ALBERNI-CLAYOQUOT
REGIONAL DISTRICT

Alberni Valley & Bamfield Waste Management Plan

Asset Management Plan

Version 1

DATE OF ADOPTION: JUNE 24, 2020

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1 EXECUTIVE SUMMARY

1.1 Purpose of the Plan

The Alberni Valley & Bamfield Waste Management Plan (AVLF) Asset Management Plan (AMP) is part of the ACRD Asset Management program to facilitate informed decision-making and effective allocation of resources for infrastructure. The purpose of an AMP is to deliver sustainable, cost effective services to ACRD communities in a socially, economically, and environmentally responsible manner, while providing the level of service agreed upon by the Board of Directors.

1.2 Asset Description

The AVLF assets include:

- Large shop & drywall shelter
- Scale house, office, vehicle scale
- 3rd Avenue Recycle Depot
- Water system and leachate equipment
- Landfill Road asphalt surfaces and tipping wall
- Bamfield Transfer Station
- Recycling centre

1.3 Levels of Service

The present funding levels are sufficient to continue to provide the existing services at current levels in the medium-term. Current reserve balances and revenue trends would not present a threat to providing the current level of service but the Board has mandated further diversion than what is currently provided and that will require an updated analysis.

1.4 Future Demand

The main demands for new services are created by:

- Growth rate
- Diversion rates and programs
- Board of Directors and resident level of service expectations
- Legislative regulations

These will be managed through a combination of managing existing assets, upgrading of existing assets and providing new assets to meet demand and demand management. Demand management practices include non-asset solutions, ensuring against risks and mitigating failures.

1.5 Lifecycle Management Plan

Asset Management assists in conscious and calculated decisions for all assets covered in Plans from acquisition, operation, maintenance, disposal and renewal or upgrade. During the course of an assets life, the replacement or retirement value is known along with an estimated date of replacement based on age and condition. Annual contributions required are calculated for each component in each service so we can measure the funding gap between current and future levels of service in order to align funding and service expectations. The AM Program achieves responsible and reliable lifecycle management practices.

The Asset Management Coordinator will create the AVLF AMP with the assistance of consultant reports and operations staff. Asset Management systems will continue to be maintained once this position expires by ACRD staff. Estimated service life and replacement cost of the landfill infrastructure were determined using Annual Reports for the AVLF. Management and staff provide risk assessments and goals.

1.6 Financial Summary

The AVLF assets, excluding assets owned by the Operations Contractor, have a total current replacement value of $4.7 million in 2020 dollars and a current closure cost of $12.9 million with future closure and post-closure costs expected to reach $33.6 million with inflation. With an estimated inflation rate of 1.5% (10-year CPI average), estimated future replacement costs are $8.6 million for current infrastructure at the end of the components estimated service life, with no consideration for a future landfill site. Not included in the estimates are projections for future demand and projected capital upgrades. The Alberni Valley population has grown approximately 1% annually. The AVLF and ACRD are constantly researching and implementing new diversion programs that should offset any demand growth. If population were to drastically increase it will be considered in future AMPs.

The Ministry of Environment and the Public Sector Accounting Board requires that financial liability for closure and post-closure monitoring costs of municipal solid waste landfills is properly recognized and adequately funded. The AVLF has a dedicated capital reserve account that is well funded and a closure account that is projected to cover the required costs when the landfill reaches capacity in approximately 2082. A Design, Operations and Closure Plan (DOCP) is currently being created for AVLF in which the recommended closure contribution annual amount will be updated.

The solid waste activity is debt free and activities are funded to 70% by tipping fees and only 3% by requisition. Increases in tax requisitions are not planned for this service; additional required revenues will be generated through user fees, if necessary. Table 1.6 shows the distribution of income for the AVLF while Table 1.7 shows the tipping fee revenue in relation to the total waste tonnage landfilled.

Table 1.6 – Income Sources for AVLF

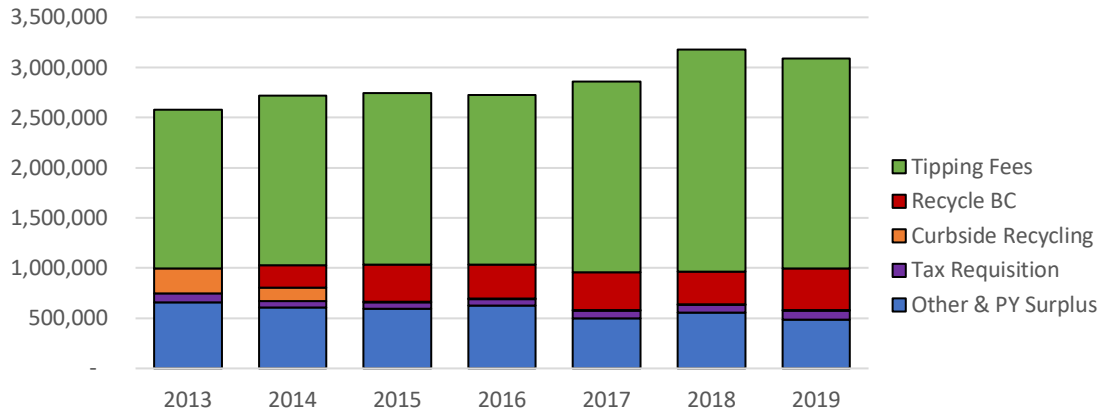
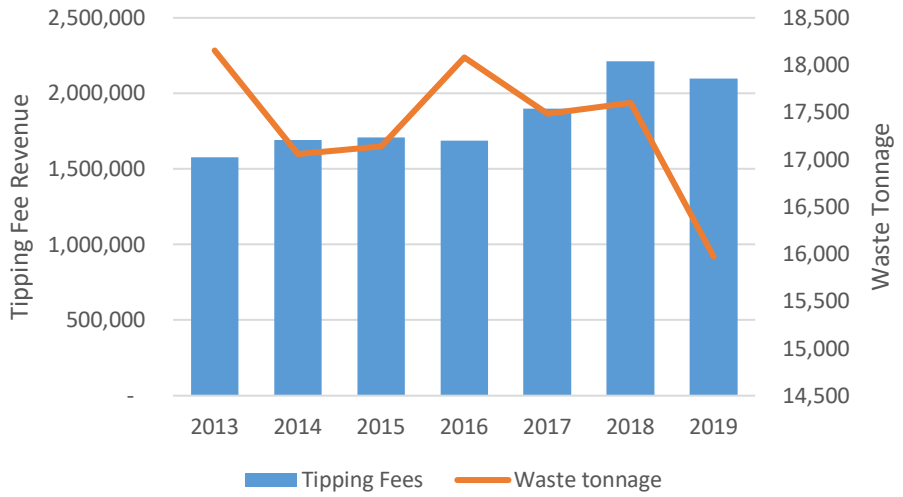


Table 1.7 – Total Tipping Fees



It should be noted that different materials have different tipping rates and bagged garbage isn't weighed but rather charged a rate per bag. Total weights are calculated using scale records only.

1.7 Asset Management Practices

Assets are managed using a combination of Microsoft Office, CompuWeigh 6, Vadim and consulting firms. Registries and AMPs will be reviewed and updated on an annual basis prior to the release of the following version.

1.8 Monitoring and Improvement Program

At the end of this AMP, there will be an Improvement Plan intended to improve Asset Management practices within AVLF and the Asset Management Program as a whole. Generally included in Improvement Plans are suggested changes or additions to documented inspections and condition assessments, monitoring of asset-specific operational and maintenance procedures and assigning present risks a numerical rating in order to measure mitigation success.

2 INTRODUCTION

2.1 Background

This AMP encompasses all AVLF assets including the 3rd Avenue Recycle Depot and Bamfield Transfer Station and excluding assets owned by contractors. The purpose of the plan is to facilitate the strategic management of the AVLF and the services provided by it, giving guidance on new and existing infrastructure to maximize use of financial resources long term, reduce risk and provide a prioritized view for service continuity and improvements over a 20 year planning period and beyond.

The ACRD AM Program follows the advice of the Asset Management BC Framework; Plans are designed to be living documents that change with the organization to reflect progress made while continuously striving for sustainable service delivery. Consideration of community priorities and an understanding of trade-offs between resources and desired services is the foundation of sound AM practices.

Google Earth image of the Alberni Valley Landfill

The AMBC Roadmap guides organizations through basic, intermediate and advanced Asset Management Practices. It is the goal of the ACRD to achieve a basic to intermediate level of understanding.

This AMP should be read in the context of the ACRD's Asset Management Policy and Strategy. The AVLF AMP is a living document and will develop with AM practices and with the influence of the following corporate documents:

- Annual strategic priorities
- Short-term and long-term financial plans
- Maintenance policies
- Annual Reports
- User rates and fees bylaw
- Grant applications and funding

AMPs are designed for several reasons. First, to guide Management and the Board in planning and decision-making. Second, to aid in the creation of short term and long term financial plans as well as operational plans. Last, to spark community engagement for the service.

As the ACRD moves through the AM implementation process, knowledge and understanding of the AM program increases and it is expected that this plan evolve further, solidifying assumptions made and filling in any present information gaps where further research or information is required.

The AVLF began operations in the 1970's and per the 2019 Annual Report prepared by the ACRD, an estimated 2,488,185 cubic meters remains for future filling. At the current rate, the AVLF will reach capacity in approximately 2082. Currently, cells are being filled in the northeast corner of the landfill and future plans are to build up rather than expand into empty land in the southwest. The AVLF is located on Provincial Crown Land. The ACRD developed the landfill by applying for several Provincial Licence of Occupation tenures. All of the tenures have expired and in the Fall of 2018 the ACRD applied to the Province to amalgamate these into one tenure and to obtain a long term tenure. The Province is currently consulting with First Nations on the tenure application.

Due to the nature of a landfill, leachate infrastructure that is buried beneath filled cells and along the south boundaries where no landfilling has taken place will not be replaced but rather added when and where needed. Examples of this infrastructure include French drains, Dutch drains, monitoring wells and manholes.

Monitoring Well along North Boundary

2.2 Asset Inventory

The AVLF consists of many components including:

- Maintenance & drywall buildings
- Scale house, attached office and scale
- 3rd Avenue Recycle Depot
- Electric bear fencing
- Landfill access road and asphalt surfaces
- Hydro poles
- Leachate collection system
- SCADA monitoring software
- Water reservoir, mains and hydrants
- Pump stations

Current replacement costs were estimated by staff and consultants using historical and industry estimates. Unit costs include all installation and remediation activities. Remaining useful life estimates were based on installation dates and expected service life provided by staff based on knowledge and experience.

AVLF closure costs were determined based on engineering assessments and the estimated remaining useful life of the landfill. Closure costs include initial closure expenses as well as ongoing maintenance and monitoring of the land.

2.3 Levels of Service

Levels of service are the defined quality for a particular activity or service against which performance may be measured, relating to quality, quantity, reliability, responsiveness, environmental impacts and cost.

The levels of service determine the amount of resources that are required to manage the solid waste activity in order to provide the community with the levels of service specified. Customer expectations, affordability, community outcomes and Ministry of Environment (MoE) requirements. Levels of service are defined using two terms, customer levels of service and technical levels of service.

Customer LOS: measure how the customer receives the service and measure of value we provide.
Technical LOS: technical measures of performance relating to the allocation of resources to service activities to best achieve the desired outcomes and demonstrate effective performance.

- Operations – ongoing activities, day-to-day operations
- Maintenance – activities enabling an asset to provide service for its planned life
- Renewal – activities that return the service capability to near original capacity
- Upgrade – activities that provide a higher level of service

For the purposes of this report, customer's level of service expectations are set upon the annual adoption of the financial plan and strategic priorities as it is a reflection of the values, policies, and priorities of the Board of Directors with input from committees and public engagement sessions, if desired. This will assist the ACRD's Board of Directors and stakeholders in matching the level of service required, service risks and consequences with the community's ability and willingness to pay for the service.

The current and expected Levels of Service detailed in Tables 2.1 and 2.2 shows the expected levels of service based on resource levels in the current financial plan. Organizational measures are measures of fact related to the service delivery outcome.

Table 2.1 - Customer Level of Service Objectives

Values	Expectation	Performance/ Organizational Measure Used	Current Performance	Forecast with Current Budget
Quality	Landfill and access road are safe and accessible year-round	Number of safety incidents involving the public or landfill staff	Some minor tripping hazards with curbs at transfer station	No instances of falls, trips or other safety incidents
Function	Landfill accepts all commonly accepted waste streams Minimal wait times to access facilities	Banned materials versus other accepted materials at landfills in areas of similar population Line-up length, wait times, complaints	AVLF accepting all commonly accepted materials compared to surrounding landfills Current wait times during busy periods can vary between 15 to 45 minutes. The COVID-19 pandemic has increased these busy periods	AVLF accepts all materials accepted at other surrounding landfills The addition of a second scale is being discussed as a possibility to reduce wait times in the future
Capacity and Use	Landfill will continue to remain active until capacity is reached in which time a new landfill site will open or become available	Diversion or reducing use of cover material. Closure plans in place to address closure and relocation prior to capacity	DOCP plans being developed. Reduction of cover material usage. Additional diversion programs are being developed for more frequently landfilled waste streams	Organics diversion program in place. Further diversion programs in place for higher volume waste streams with a notable decrease in landfilled waste

AVLF Transfer Station & Gypsum Recycling Shed

Table 2.2 - Technical Levels of Service

Service	Service Objective	Objective Measure	Current Performance	Desired Outcome
Operations 2020 Budget: $1,457,500	Facility must be bear proofed	Number of bear entrances to protected areas	Bear fencing surrounding perimeter of landfill	No instances of bear entry to landfill
	Landfill gas is managed within the Ministry's guidelines	Landfill gas must not exceed 1,000 tonnes annually without mitigation	Landfill methane gasses estimated at 676 tonnes annually. Landfill Gas Management options being explored	Landfill gas management infrastructure is in place to mitigate any emissions above 1,000 tonnes of methane annually
	Necessary reporting to the Ministry is kept up to date	Comprehensive Annual Report is completed and submitted annually	All required reporting is done on an annual basis. DOCP coming in 2020 or 2021	Required reporting is consistent and in compliance with landfill/MoE regulations
Maintenance 2020 Budget**:** No set maintenance budget; included in Operations	Landfill shall not create a nuisance (dust, noise, litter, odor, vectors and/or wildlife attraction)	Number of nuisance complaints.	AVLF has not received any nuisance complaints. Quarterly roadside litter pickups for area around AVLF	No change
	Leachate collection system in place	Leachate collection data is satisfactory with MoE guidelines	Leachate monitoring system in place; flow data not collected from all interception wells. Some wells in need of repair	Leachate flow data for all interception wells. All wells in need of repair received required works.
	Surface water diversion and storm water management system in place	Direct surface water away from active operation area to minimize contact with waste	Currently no storm water diversion system	Install storm water diversion system to keep runoff out of leachate system
Renewal 2020 Budget: $120,000	Closure fund and post-closure fund must be built up over time	Funds must ultimately meet or exceed the estimated closure and post-closure costs plus contingency	Closure fund reserves are at an adequate level and projected to cover required costs upon closure	No change unless directed by DOCP report coming in 2020
Upgrade/ New 2020 Budget: $4,614,400	Future site for landfill is located within 25 years prior to landfill closure	Funds are secured and tenure discussions have begun on a new site	No funds secured. It is expected that there will be no permission granted to construct another landfill	No change. Based on surrounding community landfills, it appears likely that waste will be barged off Vancouver Island after AVLF reaches capacity

It is important to monitor the service levels provided regularly as these will change as regulations and expectations change. The current performance is influenced by work efficiencies, technology and Ministry of Water, Land and Air Protection ("the Ministry") regulations that will change over time. Review and establishment of the agreed performance that achieves the best balance between service, risk and cost is essential.

2.4 Emergency Preparedness

The AVLF does not currently have an Emergency Response Plan but there will be a plan created in the future. Recommendations to pursue an Emergency Response Plan, Contingency Plan and Fire Safety Plan are included in the Improvement Plan section of this AMP.

3 CURRENT STATE OF AVLF INFRASTRUCTURE

3.1 Inventory

Table 3.1 - Assets Covered by this Plan

Asset Category	Quantity	2020 Replacement Value
Pump stations	5	614,000
Hydro poles	35	185,500
Landfill road & asphalt surface	11,200m^3	447,000
Water reservoir & hydrants	3	702,600
Water mains	1,350m	391,500
Leachate transmission main	2,880m	921,600
Leachate wells	17	272,000
SCADA monitoring system	1	110,000
Interception ditch and pond	2	114,800
Electric bear fencing	2,700m	75,600
3rd Avenue Recycle Depot	1	450,000
Bamfield Transfer Station	1	150,000
Shop/maintenance building	1	85,000
Scale house, office & vehicle scale	3	149,000
Drywall structure	1	70,000
TOTAL		**$4,738,600**

Piping and fencing lengths are estimated. Determining actual lengths and quantities of assets, where value is provided, is part of the improvement plan.

3.2 Waste Trends

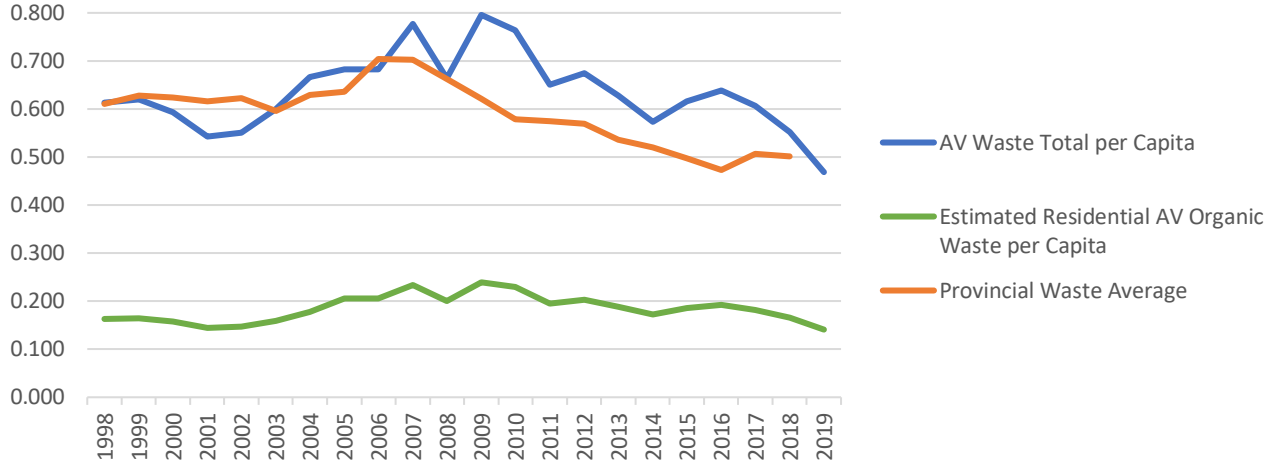
There are approximately 26,000 residents within the Alberni Valley. Waste makes its way to the AVLF through various streams: curbside pickup, residential and commercial third party delivery and residential delivery by homeowners. Curbside garbage pickup is performed by City of Port Alberni

(CPA) staff within city limits and by private contractors for residents outside city limits that opt to pay for the service. Recycling pickup is provided for all of the CPA and Beaver Creek and is collected through a private contractor. Recycling can also be collected at the 3rd Avenue Recycle Depot station.

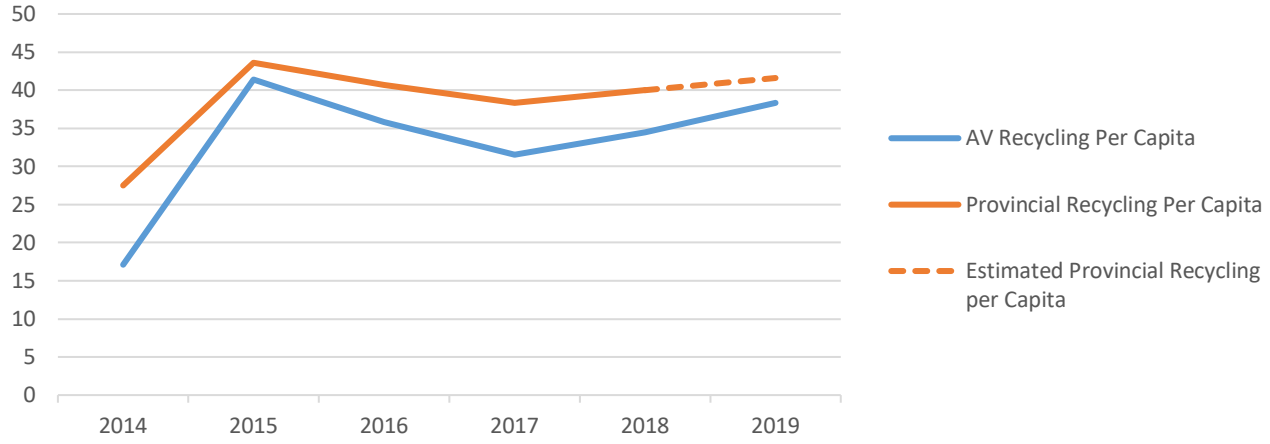
Historically, the ACRD has been significantly higher than the provincial average for waste per capita. In the last 2 years, our waste per capita has been dropping much closer to the provincial average. The ACRD is expected to meet or shrink below the average within the next decade depending on the possible implementation of an organics diversion program and other future diversion programs. Table 3.2 shows the trend of waste per capita for the Alberni Valley versus the Province and Table 3.3 shows the trend of recycling diversion. Data is not yet available for 2019 provincial averages.

Waste trends have a direct impact on the life expectancy and lifecycle costs of the landfill. Material composition can increase the likeliness of requiring a Landfill Gas Management system and higher than expected waste tonnages landfilled will diminish the landfill capacity at a faster rate.

Table 3.2 – Waste Per Capita Trends in Tonnes



Recycling Per Capita Trends in Kilograms

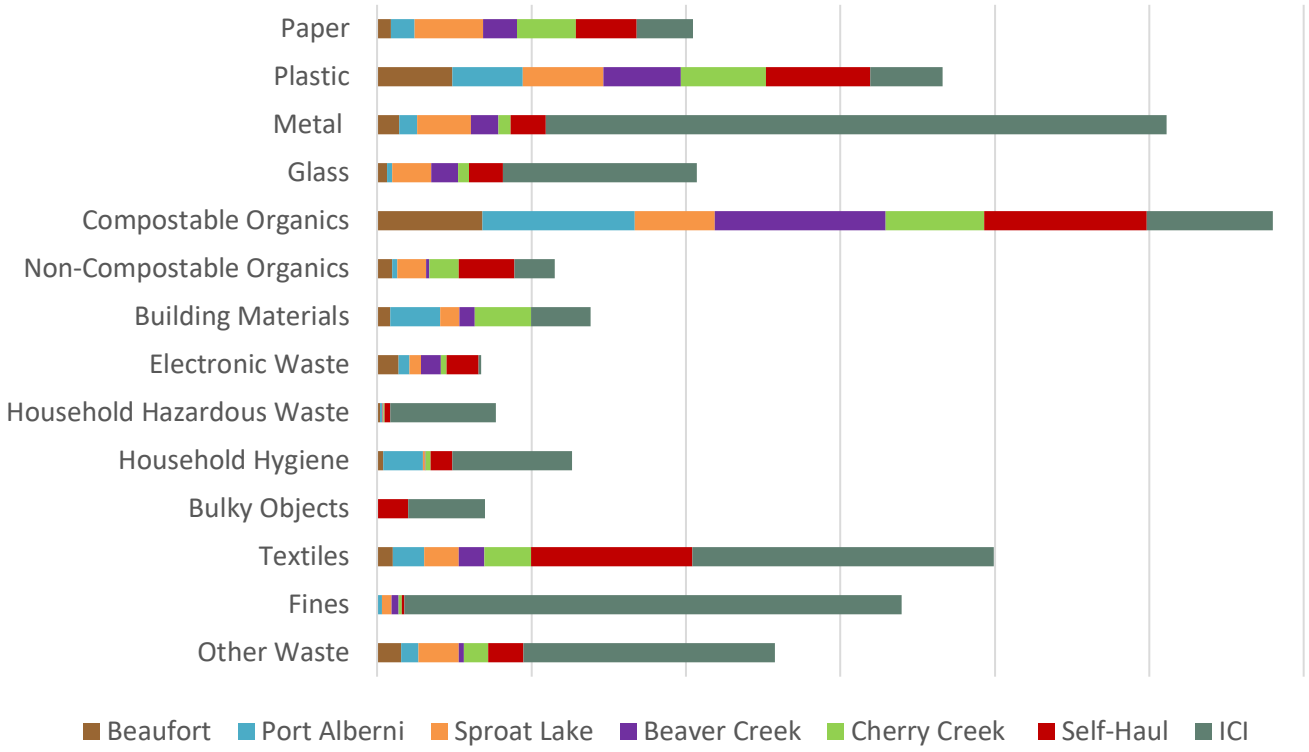


3.3 Waste Composition Study

In May 2019, an independent consultant performed a waste composition study at the AVLF and analyzed the types of waste tipped at the AVLF and their origin. Table 3.3 shows the results of the study.

This study identifies opportunities for diversion or stewardship programs to slow the fill rate at the landfill. For example, as per the study, compostable organics are landfilled more than any other material. As diversion programs are implemented it may create new assets or change how existing assets are used. As a result, the AMP will need to be reviewed as service levels change.

Table 3.3 Waste Composition Study May 2019



3.4 Landfill Gas Management

As per the Landfill Criteria for Municipal Solid Waste, once a landfill produces more than 1,000 tonnes of methane gas in a year, a Landfill Gas Management Facilities Design Plan is required. Since 2011, the AVLF has been approaching that threshold but according to the 2019 Annual Report approximately 643 tonnes of methane are produced annually. An Organics Diversion Program has been considered as the primary mitigation technique with a Landfill Gas Management Facilities Design Plan as a secondary option. Organic household waste produces more methane when it decomposes in a landfill setting than when it is processed in a designated compost facility. Organics diversion would further reduce the per capita waste at the AVLF and increase the estimated service life of the landfill. The only caveat to relying on organics diversion for gas management is it requires substantial buy-in from local

residents to participate in the program. Education programs will be implemented to try to increase interest from residents but if these efforts are not successful, a landfill gas collection system comprised of impermeable cover material, collection pipes, catch basins and possibly a gas flare, will need to be installed over the entire landfill area. It is assumed that a project of this magnitude will come at a considerable purchase and annual maintenance costs.

Funding was secured through the Consolidated Strategic Landfill Diversion Program for $4.16 million for an Organics Program, but due to a change in project scope, the AVLF was required to reapply for the funding in order to have access. The original application was intended to have organics processed at the AVLF site but because of a lack of tenure, the project is being adjusted to have an organics transfer station at AVLF and have organics transferred and processed off-site; the reapplication has since been approved. Two additional tipping walls will need to be constructed to facilitate organics diversion. Organics will be charged a per-tonne rate, increasing traffic at the scale shack and further increasing the need for an additional scale to increase traffic flow patterns and wait times.

There are many factors to consider with organics diversion and management and the Board of Directors is carefully considering their options. Gas management asset considerations will be included in future versions of this AMP after the implementation of mitigation techniques.

Even with organics diversion, it should be noted that one million tonnes of landfill waste would produce approximately 5,400 tonnes of methane gas per day about 5 to 7 years after it is landfilled and will continue to emit gas for approximately 20 years. Several factors will affect the gas production

including cover material used and local climate. This means that even with diversion, it is possible that organics buried today could push methane production limits beyond the threshold in future years.

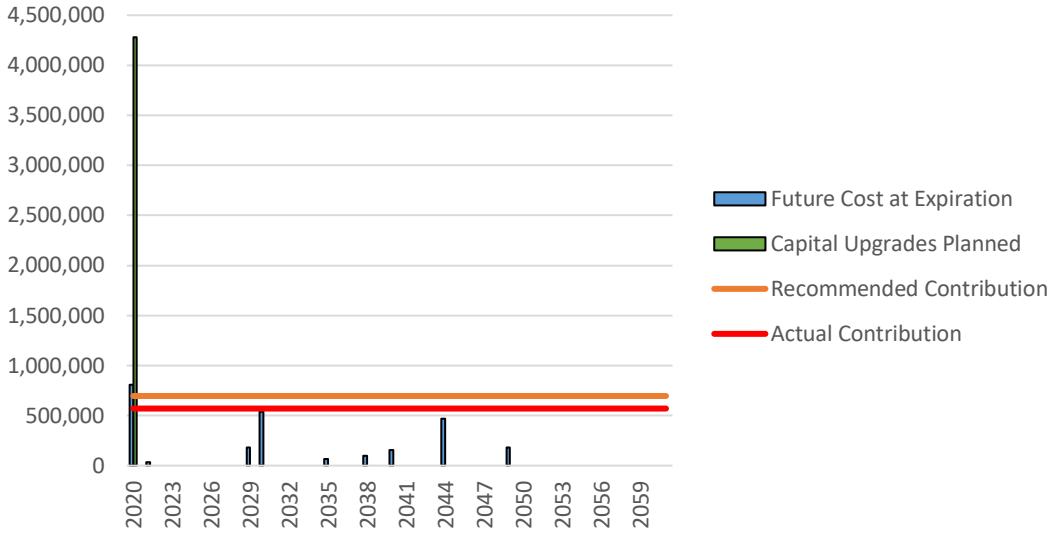
3.5 Replacement Costs and Dates

Asset management changes the financial focus from historical cost and annual amortization included in the ACRD's financial statements to estimated replacement value, estimated service life, and annual capital investment required.

Approximately 30% of the AVLF assets are due for replacement within 10 years. Table 3.2 summarizes suggested infrastructure replacement dates and estimated costs by year until 2060. Pump stations that are beyond their expected useful lives have a total current replacement cost of approximately $560,000. Landfill Road and transfer station asphalt surface will require resurfacing in approximately 2044 at $629,000 accounting for inflationary projections. To date, funding for AVLF has been sufficient to mitigate large spikes in required revenues. In other AMP's completed through the ACRD AM Program, funding gaps are identified and recommended changes to the current tax requisition is determined based on the funding gap. In AVLF, it is likely there will not be an increase in tax requisitions for the service but instead an increase in future user fees, if required. Per the 2020-2024 Financial Plan, the AVLF is dedicating approximately $570,000 of revenue annually for reserves; $450,000 for capital expenditures and $120,000 for closure and post-closure expenses. Based on future replacement costs, expected service lives of assets and current reserve levels, approximately $755,600 is required to be put into reserves annually; $645,600 for capital costs and $110,000 for closure costs. This is a very modest funding gap when compared to other ACRD services and can be closed through additional user fees or possibly tax requisition.

The first major capital upgrade planned included in Table 3.2 is for the uncertain Organics Diversion Program.

Table 3.2 - Projected Timing for Capital Renewal



Landfill Road owned by AVLF

Currently, all efforts are dedicated towards extending the current landfills estimated service life beyond the current 62 years to upwards of 100 years with diversion and education programs. It is certain that when the landfill reaches capacity that waste handling will be vastly different from the current methods. Material for reuse handling will likely take prescidence over waste handling and landfill fill rates will in turn be drastically lower; because of these reasons, cost projections for a future landfill site have not been included in the financial projections within this AMP.

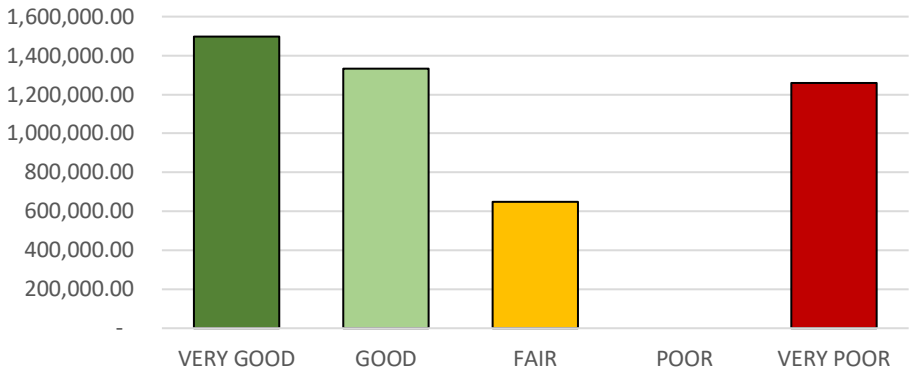
Every year when the AMP is reviewed and a new version is created, the financial position of the landfill will be analysed along with revenue levels and further changes to the recommended contribution levels will likely occur at that time given new information, performance and changes to the service.

3.6 Condition Assessments

Condition assessments were performed by staff on some assets while estimated remaining service life was the determining factor on other assets. Based on conditions and estimated service life remaining, 27% of the AVLF assets assessed have a very poor physical condition.

Table 3.3 shows the current cost to replace assets based on the percentage of estimated useful service life remaining. The assets that fall under the “Very Poor” category have been further detailed in section 4.1 along with other Improvement Works Required that have not yet been installed.

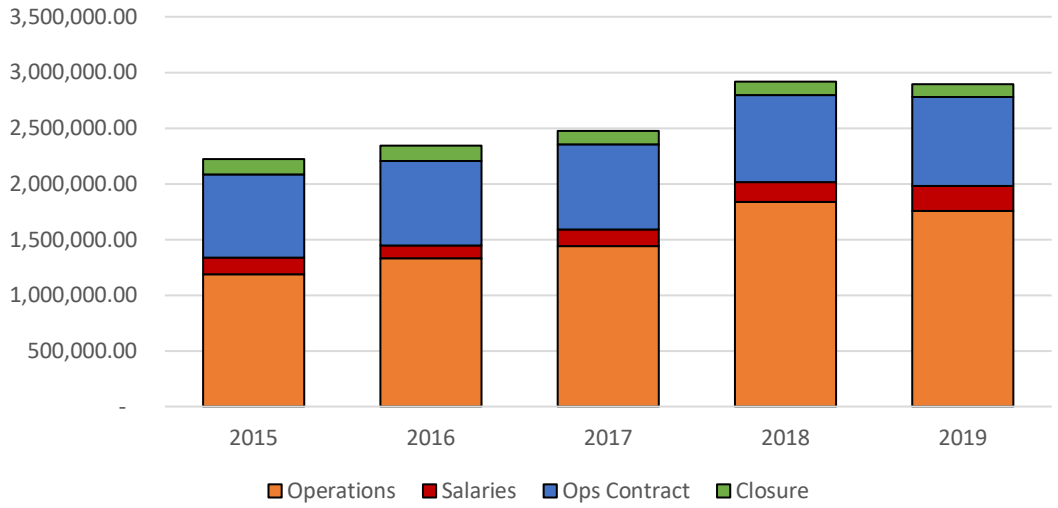
Table 3.3 – Current Replacement Cost by Condition



3.7 Current Operations and Maintenance Costs

A key function of Asset Management is to track maintenance costs separate from operations costs to identify areas that are requiring more repairs as an indication of failing infrastructure. Currently, operations and maintenance costs are grouped together for budgetary purposes. This does not allow for differentiation between day-to-day costs and repairs. It is recommended that there be a clearer definition of maintenance and repair costs as an additional measure to ensure all assets at risk for failure are identified. Table 3.4 shows the trend in operations expenses and closure contributions since 2015.

Table 3.4 – Operations and Maintenance Cost Trends



Average operation costs total $1,510,000 per year, excluding salaries, closure and operation contract costs.

Aeration Pond

3.8 Risk Management Plan

Risk management is a key objective set out in our Asset Management Policy. With acceptable levels of service in mind, we have adopted a risk management framework to assess and rank criticality of the ACRD's infrastructure. One of the outcomes of implementing risk management is the ability to prioritize and meet required capital expenditures based on criticality for the AVLF.

Risk management is the systematic application of management policies, procedures and practices to the tasks of identifying, analysing, evaluating, treating and monitoring activities to ensure:

- Risk is understood and identified
- Hazards and practices that could cause financial loss, disruption to organizational goals, injury to people or damage to the environment are controlled
- Insurance policies are made to protect the business and community interest should loss occur

The goal in adopting a framework is to have a consistent accurate understanding of the state of the AVLF's infrastructure. The framework includes a standardized grading system that is easily repeatable, enables comparison of the status of infrastructure condition over time and across municipalities for comparison.

A risk matrix has been prepared and will be used for risk ratings throughout the ACRD. This matrix will also be used in conjunction with regular condition assessments to properly evaluate new and existing risks.

The risk assessment process identifies credible risks, the likelihood of the risk event occurring, the consequences should the event occur, develops a risk rating, evaluates the risk and develops a risk treatment plan for non-acceptable risks. Critical risks are those assessed with 'Very High' (requiring immediate corrective action) and 'High' (requiring corrective action) risk ratings identified in the assessment process.

According to the General Manager of Environmental Services and Manager of Operations, the following are credible risks that could create a "High" risk rating at this time:

1. Earthquake causing rupture in natural bedrock foundation of the landfill and causing leachate to drain into nearby watercourses.
2. Damage to the leachate transmission main between AVLF and the CPA's lagoon causing a leachate spill.
3. Fire at landfill site. Landfill fires can be explosive, dangerous and very hard to extinguish given the composition of a landfill. Would pose a threat to the area and air quality.
4. Province of BC denies operations at the landfill site due to lack of tenure, causing the closure of the landfill.
5. Large influx of waste due to emergency recovery. If there is an event that results in large structures being destroyed, they will be landfilled and end up consuming valuable space and push AVLF much closer to capacity.

4 ASSET MANAGEMENT IMPROVEMENT PLAN

4.1 Infrastructure Replacement Priority Ranking

Table 4.1 lists the components within the AVLF in order of their required estimated replacement. This information will be used to build the 5-year Financial Plans as well as aid in creating a Long-Term Financial Plan (LTFP) for this class of assets.

When budgeting for future projects, it is recommended that a 30% general contingency and a 30% allowance for construction, engineering, financial, legal and admin costs be added to total project costs.

It is important to note the volatile prices of construction materials. Many factors can change the costs of materials required for projects and while the actual costs may differ, only the most current and available costs are used.

Table 4.1 – Improvement Works Required

Component	Length or Quantity	Current Replacement Costs (pre-tax, pre-contingency)	Risk	Estimated Service Life Remaining in Years
Aging pump replacements	4	560,000	High	1
Total Cost – High Risk		**$ 560,000**		
Fire hydrant replacements	2	12,600	Moderate	10
Gas Management - Flare	1	20,000	Moderate	Not installed
Second scale for increased efficiency	1	47,100	Moderate	Not installed
Aging hydro pole replacements	35	185,500	Moderate	Varying
Total Cost – Moderate Risk		**$ 265,200**		
3rd Avenue Recycle Depot	1	450,000	Low	10
Additional tipping walls	2	7,000	Low	Not installed
Interception ditch replacement	800m	51,200	Low	1
Total Cost – Low Risk		**$ 508,200**		
Total Current Replacement		**$ 1,333,400**		

Table 4.1 is intended as a guide for replacements based on ages and known conditions. Circumstances, grant funding availability, user funding availability, Ministry priorities, levels of service and changes and Management or Board expectations will all have influences on priority replacements. This listing will be updated during each revision of the AMP and DOCP.

4.2 Demand Management Plan

The demand for more or improved services at the AVLF, 3rd Avenue Recycle Depot or Bamfield Transfer Station will be managed through the existing infrastructure, upgrading existing assets or providing new assets. The Solid Waste Management Plan will be updated in 2021 after a public engagement process

that often results in changes to the service based on the resulting community input. The population within the Alberni Valley has been relatively stable so undeliverable demands are not expected to occur that cannot be mitigated with new diversion programs. Demand management includes using contractors to provide non-asset solutions without the need for the ACRD to acquire more assets.

The Board does not intent to have a demand management plan, however, further opportunities will be developed in future revision of this AMP.

Future demand will be driven by a number of primary drivers including:

- Demographic change
- Change in commercial and industrial activity
- Economic conditions
- Impact of waste flows from other areas
- Consumption patterns
- Policy, legislation, regulation
- Waste programs, education and initiatives
- Community expectations

3rd Avenue Recycle Depot

4.3 Improvement Plan

The tasks identified in the Table 4.2 are required to achieve the AVLF asset management objectives, manage risks, and close the gap between current and targeted levels to achieve within the AMBC Road

Map. The table also identifies the integration of these tasks into the organization as recommended by the AMBC Framework.

Table 4.2 – Improvement Plan

Task#	Task	Timeline
1	Begin documenting condition assessments on tangible capital assets with a numerical condition rating to improve accuracy of replacement timelines	Summer 2020
2	Differentiate between Operations and Maintenance costs to better identify failing assets	Fall 2020
3	Design a new traffic flow incorporating a second scale to increase efficiencies and reduce wear on existing assets	Fall 2020
4	Aging infrastructure is identified and slated for replacement or renewal	Ongoing
5	Where possible, identify and implement diversion and education programs to extend the life of the landfill	Ongoing
6	Identification of funding possibilities for capital projects	Ongoing
7	Monitor methane gas emission trends to forecast required date for landfill gas management infrastructure installation and budget for accordingly	Ongoing
8	Collect leachate flow data from all monitoring wells to indicate performance of leachate collection system	Early 2021
9	Regional asset identification system for specific assets to record expenses at the asset level, where appropriate	Early 2021
10	Create and implement Emergency Response Plan	Fall 2021
11	Create and implement Fire Safety Plan	Fall 2021
12	Create and implement Contingency Plan	Fall 2021
13	Financial budgets for asset replacement and capital reserve contributions align with DOCP, Ministry of Environment and Ministry of Water, Land and Air Protection recommendations	Spring 2021/ Annually
14	Install storm water collection system to reduce reliance on leachate collection system and provide more accurate leachate flow data and reduce potential future leachate treatment costs	2022
15	Review changes to the asset registry annually to account for additions, disposals and changes in useful life	Annually
16	Review Risk Framework for changes	Annually
17	Determining actual lengths of transmission mains and water mains where value is added	As time allows
18	Research future landfill options before capacity is reached	2059

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