

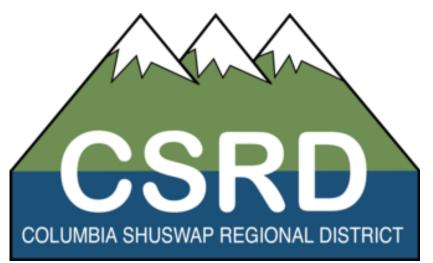
Current Waste Management System Review Columbia Shuswap Regional District

Presentation to Committee of the Whole on June 22, 2023



Meeting Outline

- Background and process (5 min)
- Current system (15 min)
- Performance (15 min)
- Review findings & issues and opportunities (20 min) BREAK (15 min)
- System funding gaps (30 min)
 - Discussion (30 min)
- Guiding principles, vision, goals update on PTAC feedback (10 min)
- Next steps (10 min)





The Project Planning Consulting Team

- A Swedish Kiwi in BC since 2012
- 15 years of environmental consulting
- Specializing in long-range planning
- Participated in over six BC Plans

Veronica Bartlett

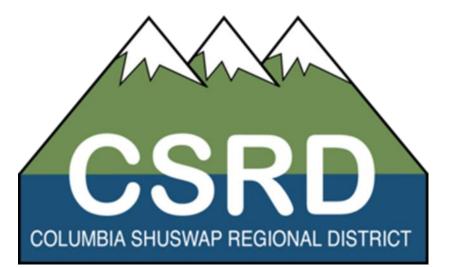


- Formerly Manager of Solid Waste at RDN – 24 years
- Led development of award winning RDN Zero Waste Program
- Consultant since 2013 specializing in planning and zero waste program design
- Participated in over 10 plans

Carey McIver







Background & Process

Current Waste Management System Review

Committee of the Whole

June 22, 2023



Plan Background

- Regional districts are required to have a solid waste management plan (SWMP)
- It describes how a region will manage garbage, recycling, organic waste programs and services for a ten-year period





2022 Review Findings – Conclusion

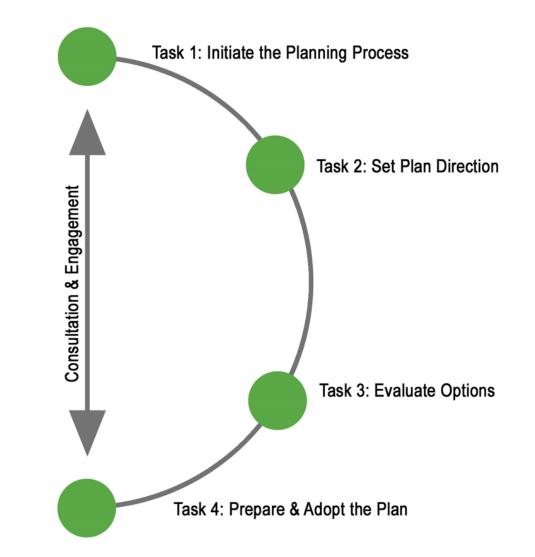
- Most strategies have been completed
- Some issues that require urgent actions are not identified in the current SWMP
- A full Plan renewal was approved by the Board



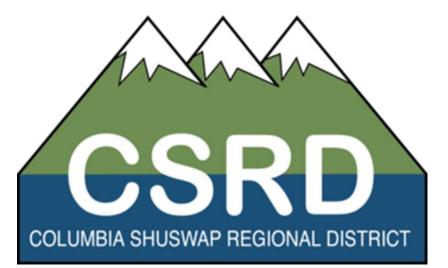


Plan Update Process

- The four-step process typically takes two years to complete
- Stakeholder engagement and public consultation is key to the entire process
- MH was engaged to support the Plan update in 2023/24







Current System

Current Waste Management System Review

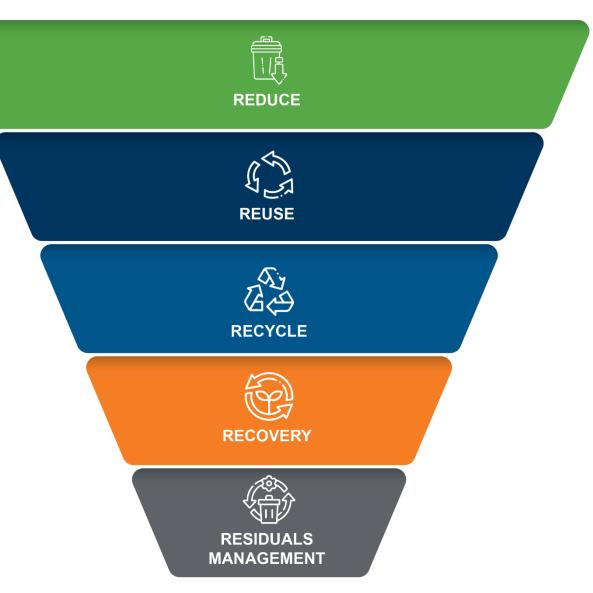
Committee of the Whole

June 22, 2023



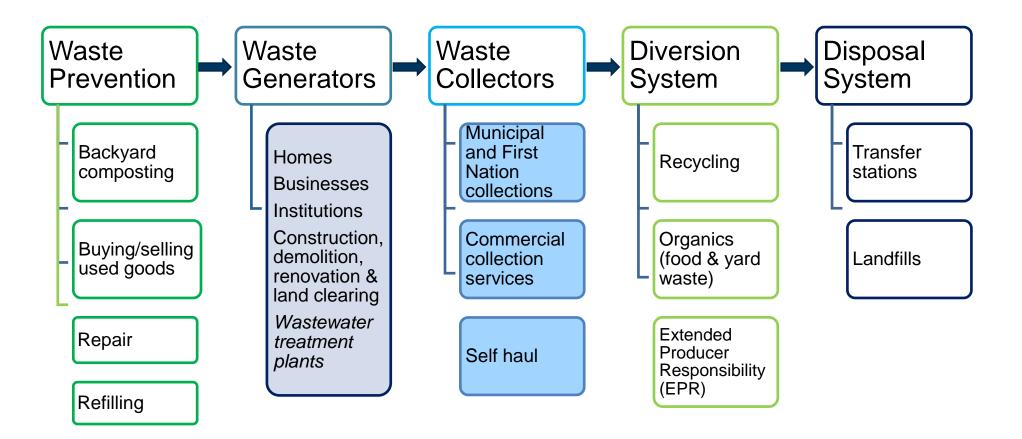
Current Waste Management System

The pollution prevention hierarchy AKA the 'waste hierarchy'



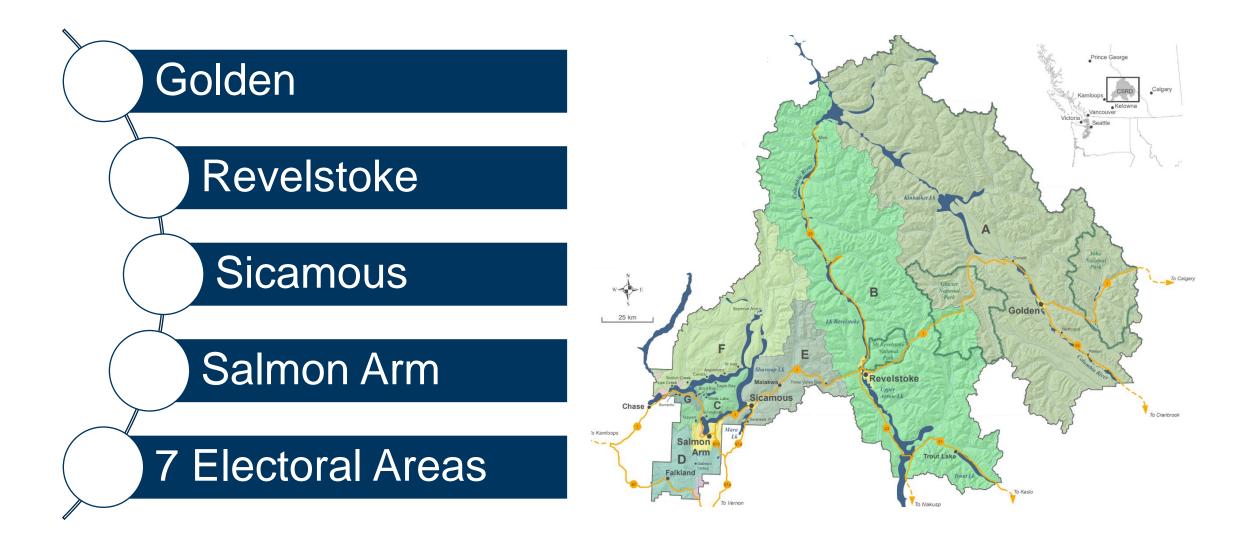


Waste Management System Overview





Plan Area





Plan Area – Electoral Areas

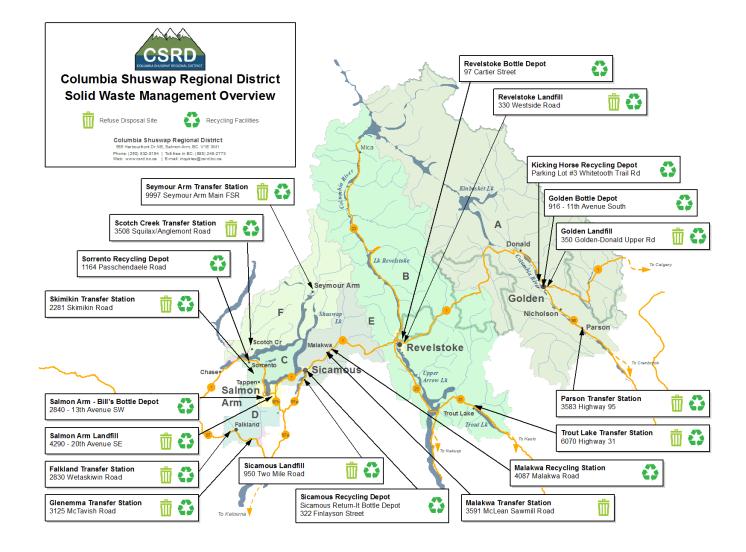
- Area A (Rural Golden)
- Area B (Rural Revelstoke)
- Area C (Eagle Bay, White Lake, Tappen)
- Area D (Falkland, Salmon Valley, Ranchero)
- Area E (Rural Sicamous, Malakwa)
- Area F (North Shuswap, Seymour Arm)
- Area G (Blind Bay, Sorrento, Notch Hill)



CSRD's First Nations communities

- Skwlāx te Secwepemcúlecw (Little Shuswap Lake Band)
- Neskonlith Indian Band
- Spallumcheen Indian Band
- Adams Lake Indian Band
- Okanagan Indian Band

Current Facilities





- 18 recycling depot accepting residential packaging and paper products (PPP)
- Two satellite locations



Extended Producer Responsibility Programs

- Driven by the BC Recycling Regulation (legislation)
- Referred to as stewardship programs
- Requires the producers to set up collection and management system for regulated products

• Over 20 EPR programs in BC















Extended Producer Responsibility (EPR)



- Many regulated products with more planned
- The CSRD has multiple partnerships with stewardship agencies



Residential Curbside Collection

Service Area	Recycling	Organics	Garbage					
Golden	Biweekly	N/A	Weekly					
Revelstoke	Biweekly	N/A	Weekly					
Salmon Arm	Biweekly	Weekly Food Waste Yard Waste (twice/yr)	Biweekly					
Sicamous	N/A	Annually Yard Waste	N/A					
All electoral areas	Self-haul	N/A	Self-haul					





Private Collection

- Recycling, organics and garbage collection is offered by local private companies to businesses/ institutions and electoral area residents
- Access to services varies across the region







Organics Processing Facilities

Facility	Location
Spa Hill Farms Inc.	Salmon Arm
Revelstoke Compost Facility	Revelstoke
Pacific Substrate Ltd.	Cache Creek
Kevin Curtis Composting	Swan Lake

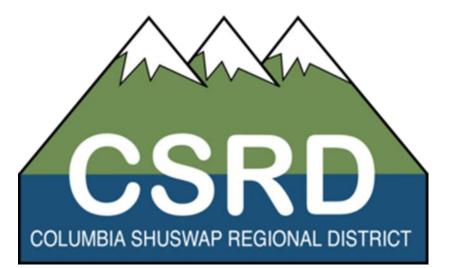
Supporting Waste Prevention and Diversion Services

- Education and Promotion
- Differential tipping fees to encourage diversion

- CSRD Re-Use Centre Sheds
- Reduction initiatives
 - Clothing Donations
 - Backyard Composting
 - Trunk sales







Current System - Residual Management

Current Waste Management System Review

Committee of the Whole

June 22, 2023

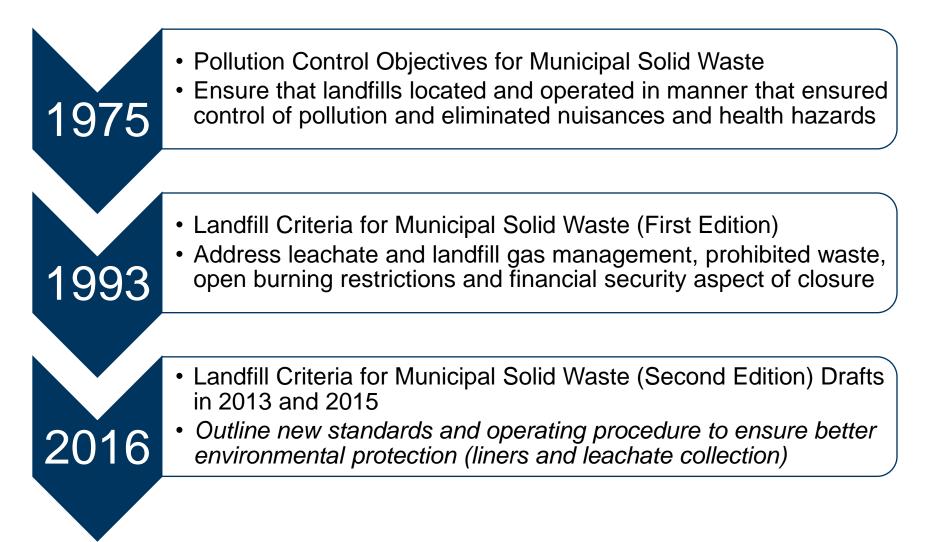


Landfills



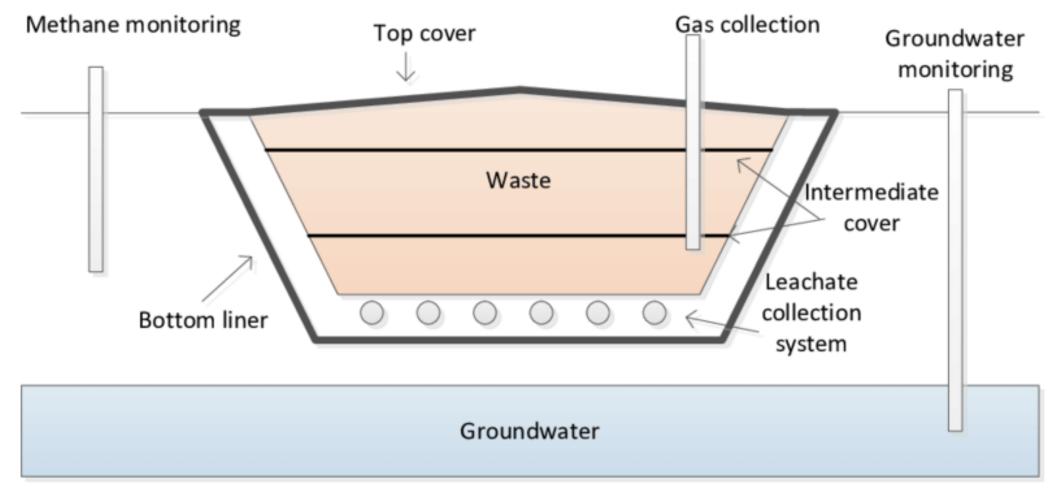


Landfill Regulations in BC





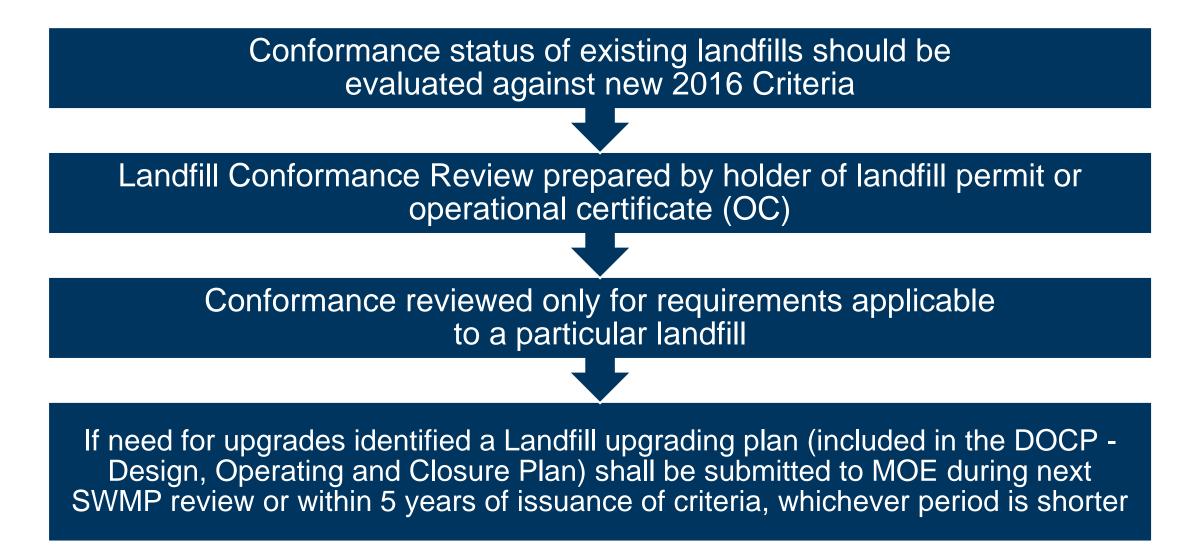
Major Design Components of a Landfill



Source: Based on Vesilind et.al. 2002



Regulatory Requirements





Landfill Regulatory Conformance

Landfill	Landfill Type	Conformance Review	Current DOCP	Current OC	Remaining Lifespan		
Golden	Natural attenuationCompleted Dec 2019 by Golder		Amendment approved May 2020	OC 17006 (issued Jun 2021)	2 years (current phase)		
					59 years with all phases		
Revelstoke	Natural attenuation	Completed Jan 2019 by XCG	Completed and submitted Jan 2019. MoE acknowledged receipt in the 2021 OC Amendment	OC 15821 (issued Sept 2021)	16 years + 20 years		
Salmon Arm	Natural attenuation and engineered landfill	Completed Oct 2019 by Sperling Hansen Associates	Amendment approved Jan 2021	Not yet approved – application submitted in Mar 2020	73 years		
Sicamous	Natural attenuation	Completed Dec 2017 by XCG	Completed and submitted Dec 2017. MoE acknowledged receipt in the 2021 OC Amendment	OC 514 (issued Jun 2021)	13-21 years		



DOCP 10 Year Capital Projects

Golden	 2027 Phase 2 expansion \$1.8 M 2028 Phase 1 closure \$1.3 M
Revelstoke	 2023 Phase 1 closure \$250K 2026 Phase 2 closure + Phase 3 construction \$1 M 2033 Phase 3 Closure \$1.1 M
Sicamous	 2028 Stage A-E development and closure \$2.7M
Salmon Arm	 2027 Phase 2A closure and Phase 3B construction \$3.4 M



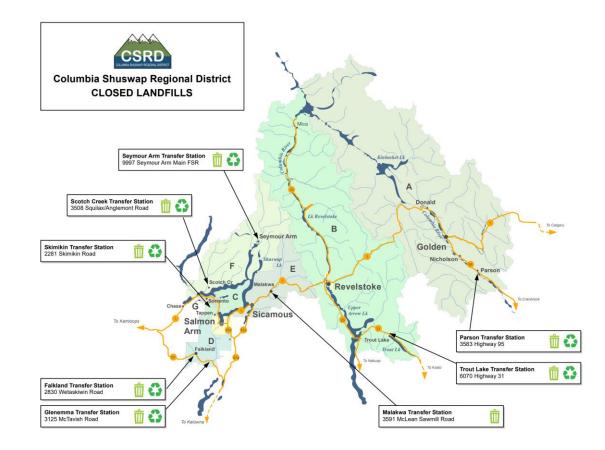
Summary of Compliance Issues

Golden	 Exceedance of ground or surface water quality limits at or beyond property boundary Litter issues and impact on landfill neighbours
Revelstoke	 Exceedance of ground or surface water quality limits at or beyond property boundary Litter
Sicamous	 Exceedance of groundwater quality limits at or beyond the landfill property boundary
Salmon Arm	 Exceedance of groundwater quality limits at or beyond the landfill property boundary

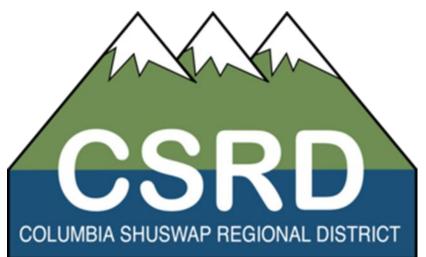


Closed Disposal Sites

- Monitoring of seven landfills
- Closure and monitoring requirements are set by the Ministry







Solid Waste Finance & Administration

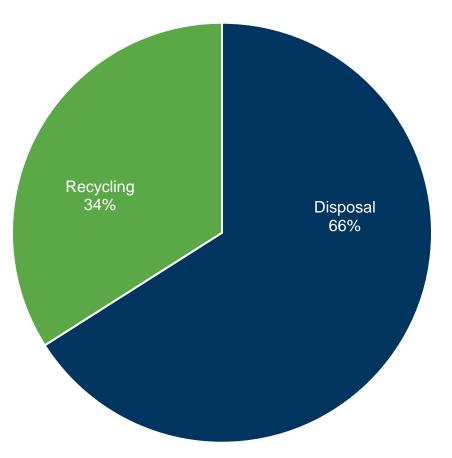
Current Waste Management System Review

Committee of the Whole

June 22, 2023



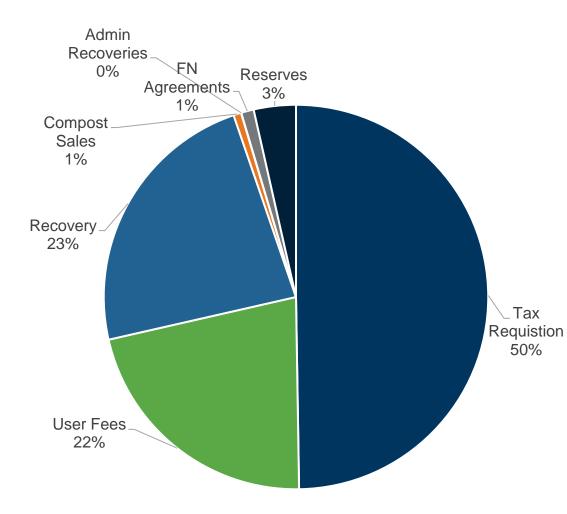
Total Budget – Diversion & Disposal



	2023
Revenue	
Recycling (218)	\$2,542,751
Solid Waste (219)	\$4,935,000
Total Revenue	\$7,477,751
Expenditures	
Recycling (218)	\$2,542,751
Solid Waste (219)	\$4,935,000
Total Expenditure	\$7,477,751



Recycling System Cost Recovery



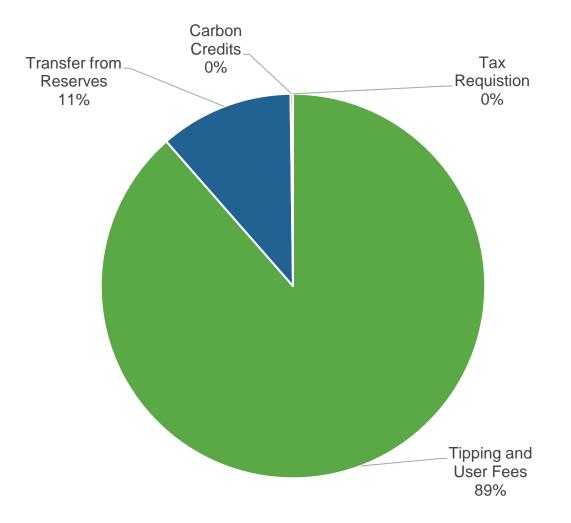
Revenue	2023				
Tax Requisition	\$1,264,963				
User/Tipping Fees	\$551,500				
Recovery (Sale of Materials)	\$592,500				
Compost Sales	\$16,500				
Salary and Fringe Recoveries	\$500				
First Nations Agreements	\$26,847				
Reserves	\$90,000				
Total	\$2,542,751				



Recycling Five Year Financial Plan

	2023		2024	2025		2026	2027
REVENUE							
Grants	\$-	\$	-	\$ -	\$	-	\$ -
Operating Reserve	\$ (50,000)	\$	-	\$ -	\$	-	\$ -
	\$ (592,500)	\$	(492,500)	\$ (492,500)	\$	(492,500)	\$ (492,500)
Reserves (excl. Operating)	\$ (40,000)	\$	-	\$ -	\$	-	\$ -
User/Tipping Fees	\$ (551,500)	\$	(551,500)	\$ (551,500)	\$	(551,500)	\$ (551,500)
Sales - compost	\$ (16,500)	\$	(16,500)	\$ (16,500)	\$	(16,500)	\$ (16,500)
Prior Year Surplus	\$-	\$	-	\$ -	\$	-	\$ -
Tax Requisitions	\$ (1,264,903)	\$	(1,286,685)	\$ (1,298,652)	\$	(1,275,807)	\$ (1,283,156)
	\$ (500)	\$	(500)	\$ (500)	\$	(500)	\$ (500)
	\$ (26,847)	\$	(27,384)	\$ (27,932)	\$	(28,491)	\$ (29,061)
Other Revenues	\$-	\$	-	\$ -	\$	-	\$ -
TOTAL EXISTING REVENUES	\$ (2,542,75	51) \$	(2,375,070)	\$ (2,387,584)\$	(2,365,297)	\$ (2,373,217
EXPENDITURES							
Projects (non-tangible)	\$ 225,000	\$	140,000	\$ 95,000	\$	45,000	\$ 45,000
<u> </u>	\$ 40,000	\$	-	\$ -	\$	-	\$ -
•	\$ 1,000	\$	1,000	\$ 1,000	\$	1,000	\$ 1,000
Recycling	\$ 890,000	\$	890,000	\$ 890,000	\$	840,000	\$ 840,000
Disposal	\$ 325,500	\$	275,500	\$ 275,500	\$	275,500	\$ 275,500
Hauling	\$ 210,000	\$	210,000	\$ 210,000	\$	210,000	\$ 210,000
Hazardous Waste	\$ 145,000	\$	115,000	\$ 115,000	\$	115,000	\$ 115,000
Composting	\$ 150,000	\$	150,000	\$ 150,000	\$	150,000	\$ 150,000
Food Waste Program	\$ 75,000	\$	75,000	\$ 75,000	\$	75,000	\$ 75,000
CS Food waste comp	\$ 100,000	\$	100,000	\$ 100,000	\$	100,000	\$ 100,000
Other Operations and Admin	\$ 381,251	\$	388,570	\$ 396,084	\$	403,797	\$ 411,717
Transfer to Reserves	\$-	\$	-	\$ -	\$	-	\$ -
Tranfer to Operating Reserve	\$-	\$	30,000	\$ 80,000	\$	150,000	\$ 150,000
TOTAL EXISTING EXPENDITURES	\$ 2,542,75	51 \$	2,375,070	\$ 2,387,584	\$	2,365,297	\$ 2,373,217
EXISTING SURPLUS/DEFICIT	\$ -	\$	-	\$ -	\$	-	\$ -

Solid Waste Disposal Cost Recovery



Revenue	2023
Tax Requisition	\$0
Tipping and User Fees	\$4,370,000
Transfer from Reserves	\$555,000
Carbon Credits	\$10,000
Salary and Fringe Recoveries	\$500
Total	\$4,935,000

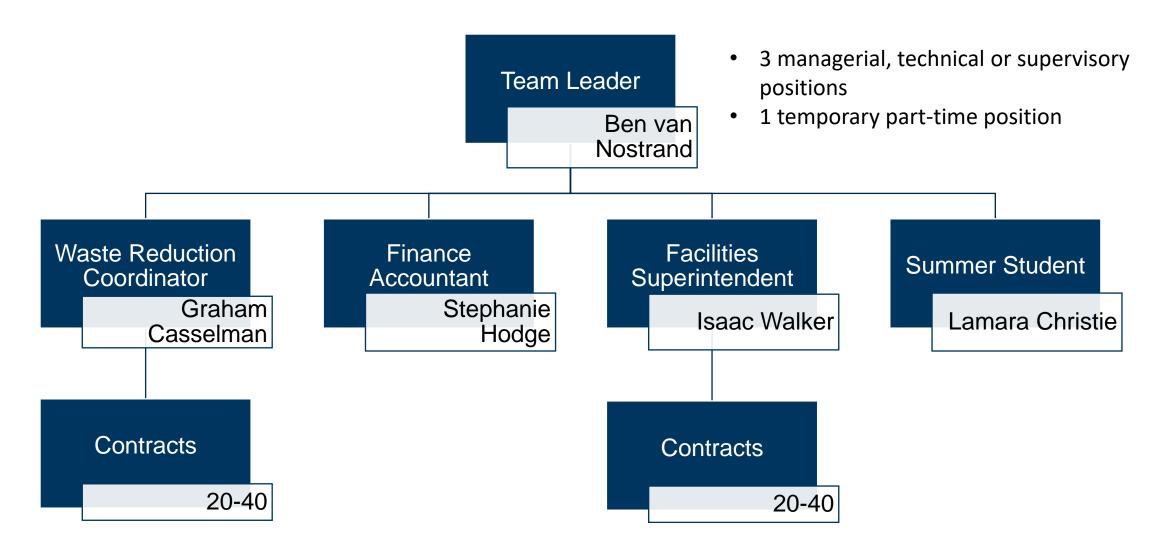


Solid Waste Five Year Financial Plan

Solid Waste Function 219		2023		2024		2025		2026		2027	
REVENUE					<u>.</u>				:		
Existing Revenue											
Tax requisition	\$	-	\$	-	\$	-	\$	-	\$	-	
Tipping and User Fees	\$	4,370,000	\$	4,370,000	\$	4,370,000	\$	4,370,000	\$	4,370,000	
Transfer from Reserves and Other Funds	\$	555,000	\$	50,000	\$	50,000	\$	50,000	\$	50,000	
Carbon Credits	\$	10,000	\$	10,000	\$	10,000	\$	10,000	\$	10,000	
Prior Year Surplus	\$	-	\$	-	\$	-	\$	-	\$	-	
TOTAL EXISTING REVENUES		\$4,935,000		\$4,430,000		\$4,430,000		\$4,430,000		\$4,430,000	
EXPENDITURES											
Existing Operating Expenditures											
Operations and Maintenance	\$	3,452,000	\$	3,462,760	\$	3,473,283	\$	3,484,076	\$	3,494,149	
Environmental Monitoring / PTC verification	\$	135,000	\$	135,000	\$	135,000	\$	135,000	\$	135,000	
Administration Overhead	\$	515,588	\$	514,994	\$	524,636	\$	534,520	\$	544,655	
Total Existing Operating Expenditures	\$	4,102,588		\$4,112,754		\$4,132,919		\$4,153,596		\$4,173,804	
Existing Capital Expenditures											
Minor Capital - Structures/Equipment/Machinery/Signs	\$	340,000	\$	25,000	\$	25,000	\$	25,000	\$	25,000	
Projects (Landfill upgrades etc.)	\$	110,000	\$	10,000	\$	10,000	\$	10,000	\$	-	
Landfill Closure	\$	250,000	\$	-	\$	-	\$	-	\$	-	
Total Existing Capital Expenditures	\$	700,000	\$	35,000	\$	35,000	\$	35,000	\$	25,000	
Transfer to Reserves											
Transfer to Reserves	\$	132,412	\$	282,246	\$	262,081	\$	241,404	\$	231,196	
Total Transfers to Reserve	\$	132,412	\$	282,246	\$	262,081	\$	241,404	\$	231,196	
TOTAL ANNUAL EXISTING EXPENDITURES		4,935,000	\$	4,430,000	\$	4,430,000	\$	4,430,000	\$	4,430,000	
		4-a				4.0		4-a		-	
EXISTING SURPLUS/DEFICIT		\$0		\$0		\$0		\$0		\$0	

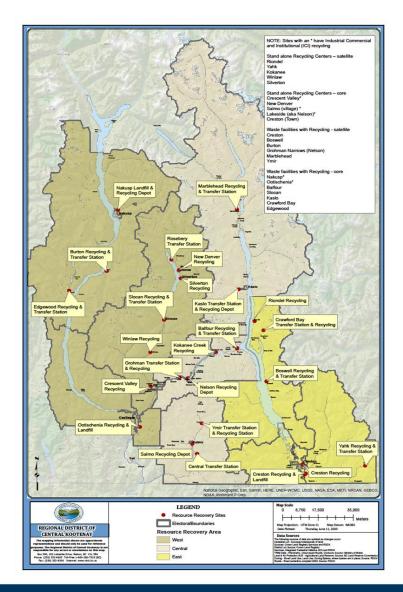


CSRD Staffing





Regional District of Central Kootenay





3 Active Landfills



23 Recycling Depots

2 Composting Facilities

RDCK

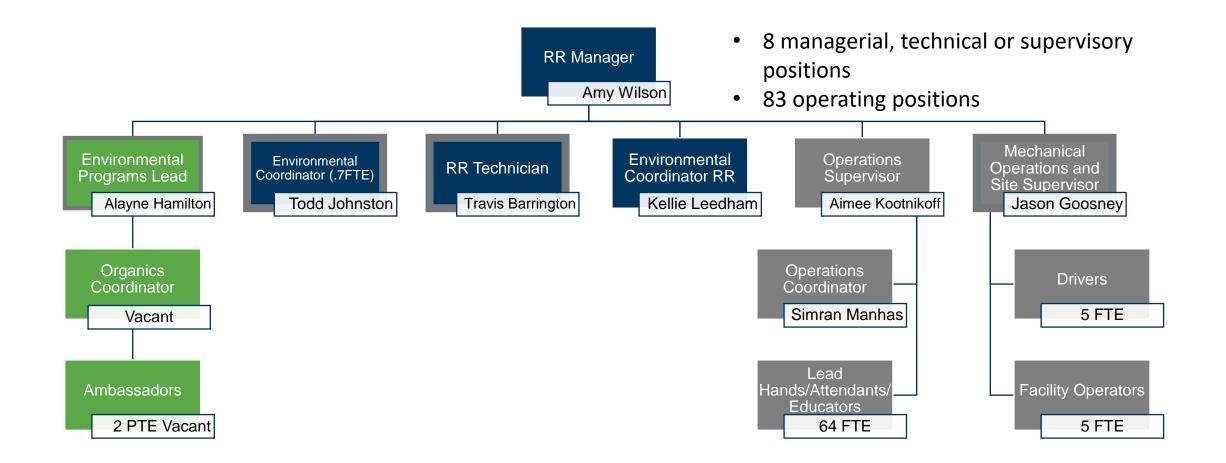
Population : 67,464 Ops Budget: \$12.6 M \$/cap: \$187

CSRD

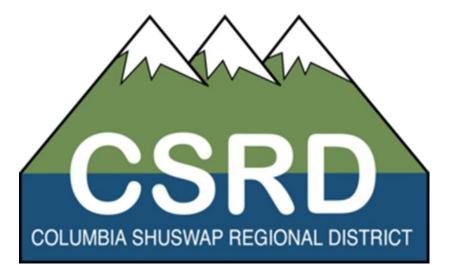
Population: 57,567 Ops Budget: \$6.8 M \$/cap: \$118



2022 RDCK Staffing







System Performance

Current Waste Management System Review

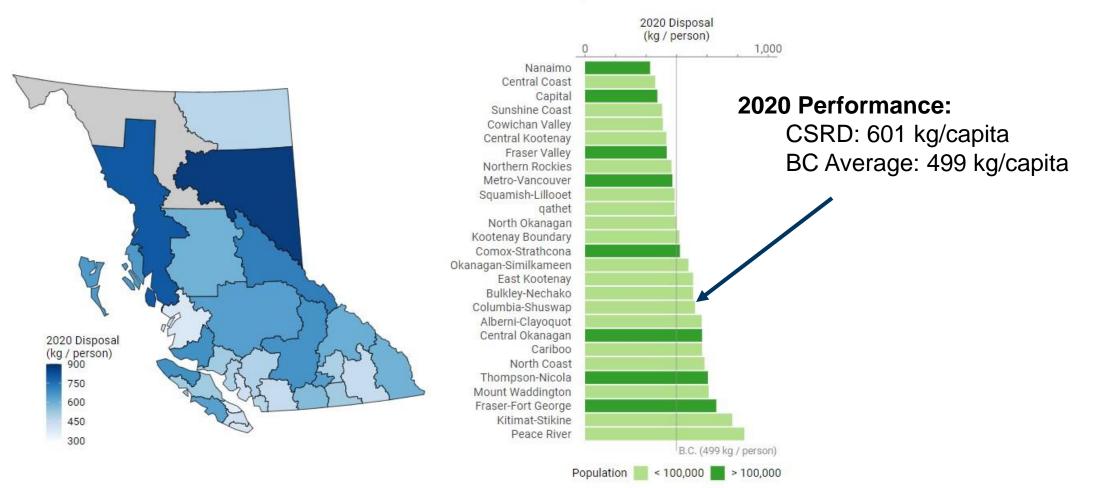
Committee of the Whole

June 22, 2023



Environmental Reporting BC

2020 Regional District Disposal Rates

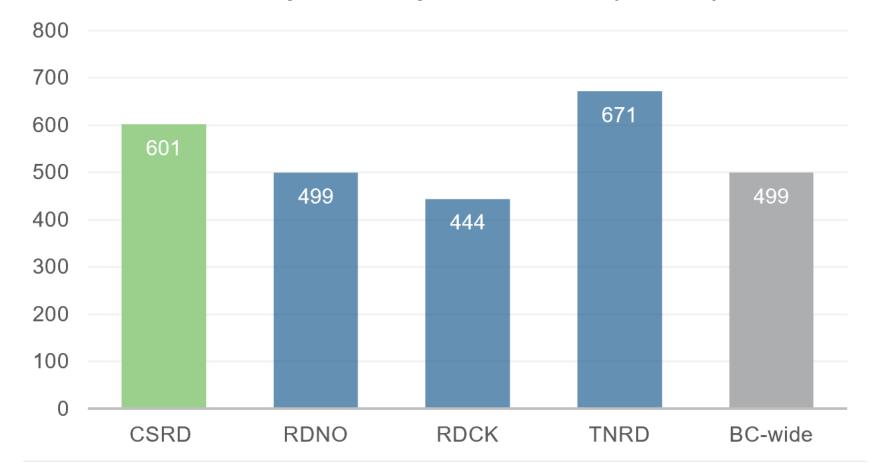


Sort by: Name / Disposal Rate / Population



Comparisons to Other Regional Districts

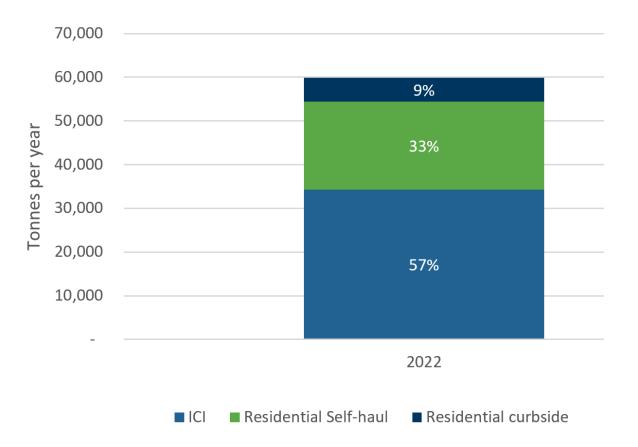
Per-capita disposal rate (2020)





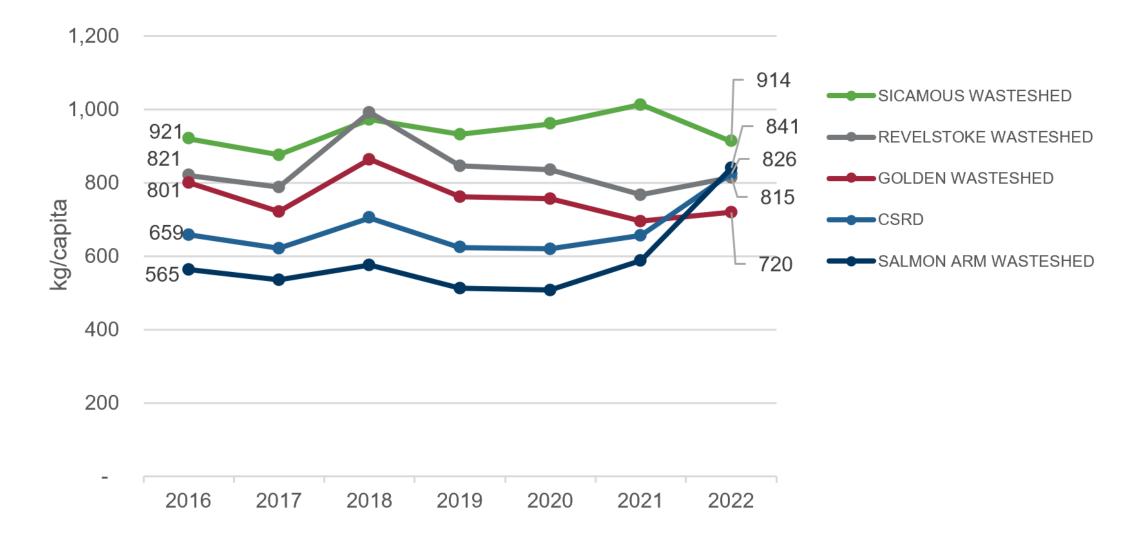
Sources of Disposed Waste

- Over half from commercial sector
- Approximately a third from residential self-haul
- Close to 10% from curbside



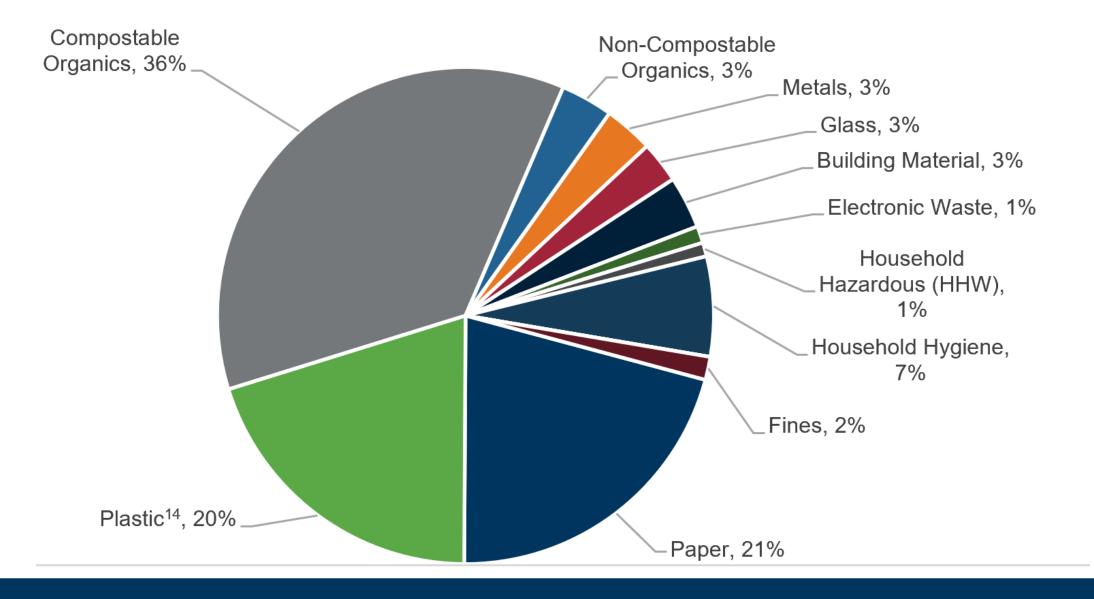


Disposal by Waste Shed





What's in the Landfilled Waste?







Review Findings – COLUMBIA SHU Issues and opportunities

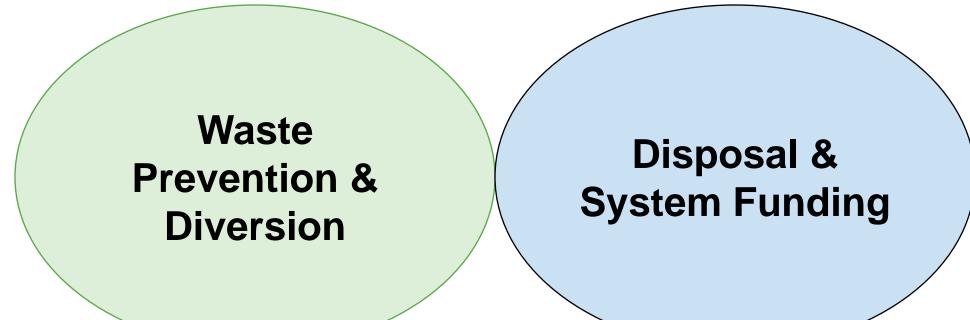
Current Waste Management System Review

Committee of the Whole

June 22, 2023



Overview - Issues & Opportunities





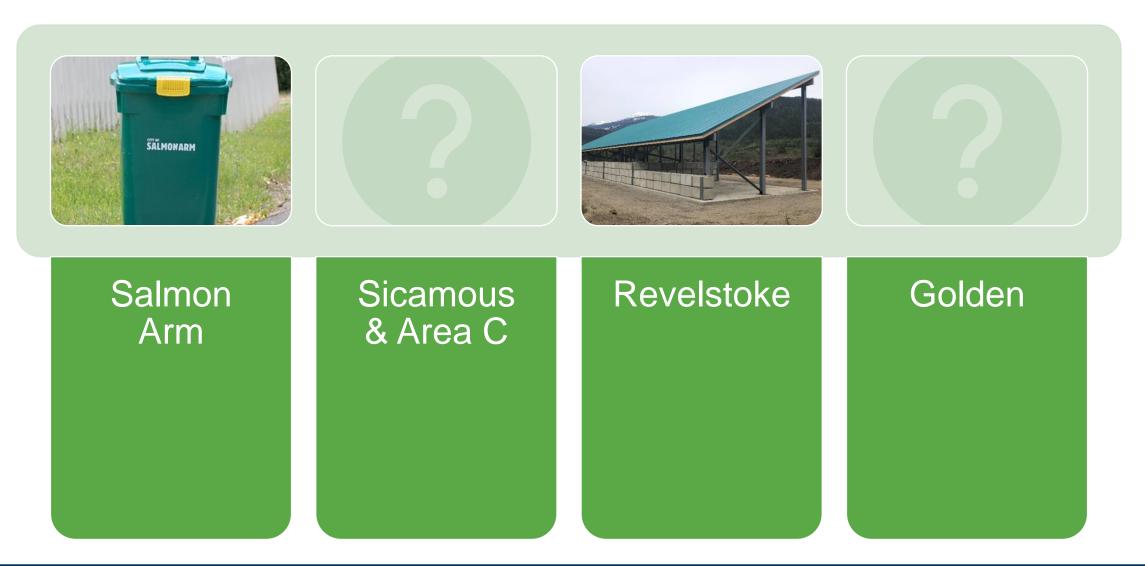
Access to Three-Stream Curbside Collection



- About 60% of the region's population have access to curbside collection
- Key areas without curbside collection includes the Sicamous and Area C
- Improve access to three-stream curbside collection in targeted areas



Need for More Local Organics Processing Capacity





Improve C&D Waste Diversion

CONSTRUCTION AND DEMOLITION WASTE REDUCTION PROGRAM AND TOOLKIT

COLUMBIA SHUSWAP REGIONAL DISTRICT



- A C&D waste reduction program and toolkit was developed
- Opportunities to partner with member municipalities to address C&D wastes
 - demolition permit requirements
 - bylaws that require source segregation



Transfer Station Review Needed

- Some small transfer stations serving small populations
- Significant population growth in some areas
- Need to improve transfer station network to increase the operational efficiency and level of service to users





Improve Waste Diversion Education & Enforcement

- CSRD Bylaw gives the ability to impose higher tipping fees if divertible waste is not separated prior to disposal
- Current tipping fee differential has limited success in driving waste diversion
- Inadequate staffing to effectively encourage waste diversion through bylaw education and enforcement





Financial Compensation for EPR Management

- Insufficient financial compensation for the management of EPR materials
- PPP and household hazardous waste management depots costs \$250,000 -\$300,000 per year not covered by stewards





Explosive

Poison



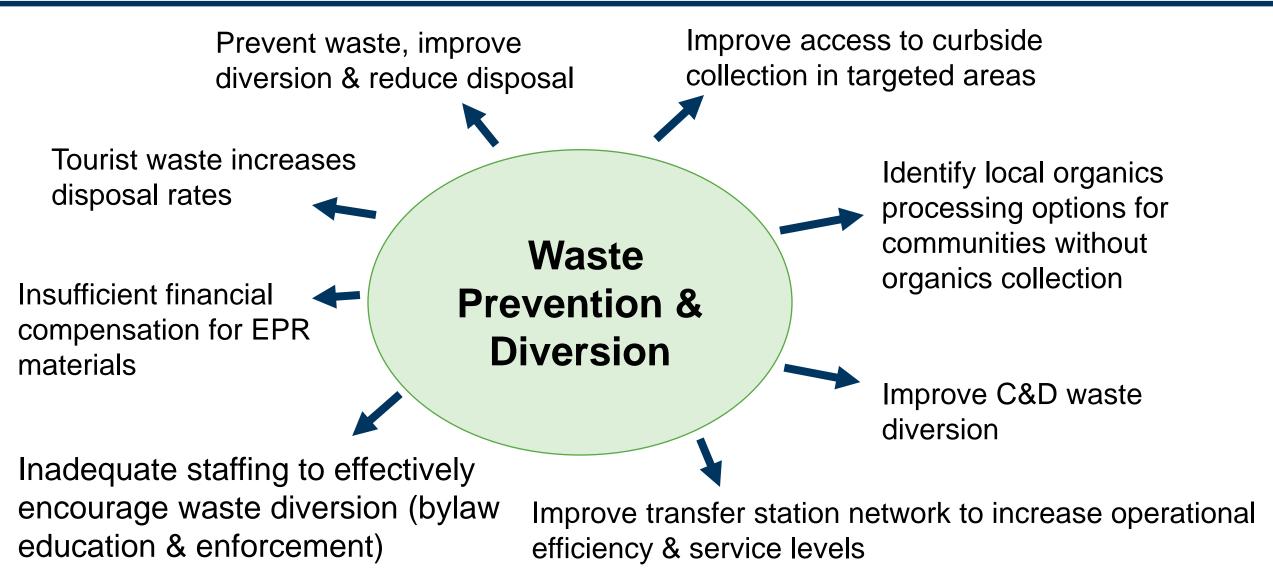
Prevent Waste, Improve Diversion and Reduce Disposal

- Performance is measured on the permanent population (per-capita)
- Waste disposal is influenced by commercial activities & tourism
- Relatively high pre-capita disposal rate in the region
- Need to set realistic targets and track data



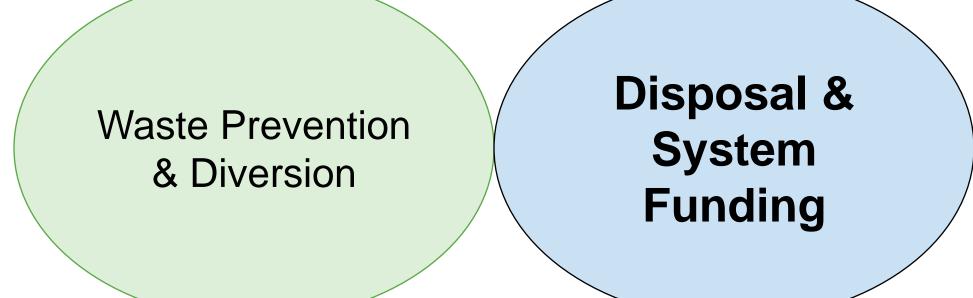


Summary of Identified Issues & Opportunities





Overview - Issues & Opportunities





2009 Solid Waste Management Plan

Diversion

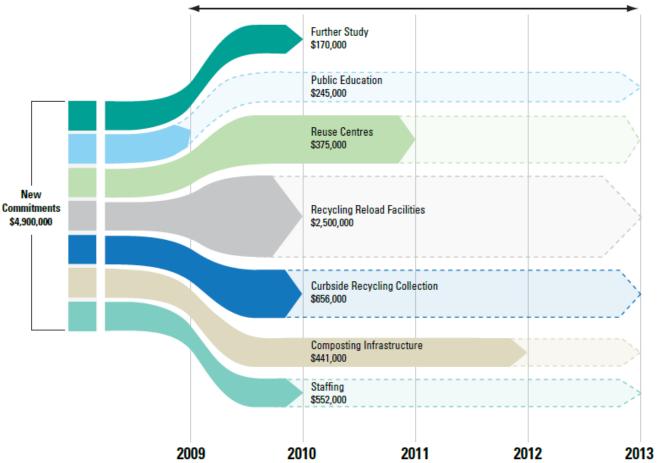
- Blend of user fees and taxation
- Curbside collection programs funded through user fees

Residual Management

- Commit to 100% user pay funding
- Incentive based user fees
- Minimal discussion on landfill capacity, long-term capital projects and environmental liabilities

Slicing Up the New Solid Waste System

Next 5 Years, Invest/Operate





2015 Plan Review

Focus on Organics Diversion & System Funding

- Establish a formal policy on which programs should be funded from tipping fees and which taxes
- Prepare a refined disposal forecast that reflects plan recommendations
- Refine assumptions associated with closure/post closure fund and consider various scenarios
- Develop and testing a series of funding scenarios that include relatively more or less emphasis on tipping fees and tax based funding
- Use taxes to fund closure and postclosure obligations

Final Report

Columbia Shuswap Regional District Solid Waste Management Plan Review and Update

> Prepared for Columbia Shuswap Regional District 781 Marine Park Drive NE Salmon Arm, British Columbia V1E 4P1

> > March 20, 2015

CH2MHILL®

COPYRIGHT JOTS BY CHIM HILL CANADA LIMITED + ALL RIGHTS RESERVED + COMPANY CONFIDENTIAL

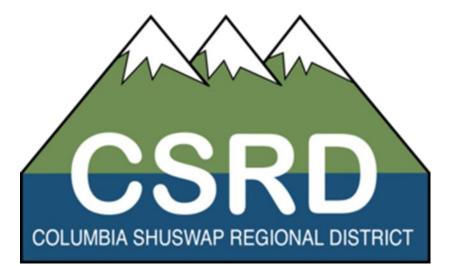


2023 Solid Waste Disposal Issues

- Ongoing compliance issues at landfills
- Higher environmental standards in 2016 Landfill Criteria means higher capital, operating and closure costs
- Capital Projects in approved DOCP's not included in Financial Plans
- Major funding gaps require review of cost recovery
- Which landfills will continue operating and what are the options for regional landfills?

Landfill	Tonnes	% of total
Golden	5,331	11%
Revelstoke	7,414	16%
Sicamous	3,218	7%
Salmon Arm	31,232	66%
Total	47,195	





System Funding Gaps

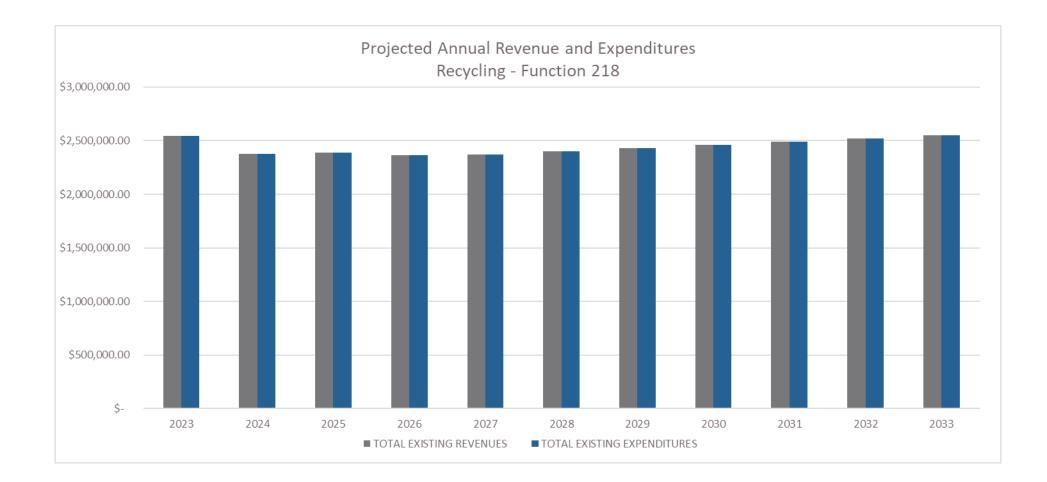
Current Waste Management System Review

Committee of the Whole

June 22, 2023

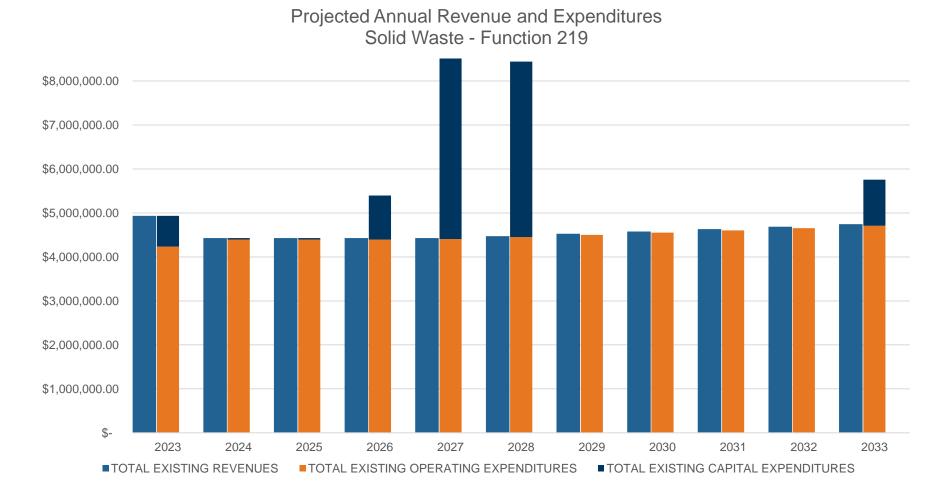


Recycling Function 2018 10 Year Forecast





Solid Waste 10 Yr with DOCP Capital Projects



2023: Revelstoke Phase 1 Closure (\$250K)

2026: Revelstoke Phase 2 Closure and Phase 3 Construction (\$1M)

2027: Golden Phase 2 Construction (\$1.8M) Salmon Arm Phase 3B Construction (\$3.4M)

2028: Golden Phase 1 Closure (\$1.3M) Sicamous Stage A-E Development and Closure (\$2.7M)

2033: Revelstoke Phase 3 Closure (\$2.8M)



Solid Waste Reserves - Function 219

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Operating Balance	175	332	469	585	692	792	891,626	992	1,092	1,192	1,292
Operating Projects	-	-	-	-	-	-	-	-	-	-	-
Contributions	57	157	137	116	106	100	100	100	100	100	100
Capital Balance	1,952	1,967	1,982	1,997	(3,178)	(3,153)	(3,128)	(3,103)	(3,078)	(3,053)	(3,028)
Capital Projects	(305)	(10)	(10)	(10)	(5,200)	-	-	-	-	-	-
Contributions	25	25	25	25	25	25	25	25	25	25	25
Closure Balance	170	270	370	(496)	(396)	(4,287)	(4,187)	(4,087	(3,987)	(3,887)	(4,833)
Closure Projects	(250)	-	-	(966)	-	(3,991)	-	-	-	-	(1,046)
Contributions	50	100	100	100	100	100	100	100	100	100	100
TOTAL RESERVES	2,297	2,569	2,821	2,086	(2,881)	(6,649)	(6,423)	(6,199)	(5,974)	(5,749	(6,570)

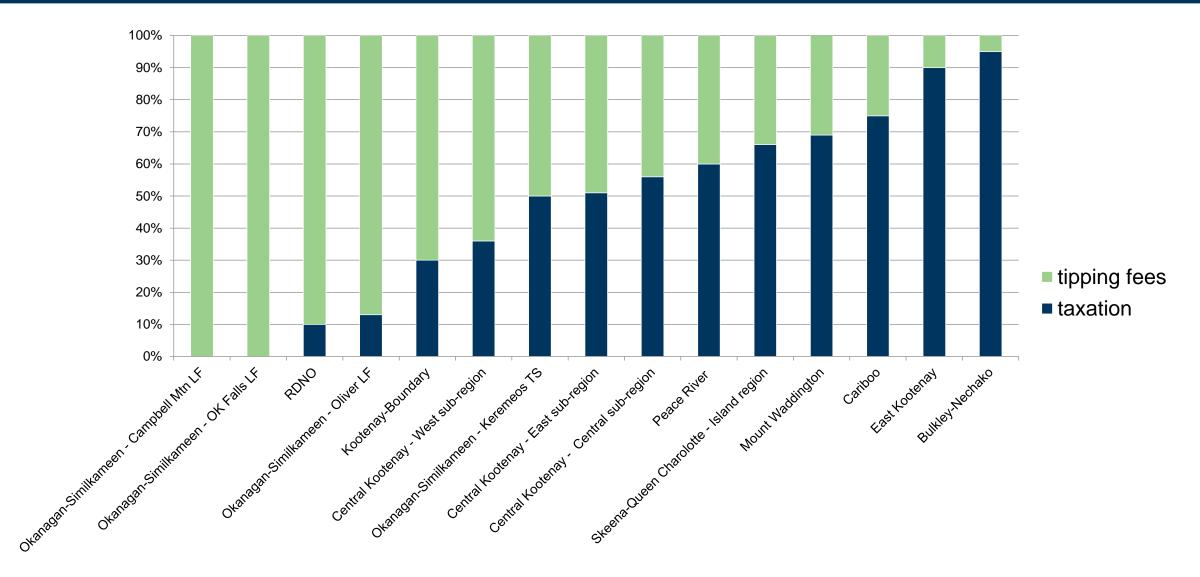
Dollars provided in '000

Local Government Revenue Sources

Propert	y Tax		s and rges	Investment of Local Government Funds		
Borrowir Liabili		Development Financing		Local Government Latecomer Agreements		
	Grants and Transfers		Asset Acquisition and Disposal			

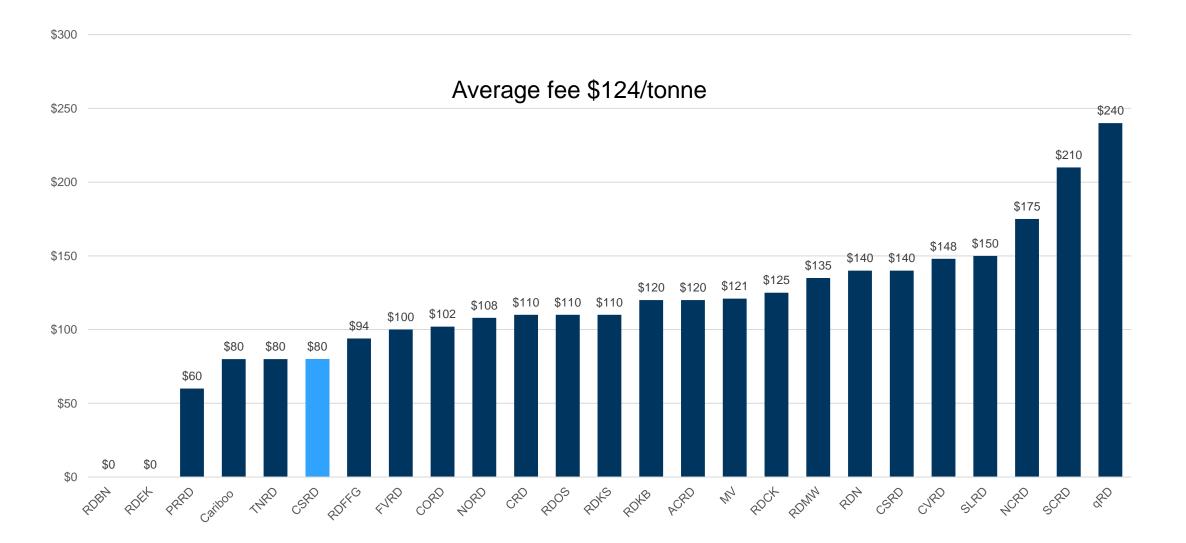


Cost Recovery in Select Regional Districts





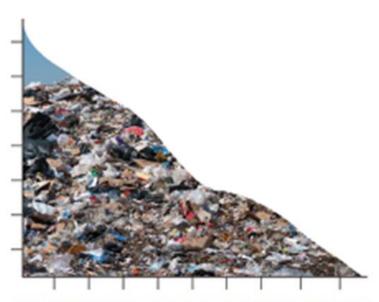
BC Tipping Fees 2022





The Problem with Tipping Fees

- Funding programs entirely from tipping fees may be unstainable if the goal is high waste diversion
- The more you divert waste the less revenue you get
- Environmental protection costs are constant
- Need to find balance between tipping fees taxes, and borrowing



STRATEGIES TO AVOID THE "DEATH SPIRAL" THE MORE YOU REDUCE TRASH, THE MORE YOUR REVENUES DECLINE THE MORE YOUR CUSTOMERS' RATES GO UP



Why are borrowing costs important?

Local Government Act & Community Charter require approval of electors for borrowing of funds necessary to finance capital works



Environmental Management Act provisions allow local governments to borrow money without the approval of the electors for implementation of an **approved SWMP**

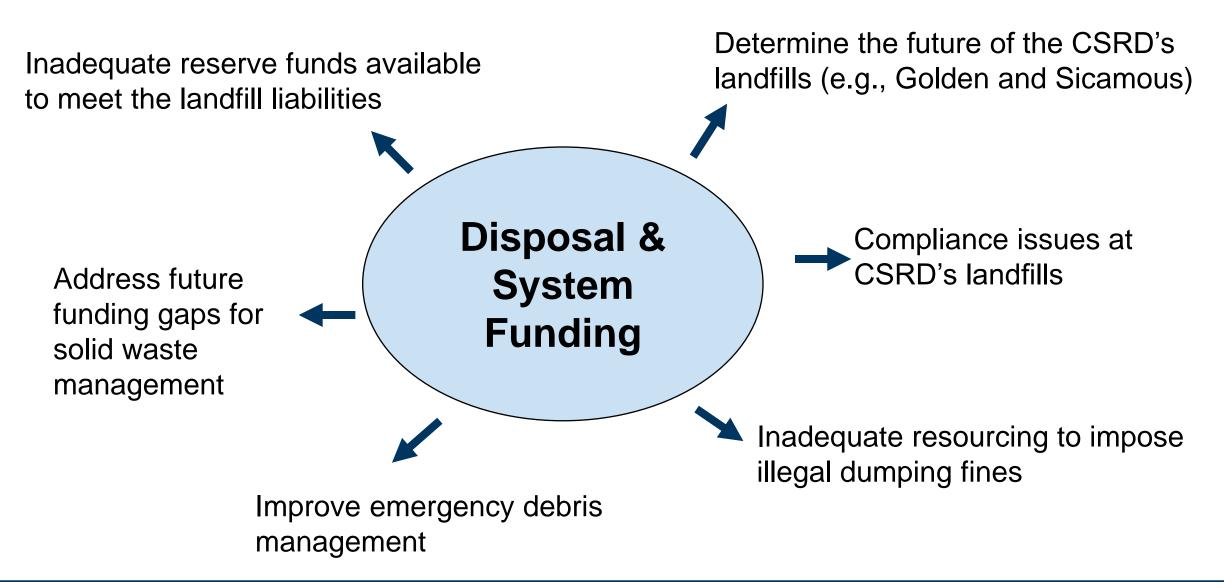
Ministry responsible for community development may approve loan authorization bylaws under a plan, provided that:

Capital projects being borrowed for are identified in the SWMP

Capital costs related to these projects are identified in the Plan



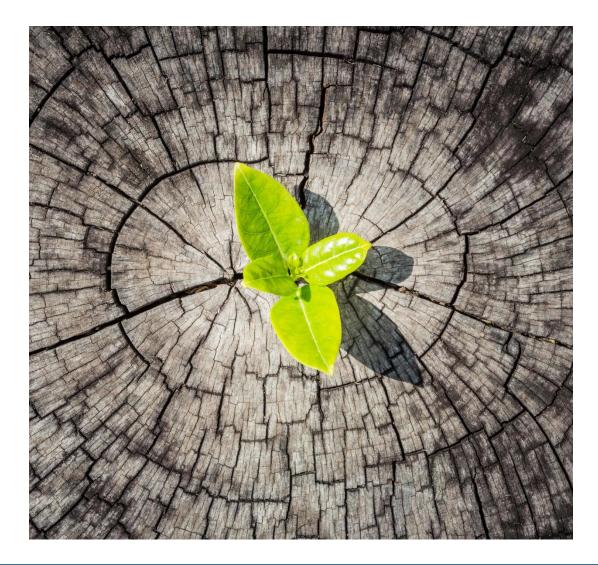
Summary of Identified Issues & Opportunities

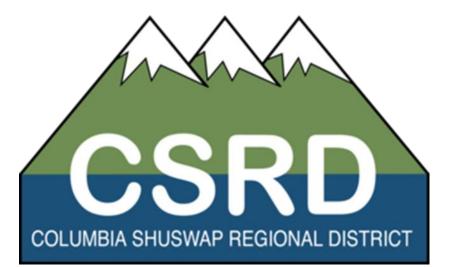




Discussion Session

- Emerging Issues & Opportunities
- Questions:
 - Do you have anything to add to these topics?
 - Have we missed anything significant?





Guiding Principles, Vision, Goals

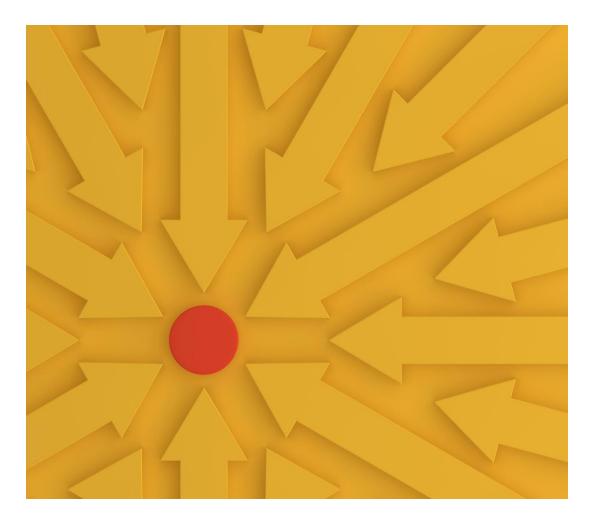
Current Waste Management System Review

Committee of the Whole

June 22, 2023



The Vision and Goals in CSRD's Previous Plans

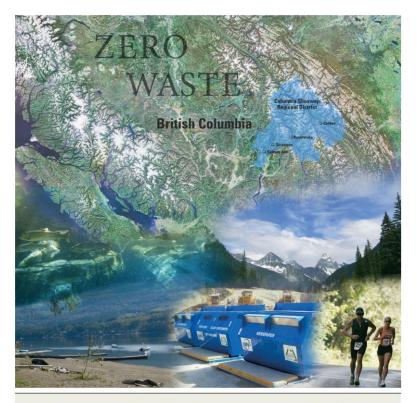


- Since 1992 Provincial guidelines for preparation of SWMP's have required development of environmental guiding principles and regional objectives
- Since 2016 Updates to the guide established new guiding principles



2009 Vision Statement

All economic activities in the Columbia Shuswap Regional District will be consistent with a "Zero Waste" community

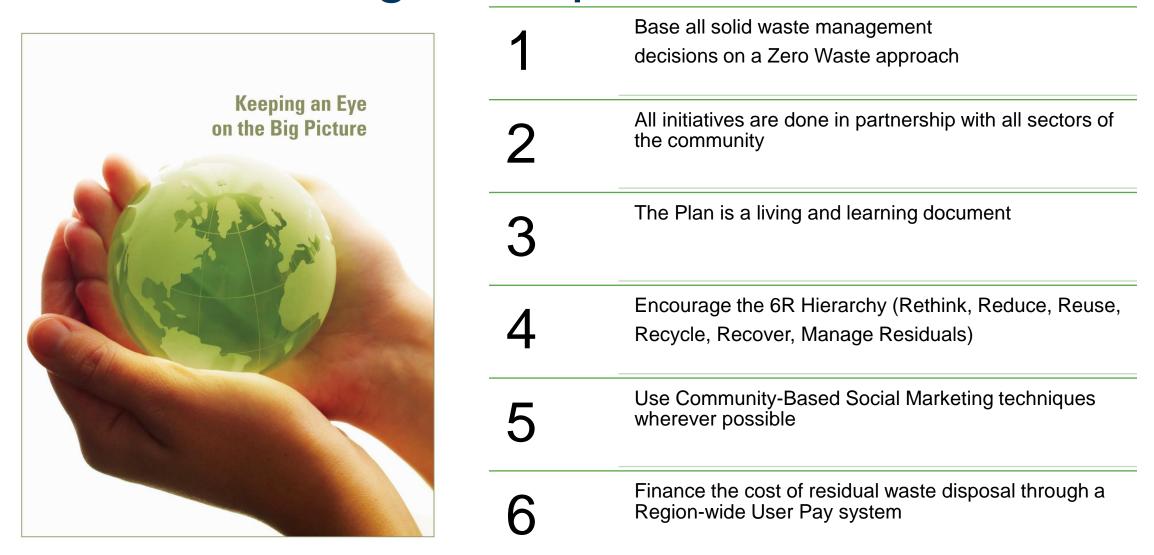


Columbia Shuswap Regional District Solid Waste Management Plan Executive Summary 2009 – 2029





2009 Guiding Principles





Provincial Guiding Principles 2016



1	Promote zero waste approaches and support a circular economy
2	Promote the first 3Rs (Reduce, Reuse, Recycle)
3	Maximize the beneficial use of waste materials and manage residuals appropriately
4	Support polluter and user-pay approaches and manage incentives to maximize behavior outcomes
5	Prevent organics and recyclable from going into garbage wherever practical
6	Collaborate with other regional districts wherever practical
7	Develop collaborative partnerships with interested parties to achieve regional targets set in plans
8	Level the playing field within regions for private and public solid waste management

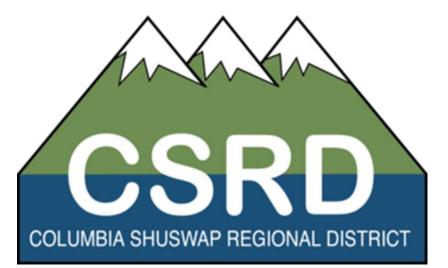


Guiding Principles, Vision, Goals



 Feedback from PTAC June 21 on a vision, goals & suitable guiding principles for the planning process





Next Steps

Current Waste Management System Review

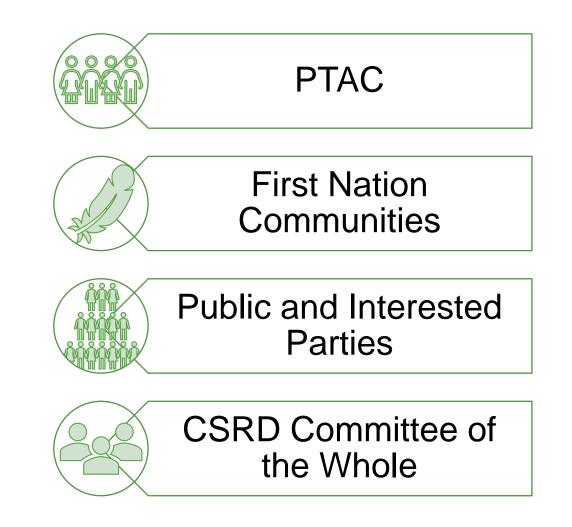
Committee of the Whole

June 22, 2023



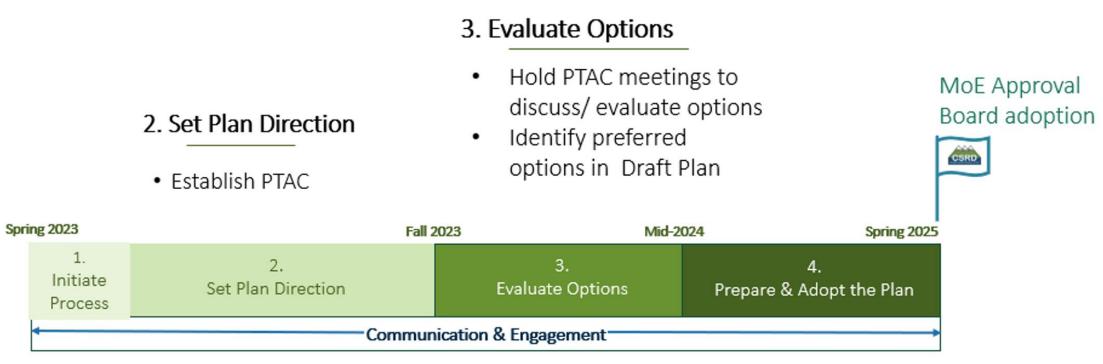
Consultation & Engagement

- The Communication & Engagement Plan identifies the proposed consultation approach
- Stakeholder engagement = public consultation
- Four main stakeholder groups





Consultation Approach



1. Initiate Process

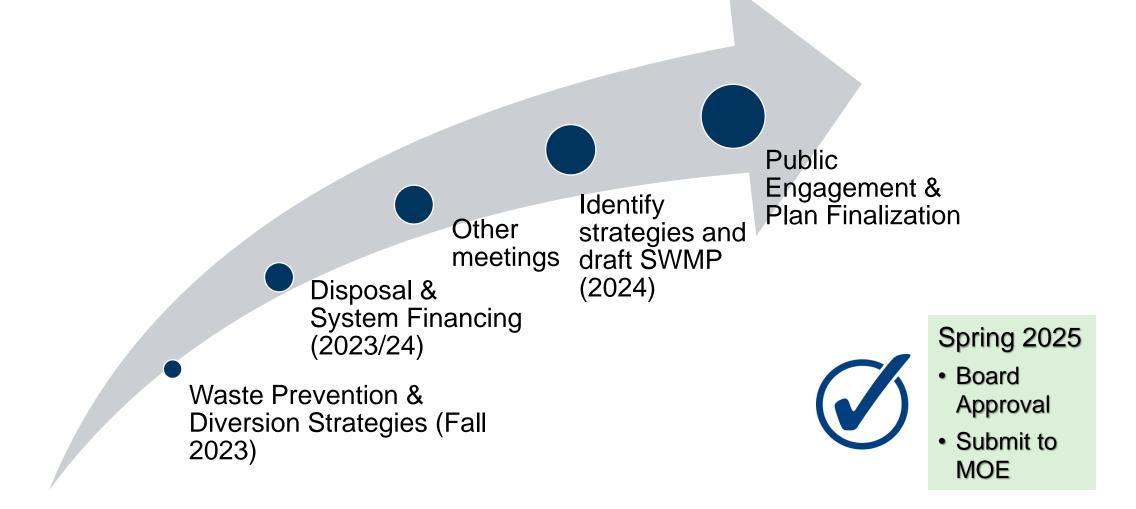
- Assess the current system
- Develop Communications and Engagement Plan

4. Prepare & Adopt the Plan

- Undertake public consultation on Draft Plan via survey, meetings, etc.,
- Address feedback and finalize the Plan



Next Steps – Future PTAC Meetings





Next Steps

Future Committee of the Whole Meetings

- Meeting twice per year
- Report on PTAC feedback and obtain buy-in on specific aspects





Thank you!

Veronica Bartlett Senior Solid Waste Planner vbartlett@morrisonhershfield.com



Carey Mclver Senior Technical Planning Advisor <u>carey@careymciver.com</u>