cost for families compared to self-haul, reduced cost to current subscribers to commercial services and increased convenience with offering both garbage and organics.

CONS:

- Some uncertainty exists in cost estimates and service area boundaries due to the lack of response from the RFI.

Option 2: That the Board does not support proceeding with Phase 2 Consultation for the proposed rural curbside collection program.

PROS:

- No large public consultation process required in 2023.

CONS:

- Significant grant funding dedicated to procurement of EA curbside infrastructure would be lost.
- Not abiding by intentions in RRP.
- Reduced capacity to meet greenhouse gas emission targets and a potential gap in tonnages that account for GHG estimates within the Organic Infrastructure Grant
- The OWDS outlines that strategies for smaller communities and rural areas will be developed in time. The rural collection program would advance the RDCK's organics strategy and provide an additional service to many residents. Missing an opportunity to advance this program while grant funding is available could be detrimental.

Option 3: That the Board direct staff to continue acquiring information related to curbside collection services to further refine cost estimates and other logistical details.

PROS:

- Additional information and time will allow staff to increase confidence in the estimated range of annual household costs to residents.
- Haulers may have more capacity with increased timeframes to provide information to the RDCK to better shape service area boundaries and identify logistical considerations.

CONS:

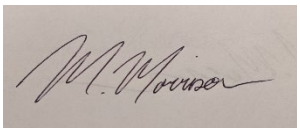
- Timelines for project implementation would be delayed which could jeopardize access to grant funding.

SECTION 5: RECOMMENDATIONS

That the Board direct staff to proceed with the Phase 2 Consultation Program to inform residents and gauge the level of public support in identified areas for the proposed Electoral Area curbside collection program;

AND FURTHER, that for consultation purposes, the Board direct staff to utilize $180 - $240 per household per year for the estimated cost of the potential service.

Respectfully submitted,



Matt Morrison – Organics Coordinator

CONCURRENCE

Resource Recovery Manager – Amy Wilson
General Manager of Environmental Services – Uli Wolf

ATTACHMENTS:

Attachment A: Technical Memorandum – Regional Curbside Collection Service Consultation Results
Attachment B: Request for Information – Curbside Collection Services of Garbage and Organic Waste for Electoral Area Residents

NOTE: Attachments not included in this version of the report. Attachments were distributed at the September 21, 2022 JRRC meeting and are available upon request.

Committee Report

Date of Report:	November 25, 2022
Date & Type of Meeting:	December 7, 2022, Joint Resource Recovery Committee
Author:	Travis Barrington, Resource Recovery Technician
Subject:	RECYCLE BC PACKAGING AND PAPER PRODUCT EXTENDED PRODUCER RESPONSIBILITY PLAN
File:	12-6500
Electoral Area/Municipality	All Electoral Areas and Municipalities

SECTION 1: EXECUTIVE SUMMARY

The purpose of this report is to present a brief background on the history of the Recycle BC (RBC) extended producer responsibility (EPR) program, its role in recycling in the RDCK, and an analysis of the proposed changes to RBC's EPR plan.

SECTION 2: BACKGROUND/ANALYSIS

Recycle BC is the EPR program in British Columbia responsible for collecting and recycling residential packaging and paper product (PPP). It was launched in 2013 under the name Multi-Material BC (MMBC) and is the first EPR program to operate residential curbside and depot recycling for everyday household items. Other EPR programs in BC manage beverage containers, electronics, batteries, paint, motor oil and other materials. EPR programs are governed by the *Recycling Regulation* and administered by a Producer Responsibility Organization (PRO) on behalf of the producers of the designated materials. Collection, processing and administration of each PRO's operations are funded by producers and consumers through eco-fees that are charged separately at the point of sale for items such as electronics or built in to product costs and submitted by the producers to their PRO. Collectors sign agreements with PROs to receive designated materials and are given financial incentives based on the amount of material collected, PROs then arrange transportation and processing of their designated material. Most collectors find that financial incentives do not provide for the entire cost of collecting most EPR materials.

When RBC first launched in 2013 the RDCK elected to not participate and operate an independent recycling depot program to serve residents. RBC presented an offer to the RDCK to join their program as a depot collector in late 2017 with seven principal (previously referred to as core) depots, following negotiations 12 principal depots were established in 2020 with most of the RDCK's other depots continuing operation as satellite depots. Principal depots are supported by RBC and serviced by their designated post-collection partner (Green For Life Environmental Inc.) at no charge to the RDCK, while at satellite depots the materials collected are hauled under contract to the RDCK.

All depots are monitored by staff when open and received significant upgrades to collection infrastructure to meet RBC's security requirements. Recycling contamination has been drastically reduced since switching to RBC depot collection and total operating expenses have decreased compared to the previous recycling program as well. RBC is only responsible for managing residential PPP; recycling from businesses – industrial, commercial and institutional (ICI) is not accepted at depots and is considered contamination. Several depots have ICI recycling

bins for cardboard paid entirely by the RDCK, and the RDCK continues to lobby RBC and the province for expanded ICI recycling service under the EPR program.

Recycle BC Extended Producer Responsibility Draft Plan

Recycle BC and all other PROs must draft and submit EPR plans to the Ministry of Environment and Climate Change Strategy (MOECSS) for approval. Every five years these plans must be reviewed and amended to demonstrate how collection targets and other regulatory requirements will be met. RBC and most other PROs are adopting an evergreen plan model where the main body of the plan will remain unchanged and updates are added to the plan as appendices.

On September 29, 2022 RBC released the newest draft plan for stakeholder review and consultation. RDCK staff attended the RBC Collector's Conference in October and webinars to discuss the proposed changes to the plan during November. The entire draft plan is attached to this report as Appendix A. Several proposed additions to the plan could have large impacts on RDCK recycling operations and are summarized below.

Additions to Acceptable Materials

Single-use items and packaging-like products will be acceptable for collection in RBC recycling as of January 1, 2023. This has already been accepted into the EPR plan; these material categories were added to the *Recycling Regulation* by the MOECSS in 2020 and RBC is the PRO tasked with managing them. These categories include single-use cutlery, straws, plates and cups, food storage containers, non-durable aluminum baking trays and other kinds of food bags. Many of these items are difficult for users to distinguish from other PPP and will be easy to add for collection. Developments in material processing have also allowed RBC to combine the two categories of soft plastic collection into one category in January 2023. This should make sorting easier for users and eliminate cross contamination between the two previous categories: plastic bags and overwrap and other flexible plastic packaging.

Financial Incentive Review

Collectors on board the RBC program receive financial incentives per tonne of material collected at depots or per household serviced by curbside collection. Current incentive rates were implemented in January 2022 based on cost studies completed in 2020. New cost studies will be conducted in 2023 to determine rates that will be implemented in January 2025. Importantly RBC has proposed that depot operating expenses at locations that do not meet their criteria for awarding locations (satellite depots) will not be considered in the cost study. Current incentives cover about 20% of all RDCK depot operating costs.

Program Performance Targets

The *Recycling Regulation* prescribes that EPR collection programs should achieve a 75% recovery rate or better. Recovery Rate is calculated as the quantity of material collected by a PRO divided by the quantity supplied by producers. RBC calculates their Recovery Rate using an offset method where the supplied quantity in the calculation is from two calendar years prior the collected quantity. This led to some material categories such as glass having a stated recovery rate above 100% in RBC's 2021 annual report. RBC claims that supplied quantities lag behind due to producers requiring additional time to compile and report them. The plan proposed that RBC continue to use the offset method while also netting out collected quantities by removing non-PPP. Non-PPP has accounted for an average of 5% of collected quantities over the last five years, with this 5% reduction in mind RBC has proposed target Recovery Rates rise from 78% in 2023 to 80% in 2027 during the term of this EPR plan.

New Curbside Eligibility Criteria

RBC carried out consultations in 2022 to develop criteria to on board potential curbside collection services in unincorporated communities. These criteria were split into two broad categories: adjacency and equivalency. Adjacency is meant to add nearby communities to existing curbside programs in municipalities while equivalency adds service areas comprised entirely of unincorporated communities. Adjacent service areas must be within five kilometers of an existing curbside municipality and have a total population under 5,000. Equivalent service areas may be anywhere as long as they have at least 5,000 residents and a household density of 0.42 per hectare. Several potential equivalent service areas are under consideration in the RDCK. Most importantly, the draft plan has removed the requirement that an adjacent or equivalent service area have curbside garbage collection for two-years before qualifying for RBC partnership to collect recycling. Now, recycling service can launch simultaneously with garbage (and potentially organics) collection. RBC recycling collection cannot be established without garbage collection however.

New Integrated Services Eligibility Criteria

Integrated services eligibility will determine how RBC decides to distribute and support principal depots throughout the province. Depots are considered integrated service because they allow residents to recycle the full range of materials collected by RBC while curbside services only collect mixed fibres, mixed containers and in some cases, glass. The criteria is divided into several tiers based on the size of community potentially served by a depot. Most depots in the RDCK will fall under the Small Communities category, full criteria details for this and other categories can be found in Appendix C of the attached RBC draft plan.

Small Communities criteria stipulates the following to qualify for principal depot collection:

- A local organization is willing to operate a RBC depot
- The depot serves a community of at least 1,000 permanent residents (within a 30-minute drive of the depot)
- Garbage service (landfill, transfer station or curbside) is provided to residents in the community
- A grocery store operates year-round in the community
- The community is farther than a 40km drive from the nearest municipality of 10,000 residents
- The community is farther than a 40km drive from the nearest principal RBC depot

Under these proposed criteria RBC has confirmed that several current RDCK depots would not qualify for principal depot support. These depots are listed below:

- Balfour; under 40km from existing depots in Nelson and Kaslo, under 40km from municipality of 10,000 residents
- Crawford Bay; under 1,000 residents in service area
- Crescent Valley; under 40km from existing depots in Nelson and Ootischenia, under 40km from municipality of 10,000 residents
- Slocan; under 1,000 residents in service area, under 40km from existing depot in New Denver
- Edgewood; under 1,000 residents in service area

Multiple other Regional Districts (RDs) have received similar lists from RBC. Importantly this criteria is part of a draft plan that must be approved by the MOECSS. The draft plan will be submitted for approval after stakeholder feedback has been received and incorporated. Ministry Staff have stated that accessibility for residents is a very important component of all EPR plans. Further, even if approved in 2023 RBC has confirmed that all current depot collection agreements will be extended and honoured to the end of 2024. Should RBC support for depots be revoked if this criteria is adopted those locations can continue operating as satellite locations.

Feedback to Recycle BC Draft EPR Plan

Submissions of feedback for the draft plan will be accepted by RBC up to December 31, 2022. MOECSS Staff in the EPR branch will be copied on all submissions. A draft letter to RBC from the RDCK is attached to this report as Appendix B.

The RDCK's comments on the draft plan can be summarized under the following categories:

New Curbside Eligibility Criteria

The removal of the required two-year period of garbage collection in potential service areas is a great improvement to the plan and will allow more RDs to effectively plan and consult with residents about launching multistream curbside collection in a sustainable way. The RDCK would like to see a clarification regarding communities accessible only by ferries being included in service areas. The proposed guidelines stipulate that to qualify for curbside collection ferry-only communities must individually meet all curbside criteria (5,000 residents and 0.42 households per hectare), this may be reasonable for island communities serviced by pay ferries with crossings of 20 minutes or more but inland ferries run without fares, on demand and crossings can be as little as five minutes. Communities such as Harrop-Procter and Glade should be eligible for inclusion in larger curbside service areas should they meet the minimum household density.

Inclusion of Single-Use and Packaging-Like Products

This is a welcome addition and should help reduce confusion among users who are already likely including some of these items in their recycling. As the PRO responsible for these items however, RBC should be putting greater pressure on producers to reduce the supply of these items before they enter recycling or waste streams. Many single-use items are supplied outside of the home and will not be transported back for inclusion in household recycling, instead ending up in streetscape waste bins or as litter.

Program Performance Targets

Recovery Rates proposed by RBC are for the entire collection network across the province. We recognize that rising Recovery Rates require increased collection quantities and are the main driver to improve collection access for residents. Even though rates are proposed to increase, an 80% recovery rate in British Columbia is likely achievable by servicing the Metro Vancouver and Capital urban areas plus a few other large population centres. There is then little incentive to service small municipalities and rural communities. An increasing Recovery Rate should be a goal but instead of a provincial rate, each Regional District should have a minimum Recovery Rate of 75% that can then be adjusted and targeted for improvement once several years of data are collected. This will ensure equal access for all residents and no diminishing service levels in rural areas.

Collection Financial Incentives

RBC is guided by the "producer pays" principle and funds the post-collection transportation, processing and marketing of recycling from their curbside and depot partners. While post-collection work is paid by producers through RBC only a fraction of the operating expenses incurred by collectors is funded by the financial incentives paid by RBC. The remainder is often borne by local governments. A review of incentive rates must set an ambitious target regarding how much collector operating costs are to be funded by the incentives and must also take into account changing economic conditions. Inflation affects operating expenses including staff wages, site maintenance, material hauling and communication and education.

Current incentives fund 20 – 30% of depot operations in the RDCK and other Regional Districts. Rates were last adjusted in January 2022 and are locked in for a five-year term with no adjustment. In addition to annual

adjustments to account for inflation increased financial incentives could reward and encourage collectors with excellent contamination records rather than collectors being penalized for contamination.

Integrated Collection Services

When joining the RBC collection network the RDCK recognized that the collector requirements would not allow the full number of existing depots to transition to the new system. The depots that did transition required a significant investment in site works, collection infrastructure, staff time and training to do so and still require a large, dedicated staff to operate. Disqualifying five of the RDCK's depots and many more in other RDs across the province under these proposed criteria would be a huge step backwards for the RBC program and for residents in rural communities. One of RBC's stated program delivery principles is to "enhance resident service levels". If RBC is to move forward with these new criteria existing depots should be grandfathered in under previous agreements and all depots that have been proven to collect a significant amount of recycling should likewise continue to be supported fully by RBC.

Industrial, Commercial and Institutional Recycling

Industrial, Commercial and Institutional (ICI) PPP is not regulated for collection and recycling under the *Recycling Regulation*. RBC is under no obligation to collect such material and had made it clear they will not voluntarily accept it in their collection network. ICI PPP is currently being studied in BC by consultants on behalf of the MOECSS and a plan to collect and recycle it will be developed in the coming years; this may involve EPR collection but it is unknown at this time. Feedback for the RBC EPR plan will not include ICI recycling concerns.

SECTION 3: DETAILED ANALYSIS

3.1 Financial Considerations – Cost and Resource Allocations:

Included in Financial Plan:	☐ Yes ☒ No	**Financial Plan Amendment:**	☐ Yes ☒ No
Debt Bylaw Required:	☐ Yes ☒ No	**Public/Gov't Approvals Required:**	☐ Yes ☒ No

In September 2021 reports were completed for the three RDCK Resource Recovery Sub-region Committees to provide an overview of the first 12 months of recycling operations under the RBC program. Summary tables of collection volumes and expenses are attached as Appendix C. Overall recycling depot operations from August 2020 to September 2021 can be seen in Table 1 below, compared to annual recycling operations under the previous program.

Table 1: Annual Recycling Operations Summary

RBC RECYCLING ANNUAL			
	Total Tonnage (kg)	**Net Expenses**	**Cost per tonne**
Central SR	1,077,104	$423,857.28	$393.52
West SR	651,609	$264,852.07	$406.46
East SR	571,379	$213,013.67	$372.81
RDCK Total	**2,300,092**	**$901,723.02**	**$392.04**

Should RBC's proposed Integrated Services Criteria (ISC) be approved up to five RDCK principal depots could lose RBC support in 2025. These depots could then be closed or continue operating as satellites.

Table 2 below summarizes these depots' collection performance from the figures compiled for reports presented in September 2021 and provides a high-level estimate of potential hauling costs to operate as satellite locations.

Table 2: Potential Depot Hauling Costs Under Proposed Integrated Services Criteria

	Depot Volume (kg)	Sub-region Satellite Hauling Cost Per Tonne	Estimated Hauling Cost
Central			
Balfour	99,795	$ 376.83	$ 37,605.76
Sub-region Total	99,795	$ 376.83	$ 37,605.76
West			
Crescent Valley	144,072	$ 908.10	$ 130,832.10
Slocan	72,554	$ 908.10	$ 65,886.21
Edgewood	10,950	$ 908.10	$ 9,943.72
Sub-region Total	227,576	$ 908.10	$ 206,662.03
East			
Crawford Bay	54,600	$ 628.08	$ 34,292.87
Sub-region Total	54,600	$ 628.08	$ 34,292.87
RDCK Total	**381,970**	**$ 453.52**	**$ 278,560.66**

All five of the depots in the table above do not meet the proposed ISC; they collect nearly 382 tonnes of recycling annually. If operated as satellite depots annual hauling costs are estimated to be up to nearly $279,000. Hauling costs were calculating using the average cost of hauling for each tonne of material collected at all existing satellite depots in each Subregion and the current tonnage collected at the five depots in question.

Estimated hauling costs are presented for general information only, potential satellite operation expenses at the above depots would depend on a number of factors including the location of these depots and the collection infrastructure provided. It is unknown if RBC and GFL would continue to provide roll-off bins for material collection or if these bins would need to be provided by the RDCK, or if collection would continue using supersacks as it does at current satellites. Roll-off collection and hauling is much more efficient than supersack collection and could produce lower hauling costs. Even if approved, the ICS in RBC's draft plan would not affect depots in the RDCK until January 2025.

3.2 Legislative Considerations (Applicable Policies and/or Bylaws):

Recycle BC is a Producer Responsibility Organization acting on behalf of the producers of Packaging and Paper Product to manage their material in British Columbia under the guide of the *Recycling Regulation.* Extended Producer Responsibility Plans are submitted by PROs to the Ministry of Environment for approval and require open consultation periods where stakeholders such as local governments and other collectors can provide feedback and comments.

3.3 Environmental Considerations

Recycling through RBC allows residents to recycle a greater ranger of materials including plastic bags and Styrofoam. Overall, tonnage collected has been lower than in the previous recycling program, but contamination is also much lower and there is a greater assurance that what is collected at depots is actually recycled. A lack of RDCK-provided recycling for ICI plastics, metal and glass has possibly lead to more businesses disposing of recyclable materials in the landfill. ICI materials are currently under review to develop a management strategy under the *Recycling Regulation.*

3.4 Social Considerations:

RDCK residents have generally adjusted to the greater supervision and reduced hours of access under the RBC recycling program. Occasional service interruptions do occur at depots in busy summer months or due to vehicle and road issues preventing haulers from accessing sites and cause frustration for users. Potential loss of depots due to the proposed ISC would be received very poorly by residents and would be a significant step backwards in the recycling service provided.

3.5 Economic Considerations:

Lack of ICI recycling at most recycling depots has created challenges for local businesses, there may be a potential opportunity for small haulers to offer ICI recycling alternatives though none are available at this time.

3.6 Communication Considerations:

New signage from RBC has been ordered to inform depot users of the materials being added for collection and the merger of the two existing soft plastic categories. Materials are being prepared to share with depot educators about these changes as well as website updates and social media content. Any changes to depot services that may result from the proposed plan would need to be communicated well in advance.

3.7 Staffing/Departmental Workplace Considerations:

The daily operations of the recycling program is a significant workload for the RR Operations Supervisor, RR Technician, administrators and managers. Consultation and communication with RBC staff regarding EPR plan and service changes is the responsibility of the RR Technician. It will remain an ongoing focus of the RR department to streamline these processes as the program continues to mature. Reducing the opening hours of some depots may be possible if curbside recycling collection is established, reducing depot staffing needs.

3.8 Board Strategic Plan/Priorities Considerations:

The RDCK has resolved in its current strategic plan to continue to innovate to reduce the impact of solid waste. The RBC depot recycling program is helping the RDCK to complete the strategy to develop a sustainable, cost-effective recycling program for our residents.

SECTION 4: OPTIONS & PROS / CONS

OPTION 1: **That the Board direct staff to submit the letter of feedback to Recycle BC regarding their Packaging and Paper Product Extended Producer Responsibility Draft Plan and direct the Chair to sign on behalf of the Board.**

OPTION 2: **That the Board direct staff to make adjustments to the letter of feedback to Recycle BC regarding their Packaging and Paper Product Extended Producer Responsibility Draft Plan incorporating comments from Directors before gaining final approval from the Chair to sign on behalf of the Board and submit to Recycle BC.**

SECTION 5: RECOMMENDATIONS

None at this time.

Respectfully submitted,

Travis Barrington – Resource Recovery Technician

CONCURRENCE

Resource Recovery Manager – Amy Wilson
General Manager of Environmental Services – Uli Wolf

ATTACHMENTS:
Attachment A: Recycle BC: Packaging and Paper Product Extended Producer Responsibility Plan – Consultation Draft
Attachment B: RDCK Draft Letter to Recycle BC
Attachment C: 2021 Depot Operations Overview

November 25, 2022 JRRC Committee Report - Attachment A

Packaging and Paper Product Extended Producer Responsibility Plan

Consultation Draft
September 29, 2022

Recycle BC
405-221 West Esplanade
North Vancouver, BC
RecycleBC.ca

Recycle BC's previous Program Plans can be found at https://recyclebc.ca/stewards/regulation_and_stewardship_plan/

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1. Revised Program Plan Context

Since its initial program launch in 2014, Recycle BC has been operating the only full extended producer responsibility (EPR) program for residential packaging and paper product (PPP) in Canada whereby producers are both financially and operationally responsible for establishing a reverse supply chain for the collection, transportation, consolidating, processing and marketing of residential PPP. After more than eight years of operation, Recycle BC's program continues to provide a best-in-class model for the efficient and effective management of PPP.

While the Recycle BC program has evolved significantly over the last eight years, it has consistently provided:

- Full regulatory compliance for producer members;
- A shift of cost for delivery of recycling service from local governments and taxpayers to producers;
- Harmonization of the materials accepted for collection across the province, providing consistency and certainty to collectors and residents;
- Annual increases in the materials accepted and collection accessibility for BC residents;
- Major investments in local processing capabilities and resulting increases in access to local and regional end markets; and
- Full transparency in how collected PPP is responsibility recycled and managed, subject to third party verification.

The last years (2020 to 2022) have proved very challenging to the Recycle BC program, its producer members and its service providers, as a number of cascading challenges have emerged. The COVID-19 pandemic, interrelated supply chain disruptions and a tightening labour market have strained the transportation networks and labour supply that underpins the program's reverse supply chain and logistics systems. Severe weather events from forest fires to floods, heat domes and snow events have further tested the program's resilience and adaptability. Public distrust in how plastics are recycled, driven by misleading media stories that fail to explain the differences between BC's residential recycling system and its associated controls compared to other jurisdictions, threaten to undermine BC's achievements. Finally, inflationary pressure has put a renewed spotlight on the price of goods and services, including the cost of recycling PPP, and created new challenges for producers of PPP.

Each of these challenges present an opportunity to the Recycle BC program to adapt and innovate while providing focused, convenient recycling solutions to BC residents. Driving efficiencies, harnessing innovation and leveraging technology at all stages of the reverse supply chain at fair and reasonable cost on behalf of the program's producer members will remain primary goals of the program. Emergency preparedness and building the program's resilience to weather and other events will be a major focus of the coming years. Given increased public attention on plastics, packaging design and the circular economy, Recycle BC will continue to leverage its position to further its producer members' plastics recycling objectives.

2. Extended Producer Responsibility Agency

2.1 Regulatory Context

In British Columbia, the Recycling Regulation under the Environmental Management act sets out the requirements for producers of obligated packaging and products, including the requirement for extended

producer responsibility plans. Section 2(1) of the regulation provides: A producer must (a) have an approved plan under Part 2 [Extended Producer Responsibility Plans] and comply with the approved plan with respect to a product in order to use in a commercial enterprise, sell, offer for sale or distribute the product in British Columbia.

In addition to the Recycling Regulation, the following regulatory amendments and Ministry of Environment and Climate Change Strategy (MOECCS) guidance documents outline applicable program requirements:

- Order in Council #370 obligating designated Single-Use Products and Packaging-Like Products (SUP/PLP);
- Producers Paying the Cost of Managing Obligated Materials and Dispute Resolution Guide; and
- The Guide to Third Party Assurance for Non-Financial Information in Annual Reports.

This Packaging and Paper Product Extended Producer Responsibility Plan has been designed to discharge the associated regulatory obligations of its producer members.

2.2 Administration of the Program Plan

Recycle BC is responsible for administering this Program Plan on behalf of the producers that have chosen to be members of the Recycle BC Program. Recycle BC's objective is to manage the Program Plan effectively and efficiently through a combination of in-house resources and outsourcing of key specialized functions or services.

Recycle BC is a legal entity in British Columbia with BC-based staff members that manage program operations, including the supply chain and promotional activities to engage residents. Recycle BC is governed by a Board of Directors representing brand owners and retailers. The Board also has local independent members. The current composition of the Board of Directors can be found on Recycle BC's website, here. The Committees of the Board are listed on this governance page as well.

Recycle BC also consults with an Advisory Committee on core elements of its program. The Recycle BC Advisory Committee includes local stakeholders involved in Recycle BC's packaging and paper stewardship program. The committee serves as a forum through which BC stakeholders with an interest in the success and performance of Recycle BC's program are kept informed about program developments and through which they can be consulted for advice and feedback. The Advisory Committee's membership can be found on Recycle BC's website, here.

With the goal of harmonization where possible, Recycle BC regularly collaborates with producer organizations for other categories of materials captured by the Recycling Regulation as well as producer organizations whose EPR plans cover one or more categories of PPP in BC. As other Canadian provinces begin implementing full EPR programs for PPP, Recycle BC will work closely with our provincial counterparts to collaborate on best practices, build efficiencies across programs, and improve collective performance.

2.3 Producer Members and Definition

Recycle BC acts on behalf of its member businesses who are producers of PPP. BC's Recycling Regulation defines "producer." For Recycle BC's working definition of producer, please refer to Appendix A.

Producer companies that have joined Recycle BC fall into the following sector categories:

- Food and consumer products
- Retailers (grocers, mass/general merchandisers, hardware/housewares, drug stores and specialty merchandisers)
- Electronic manufacturers/brand owners
- Horticulture and agriculture
- Media and printed paper
- Quick service/take-out restaurants
- Paint and chemical products
- Other/miscellaneous

A complete membership list is updated annually and posted on Recycle BC's website here.

2.4 Program Financing

Recycle BC is responsible to the producers that have chosen to be its members to deliver an efficient and effective PPP EPR program.

Producers that choose to be members of Recycle BC are responsible for paying fees that are sufficient, in aggregate, to deliver the requirements and commitments of the Program Plan. Costs fall into three categories:

- Material management – what it takes to collect, transport, process and market materials. This is by far the largest cost component and is expressed net of commodity revenue in financial statements;
- Administration – what it takes to manage the business; and
- Resident awareness – what it takes to promote the behaviours that drive collection.

Producers that supply obligated PPP pay fees that are intended to cover:

- A contribution to the costs of managing the collection, consolidation, processing and marketing of the recyclable PPP that is the basis for the PPP EPR program performance;
- Where required, a contribution to advance the material's adoption in the recycling system, improve the cost efficiency to manage the material and/or to develop end-markets for the material;
- An equitable share of resident awareness costs; and
- An equitable share of Recycle BC administration costs.

Costs incurred by Recycle BC to deliver and administer the Program Plan are allocated amongst producers based on the following principles:

- All obligated materials should bear a fair share of the costs to manage the packaging and paper product program, irrespective of whether a material is collected, because all obligated producers who put obligated materials into the marketplace should contribute to the recycling system;
- The material management costs allocated to each material should reflect the material's impacts on the costs to collect and manage it in the recycling system because a material's unique characteristics can drive costs in distinctive ways; and
- The commodity revenue should be attributed only to the materials that earn revenue because materials that are marketed have value and should benefit from earned revenue.

To allocate the program costs in accordance with the principles above, Recycle BC conducts a number of studies that serve as inputs to fee setting, including waste composition and cost impact studies. The fee setting methodology then uses the inputs from these studies to calculate the portion of the program's budget that is attributed to each category of material supplied by producers.

As recycling systems change to accommodate new packaging formats that enter the marketplace (i.e., the "evolving tonne") methodologies must be flexible enough to account for those changes and calibrate their cost effects. All methodologies undergo periodic review to verify their suitability and are updated in consultation with the producer community where required.

The fee setting methodology plays a critical role in ensuring Recycle BC has the tools necessary to raise funds in material categories where the material is difficult, if not impossible, to collect and recycle using today's recycling practices and technologies. A key component of the fee setting methodology is its mechanism for adding cost to uncollectable and/or underperforming material categories to enable the investment in performance improvement. These investments can be directed to research and development, end market development and/or promotion and education – all are necessary strategies to ensure materials advance upwards along the pollution prevention hierarchy.

Each year, producer members of Recycle BC pay fees to Recycle BC based on the total weight of PPP supplied to BC. Eligible low-volume businesses can choose to file a simplified report and pay a flat fee based on the quantities of PPP supplied annually to BC residents.

3. Packaging and Paper Product

3.1 Packaging

British Columbia's *Environmental Management Act* defines packaging as "a material, substance or object that is used to protect, contain or transport a commodity or product, or attached to a commodity or product or its container for the purpose of marketing or communicating information about the commodity or product".

Schedule 5 does not further refine the definition of packaging beyond that provided in the *Environmental Management Act* as described above.

Packaging for purposes of producer obligation and reporting under the Program Plan includes:

(a) Primary packaging, i.e., packaging that contains the product at the point of sale to the residential consumer;
(b) Grouped packaging or secondary packaging that goes to the household[1];
(c) Transportation, distribution or tertiary packaging that goes to the household[2];
(d) Service packaging is packaging which may or may not bare a brand that is supplied at the point of sale by retail, food-service or other service providers to facilitate the delivery of goods. Service

[1] Multiple packages of product sold in a unit, often wrapped in film plastic.
[2] May be both the primary packaging for the product and the packaged used to ship the product but is referred to as transportation packaging that goes home with the consumer. For example, household products packaged in corrugated boxes intended for final use or management by the consumer or end user.

packaging includes all bags, boxes, and other items for the containment of goods at point of sale; and

(e) Packaging components and ancillary elements integrated into packaging, including ancillary elements directly hung or attached to a product and which perform a packaging function unless they are an integral part of the product and all elements are intended to be consumed or disposed of together.[3]

For the purposes of the Program Plan, paper packaging means all paper materials regardless of the cellulosic fibre source of the material including but not limited to wood, wheat, rice, cotton, bananas, eucalyptus, bamboo, hemp, and sugar cane (bagasse) fibre sources.

The plan does not apply to items obligated under other EPR programs, non-PPP items or PPP items supplied to industrial, commercial or institutional facilities.

3.2 Paper Product

Paper product is defined as paper of any description, including:

(a) flyers,
(b) brochures,
(c) booklets,
(d) catalogues,
(e) telephone directories,
(f) newspapers,
(g) magazines,
(h) paper fibre, and
(i) paper used for copying, writing or any other general use.

This definition of paper does not include paper products that, by virtue of their anticipated use, could become unsafe or unsanitary to recycle, or any type of bound book not mentioned above.

For the purposes of the Program Plan, paper product comprises any type of cellulosic fibre source including, but not limited to wood, wheat, rice, cotton, bananas, eucalyptus, bamboo, hemp, and sugar cane (bagasse) fibre sources.

3.3 Single-Use Products and Packaging-Like Products

The MOECSS enacted amendments to the *Recycling Regulation* in June 2020, through *Order in Council #370*, including changes to the materials to be included in the Recycle BC program. Beginning January 1, 2023, producers of single-use products and packaging-like products are obligated for these materials. For further information, refer to the MOECSS Explanatory Note here.

Single-use products as defined by the MOECSS include, but are not limited to, items such as:

[3] Examples of this kind of packaging include, but are not limited to: labels and lids hung directly on or attached to the packaging; mascara brush which forms part of the container lid; staples, pins, clips; toy on the top of a candy product which forms part of the lid; devices for measuring dosage that form part of the detergent container lid; plastic make- up case; brush contained in the lid of corrective liquid paper; zipper on a plastic film bag containing a product.

- Straws, stir sticks, utensils, plates, bowls and cups; and
- Party supplies and paper party décor (e.g., paper streamers, pinwheels and piñatas), but does not include items such as costume wear (e.g., eyeglasses), balloons, ribbons, that prove especially problematic in a recycling system.

Packaging-like products as defined by the MOECSS include, but are not limited to, items such as:

- Food bags and films purchased as a product, food storage, sandwich and freezer bags, paper lunch bags, aluminum foil wrap, plastic shrink film wrap, paper wrap (e.g., wax paper, parchment paper);
- Disposable food storage containers purchased as a product, (i.e., containers intended for short-term use), non-durable plastic, paper or other food containers (e.g., plastic lunch containers), aluminum foil pie plates and baking trays, etc.; and
- Household items purchased as a product, corrugated cardboard moving boxes, banking boxes and cardboard boxes, recycling bags (i.e., bags used to collect recyclables), LDPE/HDPE film (e.g. used as drop sheets for painting, covering items like furniture or equipment), bubble wrap, plastic plant pots and saucers.

As a result, effective January 1, 2023, the definition of packaging and paper product (PPP) includes:

- Designated single-use products as defined by the 2020 Amendments to the BC Recycling Regulation; and
- Designated packaging-like products as defined by the 2020 Amendments to the BC Recycling Regulation.

3.4 Sources of Packaging and Paper Product

Under Schedule 5 of the Recycling Regulation, the packaging and paper product program addresses residential premises and municipal property that is not industrial, commercial or institutional property.

Residential premises are: [4]

- Single-family dwellings inhabited year-round or seasonally;[5] and
- Multi-family dwellings including rental, co-operative, fractional ownership, time-share, condominium[6] and seniors residences.[7]

Municipal property that is not industrial, commercial or institutional property comprises the following which are collectively referred to as 'streetscape' in this Program Plan:

- Sidewalks that are municipal property, which adjoin buildings in an urban commercial area and which are used for pedestrian traffic;
- Plazas or town squares that are municipal property and that are available to the public; and

[4] Section 1 of the Recycling Regulation defines "residential premises" to include houses, apartments, condominiums, town homes and other premises in which persons reside but does not include institutional accommodations or visitor accommodations.

[5] Vacation facilities, such as hotels, motels, cottages and cabins, are considered commercial operations.

[6] Vacation facilities, such as rental, co-operative, fractional ownership, time-share or condominium accommodation associated with sports and leisure facilities (e.g., ski resorts), are considered commercial operations.

[7] Residences at which medical care is provided, such as nursing homes, long-term care facilities and hospices, are considered institutions.

- Parks that are municipal property.

4. Program Design

4.1 Program Delivery Principles

Recycle BC's program design is driven by one overarching objective – continuous improvement in recovery effectiveness and efficiency of residential waste packaging and paper product in British Columbia.

The delivery principles that guided the development of the Recycle BC program continue to guide the program's future operation, with the addition of a new principle to address emergency preparedness:

- **Focus on outcomes, not process** – maximize recovery, maximize efficiency, and enhance resident service levels while minimizing complexity;
- **Provide economic incentives and set simple rules** – effective economic incentives will drive behaviour that increases recovery activity throughout the PPP reverse supply-chain; simple rules will provide clarity and certainty to those collecting and recycling PPP;
- **Foster interaction, collaboration and competition to drive innovation** – innovation is the result of complex interactions of ideas and efforts among producers and private, public and not-for-profit entities with parties bringing together complimentary skills to collaborate and deliver more value;
- **Set the stage for evolution** – harness existing activities and build on success through continuous improvement and use of economic incentives to increase collection of PPP and improve system efficiency; and
- **Build program resilience –** foster emergency preparedness and build the program's resilience to weather and other significant events.

4.2 Program Delivery Overview

Under the Recycling Regulation, Recycle BC assumed responsibility for establishing and operating a province-wide reverse supply chain for PPP in BC. This supply chain is comprised of a collection system and a post-collection system that involves the receipt of collected PPP and its consolidation, transport, processing and delivery to end markets while providing complete chain of custody reporting and validation.

With respect to collection services to BC residents, Recycle BC provides a financial incentive to local governments, First Nations and private companies that have chosen to deliver recycling collection services and resident education under a services agreement. In other cases, communities have elected to have Recycle BC directly manage their curbside recycling service. These local governments are no longer responsible for oversight or management of recycling services or resident communication regarding curbside recycling. In both cases, Recycle BC assumes financial responsibility for collection and post-collection activities.

Recycle BC procured a post-collection system through a competitive process, resulting in an efficient, province-wide, PPP transfer and sorting system to maximize the value and use of the recyclables and minimize redundancy.

Recycle BC regularly reviews both its collection and post-collection operations to identify opportunities to increase efficiency and effectiveness.

4.3 Collection from Residents and Streetscapes

4.3.1 Collection Qualification Standards

Recycle BC's approach to delivery of PPP collection services is to contract with collection service providers that meet Recycle BC's collection qualification standards. These standards are designed to assist Recycle BC in achieving its program targets and commitments. Recycle BC has established a set of collector qualification standards that include basic qualifications historically common to all PPP collectors, with additional requirements that enable tracking and reporting of sources and quantities of PPP as well as best practices to ensure an efficient and effective collection system.

Local governments, First Nations, private companies and not-for-profit organizations that meet collector qualification standards are eligible to serve as Recycle BC collectors, subject to the approach described below.

Recycle BC's collection qualification standards are available here.

4.3.2 Accepted Materials

Recycle BC targets PPP for collection that is supplied by producers, is compatible with the program's collection and processing system, and has commercially viable end markets consistent with the pollution prevention hierarchy. The list of accepted materials is expansive and is harmonized across the programs' entire provincial collection system. All but a small fraction of PPP supplied by producers is targeted for collection in Recycle BC's system and communicated to residents and collectors across the province as an accepted material type.

The material types accepted in Recycle BC's collection system can be summarized as follows:

- Paper and Cardboard – materials such as newspaper flyers, magazines, envelopes, gift wrap, cardboard and boxboard boxes, cardboard packaging, boxboard packaging, paper carrier trays and paper bags;
- Mixed Containers – materials such as rigid plastic bottles, jugs, jars, clamshells, trays and packaging, metal containers, paper cups for hot and cold beverages, cartons and boxes for cream, soup etc., and frozen desert boxes;
- Glass Bottles and Jars – clear and coloured non-deposit glass bottles and jars;
- Plastic Bags and Overwrap – materials such as bags for groceries, bags for produce and dry bulk foods and outer bags and wrap for paper towels, soft drink flats etc.;
- Other Flexible Plastic Packaging – materials such as stand-up and zipper-lock pouches, crinkly wrappers and bags, flexible packaging with a plastic seal, non-food protective packaging and woven and net plastic bags; and
- Foam Packaging – white and coloured foam packaging such as foam meat trays, cups, egg cartons and cushion packaging.

Effective January 1, 2023, Recycle BC's collection system accepts single-use products and packaging-like products.

A complete list of accepted materials is available here.

Recycle BC's collection system excludes a small subset of PPP types that are uniquely disruptive to the program's collection or post-collection system and/or that do not have commercially viable end markets, referred to as not accepted PPP. Producers of these types of PPP are still required to pay fees on their supply to support the recycling system. Where opportunities are identified, these materials may also incur cost to develop strategies that move towards acceptance in the program's collection system. For more information on Recycle BC's producer fee structure, please refer to Section 2.4.

Recycle BC will regularly conduct the following activities as it relates to PPP types not currently accepted for collection (not accepted PPP), with the ultimate goal of accepting all PPP types supplied by producers in the program's collection system:

- Conduct analyses to estimate the percentage of supplied PPP that is accepted vs not accepted for collection;
- Complete a representative sample of composition audits of collected PPP to estimate the percentage of not accepted PPP included in collected PPP and its impact on the collection and post-collection system;
- Conduct research and analyses on the barriers to acceptance of not accepted PPP and best practices in other jurisdictions;
- Engage with processors and end markets to explore opportunities to target the collection of not accepted PPP without compromising the recyclability and value of accepted PPP types;
- Conduct pilots, where viable opportunities exist to provide new learnings, to target the collection and processing of applicable sub-categories of not accepted PPP.

Compostable PPP

Some local governments in BC accept specific types of PPP such as soiled paper packaging in organic waste stream collection, although it is considered not acceptable material in the Organic Matter Recycling Regulation of BC (OMRR). In 2018, Recycle BC conducted research with five partner municipalities in BC to determine the amount of PPP being collected and managed in organic waste collection programs and the role that organic waste collection could have long-term in the overall post-collection management of PPP in British Columbia. The research demonstrates consistency in two meaningful ways:

- Of the PPP found in an organics bin, approximately 80% of this material is listed by the municipalities as acceptable material for putting in their green bin; and
- Of the PPP found in an organics bin, 90-95% of this material is paper.

The study report is available here.

Potential amendments to OMRR are expected to provide updated definitions of untreated and unprocessed wood, non-recyclable paper material, and compostable plastic. Once finalized, Recycle BC will determine where these definitions overlap with categories of PPP. If the quantity of compostable PPP is significant, and Recycle BC is able to determine the quantity of PPP by material category recovered annually in organic waste collection programs (resource recovery to a beneficial use), Recycle BC will include the end-of-life disposition of this PPP in its Pollution Prevention Hierarchy report.

Where these research efforts indicate both demand and technical feasibility, Recycle BC will develop financial incentives to promote the management of appropriate types of PPP in the organic waste stream. The outcomes of this process can also serve to guide Recycle BC members' decisions to incorporate compostable material into the design of their packaging and paper formats.

4.3.3 Curbside Collection

Curbside collection is defined as the collection of PPP from single-family dwellings, buildings with up to four households and row house complexes with any number of households where each household sets out material separately for collection by collection vehicles.

In many communities, Recycle BC delivers curbside collection to residents in partnership with local governments and First Nations, who have elected to act as collection contractors to Recycle BC. Appendix B outlines the eligibility criteria for local governments wishing to operate curbside collection programs as a contractor to Recycle BC. Local governments with existing or proposed curbside service areas that meet these criteria that are not currently included in the Recycle BC program are eligible to join the program, provided formal notice is provided to Recycle BC by May of the calendar year prior to the proposed onboarding date (to coincide with the development of Recycle BC's annual operating budget).

Recycle BC also provides curbside collection directly in communities where the local government has transitioned service to Recycle BC. In these communities, Recycle BC is responsible for all aspects of the management of curbside collection services to residents. Appendix B outlines the criteria for local governments that wish to have Recycle BC directly operate curbside collection in their communities. Local governments can also elect to operate curbside collection service outside of the Recycle BC program.

4.3.4 Multi-Family Collection

Multi-family collection is defined as the collection of PPP from residential complexes with five or more units where all households deposit their recycling at a centralized location in shared containers. Recycle BC delivers multi-family building collection services by contracting with local governments, First Nations and private companies that accept an established financial incentive to deliver multi-family building collection services. In some cases, households that would generally meet the definition for curbside collection receive multi-family collection (and vice versa) due to a range of unique operational variables.

Appendix B outlines the eligibility criteria for local governments and private companies wishing to operate multi-family collection programs as a contractor to Recycle BC. Local governments that meet these criteria are eligible to add multi-family service under the Recycle BC program, provided formal notice is provided to Recycle BC by May of the calendar year prior to the proposed onboarding date (to coincide with the development of Recycle BC's annual operating budget).

Each year, Recycle BC will review multi-family household participation levels in relation to its annual recovery target and accessibility performance objectives and expand multi-family service to BC residents by extending financial incentive offers to qualified multi-family private companies in targeted service areas requiring increased multi-family participation.

To enable MOECCS assessment of continuous improvement of multi-family service within the Recycle BC program, Recycle BC will report a suite of metrics annually to the MOECCS for detailed review of multi-family expansion by the regulator. These metrics are outlined in Appendix E.

4.3.5 Integrated Recycle BC Collection Services

In addition to curbside and multi-family collection, Recycle BC provides further recycling opportunities to residents to ensure accessibility across a range of geographic areas, community sizes and accepted PPP categories. Guidance on accessibility to collection services is provided by a number of recognized sources such as Statistics Canada, the Canadian Council of Ministers of the Environment, and Sustainable Cities and Society. A common theme is proximity and transportation means. To be environmentally responsible and have net positive outcomes, accessibility to collection services must take into account the location of existing community services (e.g., a primary shopping hub) and population centres in order to ensure collection locations make a meaningful contribution to collection volumes and to convenience without duplication of transportation. Recycle BC's integrated collection service plan is designed to be flexible to allow for relevant and innovative solutions for all types of communities.

To ensure accessibility, Recycle BC aims to provide Integrated Recycle BC Collection Services to communities across the province, including rural and remote communities. Integrated Recycle BC Collection Services can be understood to be a service or combination of services that provides regular opportunities for the collection of all categories of PPP accepted in the Recycle BC program. This can be achieved through a variety of methods, which may differ by community size and other variables, including:

- The inclusion of all categories of accepted PPP in curbside and multi-family collection programs;
- The use of depots, retail locations or mobile depots to provide additional collection opportunities to residents in communities with curbside and multi-family collection, in particular the categories of accepted PPP that are not collected through curbside and multi-family service; and
- The collection of all categories of accepted PPP at depots, retail locations or mobile depots.

Appendix C outlines Recycle BC's community eligibility criteria for Integrated Recycle BC Collection Services.

Each year, Recycle BC will actively recruit for collection partners in any community that meets this eligibility criteria that does not currently have Integrated Recycle BC Collection Services, with the goal of providing this level of service to all eligible communities. Recycle BC also assesses the need to expand its collection system on an annual basis to meet the program's recovery targets or to contribute to the efficiency and effectiveness of the collection system.

At present, depot collection service (whether combined with curbside and multi-family collection or as a stand-alone service) is the primary method through which Recycle BC provides Integrated Recycle BC Collection Services. Recycle BC provides depot collection service through agreements with local governments, First Nations and private companies. Depot collection is defined as the collection of PPP at a location operated by a local government, First Nation or private company under agreement with Recycle BC at which PPP is received from residents. The majority of depots in the Recycle BC program are local government landfills/ transfer stations and private companies that provide depot collection services for a number of material types.

Depots provide collection services of all categories of accepted PPP in smaller communities without curbside collection. They also provide additional collection opportunities to residents in communities with curbside and multi-family collection, in particular the categories of accepted PPP that are not collected through curbside and multi-family service.

Details on the locations of Recycle BC depots are available here.

Recycle BC will honour existing depot agreements with collectors that provide collection services in communities that do not meet the eligibility criteria outlined in Appendix C but may not take steps to replace this service if the current collection partner decides to no longer provide this service.

Recycle BC will also permit local governments to establish and operate satellite depots in communities that do not meet the eligibility criteria outlined in Appendix C, subject to Recycle BC review and approval. A satellite depot is an approved depot operating to specific standards, from which the collector (depot operator) transports the PPP to their principal depot for pick-up by the designated post-collection service provider.

Collection also occurs at participating retail locations. Recycle BC has also piloted the operation of "mobile depots" that accept PPP at a designated location and date that is advertised to local residents, the collection of materials at community events, and the collection of all accepted PPP categories (including Plastic Bags and Overwrap, Other Flexible Plastic Packaging and Foam Packaging) through curbside collection.

4.3.6 First Nations Collection

Recycle BC Engagement

Recycle BC works with First Nations directly who choose to act as collection partners to provide collection services in their communities. A number of First Nation communities also receive curbside and multi-family collection through their inclusion in the service areas of other local governments and in areas where Recycle BC directly operates curbside collection. In addition, many First Nations communities are located near depots serviced by other local governments and private companies.

Recycle BC will expand First Nations collection access annually under the following initiatives:

- Provide a financial offer and services agreement to First Nations recycling programs each year that have developed the necessary recycling capacity in their community to fulfil the services agreement obligations, while working to maintain the continuity of the existing First Nations collection programs within its network;
- Continue to provide outreach and liaison for First Nation communities that have indicated they would like PPP collection, to build awareness and operational education on aspects such as material quality and contamination to assist in a transition to a recycling program;
- Continue to review existing curbside and multi-family collectors' service areas to determine if they can include non-serviced First Nation communities in the same service area. If collection of a First Nation community can reasonably expand from adjacent curbside programs, Recycle BC will work with the local government or direct service collector to increase their service area and amend their contract;
- Continue to work collaboratively with First Nation communities on collection pilot initiatives such as the depot pilot for bulk drop-offs and the mobile depot pilot in conjunction with Indigenous Services Canada and the Indigenous Zero Waste Technical Advisory Group (IZWTAG);
- Participate in the First Nations Recycling Initiative to provide support and logistics coordination during spring and fall collection events in First Nations communities.

Each year Recycle BC will report First Nations access to collection services in its annual report.

First Nations Recycling Initiative

In 2017, Recycle BC founded the First Nations Recycling Initiative (FNRI). The initiative is a collaborative venture comprising nine BC stewardship agencies whose purpose is to support the collection and recycling of a wide variety of materials disposed by First Nation communities.

Led by a First Nations representative whose primary role is outreach and liaison, Recycle BC regularly conducts the following activities under the auspices of the FNRI:

- Publishes a recycling guide for First Nation communities interested in starting recycling programs;
- Attends First Nations events and visits First Nations communities to assess current recycling activities and provide guidance; and
- Organizes community clean ups and provides logistics and supplies to clean up events.

Each year the FNRI will establish goals and report outcomes for each participating stewardship organization's annual report.

4.3.7 Streetscape Collection

Streetscape collection is defined as the collection of PPP on municipal property that is not industrial, commercial or institutional property, and comprises the following, which are collectively referred to as 'streetscape':

- Sidewalks which are municipal property, which adjoin buildings in an urban commercial area and which are used for pedestrian traffic; and
- Plazas or town squares which are municipal property, and which are available to the public; and Parks which are municipal property.

Recycle BC has conducted a number of streetscape pilots and waste composition audits of PPP collected in streetscape containers, most recently in 2022. As Recycle BC's pilot studies and audits demonstrated, PPP material can be collected but it is poorly sorted, heavily contaminated, wet with residual liquids, and unclean with food waste. Hazardous material can also be present. The difficulty in finding end markets for low quality mixed material demands that Recycle BC drive down contamination in collected materials. With very high levels of contamination, existing streetscape PPP collection practices may need to be revisited in their entirety.

In 2019 Recycle BC Recycle BC organized a roundtable discussion series on streetscape collection with local governments and in 2020 provided a financial incentive offer and services agreement to local government collectors to provide streetscape collection service. The supporting documents to Recycle BC's work on streetscape is posted here.

The context for streetscape has continued to evolve since then. Streetscape collection as it is generally delivered today is not aligned to the Clean BC strategy. It currently represents an unacceptably high greenhouse gas emission-intensive process as compared to the data which has generally demonstrated poor environmental outcomes for materials resulting from extremely high contamination.

To address the challenges surfaced during Recycle BC's 2019-2020 streetscape consultation process, Recycle BC committed to undertake a number of activities necessary to a new streetscape program offer.

To gauge the impact of municipal single-use product bags, Recycle BC completed a number of audits in 2022 of streetscape collection containers in the City of Vancouver to determine material composition and the appropriate disposal containers for recycling (paper and containers), organics and garbage.

By the end of 2022, Recycle BC will have developed a baseline standard for collection contamination as the threshold for entering the Recycle BC streetscape program and have set a minimum recycling rate (collected vs. marketable material) for end-of-life material management to ensure a positive environmental outcome for the program. Recycle BC will set a baseline standard that takes into consideration a pathway from reasonable entry metrics (baseline), through continuous improvement stages, to an optimal target level of contamination (goal), for the compensation offered. The program participation standard for local governments within the streetscape program will be adjusted upward over time from the initial baseline to incent environmental outcomes to continuously improve;

By the end of 2022, Recycle BC will also have developed an audit methodology that is practical and affordable to use to set and validate Recycle BC's program entry parameters for collection contamination, to ensure producers are funding a program for their materials and not other stewardship programs' materials or general waste.

Recycle BC's next steps for streetscape collection are outlined in Appendix F.

Eligible local governments are those with urban commercial areas with business activities that generate large amounts of PPP within municipalities with a population of 20,000 or more and a population density of 200 or more people per square kilometre.

Recycle BC's revised service and funding commitments, and program deliverables for streetscape, will be for its producer members' materials. For materials that fall under the responsibility of other stewardship programs, Recycle BC defers to the MOECCS for its direction to other programs.

As outlined above and in Appendix F, Recycle BC's revised streetscape program, including revised financial incentive and service agreement, is dependent upon other activities beyond Recycle BC's control, to ensure that the three principles of trust, cost, and fairness are respected. Nonetheless, Recycle BC has developed a path towards a streetscape program, mitigating external influences where possible and providing concrete timelines for action. Going forward, as the MOECCS implements amendments to Organic Matter Recycling Regulation, Recycle BC will consider the impact of these changes on its financial incentive and service agreement offering.

4.3.8 Financial Incentive Methodology

Consistent with an outcomes-based approach to program operations, Recycle BC offers financial incentives to collectors participating in the program. These incentives are designed to provide collectors with sufficient incentive to collect the amount of PPP required by Recycle BC to meet its targets and to cover fair and reasonable collection costs borne by contracted collectors operating efficient programs.

Towards the end of each contract term Recycle BC develops a set of revised financial incentives that are proposed to collectors in conjunction with new services agreements. The steps to prepare the revised financial incentives are:

- Undertake a collection cost study and associated analyses to assess existing incentives in the current market context and any necessary adjustments in order to propose revised financial offers for consultation with collectors;
- Hold consultation sessions with collectors to review the proposed financial offers, discuss, answer questions and request feedback; and
- Review all feedback provided to finalize the financial incentives that will comprise part of the published collection services agreements.

Recycle BC's collection cost study process is used to determine current collection costs and compare current costs to historical costs over a five-year period. Data for curbside, multi-family, depot and streetscape collection costs are provided by collectors to an independent third-party accountant. Promotion and education (P&E) and service administration are also included in the study to determine a fair commercial price for the necessary collection costs. Collection cost studies are overseen by the Recycle BC Advisory Committee.

Recycle BC's objective is to set fair and reasonable financial incentives applicable to all categories of accepted PPP. To determine the applicable changes needed to the existing incentives, Recycle BC analyzes the following information:

- Collection cost, as reported by collectors through the collection cost study, including potential differences by:
    - Collection channel, including curbside, multi-family, depot and streetscape;
    - Geography, including urban and rural;
    - Community density;
    - Collection attributes such as number of streams and container types;
    - Collector type;
    - Categories of accepted PPP; and
    - Any unique drivers of collection cost.
- Program data, including collection performance by collection channel;
- Contamination levels and other operational metrics and their impact on total supply chain costs;
- Inflationary factors including a review of the BC Consumer Price Index;
- Applied or proposed service performance requirement changes since the prior collection service agreements were established that may have an impact on collection cost; and
- Impact of existing incentive structure and rates on incentivising best practices and improved environmental outcomes, including collection cost efficiencies, high collection rates, low contamination rates and greenhouse-gas reductions.

Costs associated with collection in communities that do not meet the eligibility criteria outlined in Appendix C, including the operation of applicable depots and satellite depots, will be excluded from collection cost studies.

The proposed financial incentive rate derived from the above process is presented for consultation to collectors through a separate collection cost consultation process when applicable. Specific feedback by collectors is essential to this process. To review the results of past collection cost studies and the financial incentive consultations, please see here.

Once new collection service agreements have been published inclusive of the revised financial incentives, each applicable collector must then decide whether to renew its collection service agreement with Recycle BC.

Recycle BC last conducted a collection cost study in 2020, which resulted in the application of new depot incentive rates effective January 1, 2022 and new curbside and multi-family incentive rates effective July 1, 2022. The timeline for the next collection cost study and its application to collection service agreements is outlined in Appendix F.

4.4 Post Collection

Post-collection services include receiving PPP from collection vehicles, picking up PPP from depots, consolidation and transfer of PPP where required, handling and sorting PPP, preparing PPP for shipment to end markets, marketing PPP to maximize commodity revenue, appropriately managing residual materials, as well as reporting the quantities of material received from collectors, sent to end markets, received at end markets, and other metrics to Recycle BC as required.

Recycle BC contracts directly for post-collection services. The post-collection partner(s) is considered the first receiver of collected PPP and is responsible for marketing processed PPP to end markets approved by Recycle BC. The post-collection partner(s) may engage subcontractors to provide any parts of the services with the goal to make an effective and efficient post-collection network.

The Recycle BC post-collection network focuses on five key outcomes:

- Investment in recycling infrastructure;
- System efficiency with minimal redundancy;
- Prioritization of local end markets;
- Clear and transparent business processes; and
- Ongoing innovation and technology.

A post-collection partner must adhere to these outcomes while meeting the post-collection requirements which include but are not limited to price, locations, capability, capacity, capture rates, and marketed material quality.

Recycle BC, in partnership with its post-collection partner(s), is focused on ensuring the continued adaptability and resiliency of the post-collection network and the ability to provide efficient and effective services to collection contractors in the face of evolving local, regional, and global challenges.

The scale and stability of Recycle BC's program, coupled with the consistency and quality of the material collected, allows for ongoing investments in the post-collection network. These investments are designed to increase access to local and regional end markets, reduce greenhouse gas emissions, and build resiliency into the operations. The post-collection network, with its ongoing investment in state-of-the-art sorting technology and the ability to sort both paper and container streams into a wide range of high-quality commodity grades, ensures the material collected in the Recycle BC program is desired by recycling end markets both locally and overseas.

Recycle BC regularly conducts due diligence on the end markets for its material to ensure they are recycled and managed in a responsible manner. When selecting end markets for materials, Recycle BC gives priority first to local markets, then regional markets, then to those located in countries that are members of the

Organization for Economic Co-operation and Development (OECD). Recycle BC will allow marketing of processed PPP to packaging and paper end markets located in countries that are not members of OECD only if the end market meets or exceeds environmental, health and safety standards equivalent to OECD standards. Recycle BC commits to providing oversight to the recycling and recovery of PPP by visiting the approved end market destinations of the marketed materials over the lifespan of this five-year Program Plan.

Recycle BC ensures the complete chain of custody of its material by recording and tracking the material from the point it is received from a collector up until its receipt at an approved end market. This information is subject to review as part of a third-party verification process outlined in Section 5.5 below.

4.5 Dispute Resolution

Recycle BC seeks to balance the principles of access, efficiency, fairness and equitable outcomes in the design of its dispute resolution mechanisms. Dispute resolution processes are tailored to the nature of disputes as well as the likely parties to a typical dispute. The objectives of the dispute resolution process are to manage disputes to resolution rather than adjudication, earlier and faster and at a reduced cost to all parties involved.

The following suite of alternative dispute resolution processes is used:

Dispute Type	Path of Escalation/Resolution
Residents	• Discussion with Recycle BC management • If unresolved, involvement of the Recycle BC Advisory Committee
Collectors and processors	• Discussion with Recycle BC senior management • Facilitation: to prevent escalation and to explore interests/remedies • Mediation: to be used if facilitation is unsuccessful. Process to be specified in commercial agreements regarding selection of mediator, roles of parties, time and place of mediation, conduct of mediation, length, responsibility for fees/costs, confidentiality, conclusion of mediation by agreed settlement or final settlement proposal by the mediator • Arbitration: to be used if mediation is unsuccessful; process to be specified in commercial agreements regarding notice of arbitration, submission of written statements, place and conduct of meetings and hearings, the process for rendering and delivering decisions; jurisdiction and powers of the arbitrator, allocation of costs/fees; application of the B.C. Arbitration Act (RSBC 1996)

The dispute resolution process described above for collectors and processors is contained in Recycle BC's services agreement (Master Services Agreement, Section 14, Dispute Resolution).

4.6 Communications

The Recycling Regulation requires that, as part of the Program Plan, Recycle BC design and deliver an effective resident education program that achieves two primary objectives:

- Increase resident awareness of the program features and benefits through communication activities; and
- Engage and encourage residents to make informed and correct decisions concerning the preparation and management of PPP for collection and recycling by employment of general and targeted promotion and education (P&E) activities.

To achieve the above objectives, Recycle BC employs the following strategies:

- **Awareness campaigns** – Recycle BC conducts targeted awareness campaigns independently or in partnership with stakeholders, such as other EPR agencies, producers, local governments, and community-based organizations;
- **Strategic partnerships** – Recycle BC partners with organizations with targeted local or provincial market penetration to broaden the reach and raise the profile and awareness of the program. Recycle BC also partners with the Stewardship Agencies of BC (SABC) and the Recycling Council of BC (RCBC) on shared education strategies across BC's many EPR programs;
- **Collector resources** – Recycle BC makes resources available to collectors to be used to help educate their residents on various aspects of the Recycle BC program. In many instances templates are available for customization;
- **Additional resident communication** – Recycle BC communicates directly with residents about various program elements including accepted and not-accepted materials, depot locations, collection schedules, contests, special projects, events, etc. using various channels, including its website and social media; and
- **Research** – Recycle BC regularly conducts quantitative research to gather accurate provincial information on recycling habits, service levels, brand and program awareness.

Recycle BC will align and adapt communications activities to achieve the above resident education objectives and meet program performance targets. The strategic direction and focus of these activities will primarily be informed by consumer research and program results.

In keeping with its continuous improvement program, Recycle BC will employ the above strategies to target and improve any areas of material underperformance in the recycling system. For example, if research indicates that a particular demographic is not participating in the recycling program, a promotion and education campaign will be targeted towards that group.

Similarly, if certain accepted materials have a lower than desired recovery rate, or a specific non-obligated material is consistently found in the recovered material, targeted campaigns will be conducted to improve performance. Over the next five years of its mandate Recycle BC will closely monitor program performance to strategically plan its annual consumer awareness and education campaigns and will seek opportunities to work with stakeholder partners to increase program performance.

Recycle BC will continue to report on its educational strategies and materials in the "Public Education" section of its annual report.

5. Program Performance

5.1 Managing Environmental Impacts

Recycle BC works to reduce the environmental impact of producers' PPP by managing the collection, processing, and marketing of this material. This involves partnering with communities on collection and overseeing the sale of processed material to approved end markets. The program also seeks to innovate by engaging with producers to advance the recycling of various materials and finding new ways to encourage source reduction, re-use, and good recycling practices.

Plastic packaging comes in a wide range of materials and designs and is constantly evolving, which places a burden on residents, businesses and governments looking to understand which options are the most sustainable. This can hamper recycling efforts and lead to plastic packaging ending up in the landfill or the environment.

Many Recycle BC producer members are innovating sustainable design as part of the Canada Plastics Pact (CPP), which was launched in January 2021 and provides the opportunity for businesses across the plastics value chain to address plastic pollution in a collaborative manner.

The CPP is a member of the global Ellen MacArthur Foundation Plastics Pact Network that brings together country or regional efforts to implement solutions towards a circular economy for plastics. Signatories to the CPP have committed to achieving the following targets by 2025 and will report annually on their progress:

- Support efforts towards 100% of plastic packaging being designed to be reusable, recyclable or compostable;
- Undertake actions to ensure that at least 50% of plastic packaging is effectively recycled or composted; and
- Ensure an average of at least 30% (by weight) recycled content across all plastic packaging; and eliminate problematic or unnecessary plastic packaging.

In early 2022, the CPP introduced the nine Golden Design Rules that provide a clear framework to drive innovation and actions that will result in less plastic packaging overall and easier to recycle plastic packaging by 2025. The Golden Design Rules aim to change how packaging is designed to keep it in the economy and out of the environment. Details about the nine Rules are available on the CPP microsite:

1. Increase Value in PET Recycling
2. Remove Problematic Elements from Packaging
3. Eliminate Excess Headspace
4. Reduce Plastic Overwraps
5. Increase Recycling Value for PET Thermoformed Trays and Other PET Thermoformed Packaging
6. Increase Recycling Value in Flexible Consumer Packaging
7. Increase Recycling Value in Rigid HDPE and PP
8. Reduce Virgin Plastic Use in Business-to-Business Plastic Packaging
9. Use On-Pack Recycling Instructions

Smart and sustainable design ensures plastic packaging is properly recycled, helps keep it out of the environment and reduces GHG emissions. These initiatives are important because improved recyclability

and increased recycled content, coupled with a full producer responsibility program, provide a pathway to a circular economy for materials.

When producers take full responsibility for their materials, they are in a better position to recover them as inputs into new manufacturing processes and capture the maximum value from these resources. Producers are also investing in developing innovative alternatives to single-use plastics and other problematic items included in new federal and provincial regulations.

5.2 Pollution Prevention Hierarchy

The following activities outline how the Recycle BC program and Program Plan will adhere to the pollution prevention hierarchy:

Pollution Prevention Hierarchy	Activity
Reduce the environmental impact of producing the product by eliminating toxic components and increasing energy and resource efficiency	• Initiatives undertaken by individual producers • Producer fees are based on weight thereby encouraging the elimination or reduction of materials supplied to consumers
Redesign the product to improve reusability or recyclability	• Initiatives undertaken by individual producers • Program Plan encourages redesign through cost allocation that rewards easier-to-recycle materials • Recycle BC regularly reviews its fee structure and inputs to ensure accurate information about which materials have significant cost impacts on the system to encourage packaging redesign and foster adoption of best practices such as those expressed by the CPP's Golden Design Rules
Eliminate or reduce the generation of unused portions of a product that is consumable	• Not applicable as packaging and paper product are not consumable

Pollution Prevention Hierarchy	Activity
Reuse the product	• Initiatives undertaken by individual producers • Program Plan encourages reuse through cost allocation that presumes supplied materials only enter the marketplace once • Recycle BC actively engages in exploring reuse opportunities and works with program stakeholders to identify the value Recycle BC can bring to the reusable packaging market, including whether/how Recycle BC's reverse supply chain system can be leveraged for system efficiencies
Recycle the product	• Program Plan utilizes payments to service providers to encourage collection and processing of PPP to meet recycling end-market requirements • Work directly with interested producers and develop strategies to improve recyclability and increase recycled content in supplied PPP while leveraging program investments as applicable
Recover material from the product	• Primary and downstream processors are encouraged to further process system residues to meet recovery end-market requirements for engineered fuel products and minimize the amount of residue sent to landfill • Research and development to explore ways to recover material that is currently non-recyclable
Recover energy from the product	• PPP collected by Recycle BC through its program is not sent to energy-from-waste facilities
Otherwise dispose of the waste from the product in compliance with the Act	• Post-collection partner(s) are required to manage residue in compliance with the Act

5.3 Performance Targets

Recycle BC will seek to achieve two primary performance targets, based on two levels of program performance:

5.3.1 Program Recovery Rate

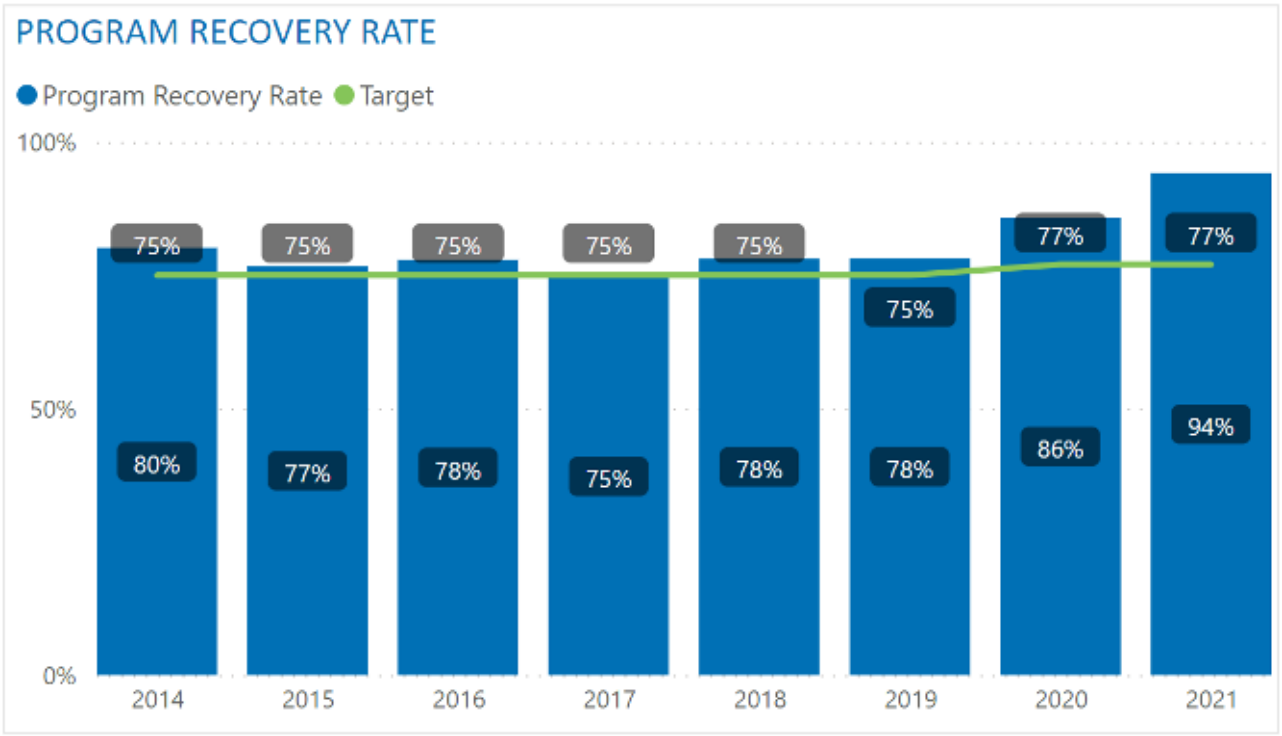
Under the Recycling Regulation, the program is expected to achieve a 75% recovery rate, or another recovery rate established by the director. The recovery rate is defined in Section 1 of the Recycling Regulation as "the amount of product collected divided by the amount of product produced, expressed as a percentage."

Every load of material collected in the PPP program is recorded, reviewed, verified, and approved by Recycle BC. Annually, an independent auditor performs an assurance audit on collected quantities reported by Recycle BC to verify the data used to calculate the reported recovery rate. Recycle BC also reviews the reported quantities of PPP producer members supply to residents of British Columbia and these quantities are also subjected to periodic third-party assurance audits.

Consistent with the regulatory requirement stated above, the total verified collected quantity (in tonnes) divided by the total verified supplied quantity (in tonnes) yields the program recovery rate. Due to the nature and timeline of reporting the supplied quantity by the program's producer members, the year of the supplied quantity always lags the year of the collected quantity by two years. As an example, the 2021 program recovery rate as reported in the 2021 Annual Report was calculated as:

$$\frac{214{,}273 - \ Collected\ Quantity\ in\ 2021\ (tonnes)}{227{,}603 - Supplied\ Quantity\ in\ 2019\ (tonnes)} = 94.7\%\ 2021\ Program\ Recovery\ Rate$$

To date, Recycle BC has met the program recovery rate target each year since the program's launch in 2014. The chart below outlines the program recovery rates since the inception of the Recycle BC program in 2014 and the program targets as outlined in the 2013 and 2018 Program Plans:



Appendix D outlines Recycle BC's proposed program recovery rate targets moving forward.

5.3.2 Material Category Performance Targets

In 2017, Recycle BC was the first jurisdiction in North America to set material category performance targets for packaging and paper product and has reported against them on an annual basis since then. These material categories include:

- Paper;
- Plastic, further broken into two sub-categories:
  - Rigid Plastic (including PET, HDPE, PP, PS and other plastics such as #7);
  - Flexible Plastic (including Plastic Bags and Overwrap and Other Flexible Plastic Packaging);
- Metal; and
- Glass.

The material category performance targets came into effect for the 2018 collection year and included a year to achieve each target. Since then, these targets have been adjusted twice as Recycle BC achieved the established targets for two consecutive years - once in 2020 for Metal and Glass and once in 2021 for Plastic, Rigid Plastic, and Flexible Plastic. The chart below summarizes Recycle BC's historic material category performance targets and the corresponding recovery rates per year achieved by the program to date.

Material Category		2017	2018	2019	2020	2021	2022
Paper	Recovery Rate	87%	86%	83%	90%	101%	
	Target	n/a	90% by 2022				
Plastic	Recovery Rate	41%	42%	46%	52%	55%	
	Target	n/a	50% by 2025			58% by 2025	
Rigid Plastic	Recovery Rate	50%	54%	56%	64%	67%	
	Target	n/a	55% by 2022			73% by 2023	
Flexible Plastic	Recovery Rate	20%	19%	22%	24%	28%	
	Target	n/a	22% by 2022			27% by 2023	
Metal	Recovery Rate	66%	67%	73%	85%	83%	
	Target	n/a	67% by 2020		81% by 2022		
Glass	Recovery Rate	72%	78%	87%	97%	116%	
	Target	n/a	75% by 2020		98% by 2022		

Legend: Target Achieved

Once a material category performance target was achieved for two consecutive years, the target was adjusted using the following methodology:

Variable	Definition	Short Form
Latest Material Specific Collected Quantity	Amount of collected material (tonnes) in the specific material category in the latest available full collection year.	Latest Collected Qty

Material-Specific Collection Growth	Material-specific growth in collection over the last three calendar years	Collection Growth
Program Collection Growth	Estimated growth in gross collection over three years (including the year of proposal)	Program Growth
Latest Material Specific Supplied Quantity	Amount of supplied material (tonnes) in the specific material category in the latest available full supply year.	Latest Supplied Qty
Material-Specific Supplied Growth	Material-specific growth in producer member supplied quantities based on their regulatory reporting in the last three calendar years	Supplied Growth

$$\frac{Latest\ Collected\ Qty\ x\ (1 + Collection\ Growth)\ x\ (1 + Program\ Growth)}{Latest\ Supplied\ Qty\ x\ (1 + Supplied\ Growth)}$$

In this methodology, the supply data used lags the collection data by two years, due to the timing required for producer members to report their supply data and a third-party audit to take place to validate the supply numbers. For example, in the 2021 Annual Report, the 55% material category recovery rate of Plastic is calculated as follows:

$$\frac{34{,}461 -\ Plastic\ Collected\ Quantity\ in\ 2021\ (tonnes)}{62{,}379 -\ Plastic\ Supplied\ Quantity\ in\ 2019\ (tonnes)} = 55\%\ Plastic\ Recovery\ Rate$$

Appendix D outlines Recycle BC's proposed material category performance methodology and targets moving forward.

5.4 Performance Metrics

Recycle BC reports on the performance of the program in an annual report submitted to the MOECCS and posted on its website by July 1 each year. A comprehensive list of the performance metrics that will be reported each year by Recycle BC is available in Appendix E to this Program Plan. Recycle BC includes a reasonable assurance opinion of the accessibility indicators and operational effectiveness indicators by a third-party in its annual report.

5.5 Third-Party Assurance

Stakeholders can be confident in the metrics reported by Recycle BC because each year Recycle BC is subject to third-party assurance for non-financial information in the annual report. Annually, Recycle BC provides its auditors with the Guidance document provided by the Ministry of Environment and Climate Change Strategy to ensure the objectives of the audit are satisfied.

The findings of the third-party assurance audit are included in the Recycle BC annual report.

6. Consultation

Recycle BC's draft Program Plan was posted on the Recycle BC website on September 29, 2022 and distributed to program stakeholders.

Between October and December 2022, Recycle BC will be conducting a detailed public consultation process on this draft Program Plan.

Consultation sessions will be held with the following stakeholder groups:

- Recycle BC producer members;
- Producer associations;
- Recycle BC Advisory Committee;
- Recycle BC service providers (local governments, First Nations and private companies) through a two day in-person conference and consultation event (October 6 & 7);
- First Nations;
- Regional Districts; and
- Environmental groups.

Written feedback and comments will be accepted by Recycle BC until December 31, 2022 and can be submitted to consultation@recyclebc.ca

Webcasts of the consultation will be posted once available here. A detailed consultation report summarizing the feedback received will be posted once available and will be included as Appendix G of the final version of the Program Plan prior to submission to the MOECCS.

Appendix A – Definition of Producer for the Purposes of Producer Obligations and Reporting

"Brand" is a trademark.

"**Brand Owner**" is a Person with a Substantial Connection to British Columbia who uses the product in a commercial enterprise, sale, offer for sale or distribution in British Columbia and who is:

(a) the owner of the registered or unregistered trademark; or
(b) a licensee of the registered or unregistered trademark, where "licensee" includes a person who packages goods and includes any person whose corporate name or business name registration contains the trademark.

"**Consume**r" means an individual (other than a Person in the Industrial, Commercial or Institutional (IC&I) sector) to whom Packaging or Paper Product is Supplied.

"**First Importer**" is a Person with a Substantial Connection to British Columbia who imports Packaging or Paper Product into British Columbia or is the first to take possession or control of Packaging or Paper Product in British Columbia for use in a commercial enterprise, sale, offer for sale or distribution in British Columbia and for which a Brand Owner does not exist.

"**Franchisor**", "**Franchisee**", "**Franchise System**", or "**Subfranchise**" have the meaning ascribed to these terms in the *Franchises Act* or as may be amended or replaced from time to time: http://www.bclaws.ca/civix/document/id/lc/statreg/15035 .
This includes Franchisors who conduct business in British Columbia through their British Columbia Franchise System, regardless of whether the Franchisor has a Franchisor-owned fixed place of business in British Columbia.

"**IC&I Material**" means Packaging or Paper Product which is supplied to the industrial, commercial, or institutional sector and which is not subsequently Supplied to Consumers.

"**Person**" means an individual, partnership, joint venture, sole proprietorship, corporation, government, trust, trustee, executor, administrator or any other kind of legal personal representative, unincorporated organization, association, institution, or entity.

"**Producer**" means the Person who is obligated with respect to the Packaging or Paper Product, and includes any person who elects to become a Voluntary Producer in accordance with Recycle BC's policies.

"Substantial Connection to British Columbia[8]" means:

1. In the case of Franchisors, it includes Franchisors who conduct business in British Columbia through their British Columbia Franchise System, regardless of whether the Franchisor has a Franchisor-owned fixed place of business in British Columbia; and
2. In the case of all other producers, the person:

[8]This definition is consistent with the guidance provided by the Canadian Council of Ministers of the Environment ("**CCME**"), which recently released a document entitled "Guidance to Facilitate Consistent Extended Producer Responsibility Policies and Programs for Plastics" found here: https://acrobat.adobe.com/link/track?uri=urn:aaid:scds:US:0b9a3032-fae7-35f3-9878-1851d134787b. "Residency" as a threshold requirement to obligate a producer to EPR legislation is discussed at pp. ii, iii, iv, and 13, among other places.

a) Has a permanent establishment in British Columbia, where "permanent establishment" includes branches, mines, oil wells, farms, timberlands, factories, workshops, warehouses, offices, agencies and other fixed places of business; or
b) Meets one of the following criteria:

i. Contracting Employees or Inventory Sufficient

Where a corporation carries on business through an employee or agent who has general authority to contract for the corporation or who has a stock of merchandise owned by the corporation from which the employee or agent regularly fills orders which the employee or agent receives, such employee or agent shall be deemed to operate a permanent establishment of the corporation.

ii. Commission Agent not Sufficient

The fact that a corporation has business dealings through a commission agent, broker or other independent agent shall not of itself be deemed to mean that the corporation has a permanent establishment.

iii. Subsidiary of Parent not Sufficient

The fact that a corporation has a subsidiary controlled corporation in a place or a subsidiary controlled corporation engaged in a trade or business in a place shall not of itself be deemed to mean that the first-mentioned corporation is operating a permanent establishment in that place.

iv. Licensed Insurance Company Sufficient

An insurance corporation is deemed to have a permanent establishment in each jurisdiction in which the corporation is registered or licensed to do business.

v. Purchasing Office not Sufficient

The fact that a corporation maintains an office solely for the purchase of merchandise shall not of itself be deemed to mean that the corporation has a permanent establishment in that office.

vi. Ownership of Land Sufficient

Where a corporation, otherwise having a permanent establishment in Canada, owns land in a province or territory of Canada, such land is a permanent establishment.

vii. Production Packing and other Activities Sufficient

The fact that a non-resident corporation in a year produced, grew, mined, created, manufactured, fabricated, improved, packed, preserved or constructed in whole or in part anything in Canada, whether or not the corporation exported that thing without selling it prior to exportation, shall of itself, be deemed to mean that the corporation maintained a permanent establishment at any place where the corporation did any of those things in the taxation year.

viii. Machinery or Equipment Sufficient

The use of substantial machinery or equipment in a particular place at any time in a year of a corporation constitutes a permanent establishment of such corporation in that place for such a year.

ix. Principal Place of Business Sufficient

Where a corporation has no fixed place of business, it has a permanent establishment in the principal place in which the corporation's business is conducted.

x. Charter or By Laws designating Head or Registered Office Sufficient

Where a corporation does not otherwise have a permanent establishment in Canada, it has a permanent establishment in the place designated in its charter or by-laws as being its head office or registered office.

"**Service Packaging**" means packaging which may or may not bare a Brand that is Supplied at the point of sale by the retail, food-service or other service providers to facilitate the delivery of goods, and includes all bags, boxes, and other items for the containment of goods at point of sale.

"**Supplied**" means sold, leased, donated, disposed of, used, transferred the possession of or title of, or otherwise made available to a Consumer in British Columbia or distributed for use by a Consumer in British Columbia. Supply and Supplies have similar meanings.

"**Voluntary Producer**" means any non-resident Brand Owner who elects to become a member of Recycle BC in accordance with Recycle BCs policies and membership agreement.

DESIGNATION OF PRODUCERS

In alignment with the BC Recycling Regulation and for the purposes of the Program Plan, the producer for a specific unit of packaging or paper product or service packaging is the first person that satisfies the following criteria:

Recycling Regulation	***Program Criteria Based on Recycling Regulation***	
(i) a person who manufactures the product and uses in a commercial enterprise, sells, offers for sale or distributes the product in British Columbia under the manufacturer's own brand,	*A person who:*	*Notes:*
	a. Manufactures the product; AND	
	b. under the manufacturer's own brand, the person who:	*The manufacturer must also be the brand holder of the product.* *The brand holder must satisfy the "Substantial Connection to British Columba" criteria outlined above.*
	uses the product in a commercial enterprise, sells, offers for sale or distributes the product, in British Columbia	*This provision does not apply to PPP associated with products used in the industrial, commercial or institutional (IC&I) setting, except for street scape disposal.*
	A person who:	

(ii) if subparagraph (i) does not apply, a person who is not the manufacturer of the product but is the owner or licensee of a trademark under which a product is used in a commercial enterprise, sold, offered for sale or distributed in British Columbia, whether or not the trademark is registered, or	*a. is not the manufacturer/brand holder, BUT*	
	b. is the owner or licensee of the brand, AND	*Applies only where the brand owner or licensee is not the manufacturer of the product.* *The brand holder must satisfy the "Substantial Connection to British Columba" criteria outlined above.*
	c. in British Columbia, uses the product in a commercial enterprise, sells, offers for sale or distributes the product	*This provision does not apply to PPP associated with products used in the industrial, commercial or institutional (IC&I), except for street scape disposal.*
(iii) if subparagraphs (i) and (ii) do not apply, a person who imports the product into British Columbia for use in a commercial enterprise, sale, offer for sale or distribution in British Columbia	*A person who:*	
	a. is not the manufacturer/brand holder; AND	
	b. is not the brand owner or licensee of the brand, BUT	
	c. imports the product into British Columbia for use in a commercial enterprise, sale, offer for sale or distribution in British Columbia	*This person is known as the "first importer".* *The first importer must satisfy the "Substantial Connection to British Columba" criteria outlined above.*

The obligations of "small producers" and "franchise systems" will continue to be determined in accordance with the Recycling Regulation and the Government's policy guidance, as may be updated from time to time.[9]

Producers for Service Packaging
Any Person that Supplies Service Packaging in British Columbia at the point-of-sale shall be the Producer for such Service Packaging.

Franchisor is Obligated to Report for its British Columbia Franchisees
A Franchisor is obligated to report for its British Columbia Franchisees with respect to all Packaging and Paper Product which is Supplied within the Franchisor's British Columbia Franchise System.

[9] See https://www2.gov.bc.ca/assets/gov/environment/waste-management/recycling/recycle/paper-package/sm-producer-definition-policy-interp.pdf

More Than One Brand Owner for the Same Packaging or Paper Product
If there is more than one Brand Owner for the same Packaging or Paper Product, the Brand Owner more directly connected to the production of the Packaging or Paper Product shall be deemed to be the Producer.

Products Containing Two or More Independent Brands
If products containing two or more independent Brands are packaged to be Supplied together, the Brand Owner, First Importer or Franchisor most directly connected to the joint Packaging shall be designated as the Producer for the joint Packaging.

Appendix B – Curbside and Multi-Family Eligibility Criteria

Curbside Eligibility – Programs Established by 2014

All PPP curbside collection programs that were operated by local governments as of May 2014 are eligible to be serviced under the Recycle BC program through a partnership between the local government and Recycle BC.

Curbside Eligibility – Municipalities

PPP curbside collection programs operated by local governments in communities that did not have programs as of May 2014 are eligible to be serviced under the Recycle BC program through a partnership between the local government and Recycle BC, provided each of the following criteria are met:

- The community represents an incorporated municipality;
- The community has a minimum population of 5,000 residents; and
- A curbside garbage collection program is in place and operated by the municipality or scheduled to launch no later than coinciding with the introduction of PPP curbside collection.

Curbside Eligibility – Equivalent Unincorporated Areas

The following criteria is intended to provide eligibility to unincorporated areas with equivalent levels of density as municipalities.

PPP curbside collection programs operated by Regional Districts in unincorporated areas are eligible to be serviced under the Recycle BC program through a partnership between the Regional District and Recycle BC, provided each of the following criteria are met:

- The proposed service area has a minimum population of 5,000 residents;
- The proposed service area has a minimum household density of 0.42 households/hectare;
- There is a maximum distance of 20 km between proposed Service Area Sections; and
- A curbside garbage collection program is in place in the proposed service area or scheduled to launch no later than coinciding with the introduction of PPP curbside collection.

For clarity, the following definitions are provided:

- *Minimum household density:* Defined as total occupied dwellings divided by total hectares in proposed service area, excluding non-populated areas (parks, crown lands, etc.) and areas not proposed to be serviced;
- *Maximum distance*: Calculated by the distance of navigable roads from respective edges of service area sections, with a maximum number of three gaps greater than 10 km up to a maximum 20 km in distance between service area sections. Island and ferry accessed communities are considered a single service area and must meet all criteria independently; and
- *Curbside garbage:* Program must be managed as a coordinated service directly by the Regional District and excludes subscription service whereby households contract with one or more collection contractors directly.

This criteria applies only to unincorporated areas and only to newly proposed service areas, not to expansion of existing service areas by Recycle BC collectors.

Curbside Eligibility - Adjacent Areas

The following outlines the eligibility criteria for densely populated areas immediately adjacent to existing municipal service areas.

Areas outside municipal jurisdictions that are adjacent to existing PPP curbside collection service areas included in the Recycle BC program are eligible to be serviced under the Recycle BC program provided each of the following criterion are met:

- The proposed adjacent area has a maximum population of 4,999 residents;
- The proposed adjacent area has a minimum household density of 0.42 households/hectare;
- There is a maximum distance of 5 km between an existing curbside service area included in the Recycle BC program and the proposed adjacent area;
- A curbside garbage collection program is in place in the proposed adjacent area or scheduled to launch no later than coinciding with the introduction of PPP curbside collection; and
- A PPP curbside collection service provider included in the Recycle BC program is able and willing to expand their existing curbside service area to include the proposed adjacent area, which may include one of the following:
    - Recycle BC, as the provider of curbside collection service in a direct service area adjacent to the proposed adjacent area;
    - A local government providing curbside collection service in a service area adjacent to the proposed adjacent area, utilizing either in-house collection staff or a private company; or
    - A local government providing curbside collection service in a service area adjacent to the proposed adjacent area, through a sub-contract with another applicable level of local government.

For clarity, the following definitions are provided:

- *Minimum household density:* Defined as total occupied dwellings divided by total hectares in proposed service area, excluding non-populated areas (parks, crown lands, etc.) and areas not proposed to be serviced;
- *Maximum distance:* Calculated by the distance of navigable roads between the edge of the existing service area and the proposed adjacent area; and
- *Curbside garbage:* Program must be managed as a coordinated service directly by an applicable First Nation, municipality or Regional District and excludes subscription service whereby households contract with one or more private companies directly.

Curbside Eligibility – Transition to Provision of Service by Recycle BC

Local governments with existing collection agreements with Recycle BC may, at their discretion, request that Recycle BC directly operate PPP curbside collection in their communities, provided each of the following criteria is met:

- The request is made in writing and is accompanied by a formal resolution from the applicable Council or Board;

- A formal commitment is made, in writing, to provide Recycle BC with all reasonable assistance and cooperation during the transition period (e.g. provision of a complete address list, household data etc.);
- The request pertains to the entire service area and not a portion thereof;
- A curbside garbage collection program is in place in the service area or scheduled to launch no later than the proposed transition date;
- If applicable, the existing inventory of collection containers is provided to Recycle BC (or left in the possession of residents) at no cost, at the discretion of Recycle BC;
- The PPP curbside program had achieved a minimum capture rate of 90 kilograms of PPP per curbside household in the previous calendar year;
- A minimum of 2 years' notice is provided prior to the proposed transition date for provision of curbside services directly by Recycle BC; and
- The transition date falls on or after the termination date of the applicable local government's curbside collection agreement (which may be extended by Recycle BC in accordance with the terms of the agreement).

Such requests will only be considered by Recycle BC during defined windows of time as communicated by Recycle BC to eligible collectors and will occur once per collection agreement cycle.

Recycle BC will be under no obligation to operate PPP curbside services directly in communities that do not meet the above criteria, including in locations where the applicable local government has requested to terminate their collection agreements prior to the original termination date.

Multi-Family Eligibility

All local governments and First Nations operating curbside collection programs under the Recycle BC program are eligible to operate a multi-family collection program in the same service area through a partnership between the local government and Recycle BC.

Private companies are eligible to operate multi-family collection programs as a collection contractor to Recycle BC in service areas identified by Recycle BC, including in areas where Recycle BC is actively recruiting new multi-family collectors.

Appendix C – Community Eligibility Criteria: Integrated Recycle BC Collection Services

Municipalities with >50,000 Population

Municipalities are eligible for Integrated Recycle BC Collection Services, provided each of the following criteria is met:

- A local organization is willing and able to provide collection services that meet all program requirements and collection standards;
- The community represents an incorporated municipality, including Cities, Towns, Villages and District Municipalities; and
- The municipality has a minimum population of 50,000 permanent residents.

Municipalities with >10,000 Population

Municipalities are eligible for Integrated Recycle BC Collection Services, provided each of the following criteria is met:

- A local organization is willing and able to provide collection services that meet all program requirements and collection standards;
- The community represents an incorporated municipality, including Cities, Towns, Villages and District Municipalities;
- The municipality has a minimum population of 10,000 permanent residents and a maximum population of 49,999 permanent residents; and
- The municipality is located more than a 5 km drive from a Recycle BC depot in a municipality with a larger population, if applicable, as measured from the closest municipal border to the depot by navigable road.

Municipalities with >2,000 Population

Municipalities are eligible for Integrated Recycle BC Collection Services, provided each of the following criteria is met:

- A local organization is willing and able to provide collection services that meets all program requirements and collection standards;
- The community represents an incorporated municipality, including Cities, Towns, Villages and District Municipalities;
- The municipality has a minimum population of 2,000 permanent residents and a maximum population of 9,999 permanent residents;
- The municipality is located more than a 15 km drive from a larger incorporated municipality with a minimum population of 10,000 permanent residents, as measured by the distance between a central location within the commercial center of each municipality (or its closest approximation); and
- The municipality is located more than a 15 km drive from a Recycle BC depot, as measured from the closest Recycle BC depot to a central location within the commercial center of the community (or its closest approximation).

Small Communities

Small communities are eligible for Integrated Recycle BC Collection Services, provided each of the following criteria is met:

- A local organization is willing and able to provide collection services that meet all program requirements and collection standards;
- The community has a minimum population of 1,000 permanent residents within the service catchment area of the community, as defined as the total population within a 30 minute drive of a central location within the commercial center of the community (or its closest approximation);
- Garbage service is available to residents, which may include a landfill, drop-off transfer point or curbside service;
- A permanent grocery store is available and open year-round;
- The community is located more than a 40 km drive from an incorporated municipality with a minimum population of 10,000 permanent residents, as measured by the distance between a central location within the commercial center of the municipality to a central location within the commercial center of the community (or its closest approximation); and
- The community is located more than a 40 km drive from a Recycle BC depot, as measured from the closest Recycle BC depot to a central location within the commercial center of the community (or its closest approximation).

Island Communities

Ferry accessed island communities are eligible for Integrated Recycle BC Collection Services, provided each of the following criteria is met:

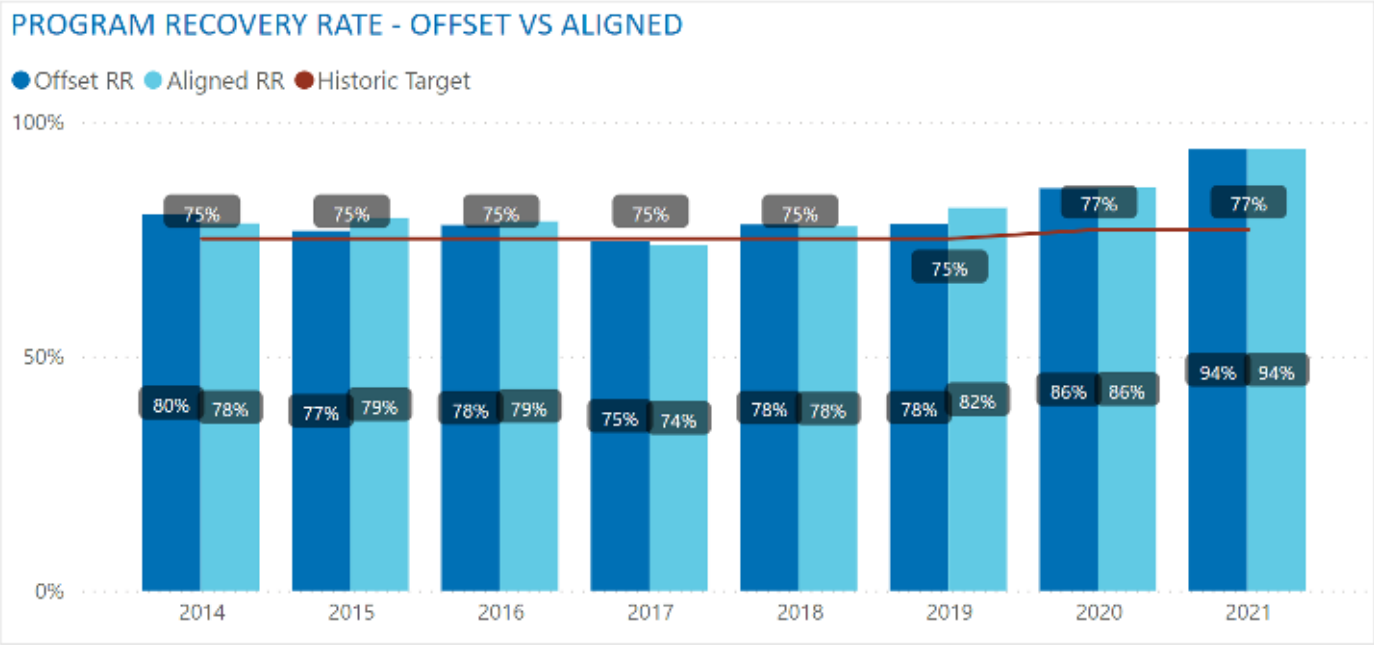
- A local organization is willing and able to provide collection services that meet all program requirements and collection standards;
- The island has a minimum population of 1,000 permanent residents;
- Garbage service is available to island residents, which may include a landfill, drop-off transfer point, private curbside service or local government curbside service; and
- A permanent grocery store is available and open year-round.

Appendix D – Proposed Performance Targets

Proposed Program Recovery Targets

Section 5.3.1 outlines Recycle BC's current methodology to calculate the program recovery rate. Recycle BC evaluated the impact that the two-year time lag (between the collected quantity year and the supplied quantity year) has on the recovery rates reported in the annual report each year. The chart below shows a comparison between the reported program recovery rate in the annual reports from 2014 to 2021, using the following two methodologies:

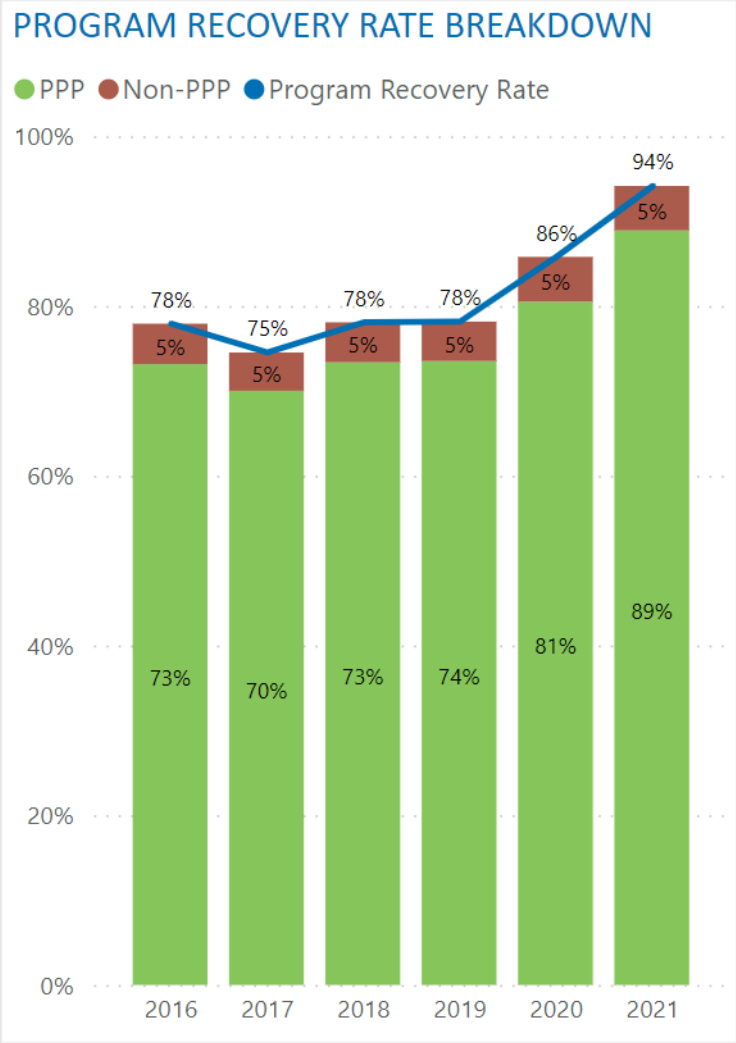
- Offset Recovery Rate (RR) - Collected quantity year and the supplied quantity year are offset by two years, in accordance with the methodology outlined in Section 5.3.1; and
- Aligned Recovery Rate (RR) - Collected quantity year is aligned with the supplied quantity year.



Note: The 2021 supplied quantity data has not undergone a third-party assurance audit at the time this document was published.

With the close alignment between the two calculation methods, Recycle BC proposes to maintain the use of the Offset RR methodology for the program recovery rate as defined in Section 5.3.1.

Recycle BC also evaluated the impact that non-PPP has on the program recovery rate. Non-PPP is defined as material that is not packaging and paper product that residents have incorrectly placed with their recycling and that was collected with PPP. This includes a wide range of materials such as food waste, plastic products, construction waste, hazardous waste and various types of garbage. To date, the collected quantity reported in the annual report is net of any material collected on behalf of other stewardship programs, but inclusive of any non-PPP collected within the program. The impact of this can be seen in the following chart:



The level of non-PPP averages to 5% of the program recovery rate each year. Removing non-PPP would therefore lead to a reduction of about 5% to the program recovery rate.

Acknowledging the impact non-PPP has on the program recovery rates, Recycle BC proposes that the program recovery targets will be net of non-PPP beginning in the 2023 reporting year. With the removal of non-PPP from the calculation of the program recovery rate moving forward, the proposed 2023 program recovery rate target of 78% below actually represents an approximate 5% increase over the 2022 program recovery rate target of 78%, as the non-PPP amount of roughly 5% is netted out of the 2023 program recovery rate. This new calculation methodology will better reflect the recovery rate of materials targeted by the Recycle BC program, ensure successful contamination reduction plans do not negatively impact the program recovery rate, and better align the methodology with that of the material category performance targets.

Moving forward, Recycle BC will seek to achieve the following program recovery targets:

2023	2024	2025	2026	2027
78%	79%	79%	80%	80%

For the sake of comparison, if the calculation remained the same as the previous program plan, these new targets would look like:

2023	2024	2025	2026	2027
83%	84%	84%	85%	85%

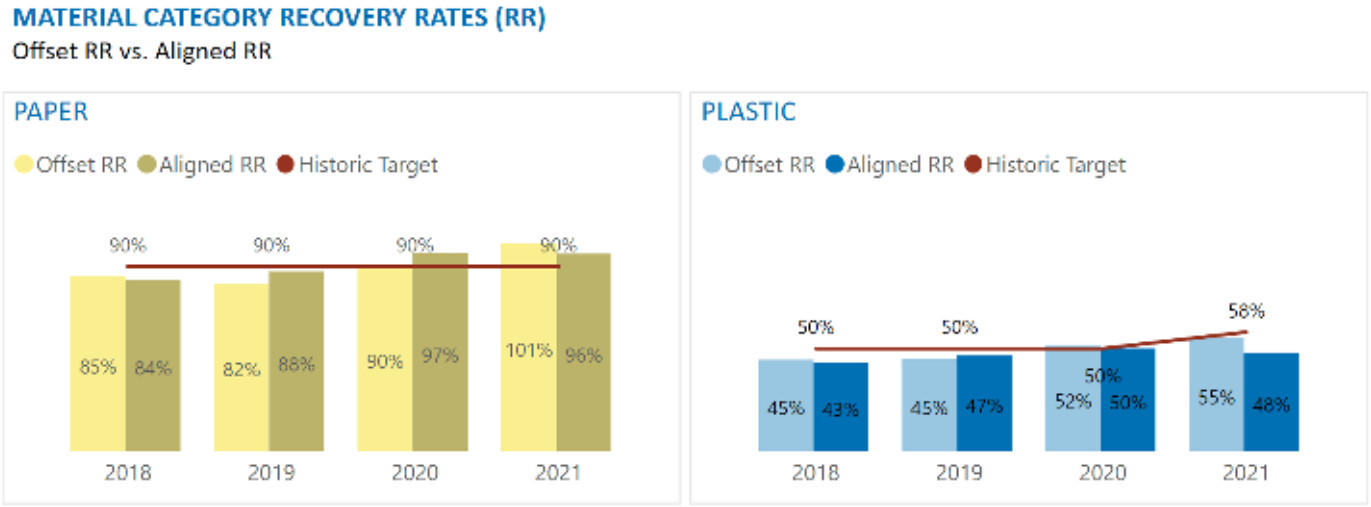
While ambitious, Recycle BC believes this new methodology and the proposed targets are achievable given the successful increase in program recovery rates over the last two years.

Proposed Material Category Performance Targets

Section 5.3.1 outlines Recycle BC's historic methodology to calculate material category recovery rates. Recycle BC proposes a change to the material category performance target methodology, with the intent to better align the collected quantity year with the supplied quantity year. Aligning these years has the benefit of being a same year to same year comparison but, due to the nature and timeline of reporting supplied quantity by the program's producer members, these numbers will only be available in the annual report looking two years retrospectively. For example, in the 2022 Annual Report, published in 2023, it would show the material category recovery rates for 2020, comparing the 2020 collected quantity to the 2020 supplied quantity.

The charts below show a comparison between the reported material category recovery rates in the annual reports from 2018 to 2021, using the following two methodologies:

- Offset RR – Collected quantity year and the supplied quantity year are offset by two years, in accordance with the methodology outlined in Section 5.3.2; and
- Aligned RR - Collected quantity year is aligned with the supplied quantity year.



Moving forward, Recycle BC is proposing to utilize the Aligned RR methodology. The table below outlines the proposed methodology to calculate the new material category performance targets based on aligning the collected quantity year and the supplied quantity year. The underlined text highlights the primary change from the Offset RR methodology outlined in Section 5.3.2.

Variable	Definition	Short Form
Latest Material Specific Collected Quantity	Amount of collected quantity (tonnes) in the specific material category in the latest available full collection year.	Latest Collected Qty
Material-Specific Collection Growth	Material-specific growth in collection over the last three calendar years	Collection Growth
Program Collection Growth	Estimated growth in gross collection over three years (including the year of proposal)	Program Growth
Latest Material Specific Supplied Quantity	Amount of supplied material (tonnes) in the specific material category in the latest available full supply year.	Latest Supplied Qty
Material-Specific Supplied Growth	Material-specific growth in producer member supplied quantities based on the *sales data pertaining to the latest available three fiscal years*.	Supplied Growth

$$\frac{Latest\ Collected\ Qty\ x\ (1 + Collection\ Growth)\ x\ (1 + Program\ Growth)}{Latest\ Supplied\ Qty\ x\ (1 + Supplied\ Growth)}$$

The table below illustrates Recycle BC's proposed material category performance targets. Once a material category performance target has been achieved for two consecutive years, the target will be adjusted using the calculation defined above.

Annual Report (AR) Year	2023	2024	2025	2026	2027
Collection / Supply Year	2021	2022	2023	2024	2025
Paper Target	95% by 2025 Annual Report			96% by 2027 Annual Report	
Plastic Target	55% by 2025 Annual Report			56% by 2027 Annual Report	
Rigid Plastic Target	71% by 2025 Annual Report			72% by 2027 Annual Report	
Flexible Plastic Target	24% by 2025 Annual Report			25% by 2027 Annual Report	
Metal Target	88% by 2025 Annual Report			89% by 2027 Annual Report	
Glass Target	98% by 2027 Annual Report				

Appendix E – Reporting Metrics and Targets Overview

All metrics listed below will be included in the annual report submitted to BC Ministry of Environment and Climate Change Strategy and posted on Recycle BC's website on July 1 of each year unless otherwise noted.

<table>
<tr><th>Measures</th><th>2023</th><th>2024</th><th>2025</th><th>2026</th><th>2027</th><th>2028</th></tr>
<tr><td>Total Program Performance: Recovery Rate Target</td><td>78%</td><td>79%</td><td>79%</td><td>80%</td><td>80%</td><td>To be established in 2028 Program Plan</td></tr>
<tr><td rowspan="6">Material Category Performance: Recovery Rate Targets</td><td colspan="3">Paper - 95% by 2025 Annual Report</td><td colspan="2">Paper - 96% by 2027 Annual Report</td><td rowspan="6">To be established in 2028 Program Plan</td></tr>
<tr><td colspan="3">Plastic - 55% by 2025 Annual Report</td><td colspan="2">Plastic - 56% by 2027 Annual Report</td></tr>
<tr><td colspan="3">Rigid Plastic - 71% by 2025 Annual Report</td><td colspan="2">Rigid Plastic - 72% by 2027 Annual Report</td></tr>
<tr><td colspan="3">Flexible Plastic - 24% by 2025 Annual Report</td><td colspan="2">Flexible Plastic - 25% by 2027 Annual Report</td></tr>
<tr><td colspan="3">Metal - 88% by 2025 Annual Report</td><td colspan="2">Metal - 89% by 2027 Annual Report</td></tr>
<tr><td colspan="5">Glass - 98% by 2027 Annual Report</td></tr>
<tr><td>Collection/ Recovery Rate Metrics</td><td colspan="6">• Tonnes of PPP and other materials recycled and recovered for the province
• Kilograms per capita of PPP and other materials recycled and recovered for the province
• Tonnes of PPP and other materials collected within each Regional District
• Kilograms per capita of PPP and other materials collected within each Regional District
• Total program recovery rate expressed as a percentage for the province
• Tonnes and recovery rate expressed as a percentage for the major categories of Paper, Plastic, Metal and Glass and for the plastic sub-categories of Flexible and Rigid</td></tr>
<tr><td>Accessibility Metrics</td><td colspan="6">• Number of curbside and multi-family households receiving household collection service
• Description of any new curbside or multi-family service areas included
• Description of Integrated Recycle BC Collection Services included in each serviced community, including locations of depots accepting PPP as applicable
• Number of curbside service areas, multi-family service areas and depots by Regional District, including changes in totals from previous year
• First Nations access to collection services</td></tr>
</table>

Measures	2023	2024	2025	2026	2027	2028
Additional Multi-Family Metrics[10]	• Number of multi-family households served compared to previous year • Number of multi-family households on-boarded from wait list or in communities that now meet curbside eligibility criteria • Number of multi-family households added and number of multi-family households that exited program, in addition to net household served number • Percentage of multi-family households serviced: Recycle BC served as a percentage of provincial total • Program multi-family service growth rate: Recycle BC served compared to census growth rate • If sufficient long-form census data capture: Recycle BC multi-family served by Regional District compared to census multi-family by Regional District • Other reporting metrics that may be interesting to provide for a particular year or period as appropriate					
Consumer Awareness Target	• Maintain a resident awareness rate of 90% or greater for PPP recycling program					
Consumer Awareness Metrics	• Percentage of residents aware of packaging and paper product recycling program • Percentage of residents reporting use of available collection services • Visits to the Recycle BC website					
Pollution Prevention Hierarchy Target	• Direct 85% to 90% of collected PPP to recycling commodity markets					
Pollution Prevention Hierarchy Metrics	• Tonnes of PPP managed by recycling • Tonnes of Paper, Plastic, Metal and Glass managed by recycling • Tonnes of PPP managed by recovery (engineered fuel) • Tonnes of PPP managed by recovery (energy-from-waste) • Tonnes of PPP managed by disposal • Environmental impact measures to characterize actions intended to reduce the environmental impacts of PPP by producer members of Recycle BC, and by Recycle BC					
Greenhouse Gas Emissions (GHG) Metrics	• Total program greenhouse gas (GHG) emissions associated with supply chain operations					
Other Reporting Metrics	• Total program cost per tonne • Total program cost per household					

[10] To enable MOECCS assessment of continuous improvement of multi-family service within the Recycle BC program, Recycle BC will report annually to the MOECCS a suite of metrics for a detailed review of multi-family expansion by the regulator

Measures	2023	2024	2025	2026	2027	2028
Other Party Metrics	• Tonnes of newspapers recovered in British Columbia • Tonnes of other material recovered on behalf of other parties in British Columbia					

Appendix F – Program Activities Overview

Key program activities that are tied to specific dates and timelines are summarized below.

Measures	Q1 2023	Q3 2023	2024-2028
Streetscape Collection	Test the audit methodology in a streetscape community that has implemented single-use product bans and has demonstrated a reasonable contamination rate.	Recycle BC will prepare its revised service and funding commitments to local governments and consult with local governments prior to implementing this program. Recycle BC will provide the streetscape program outline to eligible local governments in Q3 2023 for local governments to request an offer to join the program.	Continue to onboard eligible local governments as applicable.

Measures	2023	2024	2025	2026	2027	2028
Compostable PPP	Potential amendments to OMRR are expected to provide updated definitions of untreated and unprocessed wood, non-recyclable paper material, and compostable plastic. Once finalized, Recycle BC will determine where these definitions overlap with categories of PPP. If the quantity of compostable PPP is significant, and Recycle BC is able to determine the quantity of PPP by material category recovered annually in organic waste collection programs (resource recovery to a beneficial use), Recycle BC will include the end-of-life disposition of this PPP in its Pollution Prevention Hierarchy report. Where these research efforts indicate both demand and technical feasibility, Recycle BC will develop financial incentives to promote the management of appropriate types of PPP in the organic waste stream. The outcomes of this process can also serve to guide Recycle BC members' decisions to incorporate compostable material into the design of their packaging and paper formats.					
Collection Financial Incentives		Next collection cost study, using 2023 data.	New collection service agreements with new incentive rates, effective Jan 1, 2025.			

Appendix G – Consultation Report

A consultation report will be included in the final submission to the Ministry of Environment and Climate Change Strategy in April 2023.

File No. 12-6500-20

December 2, 2022

[Name]
[MAILING ADDRESS - CAPITALIZED]
[City, Province POSTAL CODE]

Dear [Name]:

RE: RECYCLE BC: PACKAGING AND PAPER PRODUCT EXTENDED PRODUCER RESPONSIBILITY PLAN CONSULTATION DRAFT

Thank you for this opportunity to provide comments on Recycle BC's latest draft plan for Packaging and Paper Product Extended Producer Responsibility. The Regional District of Central Kootenay operates a total of 22 principal and satellite depots across our district. Recycling is a prominent front-facing service in the eyes of residents and generates a significant amount of comments and discussion for local governments. In addition to the environmental benefits of recycling there is a strong incentive for local governments to provide a robust collection service to residents. We recognize the important role RBC has in providing this service to all residents and hope that feedback from collectors is weighed appropriately when shaping the next five years of PPP recycling in British Columbia.

Comments from the RDCK on the draft plan follow under headings referencing specific sections of the plan.

3.3 Single-Use Products and Packaging-Like Products; 4.3.2 Accepted Materials

It is encouraging to see the range of materials accepted in RBC collection expand to include single-use and packaging-like products. This is an excellent, common sense approach that recognizes many depot and curbside users do not see any appreciable difference in packaging and packaging-like products. An aluminum tray purchased from a store for baking at home or one provided by a restaurant as a take-out container are equally recyclable and should be treated as such. Accepting these materials is an important step, although more effort should be made to manage these materials by methods higher on the Pollution Prevention Hierarchy. Many single-use items now included for recycling are supplied outside of the home to residents and are not likely to be transported back home for inclusion in recycling. Streetscape recycling has not been very effective at recovering items and reducing the supply of such items remains the best method for management.

4.3.8 Financial Incentive Methodology

Financial incentives paid to collectors are meant to "provide collectors with sufficient incentive to collect program materials" and "cover fair and reasonable collection costs". Current analysis and conversations with other local government collectors show that only between 20 to 30% of collection costs are covered by these incentives. Inflation, rising fuel and staff costs are likely to further reduce the portion of costs covered in 2023 and incentives are not set to be renewed until 2025. Under the current incentive structure this is not sufficient to motivate collectors to provide recycling service aside from local governments that are accountable to residents. If covering fair and reasonable costs is the goal, then all of the operating costs incurred by principal depot operators should be covered and incentives adjusted annually as in other service

agreements to account for increases in operating expenses. Further, while depot operating agreements with RBC allow collectors to be penalized financially for contamination there is no mechanism to reward collectors with clean recycling. Preventing contamination requires an investment in staff, education and appropriate infrastructure. This should be recognized in the incentives provided.

5.3.1 Program Recovery Rate; Appendix D – Proposed Performance Targets

Raising the target recovery rate to 80% is an important step forward for recycling in BC. Increased collection volumes are the only way to meet this target and should be an important driver to improve access to collection for all residents across the province. However, as BC is a large province with a majority of its population concentrated in Metro Vancouver and few other urban centres, the target recovery rate can be met for all of BC by serving those urban areas and providing minimal collection for residents elsewhere. To guarantee equitable service, each Regional District should have a minimum recovery target of 75% which can then be adjusted to more ambitious targets once several years of collection data are analyzed.

The removal of non-PPP from reported collection to net-out collection volumes and Recovery Rates is a welcome and important step to ensure the program is functioning well and reporting accurately on its performance. In this regard, the offset method of calculating recovery rate should also be evaluated and reconsidered as it has produced some misleading recovery rates for paper (101%) and glass (117%) in 2021. If the offset method continues to be presented in annual reports the Recovery Rate for that year should at least be updated in future reports when supply data becomes available and the updated rate used in determining future targets as well.

Appendix B – Curbside and Multi-Family Eligibility Criteria

Removing the required two-year period of curbside garbage collection before qualifying for curbside recycling service is a welcome addition to this draft plan. It will allow the RDCK and other Regional Districts to more effectively plan and consult with residents about establishing these services in a sustainable way.

Clarification around including ferry-accessed communities in curbside areas is needed for potential service areas in the RDCK and likely other interior districts. Proposed guidelines state that ferry-accessed communities must meet the requirements of an equivalent or adjacent unincorporated area on their own in order to qualify for service. This may be reasonable for coastal island communities where ferries run on intermittent schedules, have fares and crossings are 20 minutes or more plus loading and unloading time. Several communities in the RDCK such as Harrop-Procter and Glade are serviced by on-demand ferries, without fares and crossings that can be as little as minutes and up to 20 minutes total depending on when a collection truck arrives at the ferry dock. Additionally, Harrop-Procter is located adjacent to a potential curbside area the RDCK will be exploring and Glade is located adjacent to an area of rural Castlegar that already receives curbside collection from RBC directly. These communities and others like them should be eligible for inclusion in curbside equivalency service areas provided they also meet the minimum household density of 0.42 households per hectare despite not having 5,000 residents.

Appendix C – Community Eligibility Criteria: Integrated Recycle BC Collection Services

In order to provide recycling access to its residents the RDCK operates 10 satellite depots in communities that were not eligible for principal depots that receive no support from RBC aside from incentives for material collected. Under the proposed criteria the RDCK would lose five of its 12 principal depots and would be forced to operate a total of 15 satellite depots to sustain current service levels. The five depots identified as not meeting the proposed criteria serve the communities of Balfour, Crescent Valley, Crawford Bay, Slocan and Edgewood. Together they collect nearly 400 tonnes of PPP annually. If support from RBC was revoked, operating them as satellites could increase costs by an estimated $250,000 a year due to new hauling

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arrangements. If these depots were closed much of that PPP would likely be disposed of at RDCK waste facilities serving those communities and the RDCK would have little to show for the investment of nearly $200,000 in site improvements and collection infrastructure that was required to bring the locations up to RBC's standards.

All of the depots described above would not qualify under the proposed "Small Communities" eligibility criteria. Eliminating these depots does not meet RBC's program delivery principles which include the goal to "enhance resident service levels". Continuing to operate them as satellites would place an extra financial burden on the RDCK and not comply with the "producer pays" principle of EPR while in fact causing RDCK residents to pay twice for their recycling. These criteria should be re-evaluated with input from stakeholders with experience of the local conditions in these small communities and at the very least if these criteria are accepted existing depots should be grandfathered in under current collection agreements and all depots that been proven to collect a significant amount of recycling should likewise continue will full support from RBC.

We look forward to further consultation and development of Recycle BC's EPR plan to create a clear path forward for the diversion and recycling of the most common materials in British Columbia.

Sincerely,

Aimee Watson
RDCK Board Chair

AW/tb/sme

cc: Uli Wolf, General Manager of Environmental Services
Amy Wilson, Resource Recovery Manager
Travis Barrington, Resource Recovery Technician

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APPENDIX A: Detailed Sub-Regional Recycle BC Depot Collection Tables

West SubRegion – 2020-2021 Annual Recycling Depot Collection Volumes by Category (kg)

	Paper and Cardboard	Mixed Containers	Glass Containers	Plastic Bags and Overwrap	Other Flexible Plastic	Styrofoam Packaging	ICI Cardboard	All Recycling
Ootischenia	130,675	29,052	37,823	3,940	4,135	3,622	23,940	233,187
Crescent Valley	77,006	29,282	20,496	2,216	3,818	1,164	10,090	144,072
Slocan	47,114	13,642	9,084	678	1,513	523	-	72,554
New Denver	34,669	8,761	7,186	908	977	529	17,160	70,190
Nakusp	43,595	11,079	12,465	1,320	1,266	1,037	22,970	93,731
Edgewood	6,316	2,743	1,173	205	366	147	-	10,950
Winlaw	6,425	2,994	3,893	-	-	-	-	13,312
Silverton	4,728	1,426	1,074	-	-	-	-	7,228
Burton	3,791	1,655	938	-	-	-	-	6,385
Total	**354,319**	**100,634**	**94,132**	**9,267**	**12,075**	**7,022**	**74,160**	**651,609**

West SubRegion – 2020-2021 Annual Recycling Depot Operations Expenses and Incentives

	Satellite / ICI Hauling	Property Rental	Staffing	Maintenance and Snow Removal	Total Expenses	Financial Incentive	Net Expenses	Expenses Funded by Financial Incentives
Ootischenia	$ 11,055.59	$ -	$ 51,273.21	$ -	$ 62,328.80	$ 24,569.93	$ 37,758.87	39%
Crescent Valley	$ 6,390.40	$ 8,400.00	$ 39,971.05	$ 2,575.75	$ 57,337.20	$ 15,759.98	$ 41,577.22	27%
Slocan	$ -	$ -	$ 20,674.68	$ 3,162.00	$ 23,836.68	$ 7,873.99	$ 15,962.69	33%
New Denver	$ 12,073.64	$ -	$ 20,674.68	$ 2,348.00	$ 35,096.32	$ 5,924.91	$ 29,171.41	17%
Nakusp	$ 25,081.21	$ -	$ 22,371.06	$ 1,472.60	$ 48,924.87	$ 8,172.26	$ 40,752.61	17%
Edgewood	$ -	$ -	$ 22,467.00	$ -	$ 22,467.00	$ 1,370.54	$ 21,096.46	6%
Winlaw	$ 10,275.33	$ 3,600.00	$ 13,783.12	$ 1,381.25	$ 29,039.70	$ 1,253.64	$ 27,786.06	4%
Silverton	$ 15,587.45	$ 2,520.00	$ 13,783.12	$ 1,274.00	$ 33,164.57	$ 660.26	$ 32,504.31	2%
Burton	$ 7,611.35	$ -	$ 11,234.00	$ -	$ 18,845.35	$ 602.91	$ 18,242.44	3%
Total	**$ 88,074.97**	**$ 14,520.00**	**$ 216,231.92**	**$ 12,213.60**	**$ 331,040.49**	**$ 66,188.42**	**$ 264,852.07**	**20%**

Core depots are highlighted in blue; hauling costs at cores represent ICI recycling only.

No financial incentives are provided for ICI recycling; expenses funded by financial incentives includes all depot operating expenses.

Burton and Edgewood staff costs are a portion of the contract value to operate those transfer stations.

Central SubRegion – 2020-2021 Annual Recycling Depot Collection Volumes by Category (kg)

	Paper and Cardboard	Mixed Containers	Glass Containers	Plastic Bags and Overwrap	Other Flexible Plastic	Styrofoam Packaging	ICI Cardboard	All Recycling
Nelson Lakeside	227,003	60,718	89,521	8,111	10,194	4,799	107,830	508,175
Balfour	66,777	17,727	9,871	1,709	2,388	1,323	-	99,795
Kaslo	35,932	12,957	18,064	1,120	2,066	770	20,240	91,149
Salmo	46,409	16,647	10,526	1,187	1,426	774	8,610	85,579
Grohman Narrows	164,381	23,612	44,092	-	-	-	-	232,086
Kokanee	22,259	7,964	10,274	-	-	-	-	40,497
Marblehead	6,341	2,109	2,233	-	-	-	-	10,683
Ymir	5,157	2,270	1,713	-	-	-	-	9,140
Total	**574,259**	**144,004**	**186,294**	**12,127**	**16,074**	**7,666**	**136,680**	**1,077,104**

Central SubRegion – 2020-2021 Annual Recycling Depot Operations Expenses and Incentives

	Satellite / ICI Hauling	Property Rental	Staffing	Maintenance and Snow Removal	Total Expenses	Financial Incentive	Net Expenses	Expenses Funded by Financial Incentives
Nelson Lakeside	$ 72,792.44	$ 51,832.00	$ 54,581.16	$ 3,570.00	$ 182,775.60	$ 47,102.07	$ 135,673.53	26%
Balfour	$ -	$ -	$ 28,536.54	$ 772.98	$ 29,309.52	$ 11,641.94	$ 17,667.58	40%
Kaslo	$ 23,328.38	$ -	$ 27,566.24	$ 200.00	$ 51,094.62	$ 8,393.73	$ 42,700.88	16%
Salmo	$ 3,275.08	$ 6,540.00	$ 22,583.11	$ 1,468.57	$ 33,866.76	$ 8,749.86	$ 25,116.91	26%
Grohman Narrows	$ 42,655.75	$ -	$ 59,543.08	$ 2,150.00	$ 104,348.83	$ 20,188.42	$ 84,160.41	19%
Kokanee	$ 27,843.84	$ 12,600.00	$ 27,290.58	$ 200.00	$ 67,934.42	$ 3,740.72	$ 64,193.69	6%
Marblehead	$ 23,099.98	$ -	$ 4,686.26	$ 1,461.75	$ 29,247.99	$ 982.42	$ 28,265.57	3%
Ymir	$ 16,588.03	$ -	$ 9,372.52	$ 980.00	$ 26,940.55	$ 861.84	$ 26,078.71	3%
Total	**$ 209,583.49**	**$ 70,972.00**	**$ 234,159.49**	**$ 10,803.30**	**$ 525,518.28**	**$ 101,661.00**	**$ 423,857.28**	**19%**

Core depots are highlighted in blue; hauling costs at cores represent ICI recycling only.

No financial incentives are provided for ICI recycling; expenses funded by financial incentives includes all depot operating expenses.

East SubRegion – 2020-2021 Annual Recycling Depot Collection Volumes by Category (kg)

	Paper and Cardboard	Mixed Containers	Glass Containers	Plastic Bags and Overwrap	Other Flexible Plastic	Styrofoam Packaging	ICI Cardboard	All Recycling
Creston Car Wash	244,875	77,465	46,906	7,780	13,570	3,615	45,388	439,599
Crawford Bay	30,289	11,483	9,084	1,339	1,857	548	-	54,600
Creston Landfill	38,705	8,458	6,528	-	-	-	-	54,692
Boswell	5,489	2,301	1,934	-	-	-	-	9,724
Riondel	6,664	2,495	2,477	-	-	-	-	11,636
Yahk	1,169	717	242	-	-	-	-	2,128
Total	**327,191**	**102,920**	**67,171**	**9,119**	**15,427**	**4,163**	**45,388**	**571,379**

East SubRegion – 2020-2021 Annual Recycling Depot Operations Expenses and Incentives

	Satellite / ICI Hauling	Property Rental	Staffing	Maintenance and Snow Removal	Total Expenses	Financial Incentive	Net Expenses	Expenses Funded by Financial Incentives
Creston Car Wash	$ 23,760.00	$ 37,800.00	$ 82,698.72	$ 3,121.00	$ 147,379.72	$ 47,449.02	$ 100,585.39	32%
Crawford Bay	$ -	$ -	$ 17,666.25	$ 2,158.25	$ 19,824.50	$ 6,769.85	$ 14,573.46	34%
Creston Landfill	$ 35,075.00	$ -	$ 39,971.05	$ -	$ 75,046.05	$ 4,783.52	$ 69,840.49	6%
Boswell	$ 6,000.00	$ -	$ 9,372.52	$ 1,120.50	$ 16,493.02	$ 912.37	$ 15,311.26	6%
Riondel	$ 5,825.00	$ -	$ 4,524.00	$ 550.00	$ 10,899.00	$ 1,080.42	$ 9,729.55	10%
Yahk	$ 1,575.00	$ -	$ 3,000.00	$ -	$ 4,575.00	$ 208.50	$ 4,347.91	5%
Total	**$ 72,235.00**	**$ 37,800.00**	**$ 157,232.54**	**$ 6,949.75**	**$ 274,217.29**	**$ 61,203.67**	**$ 213,013.62**	**22%**

Core depots are highlighted in blue; hauling costs at cores represent ICI recycling only.

No financial incentives are provided for ICI recycling; expenses funded by financial incentives includes all depot operating expenses.

File No. 12-6210-20

December 9, 2022

[Name]
[MAILING ADDRESS - CAPITALIZED]
[City, Province POSTAL CODE]

Dear [Name]:

RE: REQUEST TO EXPEDITE REVIEW OF RDCK SOLID WASTE MANAGEMENT PLAN

On January 06, 2022 the Regional District of Central Kootenay (RDCK) submitted their completed Solid Waste Management Plan, referred to as a Resource Recovery Plan (RRP), to the Ministry of Environment and Climate Change Strategy (MOE), Environmental Protection Division.

On January 20, 2022, you responded to the RDCK Board Chair and Directors confirming receipt of the RRP and stating it had been forwarded to MOE staff for review and recommendations. RDCK and MOE staff have met informally to discuss the RRP. MOE staff indicated the RRP has only recently been designated to a Ministry staff member to start the review process. Suggesting we are still a ways off getting a response to our RRP submission.

While some of the RRP components can be initiated without formal approvals, there are some actions awaiting MOE feedback before we can initiate preliminary design or assessment. As well, a significant number of capital projects detailed in the RRP, crucial to meeting requirements set out in the 2016 MOE Landfill Criteria for Municipal Solid Waste or our Operational Certificates, require long-term borrowing. Pursuing an alternative approval or public assent process to obtain borrowing authorization are not always appropriate, as some of the projects are driven by regulatory compliance and must advance regardless of the public's willingness to pay for them.

Further, these other methods for public approval are very costly and time consuming, which are not reasonable when our efforts for meaningful consultation already occurred as part of our RRP development. There are additional concerns that delays of projects will drive up costs associated with rising interest rates and inflation.

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We understand that MOE may be experiencing competing demands for limited resources. However, we would like to appeal to the Minister to consider expediting review of our Resource Recovery Plan. Plan approval will allow the RDCK to proceed with a number of complex capital projects currently on hold and ultimately improve the environmental performance of our operations.

We thank you in advance for your consideration in this matter and look forward to hearing back at your earliest convenience.

Sincerely,

Aimee Watson
RDCK Board Chair

cc: Uli Wolf, General Manager of Environmental Services
Amy Wilson, Resource Recover Manager

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