



Landfill Operations Update and Future Plans

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Presentation Outline

- Landfilling 101
- Salmon Arm Landfill
- Programs and Budgets
- Landfill Closure, Capital Projects and Liabilities
- 2025 Plans
- Cool Projects
- Immerging Issue
- Questions

Solid Waste/Recycling in the CSRD

- Region-wide program managed by the CSRD
- Funded by a combination of taxation, tipping fees and Stewardship group contributions
- Municipalities operate collection programs
- CSRD operates receiving facilities
 - Landfills, transfer stations, etc.

Landfilling 101

- Operational Certificate
- Design, Operation and Closure Plan (DOCP)
- Active Face / Cell / Phase
- Intermediate Closure / Final Closure
- Leachate
- Post Closure Monitoring

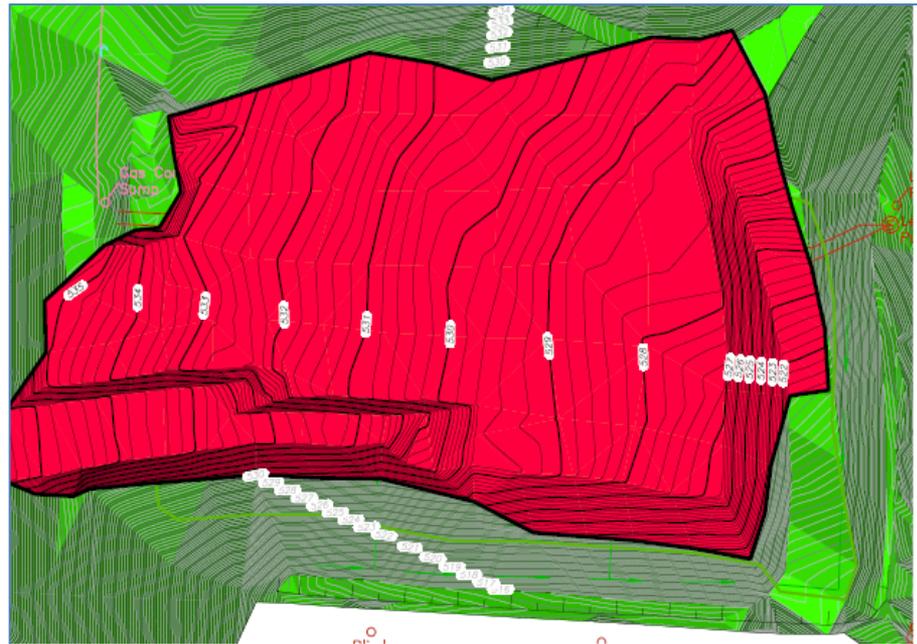






Salmon Arm - Tonnes Managed (red) vs. Tonnes Landfilled (green)





Base Surface:
EG - Salmon-Arm-2023-Full-Site

Comparison Surface:
EG - Salmon-Arm-2024-Year-End-Remeasure
Date Surveyed - November 8, 2024

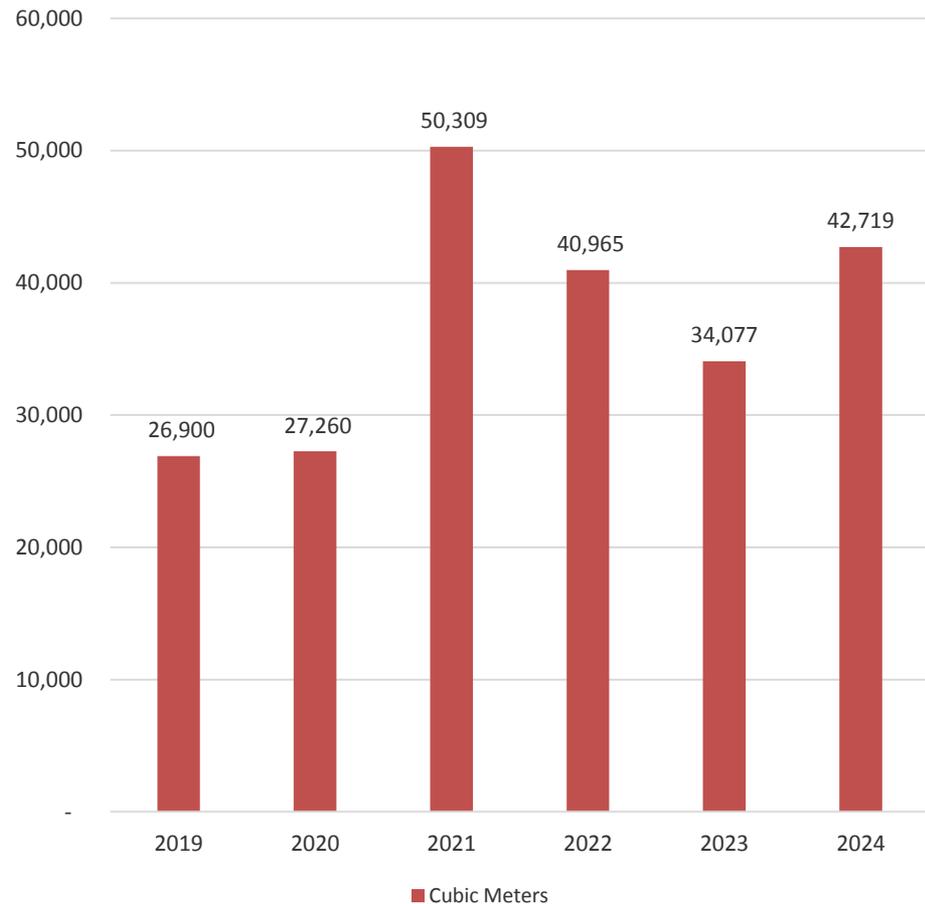
Fill:
42,719 m³



Salmon Arm Landfill 2024 Volumes

DATE: 2024-12-04
SCALE: 1:1250
FIG. No. -

Airspace Consumption m³



Recycling Programs

- Recycling
 - Diversion Programs
 - Hazardous Waste Depots, Re-use Centres
 - Yard and Garden Waste Composting
 - Food waste Composting
- Funding (2025 Budget is est. \$3,050,000)
 - Taxation (\$1,075,000)
 - Stewardship Payments (\$1,025,000)
 - Tipping Fees (\$750,000)
 - Commodity Revenues (\$200,000)

Solid Waste

- Solid Waste (2025 Budget est. \$6,100,000)
 - Tipping Fees \$5,125,000
 - Grants \$375,000
 - Taxation \$600,000 (\$300,000 in 2024)

- Reserves

Reserve Balances at Feb 21/25		
246-3509	Solid Waste Capital Reserve	\$4,890,897
246-3521	Closure Reserve	\$1,222,461
246-3562	Recycling Capital Reserve	\$866,971

Site	Years Remaining	Volume 2024 (m3)	Volume AVG	Cumulative (m3)	Total Capacity (m3)	% Used	Estimated FINAL Closure Cost	EST_Year of Closure		Estimated CAPITAL Cost for Expansion	Projected Start of Project
Salmon Arm											
phase 3A (2021 Update)	3	42,719	40,314	161,257	286,221	56	\$ 867,150	2028			
phase 3B (2021 Update)	12				471,423		\$ 1,560,870	2040		\$ 2,016,000	2027
phase 4 (2019 Update)	21	-	-	-	1,156,072	0	\$ 2,888,960	2061			
phase 5 (2019 Update)	26	-	-	-	1,068,322	0	\$ 5,279,082	2087			
							\$ -				
							\$ -				
							\$ 11,124,801				
							\$ 11,124,801				
							\$ 11,124,801				



Landfill Closure Liability

- Asset Retirement Obligation (ARO)
- Legal obligation to retire a Tangible Capital Asset
- ARO Liability as of December 31, 2024
 - **\$55,081,605**
- BC Landfill Criteria for Municipal Solid Waste
 - Final Cover Design
 - Closure and Post Closure Criteria

Golden Landfill - cost estimates from 2019			
Anticipated Year of Closure	Site	Cost Estimate	Future Adjusted Cost
2027	Phase 1	128,000	1,585,038
2039	Phase 2	582,200	991,900
2045	Phase 3	327,500	654,675
2067	Phase 4	458,500	1,646,982
2080	Phase 5 (Final) Closure	2,663,500	13,527,250
2081-2110	Post closure monitoring (30 years)	6,750,000	53,195,742

Salmon Arm Landfill - cost estimates from 2019			
Anticipated Year of Closure	Site	Cost Estimate	Future Adjusted Cost
2026	Phase 2	582,200	991,900
2048	Phase 3	2,428,020	5,257,460
2075	Phase 4	2,888,960	12,842,495
2095	Phase 5 (Final) Closure	5,279,082	39,981,766
2096 - 2295	Post closure monitoring (200 years)	18,074,400	5,411,020,443

Sicamous Landfill - cost estimates from 2023			
Anticipated Year of Closure	Site	Cost Estimate	Future Adjusted Cost
2063	Final Closure	3,042,121	10,360,639
2064-2093	Post closure monitoring (30 years)	750,000	3,963,580

Revelstoke Landfill - cost estimates from 2024			
Anticipated Year of Closure	Site	Cost Estimate	Future Adjusted Cost
2026	Phase 2	1,350,000	1,670,675
2033	Phase 3	1,470,000	2,192,119
2039	Phase 4 (Final) Closure	1,490,000	2,607,064
2040 - 2139	Post closure monitoring (100 years)	7,500,000	66,661,495

Anticipated Closure Funds Required by Year (value at year of closure)

2026	2,662,575
2027	1,585,038
2033	2,192,119
2039	3,598,964
2045	654,675
2048	5,257,460
2063	10,360,639
2067	1,646,982
2075	12,842,495
2095	39,981,766
	\$80,782,713

2025 Closure Fund Tax Requisition Distribution

\$600,000

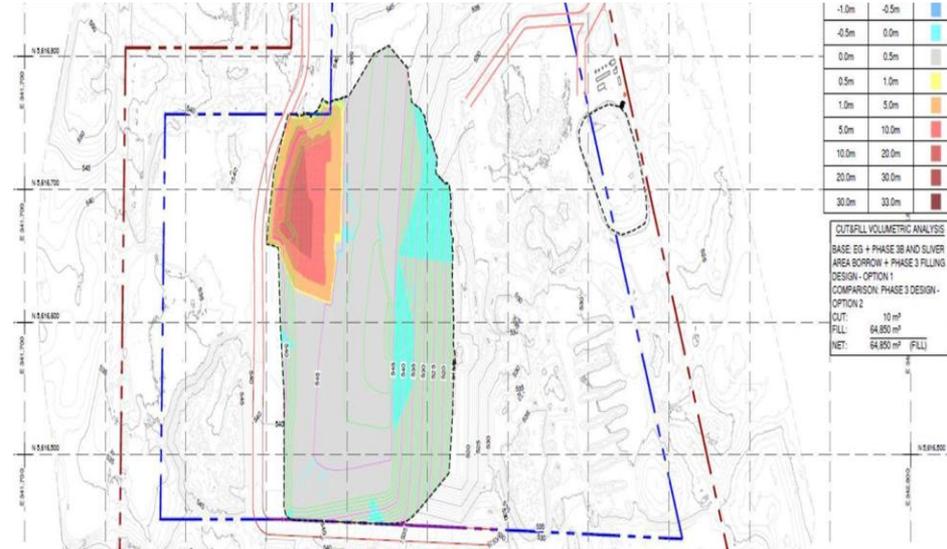
Salmon Arm	\$152,478
Revelstoke	\$103,948
Golden	\$39,033
Sicamous	\$34,033

*The average residential property in Salmon Arm would be paying \$14.05

Area A	\$41,457
Area B	\$18,484
Area C	\$46,391
Area D	\$25,168
Area E	\$19,767
Area F	\$57,441
Area G	\$61,801

2025 Plans

- “Sliver Fill”
 - Project to create about 60,000 cubic meters of airspace
- Optimization Study
 - Traffic flow, site layout
- Continue Site Improvements
 - Landfill gas field
 - Phytoremediation upgrades



Revelstoke Landfill - Phase 1 Closure





Landfill Gas Collection System and Flare

- Landfill gas collection piping installed under the liner with venting system
- Solar flare with data logging
- Flare commissioned in August 2023
- Sperling Hansen estimates 800 tonnes CO₂-e GHG reduction annually
- Challenges include large snowpack and annual maintenance







Natural Disaster Debris Management – Bush Creek Fire 2023/24



Debris Management – Natural Disaster

- Challenges
 - 2024 estimates 5,000 – 10,000 additional tonnes from Bush Creek Fire clean up projects and soil remediation
 - Province may not cover tipping fees if RD owns landfill (Example: food debris from fridge/freezer clean out)
 - Increased call volumes to the office – multiple requests for reduction or no tipping fees
 - More material to manage at landfill such as ash, metal, concrete, contaminated soils, yard and garden waste (fire smart materials)

Thank you!

Happy Answer Questions

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