RESORT VILLAGE OF
CANDLE Lake

Resort Village of Candle Lake
Emergency Services

Master Plan

Recommendations to enhance internal and external services for the next 10 years

This Master Plan was prepared for the Resort Village of Candle Lake by:

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Executive Summary

This master plan encompasses a comprehensive review of challenges and opportunities faced by the Resort Village of Candle Lake (RVCL) in the provision of their Emergency Services. This Master Plan includes a review of the Candle Lake Fire Department (CLFD), Medical First Responders (MFRs) and Emergency Measures Organization (EMO), along with identifying present and future population statistics and anticipated growth of the community. By conducting research and reviewing documentation, plans and interviews with stakeholders, Genesis 2020 Solutions Inc. was able to develop this 10-year Emergency Services Master Plan for the Resort Village of Candle Lake.

In November 2021, Firefighters, MFRs and the EMO merged to become the Candle Lake Emergency Services (CLES). Throughout this document each service will be addressed as a single unit or as a whole under the umbrella of the CLES.

As the Resort Village of Candle Lake continues to grow there will be an increased demand for the provision of emergency services, and more particularly, fire protection and Medical First Responder services. This master plan will identify the timeframe to implement recommendations, and the associated human and capital resources for a 10-year implementation period. The delivery of emergency services is constantly changing but one theme will always remain for communities is the fact that fire protection, rescue, first responder and emergency management services will continue to be required.

This master plan is not a commitment for future investment in the provision of fire and emergency services, but it is a document for the Resort Village of Candle that will provide direction as part of an overall community plan in conjunction with a defined budget and policy making process. The primary objectives of this master plan are to provide the Resort Village of Candle Lake and senior administration with a framework that can be implemented and aligned with a community plan. It is critical that information is available so educated decisions are made for the provision of emergency services within the RVCL.

There is no generic master plan that applies to the emergency services as the dynamics and variations in communities and their fire department and first responders is too great. This masterplan is tailored for the RVCL and identifies a specific plan based upon the project scope.

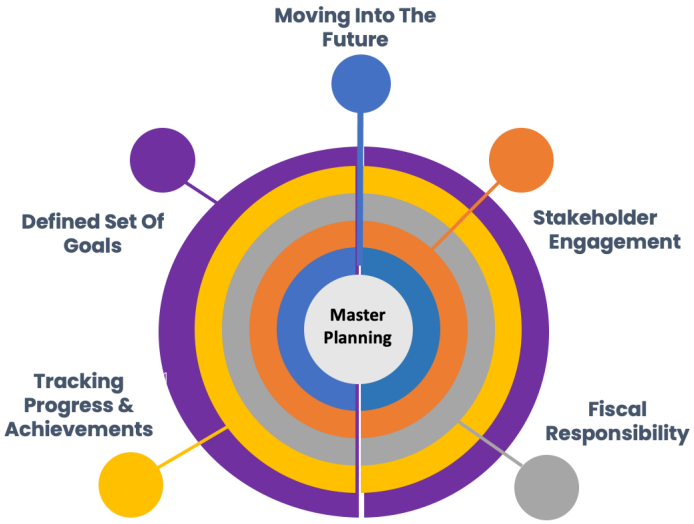
This master plan focuses on three components regarding how the people (fire department, Medical First Responder and EMO staffing), the services provided by the emergency services (product) and how those services are delivered (process) to the community.

The recommendations provided in this master plan will enhance the services delivered by the CLFD, Medical First Responders and the Emergency Measures Organization. The recommendation addresses the anticipated effects of the growth of the community and the demand for services on these services. The analysis and recommendations in this plan have been developed in consideration of industry best practices, industry organizations such as the National Fire Protection Association (NFPA), Fire Underwriters Survey (FUS) and Provincial legislation.

There are 63 recommendations in this master plan which include 23 immediate, 34 short-term, four (4) mid-term and two (2) long term. The recommendations are *'Operational'* (implemented by the Fire Chief) and *'Administrative'* (implemented by Mayor and Council with a financial commitment or policy) with the overall goal of moving the CLES forward into the future with a strategic focus.

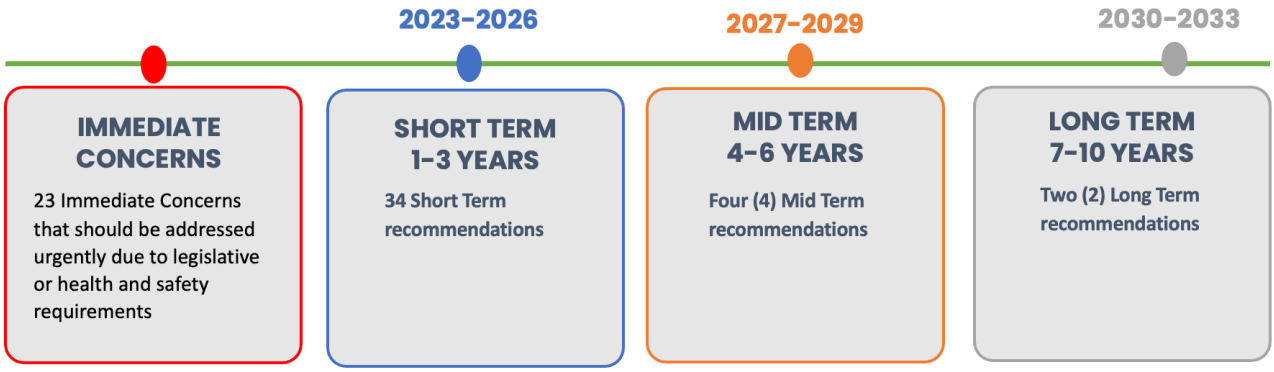
The process of understanding, prioritizing issues and implementing the recommendations in this master plan will require budgetary and operational planning, as these are critical elements required to meet the future needs of the RVCL. The master plan identifies the issues now to provide an opportunity for financial and administrative planning to meet service level challenges while building community resilience. The recommendations in this master plan are not a commitment for the RVCL as community planning, financial and budgetary processes need to occur and be supported by the village council.

The benefits of the emergency services master planning for the RVCL include but are not limited to the following:



- Having a clearer vision of the future needs of the emergency services and what should be implemented and when,
- A guide that includes options and budgetary estimates for implementation.
- A process that determines the best method to provide emergency services for the public.
- An annual review of the master plan to determine if the master plan is still relevant based upon the community's changing needs.
- The ability to communicate with staff, internal and external stakeholders about the future goals of the organization.
- Engaging elected officials in the process in order to plan for the future, and
- Ensuring that fiscal responsibility aligns with the long-term goals for the emergency services.

Recommendations contained within this master plan have been submitted to provide the Resort Village of Candle Lake with a set of priorities for implementation. These priorities are aimed at assisting the RVCL in making decisions in relation to the efficient allocation of resources.



The recommendations provided by Genesis 2020 Solutions Inc. have been broken down into the following timelines:

There are 63 recommendations for the Resort Village of Candle Lake along with an estimated cost to the item, whether it involves staff time only, operational or capital budgets.

Ultimately, the timing of the implementation of the recommendations will depend on the Resort Village of Candle Lake and the ability to move forward with the associated recommendations contained within this master plan.

Overview of Master Plan Sections

Through the utilization of best practices, including applicable standards and legislation, this master plan was prepared by completing an assessment of the following areas:

- Administration and fire department organization.
- Volunteer staffing model.
- Training standards and existing practices.
- Mutual aid and fire service agreements.
- Existing fire department bylaws.
- Recruitment and retention practices.
- Fire inspections and prevention programs

- Equipment and apparatus replacement schedules.
- Operating and capital budgets.
- Identification of gaps from surveys provided to firefighters, Mayor, Town Council and CAO.
- Fire station location and the expected response zone as per NFPA 1720.
- Review of existing SOPs/SOGs.
- Succession planning.
- Communication systems.
- Maintenance of fire department equipment such as SCBA, fire hose, ladders and annual apparatus pump testing.
- Age of existing fire apparatus.

Recommendations are noted within each section of the document and are made in respect to:

- Continuous improvements to the services currently provided.
- Fire station location and functionality, with consideration to building age and renovation projects.
- Apparatus/equipment deployment that ensures effective and efficient delivery of suppression services.
- Recruitment, training, development and retention of volunteer members.
- Strategies and development of succession planning for volunteers.
- Continuous improvement to communication system, maintenance program and non-suppression services.
- Benchmarking current services and programs against current industry standards and guidelines as well as compliance with the current legislation and NFPA 1720.

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Acknowledgements

This master plan has been prepared based upon the information supplied by the RVCL, stakeholder consultations and surveys completed by firefighters, medical first responders, administration, Mayor and Village Council. The RVCL has demonstrated leadership by being proactive with the development of this master plan by examining the existing service levels of the emergency services and looking towards the future to ensure a fiscally responsible plan is in place for the emergency services. The master plan provides the framework for the delivery of emergency services by the RVCL for the next ten (10) years.

Genesis 20/20 Solutions Inc. appreciates and acknowledges the time committed by members of the Candle Lake Emergency Services, Administration, Mayor, and Council members engaged throughout this process.

Project Methodology

The specific scope of work noted (in the RFP) was reviewed and is included into each section of this document. The Master Plan review was completed by utilizing best practices, current industry standards, and applicable legislation as the foundation for all work undertaken.

The GROW Model is based upon existing documentation, consultations, surveys, questionnaires, industry best practices and standards as the framework for the Master Plan. These steps include:

Goals-Specific, measurable, realistic and challenging goals for the fire department.

Reality-a SWOT analysis where the strengths, weaknesses, opportunities and threats are evaluated as well as the aspirations and results though a SOAR analysis. The aspirations will be built upon the strengths and opportunities of the emergency services and are planned events.

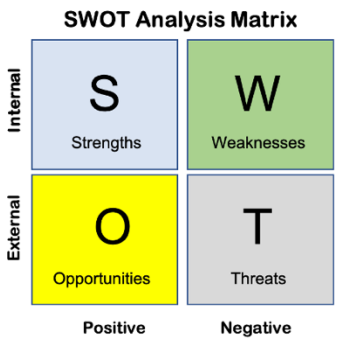
Surveys were sent out to members of the Candle Lake Fire Department, Candle Lake First Responders, Administration, Mayor and Council.

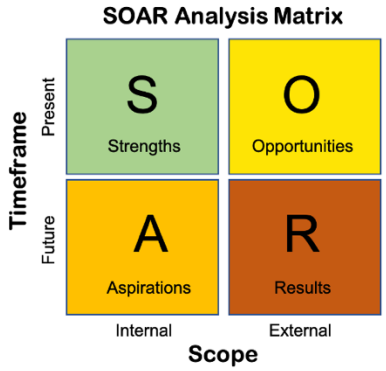
Analysis of survey information has been incorporated into this Master Plan.

Options-Identifying the options and obstacles that need to be considered to achieve the goals.

-Research based upon industry best practices, standards and legislation.

Way Forward-What is the action plan and timelines required to get to the next steps? The action plan and timeline will provide benchmarks for the department and aid in the annual evaluation of the Master Plan.





Overall, the methodology involves a considerable amount of research, documentation review, data analysis, the submission of a draft report and related recommendations. The final product is a living document that provides a high-level strategic direction for the RVCL.

Performance Measures and Standards

This master plan has been based upon (but not limited to) key performance indicators that have been identified in national standards and safety regulations such as:

- CSA Z1600 Emergency and Continuity Management
- The Fire Safety Act
- Occupational Health & Safety Regulations
- NFPA 1001 – Standard for Fire Fighter Professional Qualifications
- NFPA 1002 – Standard for Fire Apparatus Driver/Operator Professional Qualifications
- NFPA 1031 – Standard for Professional Qualifications for Fire Inspector and Plan Examiner
- NFPA 1033 – Standard for Professional Qualifications for Fire Investigator
- NFPA 1035 – Standard on Fire and Life Safety Educator, Public Information Officer, Youth Fire Setter Intervention Specialist and Youth Fire Setter Program Manager Professional Qualifications
- NFPA 1041 – Standard for Fire Service Instructor Professional Qualifications
- NFPA 1072 – Standard for Hazardous Materials/Weapons of Mass Destruction Emergency Response Personnel Professional Qualifications
- NFPA 1201 – Standard for Providing Fire and Emergency Services to the Public
- NFPA 1500 – Standard on Emergency Services Occupational Safety, Health, and Wellness Program
- NFPA 1720 – Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations and Special Operations to the Public by Volunteer Emergency Services
- NFPA 1730 – Standard on Organization and Deployment of Fire Prevention Inspection and Code Enforcement, Plan Review, Investigation, and Public Education Operations
- NFPA 1901 – Standard for Automotive Fire Apparatus
- NFPA 1911 – Standard for the Inspection, Maintenance, Testing, and Retirement of In-Service Emergency Vehicles

- Fire Underwriters Survey technical documents

The Fire Safety Act identifies the powers or duties of a local assistant to exercise the powers within the Act. The *Fire Safety Act* outlines the legislated requirements to meet and the power given to the local assistant for fire inspection, investigation and the mitigation of fires.

The *National Building Code (NBC)* was adopted in Saskatchewan in 2013 and since that time revisions have occurred that addresses spatial separations and the design and construction of single detached dwellings where the fire department response time is demonstrated to meet a 10-minute or less response time in 90% of the incidents. Where this response time cannot be met, the construction techniques are stricter when portions of a building are exposed to other properties.

The Saskatchewan Employment Act identifies the working conditions and rights for employees and employers to make for safer workplaces in the province.

The Occupational Health & Safety Regulations, Part 32 identifies the additional protection for firefighters in terms of an incident management system, personnel accountability, training of firefighters, standards for vehicles and equipment, inspection and repairs of firefighting vehicles and equipment and personal protective equipment. Part 32 also identifies interior structure firefighting if firefighters are required to engage in interior structural firefighting, an employer shall ensure that:

(a) the firefighters work in teams, and

(b) a suitably equipped rescue team is readily available outside the structure to rescue an endangered firefighter if the firefighter's SCBA fails or the firefighter becomes incapacitated for any other reason.

The *Fire Service Minimum Standards* were introduced in May 2022 by the Saskatchewan Public Safety Agency to assist local authorities in establishing fire department service levels for firefighting competencies based upon a declared level of service.

The Vehicle Equipment Regulations identifies the requirements for emergency vehicle markings and emergency lighting and in April 2022 the regulations were amended to permit fire apparatus the use of red and blue emergency lighting.

The National Fire Protection Association (NFPA) is a global self-funded nonprofit organization, established in 1896, devoted to eliminating death, injury, property and economic loss due to fire, electrical and related hazards. It delivers information and knowledge through more than 300 codes and standards, research, training, education, outreach and advocacy by partnering with others who share an interest in their mission.[1] The NFPA standards are not law but they are the industry best practice and will be referenced in any litigation impacting the fire department.

The Fire Underwriters Survey (FUS) is a national organization that represents approximately 90 percent of the private sector and casualty insurers operating in Canada. The FUS provides data to subscribers regarding public fire protection for insurance statistics and underwriting evaluation.

General Risk Assessment

The RFP did not identify the inclusion of a community risk assessment, however to ensure that the provision of emergency services is based on existing and potential risks, Genesis 2020 Solutions Inc., conducted a high-level review of existing and potential risks within the Resort Village of Candle Lake. Without analyzing potential risks, the probability of the master plan document missing key information is a reality and the final document may not accurately reflect the projected needs of the community.

NFPA 1730 identifies risk as, "*Risk that pertains to the community, including the aggregate potential of loss or damage to critical infrastructure, individual properties, or stakeholders that could have a significant detrimental impact on the overall community.*"

This general risk assessment overview of the risks within the RVCL have been included in this document in Section 3 – Risk Assessment.

[1] https://www.nfpa.org/About-NFPA

Recommendations

The recommendations in this Master Plan are categorized as ***administrative*** or ***operational***. The administrative recommendations require a financial commitment by the elected officials, while the operational recommendations are those the Fire Chief can implement based upon their existing authority for the Candle Lake Fire Department. Recommendations regarding the Medical First Responders will require involvement with Parkland Ambulance and the Emergency Measures Organization recommendations can be addressed by the RVCL administration.

To assist with the prioritization and implementation of the recommendations contained in this master plan, the recommendations are color coded as per priority;

1) **Red:** Immediate Timeline (a high priority as this requires attention due to a health & safety concern or noncompliance to legislation).

2) **Blue:** Short-Term (1-3 year-urgent based upon operational needs or health & safety requirements, policy, legal or other priorities).

3) **Orange:** Mid-Term (4-6 years-needs that do not need to be immediately addressed but will have impacts the longer they are delayed).

4) **Gray:** Long-Term (7-10 years-not immediately urgent but impacts the emergency services in a long-term manner).

No.	Section	Recommendation	Priority
1	3.2	The RVCL ensure that high, moderate and low risk buildings are inspected as per NFPA 1730 or earlier as determined by the RVCL Council. A third party should be hired to conduct fire inspections within the RVCL.	**Immediate Timeline**
2	4.1.3	The RVCL apply to the SPSA for funding for additional rescue equipment and training through the Transportation Rescue Extrication Standards Program. The application must identify the level of extrication services to be delivered by the CLFD.	
3	4.4	It is recommended that the RVCL approve an organizational chart for the Emergency Services department in the immediate term.	
4	4.5	The RVCL look at a model to pay the Fire Chief an annual salary based on a set number of hours per month, to ensure that the master plan recommendations move forward in progressive stages.	
5	4.5	The RVCL consider an organization chart where the Fire Chief is the manager of the Emergency Services or a new position is created and a Emergency Services manager has the Fire Chief, MFRs and EMO report to them.	
6	5.1	A Record Management System be acquired in the immediate future for the CLFD and the Fire Chief, Deputies and Training Officer be trained in the RMS.	
7	6.1	House cleaning occur within the fire hall to clear walkways, PPE storage room, shower, and areas around the apparatus.	
8	6.2	Due to the health & safety concerns of using turnout gear that has exceeded the manufacturers and industry standard life cycle of 10-years, all 11 sets of turnout gear need to be replaced in the immediate future. The approximate cost for replacing the turnout gear is $33,000.	

No.	Section	Recommendation	Priority
9	6.1	The MFRs and Fire Department come up with a way to decrease the turnout time of the snowmobile and Snowbulance for medical emergencies and a trailer be purchased in the immediate future.	**Immediate Timeline**
10	6.2.1	The CLFD implement an SOG on the proper cleaning, routine and advanced inspection of turnout gear and immediately discontinue using a high-pressure washer on the turnout gear.	
11	6.3	With no records of any flow tests of the SCBA or hydrostatic testing of the aluminum cylinders, it is critical that all of the cylinders and the SCBA be immediately tested as per NFPA standards and industry best practices. This must occur in the immediate future.	
12	6.3	An air sample be taken by a third party on the air compressor and a service check be conducted on the air compressor. This must occur in the immediate future.	
13	6.4	The structure firefighting helmets should be checked to ensure that they have not exceeded the life cycle as per NFPA 1851 and the helmets that have exceeded the life cycle should be replaced in the next 12 months.	
14	6.4.1	Every member of the fire department should be issued or have access to hearing protection.	
15	6.4.2	The CLFD acquire a gas detector and train to understand the how the gas detector works.	
16	6.5.1	*A mechanical safety inspection should be conducted on the Pumper, Rescue and both Tankers in the next 12-months to determine their overall condition, performance and reliability.*	
17	6.8	The CLFD contact a vendor to have the apparatus pump tested as per NFPA 1911 within the next 6-months or as recommended by the testing vendor.	

No.	Section	Recommendation	Priority
18	6.8.2	The RVCL should investigate the costs to put in a permanent road to the Westside Trail Berm water pump so the fire department can have access to water year-round.	**Immediate Timeline**
19	6.8.2	The CLFD acquire a portable tank for firefighting operations.	
20	6.8.2	Firefighters be trained in establishing a water supply by using a portable water tank and having a water shuttle supply water.	
21	6.8.2	An SOG be established for the use of a portable water tank and rural firefighting operations. The SOG must include the number of firefighters to safely perform this task, radio communications, traffic control procedures and the equipment required for the water shuttle operation.	
22	6.8.2	The fire department should contact the FUS to get the required information for the Accredited Superior Tanker Shuttle Service and implement a 5-year plan to get tested by the FUS.	
23	7.2	A review should be conducted by the RVCL and the Emergency Services to determine if egress routes of subdivisions and RV Parks are appropriate for emergency evacuation.	

No.	Section	Recommendation	Priority
24	2.1.2	Bylaw 13 be amended or repealed to clearly identify the authority of the Fire Chief, Fire Department and the services provided to the public by the Medical First Responders. Existing components of Bylaw 13 that are within the framework of policy and rules should be removed and recorded in formal policy documents.	**Short Term 1-3 Years**
25	3.2	The RVCL ensure that high, moderate and low risk buildings are inspected as per NFPA 1730 or earlier as determined by the RVCL Council. A third party should be hired to conduct fire inspections within the RVCL.	
26	3.5	It is recommended that the RVCL pursue opportunities available through the Saskatchewan Public Safety Agency and the Disaster Mitigation and Adaptation Fund.	
27	3.6.1	The RVCL contact their local assigned Emergency Services Officer for more information and schedule ICS 200 and EOC training for administration staff.	
28	3.7.2	The RVCL contact their local SPSA Emergency Services Officer to discuss future training opportunities where neighbouring jurisdictions and agencies can train together in a joint exercise.	
29	3.9	On arrival at the structure fire, the CLFD should strive to have initial attack lines deployed and available for suppression within two minutes 90 percent of the time.	
30	3.9	The Emergency Services should collect data and analyze annually the dispatch time, turnout time and the travel time for each incident and identify geographical locations within the RVCL that exceed a 14-minute travel time.	

No.	Section	Recommendation	Priority
31	4.1.2	The RVCL and the CLFD should plan for the future acquisition of a wildland urban interface vehicle. A thorough analysis be conducted by the CLFD for the need of a wildland urban interface vehicle and a report provided to Council in the short term.	**Short Term 1-3 Years**
32	4.1.2	The RVCL work with the SPSA to implement a formal education program that promotes FireSmart in the community.	
33	4.1.3	The CLFD schedule annual auto extrication training at a minimum of two times a year and utilize the in-house expertise of the Training Officer.	
34	4.1.3	Standard Operating Guidelines must exist as per the Occupational Health & Safety Regulations for the initial response of emergency vehicles to an incident. This SOG should also include the apparatus positioning to protect First Responders on the scene.	
35	4.1.4	The CLFD increase its public education presence by attending more community events and engaging with key stakeholders regarding fire prevention and education programs specifically suited for the RVCL.	
36	4.1.5	The RVCL identify the high, medium and low risk occupancies and hire a third party to conduct fire inspections and provide written documentation to the RVCL.	
37	4.1.6	The performance requirements for light urban search and rescue are numerous and the RVCL must decide on whether this a service level expected from the CLFD.	

No.	Section	Recommendation	Priority
38	4.1.7	The Fire Chief work with the SPSA Emergency Services Officer to create a process and SOG for the investigation of fires within the RVCL jurisdiction.	**Short Term 1-3 Years**
39	4.1.8	The CLFD and Medical First Responders prioritize the high-risk buildings and RV parks that should have pre-incident planning conducted and complete all of the pre-incident plans within the short term and work with the RVCL on implementing a numbering system for RV lots.	
40	4.1.9	Firefighters and Medical First Responders should attain their awareness level of training for hazardous materials within the short term.	
41	4.2	The CLFD should implement an SOG on firefighter rehabilitation and ensure alignment with NFPA 1584: Standard on Rehabilitation Process for Members During Emergency Operations and Training Exercises.	
42	4.3	The emergency plan for the RVCL be updated and the Assistant Director attain ICS 200 and Basic Emergency Management training.	
43	5.2	The RVCL and the CLFD adhere to the minimum standards and declare itself as a defensive operations department by October 2023.	
44	5.2.2	The CLFD identify the senior members and officers that will assume team leader roles and create a plan to have them meet the Defensive Team Leader requirements by 2025.	
45	5.3	All fire apparatus and the MFR unit have a combination of red/blue flashing emergency lights.	

No.	Section	Recommendation	Priority
46	5.5.5	The RVCL Emergency Services annually review the recruitment process and transition away from the word of mouth to a more formal recruit strategy and process.	**Short Term 1-3 Years**
47	6.1	The RVCL hire an engineering firm to conduct an analysis of the structure, mechanical and electrical system in the fire hall in the short term.	
48	6.1.2	The RVCL should ensure that backup power is readily available for the fire hall and annual testing occurs of the generator hookup and energization of the fire hall.	
49	6.2.1	The RVCL conduct a cost analysis on a residential home front loading washing machine or a washer extractor and purchase the best choice for the fire department in the short term.	
50	6.6	A preventative maintenance program should be implemented for all fire department apparatus. The preventative maintenance program should include an annual safety check of all apparatus.	
51	6.6	An SOG be developed that identifies the conditions required to remove an apparatus from service.	
52	6.8.3	The CLFD investigate the cost of having dump valves installed on both tankers and have them installed within the next 12-18 months.	
53	8.1	The RVCL should enter into discussions for a formal Emergency Services agreement with the RM of Paddockwood for the RV Park and residential structures along Highway 265.	

No.	Section	Recommendation	Priority
54	8.2	The RVCL does not have mutual aid agreements with any neighbouring fire departments and this should be explored further.	**Short Term 1-3 Years**
55	8.4	The fire service agreement with the Lakeland FD is almost 10 years old and should be reviewed and an updated agreement approved by both parties.	
56	8.5	The Torch River Fire Service Agreement needs to be revised and the response hourly rate for apparatus must be increased to cover for operational costs, wear and tear and consumables.	
57	9.2	The RVCL develop a capital improvement plan where equipment and apparatus replacement are based upon the expected life cycle for SCBA, extrication tools, medical equipment, personal protective equipment and fire apparatus.	
58	4.1.10	A minimum level of training required for firefighters to drive and operate apparatus should be implemented with NFPA 1002 as a guideline for the job performance requirements.	**Mid Term 4-6 Years**
59	6.1.1	A high priority be placed upon investigating the price to install an air purification system for the fire hall and plan for the installation of a system within the next four years.	

No.	Section	Recommendation	Priority
60	6.7	The RVCL implement a capital reserve plan to have the 2012 Pumper replaced by 2027. The replacement will be based upon funding and whether a new or used apparatus is to be purchased and should be replaced with a Type 1/Type 3 apparatus.	**Mid Term 4-6 Years**
61	7.6	The RVCL should look at the feasibility of strategically installing dry hydrants where all weather access is available for the fire department. The installation of one dry hydrant should be a pilot project to determine the dependability of the system.	
62	6.1	A long-term plan needs to exist for the replacement of the Fire Hall to one that is better suited for the requirements of today's fire service.	**Long Term 7-10 Years**
63	4.1.9	The RVCL should determine whether firefighters be trained to the Operations level in the long term.	

AED	Automatic External Defibrillator
AHJ	Authority Having Jurisdiction
CLES	Candle Lake Emergency Services
CLFD	Candle Lake Fire Department
CO	Carbon Monoxide
CRA	Community Risk Assessment
CRRP	Community Risk Reduction Plan
DFC	Deputy Fire Chief
EMS	Emergency Medical Services
EMO	Emergency Management Organization
EMP	Emergency Management Program
EOC	Emergency Operations Centre
ERP	Emergency Response Plan
FEMA	Federal Emergency Management Agency
FESO	Fire Emergency Services Organization
FPA	Fire Prevention Act
FPO	Fire Prevention Officer
FUS	Fire Underwriter's Survey
HRVA	Hazard Risk Vulnerability Assessment
ICS	Incident Command System
IDLH	Immediately Dangerous to Life and Health
IFSAC	International Fire Service Accreditation Congress

IT	Information Technology
JPR	Job Performance Requirements
LAN	Local Area Network
MFRs	Medical First Responders
NIBS	National Institute of Building Sciences
NFPA	National Fire Protection Association
OHS	Occupational Health & Safety
PSAP	Public Safety Answering Point
RMS	Records Management System
RVCL	Resort Village of Candle Lake
SAFC	Saskatchewan Association of Fire Chiefs
SCBA	Self-Contained Breathing Apparatus
SHA	Saskatchewan Health Authority
SOAR	Strengths Opportunities Aspirations Results
SOG	Standard Operating Guidelines
SOP	Standard Operating Procedure
SPSA	Saskatchewan Public Safety Agency
SVFFA	Saskatchewan Volunteer Firefighters Association
SWOT	Strengths, Weaknesses, Opportunities, and Threats
TO	Training Officer

Section 1

Community Overview

Section 1: Community Overview

The Resort Village of Candle Lake (RVCL) is located 80 kilometres north-east of Prince Albert in the boreal forest in the Rural Municipality of Paddockwood. Several small creeks feed into Candle Lake and the Torch River flows out of the lake at the dam. Candle Lake Provincial Park surrounds most of the lake and the RVCL is at the southern end. Candle Lake is well known for its clear water, shallow and sandy beaches which draws families with young children.

For those that love fishing, Candle Lake more than satisfies the desire to get out and cast the line for walleye, northern pike, perch, burbot and whitefish. The RVCL is surrounded with over a dozen trails for walking, hiking, cross country skiing and snowshoeing with many trails providing access for wheelchairs and strollers so families can enjoy quality time together while embracing nature at its best.

Highways 265 and 120 provide access to the lake and its amenities. Candle Lake Airpark is located on the western shore of the lake 24.8 km west-northwest of the RVCL. The total population of the Village in 2021 was 1,160 – up from 840 in 2016.

There are nine RV parks (744 sites) and two Provincial campgrounds (300 sites) that add to the local population during the summer months. An RV campground is part of the Candle Lake Golf Resort where a conference center is open year-round for weddings, conferences, retreats and workshops and quality dining. The Golf Resort also offers groomed cross-country ski trails, skating rinks, a 24-hour hockey rink and snowshoeing.

Being close to the Candle Lake Provincial Park makes the RVCL a four-season destination for thousands of visitors and residents each year. With the 1,160 permanent residents combined with the 8,000-13,900 part time residents (RV parks and seasonal homes) during the summer months, the population of the RVCL can range from 9,000-15,000.

The Fire Hall has five front bays with no drive through bay. The CLFD is equipped with a Pumper, two Tankers and a Rescue truck. The Medical First Responder vehicle is also located at the Fire Hall along with the Sno-ambulance and sled.

Section 2

Emergency Services Governance and Planning

2.1 Bylaw 13 Fire/First Responder Bylaw

2.2 Community Safety-Five Lines of Defence

2.3 National Fire Protection Association

2.4 Fire Underwriters Survey

2.5 SWOT & SOAR

Section 2: Emergency Services Governance and Planning

A municipality is not required by law to have a fire department. A bylaw provides the authority for the fire department to exist and the services it provides to the community. From a legal perspective, the authority, service level and responsibilities of the fire department must be specified in a bylaw otherwise there are no standard powers for the fire department or the provision of its services.

2.1 Bylaw 13 Fire/First Responder Bylaw

As noted earlier, a municipality is not required to have a fire department and when it does, a bylaw establishing the fire department and authority to provide services must exist. The lack of a bylaw identifying the establishment and services provided by the fire department could pose liability issues for a municipality, the fire department and/or members of the fire department. Having a clear scope of duty for a firefighter helps with workers compensation claims as a firefighter can point out that they were expected to perform a specific duty and trained to do so.

The Resort Village of Candle *Bylaw 13 of 2018, A Bylaw Respecting Fire and Emergency Services* (also cited as the Fire/First Responder Bylaw) establishes the fire department and identifies the Fire Chief as the head of the department. Section 3.1 of Bylaw 13 identifies services the Fire & Emergency Services are responsible for which include:

a) Fire protection,
b) Fire suppression,
c) Vehicle extrication,
d) Bylaw enforcement,
e) Fire prevention and inspections,
f) Educational programs,
g) Structural collapse support operations,
h) Onsite medical care pursuant to the Saskatchewan Health Authority Volunteer First Responder protocol, policies and guidelines,
i) Traffic control,

j) EMO assistance and support i.e., assist with evacuation,
k) STARS landings,
l) Assist RCMP upon request,
m) Assist Highway 55 North Search and Rescue upon request,
n) Other emergencies as per training and equipment limitations.

The bylaw also recognizes the establishment of pre-hospital emergency medical support provided by medical first responders in the assessment and treatment to the ill or injured person consistent with the First Responder training at the direction of the local Emergency Medical Service.

When the services are identified in a bylaw, it provides a clear direction for the RVCL, elected official and the Fire Chief in terms of strategic planning that aligns with the RVCL community plan. This then aids in the purchasing of equipment, training goals, prevention/education activities, facility requirements and recruitment and retention strategies. Without a bylaw identifying the level of service, a moving target exists where past practice may dictate the services provided which also leaves the RVCL open to legal challenges if a firefighter or medical first responder was seriously or fatally hurt while performing their duties.

Bylaw 13 of 2018, also identifies numerous services provided by the RVCL Fire & Emergency Services, but clarification in the description of those services should be more precise. For example, fire protection can be interpreted differently by members of the public and elected officials. A definition of fire protection is not in the bylaw and should specify whether it is structural firefighting and/or wildland urban interface firefighting or both. Another example that is open to interpretation is structural collapse support operations and whether this means an awareness level or operations level.

2.1.1 Definitions

There are some definitions that should be included within the emergency services bylaw. The following in not a comprehensive list, but examples for the RVCL to consider based upon service levels.

> **"Emergency"** means a present or imminent situation or condition that requires prompt action or coordination of action to prevent or limit:

i. Loss of life,
ii. Harm or damage to the safety, health or welfare of people, or
iii. Damage to property or the environment.

"Fire Safety Act" means *The Fire Safety Act,* as enacted by the Legislature of the Province of Saskatchewan, as amended and revised from time to time, or any such replacement successor legislation.

"Fire Protection" means all aspects of fire safety including but not limited to fire prevention, firefighting or suppression, pre-fire planning, fire investigation, public education and information as well as firefighter training and development.

"Medical First Responder" means the individual trained to provide basic life support services in emergencies before more highly trained medical personnel arrive on scene.

There are numerous definitions that should be provided within the bylaw and legal counsel can provide additional guidance.

2.1.2 Bylaw and Policy

A bylaw is adopted by council to regulate the services and affairs within the jurisdiction of the community and with Bylaw 13, it provides for the protection of the health and safety of residents within the RVCL jurisdiction. There are some areas within this bylaw that transition from identifying the authority of the Fire Chief and fire department to identifying operational guidance, training and rules for the fire department. A bylaw is to clearly point out the authority, service level and responsibilities of the fire department whereas other components for the function of the emergency services should be provided for in a policy document.

If operational issues are included within the bylaw, any time an operational issue needs to be revised or changed, a report must go before Council for approval of the bylaw amendments. This process would be cumbersome and isn't necessary as policy and rules should not be a part of a regulating bylaw and elected officials generally do not get involved in developing department policy or rules and regulations.

In addition to the fire department operational issues within Bylaw 13, there is reference to First Responder duties, responsibilities and kit supplies.

Recommendation 2.1.2: *Bylaw 13 be amended or repealed to clearly identify the authority of the Fire Chief, Fire Department and the services provided to the public by the Medical First Responders. Existing components of Bylaw 13 that are within the framework of policy and rules should be removed and recorded in formal policy documents.*

Rationale: *The authority, service level and responsibilities of the fire department and emergency services need to be clearly identified within the bylaw as it serves as the legal parameters for the existence of the emergency services.*

2.2 Community Safety–Five Lines of Defence

The Ontario Office of the Fire Marshal identifies "Three Lines of Defence" to be utilized by fire departments for the delivery of their services. Genesis 2020 Solutions Inc. utilizes the three lines of defence as it recognizes that public education is the first priority in reducing fire incidents within the community.

Two more lines of defence for the RVCL are added which include Emergency Management and Medical First Responder services.

Resort Village of Candle Lake **Five Lines of Defence**				
Public Education	**Enforcement**	**Emergency response**	**Emergency Management**	**Medical First Responder**
Educating residents has proven to be the most effective means in reducing fire incidents and property damage.	Ensuring the inspection and enforcement of fire codes occur so buildings meet the required safety standards. Inspections and enforcement are not intended to punish, rather they intended to prevent fires and harm to	The availability of trained and equipped firefighters to respond and effectively mitigate the incident is a last defence. Training firefighters, proper equipment and fire station location impacts how quickly and efficiently the	In Saskatchewan a municipality must establish an emergency plan as per The Emergency Planning Act, 1989. A municipal planning committee must be appointed, appoint an Emergency Coordinator, establish EMO and	Medical First Responders are trained to provide Basic Life Support to patients while waiting for the ambulance to arrive.

	people and property.	incident is mitigated.	prepare an emergency plan.	

Figure 1 RVCL Five Lines of Defence

The fire suppression services capability is what the CLFD can and cannot do based upon its resources and equipment. The characteristics of a community will impact the level of fire risk to the community as the construction of older buildings does not meet modern building and fire code requirements. Fire suppression forces must be adequate in terms of the number of firefighters on scene (also known as the Effective Response Force), and the availability of equipment and apparatus.

2.2.1 Emergency Management

To establish the foundation to manage, direct, and plan an efficient and effective emergency response during an emergency. Emergency Management applies to any major emergency associated with any hazard, natural, technological, or human caused, which may affect the RVCL and that generates situations requiring planned, coordinated responses by multiple agencies or jurisdictions.

2.2.2 The Medical First Responders

To provide basic life support measures to stabilize the patient while waiting for more advance medical care to arrive.

2.3 National Fire Protection Association

The National Fire Protection Association (NFPA) is a global self-funded nonprofit organization that was established in 1896. The NFPA is devoted to eliminating death, injury, property and economic loss due to fire, electrical and related hazards. It delivers information and knowledge through more than 300 codes and standards, research, training, education, outreach and advocacy by partnering with others who share an interest in their mission.[2]

[2] https://www.nfpa.org/About-NFPA

The NFPA standards are not law but they are the industry best practice and in Saskatchewan the Saskatchewan Pubic Safety Agency (SPSA) follows the NFPA standards for the professional qualifications of firefighters. The SPSA is also accredited under the International Fire Service Accredited Congress (IFSAC) to certify firefighters under selected NFPA Standards. With the NFPA being an industry best practice, a community should ensure that their fire protective services are following the NFPA standards to the best of their ability and use the standards as a baseline for equipment and health & safety practices.

2.3.1 National Fire Protection Association (NFPA) 1201

The National Fire Protection Association Standard 1201 – Standard for Providing Fire and Emergency Services to the Public states;

Section 4.3.5; The Fire and Emergency Services Organization (FESO)shall provide customer service-oriented programs and procedures to accomplish the following:

1. Prevent fire, injuries and deaths from emergencies and disasters
2. Mitigate fire, injuries, deaths, property damage, and environmental damage from emergencies and disasters
3. Recover from fires, emergencies and disasters
4. Protect critical infrastructure
5. Sustain economic viability
6. Protect cultural resources

To accomplish this, an FESO must ensure open and timely communications with the Chief Administrative Officer and governing body (Council), create a masterplan for the organization, and ensure there are mutual aid and automatic aid programs in place, along with an asset control system and maintenance program.

2.3.2 National Fire Protection Association (NFPA) 1720

The NFPA suggests that response times should be used as a primary performance measure in emergency services. *NFPA 1720, Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Volunteer Fire Departments* identifies expectations for response time and an effective response force in the delivery of fire suppression services for structure fires.

NFPA 1720 identifies the number of firefighting personnel required to fight a 2000 ft^2 (186m^2) two-story, single-family home without basement exposures.[3] The standard also identifies the minimum criteria (effect response force) to address ideal response time and firefighting staffing based upon the demand zone and population density. The Resort Village of Candle Lake falls within the rural area demand zone as there is less than 500 people per square mile.

Demand Zone	Demographics	Minimum Staff to Respond	Response Time (minutes)	Meets Objectives (%)
Urban Area	>1000 people/mi^2 (2.6 Km^2)	15	9	90
Suburban Area	500-1000 people/mi^2 (2.6 Km^2)	10	10	80
Rural Area	<500 people/mi^2 (2.6 Km^2)	6	14	80
Remote Area	Travel distance > 8 mi (12.87 Km)	4	Directly dependent on travel distance	90
Special risks	Determined by AHJ	Determined by AHJ based on risk	Determined by AHJ	90

- *A jurisdiction can have more than one demand zone.*
- *Minimum staffing includes members responding from the AHJ's department and automatic aid.*
- *Response time begins upon completion of the dispatch notification and ends at the time interval shown in the table.*

Table 1-NFPA 1720 Staffing & Response Time

[3] NFPA 1720, Section 4.3.2 (2020 edition)

As noted in NFPA 1720, the RVCL is expected to respond with a minimum of 6 firefighters and arrive on scene within 14 minutes at 80 percent of the time.

Section 4.3.4 of the standard states, "Upon assembling the necessary resources at the emergency scene, the fire department shall have the capability to safely commence an initial attack within two-minutes 90 percent of the time." The CLFD is a defensive fire department, and they should strive to have attack lines charged and ready to begin suppression efforts within this two-minute parameter.

2.4 Fire Underwriters Survey (FUS)

The Fire Underwriters Survey (FUS) developed and implemented a grading system to set insurance rates for residential, multi-family, commercial and industrial properties. The FUS provides data on public fire protection for fire insurance statistical work and underwriting purposes of subscribing insurance companies. Subscribers of FUS represent approximately 85 percent of the private sector property and casualty insurers in Canada. The insurance rates are based on the score that a community receives founded on such things as the emergency services assessment which includes a review of apparatus, distribution of companies/ fire stations, staffing, training, maintenance, pre-incident planning and other key factors.

There are two grades used for the evaluation process:

1) **Public Fire Protection Classification (PFPC)** is a numeric grading system from 1 to 10 that is used to rank a community's fire protection program to prevent and control major fires that may occur in multi-family, commercial, industrial, and institutional buildings. A Class 1 grade represents the highest level of protection and a Class 10 represents the absence of an effective fire protection system.

2) **Dwelling Protection Guide (DPG)** is a numeric grading system from 1 to 5 that is used to reflect a community's ability to handle fires in small buildings such as single-family residential dwellings and semi-detached dwellings with a response distance within 8 km of continuously accessible public roads. Response from within 5km is preferred due to the quicker response times by the fire department. This grading system is ranked from A Grade 1 is the highest level and Grade 5 is the lowest where the community has little, or no fire protection.

As noted in both rankings, the lower the number the better fire protection services being provided which results in lower insurance rates. The fire protection capacities are measured in four areas; fire department (40%), water supplies (30%), fire safety control, including prevention and education (20%) and fire service communications (10%). Each category is broken down into sub-categories which include;

Feature	Weight
Fire Department	40%
Water supplies for firefighting	30%
Fire Safety Control-Prevention	20%
Fire Service Communications	10%

The weighted criteria consist of the following;

1) Fire Department (40%)
    - Number of pumper and ladder trucks
    - Distribution of apparatus
    - Apparatus design and conditions
    - Personnel training
    - Training programs
    - Response coverage
    - Equipment quality
    - Pre-fire planning
    - Record keeping
    - The FUS will also review and take into account mutual and automatic aid agreements.

2) Water Supplies for firefighting (30%)
    - An analysis of the water system including the source, supply and distribution to the hydrant.

- Capacity to provide required fire flows (the amount of water required to confine and control, structural conditions such as construction, number of stories, occupancy, hydrant flow testing and records.
- Adequacy and reliability.
- Redundancy and looping.
- Hydrant distributions, spacing and maintenance (valve maintenance programs, engineering studies, etc.).

3) Fire Safety Control (20%)
   - Permanent or part time staff assigned to fire prevention.
   - Fire prevention program and code enforcement.
   - Building inspections.
   - Public education program.
   - Pre-plan program.

4) Fire Service Communications (10%)
   - Means of transmitting alarms by the public.
   - Means of alarm dispatch and dispatching.
   - Radio communications.

The FUS grading system can help communities plan, budget and justify improvements in the fire department, water distribution system and fire prevention budgets. It should be noted, that a well rated fire department in terms of apparatus, staffing, training, fire prevention, fire safety control and communications make up 70% of the grading system and improve the grading system for insurance premiums.

As noted earlier, the subscribers of FUS represent approximately 85 percent of the private sector property and casualty insurers in Canada and the Public Fire Protection Classification can be improved by reducing community risk and increasing the capacity of fire protection services.

When a community improves its PFPC, or Dwelling Protection Guide (DPG) insurance rates may be reduced. Every insurance company has its own formula for calculating their underwriting capacities and insurance rates; however, the PFPC and DPG classifications are

extremely useful to insurers in determining the level of insurable risk present within a community.

Municipal bylaws and controlling the size and type of buildings, exposures and requirements for sprinkler systems are ways to reduce the required fire flows and improve a community analysis for grading. The most common area where investment has the largest impact is in the available fire force sub-category and the best possible PFPC calculation is a result of the investment a community is making in this area.

2.5 SWOT & SOAR Exercise

On October 1, 2022 members of the emergency services participated in a SWOT and SOAR exercise. Through this process the strengths and weaknesses are based on an internal review that identifies what is working well, along with recognizing areas for improvement. The opportunities and threats are related to external influences and how these influences affect the operations and response capabilities of an emergency service. The aspirations for the future were discussed along with what the results would look like 10 years in the future.

To get a complete understanding of how well the emergency services is meeting the needs of the fire department and Medical First Responders a questionnaire was also conducted on October 1, 2022. The questionnaire results along with the SWOT and SOAR analysis are identified in Section 10.

Section 3

Risk Assessment

Section 3: Risk Assessment & Emergency Management

The project scope did not request a Community Risk Assessment; however, Genesis 20/20 Solutions is providing a high-level view of existing and potential risks to aid the Resort Village of Candle Lake in preparing for a prompt and coordinated response to reduce human suffering, loss or damage to property or the environment. Without the inclusion of a summary of risks, the probability of the master plan document missing key information is a reality and the final document may not accurately reflect the projected needs of the community.

3.1 Current and Future Needs

The RVCL covers 62 square kilometers and has a full-time population of 1160. The population of the RVCL has grown by 38 percent in the last four years from 840 to 1160 permanent residents. The high attraction to the beauty of the lake and forest draws tourists and cabin owners increasing the population during the summer months to over 10,000. The RVCL has over 2300 properties which includes residential and commercial properties and 800 seasonal RV park lots.

The Medical First Responders and fire department respond to incidents in all areas of the RVCL and up to 20kms in all directions from the outskirts of the RVCL.

3.2 Risk Assessment Overview

Risk assessment is the process utilized to identify the level of fire protection required within a jurisdiction. It measures the probability and consequence of an adverse effect to health, property, organization, environment, or community because of an event, activity, or operation.

The RVCL Council has the authority to establish the level of fire protection within their jurisdiction and the Fire Chief is responsible for informing the RVCL Council of all risks existing within its jurisdiction. When the risks are identified, Council is in a better position to make an educated decision on the level of service to be provided for the residents.

NFPA 1300, Standard on Community Risk Assessment and Community Risk Reduction Plan Development defines, in Article 3.3.2, that a Community Risk is:

> *"Risk that pertains to the community, including the aggregate potential of loss or damage to critical infrastructure, individual properties, or stakeholders that could have a significant detrimental impact on the overall community."*

It further defines, in Article 3.3.3, that a CRA is:

> *"A comprehensive evaluation that identifies, prioritizes, and defines the risks that pertain to the overall community."*

While Article 3.3.4 defines Community Risk Reduction as:

> *"A process to identify and prioritize local risks, followed by the integrated and strategic investment of resources to reduce their occurrence and impact."*

Two basic risk categories associated with the fire service are *Operational Risk* and *Organizational Risk*. Operational risk is the responsibility of the CLFD to determine the risks within the community and plan strategic, tactical, and task-orientated plans to mitigate incidents.

Organizational risk is a function and responsibility of the RVCL Council to determine the level of service, staffing (volunteer or part time), fire station(s), and approval of a fire department community risk reduction plan based on the overall risk assessment of the municipality.

The analysis and review of the information gathered during a risk assessment will assist in answering some basic questions:

- What could happen?
- When could it happen?
- Where could it happen?
- Who could it happen to?
- Why could it happen?
- How likely could it happen?
- How bad would it be if it happened?
- What can be done to mitigate or prevent any or all the above?

The answers will create the foundation for formulating and prioritizing risk management decisions and strategies to reduce the likelihood of incidents occurring and to mitigate the impact of incidents when they occur.

Data to be reviewed includes:

1) ***Demographics Profile*** – age, gender, educational attainment, socioeconomic makeup, vulnerable individuals or occupancies, transient population, ethnic and cultural considerations.
2) ***Geographic Profile*** – waterways, highways, canyons and other landforms, railroads, wildland-urban interface, bridges, and other specific features of the community.
3) ***Building Stock Profile*** – potential high-risk occupancies, whether residential, commercial, or industrial, building density, building code classifications, age of the structure(s), occupancies that could be a high life safety risk, historic buildings.
4) ***Public Safety Response Profile*** – the way resources are distributed within the community, their deployment and usage, types of incidents responded to and the frequency of such incidents including the seasonal variations and time of day.
5) ***Community Service Profile*** – existing planning and zoning committees, schools, seniors' organizations, ratepayers' associations, mental-health organizations, faith-based groups, cultural/ ethnic groups.
6) ***Hazard Profile*** – human, technological or natural hazards.
7) ***Economic Profile*** – infrastructure, local employers and industries, institutions, community's tax base, local attractions.
8) ***Past Loss/ Event Profile*** – consideration to the impact and frequency of an event; identify large acute events which have a low frequency but a high impact, or small chronic events which have a high frequency with a low impact.
9) ***Critical Infrastructure Profile*** – the facilities and services that contribute to the interconnected networks, services and systems that meet vital human needs, sustain the economy, and protect public safety and security.

From these nine profiles, the matters that are only relevant to fire protection services are considered. The following flow chart outlines the process whereby risks are to be identified from past events while also reviewing future growth trends within the municipality relating to demographics and building stock.

Community Risk Assessment Flow Chart

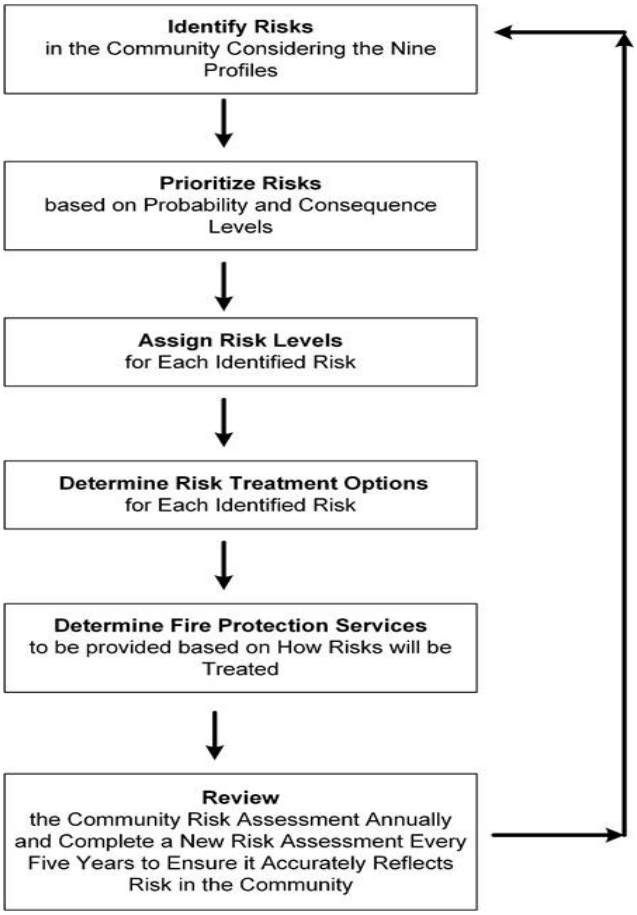


Figure 2 Risk Assessment Flow Chart

The probability or likelihood of a fire occurring within a community is estimated based on previous occurrences and the frequency of such events. The review of previous events will assist is laying a baseline for evaluation which highlights the importance of tracking fire call types, response times and resources on scene. These evaluations are based on four levels of probability as outlined in NFPA 1300's Risk Assessment Matrix:

Very Low (Green)

- May occur in exceptional circumstances.
- No incidents in the past 15 years.

Low (Yellow)

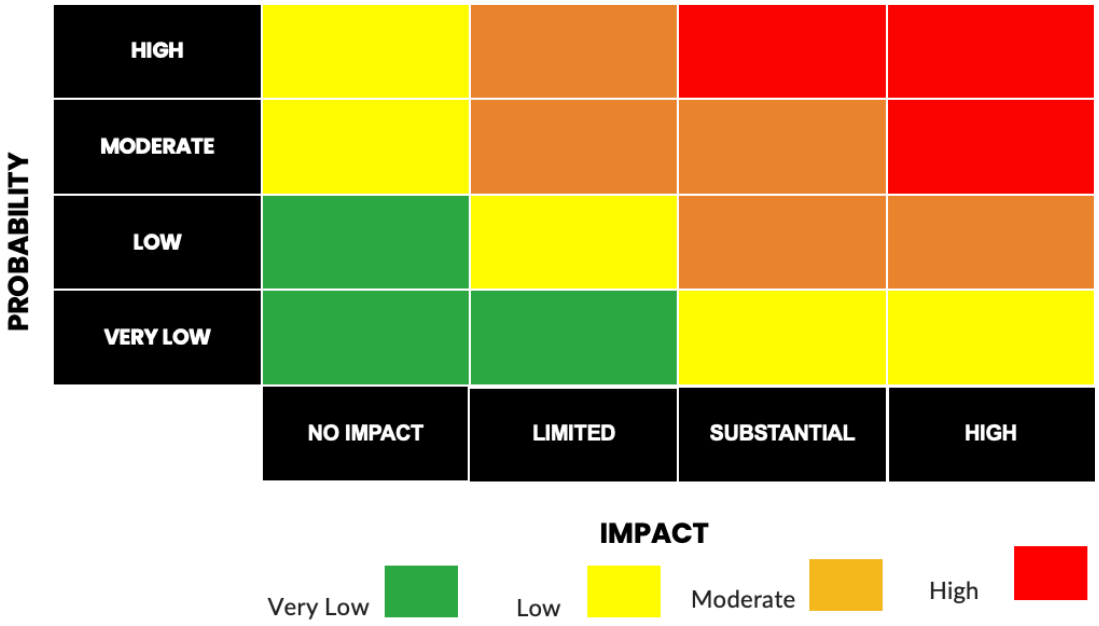
- Could occur at some time, especially if circumstances change.
- 5 to 15 years since last incident.

Moderate (Orange)

- Might occur under current circumstances.
- 1 incident in the past 5 years.

High (Red)

- Will probably occur at some time under current circumstances.
- Multiple or recurring incidents in the past 5 years.
- Expected to occur in most circumstances unless circumstances change.
- Multiple or recurring incidents in the past year.



During the evaluation process, it is important to identify the consequences of an event when it occurs, whether minor or major. This isn't an exact science and the use of professional

judgement and reviews of past events are important in establishing the quantification levels. To establish this level, four components are to be considered:

1. ***Life Safety*** – any injuries or loss of life to anyone involved including public and firefighters (includes actual or potential situations).

2. ***Property Loss*** – the dollar loss relating to public and private buildings, contents, irreplaceable assets, significant/ symbolic landmarks, and critical infrastructure.

3. ***Economic Impact*** – monetary losses associated with income, business closures, downturn in tourism, tax assessment value, loss of employment.

4. ***Environmental Impact*** – harm to humans, vegetation, and animals; the decline in quality of life due to air/ water/ soil contamination because of either the fire or fire suppression operations.

The impacts are categorized according to four severity levels.

1. **No Impact**
- no or insignificant consequences to life safety, value of property loss, impact on the local economy or the general living conditions.
2. **Limited Impact**
- potential life safety risk to occupants is low, minor property loss or disruption to business or general living conditions.
3. **Substantial Impact**
- a threat to life safety of occupants, a moderate loss of property, the threat to loss of business or could pose a threat to the environment.
- large dollar loss with significant property loss, large threat to local commerce and tourism, impacts the environment that would result in short-term evacuations.
4. **High Impact**
- significant loss of life, multiple properties with significant damage, long-term disruption of business, employment, and tourism along with environmental damage resulting in long-term evacuations of residents and businesses.

The four different levels of risk treatment are:

1) **Avoid the Risk** – *Implementation of programs to prevent fires or emergencies from occurring.*
2) **Mitigate the Risk** - *Programs and initiatives implemented to reduce the probability and/or consequences of a fire or emergency.*
3) **Accept the Risk** – *After identifying and prioritizing a risk, it is determined that there are no specific programs or initiatives to be implemented to address this risk.*
4) **Transfer the Risk** – *The fire department has chosen to transfer the impact and/or management of the risk to another organization or body outside the agency.*

NFPA 1730 defines the risks in three categories and provides examples for each:

High-Risk Occupancy – An occupancy that has a history of high frequency of fires, or high potential for loss of life or economic loss, or an occupancy that has a low or moderate history of fire or loss of life, but the occupants have an increased dependency in the built-in fire protection features or staff to assist in evacuation during a fire or other emergency (e.g., apartment buildings, hotels, dormitories, lodging and rooming, assembly, childcare, detention, education, and health care).

Moderate-Risk Occupancy – An occupancy that has a history of moderate frequency of fires or a moderate potential for loss of life or economic loss (e.g., ambulatory health care, and industrial).

Low-Risk – An occupancy that has a history of low frequency of fires and minimal potential for loss of life or economic loss (e.g., storage, mercantile, and business).

Conducting a review of the high, moderate and low risk buildings within the RVCL is feasible and can be completed within a reasonable period of time. The review of these buildings along with the service levels identified in the governance bylaw will provide the RVCL Council with an idea of the acceptable level of risk to manage within the RVCL.

NFPA 1730 recommends the inspection frequency on High-risk classifications to be conducted annually, moderate risk to be every two-years and low risk to be every three-years; with critical infrastructure to be conducted as per the AHJ requirements. Based upon research and information received, fire inspections are not being conducted within the RVCL and this can be contributed to the lack of a qualified individual being available on Monday-Friday and coordinating fire inspections as per NFPA 1730 standards.

Recommendation 3.2: *The RVCL ensure that high, moderate and low risk buildings are inspected as per NFPA 1730 or earlier as determined by the RVCL Council. A third party should be hired to conduct fire inspections within the RVCL.*

Rationale: *Fire inspections are to be conducted as per the Fire Safety Act and following NFPA 1730 will ensure that a regular routine is established for annual fire inspections.*

As noted earlier, Genesis 20/20 Solutions Inc. was not required to conduct a formal CRA, however, a high-level view of existing and potential risks is necessary to aid the Resort Village of Candle Lake in preparing for a prompt and coordinated response to reduce human suffering, loss or damage to property or the environment.

Some risks are identified below are not in the order of their level of risk.

- **Wildland Urban Interface**-A large percentage of the RVCL comprises of residential properties, RV parks and other developments that intermingle with the wildland fuels posing significant wildfire risk. (Wildfire risk is defined as the combination of likelihood of a wildfire occurring combined with the potential impacts of that fire)[4]
- **Bodies of water** – The Emergency Services is not prepared for any type of water rescue. Due to the large population during the summer months the probability of a water related event is high.
- **Residential development** - New residential developments are bringing an increase in population and building stock**.** This will increase the demand on both the fire department and Medical First Responders.
- **RV Parks**-The over 800 RV sites pose challenges in terms of access and clear identification of the RV site.
- **Auto Extrication Rescues** –The increase in vehicular traffic during the summer months, weekends and on holidays increases the probability of a motor vehicle accident. As noted in this document auto extrication requires specialized tools and training and regular training should occur.
- **Weather Events** –The Province of Saskatchewan like other provinces in Canada is experiencing more weather-related events such as heat emergencies and wind events.

[4] National Research Council of Canada (2021) National Guide For Wildland-Urban Interface Fires

A significant wind event such as tornado or plough wind would cause significant damage within the RVCL and pose a threat to life, health and safety of individuals. In July 2000 a tornado hit a campground in Pine Lake, Alberta causing extensive devastation and killing a dozen people. With the RVCL lake having one of the highest RV parks per capita numbers in Canada, a plan needs to be developed to address this risk.

- **Demographics –**The RVCL should analyze fire related data and determine the need to provide appropriate education and prevention programs for permanent residents and visitors.
- **Availability of Firefighters and Medical First Responders**-The availability of firefighters ready to respond during normal working hours Monday-Friday and on weekends. More engagement with permanent residents is required to increase the number of firefighters and Medical First Responders for the community.

3.3 Community Risk Reduction Plan

When fire risks are identified within the RVCL, the next step is the development a Community Risk Reduction Program (CRRP). The CRRP coordinates emergency operations with prevention and mitigation efforts throughout the community. Involvement of the fire department is critical for both gathering local risk data and performing activities necessary to implement the CRRP.

A CRRP improves the safety and health of firefighters and Medical First Responders. This is due to the strategic prioritization in the number of fire inspections, public education events, enforcement of the fire code which will reduce the number of fires in the community.

Developing mitigation strategies requires input from stakeholders, including those most affected by the risk. Stakeholder involvement is paramount and should always be included in the decision-making processes. It will necessitate decisions to determine what tactics and strategies will be necessary to prevent and/or mitigate those risks with the highest priority and other resources such as the Saskatchewan Public Safety Agency should be engaged in this process.

During the development of the CRRP plan, there are five elements that should be included:

- ***Education***: Identifying the appropriate type and mix of educational messaging necessary to inform the public and effect behavioural change. The use of social media is a cost-effective way to provide educational messaging.
- ***Enforcement:*** Identifying whether stronger enforcement is necessary or if newer codes and standards need adoption. (The RVCL utilizes a third party for residential permit inspections and a third party should be considered for fire inspections)
- ***Engineering –*** Determine whether there are engineering or technological solutions to address the identified risk(s) within the RVCL.
- ***Emergency Response –*** The development of SOGs and policies to better meet a specific risk or need.
- ***Economic Incentive –*** Identifying whether financial incentives will improve compliance or help increase awareness of the needs within the RVCL.

The implementation of the completed CRRP will rely on the fire department, community partners, or a combination of both.

Understanding the RVCL and its needs allows the Fire Chief, RVCL Council, and administration to be proactive with education and enforcement programs for the community. When fires, medical or emergency situations occur within the community, the firefighters and Medical First Responders are prepared to perform their duties because they are trained, understand the unique and special hazards that are found within the community and have taken action to prepare for those emergencies based upon the community risk assessment.

3.4 Emergency Management Assumptions

Assumptions can be made that translate into basic principles associated with the emergency management plan for the Resort Village of Candle Lake (RVCL) in the prevention and mitigation, preparation for, response to and recovery from major emergencies and disasters. Identifying and addressing these assumptions is an important part of the RVCL Emergency Management Plan. Assumptions include but are not limited to:

- Emergencies or disasters may occur at any time, day, or night, in populated as well as remote areas of the RVCL.
- Major emergencies and disasters will require a multi-agency, multi-jurisdictional response. For this reason, it is essential that Incident Command System (ICS) standards

for incident command and, in many cases, unified command, be implemented immediately by responding agencies, and expanded as the situation dictates.

- The RVCL is primarily responsible for emergency actions and will commit all available resources to save lives, minimize injury to persons, minimize property damage, protect the environment, and support local economies.
- Large-scale emergencies and disasters may overburden local resources and necessitate mutual aid from neighboring jurisdictions.
- Large-scale emergencies and disasters and the complex organizational structure required to respond to them pose significant challenges in terms of warning and notification, logistics, and agency coordination.
- Major emergencies and disasters may generate widespread media and public interest. The media is a partner in large-scale emergencies and disasters; they can provide considerable assistance in emergency public information and warning.
- Large-scale emergencies and disasters may pose serious long-term threats to public health, property, the environment, and the local economy. While responding to significant disasters and emergencies, all strategic decisions must consider each of these threats.
- Disasters and emergencies may require an extended commitment of personnel and other resources from involved agencies and jurisdictions.

3.5 Prevention and Mitigation

Prevention and mitigation activities include eliminating or reducing the risks of disasters to protect, lives, property, the environment and reduce economic disruption. Prevention and mitigation activities include structural mitigation measures, e.g., construction of floodways and non-structural mitigative measures, e.g., FireSmart programs, building codes, land-use planning and insurance incentives.

In 2018, the National Institute of Building Sciences (NIBS) released findings from research that analyzed 23 years of U.S. grant funding for the Federal Emergency Management Agency (FEMA) that every $1 invested in disaster mitigation saves society $6. The report highlights significant savings from mitigation in terms of safety, property protection, and continuity when communities are struck by riverine or coastal flooding, hurricanes, earthquakes, or wildfires.

The benefit-cost ratio was estimated in the studies and mitigation for riverine flood of $5:1 benefit-cost ratio, wind mitigation analyzed and found a $5:1 benefit-cost ratio, while earthquake and wildland urban interface were both at a $4:1 benefit-cost ratio.

In terms of simplicity, the mitigation strategies for wildland urban interface included:

- Adding fire-resistant windows, doors and cladding.
- Adding non-combustible roof and keeping it clear of pine needles and other flammables.
- Removing woodpiles and other fuels near the house.
- Cutting back vegetation around the house.

FEMA identifies that mitigation efforts and building codes that are enforced is crucial for community resiliency[5]. Emergency Management focuses on the reduction of impacts of disasters to communities and the prevention and mitigation efforts help reduce the financial costs of the disaster response and recovery.

Recommendation 3.5: *It is recommended that the RVCL pursue opportunities available through the Saskatchewan Public Safety Agency and the Disaster Mitigation and Adaptation Fund. In addition, the recommendations in the FireSmart Canada Home Development Guide will help reduce the risk of wildfire to the RVCL.*

Rationale: *Money invested in disaster mitigation saves the community in terms of safety and property protection.*

3.6 Preparedness

Preparedness involves the capability to be ready to respond to a disaster and manage its consequences through measures taken prior to an incident. For example, developing emergency management plans, having mutual aid agreements, conducting resource inventories and training and exercise programs.

[5] FEMA (2022) Building Codes Adoption Playbook, For Authorities Having Jurisdiction

3.6.1 Training

The best practice is that individuals that are expected to fill a role in the Emergency Operations Center (EOC) should have training in ICS, which also includes designated alternates. Currently there is no minimum training requirement to fill a role within the RVCL EOC. The level of training required will depend upon the roles and responsibilities of the personnel in the EOC. A complete list of recommended courses and a training path has been developed for the RVCL and included as part of the development of the RVCL Emergency Management Plan.

ICS Canada identifies the following four levels for the incident command system:

- **I-100** introduces the Incident Command System (ICS) and provides the foundation for higher level ICS training. This course describes the history, features and principles, and organizational structure of the Incident Command System.
- **I -200** defines the unique qualities of ICS as an event or incident management system. This course focuses on the management of single resources. I-200 provides training for personnel who are likely to assume a supervisory position within the ICS.
- **I-300** defines the unique qualities of ICS as an event or incident management system in an expanding/escalating situation. I-300 is designed to enable personnel to operate efficiently during an incident or event using ICS in supervisory roles on expanding or Type 3 Incidents.
- **I-400 i**s designed to enable personnel to operate efficiently in the advanced application of the Incident Command System (ICS). The course deals with the command and general staff functions during complex incidents, the implementation of the incident management process on a complex incident and the management and coordination process during multiple incidents.

In addition to ICS training, Saskatchewan Public Safety Agency offers *Emergency Operations Centre* training.[6]

[6] https://www.saskpublicsafety.ca/communities/emergency-management-workshops-and-exercises

Recommendation 3.6.1: The RVCL contact their local assigned Emergency Services Officer for more information and schedule ICS 200 and EOC training for administration staff.

Rationale*: Understanding the ICS and the roles and responsibilities in a supervisory position is essential for administration staff.*

3.6.2 Emergency Operations Centre (EOC) - Level 1

This two-day, in-person course covers the characteristics and organization of a standard municipal Emergency Operations Centre (EOC). Through a series of lectures, discussions and exercises, participants will gain the knowledge and skills they need to work as a team member in an EOC during an emergency.

3.6.3 Emergency Operations Centre and Exercises

The primary location for the EOC for the RVCL is at the RVCL Fire Hall. The secondary location for the EOC is at the RVCL Village Office. Due to the small geographic location of the RVCL and the nature of the hazards, e.g., wildland urban interface fire causing an evacuation of the entire municipality, it is recommended that a third location be selected outside of the RVCL. Possible locations could include the Town Hall of a neighbouring municipality or a conference room in a hotel.

The EOC is critical for the coordination, resource management, communications and critical assessments of the event with the Incident Commander. During research for this Master Plan, it was noted that regular EOC activation as a simple training exercise has not occurred and there is no confirmation that the secondary EOC location at the Village Office has ever been tested. It is critical to test these locations to ensure that LAN connections, phone lines and WIFI are working.

3.7 Response

Response involves acting during or immediately before or after a disaster to manage its consequences through emergency public communications, search and rescue, emergency medical assistance and evacuation to minimize suffering and losses associated with disasters.

3.7.1 Incident Command System

The Incident Command System (ICS) is based upon best practices in Canada and the United States and is used for small and large emergency and non-emergency incidents. It identifies roles and responsibilities to improve response capacity, resource and interagency communications for a common purpose. Interagency, multi-jurisdictional, multi-government and multi-disciplinary are terms used when operating at a large-scale emergency incident. The strength of the ICS is making sure that the safety of responders and other personnel are the priority and the effective use of resources or elimination of the duplication of services is achieved.

3.7.2 Unified Command

Unified Command involves applying ICS in incidents involving multiple jurisdictions or multiple agencies. The type of incident, complexity and location of the incident may require a Unified Command structure where the Incident Commander(s) from multiple incident sites or the EOC Director in the EOC and a different level of government come together to coordinate the response and/or recovery to an incident(s).

According to ICS Canada, *(ICS 300 Course, 2019)* the benefits of the Unified Command include:

- One set of incident objectives.
- Collective approach to strategies.
- Improved information flow.
- Mutual understanding of priorities and restrictions.
- Agency authority is not compromised.
- Awareness of others' tactics.
- Combined efforts are optimized.
- The duplication of efforts/resources is reduced or eliminated.

As was noted in the *Emergency Management Assumptions*, large-scale emergencies and disasters may overburden local resources and necessitate mutual aid from neighboring

jurisdictions. It is recommended that the RVCL train and exercise with partner agencies and jurisdictions to strengthen working relationships and achieve a level of familiarity with the personnel and resources available through a joint response and/or recovery to an incident using both a single command and coordination structure and a Unified Command Structure.

Recommendation 3.7.2: *The RVCL contact their local SPSA Emergency Services Officer to discuss future training opportunities where neighbouring jurisdictions and agencies can train together in a joint exercise.*

Rationale: *One of the best ways to improve the unified command structure is to train with agencies and jurisdictions that will likely respond to aid during a significant event. The mutual training sessions increases familiarity with agency personnel.*

3.8 Recovery

Recovery involves repairing or restoring conditions to an acceptable level through measures taken after a disaster. Recovery may include the return of evacuees to the community, trauma counselling, reconstruction, economic impact studies and financial assistance programs. There is a strong relationship between long-term sustainable recovery and prevention and mitigation of future disasters.

It is recommended that the RVCL implement a cost tracking process for monitoring and tracking costs during a disaster. Guidance on the Provincial Disaster Assistance Program can be found on the *Province of Saskatchewan*[7] website. A cost tracking form has been included as part of the development of the RVCL Emergency Management Plan. More information on the role of the EOC in the recovery process can also be found in the RVCL Emergency Management Plan.

[7] https://www.saskatchewan.ca/government/municipal-administration/funding-finances-and-asset-management/designate-and-apply-for-municipal-provincial-disaster-assistance-funding#guidance

3.9 Emergency Response (travel) Time

During the consultation process and survey information, it was identified that it can take up to 30 minutes to travel from one end of the boundary to the other, which poses problems for volunteers.

Figure 2 below identifies the 14-minute travel from the Candle Lake Fire Hall. The travel time is based upon posted speed limits and covers the RVCL boundaries.

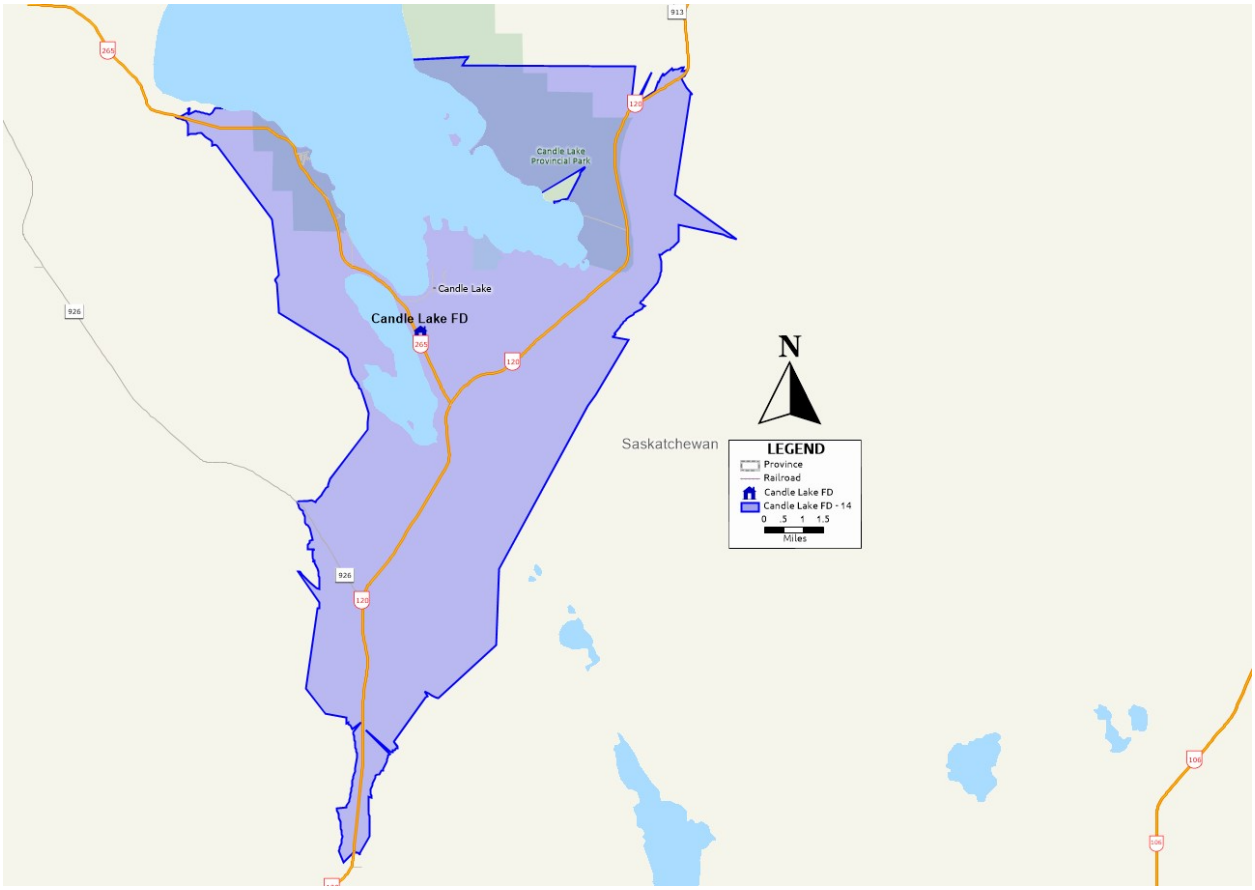


Figure 3 Fire Department 14-minute response time

There was discussion during the research phase for this master plan on what the travel time would look like with two additional Fire Halls. Figure 4 below identifies the travel time from the main Fire Hall and withTelwin/Clearsand and the Glendale entrance with the 14-minute travel time as per NFPA 1720.

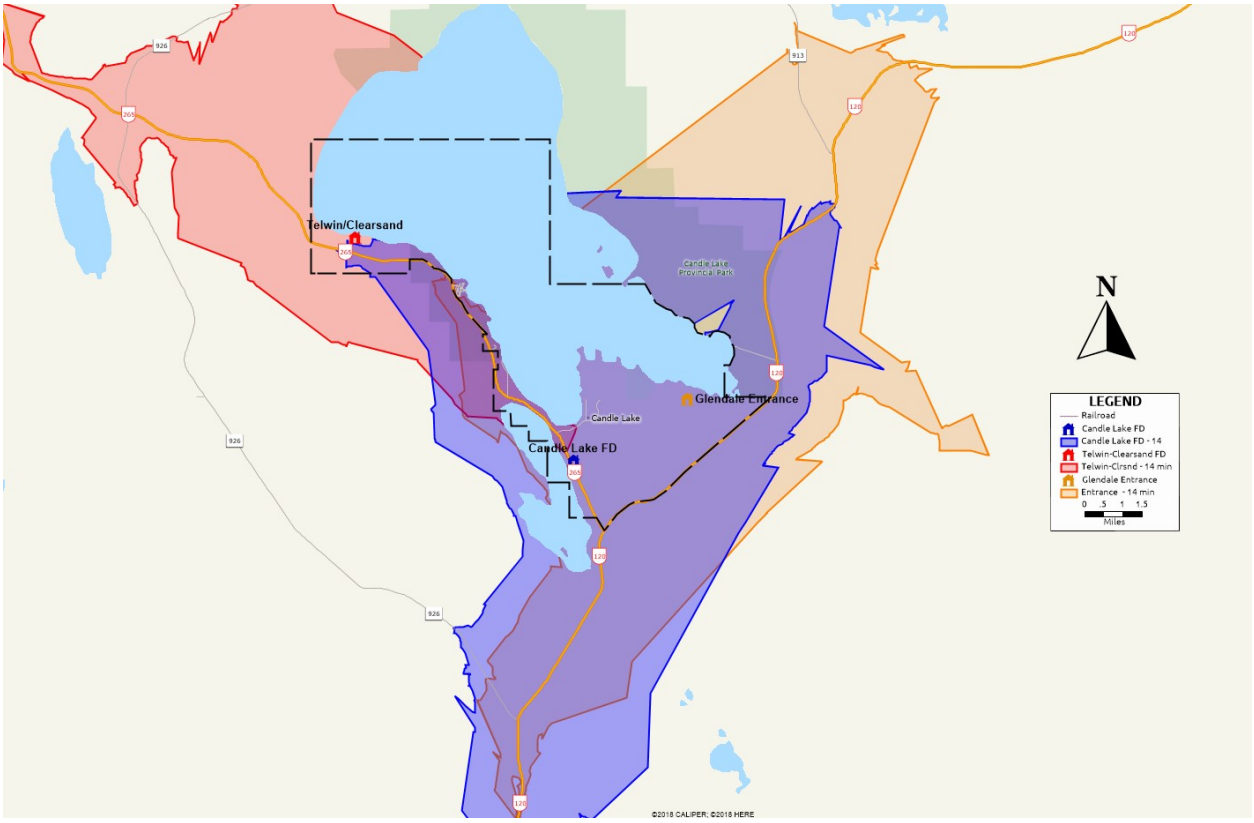


Figure 4 Main Fire Hall and Glendale Entrance with 14-min travel time

Figure 5 below shows a Fire Hall by the exit roadway of Glendale. In terms of response time coverage there is little different between the two Glendale locations.

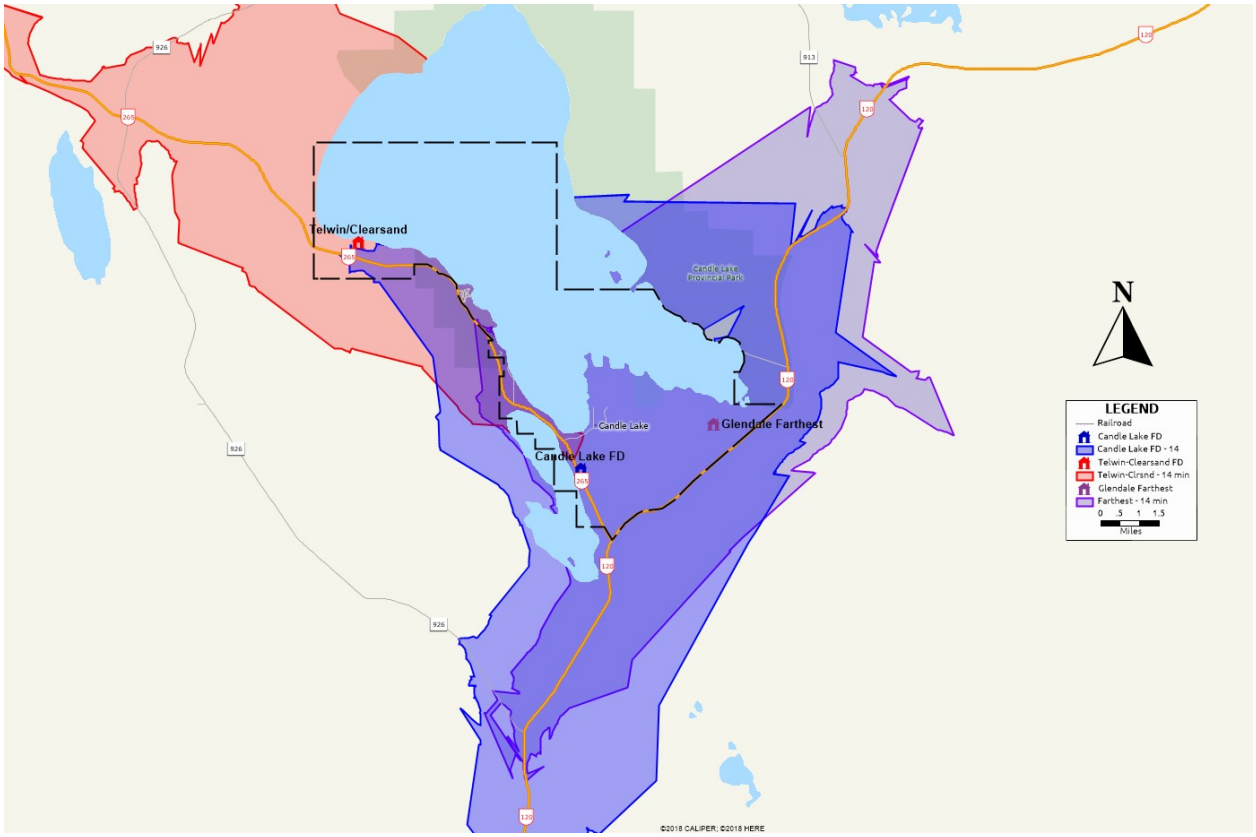


Figure 5 Fire Department 14-minute response time from three Fire Halls

It has to be pointed out that the response maps are under ideal driving conditions, with little or no traffic congestion.

There are numerous factors that influence the fire suppression capabilities of any paid-on call fire department. These include but are not limited to:

- The number of firefighters available to respond to the emergency incident during normal working hours.
- The number of firefighters available for weekend coverage during the summer months.
- The number of firefighters in the fire department that meet a minimum standard of training and are able to perform suppression and rescue duties.

- The number of firefighters arriving for the initial response to the incident at the Fire Hall.
- The number of firefighters that consistently respond and arrive on a second apparatus after the initial response crew initiates fire ground operations.
- The coordination of firefighters during the emergency incident, and
- The rehab of firefighters during a prolonged emergency.

As a community grows, more demands and expectations are placed upon the emergency services and the trend indicates that the RVCL will continue to grow. Collecting and analyzing data on how long it takes firefighters to assemble at the Fire Hall (turnout time) and drive (travel time) to the emergency incident is a key component for justifying additional Fire Halls within the RVCL. There are several factors that impact the travel time to an incident that include traffic patterns, time of day, time of year (tourist season) and weather conditions.

Recommendation 3.9: *On arrival at the structure fire, the CLFD should strive to have initial attack lines deployed and available for suppression within two minutes 90 percent of the time as per NFPA standards.*

Rationale: *Meeting the two-minute benchmark is ensuring that the CLFD is being diligent in striving to an industry best practice of quickly deploying attack lines and flowing water for extinguishment purposes.*

Recommendation 3.9: *The Emergency Services should collect data and analyze annually the dispatch time, turnout time and the travel time for each incident and identify geographical locations within the RVCL that exceed a 14-minute travel time.*

Rationale: *The analysis of data will provide quantifiable data whether responding fire apparatus are able to get on scene within 14-minutes at an 80 percentile.*

Section 4

Emergency Services Divisions

4.1 Fire Department

4.2 Medical First Responders

4.3 Emergency Measures Organization

Section 4: Emergency Services Divisions

In November 2021 the Fire Department, Medical First Responders and Emergency Management merged to become the RVCL Emergency Services. There are numerous services identified in Bylaw 13 Fire/First Responder bylaw that are to be provided by the Emergency Services. This section will identify those services, along with any gaps and provide additional information to enhance the services provided.

4.1 Fire Department

The RVCL is served by a POC Fire Department from one Fire Hall that was built in 1984. The Candle Lake Fire Hall has five front bays with no drive through bay. The CLFD is equipped with a Pumper, two Tankers and a Rescue truck.

The rank consists of:

- 1-Fire Chief
- 2-Deputy Chiefs
- 1-Training Officer
- 1-Captain (currently vacant)
- 1-lieutenant
- 21-Firefighters

An organizational chart does not exist for the fire department and based upon the rank in the department, there may be some concerns with the span of control and chain of command.

Bylaw 13, authorizes the Candle Lake FD to provide services for the following:

- Fire Protection
- Fire Suppression
- Vehicle Extrication
- Fire Prevention and Inspections
- Educational Program
- Structural Collapse support operations
- Traffic control

- STARS landings
- Other emergencies as per training and equipment limitations

Figure 6 Candle Lake Fire Hall

The RVCL Emergency Services does not have a Records Management System (RMS) and the identification of call types for emergency responses were limited. Information provided for this master plan indicate that from 2018-Sept 2022 the Candle Lake FD responded to 71 emergency incidents which included but is not limited to wildland urban interface, garbage and structure fires. During this same period the Fire Department responded to 20 motor vehicle accidents while the Medical First Responders had 136 medical call outs.

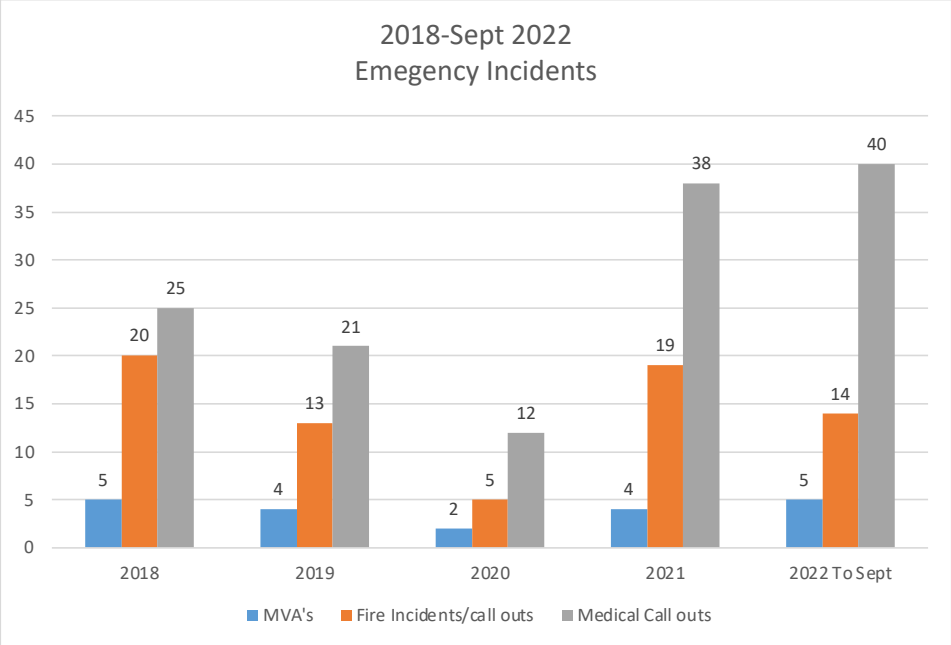


Figure 7 2018-Sept 2022 Emergency Incidents

4.1.1 Fire Suppression Operations

To ensure a comprehensive review was conducted as per the RFP, Genesis 2020 Solutions Inc, examined and researched the Candle Lake FD operations, fire prevention & education, fire inspections, training, communications, apparatus and equipment.

The Emergency Services has one Pumper, one Rescue, two Tankers, one Medical Response Vehicle, and one Sno-ambulance. The fire suppression capability is essentially what a fire department can and cannot do based upon its resources and equipment. The challenge for the Candle Lake Fire Department is the same faced by the majority of volunteer paid-on-call fire departments across Canada, and that is recruitment and retention.

The community demographics within any small community will impact the recruitment and retention of the fire department. The characteristics of the geographical boundaries of the RVCL will affect the suppression capabilities of the fire department due to the numerous residential subdivisions and RV parks. The call volume for the CLFD is manageable at the time

however, the CLFD faces extensive response times along with major water supply issues as it covers a land area of 63.32 km^2 (24.45 sq miles). The fire department also responds to sections of the RM of Torch River under a fire service agreement with Lakeland & District Fire Department.

4.1.2 Wildland Urban Interface

The RVCL and the Candle Lake Provincial Park is surrounded by boreal forest. FireSmart Canada defines a Wildland Urban Interface (WUI) fire as the line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels[8]. A large percentage of the RVCL crosses into the wildland urban interface and the Candle Lake Fire Department does not have a wildland fire-fighting vehicle. Wildland fire-fighting vehicles have shorter wheel bases which increases maneuverability and versatility on narrow roads or challenging terrain. For the most part, WUI fire-fighting trucks are designed to carry four or more firefighters and have the ability to pump and roll.

WUI fires can be complicated as they may start small and quickly change and overwhelm firefighting forces based upon the weather, fuel load, access to the fire and topography. Wildfire risks include soil moisture, presence of trees and other fuels and temperature.

Many fire departments will utilize a smaller chassis for their bush/grass fire trucks such as a Ford 550 4x4 that is specifically equipped for a quick response to a brush/grass fire. The smaller vehicles allow more maneuverability for brush/grass fires but they are very limited on the equipment and water they carry. The initial response can make a big

[8] FireSmart Canada, https://firesmartcanada.ca/about-firesmart/#WUI

difference in determining the outcome of a small brush/grass fire. A wildfire can quickly exceed the CLFD firefighting resources and a request to the Saskatchewan Public Safety Agency for additional resources can be made, however the response time will vary depending upon whether wildland firefighting resources are readily available.

The National Research Council of Canada defines a wildland urban interface (WUI) as an area where various structures, usually private homes, and other human developments meet or are intermingled with wildland (vegetative) fuels or can be impacted by the heat transfer mechanisms of wildfire, including ember transport.[9] Wildland Urban Interface fire fuels are divided into two categories:

1) Wildland fuels: this includes vegetation both natural and cultivated.
2) Built fuels: structures such as buildings, fences, decks, sheds, stored materials, firewood, vehicles, boats, hazardous materials, etc.

The number of permanent residents in Candle Lake is increasing and the trend is expected to continue. Candle Lake is known as a tourist and seasonal resort community due in part to its many attractions and being surrounded by boreal forest. In spite of the numerous hiking trails and the beauty of the boreal forest, caution must be exercised as the threat of a wildfire and its consequences is very real.

The National Research Council of Canada noted, that when wildfires spread into communities, the consequences of such incidents can be extreme-resulting in billions of dollars of losses for residents, governments, and insurers, as well as substantial social impacts, damaging the short-term and long-term viability of a community, and displacing or injuring community residents.[10]

[9] National Research Council of Canada (2021) National Guide For Wildland-Urban Interface Fires. P.1

[10] National Research Council of Canada (2021) National Guide For Wildland-Urban Interface Fires. P.2

Figure 8 Onechassa subdivision 2022

The best strategy to prevent a wildfire is education of the dangers of wildfires and how steps can be taken to prevent them. Wildland Urban Interface fires can pose some challenges as forested areas are desirable to live in, but what makes them desirable can also pose some hazardous and dangers due to the vegetation being an excellent source of fuel. The implementation of a formal educational program requires all members of the community to work together to reduce the risks associated with wildland urban interface living. When a community adopts a strategy to work on preventative strategies, it provides a safer environment for people, homes, businesses and the community as a whole.

Recommendation 4.1.2: *The RVCL and the CLFD should plan for the future acquisition of a wildland urban interface vehicle. A thorough analysis be conducted by the CLFD for the need of a wildland urban interface vehicle and a report provided to Council in the short term.*

Rationale*: Due to the surrounding wildland urban interface and the number of small driveways and RV parks within the RVCL, a smaller quick attack vehicle allows more maneuverability for brush/grass fires and therefore increases the response time and application of water on the fire.*

Recommendation 4.1.2: *The RVCL work with the SPSA to implement a formal education program that promotes FireSmart in the community****.***

Rationale: *The first line of defense for the RVCL is educating residents on how to take preventative steps to reduce fire incidents and protect their property through a sound prevention program such as FireSmart.*

4.1.3 Auto Extrication

The CLFD is equipped with hydraulic tools and other extrication equipment for motor vehicle extrication services. In the last five-years the CLFD responded to 20 motor vehicle accidents. Data was not available on whether extrication measures were performed, but it must be noted that auto extrication services today are complex events that requires specialized training and equipment due to the numerous air bags in vehicles along with the challenges faced with hybrid and electric vehicles (EV). The CLFD Rescue truck well equipped with hydraulic tools and rams for extrication services.

Prior to January 2022 training records were not available for review and as such, there is no indication on how many times a year firefighters trained in auto extrication. The goal of auto extrication is to rapidly remove injured victims so they can be treated and transported to the hospital. Both highway 265 and 120 have heavy traffic during the tourist season and firefighters must be prepared to respond to and be well trained to effectively deal with a high-speed auto impact. High speed impacts are generally complicated with the amount of debris and fluids on the highway, and today all firefighters must be aware of the increase in hybrid and electric vehicles and the challenges they provide during extrication.

The rescue truck should protect firefighters where possible by shielding traffic lanes and allowing safe egress from the truck. First Responders are injured or killed every year while performing their duties on a roadway. Safety of all First Responders on scene during an auto accident must be a priority. The importance of training in this service cannot be over emphasized as there is a high probability that the CLFD will respond to low and high-speed collisions.

The Candle Lake Airpark is located 2.6 miles west-northwest of Candle Lake and although not vehicle related, an aircraft incident may require hydraulic tools for the rescue of the pilot or passengers of a small aircraft that has crashed.

On April 12, 2022 the Saskatchewan Government Insurance (SGI) announced that it was providing one time funding to the Saskatchewan Public Safety Agency to develop an auto

extrication program to equip and train firefighters. The investment of $5.6M will fund the delivery and management of the program. The SPSA will manage the Transportation Rescue Extrication (TREX) program though three phases; 1) application and selection, 2) onboarding and training and 3) program maintenance.

A committee made up of representatives from SPSA, Sask911, Saskatchewan Association of Fire Chiefs (SAFC), Saskatchewan Volunteer Firefighters Association (SVFFA) and Saskatchewan Health Authority (SHA) meet regularly and will review applications for funding and notify applicants by the second week of each month regarding their application and the decision of the committee for approval or not.

There are three levels of auto extrication established in the TREX program which include; 1) Rapid Access Extrication, 2) Operations Level auto extrication and 3) Technician equivalent auto extrication. The RVCL has an opportunity to apply for funding for training and equipment acquisition. It is anticipated that the Saskatchewan Public Safety Agency will finalize the application process by the end of November 2022.

Recommendation 4.1.3: *The CLFD schedule annual auto extrication training at a minimum of two times a year and utilize the in-house expertise of the Training Officer.*

Rationale: *Hands on practical training is a priority for auto extrication and must be a regular part of the training program within the CLFD.*

Recommendation 4.1.3: *Standard Operating Guidelines (SOGS) must exist as per the Occupational Health & Safety Regulations for the initial response of emergency vehicles to an incident. This SOG should also include the apparatus positioning to protect First Responders on the scene.*

Rationale*: First responders are injured on roadways every year and their safety must be a priority while on scene during an incident on a roadway.*

Recommendation 4.1.3: *The RVCL apply to the SPSA for funding for additional rescue equipment and training through the Transportation Rescue Extrication Standards Program. The application must identify the level of extrication services to be delivered by the CLFD. (Immediate)*

Rationale: *The $5.6 Million grant to equip and train volunteer firefighters is an opportunity for the RVCL to attain extrication equipment and training at no cost to the municipality.*

4.1.4 Fire and Life Safety Education

The first line of defense as noted earlier, is to implement public education and prevention programs to reduce fires and the impact to people, property and the environment. The best way to stop fires is to prevent them from happening in the first place. The fire department does not have a formal fire and life safety education program, but they are very active in the community in terms of attending public events and being engaged with the community.

The RVCL has unique dynamics as the population varies according to time of year. The population can vary from 1,100 up to 10,000 during the peak tourist season. A municipal water supply does not exist and the fire suppression water supply is provided by one Pumper and two Tankers. This poses a greater challenge for the fire department as the only available source to refill the Pumper or Tankers are the golf course and Fire Hall.

With over 1,000 RV sites in nine (9) RV sites and two (2) provincial campgrounds along with the number of two season homes, the need for fire and life safety education to prevent fires must be a priority. Fire and life safety education should be focused upon eliminating or mitigating situations that endanger lives, health, property or the environment.

Recommendation 4.1.4: *The CLFD increase its public education presence by attending more community events and engaging with key stakeholders regarding fire prevention and education programs specifically suited for the RVCL.*

Rationale*: The CLFD has a positive image within the community and they have an opportunity to increase their fire and life safety education by attending more local community events and providing pamphlets and other information to educate residents.*

4.1.5 Fire Inspections

No fire inspections are currently conducted in the RVCL. Conducting fire inspections is a proactive approach to not only educating people, but preventing fire hazards, and thereby reducing property damage. Many people may not realize they are creating a fire hazard within their business or building. Fire inspections are intended to eliminate or control hazards in or around buildings, the installation and maintenance of certain life safety systems in buildings and inspection frequency generally varies depending upon the occupancy.

According to NFPA 1730, there are four classifications for fire inspection frequency:

Occupancy	NFPA 1730
High-Risk	An occupancy that has a history of high frequency of fires, high potential for loss of life or economic loss, or that has a low or moderate history of fires or loss of life but the occupants have a high dependency on the built-in fire protection features or staff to assist in evacuation during a fire or other emergency. High risk occupancies should be inspected annually.
Moderate-Risk	An occupancy that has a history of moderate frequency of fires or a moderate potential for loss of life or economic loss. Medium risk occupancies can be inspected every 2-years.
Low-Risk	An occupancy that has a history of low frequency of fires and minimal potential for loss of life.[11] Low risk occupancies can be inspected every 3-years.
Critical Infrastructure	To be determined by the AHJ.

Figure 9 NFPA 1730 Inspection Frequency

The end result of a sound fire inspection program is to ensure:

- The building or property is safer as a result of the inspection,
- Enhance the education of the public and attitude toward fire prevention, and
- Provide a record of the inspection findings.

Section 30 of *The Fire Safety Act* identifies the right to enter a building or property for the purpose of a fire inspection where a fire inspector may, without a warrant, at any reasonable time, enter on any land or into any premises for the purposes of conducting an inspection for the purposes of monitoring compliance with this Act, the regulations or any order made pursuant to this Act or a bylaw passed pursuant to this Act. The right to enter does not apply to a private dwelling.

[11] *NFPA 1730, Standard on Organization and Deployment of Fire Prevention Inspection and Code Enforcement, Plan Review, Investigation, and Public Education Operations* 3.3.3.1-3.3.3.3

In places that are open to the public, a notice in not required for the fire inspector to conduct an inspection, when ordinary citizens may enter. The fire inspector is permitted to inspect public places for fire risks where overcrowding may occur such as in a nightclub or hotel bar.

In Saskatchewan the standards for fire inspections in existing buildings are based upon the National Fire Code of Canada (NFC) which establishes minimum standards for fire prevention and life safety in buildings such as the maintenance of fire safety equipment such as extinguishing systems, portable fire extinguishers and fire alarm systems. The National Building Code of Canada establishes the standard for fire safety in the construction of new buildings, renovations of buildings and a change in occupancy.

NFPA 1730, states that a Community Risk Assessment (CRA) forms the foundation for the development of fire prevention inspections and code enforcement. The CRA includes the following profiles:

- Demographics
- Geographics overview
- Building stock
- Fire experience
- Responses
- Hazards
- Economic profile

Fire inspections are based upon the community population, number of buildings, risks within the community, occupancy types, critical infrastructure and the potential for loss of life and economic loss. The AHJ, in this case the RVCL is in the best position to determine the code enforcement/inspection activities identified within NFPA 1730.

Recommendation 4.1.5: *The RVCL identify the high, medium and low risk occupancies and hire a third party to conduct fire inspections and provide written documentation to the RVCL.*

Rationale: *Fire inspections have not been completed within the RVCL and it is critical that these be performed in the immediate future.*

4.1.6. Structural Collapse

Structural collapse rescue operations are complex, dangerous and require specific skills and training to effectively manage. It is unclear in Bylaw 13 on what defines "support operations" for structural collapse. The *Canadian USAR Classification Guide* identifies three levels of Urban Search and Rescue (USAR) as; light, medium and heavy. The Light USAR level structural response includes search and rescue within structural wood systems, light metal components, un-reinforced masonry which support floors, wall cladding and roofing systems. The operational period for a light structural response is up to 12 hours and no longer.

Recommendation 4.1.6: *The performance requirements for light urban search and rescue are numerous and the RVCL must decide on whether this a service level expected from the CLFD.*

Rationale: *The RVCL must prioritize services and strategically plan for the growth of the fire department and the financial commitment required for future acquisitions in terms of apparatus, personal protective equipment and a Fire Hall.*

4.1.7 Fire Investigations

Bylaw 13 does not identify that fires are to be investigated; however, *The Fire Safety Act* requires every significant fire to be investigated to determine the cause, origin and circumstances of the fire. Section 22 (1) identifies a significant fire as:

a) Is in the opinion of the local assistant, of suspicious origin with a significant amount of loss or damage sustained to property or the environment or is otherwise of interest to the fire commissioner.

b) Involves death or serious injury to a person, or

c) Involves a premises owned or leased by the Crown.

(2) If a significant fire occurs within the local assistant's jurisdiction, the local assistant shall:

a) Notify the fire commissioner as soon as is practicable of the fire; and

b) Secure the land or premises where the fire occurred against entry until:

i. A municipal inspector arrives to conduct an investigation to determine the

cause, origin and circumstances of the fire, or

ii. If no municipal inspector is available to conduct the investigation mentioned in subclause (i);

A. A provincial inspector arrives to conduct the investigation; or

B. The local assistant is directed by a provincial inspector to conduct an investigation.

The best practice is to determine the cause, origin and circumstances of every fire the CLFD attends. Some investigations may be deemed as undetermined but all attempts need to be made to determine the cause, origin and circumstances for a fire. The Saskatchewan Public Safety Agency has fire investigators throughout the province that are available to assist and if a fire investigation becomes complicated, they should be contacted for advice.

Recommendation 4.1.7: *The Fire Chief work with the SPSA Emergency Services Officer to create a process and SOG for the investigation of fires within the RVCL jurisdiction.*

Rationale**:** *All fires are to investigated and reported to the SPSA identifying the cause, origin and circumstances of the fire.*

4.1.8 Pre-Incident Planning

Pre-incident planning is not identified in Bylaw 13, however, the importance of pre-incident planning and the gathering of detailed information on buildings, water supply, hazards, occupancy and other key information is critical for the fire department to effectively manage an incident.

A pre-incident planning program does not exist and NFPA 1620 Section 3.3.46 defines a pre-incident plan as "A document developed by gathering general and detailed data that is used by responding personal in effectively managing emergencies for the protection of occupants, participants, responding personnel, property, and the environment."

Pre-incident planning should occur for the high-risk buildings within the RVCL, but pre-incident planning should also occur for residential areas as well as RV parks with limited entry and egress. A lack of property markings in the RV parks poses significant challenges for the Medical First Responders as well as the CLFD.

Recommendation 4.1.8: *The CLFD and Medical First Responders prioritize the high-risk buildings and RV parks that should have pre-incident planning conducted and complete all of the pre-incident plans within the short term and work with the RVCL on implementing a numbering system for RV lots.*

Rationale: *The numerous RV parks and increase in population density make it imperative that pre-incident plans are completed and that RV parks and residential areas have clear entry for emergency vehicles as well as clear identification of an address for responding personnel.*

4.1.9 Dangerous Goods Response

Dangerous goods response is not identified in the bylaw, however, there is support for having a level of training to mitigate dangerous goods incidents within and around the RVCL. *NFPA 472, Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents*, identifies four levels of service for hazardous materials response:

Service Level	NFPA 472 Standard
Awareness	This level is primarily based upon recognizing the presence of hazardous materials, protecting First Responders and the public, securing the incident and requesting additional agencies for help. Responding firefighters can contain and dike a spilled product without donning specialized personal protective equipment.
Operations	Firefighters are trained. Generally, at this level firefighters can enter the hot zone to turn off a valve manually to confine the product.
Technician	At this level firefighters are trained to use risk-based decision making to analyze and control the incident through the use of specialized protective clothing, control equipment, their knowledge of products, vessels and the incident command system. This level includes the use of plugging, patching or other means to control the leak and will also require specific decontaminated procedures for equipment and personal protective gear.
Specialist Employee	Firefighters that have specific advanced training and are certified as technicians due to the extensive knowledge required at this level.

During the peak tourist season there will be a high volume of consumer goods, dangerous goods and combustible fuels traveling on Highway 265 and Highway 120. Firefighting and Medical First Responders should be trained to at a minimum awareness level so they recognize the presence of hazardous materials and take steps to secure the incident and protect First Responders and the public on scene. Future planning should strive to have firefighters trained to an operations level to use specialized personal protective equipment to enter the hot zone to control or stop the flow of the product and protect persons, property and the environment.

Recommendation 4.1.9: *Firefighters and Medical First Responders should attain their awareness level of training for hazardous materials within the short term.*

Rationale: *The recognition of the presence of hazardous materials is the key step for the protection of First Responders and the public on scene.*

Recommendation 4.1.9: *The RVCL should determine whether firefighters be trained to the Operations level in the mid-term.*

Rationale*: Due to the high population during the peak tourist season, there is an increased likelihood of a dangerous goods incident and having firefighters trained to the Operations level will quickly mitigate the incident, and a determination on the need for this level of training and equipment acquisition should be determined by a needs assessment.*

4.1.10 Driver Operator

A common gap in volunteer fire departments is the lack of job performance requirements for the apparatus driver operator. Every year firefighters are injured or killed while responding to an emergency or returning from the incident. Most departments have members that are more than qualified to teach others to operate the apparatus and an internal program that identifies the job performance requirements should exist so firefighters know what the expectations are for the driver.

Driving skills should be part of the training program so members are prepared, confident and competent on the operation of each apparatus. *NFPA 1002: Standard for Fire Apparatus Driver/Operator Professional Qualifications* identifies the minimum standard for the driver/operator. NFPA 1002 identifies Job Performance Requirements (JPRs) for apparatus with a pump and for tankers (mobile water supply apparatus) as well as driving exercises such as the Alley dock, Serpentine, Confined Space Turnaround and Diminishing Clearance.

Recommendation4.1.10: *A minimum level of training required for firefighters to drive and operate apparatus should be implemented with NFPA 1002 as a guideline for the job performance requirements.*

Rationale: *As a matter of due diligence and in the best interest of the fire department, a firefighter should meet a minimum level of requirements before they are permitted to drive and operate apparatus during an emergency incident.*

4.2 Medical First Responders

Medical First Responders are locally trained volunteers located within the RVCL and are dispatched by Parkland Ambulance. The Medical First Responders (MFRs) are part of the Saskatchewan Health Authority MFR program and licensed by the Ministry of Health. The Saskatchewan Health Authority (SHA) creates protocols, policies and scope of practice to ensure the safety of the MFR, patient and improve patient outcomes.

There are currently nine (9) Medical First Responders (MFRs) in the RVCL Emergency Services and respond to emergencies in a MFR unit.

While responding to emergencies the MFR is covered by Workers Compensation and medical liability coverage under the SHA.

The scope of practice for the Medical First Responder consists of:

Procedures & Skills	
Monitor Vital Signs	Glucose Monitoring
Oxygen	SaO2 Monitoring
Oropharyngeal Airway	AED
Oropharyngeal Suction	Spinal Immobilization
CPR	Administration Patient's own Nitroglycerin
Fracture Immobilization-non traction	Administration Patient's own ASA
Epi-Pen	

Figure 10 Medical First Responder Scope of Practice

Training for the MFRs is provided by the SHA and delivered by Parkland Ambulance. The MFRs are also invited to extra training sessions provided by Parkland Ambulance and permitted and encouraged to schedule a ride-along with an Ambulance crew. The RVCL provides the funding for the MFR kits while most medical supplies are replaced by Parkland Ambulance.

The fireground and training evolutions can push firefighters to their physical limitations which can result in heat exhaustion, heat stroke or a cardiovascular emergency. Research and scholarly articles have been written on the medical stresses a firefighter's body experiences during an incident. The MFRs are now attending fire calls to assist with any potential firefighter medical emergencies that may occur at the incident. The Fire Department and MFRs are working together in the future development of protocols for firefighter rehabilitation during emergency incidents. This is a proactive move to ensure that firefighter health and safety is a priority during an emergency.

Recommendation 4.2: *The CLFD should implement an SOG on firefighter rehabilitation and ensure alignment with NFPA 1584: Standard on Rehabilitation Process for Members During Emergency Operations and Training Exercises.*

Rationale: *The health and safety of firefighters during emergency incidents is paramount and implementing a rehab protocol will ensure that firefighters are rotated into rehab and properly rested and hydrated*.

4.3 Emergency Measures Organization

In November 2021, Firefighters, Medical First Responders (MFR) and the Emergency Measures Organization (EMO) merged to become one unit under Candle Lake Emergency Services. The Government of Canada notes that provincial and territorial EMOs are a good source of information about how to prepare for emergencies in your region. EMO's activities include planning and research, training, response operations and the administration and delivery of disaster financial assistance programs. EMOs are most familiar with the natural hazards and other risks of your region.[12]

In Saskatchewan, Section 9 of *The Emergency Planning Act* states:

1) Every local authority shall:
    a) Establish a local emergency measures organization;
    b) Appoint a person as a local emergency measure co-ordinator; and
    c) Establish a local emergency planning committee composed of:
        i. The emergency measures co-ordinator appointed pursuant to clause (b); and
        ii. Any other persons the local authority considers necessary.
2) The emergency measures co-ordinator is the chairperson of the local emergency planning committee.
3) Every local emergency planning committee shall establish a municipal emergency plan governing:
    a) The provision of necessary services during an emergency; and

[12] Government of Canada downloaded https://www.getprepared.gc.ca/cnt/rsrcs/mrgnc-mgmt-rgnztns-en.aspx

b) The procedures under and the manner in which persons will respond to an emergency.

The RVCL has established an Emergency Measures Organization (EMO) with a Director and Assistant Director. The current EMO Director has ICS 300 while the Assistant Director needs emergency management training.

An emergency plan does not reduce or prevent the possibility of a disaster or emergency occurring. What it does provide is a planned and proactive approach for a prompt and coordinated multi-agency response to reduce human suffering and loss or damage to property or the environment. Unfortunately, the importance of emergency planning can be minimized as many do not understand the necessity of being prepared. It is important that within a community the administration, elected officials and associated agencies are made aware of the emergency plan and are prepared to carry out their assigned functions and responsibilities in an emergency. During an emergency is not the time to learn about the responsibilities within the emergency plan. Emergency plans should be reviewed regularly and annual exercises are conducted so individuals and organizations become familiar and comfortable in their roles.

CSA Z1600 states that a natural, human-caused, or technological incident can occur anytime, anywhere. Implementing an emergency and continuity management program as specific in this Standard can improve the likelihood that an organization will survive and recover from a major event, thereby enhancing organizational resilience and contributing more broadly to the community.

The Standard can be used to maintain an organization's functionality by:

- providing the framework for sustainable continuity of functions and processes across an organization;
- building a common understanding and enhanced awareness of priorities for emergency and continuity management across an organization;
- enabling the proactive identification of effective and efficient solutions for emergency and continuity requirements and implementation;
- establishing clear accountability and ownership for emergency and continuity management program requirements;

- improving the understanding and alignment of interactions and interrelationships between functions and processes;
- improving consistency of performance through validation metrics and processes; and
- benchmarking against a Canadian standard.

The existing emergency plan for the RVCL was written in 2021 and is not based upon the Incident Command System or any standard.

Recommendation 4.3: *The emergency plan for the RVCL be updated and the Assistant Director attain ICS 200 and Basic Emergency Management training within the short term.*

Rationale: *Due to the importance of this document, and the fact that the RVCL does not have the capacity to complete an emergency plan, Genesis 20/20 Solutions has provided a draft emergency plan for the RVCL.*

4.4 Chain of Command

Unity of command exists when one person reports to one boss; for example, Firefighter-A reporting to Captain-B. The functional chain of command exists when those that are most qualified will lead a particular function; for example, a firefighter with extrication qualifications leading a team to extricate a victim from a vehicle accident. Understanding the chain of command is critical so the group of firefighters can function effectively without any breakdowns in communication or operational duties.

Company officers (captain and lieutenant in the CLFD) coordinate a group of firefighters and the number of firefighters is known as the span of control. The best practice is to have a span of control between three and seven individuals with five being the ideal number. For example, an officer on a four-person crew on the Pumper has a span of control of three; with the officer controlling the Driver/Operator and two firefighters. If the officer had to control more than seven firefighters, it becomes unmanageable and accountability problems can and generally do arise.

A review of the chief officer and officer ranks in the CLFD indicates that there is room for more company officer positions. The fire chief or the deputies will generally assume the role of Incident Commander and be tasked with strategic decision making such as securing a water supply, fire attack, scene safety, ventilation, etc., and are not in a position to give individual orders to firefighters.

Volunteer fire departments are challenged with the fact that there is no guarantee on the number of officers or firefighters that will respond to an emergency incident, and a company officer may not be available while a deputy chief is, and the firefighter then reports to the deputy chief, and the deputy chief will report to the fire chief. This sequence is known as the chain of command. There is no documentation in the CLFD identifying the proper chain of command or an organizational chart that firefighters can review the hierarchy from the fire chief to the probationary firefighter.

During research and the October 1st meeting with firefighters and medical first responders, points were made in regard to the chain of command within the RVCL Emergency Services as some confusion existed on who the MFRs or EMO directors report to within the Emergency Services department. Examples were provided on how the reporting structure exist and at the core level it depended upon the issue.

Currently, an organizational chart on the Emergency Services does not exist and without a clear chain of command, confusion will arise. An organizational chart is necessary so structure is clearly identified and members are able to do their jobs by following the chain of command. Two organizational charts are proposed for the Emergency Services and presented in Appendix-B.

Recommendation 4.4: *It is recommended that the RVCL approve an organizational chart for the Emergency Services department in the immediate term.*

Rationale*: A chain of command must exist so members of the Emergency Services know who to report to within the organizational structure.*

4.5 Fire Chief

The Fire Chief position in the CLFD is a volunteer position that is paid an annual honorarium. No job description was available for the existing Fire Chief duties, but a brief summary is provided below of the duties required by a volunteer Fire Chief:

- Records Management-It is critical that provincial and local reporting requirements for budget, equipment, personnel, fire inspections, fire prevention, apparatus records, emergency incidents, etc. are properly completed and saved.

- Must be able to prepare and present a budget that is a forecast of the expenditures for the fire department. (This budget should identify annual equipment replacement and maintenance costs).

- Track all training records, workplace injuries/exposures including near misses as identified by Saskatchewan Occupational Health & Safety regulations, and formal correspondence as required on behalf of the fire department.

- Maintain a record of fire inspections and fire prevention activities as a requirement for due diligence.

- Record apparatus and equipment maintenance and annual testing must be recorded. In many cases a business case can be made for the early replacement of a piece of equipment or apparatus with high maintenance costs.

- Able to identify and analyze a situation through critical thinking, weigh information and make a decision. Complex issues are brought to elected officials where the Fire Chief will provide recommendations and/or alternate options.

- Must be a strategic thinker and be able to communicate verbally and in writing to promote the strategic direction of the fire department.

- Provide leadership throughout the department.

As a community grows, more demands and expectations are placed upon the fire department and it should be noted that the fire chief is not only responsible for the department resources, but is also responsible to keep the team focused on the department's mission, be the leader for all members, foster a working relationship with elected officials, key stakeholders and ensure that the fire department is meeting its legislated requirements.

Communities that are steadily growing tend to move towards part time or full-time administrative positions in the fire department. Communities differ and no two are alike, but there is usually a tipping point when the elected officials will make the decision to hire a part-

time or full-time fire chief position for the volunteer fire department. This is usually the result of elected officials recognizing the need that a part-time or full-time Fire Chief is required so the community can be proactive in their due diligence and take steps to protect the health and safety of its residents and firefighters.

The RVCL Emergency Services has concerning gaps in terms of standard operating guidelines, rules and regulations, records management, equipment/apparatus maintenance and replacement plans. There is no clear process how the Medical First Responders have the First Responder Unit replaced and maintained. During research for the master plan, it was noted that the request for such repairs were made to the Director of Finance, and this was due in part to the lack of an organizational chart. The Fire Chief is responsible for ensuring that all fire apparatus and equipment are repaired and maintained regularly and this should also apply to the MFR unit.

The Fire Chief must ensure that services are provided as identified in a bylaw, meet legislated requirements, identify objectives for the department, set out performance measures for the department and have a strategy to follow that aligns with an official community plan. The Fire Chief must keep communication lines open with the CAO and elected officials so they are mindful of trends, challenges and priorities of the department.

Due to the lack of policies, procedures, rules, etc., it is unlikely that a volunteer Fire Chief for the RVCL will be able to complete the tasks as identified in this master plan within a reasonable timeframe. The consultant is of the opinion that at the very least, a part-time Fire Chief is required to ensure that the recommendations in this master plan are completed as directed by Council.

Recommendation 4.5: *The RVCL look at a model to pay the Fire Chief an annual salary based on a set number of hours per month, to ensure that the master plan recommendations move forward in progressive stages. (Immediate term)*

Rationale: *The expected workload to complete many of the recommendations in this master plan are beyond the time limits of a volunteer fire chief. Compensation for the hours required to implement the recommendations in this strategic plan is paramount to the successful for the plan.*

Recommendation 4.5: *The RVCL consider an organization chart where the Fire Chief is the manager of the Emergency Services or a new position is created and a Emergency Services manager has the Fire Chief, MFRs and EMO report to them.*

Rationale: *With the amalgamation of the Medical First Responders, Emergency Measures Organization and the Candle Lake Fire Department into the RVCL Emergency Services, it is more fitting to have a title that encompasses the roles and responsibilities of the Emergency Services. This also completes the proper chain of command that is required in the organization and ensures accountability and transparency with elected officials and the public.*

Section 5

Training, Recruitment and Succession Planning

5.1 SK Occupational Health & Safety Regulations

5.2 Saskatchewan Minimum Standards

5.3 Firefighter Recruitment

5.4 Firefighter Retention

5.5. Firefighter Replacement

Section 5: Training, Recruitment and Succession Planning

Regardless of the size of the fire department and the services provided, training is essential to build competency and confidence in skills. Training for the RVCL Emergency Services must take into account the skills and competence levels expected from firefighters, officers, chief officers, Medical First Responders and Emergency Management directors.

5.1 Saskatchewan Occupational Health & Safety Regulations

The Fire Service Minimum Standards have established the minimum competencies required for each service level while the Occupational Health & Safety Regulations are intended to improve the health and safety of firefighters. Providing a service to the public requires a financial commitment and even though a community does not have to declare a level of service, there could be legal ramifications if a firefighter was injured while performing a task they were not properly trained to perform.

Part 32-4 of *The Occupational Health & Safety Regulations, 2020* states:

(1) An employer shall ensure that:

> (a) every firefighter received the training necessary to ensure that the firefighter is able to carry out safely any emergency operation that the firefighter will be expected to carry out;
>
> (b) the training required by clause (a) is provided by competent persons; and
>
> (c) a written record is kept of all training delivered to firefighters pursuant to this Part.

(2) An employer shall ensure that every firefighting vehicle is operated by a competent operator.

When firefighters are trained to the standard required to meet the declared level of service, there is a reasonable expectation that they will perform their duties within the parameters of their training. For this reason, it is critical that a regulating bylaw is not vague regarding the services to be delivered by the fire department.

Currently, the Candle Lake Fire Department trains as an exterior fire department and Part 32-11 of *The Occupational Health & Safety Regulations, 2020* states;

> (a) the firefighters work in teams, and
>
> (b) a suitably equipped rescue team is readily available outside the structure to rescue an endangered firefighter if the firefighter's SCBA fails or the firefighter becomes incapacitated for any reason.

Providing training and maintaining records of the training is legislated in the province and failing to do so leaves the RVCL open to potential liability issues or noncompliance orders from Occupational Health & Safety.

Recommendation 5.1: *A Record Management System be acquired in the immediate future for the CLFD and the Fire Chief, Deputies and Training Officer be trained in the RMS.*

Rationale: *Failing to properly record training sessions is a violation of the Occupational Health & Safety Regulations.*

5.2 Saskatchewan Minimum Standards

The Saskatchewan Public Safety Agency (SPSA) announced in May 2022 that the province will be implementing firefighter competencies based upon a declared level of service in the community. Local authorities will have to declare a level of service that the fire department can provide to their communities. The Authority Having Jurisdiction (AHJ) is legally responsible for the operation of the fire department and for enforcing the requirements of the *Fire Service Minimum Standards.*

The SPSA has not made the Firefighting Standard mandatory and communities that do not want to participate in the program must indicate that decision on the Declaration Form and submit to the SPSA by October 2023. For the communities that are making an official declaration of service, there are five (5) steps in declaring a level of service:

1) Fire Chief reviews the Minimum Standards document.
2) Fire Chief and council meet to discuss proposed service level.
3) Checklist is completed by the Fire Chief.

4) Fire Chief and council complete and approve Declaration of Service Form.

5) Declaration of Service Form is submitted to the SPSA.

The Fire Service Minimum Standard does not include the minimum competencies necessary for advanced or specific functions such as Incident Commander, Driver/Operator, Incident Safety Officer, Awareness, Operations or Technician levels for rescue services or dangerous good, or Rapid Intervention Crews. These additional competencies are based upon the other service levels provided by the fire department.

The communities that do declare a level of service must declare as an Exterior Service Level, Interior Service Level or Full-Service Level for the protection of persons, property and the environment. The onus of the AHJ and the fire department is to ensure that firefighters receive and meet the training competencies needed for the department's declared service level.

The fire department must complete an assessment to determine the existing level of service and gaps that exist to meet a service level. The assessment can be completed internally or by an external third party where documentation and existing competency levels will be reviewed. The assessment process is intended to identify the existing capacity of the fire department in regard to firefighting staffing levels, personal protective equipment, firefighting equipment and apparatus. The three service levels include:

1. Defensive (Exterior) Operations Service Level

These firefighting activities are focused on extinguishment external to the building and firefighter exposure is limited to the Immediately Dangerous to Life and Health (IDLH) environment. There are times when firefighters must address the issue from inside the structure and if an IDLH environment develops or the environment or structure become compromised in any way, all firefighters must withdraw immediately to the exterior to conduct suppression activities. A risk assessment should be conducted by the Incident Commander and when it is appropriate firefighting crews can enter the structure to conduct firefighting activities as long as an IDLH environment does not exist. It must be stressed that Defensive Operations firefighters are not trained for interior firefighting operations and can only enter a structure if an IDLH atmosphere is non-existent and an appropriate risk assessment has been

conducted by the IC deeming it safe for Defensive Operations firefighters to enter the structure[13].

The Defensive Operations department must have Operational Guidelines for the use of self-contained breathing apparatus and a Team Leader or Fire Officer must be present for entry into a structure without an IDLH atmosphere.

2. Offensive (Interior) Operations Service Level

Interior firefighting activities include entry into a structure to perform offensive firefighting operations to stop the fire and prevent it from spreading. Offensive operations consist of entering single-family dwellings, commercial and small structures to engage in internal firefighting operations.

Offensive Operation fire departments may also include large or complex structures that the AHJ has assessed and pre-planned for, so that it determines the structure is safe for offensive operation qualified firefighters. Pre-planning identifies water supplies, power and gas, and hazardous within the structures and pre-planning gives firefighters the information they require to mitigate the incident. Firefighters must be trained specifically to the risks associated with these large and complex structures. The fire department must have Operational Guidelines, based on Skill Sheets found in the Fire Service Minimum Standards Guide, that describe the hazards and risks specifically associated with these structures and identify fire operations for a calculated fire attack.

Offensive fire departments must strive to provide firefighters with live fire training, but this can be a challenge if a fire department does not have a training structure to meet this need. Many fire departments in Saskatchewan will send firefighters to neighboring fire departments with proper training facilities or to the Spring and Fall training weekend hosted by the Saskatchewan Volunteer Firefighters Association. Ideally, small

[13] Saskatchewan Minimum Standard defensive operations level

departments that experience few structure fires annually should strive to participate in, at least, 1 live fire training evolution per year[14].

3. Full-Operations Service Level

Activities that include offensive operations along with the addition of technical rescue skills and the mitigation of dangerous goods. Fire departments providing Full-Service Operations Level provide a wider range of services including technical rescue, pre-planning to determine resources and specialized equipment and dealing with fires in larger commercial and industrial settings. Full-Service Operation departments generally have Operational Guidelines for the response protocols, staffing levels, and advanced training required for complex emergencies.

Based upon an evaluation of the existing training program in the Candle Lake Fire Department, Genesis 20/20 Solutions Inc. suggests that the Resort Village of Candle Lake continue at a defensive operations service level.

Recommendation 5.2: *The RVCL and the CLFD adhere to the minimum standards and declare itself as a defensive operations department by October 2023.*

Rationale: *This is a provincial requirement by the SPSA and the formal declaration is due October 2023.*

5.2.1 Training Requirements for Defensive Operations

The Fire Service Minimum Standards identifies that a minimum amount of theory and practical training has been established with a total teaching time of 60 hours. The training must be based upon the latest edition of the IFSTA Essentials of Fire Fighting or similar training material. The subject areas listed for training correspond with chapters in the IFSTA textbook. These subject areas will provide the candidate with a base level of knowledge that can be applied to any fire department in Saskatchewan. The subjects and time allotments are as follows:

[14] Saskatchewan Minimum Standard offensive operations level p.xx

	Topic	Hours
1	Local Standard Operating Procedures	1
2	Firefighter Orientation, Safety and Health	6.5
3	Fire Behaviour	3.5
4	Personal Protective Equipment	5
5	Portable Fire Extinguishers	2
6	Rescue and Extrication	3.5
7	Ground Ladders	3
8	Ventilation	4
9	Water Supply	2
10	Fire Hose	3
11	Fire Streams	3
12	Fire Control	3.5
	Total	40

Figure 11 Defensive Operations-Minimum Firefighting Standards

The remaining 20 hours, of the total 60 hours, is to be used for practical skill instruction. This will include skills demonstration and practice by the candidate. The AHJ will determine what skills will be taught and practiced, as applicable to their FD operations. At a minimum, the following skills will be taught:

- Donning and doffing PPE
- Inspecting and cleaning PPE
- Portable extinguisher use
- Fire control
- Inspect and clean equipment

- Return equipment to service[15]

A copy of the Fire Service Minimum Standards is provided with the Master Plan as a reference for the required firefighter competencies for a defensive operations service level.

5.2.2 Team Leader

The Team Leader can be defined as an officer or firefighter that is assigned the responsibility to supervise a crew function at an emergency incident. In Saskatchewan most volunteer fire departments operate in a manner whereby not all activities are supervised by an officer simply due the availability of firefighters during certain hours of the day or officers working outside of the community and unavailable to respond for an emergency. As noted in the Fire Service Minimum Standards, a team leader requires additional competencies to qualify them to provide appropriate supervision of the team for which they are responsible. The Defensive Team Leader is required to have at a minimum the following additional training:

- Assuming Command
- Incident Command and Fire Attack
- Pre-incident Planning
- Size up and Incident Action Planning
- Fire Ground Accountability
- Emergency Radio Communications
- Live fire-Defensive Team Leader (four evolutions)

Recommendation 5.2.2: *The CLFD identify the senior members and officers that will assume team leader roles and create a plan to have them meet the Defensive Team Leader requirements by 2025.*

[15] The Fire Service Minimum Standards

Rationale: *Having properly trained team leaders is the responsibility of the organization to meet the declared service level of a Defensive Operations department.*

5.2.3 Health & Safety Officer

The Health & Safety Officer is responsible for the administrative and operational functions to ensure that Standard Operating Procedures are in place to ensure safe and effective operations, training and that health & safety regulations are met. The standard recognizes that the 'Team Leader' and 'Health & Safety Officer' are formal titles and not to be confused with certified courses.

The Health & Safety Officer may or may not be an officer and in most volunteer fire departments this role is filled by the fire chief or another individual that has the qualifications to fulfill this role. The Health & Safety Officer must have the following knowledge and skills:

- Conducting a facility safety check
- Personal Protective Clothing inspection and maintenance check
- SCBA inspection, testing and maintenance check
- SCBA bottle inspection and testing check
- Ladder inspection and testing check
- Hose inspection and testing check
- Apparatus safety equipment check
- Record keeping check

5.2.4 Records Keeping and Maintenance Training

As noted in the Fire Service Minimum Standards Guide, it is the responsibility of every fire department to properly record the training for each individual firefighter in the department, including the training subjects covered during the training session. This is to comply with the requirements of *Occupational Health & Safety Regulations* and other best practices.

Maintenance training as per the declared service level is the responsibility of the fire department and is expected that the training program provides the ongoing skills maintenance training and education.

5.3 Blue Emergency Lights

In April 2022 the Government of Saskatchewan amended *The Vehicle Equipment Regulations* to allow fire trucks and ambulances to have blue and red flashing emergency lights. This is not a mandatory requirement, rather the choice remains for the AHJ to determine the need for the addition of the blue lights.

The Saskatchewan Association of Fire Chiefs conducted significant research and provided a white paper to the SPSA regarding the evidence for blue lights on emergency vehicles. The research and evidence is clear that the red/blue flashing blue light combination is the most effective lighting for emergency vehicles to alert drivers of the presence of first responders on roadways.

Recommendation 5.3: *All fire apparatus and the MFR unit have a combination of red/blue flashing emergency lights. (Short Term)*

Rationale: *The research and studies are clear regarding the improved safety for first responders from a combination of red/blue flashing emergency lights. On November 15, the Consultant was informed that a red/blue light bar has been donated to the fire department. This minimizes the impact on the operational budget.*

5.4 Recruitment

The recruitment and retention of volunteers is a challenge and the goal of any volunteer fire department is to ensure sufficient number of firefighters are available. There are numerous factors impacting volunteerism today and a survey of 1,361 Canadians in February 2021

indicates that COVID-19 has also impacted the number of people volunteering for non-profits.[16]

During the in-person meeting with members of the Emergency Services, it was also noted that recruitment for the MFRs is also a concern and needs to be addressed. The recruitment, retention and replacement of individuals whether firefighters or MFRs follows the same path and the strategies developed for both are interchangeable.

The demographics of a community will impact the ability to recruit and retain volunteers.

A review was conducted on the members of the CLFD to determine the average years of service.

As identified in Figure 12, the demographics indicate that the average service is 4.2 years within the CLFD, with 24 percent of the department with a year or less of experience, 10 percent with 2-4 years of experience, 24 percent with five-seven years of service, 10 percent with 8-10 years and 33 percent with 11-12 years of service. Of the 11-12-year members, 57 percent of that group does not attend meetings and responds to limited incidents.

[16] Charityvillage and the Portage Group (April 2021), *Human Resources Impact on COVID-19 on Canadian Charities and Nonprofits.*

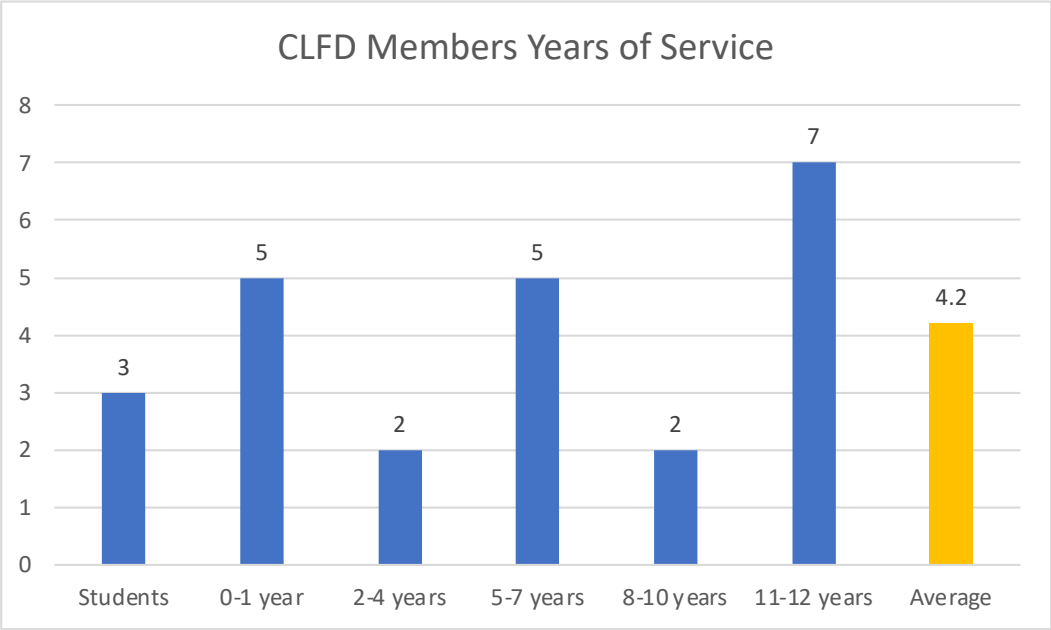


Figure 12 CLFD Years of Service

A review of MFRs demographics was conducted with the average service of 3.8 years, with 16 percent of the department with a year or less of experience, 11 percent with two-four years, 26 percent with five-seven years of service, 11 percent with eight-ten years and 37 percent with 11-12 years of service.

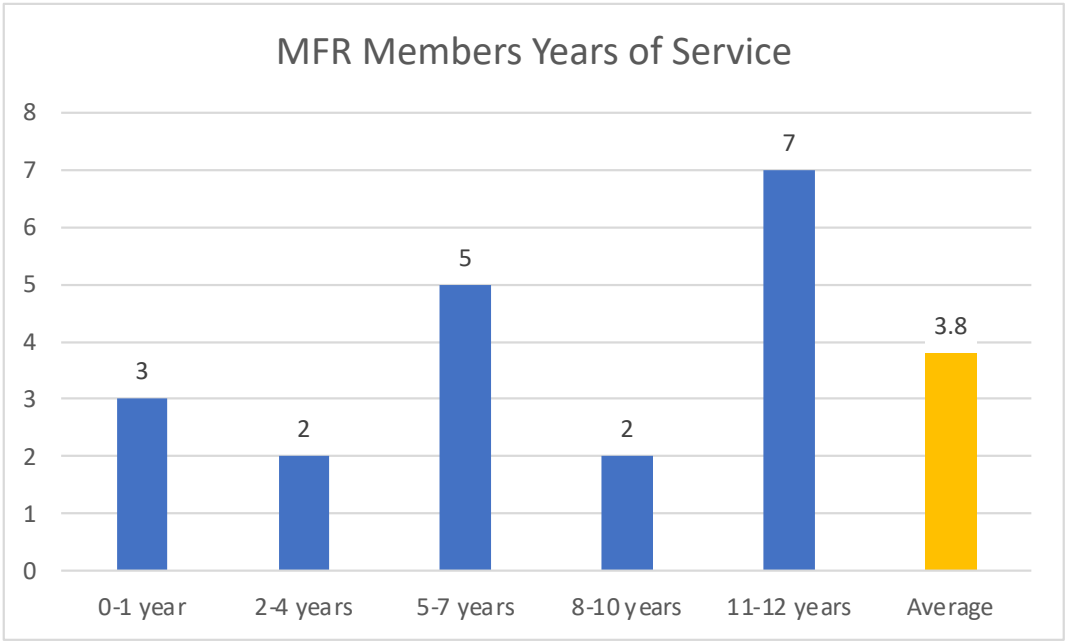


Figure 13 MFRs Members Years of Service

As the Emergency Services moves forward into the future, there is a clear need to recruit more members and build upon the experience within the fire department and the Medical First Responders. A meeting should be held with the members that are not attending training and identify what needs to change in the organization to get them back. Losing members at the top end has a negative impact in the leadership, experience and corporate knowledge within the organization.

There is no specific model when it comes to recruitment and retention best practices as all communities and fire departments will vary in demographics and community dynamics. A common theme across Canada is the critical shortage of volunteer firefighters. The shortage in firefighters increases response times and decreases emergency fireground operations. With over 85 percent of the fire departments in Canada being volunteer, it is imperative that the community and fire service leadership look at ways to recruit differently and become marketers rather than relying upon past practices. The U.S. National Volunteer Fire Council identifies questions to guide the recruitment process which include:

- How does the fire department sell itself?
- What will motivate quality candidates to become part of the mission?
- How can the department attract more diverse volunteers that represent the community?[17]

A common factor in the volunteer fire service is that many volunteers join to have a sense of belonging to something bigger than themselves and having the ability to give back to their community. They not only want to give back to the community they also want the social relationships developed within the fire service. The challenge is fitting in the training hours required and being able to respond during the normal 8-5pm workday.

A comprehensive recruitment campaign identifies the need for more than just firefighters and there are some factors that need to be considered in a recruitment and retention process.

[17] National Volunteer Fire Council (2018) Volunteer Fire Service Culture: Essential Strategies For Success.

5.4.1 Political Stakeholders

Civic leadership must understand what the fire department gives to the community, why it needs to be financially supported and how the community is safer because of the fire department. Too often fire reports are provided to civic leadership with a focus on the value of property lost, when a focus should be on property saved by the fire department. Political stakeholders must understand the roles and responsibilities of the fire department and the challenges faced by today's fire service in terms of recruitment, retention, financial support and long-term planning.

5.4.2 Diversity

As noted by the Alberta Volunteer Firefighter Toolkit a predominance of male firefighters may result in a perception of the fire department as the "old boys club," even when this is not the case and the fire department welcomes new members. A successful recruitment strategy is diverse in nature and targets visible minorities and females.

Diversification is more than just gender; it is about getting members into the department that can fulfill roles other than the traditional firefighter role. It also identifies positions in the fire department are non-traditional such as administrative, public relations, emergency communications, IT and equipment maintenance. The volunteer fire service depends upon the different skill sets from members of a community and rarely is there a job within the fire department that can't be filled by a willing and dedicated person from the community. Public education and relations can easily be filled by individuals that cannot or do not want to fill firefighter roles, but can easily excel in public education and relations.

The International Association of Fire Chiefs (IAFC) recognized diversity and inclusion as critical for the recruitment and retention of firefighters and being diverse means operating with the understanding that each individual is unique, and recognizing and valuing everyone's individual differences.[18]

[18] National Volunteer Fire Council (2018) *Volunteer Fire Service Culture: Essential Strategies For Success, p. 123*

Women firefighters are described as the "hidden population" because of their low representation in the fire service.[19] Firefighting is physically demanding and is typically a male dominated work environment. Female firefighters generally adapt and find different ways to use their body mechanics to meet the demands. In a 2011 qualitative study on the experiences of female firefighters, the female participants noted challenges with turnout gear, boots, and SCBA face pieces that are generally designed for men. In addition to this, female firefighters tend not to ask for help when conducting a job duty that exceeds their physical capabilities and place themselves as risk for injury.[20] This creates the image that a female cannot handle the physical demands of the profession, which isn't true as the profession is based upon teamwork and although labour intensive at times, all firefighters are expected to ask for help if they are performing a task that exceeds their physical capabilities, and in the fire service there are numerous tasks that require more than one firefighter to conduct safely.

5.4.3 Recruitment

The best marketing tool for a fire department are the existing members. The firefighters are marketing the fire department every day when they are engaged within their community. Firefighters have great opportunities to voice their support for the fire department and the services it delivers. Many members in a community served by a volunteer fire department make the assumption that the fire department has enough members. A recruitment strategy consists of a planned process where the volunteer fire department has a recruitment drive for members, or publicly acknowledges every spring or fall the fire department is taking applications.

5.4.4 Communication Strategy

All fire departments require a communication strategy so the public they serve knows what they do. A communication strategy from the fire department is important when emergency messaging needs to occur, and a key factor in recruiting individuals into the fire department. It can't be taken for granted that people within a community know what the local fire

[19] Jahnke, S., Haddock, C., Jitnarin, N., Kaipust, C., Hollerback, B., Poston, W. (2019) The Prevalence and Health Impacts of Frequent Work Discrimination and Harassment among Women Firefighters in the US Fire Service.

[20] Sinden, K., MacDermid, J., Buckman, S., Davis, B., Matthews, T., Viola, C. (2011) *A qualitative study on the experiences of female firefighters.* School of Rehabilitation Sciences, McMaster University, Hamilton, ON.

department or medical first responder require in terms of volunteers to provide a service to the public.

Social media platforms make it easy to market the fire department and create meaningful relationships with the community. Having a social media presence boosts the profile of the fire department in the community and doesn't cost the fire department a penny. As noted earlier, fire departments may have a member that can't fit into the firefighter role but is well versed in social media. This member becomes a great asset to the fire department as a communication strategy ensures that the fire department is active on social media and also active during emergency incidents. Many volunteer fire departments today are using social media to alert their community when the fire department is responding to an emergency and advising the public to stay away from the incident and allow firefighters to do their job. This messaging strategy increases the fire department presence, increases the likelihood of a member of the public wanting to get involved in the fire department, and also helps keep the scene safe for firefighters.

5.4.5 Public Relations

Every member of the fire department engages in public relation activities. It is about the relationships built with friends, family, community stakeholders, business owners and the local media. When members say good things about the fire department it raises awareness of the department and can motivate others to join. The opposite is also true if a member is disgruntled and speaks negatively about the fire department and brings attention to the department that is not conducive to good community relations and recruitment opportunities.

5.4.6 Leadership

The leadership in the fire department welcomes new members, fosters teamwork among all fire department members, encourages and supports others as they learn the necessary skills and competencies to be a firefighter. This form of leadership plays a key role when senior members that have the experience and training engage in coaching, mentoring and teaching new members the trade of being a firefighter. However, if these same experienced members foster an attitude of superiority due to their experience and training and they are condescending to others, an atmosphere of tension and distrust is fostered. The leadership in the fire department must be in tune to how senior members work with new recruits as senior

members portray their beliefs and attitudes through their actions. A fire department that fosters leadership at all levels will be an attraction for others to join.

5.4.7 Engaging Local Businesses

A relationship must exist with local businesses as it is critical to have local employers supporting the fire department. Local businesses have a stake in the health of the fire department and they should be engaged regularly through invites into the Fire Hall or through drop in visits by members of the fire department. Relationships are built over time and successful volunteer fire departments' have strong relationships with their local business community. A fire chief should make every effort to speak at the local Chamber of Commerce and non-profit organizations to promote the fire department and educate community members on what the fire department does in terms of public education, training, equipment purchasing, etc.

Many employers are hesitant to let their employees respond to emergency incidents because they don't have an idea how long they will be without that employee. Some fire departments are now advising employers that during an emergency incident they will make every effort to get their employee on the first truck back to the Fire Hall so they can return to their regular job. This gives the employer peace of mind that their employee is helping the community, but also returning back to the workplace as soon as possible.

5.5 Firefighter Retention

The volunteer fire service is not only challenged to recruit members, it faces retention challenges as the novelty of responding to emergency incidents in the middle of the night, during holidays and weekends wears off. A focus on retaining members of the fire department makes recruitment less of an issue because the fire department isn't required to spend as much time recruiting members. A good retention philosophy within the organization means members (firefighters and Medical First Responders) serve the community longer. This is critical because the loss of trained firefighters or Medical First Responders means a gap in experience and training is lost and must be built up again with a new recruit, which can take years. There are some retention initiatives that can have a positive impact on the retention of fire department members.

5.5.1 Incentive Program

Most volunteer fire departments incorporate some type of incentive program to show appreciation for its members. Many volunteer fire departments are transitioning to paid-on-call fire departments where members get paid an honorarium or wage to attend training sessions and emergency incidents. Some members do not get paid when they leave their place of employment to respond to an emergency and the best hearted individual eventually loses interest because taking a cut in a pay cheque doesn't help pay the bills. Individuals that join a fire department generally join to give back, however, an hourly wage for training and emergency incidents goes a long way in keeping members longer.

5.5.2 Psychological Support Services

Not all injuries are visible and the fire service as a whole has learned the hard way that psychological support for its members and families is of paramount importance. In the last few years, the fire service has been very active promoting mental health initiatives for career and volunteer members. Unfortunately, it can also have a negative impact on the recruitment of members as people may not want to join due to the potential exposure of a traumatic event.

Members need to know that it is ok not to be ok and that psychological support services are available when needed. A progressive fire department educates members and spouses and helps prepare them for traumatic calls. A program should exist where members are able to attain professional help when struggling from a traumatic incident. The Saskatchewan Association of Fire Chiefs or the Saskatchewan Volunteer Fire Fighters Association can be contacted when critical incident stress management services are required for members after an incident that could pose short- or long-term mental health issues for members.

5.5.3 Childcare Services

Shift workers, single parent homes or a dual working household may require childcare services during an emergency call out. The availability of childcare support for members can play a key role in the retention of members. As noted earlier, the recruitment strategy should not just be focused on firefighter positions. Childcare services can be met by one or several members that are part of the fire department and can respond to the Fire Hall to be ready to provide childcare services for a responding member that otherwise would not be able to attend.

5.5.4 Diversity

A recruitment strategy includes a focus on the diversity of the fire department, and a progressive volunteer fire departments is diverse and encourages visible minorities, females and LGBTQ members to be part of the department. This positively impacts the retention of members because a diverse fire department is a healthy fire department.

There is no magic formula for the recruitment and retention of members. The recruitment and retention of members is critical for the growth of the fire department and how it fits into the overall community profile. The motivation of a recruit is shaped the first day they join and how they were treated that day. Today's volunteer firefighter will not hesitate to leave a department when they are treated poorly or disrespected.

5.5.5 Leadership

Leadership should be evident at all levels in a fire department, but when it comes to developing, shaping and encouraging members in the department, this falls directly upon the leadership core and more so upon the officers. The U.S. National Volunteer Fire Council noted that "Today's volunteer labour force consists of citizens who are more technologically savvy and driven by an entirely different set of criteria. Those departments that ignore this evolution are suffering from staff deficiencies." [21] The job of the leadership group in a fire department is to ensure that new recruits are welcomed to the team and to play a critical role in teaching, mentoring and coaching new members.

Recommendation 5.5.5: *The RVCL Emergency Services annually review the recruitment process and transition away from the word of mouth to a more formal recruit strategy and process.*

Rationale*: The recruitment and retention of members is critical to the health and growth of the fire department. Today's fire department must fight for the attention of people and entice them to join a team that is respected and helps shape the health and safety of the community.*

[21] National Volunteer Fire Council (2018) Volunteer Fire Service Culture: Essential Strategies for Success

5.6 Firefighter Replacement

A significant focus on firefighter recruitment and retention has occurred in Canada and the U.S. as the data indicates that the number of volunteers is decreasing annually. An additional strategy for every volunteer fire department should be the forecasting and planning for firefighter replacement. This means that the volunteer fire department should plan for the replacement of those that have officer rank and leave the department. The loss of senior members creates a gap in the corporate knowledge and experience within the organization and can set a department back in terms of planning and service delivery.

The National Fire Protection Association (NFPA) conducted a study of the U.S. volunteer fire service and found that one-third of firefighters who are in communities that have a population of fewer than 2,500 are at least age 50, and another 21 percent are in their 40s. The pattern suggests that in the next 10–20 years it can be anticipated that half of the volunteer work force will disappear.

Members leave the fire department for various reasons and planning needs to occur today so replacement occurs for members that have retired or left for other reasons. As noted earlier, leadership is a key factor in the retention and recruitment of firefighters, and succession planning must occur for key positions within the fire department.

5.7 Succession Planning

Succession planning is now a topic of conversation in the volunteer sector as the demands placed upon a Fire Chief for a volunteer fire department have increased significantly in recent years and it is not uncommon for a Fire Chief to step aside from leading the fire department due to the stressors involved and the time commitment required. Succession planning should be a priority within the RVCL Emergency Services as it creates the foundation for members to gain the required knowledge, skills and abilities to be promoted and take on formal administrative and leadership roles in the organization.

There are two succession plan processes to consider for a volunteer organization and include the following:

- **The Standard Succession Plan:** This occurs when those in key positions leave for another organization or quit without considerable advance notice. A member with the

training, education and experience can be promoted to fill the vacant spot or at the very least, act in the capacity until a formal promotional process occurs. In the RVCL this is more applicable to the fire department than the Medical First Responders.

- **The Anticipatory Succession Plan***:* The Fire Chief or other Officers have provided retirement or departure dates to the department. A well thought out training program identifies the required competencies and skill sets for internal promotional opportunities. This anticipatory plan identifies leadership qualities, specific fire service knowledge, educational requirements and skills and abilities and allows the AHJ to fill the vacant position without any complications. Again, in the RVCL this is more applicable to the fire department than the Medical First Responders.

The goal of a succession plan is to assist those that want to advance in the fire department and take on more of a leadership and administrative role. Today's volunteer paid on-call fire department should strive to create a training program to ensure that succession planning is successful and members are able to advance in rank.

Section 6

Facilities, Apparatus and Equipment

Section 6: Facilities, Apparatus and Equipment

It is essential that sound financial short- and long-term planning occurs for the RVCL as the acquisition and maintenance of the Fire Hall, apparatus, light duty vehicles and equipment are the largest assets of the fire department. These assets are expensive and the general public and elected officials need to know that the acquisition of these assets are made based upon a critical analysis to meet the service delivery model. Since 2020 the cost for equipment, apparatus and Fire Hall construction has increased significantly and although there is some sign that costs are stabilizing, it will take years before if ever for the costing modelling to return to the previous 2020 form.

6.1 Fire Hall

The Fire Hall was built in 1984 and has five bays, with an office for the fire chief, storage and training room on the second floor.

Figure 14 Fire Hall

It was noted that the Fire Hall is congested with equipment and space is at a premium. Even with some house cleaning and organizing of the Fire Hall, it is evident that the fire department has out grown the Fire Hall. The existing Fire Hall does have a shower facility but it lacks privacy and is used more for the storage of items.

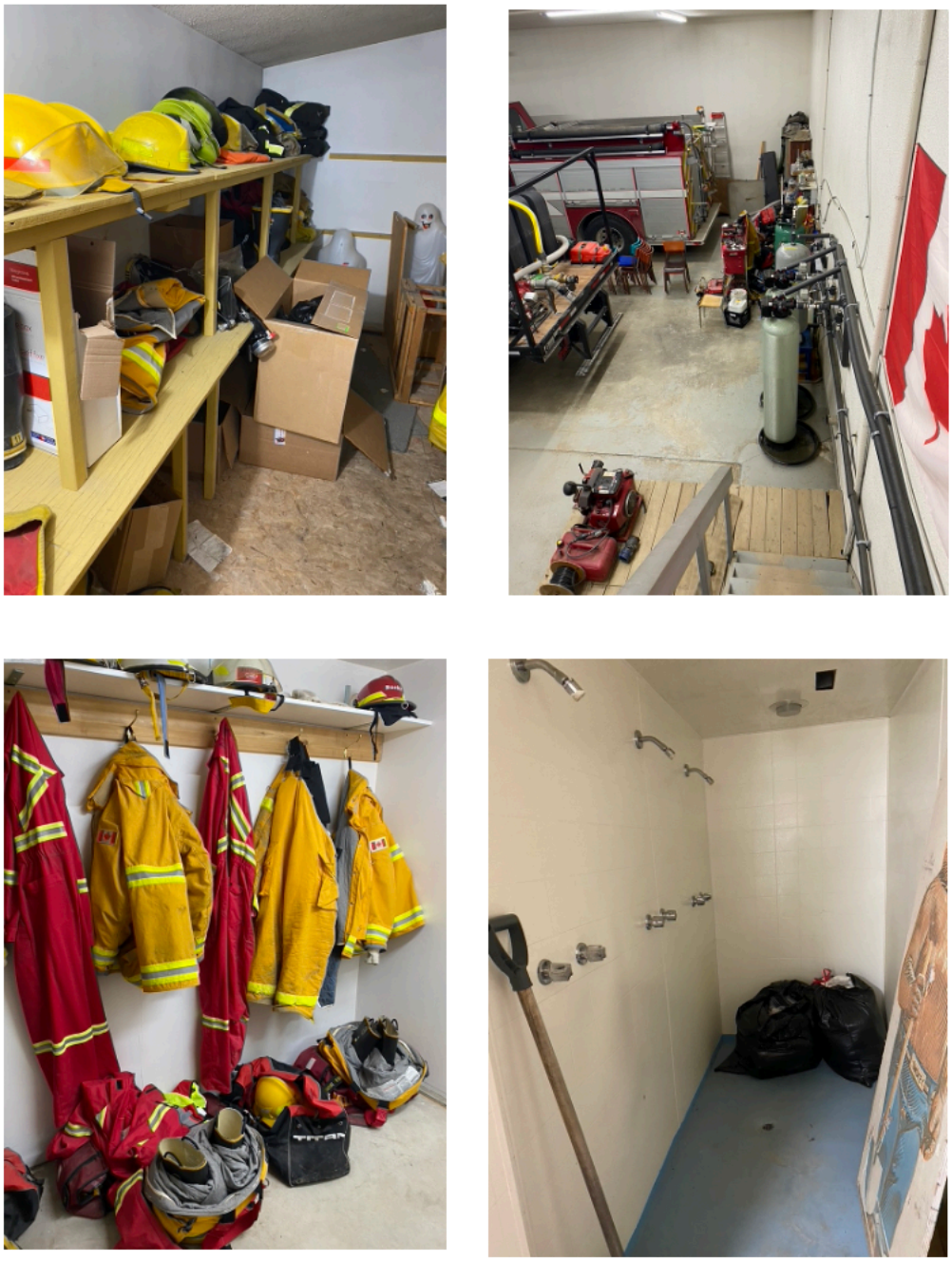


Figure 15 Interior Pictures of Fire Hall

In 2025 the Fire Hall will be 40-years old and since 1984 fire apparatus have become wider and longer. A Fire Hall designed in 1984 was never intended to house the larger fire apparatus that exist today. Modern firehalls generally strive to have Leadership in Energy and Environmental Design (LEED) certification, larger apparatus bays to provide sufficient room between fire apparatus where several firefighters can gather around an apparatus and open the compartment doors with sufficient room to see what is being taught or what equipment is being checked. There is only 39" of space between the Fire Hall north wall and the passenger side of Pumper 1, which makes it very difficult to check the passenger side compartments.

Designing and constructing a new Fire Hall is not a decision to be taken lightly as it should be designed to meet the needs of the fire department operations for decades. Some key features to consider when designing a new Fire Hall include;

- Diesel exhaust extraction system.
- Adequate office space.
- Adequate space for cleaning and washing PPE, including a front-loading washing machine.
- A working space for cleaning and maintaining small equipment and hand tools.
- Several water fill stations to quickly fill apparatus.
- Hose dryer.
- A shower for decontamination to remove blood, body fluid, and toxins.
- Sufficient storage for firefighter PPE, spare hose, spare SCBA cylinders.
- Sufficient storage space for supplies, spare PPE and miscellaneous equipment.
- Gender specific washroom and shower.

The existing Fire Hall is lacking in most of these areas and it is no fault of the original design for the Fire Hall, it is due to the changing demands placed upon today's fire service and the design features in apparatus and equipment. Many communities are now looking at a multi-purpose

building that is a shared Fire Hall with another civic or private organization to help recoup costs and generate some revenue.

***Recommendation 6.1**: The RVCL hire an engineering firm to conduct an analysis of the structure, mechanical and electrical system in the Fire Hall in the short term.*

***Rationale**: The assessment of the existing Fire Hall, design, construction and funding for a new Fire Hall can take several years. The best path to take prior to making the decision to construct a new Fire Hall is to have an engineering firm accompanied by the Fire Chief and MFR Liaison to conduct a formal assessment of the building with the Fire Chief and MFR Liaison advising the engineer of the needs of the fire department and emergency medical first responder.*

The Medical First Responder unit is housed in the Fire Hall and a separate storage area for their supplies and equipment is lacking. It was also noted that a proper cleaning, disinfecting and disposal area is lacking and this should be addressed.

The snowmobile and Sno-ambulance is squeezed between a tanker and the rescue truck, does not have a trailer and is not readily available for a quick turnout time for an emergency response. A trailer was to be purchased for the snowmobile and Sno-ambulance but this was delayed due to availability issues.

***Recommendation 6.1**: The MFRs and Fire Department come up with a way to decrease the turnout time of the snowmobile and Sno-ambulance for medical emergencies and a trailer be purchased in the immediate future.*

***Rationale**: Medical emergencies require a quick and efficient response and in trauma the golden hour impacts the survivability of the patient. Ensuring that the Snowbulance can quickly be deployed will assist the MFRs in their patient treatment and decrease the golden hour time frame.*

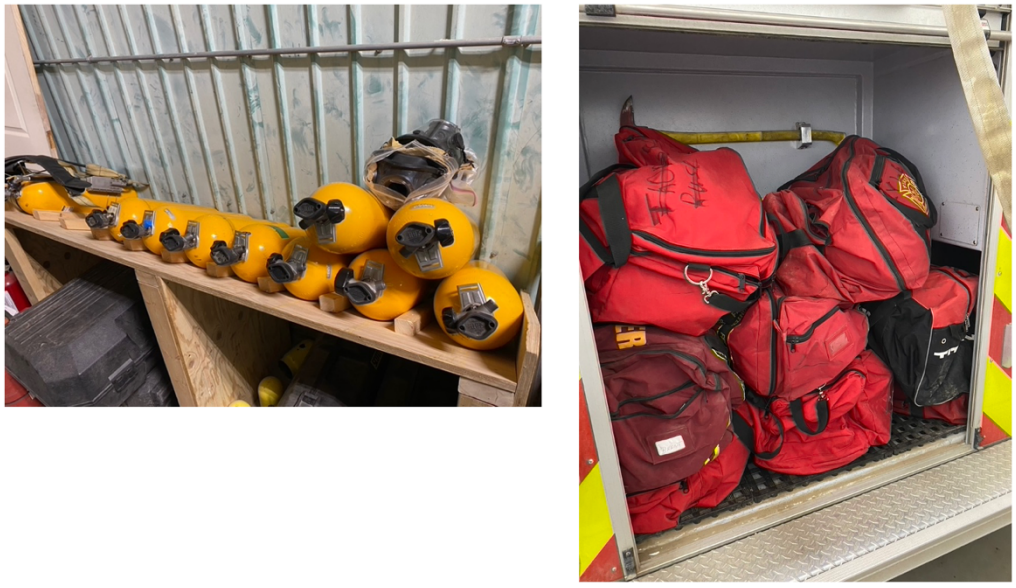


Figure 16 Turnout Gear & SCBA Cylinder Storage

Some turnout gear is stored in the Fire Hall while other turnout gear is stored on the Pumper. This may be part of the normal operations of the Fire Hall but there are concerns with firefighters responding to the emergency scene in their personal vehicles without their PPE. The belief may be that in order to decrease response time, a firefighter can respond to the emergency scene and then get their PPE out of the back compartment. There are several problems with this scenario:

- The personal vehicles of firefighters can pose traffic congestion at an emergency site.
- There is no way to know which PPE to store on the pumper and there is no guarantee that the firefighter responding to the site in their emergency vehicle will have their PPE on the pumper.
- A firefighter without PPE cannot enter the hot zone during the emergency.

If the fire department leaves the PPE on the pumper, an SOG should be implemented on decontaminating the turnout gear and the apparatus compartment after a fire call.

While investigating the need for a new Fire Hall, it is not uncommon for the public to ask questions on "why" the community requires a new Fire Hall. This is largely due to their lack of understanding that fire operations have changed significantly in the last decade and there are

more requirements on the cleaning of contaminated PPE, cleaning and disinfectant areas, disposal of biohazards and larger fire apparatus. Add in the factor that the RVCL Emergency Services encompasses the Fire Department, Medical First Responders and EMO, requires the Fire Hall to meet the needs for all three services, which it currently doesn't due to a number of factors identified in this section.

Recommendation 6.1: *A long-term plan needs to exist for the replacement of the Fire Hall to one that is better suited for the requirements of today's fire service.*

Rationale*: Carefully planning for the replacement of the Fire Hall necessitates that the planning starts today so the financial commitment can be made well in advance of designing and building the Fire Hall.*

Diesel Emissions and Cancer 6.1.1

In a June 2012 press released by the World Health Organization, the conclusion was reached by Dr. Christopher Portier, Chairman of the IARC working group, where he stated; "The scientific evidence was compelling and the Working Group's conclusion was unanimous: diesel engine exhaust causes lung cancer in humans."

A November 2017 report by the Occupational Cancer Research Centre regarding diesel exhaust in municipal Fire Halls in Ontario stated;

> "Because there is no occupational limit that applies to diesel levels in Fire Halls with which to compare the measured levels to, it is recommended that fire departments continue minimizing exposure within the Fire Halls using a combination of engineering and administrative controls. Exposure control strategies could include upgrading and maintaining ventilation and exhaust filtration systems, diesel exhaust monitoring systems, use of cleaner burning engines and/or fuel additives, and the development of policies such as prohibiting unnecessary idling."

The Fire Hall building design, maintenance of apparatus and the age of the apparatus can impact the exposure to diesel fumes. It was noted that the Fire Hall does not have a diesel extraction system.

Research and studies indicate that occupational exposure to diesel exhaust particulates was associated with elevated lung cancer rates in the majority of studies. In numerous studies the inhalation of whole or diesel exhaust caused benign or malignant tumors.[22]

Inhaling diesel exhaust occurs when the pumper truck starts and leaves or backs into the Fire Hall. Over the long term, the repeated exposure to these fumes is dangerous and poses a health risk. Without a diesel exhaust extraction system, the diesel fumes spread into the fire chief's office, second floor training room, and onto firefighter's turnout gear.

Currently there is an electrical and air connection for the apparatus which ensures that air pressure is sufficient for the air brakes upon starting the apparatus. However, cold engine starts emit dense fumes which basically contaminates the air with diesel particulates. This is concerning from a health and safety perspective by exposing members to diesel emissions.

There are generally two types of diesel extractor systems. One uses a magnetic holder to connect a hose to the fire truck while the other pulls the fumes into a filtration system.

The first type uses a flexible hose that is connected to a main fan which is activated upon engine start up or when a fire truck is backing into the Fire Hall. The high-volume pump pulls the fumes through the duct work and exhausts it to the outside environment through a high capacity fan. These systems are dependent upon the user connecting the hose to the apparatus in order for it to work.

The second system is an air purification systems (or scrubbers) installed on the ceiling of the Fire Hall. These systems have high volume and high-power fans that pulls the fumes and particulates (diesel, carbon monoxide, etc.) into the filtration system to remove the

[22] National Toxicology Program, https://ntpsearch.niehs.nih.gov/?query=diesel+exhaust

contaminants before releasing clean air into the Fire Hall. These systems are do not require any physical connection to apparatus and are activated 100 percent of the time.

The air purification systems are less costly to install as extensive duct work is not required and cutting holes into a wall or the roof of the Fire Hall is not necessary. These air purification systems generally use HEPA filters and activated charcoal filters. The filters are able to protect against harmful Vehicle Organic Compounds (VOCs) commonly found in diesel exhaust.

Both diesel extractor systems have pros and cons, but installing an air purification system that removes contaminants before releasing back into the atmosphere may fall within the parameters for Federal funding to upgrade infrastructure to reduce emissions and make the building safer.

It's common for older fire stations to be without diesel extractor systems as the long-term impact of exposure to diesel fumes was not well known in the past. This can't be said today and an investment to protect firefighters from diesel exposure must be taken seriously. An air purification system should occur in the immediate future.

Recommendation 6.1.1: *A high priority be placed upon investigating the price to install an air purification system for the Fire Hall and plan for the installation of a system within the next two years.*

Rationale: *The existing practice of starting fire apparatus and contaminating the Fire Hall with diesel emissions is a danger to the health and safety of firefighters. Diesel emissions need to be extracted from the Fire Hall to eliminate exposure to firefighters.*

Recommendation 6.1.1: *House cleaning occur within the Fire Hall to clear walkways, PPE storage room, shower, and areas around the apparatus.*

Rationale*: Some cleaning and removal of items that do not need to be stored within the Fire Hall will create more space and working areas for firefighters.*

6.1.2 Backup Generator

The Fire Hall does not have a backup generator but it does have two portable generators that can fully energize the Fire Hall. The ability to have power for the Fire Hall is critical as it serves as the primary location for the Emergency Operations Center.

Recommendation 6.1.2: *The RVCL should ensure that backup power is readily available for the Fire Hall and annual testing occurs of the generator hookup and energization of the Fire Hall.*

Rationale*: During a major power outage and activation of the Emergency Operations Center is not the time to discover that the backup generators are not working properly.*

6.2 Turnout Gear

The turnout gear or what is commonly referred to as the "bunker gear" is a coat and pants designed for firefighting. Turnout gear is required for interior, defensive firefighting and vehicle firefighting. Turnout gear provides firefighters with adequate protection against burn injuries over a wide range of conditions while minimizing heat stress.

Turnout gear is comprised of the outer shell, moisture barrier and thermal liner Each serves specific multiple functions:

- Outer Shell- The outer shell provides flame resistance and also protects firefighters from cuts and abrasions while they are on scene, whether it be a structure fire or a brush fire. Most importantly, it is the outer shell that maintains the effectiveness of the thermal liner and the moisture barrier.

- Moisture Barrier- While the outer shell's purpose is to protect the inner components, the moisture barrier provides resistance to water, chemicals, and viral agents. It is the most fragile component in the system and the element most likely to be damaged. To ensure that the moisture barrier is functioning properly and providing an adequate amount of support, it should be inspected on a routine basis.

- Thermal Liner- Thermal liners trap air in or between layers of nonwoven material that is quilted to a face cloth material. More so than the other layers, the material makeup of the thermal liner is critical to the comfort and safety of firefighters.

Maintenance and repair of turnout gear is governed by the National Fire Protection Association's 1851 Standard on Selection, Care, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting. NFPA 1851 mandates that an advanced inspection of all personal turnout gear ensembles and ensemble elements be conducted at a minimum of every 12 months or whenever routine inspections indicate that a problem may exist.

The turnout gear has a 10-year life expectancy as per NFPA 1851 Standard on selection, care and maintenance of protective ensembles for structural firefighting and proximity firefighting. There are 11 sets of turnout gear in the CLFD that have exceeded the 10-year life cycle by up to five years. This is concerning as there are no records exist of annual routine or advanced inspections of the turnout gear and this exceeds the manufacturers and NFPA 1851 life cycle.

Recommendation 6.2: *Due to the health & safety concerns of using turnout gear that has exceeded the manufacturers and industry standard life cycle of 10-years, all 11 sets of turnout gear need to be replaced in the immediate future. The approximate cost for replacing the turnout gear is $33,000.*

Rationale: *No records of regular or advanced inspections of the turnout gear are available and the Occupational Health & Safety Regulations Part XXXII Additional Protection for Fire Fighters identifies the requirements for maintaining, inspecting, repairing, and recording of the inspection and repairing of firefighting equipment and personal protective equipment.*

6.2.1 Cleaning of Turnout Gear

NPFA 1851 Standard on Selection, Care, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting recognizes that routine, advanced and specialized cleaning of turnout gear occur.

Routine cleaning occurs after a call and involves brushing away debris or lightly scrubbing with a soft bristle brush if required and rinsing with water. Advanced cleaning involves separating the liner from the outer shell and washing the turnout gear in a front-loading washing machine so no damage occurs as it does with the use of a top loading machine agitator. Specialized cleaning is needed if the turnout gear is contaminated by blood, body fluids or chemicals and is generally conducted by a third party.

Currently the turnout gear is washed with the hot pressure washer when required and this should be discontinued as the high-pressure washer can cause damage to the fabrics in the outer shell. When required members will also take the liners home to wash and this practice must be discontinued immediately as there is a potential for cross contamination in the home washing machine.

Recommendation 6.2.1: *The CLFD implement an SOG on the proper cleaning, routine and advanced inspection of turnout gear and immediately discontinue using a high-pressure washer on the turnout gear.*

Rationale: *The proper cleaning and inspection of turnout gear is recommended by the NFPA and is also a preventative maintenance process where some issues can be identified and dealt with prior to larger and more costly repairs. The proper maintenance of the turnout gear is a key factor for the protection, health and safety of the firefighter.*

There is no washing machine in the Fire Hall to clean turnout gear or coveralls and NFPA 1851 recommends that two advanced cleanings of the turnout gear occur annually. Protective clothing that is exposed to products of combustion needs to be properly cleaned to ensure that the contaminants are not absorbed into the firefighter from regularly wearing the turnout gear.

Many fire departments are now using a frontloading extractor washing machine that has a high capacity for the gear and is designed to meet the NFPA 1851 standards, but they come with a high price tag. Older top loading washing machines with agitators were harsh on the turnout gear during the washing cycle and regular washing has been shown to take off years of the life cycle of the turnout gear. Smaller fire departments have the option to send the turnout gear away for proper cleaning, which is not efficient, or they can look at a new front loading washing machine with a stainless-steel drum that has setting for a wash cycle that will work for the turnout gear. A home front loading washing machine will not be as efficient as a washer extractor, but by carefully selecting a gentle washing cycle and air drying the turnout gear, the CLFD will be able to maintain and clean their turnout gear inhouse.

Recommendation: 6.2.1: *The RVCL conduct a cost analysis on a residential home front loading washing machine or a washer extractor and purchase the best choice for the fire department in the short term.*

Rationale*: There are numerous studies and research that link cancer to firefighters. In Saskatchewan the Workers' Compensation Board (WCB) provides conditions for the presumption of occupational cancer and cardiac injury in full time and volunteer firefighters. In 2019 the cancer list was expanded and if a firefighter is diagnosed with one of the identified cancers, it is presumed to have occurred because of the nature of the individuals service as a firefighter.*

6.3 Self Contained Breathing Apparatus

The CLFD has six (6) Scott self-contained breathing apparatus (SCBA) that were last flow tested in 2017. All six SCBA passed the flow test, however, as per NFPA 1852 Standard on Selection, Care, and Maintenance of Open-Circuit Self-Contained Breathing Apparatus (SCBA), all SCBA are to be annually flow tested.

The department has 22 aluminum 2216 psi cylinders for the SCBA and no records can be found of any hydrostatic testing. The aluminum cylinders are to be hydrostatically tested every five years and have an unlimited life span as long as they pass the hydrostatic test. During a hydrostatic test the cylinder is tested to ensure it can safely hold the pressure it is rated for, because compressed gas can cause a cylinder to rupture if there is degradation in the cylinder. During these testing process the cylinder is also visually inspected internally and externally to validate that there are no malformations in the cylinder.

The Rescue Truck has an air compressor with four (4) cascade cylinders. No records can be found on air samples or filter changes on the compressor and this is required on an annual basis. Contamination from untested compressed air can be detrimental to the firefighter breathing the air. Common air contamination includes:

Figure 17 Rescue Truck Air Compressor

- Carbon Dioxide-causes the individual to breathe faster.
- Carbon Monoxide-colorless, odorless gas that causes fatigue, nausea and dizziness. Carbon Monoxide contamination can come from the intake air by motor exhaust or from within the compressor caus hydrocarbon fuels and lubricants due to overheated oils, or oxidation of charcoal filters because of overheating.

- Water Vapor-causes corrosion and a high-water vapor reading may mean that the filter in the compressor has become saturated. When a filter cartridge becomes saturated it can no longer remove carbon monoxide and other contaminants.
- TVHC-the Total Volatile Hydrocarbons may be caused by overheating compressor lubricants, or motor exhaust by the intake air. The TVHC can lead to dizziness, headaches and confusion.

The presence of these contaminants can cause devastating effects if inhaled by firefighters while using their SCBA. Respiratory protective devices in Section 90 (3) of the Occupational Health & Safety Regulations states, *"An employer or contractor shall ensure that compressed air in an atmosphere-supplying respirator used by a worker in an atmosphere that is immediately dangerous to the worker's life or health meets the purity requirements set out in Table 2 of the Canadian Standards Association standard CAN3-Z180.1-M85 Compressed Breathing Air and Systems."*

Recommendation 6.3: *With no records of any flow tests of the SCBA or hydrostatic testing of the aluminum cylinders, it is critical that all of the cylinders and the SCBA be immediately tested as per NFPA standards and industry best practices. This must occur in the immediate future.*

Rationale*: The failure of an SCBA or cylinder can seriously impact the health & safety of the firefighter either through a respiratory or physical injury.*

Recommendation 6.3: *An air sample be taken by a third party on the air compressor and a service check be conducted on the air compressor. This must occur in the immediate future.*

Rationale: *The air compressor has not had regular maintenance filter changers or air tests and the employer must ensure that the air in the compressed air system meets the purity requirements as set out by the Canadian Standards Association.*

6.4 Personal Protective Equipment

All members have extrication gloves, wildland coveralls, balaclavas and structural firefighting gloves. Structural firefighting and extrication gloves are not the same, as the extrication gloves are generally more ergonomic with more dexterity than the structural firefighting gloves, but should never be worn for any firefighting operations.

All members should have an issued pair of safety glasses as they supply an additional level of protection with the helmet flip down shield. The helmets should not exceed the 10-year life cycle as per NFPA 1851 and manufacturers recommendation.

Recommendation 6.4: *The structure firefighting helmets should be checked to ensure that they have not exceeded the life cycle as per NFPA 1851 and the helmets that have exceeded the life cycle should be replaced in the immediate term.*

Hearing Protection 6.4.1

A common gap with issued PPE is the absence of hearing protection. Hearing loss and damage is a preventable injury and "The longer the career in the fire services, the more severe the hearing loss. In addition, about 13 percent of participants showed asymmetrical hearing loss, with significantly worse hearing in the left ear than the right."[23] It was also noted by Taxini & Guida (2013) "Excessive exposure to high-intensity noise may be harmful to hearing and lead to noise-induced hearing loss (NIHL), which is cumulative, progressive, and irreversible. Noise is a physical phenomenon that is an acoustic mixture of sounds at frequencies that do not follow any precise rule. It is classified into 3 types: continuous, with variations of 3-5 dB(A) over a long period; intermittent, with variations longer or smaller than 3-5 dB(A); and impulse, with peaks lasting less than 1s."

Recommendation 6.4.1: *Every member of the fire department should be issued or have access to hearing protection.*

Rationale: *Exposure to high noise such as the fire pump operating, positive pressure fans, and other gas power equipment can have long term impacts on a firefighter's hearing.*

6.4.2 Gas Detector

The CLFD does not have a gas detector which is an important piece of personal protective equipment. Fire departments generally have a gas detector for Lower Explosive Limits (LEL), Oxygen (O2), Carbon Monoxide (CO) and Hydrogen Sulfide (H2S).

[23] Bufano, P., (2013) *New Research in Firefighters Underscores Need for Innovative Hearing Protection*, The Hearing Journal, September 2013, Volume 66, Issue 9

Most fire departments are dispatched to CO incidents and without a gas detector, the fire department must be diligent and evacuate the residence/building until the arrival of SaskEnergy. The most common call types that require a gas detector include; CO, flammable liquid spills, natural gas emergencies, confined space, leaking hazardous materials and a fuel tanker spill. Firefighters will also use a gas detector during salvage and overhaul procedures where levels of CO are known to be high.

Recommendation 6.4.2: *The CLFD acquire a gas detector and train to understand how the gas detector works. (Immediate)*

Rationale: *A gas detector is a vital piece of firefighter PPE and will also be used for CO calls within the RVCL.*

6.5 Apparatus and Vehicles

The RVCL Emergency Services has a fleet consisting of a Pumper, two Tankers, one Rescue, one Medical First Responder and a Yamaha snowmobile and Sno-ambulance.

The FUS recommends that front line apparatus have a service life of 0-15 years, and from 16-20 years the fire apparatus be delegated as a secondary unit. After the 20-year service life the FUS does not give credit in the insurance grading.

The FUS definition of 1st line, 2nd line and Reserve is as follows:

- 1st line is the first fire truck utilized for response at the fire station.
- 2nd line is the next truck to be used if the 1st line unit is tied up at a call, and
- Reserve is the vehicle kept in the fleet to be put into service if the 1st line or 2nd line vehicle is out of service.

The FUS requires that all apparatus older than 20 years must be service tested annually by a certified agency in order to be recognized for grading purposes. There can be exceptions to the age status in small communities, and the community must contact the FUS for the exception status as long as the apparatus has successfully passed the required testing.

Apparatus Age	Major Cities [3]	Medium Sized Cities [4] or Communities Where Risk is Significant	Small Communities [5] and Rural Centres
0 – 15 Years	First Line	First Line	**First Line**
16 – 20 Years	Reserve	Second Line	**First Line**
20 – 25 Years [1]	No Credit in Grading	No Credit in Grading or *Reserve* [2]	**No Credit in Grading** **or *Reserve* [2]**
26 – 29 Years [1]	No Credit in Grading	No Credit in Grading or *Reserve* [2]	**No Credit in Grading** **or *Reserve* [2]**
30 Years [1]	No Credit in Grading	No Credit in Grading	**No Credit in Grading**

1. *All listed fire apparatus 20 years of age and older are required to be service tested by a recognized testing agency on an annual basis to be eligible for grading recognition (NFPA 1071)*
2. *Exceptions to age status may be considered in small to medium sized communities and rural centre conditionally, when apparatus condition is acceptable, and apparatus successfully passes required testing*
3. *Major cities are defined as an incorporated or unincorporated community that has:*
    a. *a populated area (or multiple areas) with a density of at least 400 people per square kilometre; AND*
    b. *a total population of 100,000 or greater.*
4. *Medium Communities are defined as an incorporated or unincorporated community that has:*
    a. *a populated area (or multiple areas) with a density of at least 200 people per square kilometre; AND*
    b. *a total population of 1,000 or greater.*
5. *Small Communities are defined as an incorporated or unincorporated community that has:*
    a. *no populated areas with densities that exceed 200 people per square kilometre; AND*
    b. *does not have a total population in excess of 1,000.*

Figure 18 FUS Frontline Apparatus Life Cycle

Pumper 1

2012 Freightliner

1,000 Gallon Tank

1250 GPM Pump

It was observed that many of the tools in the compartments were loose and not secure. By getting some mounting brackets for the fire extinguishers, spades, etc., the compartments will be more organized and easier for firefighters to remove equipment during an emergency incident. All loose equipment on the floor of the cab should be removed so not to create a hazard while driving.

The jumpseat of Pumper 1 is a four-firefighter configuration with four SCBA seats, but only two SCBA are in place. There are no spare cylinders on Pumper 1 and consideration should be given to adding two more SCBA and with at a minimum one spare cylinder per SCBA.

Rescue 2

2001 International

When Rescue 2 is replaced, a plan must be put into place to either replace Rescue 2 with another rescue truck that has an onboard air compressor or a separate compressor and fill station must be purchased for the Fire Hall.

Tanker 3

2004 Freightliner

3,000 Gallon Tank

Tanker 4

2015 International

2,100 Gallon Tank

First Responder 1 **2013 Crestline**	

2015 Yamaha RS Viking Snowmobile	**2019 Sno-ambulance**
	

6.5.1 Aging Apparatus

The primary operations of the fire department dictate the design features for the apparatus required to meet the service levels identified in the bylaw and expected by the community.

With no municipal water supply the use of tankers is critical for the supply of water to the pumper, which are designed to carry firefighters, water and equipment for firefighting purposes.

There is no legislation in Saskatchewan identifying when fire apparatus needs to be replaced, however, the FUS grading of fire apparatus is identified in Figure-18 which is one of the factors used to determine the insurance ratings within a community.

Fire apparatus have a finite life and due to the work load placed upon apparatus during emergency situations the wear and tear increases on the apparatus components. As apparatus ages, maintenance costs increase, breakdowns become more common and, in many cases, parts are harder to attain.

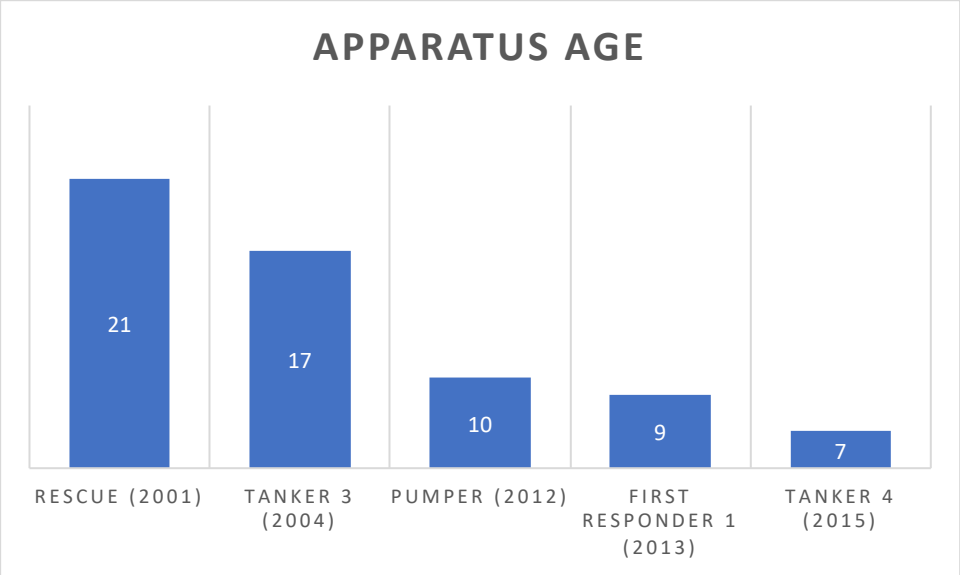


Figure 19 RVCL Emergency Services Apparatus Age

A review was conducted on the apparatus and there are no records of annual pump testing conducted on Pumper 1, nor are there any dump valves on the tankers to quickly offload the water supply into a portable tank.

Recommendation 6.5.1: *A mechanical safety inspection should be conducted on the Pumper, Rescue and both Tankers in the next 12-months to determine their overall condition, performance and reliability.*

Rationale: *Identifying the mechanical condition of the apparatus will allow the RVCL to prioritize which apparatus needs to be replaced and permit Village Council and administration to create a capital reserve plan.*

6.6 Preventative Maintenance Program

The apparatus represents the single most costly expenditure that the fire department will incur, and the proper care and maintenance of the apparatus ensures that it is dependable and reaches or exceeds its service life. There are several reasons for having a preventative maintenance program in the fire department:

1) It must be mechanically sound and ready to respond 24/7-365 days a year.
2) The safety of firefighters demands that the apparatus is in good working order and safe to operate.
3) Ensuring that apparatus reach their service life expectancy is essentially protecting a major capital investment made by the community.
4) A preventative maintenance program will reduce the need for expensive corrective maintenance in the future.
5) Reduces liability to the community when the apparatus is well maintained and operational.

As noted in *NFPA 1911 Standard for the Inspection, Maintenance, Testing and Retirements of In-Service Automotive Fire Apparatus*, the AHJ is responsible to develop and implement a schedule for the operational checking, inspection, diagnostic checking, and maintenance of the emergency vehicle and its systems and components in accordance with this document, the manufacturer's recommendations, local experience and operating conditions.

Recommendation 6.6: *A preventative maintenance program should be implemented for all fire department apparatus. The preventative maintenance program should include an annual mechanical safety check of all apparatus.*

Rationale*: Finding mechanical issues early reduces costs later and it is imperative that all emergency vehicles are in a state of operational readiness and fully operational in order to avoid catastrophic failures.*

Recommendation 6.6: *An SOG be developed that identifies the conditions required to remove an apparatus from service.*

Rationale: *Having clear guidelines to remove an apparatus from service will minimize questions or legal issues if an apparatus were to be involved in an emergency incident and failed to operate properly.*

6.7 Apparatus Replacement Schedule

The primary role of fire apparatus is to delivery water, equipment and firefighters to the emergency incident. The need for effective fire apparatus is a priority with any fire department and because no communities are alike, the apparatus in the fire department must be based upon the operational needs of the department.

Many municipalities have a capital reserve fund where annual contributions are made for scheduled future apparatus replacement. There are significant costs involved in replacing fire apparatus and historically, a community could expect fire apparatus to increase in cost from 5-10 percent annually. Unfortunately, today the cost increase is significant as manufacturers face supply chain issues for many components including truck chassis. It is a challenge to forecast the annual increase in cost for the purchase of a new fire truck and many communities are doing what they can to acquire a new truck today, because they know the price is only going to increase in the future.

As noted in Section 10.2, the Pumper now has a service life of 10-years and a plan needs to be put into place to have this Pumper replaced.

Recommendation 6.7: *The RVCL implement a capital reserve plan to have the 2012 Pumper replaced by 2027 or 2032 at the latest. The replacement will be based upon funding and whether a new or used apparatus is to be purchased and should be replaced with a Type 1/Type 3 apparatus.*

Rationale: *Replacement of the 2012 Pumper was recommended at the 15-year period as per the FUS recommendations; however, regular pump testing and maintenance of the Pumper should provide a 20-year life cycle for the RVCL. Purchasing a new pumper is expensive and today the wait time for a new pumper to be built ranges from 24-36 months. Careful planning on a replacement for the 2012 pumper needs to occur today so a replacement can be put into service in the next five-ten years.*

6.8 Annual Pump Testing

Many fire departments do not test their pumps annually as per NFPA 1911Standard for the Inspection, Maintenance, Testing and Retirement of In-Service Emergency Vehicles. This is a mistake that can have tragic consequences if the primer failed to operate or if a valve fails to operate to discharge water during an emergency incident.

The annual pump test is a documented process where the fire pump is tested to its rated capacity and the drivetrain, transmission, and pump plumbing are put through a series of tests that are designed to prove that the pump is in proper working order.

Figure 20 Annual Pump Test

There are some preliminary inspections that need to be performed prior to actually running the pump test itself. NFPA 1911, Chapter 10 (Inspection and Maintenance of Water Pumping Systems and Water Tanks) provides an overview of the systems and components that need to be inspected, tested or adjusted prior to running the test.

Generally, a few components will be checked prior to the pump test.

- All the fluids in the pump drive system, primer and gear case are at the proper level.
- The pump shift controls operate smoothly, all interlock mechanisms engage properly and pilot lights are working.
- The discharge and intake valve controls operate smoothly.
- The pump in engaged and pump packing or mechanical seals are examined, and adjusted or replaced as necessary.

- While the pump is engaged, the plumbing and gauge lines are inspected for leaks and that all gauges and instruments are registering accurately.

Overall, the pump test takes about two hours to complete and is a straight forward process. The goal of the annual pump test is to ensure that the pump can do what it's supposed to do so during an emergency the pump will deliver as per its rated capacity. It is during the annual pump test that leaking valves are discovered, worn pump packing and issues with the pump plumbing.

There are no records for any annual pump tests for the apparatus in the CLFD and scheduling of a pump test should occur in the immediate future.

Recommendation 6.8: *The CLFD contact a vendor to have the apparatus pump tested as per NFPA 1911 within the next 6-months or as recommended by the testing vendor.*

Rationale: *The annual pump test is an industry best practice and is formal process where the pump and associated components are put through a test to prove that the pump is in proper working order.*

6.8.1 Firefighting Portable Tank

Portable tanks are a critical tool for firefighting operations where water supply is limited or where hydrants don't exist. The portable tanks come in various sizes and are used on site so a tanker can quickly dump its load into the tank so the Pumper can continue firefighting operations. The dump site is located close to the incident, with the goal of providing a continuous source of water supply to the apparatus attacking the fire. A water shuttle consists of other tankers that can continually fill the portable tank to keep firefighting operations going.

The CLFD does not have a portable tank and with no municipal water supply a strategy must be developed to ensure that there is a continuous supply of water for firefighting operations. *NFPA 1142 Standard on Water Supplies for Suburban and Rural Fire Fighting,* Section 3.3.1 defines Alternative Water Supply as, "Water supplies provided to meet the minimum fire flow/duration requirements where no municipal type water system exist or to supplement an inadequate municipal type water supply."

The CLFD currently has two sources of water for apparatus; the Fire Hall and the golf course. There are three key components for maintaining a rural water supply and these consist of; the apparatus and equipment needed, the firefighters expected to use the equipment and the SOG's outline the procedure to set up the portable water supply.

The most efficient method of setting up a rural water supply is to dump water as quickly as possible into a portable tank. The quick dumping of water allows the tanker to off load and return to the water source as soon as possible. The CLFD tankers are not equipped with quick dump valves and are unable to quickly off load their water supply.

The portable water tank should have a capacity that is at least 500 gallons larger than the capacity of the water tank on the apparatus carrying it. This allows the apparatus to dump its entire load into the tank, and quickly return to a water source.

Setting up a portable water tank for a water shuttle requires continuous training. Water shuttle operations can be dangerous as there is a continuous movement of apparatus, firefighters in restricted spaces, narrow roadways or on a highway where traffic control must be considered.

It is essential that preplanning occur before an incident so strategies can be determined based upon the nearest water supply, roadway and how tankers are to supply the water.

6.8.2 Accredited Superior Tanker Shuttle Service

The Accredited Superior Tanker Shuttle Service is a recognized equivalency to hydrant protection. The fire department must continuously train on delivering the required water flow and implement a system where the delivery of water is well-designed and well-documented. The fire department must;

For personal insurance, be able to deliver a flow rate of not less than 200 gpm within five minutes of arriving at the test site with the first major piece of apparatus (wheel stop).

For commercial insurance, be able to deliver a flow rate of not less than 400 gpm within five minutes of arriving at the test site with the first major piece of apparatus (wheel stop).

The volume of water available for firefighting must be adequate to sustain the accredited flow rate for the duration in accordance with the Fire Underwriters Survey Water Supplies for Public Fire Protection.

The water delivery system must be available and accessible 24 hours per day and 365 days a year.

In 2005 the Errington Fire Department on Vancouver Island was able to achieve the Accredited Superior Tanker Shuttler Service rating, resulting in a significant decrease in home insurance for residents. At the time, the insurance savings per household ranged from $200 to $500 in reductions and it was estimated that as a whole, the community had a savings of over $300,000 in insurance premiums.

Figure 21 Errington FD 2005 Tanker Shuttle Test

The Errington Fire Department planned for eight years to strive for accreditation and making the decision to move forward in this direction should not be taken lightly. The planning, equipment acquisition and hard work by the fire department will have substantial benefits to the community in reduced insurance premiums, but more importantly, being able to provide a sufficient water supply for firefighting operations.

Consideration should be given to utilizing the pump station at the Westside Trail Berm to establish another source of water within the RVCL. This is not the intended use for the site, but the pump station could be insulated and heated to ensure water is available during the winter months.

Recommendation 6.8.2: *The RVCL should investigate the costs to put in a permanent road to the Westside Trail Berm water pump so the fire department can have access to water year-round.*

Rationale: With only two sources of water available for the fire department, it is critical that the RVCL look at additional water supply locations for the fire department.

Recommendation 6.8.2: *The CLFD acquire a portable tank for firefighting operations.*

Rationale: *The CLFD does not have a portable tank currently which minimizes the available water supply for firefighting operations. A portable tanker is required so a tanker can quickly dump its load into the tank so the Pumper can continue firefighting operations.*

Recommendation 6.8.2: *Firefighters be trained in establishing a water supply by using a portable water tank and having a water shuttle supply water.*

Rationale: *The set up for rural firefighting operations with a portable water tank requires training and a knowledge of when and where to set up the portable water tank and control apparatus traffic in narrow roadways or on a highway.*

Recommendation 6.8.2: *An SOG be established for the use of a portable water tank and rural firefighting operations. The SOG must include the number of firefighters to safely perform this task, radio communications, traffic control procedures and the equipment required for the water shuttle operation.*

Rationale: *Water supply for rural firefighting operations is essential for the successful mitigation of the incident, reduction in property loss and harm to people. An SOG must exist so freelancing is eliminated from the equation.*

Recommendation 6.8.2: *The fire department should contact the FUS to get the required information for the Accredited Superior Tanker Shuttle Service and implement a 5-year plan to get tested by the FUS.*

Rationale*: Achieving the Accredited Superior Tanker Shuttle Service rating will have significant benefits to the community through reduced insurance premiums and the delivery of a continuous supply of water for firefighting operations.*

6.8.3 Tanker Dump Valve

The CLFD has two tankers that combined carry over 5,000 gallons of water. Utilizing this water in the most efficient manner is a matter of getting the water out of the tanks quickly and efficiently. The two tankers in the fire department do not have dump valves which means the water is not able to be removed quickly, and if a portable water tank was in use at the

emergency incident, the tankers are not able to fill the tanks quickly which could impact fire suppression efforts.

Dump valves can be activated manually, electric, or air activated. Figure 21 provides an example of a stainless-steel dump valve that can empty a 2,500-gallon tank in 42 seconds.[24] This is critical because the supply of water by a water shuttle may determine the success or failure of firefighting operations. Having both tankers dump their water into the portable tank and returning to the water source ensures that the pumper can have a reliable water supply throughout the emergency.

Figure 22 Newton Kwik Dump Valve

Recommendation 6.8.3: *The CLFD investigate the cost of having dump valves installed on both tankers and have them installed within the next 12-18 months.*

Rationale: *Without dump valves on the existing tankers, the water cannot be dumped into a portable tank quickly, and a delay in off-loading water will negatively impact firefighting operations on manner levels.*

6.9 Communication Systems

The CLES currently subscribes to Provincial Public Safety Telecommunications Network (PPSTN) which is managed through the SPSA, SaskPower and the RCMP. The existing P25 radios are being phased out and replaced with newer radios. The transition is expected to occur over a three-year period and in April 2023 the monthly user fee will increase to $50/month from the current $40/month. In 2023 the monthly user fee will increase to $65/month per radio and there is no Installation or replacement fee for the new radios.

[24] Newton Quick Dump Valve downloaded https://www.nafeco.com/products/newton-kwik-dump-valve-/1010

Section 7

Community Safety Options

Section 7: Community Safety Options

Wildland urban interface fires was identified as a top risk to life safety and property within the RVCL.

7.1 Wildland Urban Interface

The National Research Council (NRC) Canada defines a "wildland urban interface (WUI) as an area where various structures, usually private homes, and other human developments meet or are intermingled with wildland (vegetative) fuels or can be impacted by the heat transfer mechanisms of a wildfire, including ember transport."[25] The NRC further states that over the past 10 years, a yearly average of 5,533 wildfires have burned 2.9 million hectares of wildland throughout Canada.[26]

Wildland fires form a flame front through radiation and convection to structures, and from structures to wildland fuels. The RVCL is surrounded by the boreal forest and as it continues to grow, it is anticipated that the increased demand for residential and seasonal properties will be located near the wildland urban interface area.

In the RVCL there are a few subdivisions that only have one entrance with one subdivision being on Highway 120 between the Village entrance onto Highway 265 and the Village entrance onto Main Street. The NRC noted that there should be more than one route for egress so that if one is unusable for any reason (blocked by fire or obstructed by response vehicles) the other egress can be used.[27]

7.2 Preventative Measures

Preventative construction methods can be utilized within the RVCL as per The *NFPA 1144 Standard for Reducing Structure Ignition Hazards from Wildland Fire*:

- Fire Resistive: Ignition-resistant construction methods using building materials

[25] National Research Council Canada (2021) National Guide for Wildland Urban Interface Fires, p.1
[26] National Research Council Canada (2021) National Guide for Wildland Urban Interface Fires, p.1
[27] National Research Council Canada (2021) National Guide for Wildland Urban Interface Fires, p.74

and design features that reduce the vulnerabilities of buildings to ignite from wind-blown embers (firebrands) and other wildfire exposures.

- Ignition-Resistant Material. A type of building material that resists ignition or sustained flaming combustions.

- Structure Ignition Zone. The area around a specific structure and associated accessory structures, including all vegetation that contains potential sources and fuels.

The close proximity of residential structures to the forest highlights the need to adhere to FireSmart guidelines for the RVCL. Simple procedures to ensure that a fire-resistant zone free of materials that can burn are a minimum of 10-30 metres from a home.

The RVCL should seek a partnership with Saskatchewan Wildfire and the Saskatchewan Public Safety Agency in promoting FireSmart within the community. As the NRC noted:

> "When wildfires spread into communities, the consequences of such incidents can be extreme-resulting in billions of dollars of losses for residents, governments, and insurers, as well as substantial social impacts, damaging short-term and long-term viability of a community, and displacing or injuring community residents. For example, a recent study indicated that the economic impact of smoke on residents' health can amount to billions of dollars."[28]

Recommendation 7.2: *A review should be conducted by the RVCL and the Emergency Services to determine if egress routes of subdivisions and RV Parks are appropriate for emergency evacuation.*

Rationale: *The evacuation of a subdivision or RV Park will be impacted by the number of vehicles, time of day, evacuees clogging routes and emergency vehicles responding to the incident.*

7.3 Wildland Urban Interface Construction Options

New residential construction in the wildland urban interface should follow ignition resistant construction standards as noted in *NFPA 1144 Standard for Reducing Structure Ignition Hazards*

[28] National Research Council Canada (2021), *National Guide for Wildland-Urban Interface Fires.*

from Wildland Fire. The NFPA defines fire resistive as ignition resistant construction methods using building materials and design features that reduce the vulnerabilities of buildings to ignite from wind-blown embers (firebrands) and other wildfire exposures. This includes but isn't limited to roof design and materials, overhanging projections (exterior balconies, decks, patio covers, etc.), exterior vertical walls, exterior openings and other construction features for the WUI area.

The standard also advises that a wildland fire hazard assessment be conducted on an improved property or planned property improvement in wildland/urban interface area. As per 4.1.2 The structure assessment shall, at a minimum include the following:

> (1) Identification and documentation of the wildland fire hazards in the ignition zone (s) for each structure within wildland fire hazard areas, according to the elements and conditions in Section 4.2
>
> (2) Determination of mitigation measures for vegetation, other combustibles, and the structure, including the periodic maintenance associated with such measures.
>
> (3) Establishment of priorities relative to mitigating the risks from wildland fire.
>
> (4) Evaluation of the site for conflagration hazards associated with the property to provide information for fire operations strategies should the site or surrounding properties become involved with fire.

FireSmart also identifies vegetation management strategies through priority zones, removal of piled debris and other combustibles, pruning lower branches, fire breaks and other FireSmart principles that impact the design, construction and maintenance of an interface residence or community. The FireSmart program identifies many low-cost solutions that homeowners can take to make their properties safer.

7.4 Wildland Urban Interface Apparatus

A review of the brush/grass fires for the last three (3) years should be conducted which includes the location of the fire, apparatus access, water supply needed for the fire, number of firefighters on the initial response and whether the fire required a large amount of fire hose for suppression efforts.

The RVCL is surrounded by boreal forest, has water supply concerns for fire suppression efforts and in several subdivisions has narrow roadways or egress concerns. Based upon a hazard risk analysis, there is a high probability that the most likely major emergency to occur within the boundaries of the RVCL is a wildfire. Quick access to a wildfire and the quick application of water is one way to successfully mitigate a wildfire.

Type 3 or Type 5 fire-fighting vehicles have a shorter wheel base than a regular Type 1 structure pumper increasing its maneuverability and versatility in challenging terrain. These trucks are often designed to carry four or five firefighters and will have pump and roll capabilities.

Figure 23 Wildland Urban Interface apparatus

Many fire departments will utilize a smaller chassis for their bush/grass fire trucks such as a Ford 550 4x4 that is equipped for a quick response to a brush/grass fire. The smaller vehicles allow more maneuverability for brush/grass fires but they are very limited on the equipment and water they carry. There are areas within the RVCL that pose some access issues for the larger apparatus and a smaller more versatile WUI vehicle would be better suited for those locations.

Manufactures offer a Wildland Urban Interface Type 1/Type 3 combination where the fire truck has a shorter wheel base, four-wheel drive, pump and roll capabilities, 500-1000-gallon tank, firefighting foam capabilities and seats 4-5 firefighters.

There are many benefits of the Type 1/Type 3 WUI for a fire department providing suburban and urban firefighting services. The increased maneuverability with the off-road capabilities ranks as the top benefits of this fire truck. The Type 1 features mean it can be used for interior structure firefighting operations while the Type 3 features provide pump and roll and a large water tank.

The estimated costs for a new Type 5 truck are projected from $200,000- $250,000 while it is estimated that a Type 1/Type 3 fire truck combination can range from $450,000-$600,000. Both vehicles have their pros and cons and acquiring one or the other must be based upon addressing the needs of the community.

Recommendation 7.4: *The existing pumper should be replaced with a Type 1/Type 3 fire truck within the next 5-10 years.*

Rationale: *The existing Pumper is 20-years old and due for replacement. The Type 1 / Type 3 WUI fire truck provides off road capabilities and would meet the needs of the RVCL as well as provide sufficient capacity to meet the needs of an Offensive Operations department for the future. Investing in the acquisition of a Type 1 /Type 3 Fire Engine would be more beneficial to the community than a Type 1 Structure Pumper. (See Appendix-D for further information on different fire apparatus).*

7.5 Additional Fire Halls

Due to the large geographical area of the RVCL, further investigation is required to look into the cost/benefit ratio of two additional Fire Halls to reduce response times and to allow firefighters living in those areas to staff the smaller quick attack vehicle.

Many fire departments across North America are implementing "mini pumpers" or initial attack apparatus into their fleets as pictured below in Figure 21. Mini pumpers can be equipped with a 300-gallon tank and a high-capacity pump. The mini pumper provides better maneuverability and the ability to go down narrow roads. There are numerous configurations and options available for a mini pumper, and this remains a cost-effective option for a single apparatus Fire Hall.

Figure 24 Pierce Mini Pumper

Another option that is cost effective is the purchase of a used heavy-duty chassis with an eight-foot bed to equip with a Compressed Air Foam System (CAFS) pump and small water tank. The City of Martensville is one example where the fire department has used a heavy-duty chassis and mounted a CAFS system into the box. The truck cap also has a toolbox that can store firefighting equipment.

Figure 25 Martensville FD Wildland Truck

Additional Fire Halls do not have to be complex, a single or two bay Fire Hall will suffice to house a mini pumper. Caution should be exercised as building a single bay Fire Hall can quickly be outgrown by the fire department. For the additional costs, a two-bay Fire Hall would permit the Emergency Services to grow and have room for both a mini pumper and a medical response unit. Below in Figure 22 are two examples of two bay Fire Halls that are cost effective to build.

The response times for fire apparatus and the medical first responder unit are equally impacted due to the central location of the existing Fire Hall. Although, it is centrally located within the RVCL boundaries, there is concern on the time it takes for firefighters or MFRs to drive to the Fire Hall, staff the appropriate apparatus/vehicle and respond to the emergency incident.

If, two additional Fire Halls were strategically located at Telwin/Clearsand and Glendale the firefighters and MFRs living in those areas could staff apparatus from those Fire Halls and dramatically decrease the response time to an emergency incident. Several factors must be considered before moving forward in this direction;

1) The number of firefighters and MFRs living in those residential areas to justify the capital investment of two additional Fire Halls, mini pumpers and a second or third MFR unit.

2) Rather than purchasing new mini pumpers, an option is to get used units that still have 10 or more service years left in their life cycle or purchase a medium duty chassis (F450) and add a Compressed Air Foam system for firefighting.

3) Acquiring another MFR unit may pose some challenges and the RVCL should investigate if Parkland Ambulance can sell one of their used units or donate it. The addition of a second MFR would improve the response time for the MFRs.

4) Standard Operating Guidelines must clearly identify the response protocol and staffing of apparatus from the additional Fire Halls.

5) Standard Operating Guidelines should identify how members are to respond to the Fire Hall and Donn their PPE and staff the apparatus.

One of the main advantages of having additional Fire Halls that station a mini pumper and MFR unit, is that firefighters and MFRs living in the area are able to quickly respond to the Fire Hall, staff the mini-pumper or MFR unit and respond to the emergency.

One of the main disadvantages of having these two additional Fire Halls is the lack of water supply. As noted throughout this document, the RVCL is severely lacking a water supply for firefighting purposes and it would be counter intuitive to build additional Fire Halls without first addressing the water supply needs for those halls.

7.6 Dry Hydrant

The RVCL should investigate the feasibility of installing dry hydrants in strategic locations where a roadway allows easy access to the dry hydrant. Dry hydrants are utilized in areas where water is not readily available and connect to ponds, lakes and cisterns. A dry hydrant is a non-pressurized system that is permanently installed so the fire department can connect, and get access to a water supply.

Figure 26 Dry Hydrant Kit and Connection Example

Dry hydrants required the connecting fire apparatus to vacuum the air out of the system to prime the hydrant by creating a low pressure at the pump intake, and letting atmospheric pressure force water into the pipe and into the pumper truck.

The dry hydrants should be tested annual to ensure there is no silt or debris blocking the intake. The installation of a dry hydrant should follow NFPA 1142 Standard on Water Supplies for Suburban and Rural Fire Fighting. NFPA 1142 identifies the standards;

- Dry hydrant design.
- Dry hydrant locations.

- Depth of water source.
- Installation procedure for dry hydrant system.
- Inspection and maintenance of dry hydrants.
- Records for dry hydrants.

The dry hydrant should be strategically placed so all-weather access is possible for the fire department. They are a cost-effective way to gain access to a water source, which increases the fire suppression efforts which will decrease property damage and increase firefighter safety.

Recommendation 7.6: *The RVCL should look at the feasibility of strategically installing dry hydrants where all weather access is available for the fire department. The installation of one dry hydrant should be a pilot project to determine the dependability of the system.*

Rationale: *Dry hydrants are a common way to get access to a water supply from a lake, pond or stream. The FUS can be contacted to determine how many dry hydrants can impact the insurance rating for the RVCL.*

Section 8

Fire Service Agreements

8.1 Lakeland & District Volunteer Fire Department

8.2 Torch River Fire Service Agreement

8.3 Mutual Aid

8.4 Automatic Aid

8.5 Fire Dispatch Service Agreement

Section 8: Fire Protection/Mutual Aid Agreements

Fire protection, mutual aid and automatic aid agreements are common in the fire service. These agreements allow one or multiple municipalities to enter into formal agreements to have fire protection or to have their fire protection services augmented by other fire departments.

8.1 Fire Service Agreement

Fire Service agreements identify the resources and services provided by one fire department to another fire department or services provided to a community, business or organization that does not have a fire department. These vary in scope with options of a fee for service on a per call basis, an annual retainer or a combination of all of the above.

Recommendation 8.1: *The RVCL should enter into discussions for a formal Emergency Services agreement with the RM of Paddockwood for the RV Park and residential structures along Highway 265.*

Rationale: *The Candle Lake Fire Department, Medical First Responders and the Community Safety Offices will be the first on scene to mitigate an emergency within the RM of Paddockwood boundaries along Highway 265 and a formal agreement should be established between the two parties within the next year.*

8.2 Mutual Aid

A mutual aid agreement enables a fire department to request the additional services of another fire department when certain situations warrant it. Mutual aid agreements are essential for a community as fire protection services enhance the safety and welfare of that community. These are formal documents where neighbouring fire departments can request resources from each other. Fire departments in a mutual aid agreement are authorized to respond for assistance when requested for major incidents or other situations where the requesting fire department's resources are overwhelmed by events. A mutual aid agreement

identifies the expectations, rights and obligations of the parties to minimize confusion during emergency requests.

For volunteer fire departments a major challenge is having enough resources during 8-5pm on weekdays when most members of the fire department are working their normal jobs. A mutual aid agreement is not intended to be the default mechanism for short staffing; however, it does provide the Fire Chief options when resources have been depleted quickly and the incident threatens the safety of responders, public and the environment.

Mutual aid agreements are not necessary for just fires but other emergencies such as dangerous goods incidents (hazmat spill), technical rescues, mass causality incidents and disaster management. The essence of a mutual aid agreement is that the respective fire departments have the equipment, resources and training to assist each other.

Topics for mutual aid agreements should include but not limited to:

- The agreement should identify the resources to be provided.
- The written agreement identifies and authorizes the fire departments to leave their jurisdiction for mutual aid purposes.
- The identification of the Incident Command procedures by all parties.
- Fire departments must be suitably equipped to meet the functions they are expected to perform at an emergency and all parties must be aware of the declared service levels for each fire department.
- All fire departments have the legal obligation to serve and protect their own community prior to engaging in mutual aid activities and this must be clearly stated in the agreement.
- Liability coverage and indemnification provisions.

There should be consideration of a common personnel accountability system for tracking of firefighters and resources during an emergency. This is not a critical item for a mutual aid agreement as fire departments in Saskatchewan are required by OHS to have a personnel accountability system, however, if the mutual aid departments are regularly assisting each

other, a common accountability system will decrease any confusion with multiple departments on scene.

NFPA 1720 suggests that mutual aid and automatic aid agreements address liabilities for injuries, disabilities, deaths, costs of service, the authorization to respond, staffing, equipment and the resources to be made available. It also indicates that the training for firefighters in the mutual aid agreement shall be comprehensive enough to produce a capable response to deal with the emergencies they respond to.

There are numerous fire departments in the province with existing mutual aid agreements to create the foundation for working partnerships prior to a critical event. When multiple fire departments are part of a mutual aid agreement, there should be a provision where joint training (when feasible) and officer meetings are required on an annual basis. The goal of these training sessions would be to have officers conduct desktop scenarios where each department starts to get familiar with the resources and equipment of the other mutual aid partners. Further to this, the officers should meet regularly to ensure that they are all following the Incident Command system, reviewing communication protocols and developing working relationships with each other.

The Provincial Public Safety Telecommunications Network (PPSTN) provides the avenue through which interagency communications can exist on the EMO channels. This is a resource that should not be overlooked and is a vital component to the communications and success of an interagency operation.

A mutual aid agreement should consider a provision to cover costs associated with damaged equipment or fire department apparatus. This may be in the form of the requesting Party paying a deductible or working with their insurance to help recover damages.

A mutual aid agreement should include, but not be limited to the following items:

- All parties in the agreement should have an inventory of each department's resources.
- A dispute resolution should be included in the agreement.

It is important to regularly review mutual aid agreements as staffing and equipment levels can change in a volunteer department and thereby change the dynamics of the agreement. In

some cases, the time of year poses significant staffing challenges for a fire department and these community dynamics need to be addressed prior to an emergency.

When mutual aid agreements exist, it is important for the parties to meet at least once annually to have dialogue regarding the mutual aid agreement and any policies or procedures that could impact an emergency situation. This is a great way to orientate each other and any new staff and create an opportunity to familiarize themselves with the mutual aid agreement. As noted earlier, attention should be paid to personnel accountability systems and communication protocols. During an emergency is not the time to learn about another departments personnel accountability system or communication protocols.

Recommendation 8.2: *The RVCL does not have mutual aid agreements with any neighbouring fire departments and this should be explored further.*

Rationale: *Mutual aid agreements are essential for a community as fire protection services enhance the safety and welfare of that community.*

8.2 Automatic Aid

An automatic aid agreement refers to a response that ensures resources are dispatched from the nearest fire department, regardless of which side of a jurisdictional boundary the incident is on. These agreements identify the specific call types so there is no confusion as to what apparatus and staffing are responding automatically into another jurisdiction. For example, a volunteer department may have an automatic aid agreement with a neighbouring fire department for structure fires or specialized rescue incidents such as motor vehicle collisions or water rescue. If two or more fire departments are close enough to provide automatic aid, they can examine their technical rescue services and remove or minimize any duplication of services. Equipping for technical rescue is expensive in terms of initial equipment acquisition, maintenance and continued training of firefighters. Proactive departments in automatic aid agreements will look at their technical rescue services and minimize the duplication of services. This will work when the fire departments have a reasonably quick response time into another jurisdiction.

8.3 Fire Dispatch Service Agreement

The RVCL has an agreement with the Saskatchewan Public Safety Agency to provide dispatching for the fire department. The radio communication system is part of PPTSN which is managed through a partnership between the SPSA, RCMP and SaskPower. The agreement identifies a per capita cost within the service area of the RVCL and service fee due dates along with invoicing procedures.

Emergency calls are received by the 911 Public Safety Answering Point (PSAP) located in Prince Albert, Saskatchewan. The network is well managed with 290 repeater sites in the province and approximately 11,000 radios. A user fee of $40.00 per month is charged for each radio, with the actual operational costs for each radio range from $70.00 to $90.00 a month. The difference in the operational costs for each radio is funded by the Sask911 levy on consumer telephone bills.

Proper communications can make the difference between a successful emergency response or an unfavorable result. Due to the excessive costs of purchasing, maintaining and upgrading a stand-alone radio system, the RVCL is well served by the PPSTN network. The SPSA has recently invested several million dollars for a phased in replacement program for the radios and the Candle Lake Emergency Services will benefit from this technological upgrade.

8.4 Lakeland & District Co-Operative Volunteer Fire Department

The RVCL has a fire service agreement with the Lakeland & District Co-Operative Volunteer Fire Department. This 2013 agreement identifies the parameters where the Candle Lake Fire Department will provide fire suppression services to areas located in the R.M of Paddockwood which are situated in close proximity to the Resort Village of Candle Lake.

The Candle Lake Fire Department will assume Incident Command until the arrival of the Lakeland Fire Department and at that time command will be transferred to the Fire Chief or designate of the Lakeland Fire Department.

The agreement identifies the invoicing process for fires and motor vehicle accidents that occur in the RM of Paddockwood. An invoice for services provided to the Lakeland FD is to occur within 30-days of the incident and is based upon the hourly rate identified in the agreement.

Recommendation 8.4: *The fire service agreement with the Lakeland FD is almost 10 years old and should be reviewed and an updated agreement approved by both parties.*

Rationale*: Formal agreements should be reviewed regularly and have a clause identifying when parties can exist from the agreement or make mutually agreed to revisions. This allows both parties to keep abreast of hourly rates for fire apparatus, as well as identifying replacement for consumables used at the emergency incident.*

8.5 Torch River Fire Service Agreement

This 2009 agreement identifies that the Candle Lake Fire Department will provide emergency services to specific land locations within the R.M of Torch River. The agreement does not identify specific emergency services, nor does it provide any indemnification clauses, or other critical components for fire service agreement. The fee schedule for the delivery of emergency services is dated and overall, this agreement needs to be reviewed, revised and updated.

Recommendation 8.5: *The Torch River Fire Service Agreement needs to be revised and the response hourly rate for apparatus must be increased to cover for operational costs, wear and tear and consumables.*

Rationale: *The agreement is 13-years old and must be updated.*

Section 9

Finance

Section 9: Finance

There is an assumption of risk and the emergency services that a community is willing to pay for. Supplies, equipment and apparatus for today's fire service are escalating which poses challenges for smaller communities served by a volunteer fire department.

9.1 Operating Budget

It is critical today and now more than ever as the world passes through the pandemic that the budget is justified to the community stakeholders. Today, the public scrutiny of civic government budgets is high as the public wants to know exactly where their tax dollars are going. Elected officials face pressure of fiscal stewardship and must present a budget based upon community expectations and a service delivery model that tax payers are willing to pay for. The balance is approving a budget that is based upon service realities and community expectations, which inevitably means doing more with less is not a reality in the emergency services.

Operational budget items are the fixed costs and are not discretionary. These costs include fuel, tools and equipment, turnout gear, annual equipment testing, training and maintenance of equipment and apparatus.

Identifying minimum standards for training, equipment acquisition and a service delivery model provides justification in allocating financial resources to the emergency services. The recently implemented *Fire Service Minimum Standards* sets the minimum level of training for the service delivery model proclaimed by the community.

A review was conducted on the 2020-2022 operating budgets and it was found that key account operating sections are identified and tracked.

- Training
- Vehicle/equipment maintenance and repairs
- Facility maintenance
- Medical/Fire equipment

Due to the formation of the Emergency Services in November 2021, the budget is more general in terms of a line-item description. It was also noted that no funding could be found for the Emergency Measures Organization. Overall, there were no concerns with the budget line items other than suggesting that sub categories be created to specify the budget amount for Fire, MFRs and EMO.

9.1.1 RVCL Emergency Services Operating Budget Challenges

Most elected officials are not aware of the costs associated with firefighting, Medical First Responders and Emergency Management. In most cases the elected officials are not educated on the true costs associated with equipping firefighters with PPE, maintaining and repairing equipment and apparatus and providing training so firefighters and Medical First Responders are adequately trained.

During budget deliberations civic departments are essentially in a competition for their piece of the budget pie and the departments that have clearly defined objectives such as those laid out in a community plan, will have more likelihood of getting the budget funded accordingly.

In the fire department, the Fire Chief is responsible for educating the elected officials on not only the associated costs of operating a fire department, but more importantly, explaining "why" these costs are necessary for the operation of the fire department and the safety of citizens in the community. During the research for this document, there was no clear path identified to the consultant on how budget requests are made for EMO and the Medical First Responders. In some cases, the fire chief was responsible and with the EMO it wasn't clear on how requests were made for training or travel. In terms of financial requests from the Medical First Responders, answers varied from making a request to the fire chief to making a request to the Director of Finance. From the surveys completed by members of the Emergency Services, there was some concern with the lack of a chain of command and this was one area where some frustration existed.

Elected officials want what's best for their community and are generally more open to approving budget requests when the benefits to the community are clear. The importance of a bylaw that identifies the services provided by the Emergency Services is a key step in acknowledging the importance of the services provided to the community.

9.1.2 Controlling Costs

More municipalities are recognizing the benefit of joint purchasing power where several fire departments will standardize or consolidate their high value items such as fire apparatus, turnout gear, SCBA and fire hose. When two or three fire departments jointly issue a tender for fire apparatus, turnout gear, or SCBA, they have more purchasing power and can get a better deal from vendors. Fire departments are able to save significantly in terms of costs and time when they agree upon a design and specs for a Pumper, Tanker, Ladder truck or WUI unit and the financial savings are generally in the tens of thousands of dollars.

9.2 Capital Forecast

The RVCL does have a capital reserve fund for the fire department, however, there is no formal fleet replacement program or reservice funding for apparatus or equipment replacement. The general practice for a capital improvement program is a 3–5-year program and in many cases a 20-year capital improvement program exists where funding is annually allocated for future apparatus acquisitions or fire station replacement. Communities differ on how they fund and plan for large capital purchases like a fire truck, and it is essential that the community knows when a fire truck is scheduled for replacement so it can be planned for and discussed during budget deliberations. Elected officials and finance directors don't like surprises where the identified costs are in the hundreds of thousands of dollars.

Recommendation 9.2: *The RVCL develop a capital improvement plan where equipment and apparatus replacement are based upon the expected life cycle for SCBA, extrication tools, medical equipment, personal protective equipment and fire apparatus.*

Rationale: *Long term planning in critical for the replacement of equipment and apparatus within the fire department. Failing to plan for large capital purchases in the future can negatively impact the RVCL during a budget cycle.*

Section 10

Survey Results

10.1 Surveys

Section 10: Survey Results

Internal questionnaires were utilized to gather feedback and information on how the RVCL Emergency Services is meeting the needs of the community, fire department, medical first responders and emergency management.

10.1 Surveys

Emergency Services members completed a questionnaire that provided valuable information on the Purpose, Structure, Leadership, Relationship, Rewards, Helpful Mechanisms and Attitude Toward Change in the RVCL Emergency Services.

The scoring from the organizational diagnosis identifies perceptions of the firefighters and Medical First Responders in the areas that can be improved upon.

The organizational diagnosis identifies an understanding within seven categories:

1. Purpose-Mission, Goals and fire department priorities.
2. Structure-Workload and organizational structure.
3. Leadership-Fire department leadership from firefighters and officers.
4. Relationships-Member relationships and any unsolved conflict.
5. Rewards-Pay scale and other rewards.
6. Helpful Mechanisms-Assistance for the firefighter, information to do the job.
7. Attitude Toward Change-progressive, ability to grow.

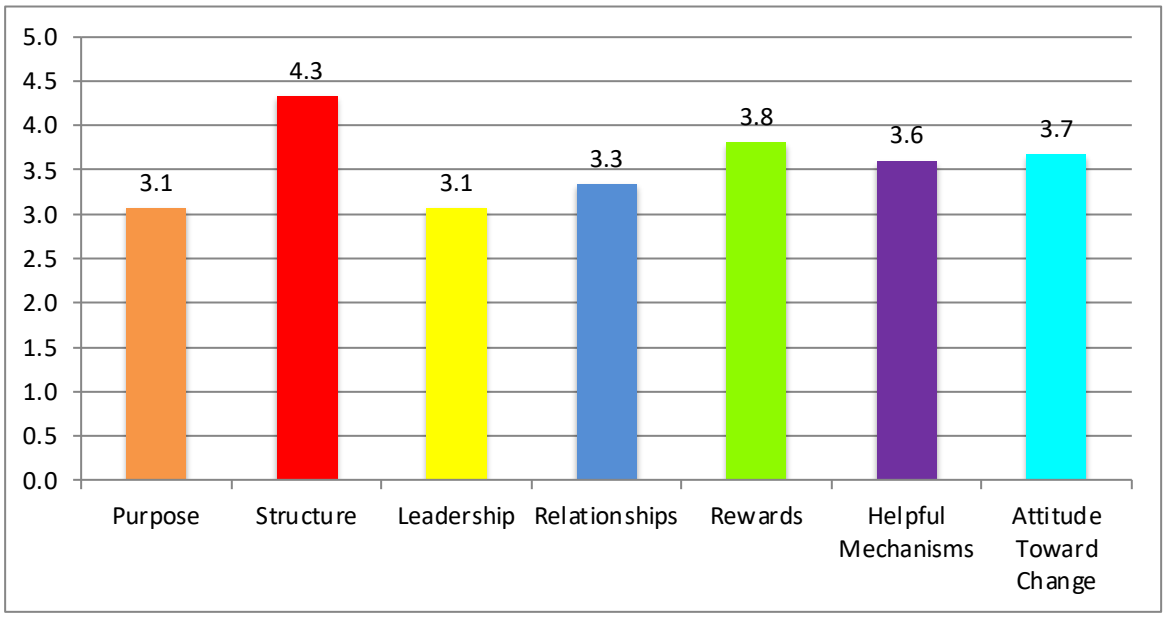
The organizational questionnaire is based upon a 1-7 ranking.

1-Agree Strongly	2-Agree	3-Agree Slightly
4-Neutral	5-Disagree Slightly	6-Disagree
7-Disagree Strongly		

This diagnosis questionnaire provides a good picture of the RVCL Emergency Services through the eyes of the members and is just one element of this review process. Genesis 2020 Solutions Inc., wants to thank all members that took the time to complete the questionnaires and provide invaluable feedback for this project.

The organizational questionnaires provide the consultant with a high-level view of how members perceive the RVCL Emergency Services. As part of the RFP, Genesis 20/20 Solutions Inc. categorized the surveys into Medical First Responder and the CLFD.

10.3 Medical First Responder Organizational Diagnosis Analysis



(i) Purpose

The overall ranking of 3.1 indicates that the MFR's agree slightly that the mission and goals of the RVCL Emergency Services are clear.

(ii) Structure

The ranking of 4.3 indicates that the MFR's are neutral in terms of organizational structure and workload within the RVCL Emergency Services.

(iii) Leadership

A ranking of 3.1 indicates that the MFR's agree slightly on the leadership within the RVCL Emergency Services.

(iv) Relationships

The ranking of 3.3 identifies that the MFR's agree slightly on the internal relationships and unresolved conflict. During the October 1st meeting it was highlighted that the working relationship between the MFR's and the firefighters has improved significantly, which is encouraging and due in part to members within the RVCL Emergency Services working together and understanding each other's role.

(v) Rewards

The ranking of 3.8 from the MFR's indicates that they are close to neutral with their opinion regarding rewards.

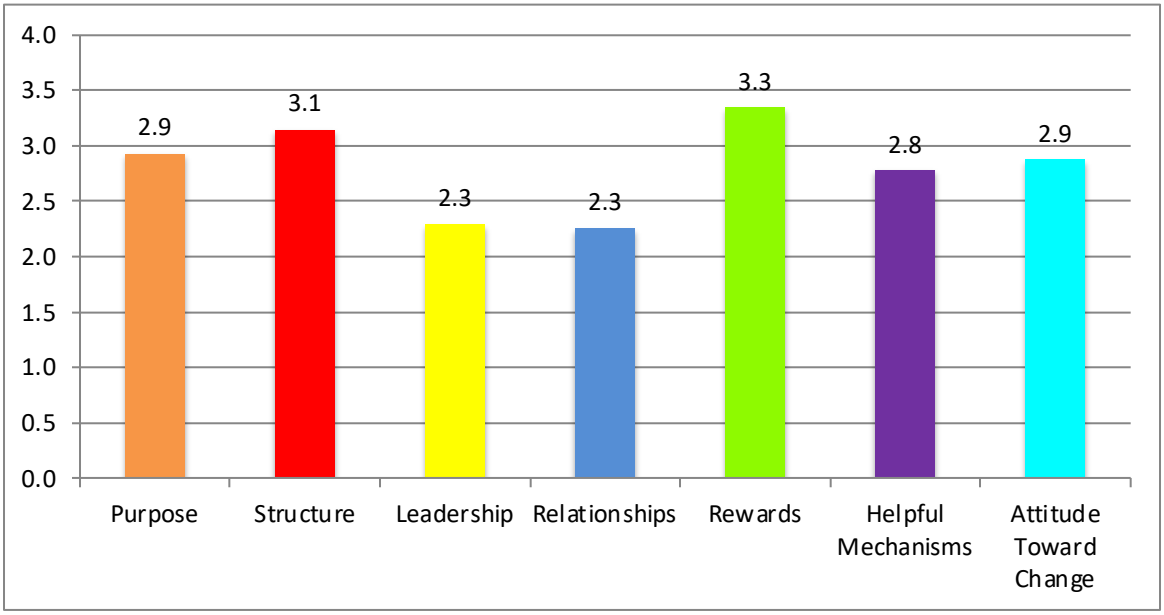
(vi) Helpful Mechanisms

The ranking of 3.5 was as surprise result of the survey as MFR's indicated they were happy with the support from Parkland Ambulance. The 3.5 result indicates that they agree slightly with helpful mechanisms in terms of assistance and planning efforts from the RVCL.

(vii) Attitude Toward Change

The ranking of 3.7 indicates that the MFR's are close to neutral on this and that the RVCL Emergency Services has room to grow in terms of policies, procedures and progressive thinking.

10.4 Firefighter Organizational Diagnosis Analysis



(i) Purpose

The overall ranking of 2.9 indicates that the FF's agree slightly that the mission and goals of the RVCL Emergency Services are clear.

(ii) Structure

The ranking of 3.1 indicates that the FF's are neutral in terms of organizational structure and workload within the RVCL Emergency Services.

(iii) Leadership

A ranking of 2.3 indicates that the FF's approve of the leadership within the RVCL Emergency Services.

(iv) Relationships

The ranking of 2.3 also identifies that the FF's approve of the internal relationships and that unresolved conflict is nonexistent. During the October 1st meeting it was highlighted that the working relationship between the firefighters and officers was strong.

(v) Rewards

The ranking of 3.3 result from the FF's indicates that they are close to neutral with their opinion regarding rewards.

(vi) Helpful Mechanisms

The ranking of 2.8 result from the FF's indicates they are close to neutral in terms assistance and planning efforts within the RVCL Emergency Services.

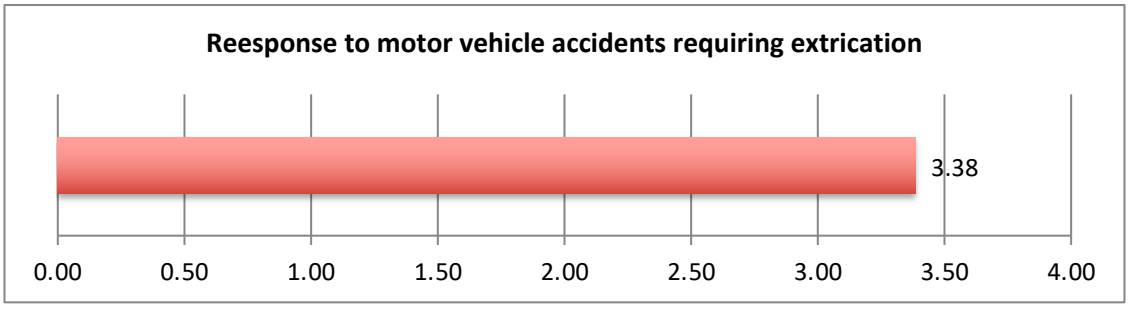
(vii) Attitude Toward Change

The ranking of 2.9 indicates that the FF's are close to neutral on attitude towards change and the RVCL Emergency Services has room to grow in terms of policies, procedures and progressive thinking.

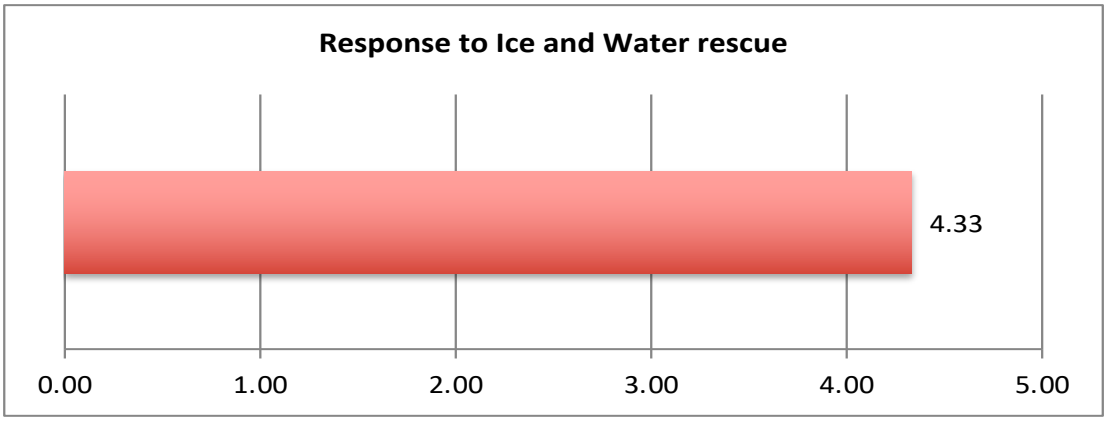
10.5 Internal Service Level Satisfaction

This questionnaire identified common service levels provided by a fire department and Medical First Responders to a community. Although, most of the questions are related to delivery of fire services, the RVCL Medical First Responders were asked to participate in the process so an analysis of internal stakeholders could be completed. There were 14 services identified and ranked as described below.

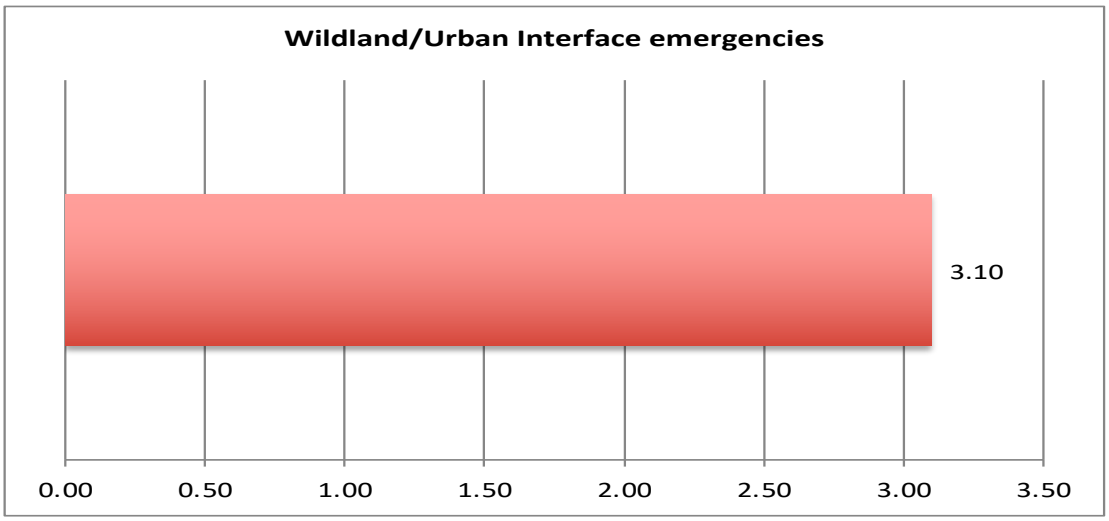
1 Extremely Satisfied
2 Very Satisfied
3 Moderately Satisfied
4 Slightly Satisfied
5 Not Satisfied



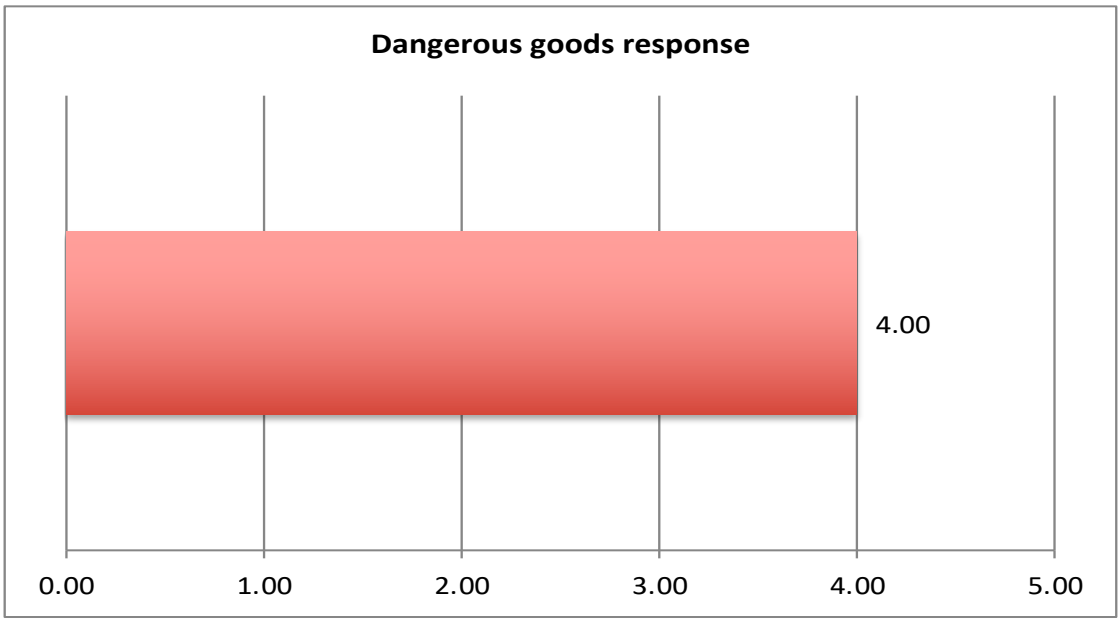
- Members are moderately satisfied with the response to motor vehicle accidents requiring extrication.



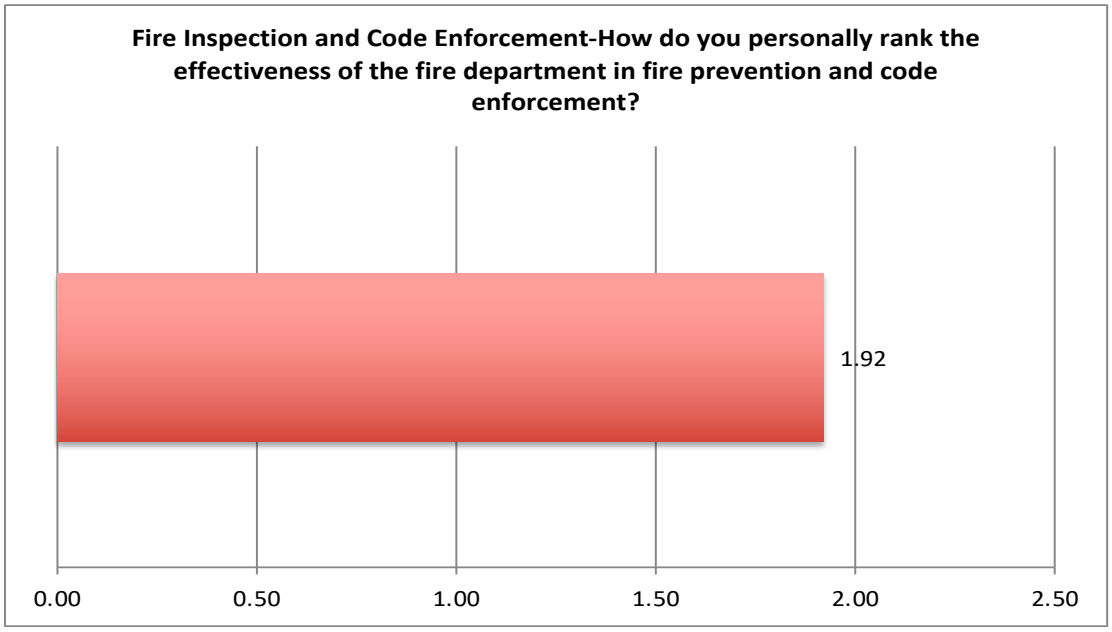
- Ice and water rescue is not a service identified in the Fire & First Responder bylaw and the ranking identifies that RVCL Emergency Services members are slightly satisfied with this status.



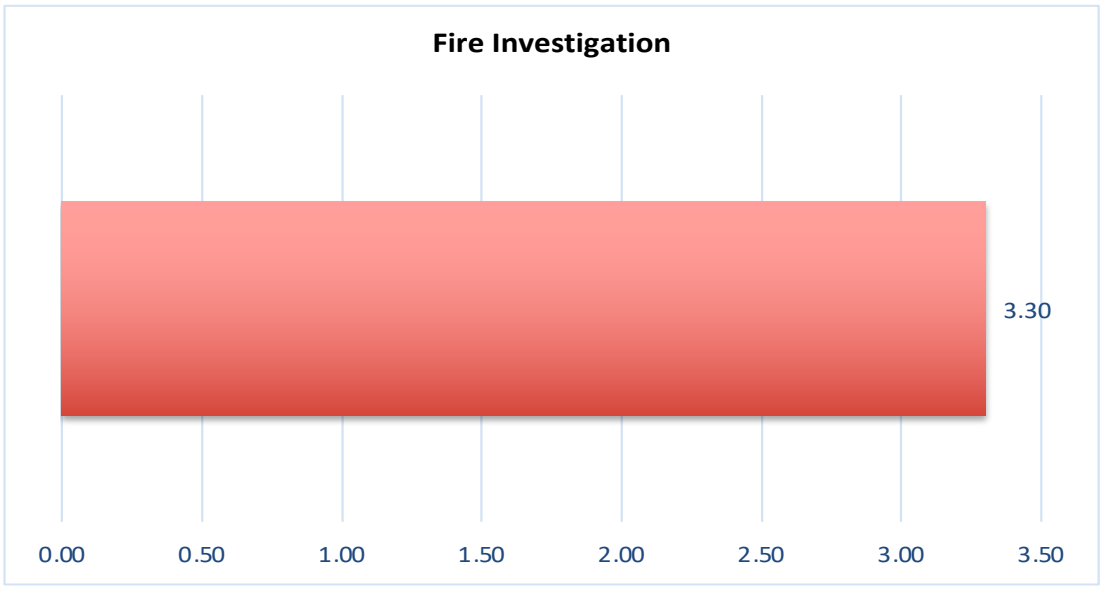
- The ranking of 3. 1 indicates that members are moderately satisfied with the present Wildland/Urban Interface services.



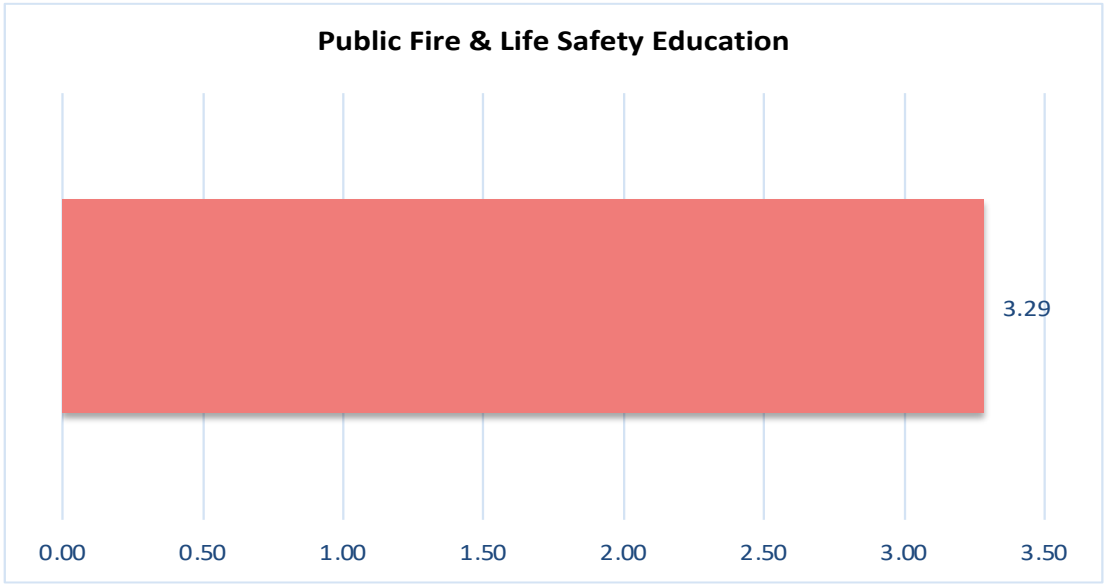
- The ranking of 4.0 indicates that members are slightly satisfied with the effectiveness in response to dangerous goods incidents.



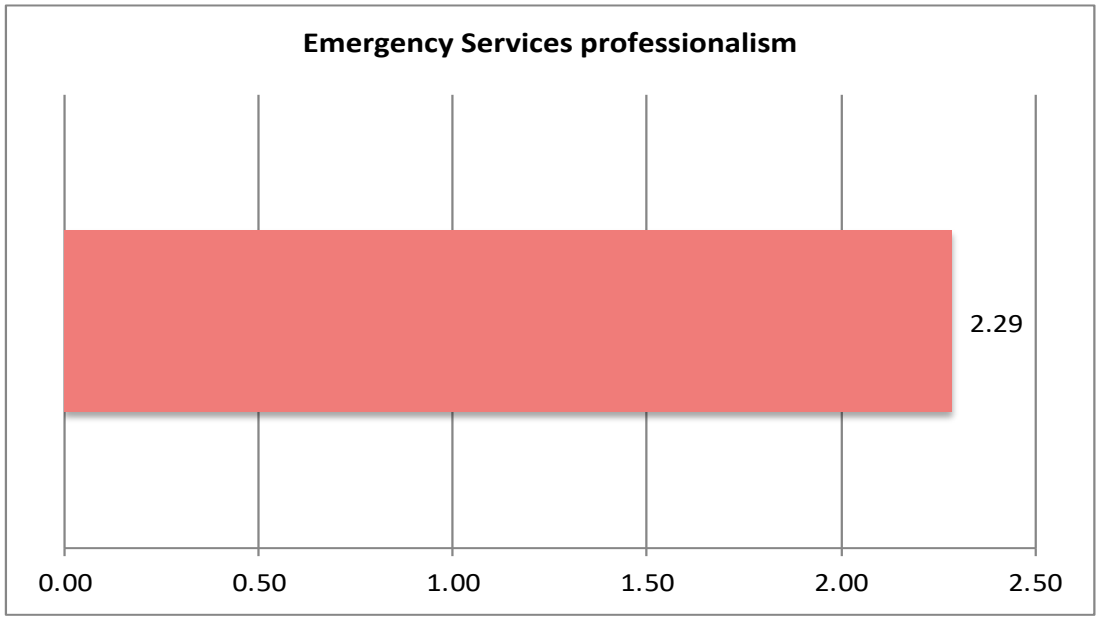
- The RVCL utilizes the services of a third party to conduct fire inspections and the survey indicates that members are very satisfied with this.



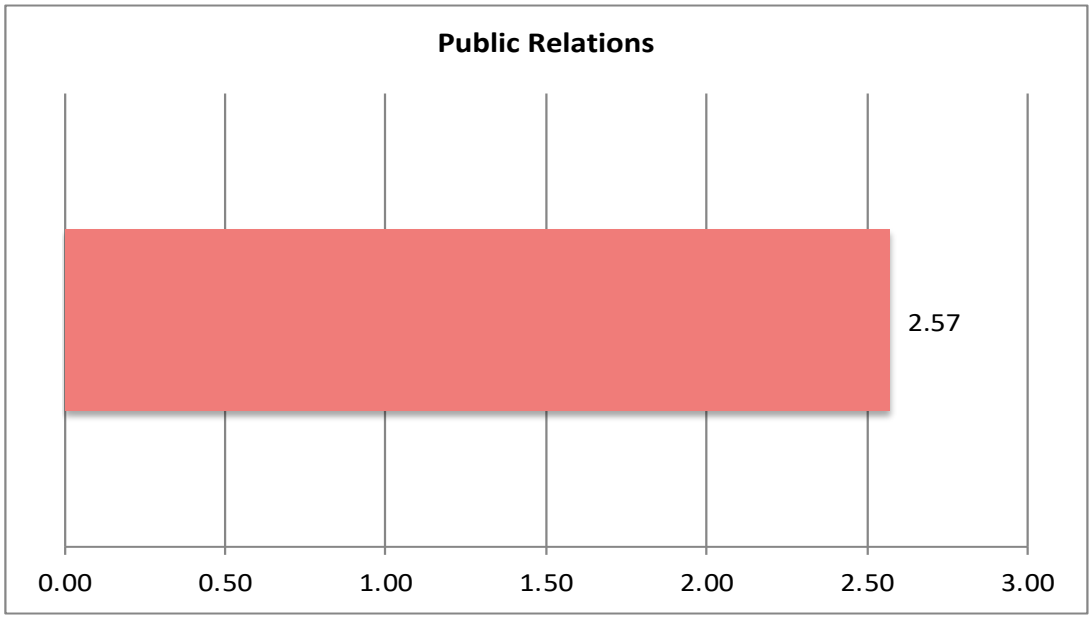
- Members are moderately satisfied with the existing fire investigations provided by the CLFD.



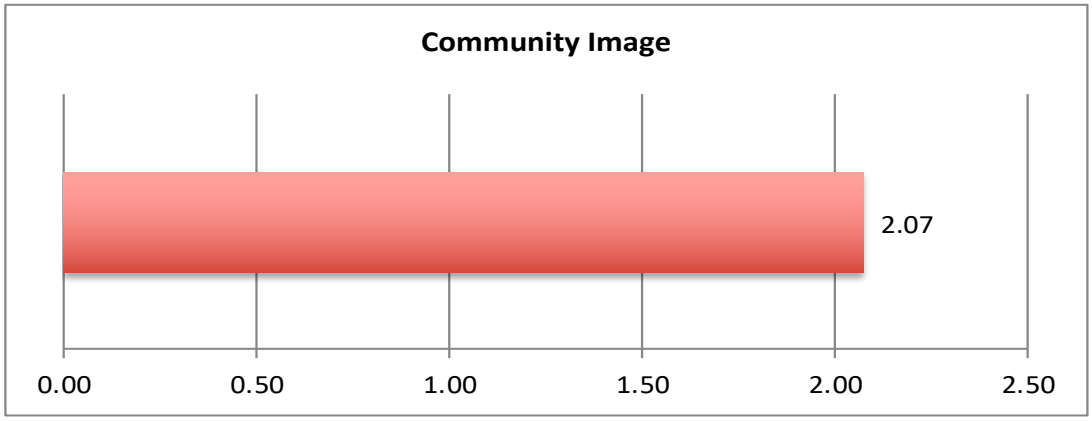
- Members are moderately satisfied with the existing public fire & life safety education.



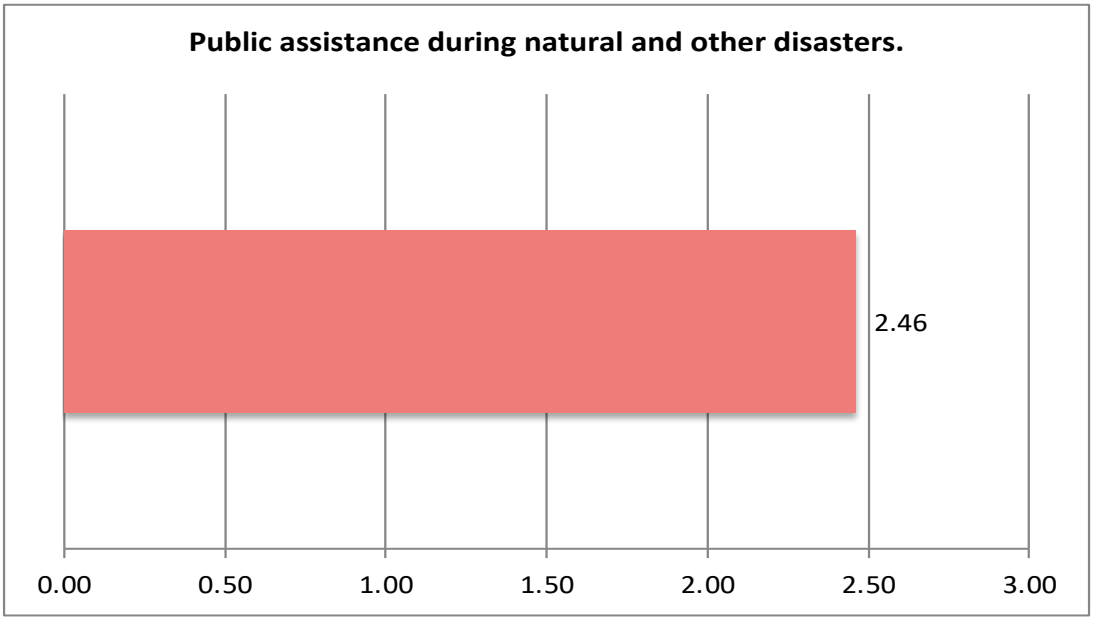
- Members are very satisfied with the professionalism within the RVCL Emergency Services.



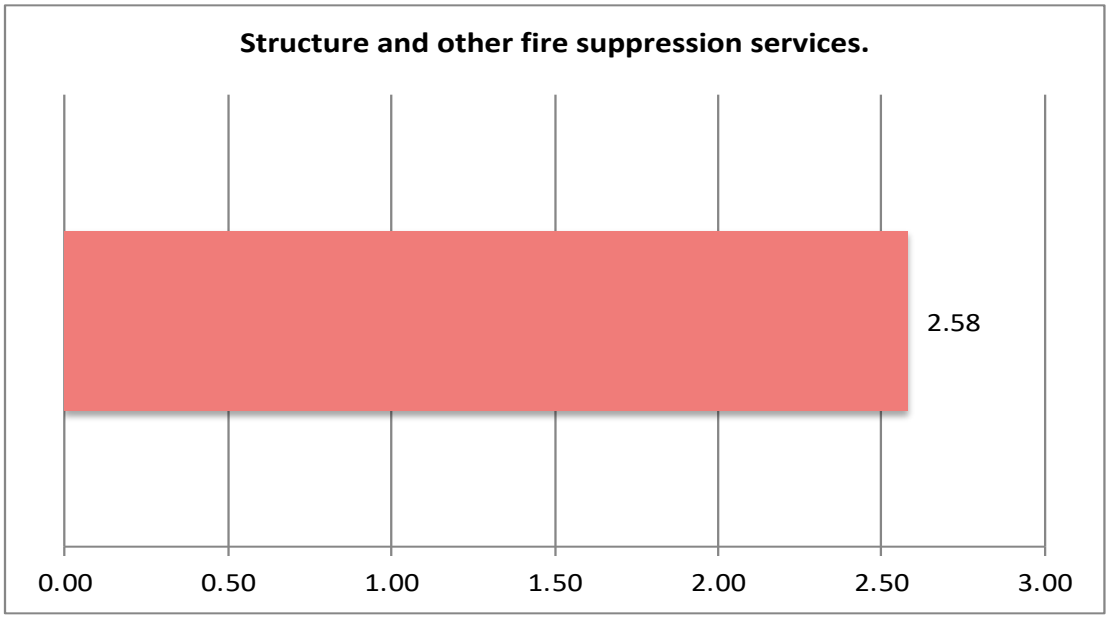
- Members are very satisfied to moderately satisfied with the public relations of the RVCL Emergency Services.



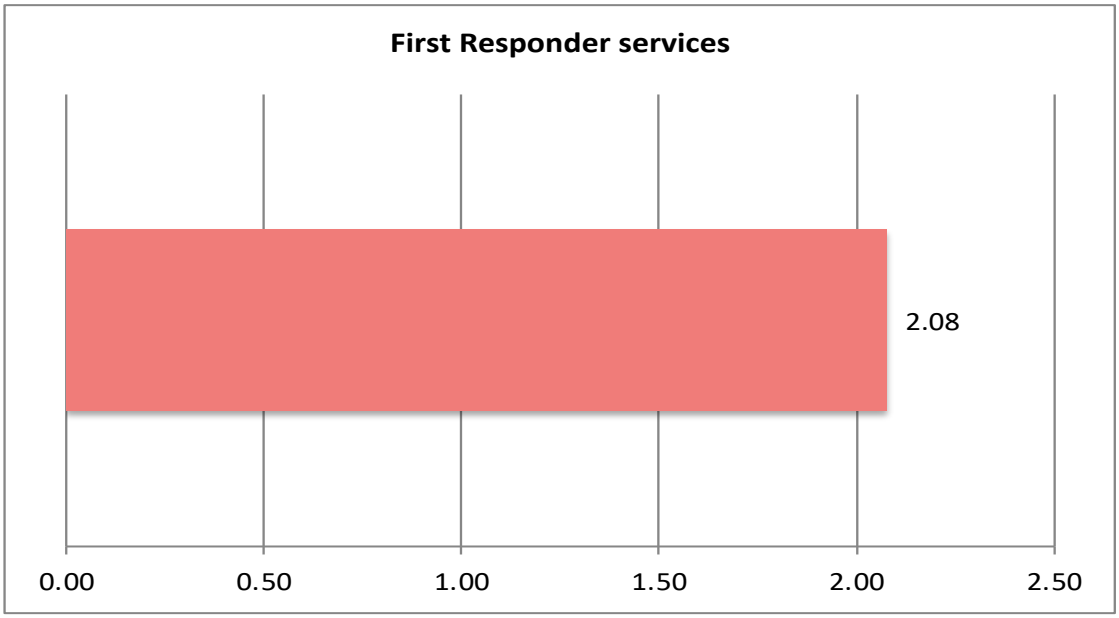
- Members are very satisfied with the community image of the RVCL Emergency Services.



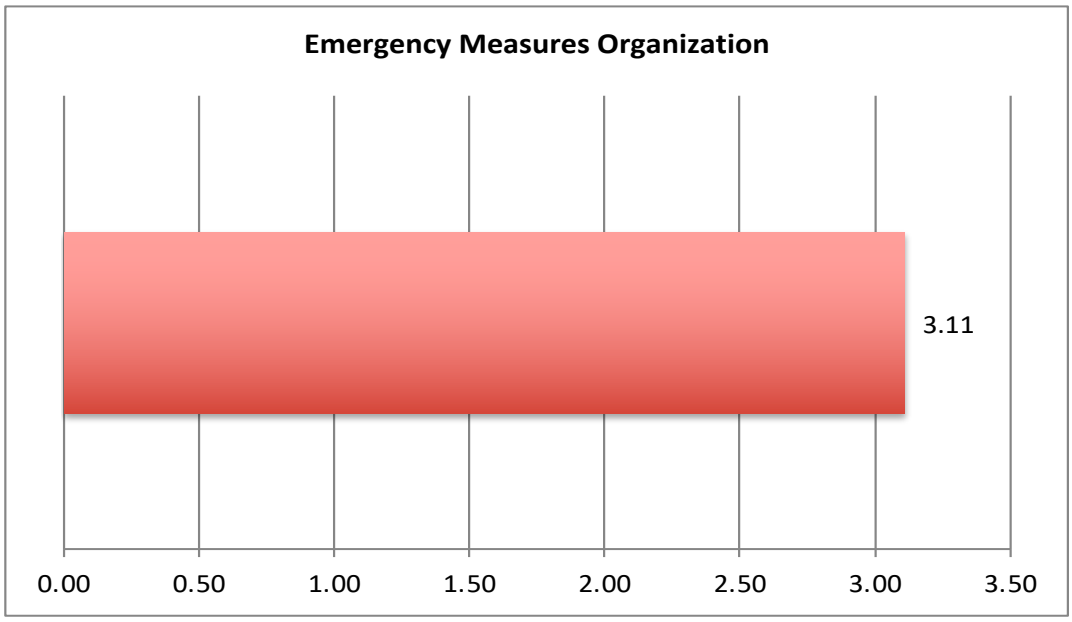
- Members are very satisfied to moderately satisfied with the effectiveness of the RVCL Emergency Services to deliver public assistance during natural and other disasters.



- Members are very satisfied to moderately satisfied on the delivery of structure and other fire suppression services.



- Members are very satisfied with the delivery of Medical First Responders services in response to medical emergencies.



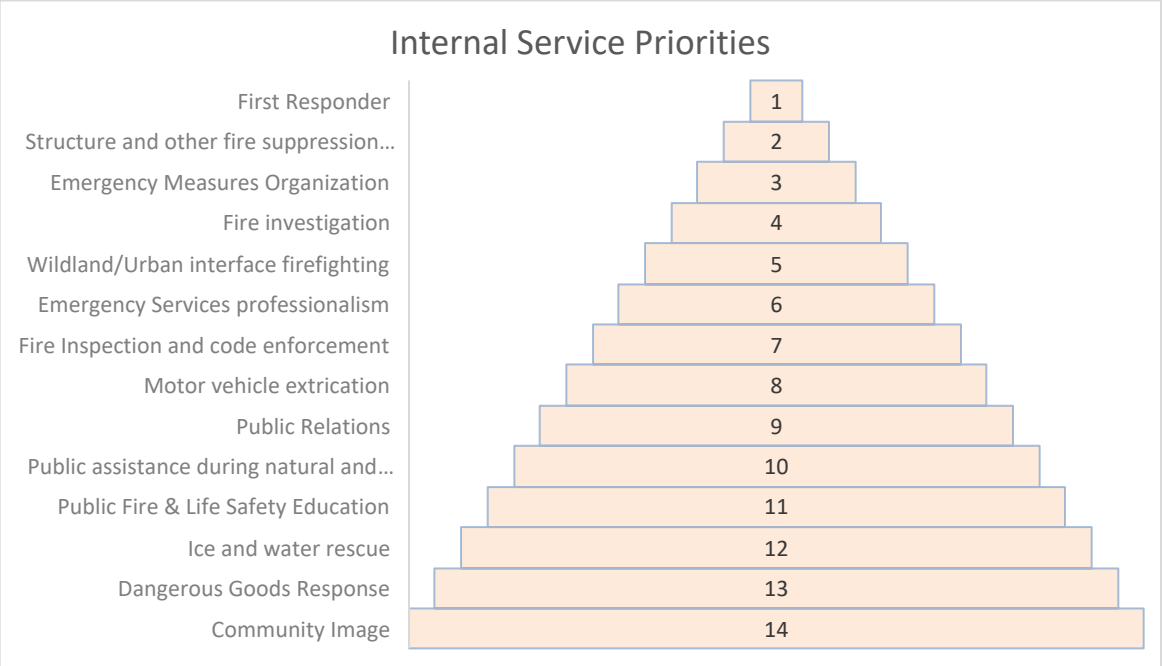
- Members are moderately satisfied with the effectiveness of Emergency Measures Organization.

10.6 Overall Survey & Questionnaire Analysis

The SWOT and SOAR analysis, organizational diagnosis questionnaire, and surveys were tools that helped paint a picture and snapshot in time regarding the Emergency Services from the viewpoint of its members, administration and elected officials.

10.7 Internal Service Priorities

Members of the RVCL Emergency Services were asked to complete a questionnaire where they were required to rank 14 service levels according to their priority.



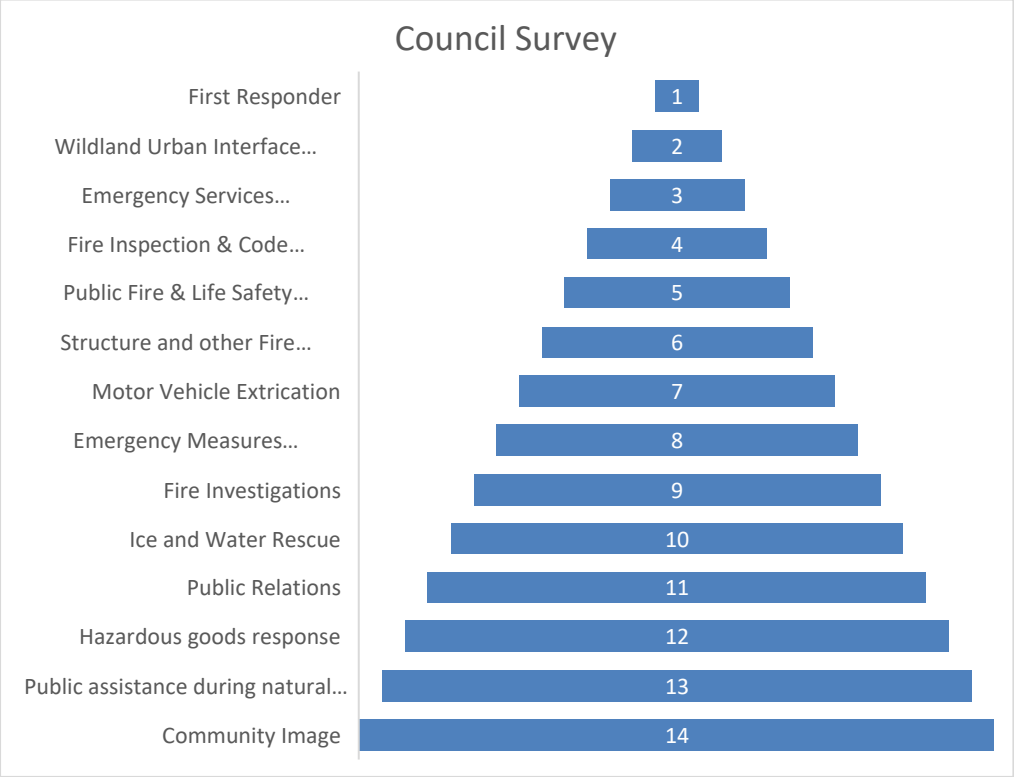
The intent of the internal prioritization process is to get insight of how the internal stakeholders view service priorities for the RVCL Emergency Services. The top six priorities from internal stakeholders are:

1) First Responder
2) Structure and other fire suppression services
3) Emergency Measures Organization
4) Fire Investigation
5) Wildland Urban interface firefighting
6) Emergency Services professionalism

10.8 Council Survey

The Council survey included questions that ranged from feedback on fire department facilities, strengths, weaknesses, opportunities and threats to the LRRFRS and what factors can be seen

as impacting the fire department and Emergency Services in the next 5-years. The survey also identified the top 6 issues based upon service priorities, as well as what they felt were the top three issues facing the Emergency Services.



The top six priorities from Council are:

1) First Responder
2) Wildland Urban Interface firefighting
3) Emergency Services professionalism
4) Fire Inspection and Code Enforcement
5) Public Fire and Life Safety Education
6) Structure and other fire suppression services

As noted from the surveys to internal stakeholders and Council, the following four priorities are common for both parties:

- First Responder

- Wildland Urban Interface firefighting
- Emergency Services professionalism
- Structure and other fire suppression services

The surveys are not an in-depth analysis on priorities, but they do provide a snapshot of how the internal and external stakeholders view the RVCL Emergency Services. Further to this, Council was asked to provide their thoughts on what they believed to be the top 3-issues facing the Emergency Services. The three issues identified below are not in order of rank, as they all ranked as the top priority.

1) Recruitment and Retention.
2) Budget
3) Community Growth

To goal of the surveys was to identify obvious gaps in the service levels and the expectations of internal and external stakeholders. Based upon the results, it is observable that the internal and external stakeholders have similar beliefs.

Section 11

Conclusion

Section 11: Conclusion

The RVCL has an opportunity to plan, implement, monitor and evaluate the efficiency and effectiveness of the RVCL Emergency Services. By adopting the recommendations in this Master Plan, the RVCL Emergency Services can increase their performance and delivery of services to the public. Successfully implementing the recommendations will take time and leadership from both Council and members of the RVCL Emergency Services.

Section 12

Appendices

Section 12: Appendices

Appendix A: SWOT/SOAR Analysis

The Strengths, Weaknesses, Opportunities, Threats (SWOT) and Strengths, Opportunities, Aspirations, Results (SOAR) analysis were combined and conducted through a face-to-face consultation with emergency services personnel on October 1st. The strengths and weaknesses of the SWOT identify internally what is currently working well and what areas need improvement. The Opportunities from the SWOT and SOAR analysis focus on the external and the present. Planning is about the future and the aspirations and results from the SOAR analysis identify what members believe are ways to move the emergency services forward into the future.

Below is a summarization of key points.

Strengths

- Medical First Responders-Cohesive team
- Medical First Responders-Equipment excellent, ambulance, kits, LUCAS
- Medical First Responders-Diverse team
- Medical First Responders-training (Parkland Ambulance)
- Medical First Responders-HeyTell app on phone
- Fire Dept-Knowledgeable core
- Fire Dept-Training IFSTA defensive is goal-open to new ideas
- Fire Dept-attendance from firefighters for structure fires
- Fire Dept-Teamwork
- Fire Dept-Diverse background
- Fire Dept-Demographics (fire dept is improving)
- Fire Dept-Good engagement with public for public events, parades, fireworks, etc.
- Fire Dept-Extrication equipment is good for a department this size
- 2 Tankers
- 1 Pumper

Weaknesses

- Wildland Urban Interface
- SMART program engagement
- SCBA-older models, no bench testing, no hydrostatic testing, different models of BA, 6 BA, 22 Cylinders
- Water supply -Fire Hall and golf course
- Extrication tools are old
- PPE
- Lack of capital budget reserve
- No capital replacement plan
- Insurance for FF services
- Communications internal re portable radios
- Geographic location of Candle Lake
- No public education
- No fire inspections
- No preplans
- Trailers (RV parks most per capita in Canada)
- Unofficial bunk houses (life safety concern)
- Enforcement of property numbering
- Response SOG
- No washing machine or PPE dryer

Opportunities

- SGI extrication program and funding
- Grants re Firehall from feds in 2023?
- Exploring external private partnerships
- SHA-access to training
- Improvement in Ops ie SOGs, PPE, RMS
- Wildland FF
- Increase in recruitment FR and FFs
- More Pub Ed
- Political education-finance, understanding, future planning

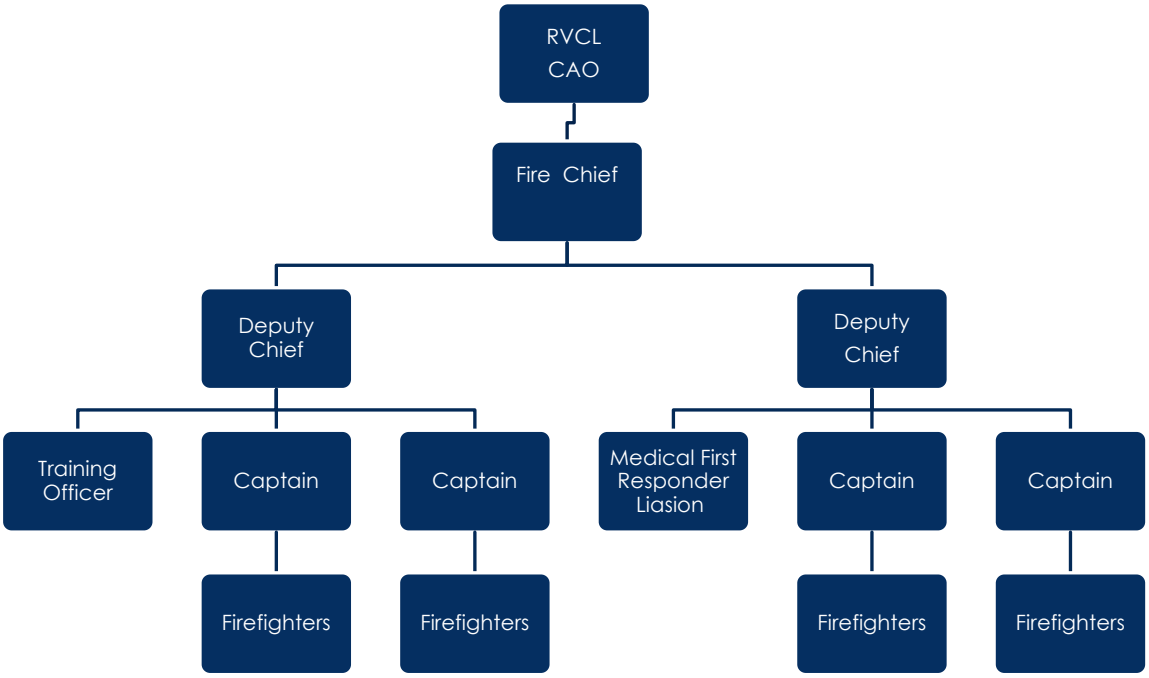
Aspirations/Results

- Rescue, Haz Mat-Awareness to Ops
- Transportation Rescue Extrication (TREX) program through SGI and Saskatchewan Public Safety Agency
- Confined space-awareness-ops
- Rope-awareness
- Structural collapse-awareness or up to ops light rescue
- Water rescue-awareness
- Equipment enhancement
- Training
- Buy-in from FF
- Village Council support
- Fire Hall replacement
- Wildland Urban Interface truck
- Fire & EMS cross training
- Record Management System
- Part time fire chief
- More operational support for fire dept
- Trailer for the Snowbulance

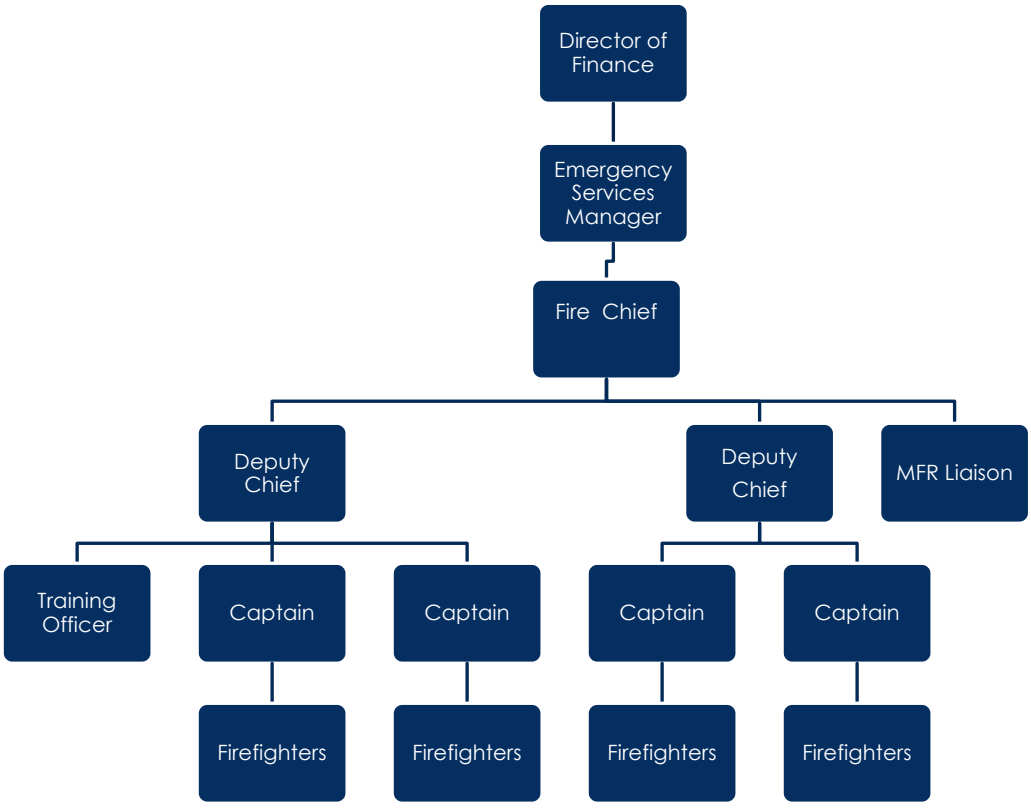
Threats

- Finances (political level support)
- Geographical challenges in the community
- Population variance-time of year and tourism
- Equipment costs
- Demographics with Firefighters and Medical First Responders
- Recruitment
- Master Plan recommendations
- Growing community
- Medical First Responder safety at incidents (response time for RCMP)

Appendix-B Proposed Emergency Services Organizational Chart Option 1



Appendix-B Proposed Emergency Services Organizational Chart Option 2



Appendix-C: NFPA Resources

- NFPA 1001 Standard for Fire Fighter Professional Qualifications, 2019
- NFPA 1006 Standard for Technical Rescue Personnel Professional Qualifications, 2017
- NFPA 1021 Standard for Fire Officer Professional Qualifications, 2020
- NFPA 1031 Standard for Professional Qualifications for Fire Inspector and Plan Examiner, 2014
- NFPA 1033 Standard for Professional Qualifications for Fire Investigator, 2014
- NFPA 1041 Standard for Fire and Emergency Services Instructor Professional Qualifications, 2019
- NFPA 1201 Standard for Providing Fire and Emergency Services to the Public, 2020
- NFPA 1221 Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems, 2019
- NFPA 1300 Standard on Community Risk Assessment and Community Risk Reduction Plan Development, 2020
- NFPA 1061 Standard for Public Safety Telecommunications Personnel Professional Qualifications, 2018
- NFPA 1071 Standard for Emergency Vehicle Technician Professional Qualifications, 2016
- NFPA 1402 Standards on Facilities for Fire Training and Associated Props, 2019
- NFPA 1404 Standard for Fire Service Respiratory Protection Training, 2018
- NFPA 1407 Standard for Training Fire Service Rapid Intervention Crews, 2020

- NFPA 1408 Standard for Training Fire Service Personnel in the Operation, Care, Use and Maintenance of Thermal Imagers, 2015
- NFPA 1410 Standard on Training for Emergency Scene Operations, 2020
- NFPA 1500 Standard on Fire Department Occupational Safety, Health and Wellness Program, 2018
- NFPA 1521 Standard for Fire Department Safety Officer Professional Qualifications, 2020
- NFPA 1582 Standard on Comprehensive Occupation Medical Program for Fire Departments, 2013
- NFPA 1584 Standard on the Rehabilitation Process for Members During Emergency Operations and Training Exercises, 2015
- NFPA 1620 Standard for Pre-Incident Planning, 2020
- NFPA 1710 Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments, 2020
- NFPA 1730 Standard on Organization and Deployment of Fire Prevention Inspection and Code Enforcement, Plan Review, Investigation, and Public Education Operations, 2019
- NFPA 1851 Standard on Selection, Care and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting, 2014
- NFPA 1901 Standard for Automotive Fire Apparatus, 2016
- NFPA 1914 Standard for Testing Fire Department Aerial Devices, 2002
- NFPA 1961 Standard on Fire Hose, 2020
- NFPA 1971 Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting, 2018

Appendix-D: Fire Apparatus

The NPFA standards mandate that a fire truck be designed with specific components, features and must carry specific equipment. The information and pictures in this appendix are a summarization from Pierce manufacturing.[29]

Type 1 Fire Engine

A structural firefighting truck that is designed for urban, rural and suburban departments because they carry all of the required NFPA firefighting equipment. This truck must have a minimum tank size of 300 gallons, and provide a minimum of 1000 Gallons Per Minute (GPM) of water transfer. A Type 1 fire truck are designed to carry 3 to 4 manufacturers.

[29] https://www.piercemfg.com/pierce/blog/types-of-fire-trucks download November 12, 2022

Type 2 Fire Engine

Type 2 fire truck carries similar equipment of the Type 1 and are often found in urban and suburban applications performing rescue response. A smaller wheel base and a smaller tank, but it still carriers 3-4 firefighters and has Self Contained Breathing Apparatus, and firefighting equipment.

Type 3 Fire Engine

The Type 3 fire truck is often referred to as a wildland truck. It has several unique design features to match the terrain it services. Commonly built on a commercial 4x4 chassis and can be used as a wildland urban interface vehicle. The Type 3 fire truck is designed to be maneuverable with the ability to manage off road terrain.

This truck must have a minimum of a 500-gallon tank and capable of pumping 150 gallons per minute at a pressure of 250 psi. The Type 3 truck can also be equipped with a power take off (PTO) with allows the truck to pump and roll while fighting the fire.

Type 4 Fire Engine

The Type 4 fire trucks must have a 750-gallon tank and be able to carry 2 firefighters. Due to the larger tank, the Type 4 truck carries less fire hose than the Type 3 fire truck. It was provide 50 GPM of water transfer at a pressure of 100 psi.

Type 5-7 Fire Engine

The Type 5, Type 6 and Type 7 are similar in design with the key difference being their Gross Vehicle Weight Rating (GVWR). These vehicles are built upon a medium duty chassis, often come with 4x4 features and a water tank and pump to provide suppression efforts prior to arrival of larger apparatus. This truck typically carry a 300-gallon tank with the ability to pump 50 gallons per minute.

Type 1 with Type 3 Off Road Capabilities

All manufacturers provide Type 1 and Type 3 fire trucks that meet the NFPA requirements for a Type 1 structural pumper and provide Type 3 off road capabilities. The Timberwolf below is an example of this type of fire truck that is built by Rosenbauer.[30]

This truck has a 1000-gallon tank with a pumping capacity of 1250 gallons per minute. It has off road capabilities, can carry four firefighters and has a smaller wheel base than the Type 1 fire truck.

[30] https://www.rosenbaueramerica.com/fire-trucks/pumpers/timberwolf/ downloaded November 12, 2022