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# Cherry Creek Fire Department

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## Asset Management Plan Version 1

LATEST REVISION: SEPTEMBER 2022



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## 1 EXECUTIVE SUMMARY

### 1.1 Purpose of the Plan

The Cherry Creek Fire Department Asset Management Plan (AMP) is part of the Improvement District Asset Management Program which facilitates informed decision-making and effective allocation of resources for infrastructure. The purpose of an AMP is to support the delivery of sustainable, cost-effective services to the community in a socially, economically, and environmentally responsible manner, while providing the Level of Service (LOS) endorsed by the Board. Estimates and projections included in this AMP are derived using available information with updates and changes expected with the release of each new version. AMPs are intended to be living documents reviewed before each budget cycle.

### 1.2 Asset Description

The Cherry Creek Fire Department assets include:

- Hall, parking lot, septic system
- Firefighting apparatuses, equipment, Sprinkler Protection Unit
- Self-Contained Breathing Apparatus (SCBA)
- SCBA filling station

### 1.3 Levels of Service

The present funding levels are sufficient to maintain existing interior level of service. Working for Wildfire has significantly supplemented capital projects by approximately \$350,000 over the past 5 years. This income can not be counted on, but during major wildfire events would provide an alternative income source. The major threat to the service level is inflation and retention of skilled labor.

### 1.4 Future Demand

The main demand on existing services is:

- Community growth
- Public expectations of services
- Board of Trustees service objectives
- Legislative regulations
- Industry standards

These demands can be managed through a combination of existing assets, upgrading, and acquiring new assets while always finding innovative solutions that mitigate and manage risk.

### 1.5 Lifecycle Management Plan

During an asset's life, the replacement value is typically known along with an estimated date of replacement based on age and condition. Annual contributions are calculated for each asset to identify any funding gap between current and future levels of service. The AM Program achieves responsible



and reliable lifecycle management practices. Currently the replacement cost of many large assets is not fully known due to supply chain disruption and overall economic instability.

The Fire Chief and staff have created the Cherry Creek Fire Department AMP. Estimated service life (ESL) and replacement cost of the infrastructure were determined using historical data, industry standards and regulatory requirements. The Chief provided risk assessments and goals.

### 1.6 Financial Summary

The assets have a total current replacement value of \$4.6 million in 2022 dollars. With an estimated inflation rate of 1.69% (CPI 10-year average), currently 2022 is on track for 8%. Two significant subdivisions could increase the demand on the service by 10-25%. This does not change the plan due to existence of extra capacity.

In **2023, \$349,469** will be collected through property taxes, there are 992 properties for an average cost of approximately **\$352**. The current funding levels are sufficient for the short

term but do not allow for adequate capital reserve contributions. Large expenditures such as a new hall aren't within the current financial means of CCFD. Without adequate requisition levels, debt will be needed to maintain levels of service in the future. Renewal of assets will occur in cycles based on asset life, legislative renewal requirements and according to their condition and use. The Fire Underwriters Survey (FUS) also influences the replacement of key firefighting apparatuses based on asset age.

#### Renewals vs Upgrades?

**Renewals:** Returning infrastructure to the expected level of service with no added efficiency or benefit.

**Upgrades:** to improve quality, efficiency, and level of service of infrastructure.

### 1.7 Asset Management Practices

Assets are managed using a combination of I am Responding (IaR) and Microsoft Office software. 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 Plan

At the end of this AMP there will be an improvement plan section intended to advance Asset Management practices within Cherry Creek Fire Department. Generally included in the Improvement Plans are suggested changes or additions to documented inspections and condition assessments, and maintenance procedures and giving risks a numerical rating to measure mitigation success.



## 2 INTRODUCTION

### 2.1 Background

This AMP encompasses all Cherry Creek Fire Department assets. The purpose of the plan is to facilitate the strategic management of service assets. This provides guidance on new and existing infrastructure to maximize the use of financial resources long term, reduce risk, ensure continuity, and facilitate improvements over a 20-year planning period. Asset Management Plans are designed to guide the Fire Chief, staff, and Board with planning, budgets and data-directed decision making.

The Cherry Creek Fire Department AMP is a living document and will be developed with AM practices and influenced by the following organizational documents:

- Annual strategic priorities
- Short-term and long-term financial plans
- Maintenance policies and industry regulations
- Grant applications and funding

### 2.2 Emergency Preparedness

The CCFD does not have a formal Emergency Response Program but operates under 5 simple principles aimed towards firefighters:

1. Take care of your family (shelter at home if safe to do so)
2. Take care of your neighbours
3. Communicate your situation to CCFD if possible
4. Respond to the CCFD when safe to do so, otherwise report to the nearest firehall
5. Prepare for deployment as required

There are minimal food supplies at the Hall and firefighters are expected to bring whatever food they can from home.

### 2.3 Levels of Service

Levels of Service (LOS) are defined using two terms, customer levels of service and technical levels of service. It is important to monitor the service levels provided regularly as these will change with regulations and new expectations. The current performance is influenced by work efficiencies, technology, and Fire Underwriters Survey regulations that will change over time. Review and establishment of the agreed position that achieves the best balance between service, risk and cost is essential.

**Customer LOS:** measure how the resident receives the service and measure of value provided.

**Technical LOS:** technical measures of performance relating to the resources of service activities to achieving 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 LOS



For the purposes of this report, customer's LOS expectations are set upon the annual adoption of the financial plan and strategic priorities as it reflects the values, policies, and priorities of the Board of Trustees.

Cherry Creek Fire Department current customer LOS as provided to the public include;

- Fire related incidents
- Motor Vehicle incidents
- First Responder
  - Delayed calls (in the event BCEHS is delayed CCFD will respond)
  - Request for assistance (BCEHS may request the assistance of CCFD)
- AMA and Mutual Aid requests from other valley fire departments
- Wildfire Response in the C.C. service area, also responding to requests from BC Wildfire Service (BCWS) in other areas of the province\*

\*CCFD started participating in Provincial wildfire fighting in 2017. Over the past six seasons the department has accumulated roughly 16 weeks of deployment experience throughout the Province. Wildfire has become a significant threat, which has triggered the department investing in training and equipment. Each year as the wildfire season approaches British Columbia, CCFD is preparing for potential wildfire events by outfitting apparatus with wildfire specific equipment, as well as beginning our annual wildfire field exercises. Due to the high risk of wildfire in CC we have developed a robust wildfire suppression program to ensure that members are prepared to respond quickly and effectively.

When the Province request's structure protection equipment we are ready the same-day for deployment anywhere in the province. The CCFD has created a roster of qualified members with their availability for the wildfire season. The integration of structure protection into BC Wildfire has been a challenging process due to differences in tactical operations. We have developed a close relationship with the local fire center and continue evolving with BCWS requirements and expectations. This is a unique field where innovation is critical.



### 2.4 Required Replacements

**Table 2.2 - Fire Underwriters Survey Fire Apparatus Age Guidelines**

Apparatus Age	Major Cities <sup>3</sup>	Medium Sized Cities <sup>4</sup> or Communities Where Risk is Significant	Small Communities <sup>5</sup> and Rural Centres
0 – 15 Years	First Line	First Line	First Line
16 – 20 Years	Reserve	2 <sup>nd</sup> Line	First Line
20 – 25 Years <sup>1</sup>	No Credit in Grading	No Credit in Grading or Reserve <sup>2</sup>	No Credit in Grading or 2 <sup>nd</sup> Line <sup>2</sup>
26 – 29 Years <sup>1</sup>	No Credit in Grading	No Credit in Grading or Reserve <sup>2</sup>	No Credit in Grading or Reserve <sup>2</sup>
30 Years +	No Credit in Grading	No Credit in Grading	No Credit in Grading

<sup>1</sup> All listed fire apparatus 20 years of age and older are required to be service tested by recognized testing agency on an annual basis to be eligible for grading recognition. (NFPA 1071)

<sup>2</sup> Exceptions to age status may be considered in a small to medium sized communities and rural centres conditionally, when apparatus condition is acceptable and apparatus successfully passes required testing.

<sup>3</sup> Major Cities are defined as an incorporated or unincorporated community that has:

- a populated area (or multiple areas) with a density of at least 400 people per square kilometre; AND
- a total population of 100,000 or greater.

<sup>4</sup> Medium Communities are defined as an incorporated or unincorporated community that has:

- a populated area (or multiple areas) with a density of at least 200 people per square kilometre; AND/OR
- a total population of 1,000 or greater.

<sup>5</sup> Small Communities are defined as an incorporated or unincorporated community that has:

- no populated areas with densities that exceed 200 people per square kilometre; AND
- does not have a total population in excess of 1,000.

The Fire Underwriters Survey (FUS) dictates replacement schedules for fire apparatuses. Table 2.2 shows the guidelines for First Line, Second Line, and Reserve. Based on population, Cherry Creek is designated as a Medium Size community and as such is required to adhere to these guidelines to retain recognition. One consequence in the loss of recognition would result in a large spike in residential fire insurance rates. While First and Second Line have a maximum age on the chart, apparatuses can be up to 25 years old in these positions. In addition, only one apparatus per department can have an age exception applied; only special circumstances will allow for two

apparatuses being considered for exception. Leniency for these rules may change in the future but for the purposes of this AMP, a maximum apparatus age of 25 was applied to determine replacement dates and contribution levels

To ensure the most accurate apparatus replacement schedule, it is recommended that all departments with an AMA be considered. This valuable consideration can potentially extend the life of front- or second-line apparatus, particularly in situations where response times are favorable. Implementing this recommendation may require neighboring departments to coordinate replacement dates.

In 2024, CCFD should receive our new First Line fire apparatus. The Second Line apparatus will be due for replacement in 2035.



### 3 CURRENT STATE OF ASSETS

#### 3.1 Risk Management Plan

Risk management is the process of identifying, analyzing, and addressing risks and opportunities on an ongoing basis – not only to avoid negative outcomes, but also to exploit emerging opportunities. It should be part of every public agency’s corporate and project-management culture.

Risk management is a key objective set out in our Asset Management Plan. We have adopted a risk management framework to assess and rank current assets. One of the outcomes of implementing risk management is the ability to prioritize required capital expenditures based on an assets risk. The framework includes a standardized grading system that is easily repeatable and enables comparison of the status of asset condition over time and across municipalities for comparison. A risk matrix has been prepared and will be used for risk ratings throughout the department.

#### Risk Identification

		IMPACT					
		A	B	C	D	E	
		Negligible	Minor	Moderate	Minor	Severe	
PROBABILITY	E	Very Likely	Low Medium	Medium	Medium High	High	High
	D	Likely	Low	Low Medium	Medium	Medium High	High
	C	Possible	Low	Low Medium	Medium	Medium High	Medium High
	B	Unlikely	Low	Low Medium	Low Medium	Medium	Medium High
	A	Very Unlikely	Low	Low	Low Medium	Medium	Medium

#### Risk Mitigation Strategies



The Fire Chief has listed the following High Risks that are important to note:

Fire Hall “Risk High” - Probability Likely/Impact Severe: The present cinder block constructed fire hall was built in 1962 and does not meet today’s seismic requirements. This construction may not withstand a low magnitude seismic event. A study conducted over a decade ago determined the present condition of the existing fire hall is inadequate, when taking into consideration the space requirements and the important job of housing millions of dollars’ worth of equipment. Qualicum Beach also recently replaced their aging Fire Hall at 65 years old. Comparable seismic buildings of scale were used to determine the replacement cost of the building based on the current square footage. The Risk Mitigation Strategy is to mitigate through the construction of a new fire station.





Apparatus “Risk High” – Probability Very Likely/Impact Severe: It is important to note the volatile prices of fire apparatus is significant. All suppliers of apparatus have not been successful bringing manufacturing back online due to many factors. The costs of materials required for projects and lack of real competition create a climate of unchecked price increases. The Risk Mitigation Strategy is to mitigate through acquiring professional level procurement support. This is a skill set that is learned and acquired over time. The Improvement district has saved hundreds of thousands of dollars incorporating staff with this knowledge.

### 3.2 Replacement Costs and Dates

Asset management changes the financial focus from historical cost to estimated replacement value, estimated service life, and annual capital investment. Replacements dates were determined using industry standards and historical evidence. All assets included in AMPs are deemed to have a finite life based on this evidence. Actual replacement dates and costs may vary from estimates.

Asset Management & Reserve Accounts as of June 30th			2023			
Asset Category	Qty	2023 Replacement Value	RESL*	Required Annual Contribution	Accumulated Reserve as of June 2023	Risk
Electronics - included in operating budget	5	\$ 5,000				Low
Truck 30	1	\$ 85,000	20	\$ 4,250	\$ -	Low
Truck 31	1	\$ 750,000	13	\$ 57,692	\$ -	High <sup>1</sup>
Truck 32	1	\$ 100,000	26	\$ 3,846	\$ -	Low
Truck 33	1	\$ 550,000			\$ 665,000	Moderate <sup>2</sup>
Truck 34	1	\$ 350,000	20	\$ 17,500	\$ -	Low
SPU- included in operating budget	1	\$ 120,000				Low
Fire Hall	1	\$2,000,000	0	\$ -	\$ 400,000	High <sup>3</sup>
Septic	1	\$ 20,000	30	\$ 667	\$ -	Low
Roofing	1	\$ 80,000	35	\$ 2,286	\$ -	Low
SCBA Packs	15	\$ 200,000	8	\$ 20,000	\$ 40,000	Moderate <sup>4</sup>
SCBA Station	1	\$ 40,000	50	\$ 800		Low
Parking lots	1	\$ 50,000				Low
<b>TOTAL</b>		<b>\$4,570,000</b>		<b>\$ 107,041</b>	<b>\$ 1,105,000</b>	

\*Remaining Estimated Service Life

\*\*Operational Budget items are repaired or replaced as required



**Rational for above ratings:**

**1 Truck 31 High Risk:**

Fire Hall is at risk for structural collapse due to any seismic event, supply chain issues severely impact replacement, also inflation severely impacts replacement.

**2 Truck 33 Moderate Risk:**

Currently the replacement for 33 is funded, but due the supply chain disruption, lead times have pushed delivery to Q3 2024. We could see further disruptions.

**3 Fire Hall High Risk**

High risk for structural collapse due to any seismic event, functionality of the current hall is beyond capacity, inflation and shortage of trades severely impacts the construction of a new hall.

**4 SCBA's Moderate Risk**

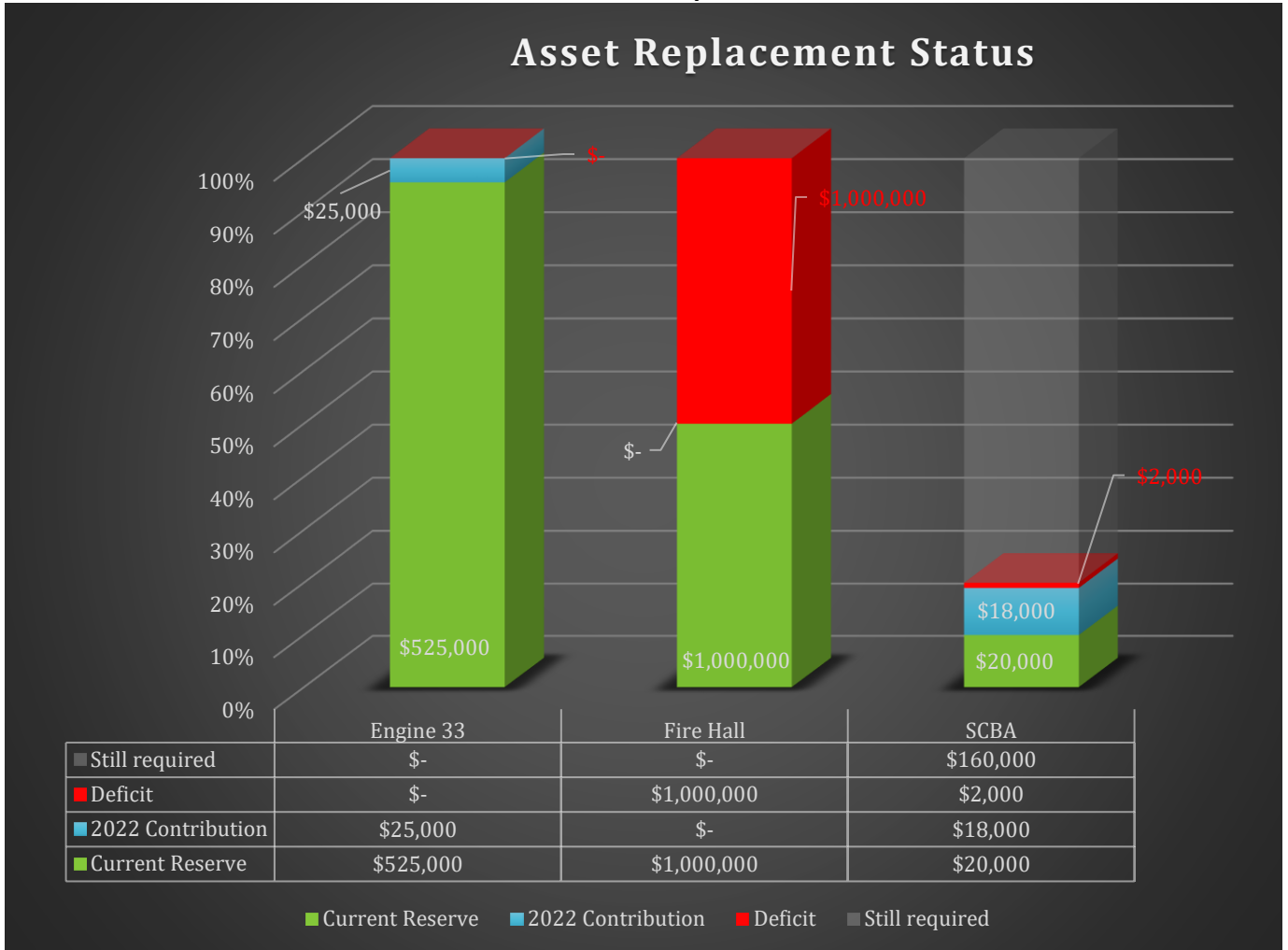
Inflation impacts our ability to accurately save for replacement, current SCBA packs at risk of obsolescence for replacement parts.

Current replacement costs were estimated by the Fire Chief and staff using historical costs plus inflation. Remaining useful life estimates were based on installation dates and expected service life based on knowledge and experience. Assets that are part of operations and expensed at the time of purchase are not included in Table 3.1. Small equipment such as desktop computers, pagers, turnout gear, ladders, hoses, fittings, and hand-held tools were not included in the asset listing.



Table 3.2 below shows that using a visual aid to manage your yearly capital contributions can make it clear whether you're on track for replacement or need to adjust your budget. This graph should be updated with the AMP on an annual basis.

**Table 3.2 – Asset Replacement Status**





## 4 ASSET MANAGEMENT IMPROVEMENT PLAN

### 4.1 Improvement Plan

The tasks identified in Table 4.1 are key to maintaining this AMP on an annual basis. It allows the plan to be updated to reflect any changes in the department's goals or priorities. This provides an opportunity to assess the plan's performance, make any necessary improvements which maximizes value and improves the performance of assets.

**Table 4.1 – Improvement Plan**

Task#	Task	Project Lead	Completion Date
1	Annually review of AMP <ol style="list-style-type: none"> <li>1. Re-evaluation of risk</li> <li>2. Re-evaluation of Risk Mitigation Strategy</li> <li>3. Review Asset Replacement Status</li> <li>4. Ensure capital budget reflects all AMP objectives</li> </ol>	Fire Chief	January (Annually)
2	Implement a department-wide maintenance schedule for all assets	Wes Kovacs	June 2023
3	Increase small equipment testing and inspections, aiming to assess all equipment aside from hoses monthly	Ryan Devries	June 2023
4	Identification of funding for capital projects	Fire Chief	January (Annually)

## 5 REFERENCES

Alberni Clayoquot Regional District – Beaver Creek AMP (2020)

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