



REGIONAL DISTRICT OF CENTRAL KOOTENAY

Resource Recovery Plan Advisory Committee AGENDA

Date: Wednesday, November 13, 2019
Time: 10:00 am – 2:00 pm
Location: RDCK Board Room, Nelson, BC

COMMITTEE MEMBERS

Director Watson	Chair, RDCK Board
Director Jackman	Chair, East Resource Recovery Committee; Chair, RRPAC
Director Newell	Chair, Central Resource Recovery Committee
Director Popoff	Chair, West Resource Recovery Committee
Colin Farynowski	Town of Creston
Patrick Gauvreau	City of Castlegar
Kevin Cormack	City of Nelson
Steve Harray	Alpine Group
Brant Gray	Gray's Contracting
Todd Veri	MyCrobz Bacteria Solutions
Bruce Edson	Community Member

STAFF

Uli Wolf	General Manager of Environmental Services
Amy Wilson	Resource Recovery Manager
Travis Barrington	Resource Recovery Technician
Todd Johnston	Environmental Coordinator
Kellie Leedham	Environmental Coordinator
Shanna Eckman	Administration Coordinator

CONSULTANTS

Maura Walker	MWA Environmental Consultants Ltd.
Carey McIver	Carey McIver and Associates Ltd.

AGENDA TOPICS	FACILITATOR	TIMELINE
1. Welcome and Introductions	RRPAC Chair: Director Jackman	10:00 – 10:10
2. Minutes of the previous meeting	Maura Walker	10:10 – 10:15
3. Discussion Paper #3: Recommended Diversion Options	Maura Walker	10:15 – 12:00
Break (lunch provided)		12:00 – 12:15
4. Discussion Paper #3 - continued	Maura Walker	12:15 – 12:45
5. Monitoring and Measurement	Maura Walker	12:45 – 1:15
6. Dispute Resolution	Maura Walker	1:15 – 1:45
7. Wrap Up	Amy Wilson	1:45 – 2:00
8. Closure	RRPAC Chair	2:00



REGIONAL DISTRICT OF CENTRAL KOOTENAY

Resource Recovery Plan Advisory Committee MINUTES

A meeting of the Resource Recovery Plan Advisory Committee was held on Tuesday, May 14, 2019 at 1:06 pm in the RDCK Board Room, 202 Lakeside Drive, Nelson, BC.

COMMITTEE MEMBERS

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Colin Farynowski	Town of Creston
Kevin Cormack	City of Nelson
Steve Harry	Alpine Group
Brant Gray	Gray's Contracting
Bruce Edson	Community Member

ABSENT MEMBERS

Lucas Pitts	City of Castlegar
Todd Veri	MyCrobz Bacteria Solutions

STAFF

Uli Wolf	General Manager of Environmental Services
Amy Wilson	Resource Recovery Manager
Travis Barrington	Resource Recovery Technician
Shanna Eckman	Administration Coordinator

CONSULTANTS

Carey Mclver	Carey Mclver and Associates Ltd. representing Maura Walker & Associates
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1. WELCOME

Committee Chair Jackman called the meeting to order at 1:06 pm.

2. BUSINESS FROM THE LAST MEETING

- Review of the Minutes of the previous meeting
- EPR Discussion
 - Committee expressed support for actions identified in Interest Statement on EPR.
 - Support for expanding disposal restriction to all products covered under an EPR program.
 - Support for RDCK promoting existing EPR collection sites to ensure broad awareness of diversion opportunities associated with EPR programs.

3. DIVERSION OPTIONS DISCUSSION

Carey McIver gave a presentation on Organics Waste Diversion update, Illegal Dumping, Household Hazardous Waste Management and Specified Risk Management. Refer to Attachment A hereto.

Organic Waste Diversion Update

- RDCK should not support self-management of organics such as subsidized backyard composters.
- RDCK should support existing community diversion programs. A community based compost program is underway in the New Denver / Silverton area, which RDCK is supporting. RDCK should undertake an assessment of existing programs. Kaslo is receiving money from Rural Dividend fund to develop a community-based organics diversion strategy. RDCK could collaborate and ensure that lessons learned from these projects are shared with other small communities.
- Some committee members expressed interest in exploring drop-off options in rural areas with wildlife concerns.

Illegal Dumping

- Committee supports development of an illegal dumping strategy in the RDCK. The strategy should include a policy on waiving tipping fees for non-profit clean-up activities, as well as budget allocation for RDCK to clean-up sites.

Household Hazardous Waste Management

- Committee supports establishment of permanent eco-depots and suggests that usage should be tracked to determine whether additional permanent sites will be required.
- Committee also supports continuation of annual HHW events in communities without access to permanent sites.
- Committee also discussed need to continue with education and promotion.

Specified Risk Material Management

- Committee did not support providing options to manage SRM due to high cost and falling outside the RDCK's mandate.

4. WRAP UP / NEXT MEETING DATE

- The Wednesday, June 12, 2019 meeting has been cancelled. Next meeting is October 2, 2019.

5. ADJOURNMENT

Meeting adjourned at 4:06 pm.

CERTIFIED CORRECT



Director G. Jackman
Chair, Resource Recovery Plan Advisory Committee
May 14, 2019 meeting

RESOURCE RECOVERY PLAN ADVISORY COMMITTEE

Options Discussion Paper #2
May 14, 2019 Meeting




Agenda

1. Review of Minutes of Last Meeting
2. EPR Discussion
3. Organic Waste Diversion Update
4. Illegal Dumping
5. Household Hazardous Waste
6. Specified Risk Materials
7. Wrap Up
 - Next Steps
 - Meeting Dates




Minutes of Last Meeting

- Errors? Omissions?




EXTENDED PRODUCER RESPONSIBILITY

RRP Advisory Committee Meeting
May 14, 2019




Extended Producer Responsibility (EPR)

- EPR programs in BC are mandated by the BC Recycling Regulation
 - Requires producers of designated products to develop a program for their end-of-life collection and recovery
 - Aims to shift the responsibility for end-of-life management of products (physically and economically) to the producer and away from local governments

- Antifreeze, Used Lubricating Oil, Filters and Containers
- Beverage Containers
- Electronics and Electrical Products
- Lead Acid Batteries
- Packaging and Printed Paper (residential only)
- Paint and Solvents and Flammable Liquids, Gasoline and Pesticides
- Pharmaceuticals
- Tires




EPR

- Various collection sites throughout the RDCK
 - Number and locations are limited
 - Each sites typically collects a limited range of products
- RDCK provides HHW collection events
 - Receive financial and operational support from EPR organizations
- Working on establishing eco-depots in Nelson and Creston
 - "One-stop shop"
- Disposal ban on some EPR products




EPR

November 2015, RDCK Board endorsed an Interest Statement on EPR that includes the following:

- The RDCK will continue lobbying the Provincial Government to:
 - Monitor and enforce performance targets set in Product Stewardship (EPR) Plans.
 - Ensure that stewards are achieving a reasonable level of service in all areas of BC.
 - Engage the Producers Responsibility Organizations to improve direct communication with consumers.
 - Establish an EPR Advisory Committee




EPR

- The RDCK and other local governments should work together in order to improve regional services and convenience for the consumer.
- The RDCK will advocate for Producers Responsibility Organizations to:
 - Coordinate their collection activities in order to improve convenience for the consumer. When establishing performance targets in Product Stewardship Plans, producers/ product stewardship agencies must commit to achieving a reasonable level of service in all areas of BC




EPR

- The RDCK and local governments will consider working collaboratively with product stewardship agencies investigate feasibility of eco-depots and private sector partnerships.
- The RDCK will continue to participate in key stakeholder groups such as the BC Product Stewardship Council and other product stewardship working groups.
- The RDCK will be proactive in identifying local service gaps in EPR Programs and work with product stewards to address these gaps.




EPR

- Additional options for consideration:
 - Expand the disposal restriction to all products covered under an EPR program
 - To ensure broad awareness of the diversion opportunities associated with EPR programs, RDCK could promote existing EPR collection sites




EPR: Questions and Discussion

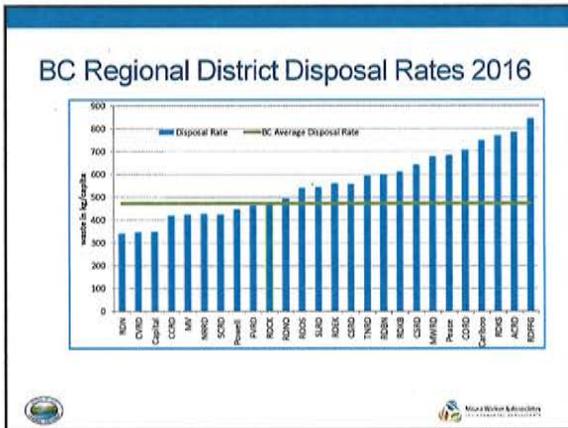
- Questions? Points of clarification?
- Open discussion**
 - Feedback on Interest Statement
 - Feedback on other options
 - Other ideas?




Coming Up...

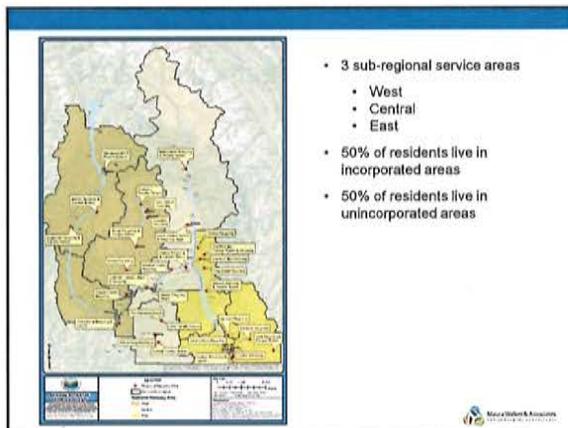
Meeting 3 (May)	Meeting 4 (October)	Meeting 5 (October)
Organics Diversion	Residual Waste Management	Putting it all together: the Draft RRP
Illegal Dumping	Policy and Administration	Community consultation program
HHW Management		
SRM management		



FEEDSTOCK ESTIMATES

RRP Advisory Committee Meeting
May 14, 2019



Reduction – Managed by Resident

COMPOST COACHING

Factsheet Series #3 Backyard Food Waste Digester

Collection Options

Self-Haul Food Scraps



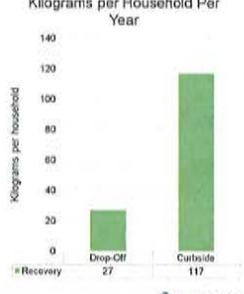
Curbside Collection



Feedstock Collection Estimates

- Limited or no data on self-managed reduction programs
- Limited data on self-haul drop-off programs
- Extensive data on recovery rates for curbside programs

Kilograms per Household Per Year



Feedstock Estimate: West Sub-Region

West Sub-Region	Census Population	Census Households	Curbside Households	Residential Food Waste (tonnes)	Commercial Food Waste (tonnes)	Total Food Waste (tonnes)
City of Castlegar	8,058	3,499	3,000	351	241	592
Village of New Denver	473	243	305	30	14	50
Village of Silverton	195	507	152	18	8	26
Village of Nakup	1,605	761	750	88	48	136
Village of Slocan	272	140	200	23	8	32
EA H	4,667	2,128	-	47	35	66
EA I	2,554	1,107	-	25	19	49
EA J	3,137	1,345	-	31	24	44
EA K	1,683	831	-	17	13	29
TOTAL	22,603	10,161	4,407	636	408	1,043

Assumptions:

- Households with curbside collection would divert 117 kg of FW per year
- Household with self-haul would divert 10 kg of FW per year
- ICI in municipal areas 30 kg FW per year; 7.5 kg FW in electoral areas

Feedstock Estimate: Central Sub-Region

Central Sub-Region	Census Population	Census Households	Curbside Households	Residential Food Waste (tonnes)	Commercial Food Waste (tonnes)	Total Food Waste (tonnes)
City of Nelson	10,572	4,822	3,857	451	317	768
Village of Salmo	1,141	547	474	55	34	90
Village of Kaslo	968	469	520	61	29	90
EA D	1,343	653	-	13	10	24
EA E	3,772	1,736	-	38	28	66
EA F	3,963	1,707	-	40	30	69
EA G	1,623	747	-	16	12	28
TOTAL	23,882	10,681	4,851	675	461	1,135

Feedstock Estimate: East Sub-Region

East Sub-Region	Census Population	Census Households	Curbside Households	Residential Food Waste (tonnes)	Commercial Food Waste (tonnes)	Total Food Waste (tonnes)
Town of Creston	5,351	2,500	2,000	234	161	395
EA A	1,930	967	-	19	14	34
EA B	4,657	1,922	-	47	35	81
EA C	1,482	654	-	15	11	26
TOTAL	13,420	6,133	2,000	315	221	536

Total Feedstock Estimate

Sub-Region	Residential Tonnes	Commercial Tonnes	Total Tonnes	Percentage
West Sub-Region	636	408	1,043	38%
Central Sub-Region	675	461	1,135	42%
East Sub-Region	315	221	536	20%
Total	1,626	1,090	2,714	

Draft Strategy

- Processing**
 - RDCK will establish processing facilities for residential and ICI food scraps at closed Central Landfill near Salmo and Creston Landfill (timing driven by municipal collection)
 - Technology modelled on Grand Forks – turned windrow
- Transfer**
 - RDCK will expand transfer station services in Nelson and Castlegar to include organic waste from municipal, private haulers and self-haul
- Supporting Municipalities**
 - RDCK will provide technical support to all municipalities interested in establishing curbside or depot-based organic waste collection services
- ICI Generators & Haulers**
 - RDCK will encourage ICI generators and haulers to divert food waste using variable tipping fees and targeted communications
 - RDCK will consider disposal bans based on ICI participation
- Resident Participation**
 - For residents in areas without curbside collection RDCK will design and implement a program to increase awareness of opportunities to self-manage organic waste



PROCESSING FACILITIES UPDATE

RRP Advisory Committee Meeting
May 14, 2019



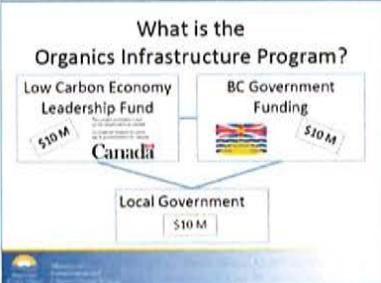
Proposed Processing Facilities

Turned Windrow	Description
	<ul style="list-style-type: none"> Simple process Low operating cost Similar to Grand Forks Construct at closed Central Landfill (Salmo) <ul style="list-style-type: none"> 2,000 tpy food waste Construct at Creston Landfill <ul style="list-style-type: none"> 500 tpy food waste Salmo: <ul style="list-style-type: none"> Capital: \$535K Operating: \$75/tonne food waste



Organics Infrastructure Program

What is the Organics Infrastructure Program?




Organics Infrastructure Program

Organic Infrastructure Program Objectives

- Reduce GHG emissions
- Expand processing capacity for organic residuals
- Divert new organic wastes to higher value end uses
- Support the use of nutrient recovery transformation technologies in the agricultural sector




Organics Infrastructure Program

Who will be eligible for this funding?

- Applicants will be Local Governments
- Local Governments have the option to partner with Indigenous Peoples and/or private sector organizations and/or other Local Governments
- Applicants and/or partners must contribute one-third of the project cost



Eligibility Criteria

Infrastructure Projects that:

- Create new organic residuals processing capacity
- Divert unprocessed municipal organic waste from landfills and/or agricultural organic waste from land application
- Process municipal organic waste and/or agricultural organic waste for beneficial re-use
- Result in quantifiable green house gas (GHG) emission reductions
- Result in incremental capital spending
- Result in value-added streams from diverted organics
- Minimum one-third of total project costs are funded by the applicant
- Comply with relevant Provincial legislation
- Eligible expenditure is limited to March 31, 2022. Projects must be completed by December 31, 2022



Schedule

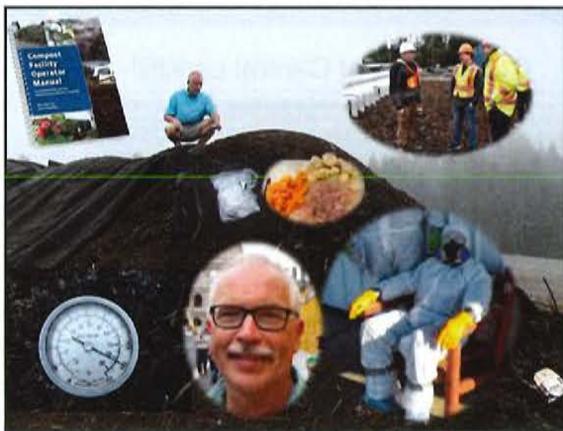
Application Timeline

Stakeholder communication, Program Material Development Summer 2018

Review EOI with potential applicants Fall 2018

Expressions of Interest (EOI) Sept 2018

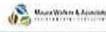
Applications (Spring 2019)

Turned Windrow Composting

Not Recommended for RDCK

- Challenges in cold climates with size of windrow
- Challenges with plastics
- Larger space required with impermeable pad and leachate collection
- Higher risk of odour with food waste
- Higher GHG emissions – “optimized turned windrow” not practically possible under OMRR



Composting Process

Preprocessing • Inspect feedstocks • Prepare recipe • Grinding/Mixing	Active Composting • Aeration	Curing • Organic Material is further Matured	Screening • Large particles and foreign matter are removed	Storage • Final Product
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Composting Recommended for the RDCK

Receiving and Material Preparation

- Receiving in 30 ft x 50 ft tarp structure
- Food waste and yard waste/wood chips blended with vertical auger mixer
- Material moved to aerated windrows with industrial loader



Composting Recommended for the RDCK



Aerated Windrow

- Lowest capital and operations cost considering OMRR requirements
- Most efficient use of space
- Uses equipment already available
- Greatest flexibility with volume changes - scalable
- Most efficient in cold weather
- Greater GHG reductions

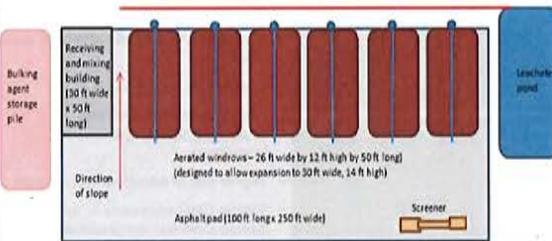
Composting Recommended for the RDCK



Curing and Screening

- Curing windrows recommended on impermeable pad or on bed of woodchips on landfill area
- Screening using 1/4" smaller screen system

Composting at Central Landfill



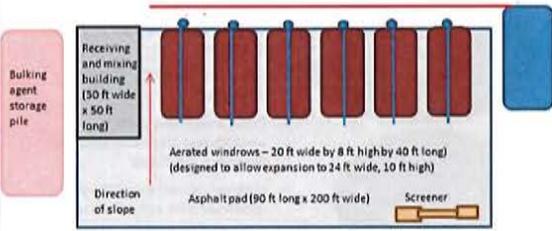
3,000 tonnes food waste per year

Composting at Central Landfill

Cost Estimate Summary	
Process and Building Mechanical	\$370,850
Structural	\$101,030
Civil	\$327,400
Electrical	\$160,000
Sub-Total	\$959,280
Engineering & Design (10%)	\$95,928
Contingency (20%)	\$191,856
Estimated Capital Cost	\$1,247,064
Estimated Operating Cost	\$52/TFW

Cost estimate for 4000 tonnes – can be increased to 6000 tonnes for additional \$ 250K

Composting at Creston Landfill



750 tonnes food waste per year

Composting at Creston Landfill

Cost Estimate Summary	
Process & Building Mechanical	\$267,400
Structural	\$101,030
Civil	\$138,250
Electrical	\$137,500
Sub-Total	\$644,180
Engineering & Design (10%)	\$64,418
Contingency (20%)	\$128,836
Estimated Capital Cost	\$837,434
Estimated Operating Cost	\$67/TFW

End Use Markets

- Domestic Use
- Garden Centre Sales
- Municipal/Regional District Operations
- Commercial Applications
- Agriculture
- Landfill Closure





SUPPORTING MUNICIPALITIES

RRP Advisory Committee Meeting
May 14, 2019




Workshop Objectives/Outcomes

Objective:

- Provide municipal partners with the information required to make an informed decision regarding implementation of curbside organic waste collection in their respective municipalities

Outcome:

- Municipalities provide RDCK with an Agreement in Principle that they will collect organic waste by 2022.

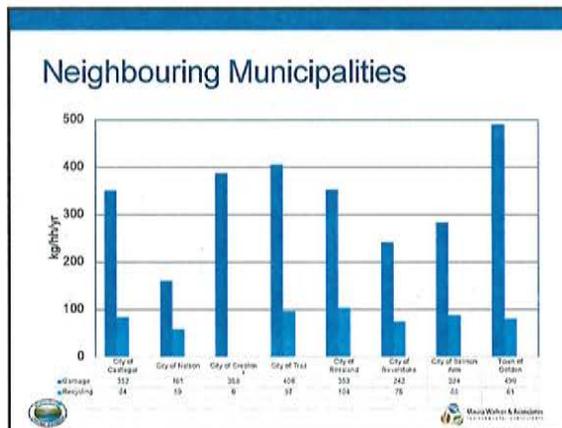
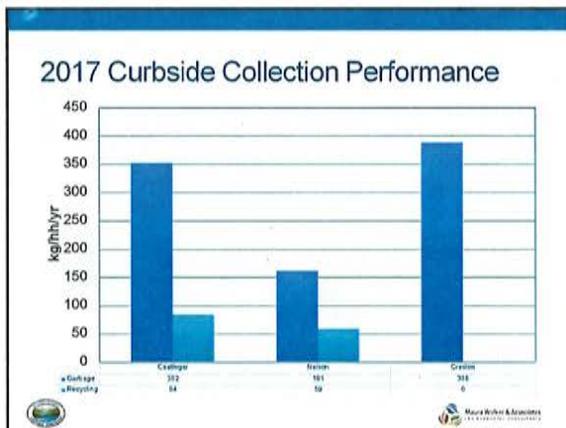


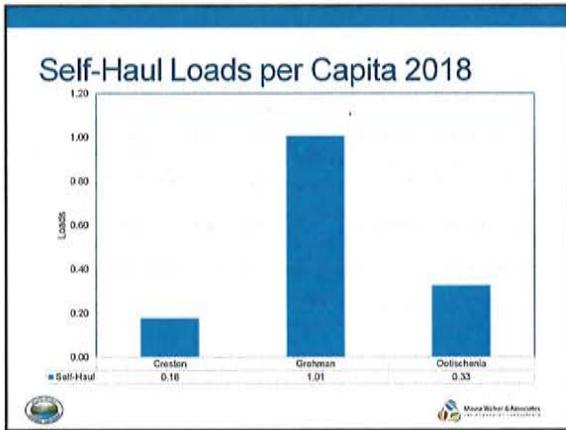
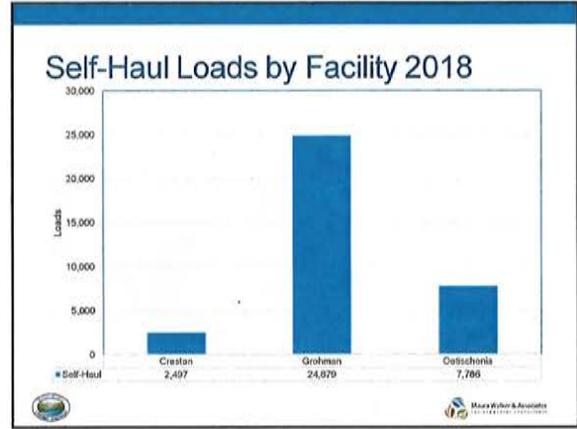
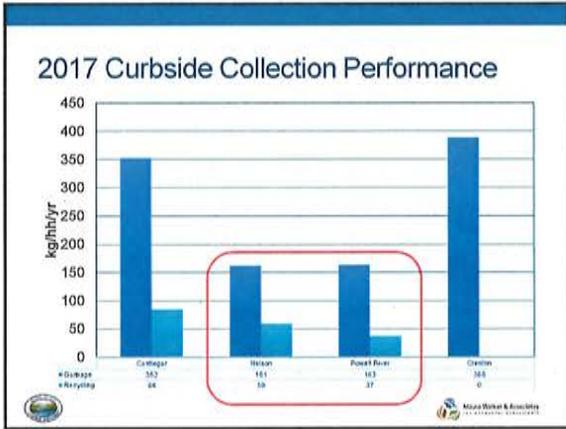



Supporting Municipalities

CASTLEGAR	CITY OF NELSON SOUTH COAST BC	CRESTON VALLEY Town of Creston
<input type="checkbox"/> Contracted Service	<input type="checkbox"/> In-House Service	<input type="checkbox"/> Contracted Service
<input type="checkbox"/> Garbage Automated	<input type="checkbox"/> Manual System	<input type="checkbox"/> Manual System
<input type="checkbox"/> Recycling Manual	<input type="checkbox"/> Bi-Weekly garbage	<input type="checkbox"/> Weekly garbage
<input type="checkbox"/> Bi-Weekly garbage	<input type="checkbox"/> Bag Tag System for garbage	<input type="checkbox"/> No curbside recycling
<input type="checkbox"/> Bi-Weekly recycling	<input type="checkbox"/> Blue Bag System for recycling	
<input type="checkbox"/> Recycle BC funding	<input type="checkbox"/> Recycle BC funding	
<input type="checkbox"/> Seasonal yard waste collection	<input type="checkbox"/> Bi-Weekly (same day) recycling	
<input type="checkbox"/> Yard waste composting facility	<input type="checkbox"/> Low curbside tonnage	







Who collects?

- Resourcing considerations
 - In-house staff
 - Fleet requirements
 - Implications for other materials
 - Garbage tonnages
 - Recycle BC
- Ability for contractor to collect organics
 - Contract length to amortize cost of new trucks

What to collect?

- Food waste only
- Food & Yard waste
 - Separate
 - Co-mingled

Collection Options

- Food Waste only Collection
 - Can be done with manual collection
 - Not as expensive for capital outlay

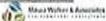




Collection Options

- Food and Yard Waste Collection
 - Typically automated collection
 - More expensive



How to collect? Automated collection

- Suitable for food & yard waste co-mingled
- Topography challenges
 - Hills, lanes, arm reach/swing
- Larger carts
- Density (space for storing carts)
- Expensive to implement
- Truck maintenance & longevity
 - Lift mechanism wear and tear
- Change to overall program design
- Administration (cart swaps, cart maintenance, ownership)





Cart-Based Collection

- Known as "automated" or "semi-automated" collection
- Often driven by OHS and WorkSafe
- Growing number of programs use them
- Require mechanised lifting




Cart-Based Collection - Pros

- Less worker injuries
- Increases labour pool for collection staff
- Often lower operating cost per household
- Carts are animal resistant (e.g. raccoons, dogs, crows)
- Carts can be made bear resistant (with clips)
- Less potential for litter
- Improved data gathering
- Enhanced community aesthetics on collection days




Cart-Based Collection - Cons

- Capital cost of the containers
- Can be challenging in areas with steep or narrow streets, rural roads, lanes
- Larger containers = more garbage = higher disposal costs
- Often higher contamination
- Proper placement at curb is required
- Does not easily accommodate extra material
- Increased storage space required
- Significant staff time required to implement a cart-based collection system





Organics

- Cart volume difference
- 46 – 77 litre (suits manual collection of food waste only)
- 80 litre (smallest for automated)
- 120 litre (typical minimum size for automated)




- Space available for a LOT more organic waste!




Adding Yard Waste - Some Pros and Cons

Pros	Cons
Convenience	Increased Volume of Material Collected
Odour & Pest Management	Increased Cost of Disposal
Customer Demand	Volume Constraints
Reduce City's cost of handling and processing the material	



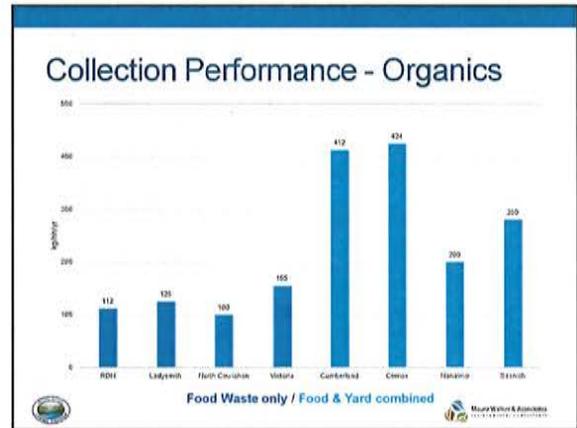


When to collect?

- Weekly
 - Encourage organics participation
 - Wildlife interactions
- Bi-weekly
 - Better if yard waste included to reduce odours
- Seasonal variations
 - Yard waste "season"
- Public education & outreach







CASTLEGAR



- Garbage automated
- Recycling manual
- Bi-weekly schedule
 - Alternate weeks
- Yard waste collection
- Contracted collection
- \$122 utility fee (2018)



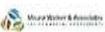

Summary of Scenarios

Scenario 1 = \$191

- Purchase smaller automated carts for garbage collection
- Repurpose existing carts for organics
- Collect food and yard waste weekly

Scenario 2 = \$163

- Purchase smaller automated carts for garbage collection
- Repurpose existing carts for organics
- Collect food and yard waste bi-weekly



- Manual collection
- Bi-weekly collection
 - Same day
- Recycling change upcoming
- Collection truck replacement(s)
- No yard waste collection
- \$66 per home budgeted cost (2018 City operating budget)
- Utility fee + tag-a-bag system




Summary of Scenarios

Scenario 1 = \$190

- Manual collection
- Weekly food waste collection
- Alternating bi-weekly garbage & recycling collection

Scenario 2 = \$216

- Automated collection
- Weekly food & yard waste collection
- Alternating bi-weekly garbage & recycling collection

Scenario 3 = \$170

- Automated collection
- Bi-weekly food & yard waste collection
- Alternating bi-weekly garbage & recycling collection






- Manual collection
- Weekly collection
 - Garbage only
- Contracted collection
- Limited seasonal yard waste
- Recycling collection candidate
- \$90 estimated cost per household (2017)
- Property tax not a utility fee




Summary of Scenarios

Scenario 1 = \$157

- Retain weekly garbage collection
- Add weekly food waste collection
- Retain manual collection

Scenario 2 = \$134

- Redesign collection program
- Add food waste & recycling to curbside collection
- Retain manual collection
- Collect food waste weekly
- Collect garbage & recycling on alternate weeks




OPTIONS FOR RESIDENTS WITHOUT CURBSIDE COLLECTION

RRP Advisory Committee Meeting
May 14, 2019




Self-Management Options

1. Tackle the waste of edible food
 - Create on-line match-making service
 - Conduct a Food Waste Reduction campaign
2. Support self-management at home and at work
 - Host workshops
 - Pilot projects
 - Compost Coaching
 - Support community-based programs




Self-Management Options



Factsheet Series #3
Backyard Food Waste Digester






In-Home Composters



Natures' Footprint Worm Factory Worm Composter \$110 US



Hot Frog Living Composter \$123 US



FoodCycler \$399 Cdn

Backyard Composters



Compost Wizard Jr. \$142 US



Mini Composter Tumbler Bin \$190 US



Tumbler Composter \$85 US

Community Composting



Insulating Composting Bin at New Denver

Self-Management Options: Questions and Discussion

- Any questions / points of clarification?
- **Roundtable:**
 - What should the RDCK do to support self-management of organics?
 - How should the RDCK support community based programs?

ILLEGAL DUMPING

RRP Advisory Committee Meeting
May 14, 2019



Illegal Dumping

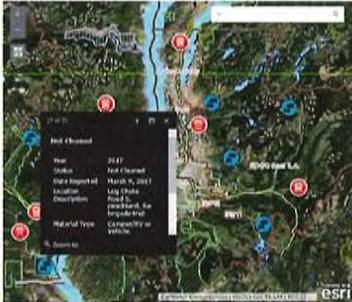
- Abandonment of used goods in public spaces
- Dumping of waste on backroads
- Deposition of valueless used goods at charities and drop-off bins




Regional District Programs




Mapping Sites



Name	Hill Road
Status	Not Cleaned
Date Reported	March 9, 2019
Location	Log Lake
Description	Road to roadblock, see description
Material Type	Construction material



Options for Consideration

- Collaborate with government, First Nations and private sector stakeholders on the development of a regional illegal dumping strategy that may include the following actions:
 - Assess the nature and extent of illegal dumping in RDCK
 - Map known problem sites
 - Conduct clean ups
 - Develop a policy and funding to waive tipping fees for clean-up events (rather than Directors discretionary funds)
 - Establish and enforce a bylaw that puts the onus for proper disposal on the waste generator
 - Develop a "observe, record and report" program



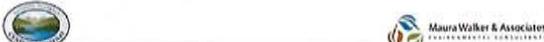
Illegal Dumping: Questions and Discussion

- Any questions / points of clarification?
- **Roundtable:**
 - Should the RDCK develop a regional illegal dumping strategy
 - What program elements should be included?



HOUSEHOLD HAZARDOUS WASTE

RRP Advisory Committee Meeting
May 14, 2019



Options to Manage HHW

- Develop an education campaign regarding proper disposal of HHW;
- Promote EPR drop-off facilities within the RDCK;
- Monitor the use of the permanent depots planned for Nelson and Creston and assess whether additional depots will be required;
- Continue to work with stewardship organizations to conduct HHW round-up events and/or the establishment of EPR depots in smaller communities; and
- Continue to work with stewardship organizations and the Province to expand the range of HHW handled through stewardship programs.





Household Hazardous Waste: Questions and Discussion

- Any questions / points of clarification?
- **Roundtable:**
 - Should the RDCK do more to manage household hazardous waste?
 - What activities should be undertaken?



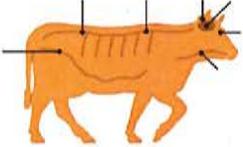
SPECIFIED RISK MATERIAL

RRP Advisory Committee Meeting
May 14, 2019



SRM Management Options

Option	Cost per Tonne
Composting prior to transport and out-of-region disposal	\$638
Cold Storage prior to transport and out-of-region disposal	\$738
Upgrade Creston Landfill for in-region disposal	\$443
Install Incinerator at Creston Landfill for in-region disposal	\$1,594




Specified Risk Material: Questions and Discussion

- Any questions / points of clarification?
- **Roundtable:**
 - Should the RDCK provide options to manage SRM?



NEXT STEPS

RRP Advisory Committee Meeting
May 14, 2019



Next Steps

- Bike Rack check
- Next meeting:

ODD
ODD



WRAP UP





Maura Walker & Associates
ENVIRONMENTAL CONSULTANTS

Regional District of Central Kootenay

Resource Recovery Plan Update



Discussion Paper #3: Recommended Options

Prepared by:
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Date: November 1, 2019



Table of Contents

1	Introduction.....	1
2	Reduction and Reuse.....	2
3	Residential Recycling.....	3
4	Industrial, Commercial and Institutional (ICI) Recycling.....	4
5	Construction, Demolition and Renovation (CDR) Waste Diversion Opportunities.....	5
6	Education and Outreach.....	7
7	Extended Producer Responsibility (EPR) & Household Hazardous Waste (HHW) Management.....	10
8	Organic Waste Diversion.....	12
9	Illegal Dumping.....	16
10	Specified Risk Material Management.....	17
11	Circular Economy.....	17
12	Staffing Implications.....	19
13	Impact on Disposal.....	20
	Appendix A: RDCK Interest Statement on EPR.....	22

List of Figures

Figure 1-1: Plan Review Process.....	1
Figure 11-1: Local Government Levers for Change.....	18

List of Tables

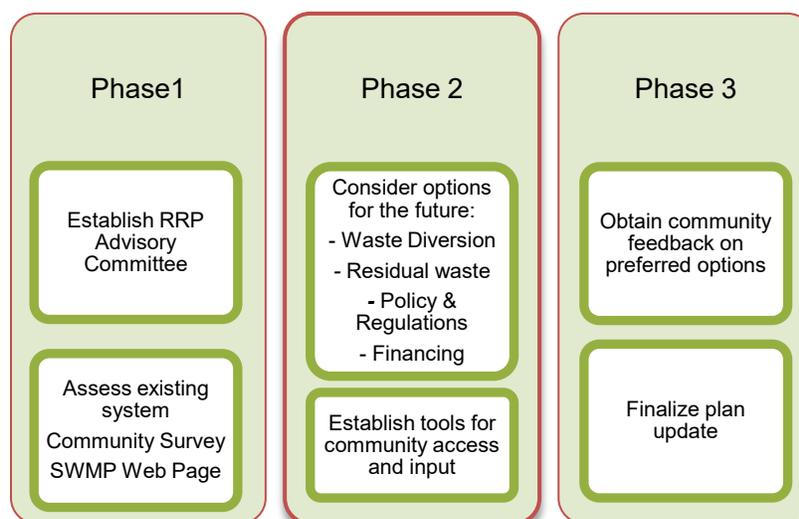
Table 2-1: New Costs for Reduction and Reuse.....	3
Table 5-1: New Costs for Construction, Demolition and Renovation Waste Diversion.....	7
Table 6-1: New Costs for Education and Outreach.....	9
Table 7-1: Regulated Products and EPR Programs in British Columbia.....	10
Table 8-1: New Costs for Organics Diversion.....	15
Table 9-1: New Costs for Mitigating Illegal Dumping.....	16
Table 11-1: New Costs for Mitigating Illegal Dumping.....	19
Table 13-1: Estimated Reduction in the RDCK’s Disposal Rate (region-wide).....	21



1 Introduction

The Regional District of Central Kootenay (RDCK) is currently updating its 2012 Resource Recovery Plan (RRP). The process to review the plan is being conducted in three phases as indicated in Figure 1-1. The first phase, which is complete, consisted of the establishment of the Regional RRP Advisory Committee (RRP AC) as well as an assessment of the current solid waste management system and a status report on the implementation of the 2012 Plan. This work was completed by RDCK staff.

Figure 1-1: Plan Review Process



The second phase entails a review of options to address the region's future solid waste management needs and the selection of preferred options. At the launch of the 2nd phase, goals for the updated RRP were established. These goals were used by the RRPAC and consultants to assist in the selection of options. The draft goals for the RRP Update are:

1. Continue to strive for zero waste.
2. Reduce improper disposal and waste management practices, including illegal dumping and contamination of resource streams.
3. Increase collaboration with community partners.
4. Achieve financial sustainability.
5. Support the development of local solutions.

The third phase will consist of a community and stakeholder consultation process to obtain input on the selected options.

The planning process is near the completion of the second phase. The RRP Advisory Committee (RRPAC) has received, reviewed and provided feedback on options related to waste minimization and diversion. The RRPAC's input has been used to draft a list of preferred options, which is the focus of this discussion paper. This list will be presented to the RRPAC for their input. The final list of options will then be used



to prepare a draft version of the updated RRP, and will include cost estimates and a proposed implementation schedule.

The proposed preferred options are presented under the following headings:

- Reduction and Reuse
- Residential Recycling
- Industrial, Commercial and Institutional (ICI) Recycling
- Construction, Demolition and Renovation (CDR) Waste Diversion Opportunities
- Education and Outreach
- Extended Producer Responsibility (EPR) & Household Hazardous Waste (HHW) Management
- Organic Waste Diversion
- Illegal Dumping
- Household Hazardous Waste Management
- Specified Risk Material Management
- Circular Economy

2 Reduction and Reuse

Discussions at the RRPAC identified that there is an on-going need for reuse-focused activities in the region, although there was a recognition that some activities such as Trash to Treasure and donations to Thrift Stores can also contribute to illegal dumping. The need for better education associated with these types of activities was identified. There was also the recognition that there are many organizations involved in promoting reuse, or that may want to be involved. Working with community partners such as municipalities, non-profit organizations, and educational institutions would assist the RDCK in promoting reduction and reuse.

The following actions are recommended to promote waste reduction and reuse behaviours in the RDCK:

1. Maintain existing Reuse Sheds.
2. Maintain Trash to Treasure Events. Provide more education on the ground rules as a means to minimize items left out at the curb after the event. Aim to schedule events prior to spring large item collection events (if provided by the municipality).
3. Actively promote and facilitate the reuse of goods and materials. This could be done through:
 - Establishing a Facebook page to promote local reuse events including garage sales, flea markets, swaps, etc.
 - Promote existing reuse services (thrift shops, repair shops, rental) by creating and maintaining an on-line directory
 - Encourage upcycling and repair events through establishing a fund that can be used to help offset the cost of holding the events.
 - Encourage the sharing economy by piloting an “AirBNB”-type on-line service for the sharing of goods like lawnmowers, ladders, cement mixers, etc.



- The RDCK should identify and work with community partners to undertake the above reuse activities.

Table 2-1 provides the estimated capital and annual operating costs to the RDCK for residential recycling.

Table 2-1: New Costs for Reduction and Reuse

New Capital	\$0
New Operating	\$5,000 per year to promote and facilitate reuse activities in the RDCK.
New Staffing	0.05-0.1 FTE Technical Staff (level 6) on-going 0.1-0.2 FTE Seasonal Staff (level 2) on-going

3 Residential Recycling

The RRPAC recognizes that residential recycling is an important component of the solid waste management system and that it is often the starting point for citizen participation in waste minimization. They also recognize that as more items have become recyclable, the recycling system has become more complex and there is a need for greater education.

The following actions will provide residents with recycling opportunities throughout the region, to take better advantage of the EPR program for residential recyclables, and to work towards minimal contamination of the residential recycling stream.

- Maintain residential recycling depots in each of the subregions through participation in the Recycle BC (RBC) program. Participation in this program ensures consistency with the residential recycling services in the majority of the Province and puts the responsibility of processing and marketing the collected recyclables on the producers of residential packaging and paper. The following locations are slated to become RBC depots: Nelson, Castlegar, Nakusp, Slocan, Salmo, Kaslo, Creston, New Denver, Edgewood, Crescent Valley, Balfour and Crawford Bay. The remaining depots will be “satellite depots”, meaning that RDCK will fund the operation of these depots and will transport the recyclables collected at these sites to the RBC-funded depots so that they can then be incorporated into the recyclables that are managed by RBC (i.e. the subsequent transportation, processing and marketing).
- Recycle BC contracts with the municipalities of Castlegar, Nelson, Kaslo and Nakusp to provide curbside recycling collection to residents in these communities. These communities receive a financial incentive (paid on a per household basis) to provide this service. Recycle BC provides direct service to residents in Electoral Areas I and J and a few households in area H.



3. It is anticipated that the Town of Creston will begin curbside recycling as part of the Recycle BC program. They will be joining homes in Castlegar, Nelson, Kaslo, Nakusp and Electoral Areas I and J, and part of area H that already are receiving this service.
4. Residents that are outside of Recycle BC's curbside collection areas will have the option of using a depot, or contracting with one of the private contractors that provide curbside recycling collection to both residences and businesses.
5. RDCK will continue to provide opportunities to recycle other materials at their transfer stations and landfills, including, automotive batteries, propane tanks, tires, scrap metal and appliances.
6. To tackle the issue of contamination in the residential recycling:
 - All RBC depots will be staffed, to provide information on proper sorting to residents using the depot
 - Using audit data from Recycle BC, targeted education campaigns will be undertaken to address problem materials and/or areas;
 - Take-home information on what can and cannot be recycled and how to sort it will be available at all recycling depots and on-line;
 - Municipalities with curbside collection are encouraged to implement a monitoring and enforcement procedure for contamination found in curbside recycling containers; and
 - That RDCK and member municipalities collaborate and coordinate their residential recycling education efforts with the objectives of creating a consistent message, ensuring that all residents are aware of the available recycling opportunities, and more efficient use of local government resources (staff and budget). This collaboration is further discussed as part of the Education and Outreach recommendations (Section 6)
7. **Ban the disposal of residential recyclables.** To be consistent with RDCK's policy of prohibiting EPR materials from disposal in local Resource Recovery facilities as garbage (see Section 7 for more details), once the Recycle BC depots are in place, residential recyclables should be added to the list of banned EPR materials.

In 2019, RDCK began the transition of their recycling depot program to become collection sites for Recycle BC and the Board has approved funds for the new depot recycling system. Consequently, the implementation of the above actions is not anticipated to require additional budget. Staffing for these recommendations is already in place.

4 Industrial, Commercial and Institutional (ICI) Recycling

In the RDCK, ICI recycling services have been provided through two primary means: commercial collection services and RDCK recycling depots.

In 2019, RDCK opted to join the Recycle BC (RBC) program, which is an EPR collection service for residential recyclables (not ICI recyclables). RDCK had planned to pay RBC to take ICI materials in the RDCK's residential recycling depots. However, due to the current challenges marketing recyclables, RBC has decided to discontinue allowing ICI recyclables to be blended with residential recyclables. The RDCK Board has decided to have separate recycling bins for ICI sector cardboard at the depots that are believed to have a significant use by the local ICI sector, specifically at the Nelson, Ootischenia, Creston,



Crescent Valley, New Denver, Nakusp, Kaslo and Salmo depots. RDCK is in the process of implementing this new system and it is anticipated that the depot system for the ICI sector will be refined over time based on demand, usage and the recycling marketplace.

The RRPAC felt that it would be prudent to dialogue with the ICI sector (generators and haulers) prior to pursuing significant policies (such as disposal bans) or services (such as promotion and education campaigns) that target ICI sector waste management behaviours.

The recommended actions associated with ICI Recycling are:

1. **Implement a recycling depot system for the ICI sector where there is a significant ICI presence.** (As noted above, this action has already been approved by the Board and implementation is on-going.) The on-going provision of this service should be reviewed and considered based on demand, usage, cost and the viability of the recycling marketplace.
2. **Establish an ICI Recycling Service.** For the purposes of understanding and tracking the costs of providing an ICI recycling depot program, ICI Recycling should become its own discreet service within the RDCK budget.
3. **Establish an ICI Sector Liaison Group** comprised of business sector representatives, major institutions and haulers. Such a group can provide valuable feedback on existing and proposed services and policies, help identify current and emerging issues, and assist with identifying solutions.
4. **Lobby to have ICI Recyclables as an EPR program.** Having residential and ICI paper and packaging as part of the singular schedule in the BC Recycling Regulation would reduce the operational challenges and redundancy of having separate RDCK collection system. This will require on-going lobbying by RDCK and other BC local governments.

There are no new costs associated with the above recommendations, however staff resources will be required to establish and facilitate an ICI Sector Liaison Group. See Section 12 on Staffing Implications.

5 Construction, Demolition and Renovation (CDR) Waste Diversion Opportunities

Significant volumes of MSW are generated by Construction, Demolition and Renovation activities. The largest material component of these activities is typically wood. But other recyclable materials such as metal and cardboard are also commonly generated. It is the goal of the plan to encourage any component of the CDR waste stream that can be diverted to a higher use when such options are available.

Currently wood waste accepted at RDCK landfills and transfer stations is ground. The chips are used as daily cover material, road surfacing, and blended with septage and biosolids for composting to produce topsoil that is used to establish vegetation on closed parts of the landfill. In order to maximize diversion, all wood waste is accepted, including wood with contaminants such as: nails, paint and stains, and glues.

The following are the recommended actions associated with CDR waste diversion.



1. **Continue to use differential tipping fees to encourage separation of CDR into recyclable components.** Specifically the tipping fees for source-separated wood and metal are considerably lower than if they were mixed with other construction materials or garbage.
2. **Consider differential tipping fees for clean and dirty wood.** Typically, there are more options available for the beneficial use of clean (untreated/uncoated) wood waste than “dirty” wood waste. As RDCK identifies alternatives for the wood waste received at their facilities, there may be a need to implement a mechanism to encourage the separation of clean from dirty wood waste. For example, a significant tipping fee differential between clean (uncoated or treated wood) and contaminated wood, e.g. \$25/t for clean wood waste and \$75/t for contaminated wood or mixed wood waste loads would create a financial incentive to segregate out clean wood from dirty wood waste. However, because the segregation of wood types is difficult for contractors (particularly since the definition of “clean” can differ based on the end use), segregation of the wood streams should only be pursued once a use for the clean wood waste becomes available.
3. **Continue to grind wood waste and blend it with septage and biosolids** to produce a soil amendment that will assist in establishing vegetation as part of landfill final cover projects.
4. **Research alternative options for wood waste (clean and dirty).** The RDCK receives a large volume of wood waste and the ratio of clean to contaminated wood waste is not currently known. However, there is more wood waste than can be reasonably used for blending with biosolids/septage (for cover material) and for food waste composting (in the future). Consequently, the RDCK should explore alternative uses for both clean and contaminated wood waste, including the biomass project that is being developed in Fruitvale (anticipated opening of 2021).
5. **Establish a CDR Liaison Group.** Similar to the idea of an ICI working group, a CDR waste management liaison group comprised of contractors and haulers could assist RDCK in identifying issues and solutions associated with CDR waste management, including challenging issues such as asbestos disposal. A liaison group can provide valuable feedback on current services and policies, and be a sounding board for new ideas.
6. **Continue to distribute CDR waste management information.** RDCK has a handout for CDR contractors and do-it-yourselfers that includes information on CDR recycling, reuse and disposal options, as well tipping fees and disposal restrictions. This handout will be updated regularly as new diversion opportunities become available and as management policies evolve. RDCK Building Department staff provide renovation and demolition permit applicants with the handouts; RDCK works with municipal partners to ensure the same or similar information is distributed as part of the municipal permit process. Distribute the brochure to hardware and building supply retailers for increased exposure to the residential sector.
7. **Participate in Contractor Conferences.** RDCK Resource Recovery staff should seek out and participate in conferences for the local CDR industry as a means to share information and gain insights into the challenges and opportunities associated with managing CDR waste. Participation may include attending, speaking and sponsor such events.



8. **Request hazardous materials assessments.** In recent years, the awareness of the potential for exposure to hazardous materials in waste, such as asbestos from CDR projects has increased significantly. WorkSafe BC requires hazardous materials assessments conducted prior to commencing work on demolition and renovation projects. Some municipal building departments are now requiring this prior to issuing permits and more regional districts are now requiring hazardous materials assessments prior to disposing of CDR waste. To ensure the safety of collectors, Resource Recovery facility staff and downstream processors, RDCK will propose a formal requirement for hazardous materials assessments prior to disposal of demolition or renovation waste at RDCK facilities.
9. Table 5-1 shows the new capital and operating costs associated with the above recommendations.

Table 5-1: New Costs for Construction, Demolition and Renovation Waste Diversion

New Capital	\$0
New Operating	\$5,000 per year to promote and facilitate CDR waste diversion (to be applied to the liaison group, development and distribution of information, and participating in contractor conferences)
New Staffing	0.1 FTE Technical Staff (level 7) one-time (1 year estimate)

6 Education and Outreach

The success of waste management programs and policies requires that people know and understand why and how to effectively participate. Education and outreach are therefore critical to all components of the solid waste management system, including those focused on waste reduction and diversion. In addition, introducing new services or changes to existing ones, like the changes happening at the RDCK recycling depots, may also require a level of community engagement to ensure a smooth implementation. RDCK's previous RRP had ambitious plans to expand education and outreach but the RDCK were unable to implement most of them due to a lack of staff resources.

The following are the recommended actions associated with education and outreach:

1. Maintain the current education activities:

- i. **Resource Recovery Educator Program:** The RDCK hires an educator and "spotters" to undertake the Resource Recovery Educator Program over the summer season. The staff rotate among RDCK sites to screen loads of waste arriving at RDCK disposal facilities for prohibited, controlled and recyclable items. They educate and inform customers on



- resource recovery policy and initiatives, waste diversion and zero waste practices, and to act as a communication point for the public on general resource recovery questions.
- ii. **Beyond Recycling Education Program:** Recognizing the importance of the younger generation to influence the direction of waste reduction and related environmental impact, the RDCK maintains a contract with the non-profit organization Wildsight for delivery of their Beyond Recycling education program. In this program students look critically at the ecological footprint of their schools, homes and businesses and investigate the full lifecycle of products.
 - iii. **Wildsafe Program:** The RDCK provides financial support to the BC Conservation Foundation to facilitate the WildSafeBC (Bear Aware) program throughout the regional district. WildsafeBC's program objectives are to reduce human-wildlife conflict through education, innovation and cooperation. WildsafeBC programming allows for the continuation of successful 'backyard' composting, an important waste reduction method.
 - iv. **Ongoing Communications:** The RDCK provides information on various waste reduction and environmental initiatives and events through various media outlets (e.g., newspapers, radio, social media), through mail-outs and poster/brochure distribution, through communications with member municipalities and on the RDCK website.
 - v. **Partnerships:** The RDCK partners with other organizations for community outreach programming, including with the Central Kootenay Invasive Species Society to develop information on invasive species disposal techniques (ongoing); and with the Regional District of Kootenay Boundary (RDCKB) delivery of a waste reduction outreach program (Zero Waste Campaign) through radio broadcasting.
2. **Leverage collaboration and coordination.** Working collaboratively with other key stakeholders such as member municipalities, First Nations and Columbia Basin Trust (CBT), provides the opportunity to benefit from economies of scale and better leveraging of public dollars. It can support municipalities and First Nations without dedicated solid waste or communications staff, and provide a more consistent message and brand identity for use by all parties. Increasing this collaboration can also help with communication and program delivery by taking advantage of the closer relationships that may be had at the local level between municipalities/First Nations/CBT and their constituents.
3. **Apply community based social marketing principles to foster long-term behaviour change.** Community-based social marketing (CBSM) is an approach to program promotion and education that encourages high rates of effective participation and long-term behavior change. The community-based social marketing process centres on uncovering barriers that inhibit individuals from engaging in sustainable behaviours, identifying tools that have been effective in fostering and maintaining behaviour change, then piloting takes place on a small portion of the community followed by ongoing evaluation once the program has been implemented community-wide. Therefore, as new behaviours are identified as desirable to achieve waste reduction objectives, CBSM should be employed and should include:



- Identification of existing barriers to desired behaviours
- Research on successful approaches in other jurisdictions
- Undertake pilot projects to confirm that a selected approach will be effective in the RDCK
- Monitor and measure to confirm that objectives are being met.

Because CBSM projects are significant undertakings, they are well-suited for partnerships with other organizations such as CBT, member municipalities and neighbouring regional districts. The implementation of the organic waste diversion strategy is an opportunity to apply CBSM.

- 4. Take advantage of the digital age.** The majority of the population owns and uses hand held devices (smart phones), and millennials and younger (those that are 40 or younger) are using it as their means of finding out what's happening in the world. The RDCK's education and outreach strategy needs to leverage this shift, but also learn how to communicate in this medium. The benefits of the on-line communication world is that it is quick and cost-effective to distribute information. The RDCK is currently revamping their website to make it more effective. They are purchasing an app called Waste Wizard that allows people to search by material (by web or mobile app) to see where to dispose of it, (e.g. garbage, recycling, compost bin, etc.) and the depot where it can be taken, with map and contact information.
- 5. Ensure Adequate Staff Resources.** The most effective education and outreach takes dedicated staffing with an enthusiasm for the subject matter and expertise in the area of communications. RDCK will need to have the staff resources in place to implement and maintain the education and outreach that is essential to a well-functioning resource recovery system.

Table 6-1 shows the new capital and operating costs associated with the above recommendations.

Table 6-1: New Costs for Education and Outreach

New Capital		\$0
New Operating	Collaboration and coordination	\$0
	Community-based social marketing (annual contribution to a CBSM projects done in collaboration with other partners)	\$10,000
	Digital education and outreach (gradually replaces budget currently used for print media)	\$0
	Subtotal	\$10,000



New Staffing	0.2 FTE Technical Staff (level 6) – launch of composting program (up to one year), transition to 0.05-0.1 FTE for on-going	
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7 Extended Producer Responsibility (EPR) & Household Hazardous Waste (HHW) Management

EPR is a provincial policy tool that aims to shift the responsibility for end-of-life management of products (physically and economically) to the producer and away from local governments. This policy is intended to create an incentive for producers to include environmental considerations in design of products.

Table 7-1: Regulated Products and EPR Programs in British Columbia

Product Category	EPR Program(s)
Antifreeze, Used Lubricating Oil, Filters and Containers	<ul style="list-style-type: none"> BC Used Oil Management Association
Beverage Containers	<ul style="list-style-type: none"> Encorp (non-alcoholic and wine, spirits, coolers and import beer in non-refillable containers) Brewers Distributed Limited (fillable and canned beer)
Electronics and Electrical Products	<ul style="list-style-type: none"> Call2Recycle/Recycle My Cell (household batteries and cell phones) Electronics Products Recycling Association (EPRA) (electronics, including: computers, televisions, audio-visual, medical equipment, office equipment, toys) LightRecycle (lamps and lighting equipment) Major Appliance Recycling Roundtable (MARR) (large appliances) Outdoor Power Equipment Institute (OPEI) (outdoor power equipment) Canadian Electric Stewardship Association (CESA) (small appliances, power tools, sports and exercise equipment, hobby, craft) AlarmRecycle (smoke and carbon monoxide alarms) Thermostat Recovery Program (TRP) (thermostats)
Lead Acid Batteries	<ul style="list-style-type: none"> Canadian Battery Association & Interstate Battery System
Packaging and Printed Paper (residential only)	<ul style="list-style-type: none"> Recycle BC



Product Category	EPR Program(s)
Paint and Solvents and Flammable Liquids, Gasoline and Pesticides	<ul style="list-style-type: none"> Product Care (ReGeneration)
Pharmaceuticals	<ul style="list-style-type: none"> Health Product Stewardship Association
Tires	<ul style="list-style-type: none"> Tire Stewardship BC

The collection infrastructure for these EPR programs consists of return-to-retail and take-back depot systems. Producer Responsibility Organizations, set up by industry to manage the collection system, may directly operate their collection and/or recycling/disposal systems themselves or contract service providers, including local governments, to do so on their behalf. One of the on-going issues with the take back system is that many EPR programs do not cover the actual cost incurred by depots (both private and public sector depots) to collect their products.

The range and variety of collection systems, programs and locations pose a challenge to local governments, consumers, stewards and producers alike. Consumers can become frustrated when required to visit one or more locations to ensure other household items get deposited into the correct recycling program.

In November 2015, the RDCK Board endorsed an Interest Statement on EPR that sets out the RDCK's position on the provision of EPR services in the RDCK, as provided in Appendix A. This policy statement acknowledges that the most effective collection system for most EPR materials would be to have "one stop shop" Eco Depots that collected a wide variety of products.

EPR depots are the main collection mechanism for collection of HHW (paints, pesticides, motor oil, batteries, etc.) Although there are several depots throughout the Regional District that collect EPR products, the RDCK feels that the current number and location of depots for the collection of EPR products remains inadequate. Consequently, they have worked to establish Eco Depots in Nelson (the Leafs depot) and are presently seeking to establish an Eco Depot in Creston. In addition, RDCK organizes Household Hazardous Waste (HHW) collection events each fall throughout the region. For these events, they solicit and receive financial and operational support from the various EPR organizations that have responsibility for various HHW products. These events also collect HHW not covered under a current EPR program.

In support of existing EPR programs and to ensure that these products do not enter the landfill, the RDCK has prohibited the following products from disposal (as per Schedule D of RDCK Bylaw 2433):

- Gasoline
- Lead-acid batteries
- Rechargeable batteries
- Pesticides
- Pharmaceuticals
- Solvents and flammable liquids
- Paint
- Used oil and oil filters
- Used oil containers

The following are the recommended actions associated with EPR and HHW.



1. **Lobby the Provincial Government.** The RDCK will continue lobbying the Provincial Government to:
 - i. Ensure that stewards are achieving a reasonable level of service in all areas of BC
 - ii. Ensure that stewards fully compensate their collectors
 - iii. Include ICI paper and packaging as a schedule in the Recycling Regulation
 - iv. Expand the Recycling Regulation to include all HHW
 - v. Expand the recycling regulation to include mattresses
2. **Establish additional Eco Depots.** The RDCK, member municipalities, local private and non-profit organization should work together with the Producers Responsibility Organizations (EPR organizations) in order to continue to improve regional EPR/HHW collection services and convenience for the consumer through the establishment of additional Eco Depots (one-stop return locations). Assessing the need for additional Eco Depots could be done through waste composition studies and tracking the usage of the Eco Depot in Nelson and future Eco Depot in Creston.
3. **Advocate for Producers Responsibility Organizations to commit to providing a reasonable level of service in all areas of BC.** This commitment must be monitored and enforced by the Province.
4. **Participate in key stakeholder groups such as the BC Product Stewardship Council and other product stewardship working groups.**
5. **Be proactive in identifying local service gaps in EPR Programs and work with product stewards to address these gaps.**
6. **Expand the disposal restriction to all products covered under an EPR program.** As a general guideline, products will only be considered for disposal bans after it is established that adequate and reasonable access to EPR recycling facilities for those materials exist for RDCK residents.
7. **Promote existing EPR collection sites.** To ensure broad awareness of the diversion opportunities associated with EPR programs, RDCK will promote existing EPR collection sites (refer to the Education and Outreach recommendations).
8. **Maintain annual HHW events in communities without reasonable access to permanent sites.**

There are no new RDCK costs associated with EPR and HHW unless there is a need identified in the future for additional RDCK-funded Eco Depots and/or HHW collection events. No additional staffing is required to undertake the above recommendations.

8 Organic Waste Diversion

The Organic Waste Diversion Strategy has been developed in parallel with the review of the RRP. The following are the key recommended actions associated with organic waste diversion.



1. **Establish organic waste processing facilities at the Central and Creston Landfills.** RDCK will establish two organic waste processing facilities for residential and ICI food waste: one at the Creston Landfill and the other at the closed Central Landfill. These sites have space for a composting facility and are well-buffered from surrounding land uses. RDCK has applied for a grant to assist with the capital costs of constructing these two composting facilities. This application was done with the support of the municipalities of Castlegar, Creston and Nelson, as well as the Regional District of Kootenay Boundary. All of these local governments are expected to support these facilities through the delivery of food waste.
2. **Prepare for Organic Waste Transfer.** To support the collection of food waste in Nelson and Castlegar, RDCK will expand their transfer station services in these communities to include a food waste transfer area. These facilities will be able to receive food waste from municipal collection programs, as well as from commercial collection providers servicing customers in the municipalities and in the surrounding electoral areas, and residents and businesses that wish to self-haul their food waste.
3. **Implement curbside collection of food scraps in Castlegar, Creston and Nelson.** The municipalities of Castlegar, Creston and Nelson have committed to the curbside collection of residential food scraps once the composting and transfer infrastructure is in place.
4. **Support organics collection in nearby communities.** Once the two RDCK composting facilities are operational, it is anticipated that there will be capacity at these facilities for other RDCK communities who wish to haul food scraps directly to a composting facility or to one of the two transfer stations. RDCK can support these municipalities by providing technical support to all municipalities interested in establishing curbside and/or depot-based organic waste collection services.
5. **Support organics collection and processing in other communities.** Many smaller municipalities have expressed their interest in establishing an organic waste diversion program for their local homes and businesses. Although it is not the intention of RDCK to provide additional organic waste processing services for communities that are unable deliver to the organic waste processing or transfer facilities noted above, the RDCK will support municipalities interested in establishing their own organic waste management solutions. Support could include:
 - Providing technical advice on collection and small-scale processing options;
 - Assisting with the identification of appropriate processing technologies that can be installed and operated locally. There are several options available to small communities that can manage food waste including in-vessel composters and Bokashi;
 - Assisting with the design of the collection program;
 - Identification of grant funding opportunities; and,
 - Providing templates for communication and educational materials.

In some areas, such as Kaslo and Nakusp, the RDCK may also be able to provide space at their local waste management facility to host a municipal composting operation. Consideration of requests to use RDCK facilities to host organic waste processing services will be assessed on a case by case basis considering available space and anticipated future needs.



The level of support RDCK will be able to provide to individual municipalities will be dependent on staff availability. It's anticipated that the municipalities that are early adopters of organic waste diversion will be able to assist other municipalities in the design and implementation of their organic waste diversion services.

6. **ICI sector participation in organic waste diversion is expected to be voluntary.** ICI organic waste generators include all businesses and institutions that generate food waste, with the largest generators being grocers, restaurants, food and beverage manufacturers, institutions with kitchens, and caterers. Using variable tipping fees and targeted communications, RDCK will encourage commercial waste haulers and generators to establish collection services for source-separated food waste (including soiled papers, cardboard and waxed cardboard) that can be delivered to the organic waste transfer stations or the composting facility at the Creston Landfill.

ICI sector participation in organic waste diversion would not be limited to diverting food waste to the composting facilities. ICI participation in organic waste diversion could also include:

- Participating in food redistribution,
- Giving food waste to farmers for use as animal feed, and
- On-site management techniques (composting, Bokashi or digestion).

Once ICI organic waste collection services are well-established in the Creston, Castlegar and Nelson areas, it's recommended that RDCK assess the level of ICI participation in organic waste diversion. If participation levels are low, RDCK should assess options to increase participation, including:

- A disposal ban on ICI organic waste
- Municipal requirement to source-separate organic waste at ICI locations
- Increase the price differential between the garbage and organic waste tipping fees
- More promotion and education targeting the ICI sector
- Facilitate the establishment of a service to link food waste generators to potential users.

7. **Facilitate the reduction and self-management of organic waste by RDCK residents.** In all areas of the regional district, but most importantly for residents in areas without curbside organic waste collection, the RDCK will implement a program to increase the awareness of opportunities to self-manage organic waste, including reducing the generation of food waste. This is likely to include:

- A food waste reduction campaign, like "Love Food, Hate Waste."
- A financial incentive for purchase of a composter, Bokashi kit, or other acceptable equipment that supports on-site management (e.g. a mail-in rebate)
- Workshops on on-site management techniques, e.g. Vermicomposting, Bokashi, how to compost in areas with bears
- A media campaign done in concert with WildSafe BC

Additionally, on a voluntary basis, residents living in the vicinity of the RDCK food waste management facilities (expected to be located in Nelson, Castlegar, Creston and Salmo) that do not have curbside organic waste collection would be welcome to drop-off their food waste.



8. **Conduct a cost-benefit analysis of yard waste management at RDCK facilities.** The RDCK will assess how it receives yard waste and the associated tipping fees charged with consideration of the following: the desire to offer an alternative to burning yard waste, the need to support homeowners wanting to reduce the threat of wildfires by removing brush around structures, the need for yard waste as a feedstock for the composting facilities, and the costs associated with chipping yard waste.

Table 8-1 shows the new capital and operating costs associated with the above organic waste diversion recommendations. Staff resources to implement these recommendations are dependant on in-house vs. contracted services. For example, the Creston facility operations may be included in the current landfill operations and maintenance contract. All costs associated with the compost facility noted below can be fully or partially recovered through tipping fees from organic waste, however the education and self management costs would likely be funded through taxation.

Table 8-1: New Costs for Organics Diversion

New Capital	Composting facility at Central Landfill (\$2,484,700 - grant \$)	\$801,000
	Composting facility at Creston Landfill (\$1,563,000 - grant \$)	\$511,000
	Organic Waste Transfer Stations	\$135,000
	Subtotal of capital costs	\$1,447,000
New Operating	Composting facility at Central Landfill	\$305,000
	Composting facility at Creston Landfill	\$125,000
	Organic Waste Transfer	\$86,000
	Support organics collection and processing in other communities	\$0
	ICI Promotion and Education (for one year)	\$2,500
	Facilitate the reduction and self-management of organic waste by RDCK residents	\$10,000
	Subtotal of operating costs	\$528,500
	(value not eligible for offset by tipping fees)	(\$12,500)
New Staffing (costs incorporated into capital and operating estimates above)	Program development and coordination: 0.5–1.0 FTE Technical Staff (level 7) Program management: 0.05-0.1 FTE Management (level 11) Operations Central: 1.0 FTE Operator and 0.5 Driver (level 3) Operations Creston: 0.3-0.5 Operator (level 3)	



9 Illegal Dumping

Illegal dumping of waste is a challenge for rural and urban areas in the RDCK and throughout British Columbia. Although tipping fees are often cited as the cause of illegal dumping, this anti-social behaviour is also observed in areas without tipping fees.

Illegal dumping is unsightly, can contaminate land and waterways, attract wildlife, and can cause the dispersion of invasive weeds. Many regional districts and municipalities in BC are dealing with this issue through prevention, enforcement and clean-up activities. The RDCK does not have a program to tackle illegal dumping, however, in accordance with Resource Recovery Regulatory Bylaw 2365, the RDCK has the authority to inspect loads deposited illegally at their facilities and send letters to those whose names are found in the garbage. If responsible parties do not remove the material, the bylaw gives the RDCK the ability to fine those in contravention. The main action recommended to mitigate illegal dumping in the RDCK is:

1. **Develop an illegal dumping strategy.** Collaborate with government, First Nations and private sector stakeholders on the development of a regional illegal dumping strategy that would include the following actions:
 - **On-going clean-up of problem sites.** This would involve assessing the nature and extent of illegal dumping in RDCK, mapping known problem sites, and conducting clean ups
 - **Waiving tipping fees.** Develop a policy to waive tipping fees at RDCK disposal facilities for approved clean-up events
 - **Establishing a reporting mechanisms.** There are apps available that let citizens easily observe and report an illegal dump site, with a specific GPS location. Acquiring and promoting such a tool would assist RDCK and their partners with mapping, cleaning up and monitoring the effectiveness of the illegal dumping strategy.

The new costs associated with an illegal dumping strategy are shown in Table 9-1. Although the cost for the illegal dumping strategy are minimal and associated with promoting awareness of the reporting app, there would be a slight loss of revenue associated with waiving tipping fees. If desired, the amount of waived tipping fees allowed on an annual basis could be capped. There may also be a cost associated with licensing an app for reporting illegal dumping, although there are free apps available. RDCK would need to research the app that best suits their needs and confer with other local government users of the apps in order to determine what the budget implications would be, if any.

Table 9-1: New Costs for Mitigating Illegal Dumping

New Capital	\$0
New Operating	\$10,000 per year for cleanups and waived tipping fees \$1,000 per year to promote the reporting app



New Staffing	0.1-0.25 FTE Technical Staff (level 6) – on-going
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10 Specified Risk Material Management

Specified Risk Material (SRM) is defined as the cattle tissue that can harbor the infective agent known as prions which causes Bovine Spongiform Encephalopathy (BSE or Mad Cow Disease). The Canadian Food Inspection Agency (CFIA) has developed strict livestock handling and disposal protocols to ensure SRM is destroyed or contained permanently such that there is no potential for prions to enter the food chain.

SRM management is not typically addressed in the development of a solid waste management plan (RRP) since it is outside the definition of municipal solid waste management provided in BC's Environmental Management Act¹. However, because SRM is a disposal issue in the Creston Valley, the RDCK Board directed consideration of this issue as part of the review and update of the RRP.

Disposal options were researched by RDCK and presented to the RRPAC. Feedback from the RRPAC was that the options presented were too expensive (for RDCK and the farming community) and should not be pursued by the RDCK. Consequently, the following recommendation for SRM management is provided.

1. **Support industry efforts to develop an inter-regional strategy.** Agriculture operations in other regional districts in BC are experiencing the same issue (lack of a cost effective, relatively local disposal option for SRM disposal). Developing an inter-regional solution in dialogue with other major stakeholders including Ministry of Agriculture, other regional districts that have SRM disposal challenges, BC Cattlemen's Association and BC Dairy Association, and operators of large and small abattoirs may provide a solution that can be developed with some economy of scale. RDCK could be a supportive participant in the development of such an initiative.

There are no new costs associated with the above recommendation.

11 Circular Economy

Using Wikipedia as a source of a succinct definition, a circular economy "is an economic system aimed at eliminating waste and the continual use of resources. Circular systems employ reuse, sharing, repair, refurbishment, remanufacturing and recycling to create a close-loop system, minimizing the use of resource inputs and the creation of waste, pollution and carbon emissions. The circular economy aims to keep products, equipment and infrastructure in use for longer, thus improving the productivity of these resources. All 'waste' should become 'food' for another process: either a by-product or recovered resource for another industrial process, or as regenerative resources for nature, e.g. compost. This

¹ According to BC's Environmental Management Act, "Municipal Solid Waste (MSW)" means refuse that originates from residential, commercial, institutional, demolition, land clearing or construction sources.



regenerative approach is in contrast to the traditional linear economy, which has a ‘take, make, dispose’ model of production.”

In recent years, many local governments have been considering what their role could be in moving towards a more circular economy. The Ellen McArthur Foundation released a report in 2019 called “City Governments and Their Role in Enabling a Circular Economy Transition” which provides detailed information on the levers that government has to affect change. Those levers are illustrated in Figure 11-1.

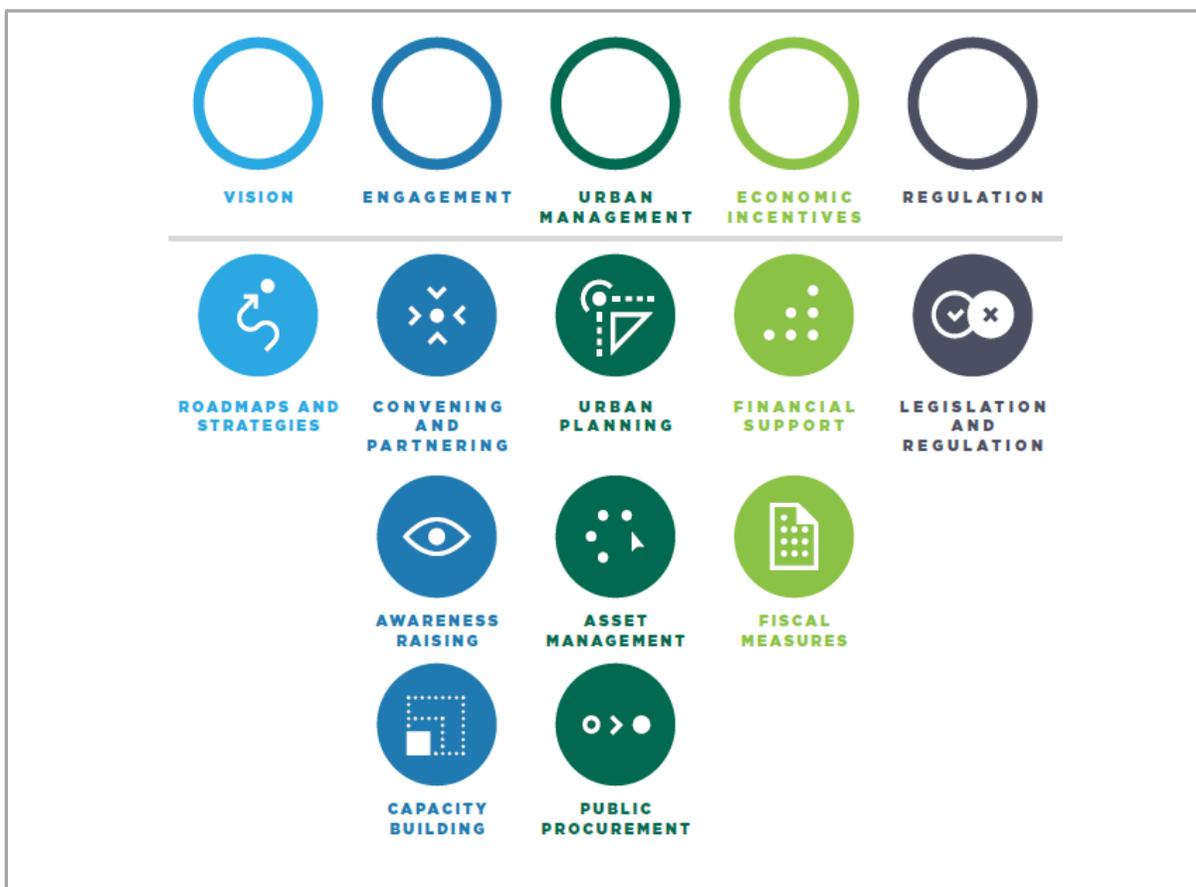


Figure 11-1: Local Government Levers for Change

The development of a circular economy strategy that considers these levers is beyond the framework of a RRP, however there are many proposed components of the RRP that definitively support a circular economy, including:

- Promoting and supporting reuse (which include initiatives such as repair cafes, upcycling workshops and lending libraries)
- Having a robust recycling system (curbside and depot)
- Closed loop systems such as composting (the inputs are locally sourced and the exports locally used)



- Encouraging systems for businesses and institutions with excess food to feed it to people as the most preferred option (e.g. food banks, soup kitchens), then animals (farmers), then finally composting.

In addition to these actions, there are other mechanisms that are recommended for the RRP in support of a circular economy.

1. **Develop purchasing policies that support a circular economy.** Local government purchasing policies for goods and services can include requirements that support a circular economy, including requirements for recycled content (material goods), compost content (for road works, parks, gardens and landscaping), and waste minimization (construction and renovation projects).
2. **Provide seed funding for local circular economy projects.** Create a fund, possibly with other community partner, where individuals, businesses, community groups and non-profit organizations, can apply for funding to assist with establishing initiatives that contribute to a local circular economy.

The new costs associated with supporting a circular economy are shown in Table 11-1.

Table 11-1: New Costs for Mitigating Illegal Dumping

New Capital	\$0
New Operating	\$20,000 per year as seed funding for new local circular economy initiatives (to be supplemented by contributions from other community partners)
New Staffing	0.05 FTE Technical Staff (level 6) on-going

12 Staffing Implications

All of the above recommendations will require staff resources to implement. The RDCK current resource recovery staff complement is fully utilized and consequently additional staff resources would be required as part initiating new programming. The recommended actions in this report that will have the most significant need for new staff resources are:

- Expanded education and outreach associated with all current and proposed activities
- Development and management of organic waste processing facilities and the associated transfer system
- Encouraging and maintaining ICI participation in organic waste diversion
- Supporting the development of organic waste diversion initiatives in smaller communities and at residences without access to a community-scale system.



To implement and support these actions on an on-going basis, as well the other initiatives such as illegal dumping mitigation, it is reasonable to expect that one or two additional staff will be required, as detailed in the cost tables herein. Staffing estimates are presented as ranges when more effort will be required at the launch of new programs, following which on-going support may be reduced.

The specific staff requirements will depend largely on the final selection of options to be included in the RRP, including those associated with residual waste management and system administration (upcoming in the planning process), and when each action will be implemented. Consequently, comprehensive cost estimates associated with staff resources will be provided at a future date along with a complete picture of the financial implications (capital and operating costs).

13 Impact on Disposal

The recommended actions described in this report are intended to decrease the per capita amount of waste landfilled. Table 13-1 shows the estimated reduction in the per capita disposal rate upon implementation of the diversion components of the RRP. It should be noted that the estimated reduction of 92 kg per capita is a conservative estimate because it does not take into account additional reductions that are anticipated when the Province expands the list of products included in the Recycling Regulation, (i.e. mandated to be part of an EPR scheme). Which products may be added and when is unknown at this time.

Reducing the per capita rate region-wide by 92 kg would reduce the amount of waste landfilled by 15-20%. This reduction would reduce RDCK's disposal rate to 377 kg per capita, very close to the Province's target of 350 kg per capita.

**Table 13-1: Estimated Reduction in the RDCK's Disposal Rate (region-wide)**

	Kg per capita reduction	Notes on Estimates
Reduction and Reuse	6	Assumes 1% reduction
Residential Recycling	24	Attributed to the implementation of Creston curbside recycling. At depots, the addition of new materials to be collected are likely to be offset by higher standards for contamination.
Industrial, Commercial and Institutional (ICI) Recycling	0	No change. Potential for increased disposal due to depressed recycling markets in the short term and change of how depots operate. Depot change is not expected to have a significant effect since OCC still collected at main depots.
Construction, Demolition and Renovation (CDR) Waste Diversion	17	Assuming that CDR waste is 15% of waste landfilled, and diversion is increased by 20%, then MSW disposed would decrease by 3%.
Education and Outreach	0	Critical support mechanism to other actions.
EPR & HHW Management	Unknown	Unknown. Highly dependent on what the Province adds to the Recycling Regulation. Could be significant. No measurable reduction attributed to HHW.
Organic Waste Diversion	46	From Organic Waste Diversion Strategy
Illegal Dumping	0	n/a
Specified Risk Material Management	0	n/a
Circular Economy	Unknown	Difficult to anticipate. Largely a support mechanism that contributes to the success of reduction, reuse, recycling and composting initiatives. Long term impact on the amount sent to disposal.
Total estimated reduction in kg/capita disposed	92+	Additional reduction anticipated associated with EPR and Circular Economy initiatives.



Appendix A: RDCK Interest Statement on EPR

INTEREST STATEMENT



On Extended Producer Responsibility Programs – November, 2015

Endorsed by the Regional District of Central Kootenay (RDCK) Board of Directors through resolution number 770/11:

“The Interest Statement on Extended Producer Responsibility Programs, dated November 2011, be endorsed by the Board as a tool for staff and elected official to use when engaging with the Province, product stewards, the public, and other relevant parties in discussions on BC’s product stewardship system.”

The RDCK supports the belief that for effective waste diversion to occur the product stewardship system must adhere to the following principles:

1. All residents, in all areas of BC, must have reasonable access to collection facilities.
2. Extended producer responsibility policies must encourage waste reduction and promote environmental stewardship.
3. Producers/product stewardship agencies must not rely on local governments to fulfil their role in the product stewardship system.
4. All actors in the product stewardship system, including local governments, must be adequately compensated for their role.
5. All stakeholders, including local governments, must have a genuine say in how product stewardship programs are planned and managed.

The RDCK recommends the following actions and approaches to help overcome the challenges with the BC product stewardship system:

- The RDCK will (should) continue lobbying efforts with the Provincial Government to monitor and enforce performance targets set in Product Stewardship Plans, and ensure that stewards are achieving a reasonable level of service in all areas of BC. Further, the RDCK will (should) lobby the Provincial Government to monitor and enforce participation of producers in the MMBC program.
- Producers/product stewardship agencies must coordinate their collection activities in order to improve convenience for the consumer. Similar to a local government recycling depot, a ‘one-stop’ return location would improve consumers’ abilities to fulfil their role in the product stewardship process.
- The RDCK and other local governments will (should) work together in order to improve regional services and convenience for the consumer.
- When establishing performance targets in Product Stewardship Plans, producers/ product



stewardship agencies must commit to achieving a reasonable level of service in all areas of BC. This commitment must be monitored and enforced by the Province.

- The RDCK will (should) work with Producers/product stewardship agencies, specifically MMBC to ensure future participation in the packaging and printed paper program. Further, the RDCK should work with MMBC to utilize existing recycling infrastructure that will otherwise become redundant.
- The RDCK and local governments will consider working collaboratively with product stewardship agencies to investigate feasibility of Eco Depots and private sector partnerships.
- The RDCK will (should) consider various service delivery options presented by stewardship agencies (deliver programs as a contractor for stewardship agency or simply leave it to the steward to determine how services will be delivered.) The latter frees up financial resources that could be allocated towards other waste diversion programs in the future such as organics.
- The RDCK will (should) continue to participate in key stakeholder groups such as the BC Product Stewardship Council and other product stewardship working groups.
- The RDCK will (should) be proactive in identifying local service gaps in Extended Producer Responsibility Programs and will (should) work with product stewards to address these gaps.

The RDCK will continue to lobby the Provincial Government to:

- Engage the Producers/product stewardship agencies to improve direct communication with consumers.
- Establish an Extended Producer Responsibility Advisory Committee to oversee communications regarding the BC product stewardship system, and to promote compliance with the Recycling Regulation. This committee should consist of representatives from the Province, the Regional Districts, and product stewardship agencies.

The RDCK is receiving minimum levels of service from Extended Producer Responsibility Programs and continuous improvement in service levels is a goal of the RDCK.



TO: Amy Wilson

DATE: November 5, 2019

FROM: Maura Walker

PROJECT: RDCK RRP

SUBJECT: Plan Monitoring and Measurement

As per the MOE Guidelines for Solid Waste Management Planning, the implementation of a solid waste management plan / resource recovery plan should be monitored to determine its on-going effectiveness. Annual measurement and monitoring allows course corrections to be made in a timely manner.

The following monitoring and measurement activities are recommended for RDCK's Resource Recovery Plan (RRP).

1. **Plan Monitoring Advisory Committee:** Establish a Plan Monitoring Advisory Committee with a mandate to monitor the implementation of the plan, evaluate its effectiveness, and advise the regional district regarding the Plan's on-going implementation. On an annual basis, Regional District staff would compile data that reflects the status of the Plan's implementation and progress toward waste reduction targets. This data would be provided to the Plan Monitoring Advisory Committee.
2. **BC Disposal Calculator:** RDCK continue to compile data annually on all of the municipal solid waste disposal activities in the regional district for reporting to the BC Ministry of Environment's on-line disposal calculator.
3. **Interim Assessment:** As per the MOE Guidelines for Solid Waste Management Planning, five years into the implementation of the Plan, the RDCK should carry out a review of the plan's implementation and effectiveness. As prescribed by the Ministry of Environment, this review may include:
 - Overview of all programs or actions undertaken in first five years to support the plan goals and targets, including status and implementation costs for each.
 - Description and forecasted budget for programs or actions not yet started and status, including explanations for delays or cancellations of plan components.
 - Five-year trend information for waste disposal per person.
 - Five-year trend of greenhouse gases emitted and avoided, if available.
 - Any significant changes that might impact the solid waste management system over the next five years.
4. **Waste Composition Study:** A study that looks at the composition of the waste being sent to landfill provides a wealth of information on the effectiveness of current programs and policies, and also assists in identifying opportunities to further minimize the amount of waste sent to disposal. Waste composition studies are recommended at the following points:



- In advance of implementing the Organic Waste Diversion Strategy, and
- In advance of the interim review noted above
- In advance of the next RRP update.

The table below provides the estimated costs and staffing implications associated with the above recommendations.

New Capital	\$0
New Operating	\$25,000 for a Plan Effectiveness Review (if contracted out) \$50,000 - \$75,000 for each waste composition study
Staffing Implications	None



TO: Amy Wilson

DATE: November 5, 2019

FROM: Maura Walker

PROJECT: RDCK RRP

SUBJECT: Proposed Dispute Resolution Process

The Ministry of Environment requires that solid waste management plans (like the RDCK's Resource Recovery Plan) include a dispute resolution procedure and that this procedure be developed in consultation with input from the advisory committee. The Ministry's Guidelines for preparing solid waste management plans state, "Although consultation efforts may prevent or minimize conflicts, at times disputes may arise during development or implementation of the plan and regional districts should be prepared to quickly and equitably resolve any conflicts that may arise. To this end, regional districts should establish dispute resolution procedures to address any complaints or concerns that occur during plan development or implementation." The Guidelines also include a suggested dispute resolution procedure to assist regional districts in creating their own procedure. This procedure is provided below as a proposed process for the RDCK to include in the RRP, and for discussion at the November 13th RRP Advisory Committee meeting.

Proposed Dispute Resolution Procedure

This dispute resolution procedure may apply during plan development as well as to the following types of conflicts that could arise during plan implementation:

- ♦ Administrative decisions made by regional district staff
- ♦ Interpretation of a statement, bylaw, policy or provision in the plan
- ♦ Any other matter not related to a proposed change to the wording of the plan or an operating certificate.

The following principles will be followed:

- i. The parties will make all reasonable efforts to attempt to resolve the dispute in an amicable manner without outside intervention
- ii. Disputes will be attempted to be resolved as early and at the lowest administrative level as possible; every effort will be made to avoid disputes requiring a formal resolution process
- iii. The formal process is not intended to deal with inconsequential or frivolous disputes
- iv. The cost of mediation or adjudication will be shared by the parties to the dispute
- v. Information or data related to the dispute will be shared by the parties
- vi. Rules of confidentiality and freedom of information will apply



Disputes will be settled using the following procedure:

Negotiation Parties involved in the dispute shall make every effort to resolve the dispute on their own through non-facilitated communication. If necessary, the parties will provide each other with a written summary of their position and any relevant supporting documentation

Parties may agree to make use of a facilitator

If this is unsuccessful

**Plan Monitoring
Advisory Committee** Parties involved in the dispute will have opportunity to speak to the Committee
Committee will review, consider and provide recommendations to the Board

If this is unsuccessful

Board Parties involved in the dispute will have opportunity to speak to the Board
Board will receive recommendations from the Committee and settle the dispute; or, recommend mediation

If the board is unable to settle the dispute

Mediation A neutral, impartial third party facilitator who is acceptable to all the parties to the dispute will be selected. Using appropriate mediation techniques, the facilitator will attempt to develop a solution which satisfies all parties. The facilitator has no decision making authority. If the parties cannot agree on a mediator, the matter shall be referred to the BC Mediation Roster Society or equivalent roster organization for selection of a mediator.

All efforts will be made to reach an agreement through mediation

Costs for mediation will be shared by the parties in dispute

If this is unsuccessful

Independent arbitrator If the dispute cannot be resolved by a mediator, the matter will be referred to arbitration and the dispute will be arbitrated in accordance with the any applicable legislation. A neutral, impartial third party arbitrator who is acceptable to all the parties to the dispute will be selected. The arbitrator hears each party's evidence and arguments and renders a final, binding decision.

Costs for arbitration shall be apportioned at the discretion of the arbitrator