



PEACE RIVER REGIONAL DISTRICT



Submission to

Peace River Regional District

**Facility Condition Assessment Report
Charlie Lake Fire Hall**

Version: Final

November 18, 2021

Prepared by:
FCAPX a Division of Roth IAMS
Project No. 21075
www.fcapx.com

FCAPX



A Division of Roth IAMS

Collaborating to Provide Asset Data You Can Trust

Executive Summary

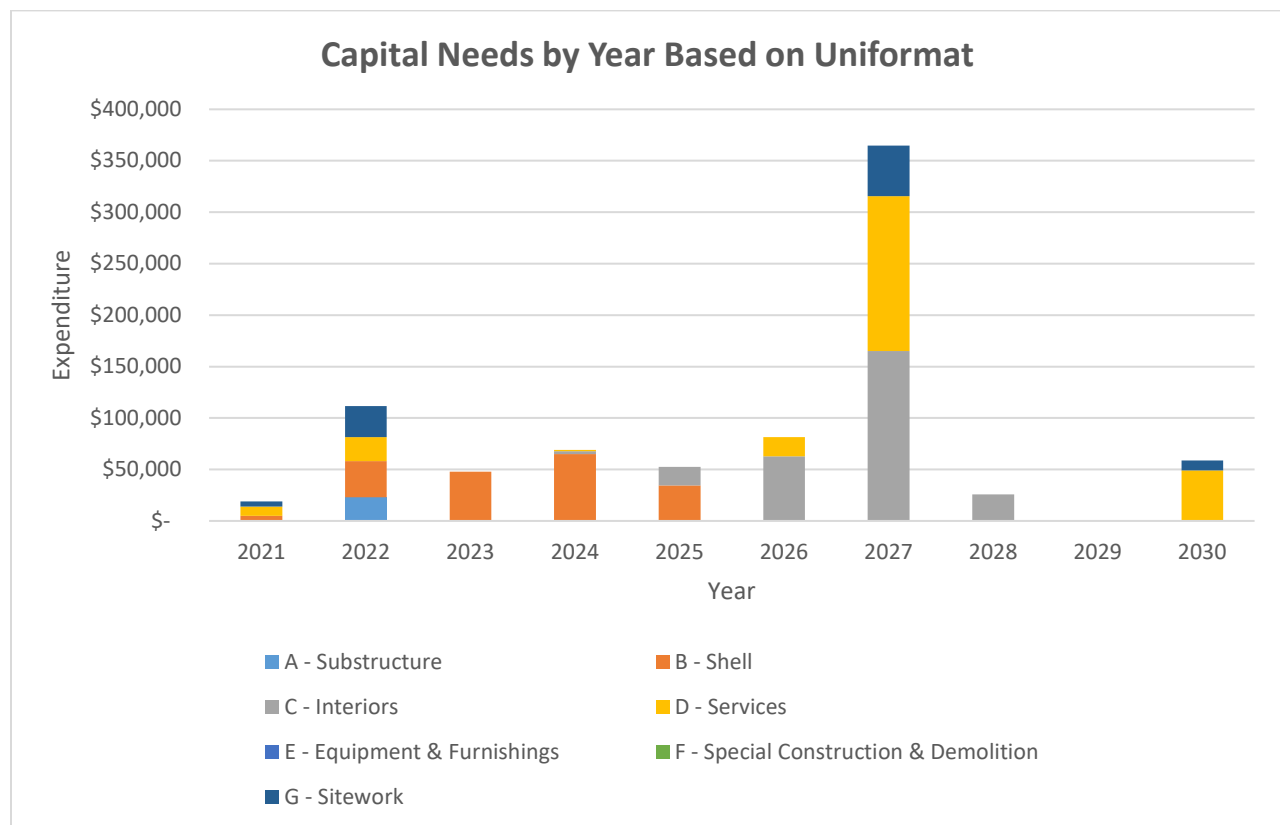
FCAPX a division of Roth IAMS Ltd. (FCAPX) was retained by the Peace River Regional District (PRRD) to conduct a Facility Condition Assessment (FCA) of the Charlie Lake Fire Hall, BC. The objective of the FCA was to identify, based on current observed conditions, deficiencies, and potential lifecycle replacements in the next 30 years.

Facility Summary

Charlie Lake Fire Hall is located at Firehall Road in Charlie Lake, BC. This facility is a two-storey structure without a basement, constructed in 1977. An addition was constructed in 1987. The total gross floor area is estimated to be about 624 SM in size. The building was assessed on June 17, 2021.

Findings

An analysis of the capital needs by building systems over the next 10 years was created for the building to visually view the replacement/repair forecast.



Collaborating to Provide Asset Data You Can Trust

The FCA identified repairs and replacements that are anticipated over the next 30 years. The table below summarizes the total capital expenditures (in current year dollars) for the repairs and replacements that are anticipated over the course of the 30-year evaluation period.

Unifomat Division	Immediate 2021	Short Term 2022-2026	Mid Term 2027-2031	Long Term 2032-2050	Totals
A-Substructure	\$ -	\$ 23,000	\$ -	\$ -	\$ 23,000
B- Shell	\$ 5,000	\$ 182,605	\$ -	\$ 335,145	\$ 522,750
C – Interiors	\$ -	\$ 83,305	\$ 190,855	\$ 277,221	\$ 551,381
D – Services	\$ 8,822	\$ 43,335	\$ 199,508	\$ 561,850	\$ 813,515
E – Equipment & Furnishings	\$ -	\$ -	\$ -	\$ 70,013	\$ 70,013
F – Special Construction	\$ -	\$ -	\$ -	\$ -	\$ -
G – Building Sitework	\$ 5,000	\$ 30,000	\$ 58,661	\$ 404,206	\$ 497,867
Totals	\$ 18,822	\$ 362,245	\$ 449,024	\$ 1,648,435	\$ 2,478,525

¹Costs shown above do not include soft costs (engineering design, review, etc.). See section 3.6 for further information.

Collaborating to Provide Asset Data You Can Trust

Table of Contents

1	Introduction	1
1.1	Facility	1
1.2	Site Review	1
1.3	Owner Supplied Material	1
1.4	Facility Summary.....	1
2	Scope of Work.....	2
2.1	Deviations from the Guide.....	4
2.2	Limiting Conditions.....	5
3	Definitions	6
3.1	Evaluation Period	6
3.2	Opinions of Probable Costs.....	6
3.3	Asset Life Expectancy	7
3.4	Recommendation Type	7
3.5	Condition Ratings and Site Observations.....	7
3.6	Factors	8
4	Facility Condition Assessment	9
4.1	Facility Condition Index	9
5	Reserve Fund Analysis	10
6	Site Plan.....	11
7	Preventative Maintenance Plan.....	11
8	Closure.....	11

APPENDIX

Appendix A – Facility Condition Assessment Findings

Appendix B – 30-Year Capital Plan Summary

Appendix C – Reserve Fund Analysis

Appendix D – Site Plan

Appendix E – Preventative Maintenance Plan

Collaborating to Provide Asset Data You Can Trust

1 INTRODUCTION

FCAPX a division of Roth IAMS Ltd. (FCAPX) was retained by the Peace River Regional District (PRRD) to conduct a Facility Condition Assessment (FCA) of the Charlie Lake Fire Hall in Charlie Lake, BC (herein referred to as the “Facility, “Site” or “Property”). We understand the purpose of this report is to assist with the long-term capital planning for the facility. This report summarizes the findings of the FCA for the property.

1.1 FACILITY

Information on the evaluated facility is provided below:

Building Name	Charlie Lake Fire Hall
Address	Firehall Road, Charlie Lake, BC
Estimated Building Floor Area (sq.m.)	624
Number of Storeys	2
Date of Construction	1977 and 1987

1.2 SITE REVIEW

A site visit was performed on June 17, 2021 by the following FCAPX personnel:

- Inder Grewal, Facility Assessor

1.3 OWNER SUPPLIED MATERIAL

In this report, reference is made to the “reported” condition of particular systems and/or components. The reported condition pertains to information provided by the building’s operations and maintenance personnel and/or tenants. In some cases, this information was gathered through either an onsite interview process or a formal off-site interview process.

- No Documents were available for review.

1.4 FACILITY SUMMARY

1.4.1 Structural and Architectural Summary

The building was constructed circa 1977 and has a reported gross floor area of approximately 292 SM (3,145 SF) with a two-storey addition in 1987 and a reported gross floor area of approximately 332 SM (3,570 SF). The building occupancy includes offices, kitchen, washrooms, and an apparatus bay.

The building's foundations appear to be cast-in-place concrete foundation walls and strip footings with a concrete slab-on-grade floor structure. The building appears to be a wood-frame with a wood roof structure. The building is clad with vinyl siding. The flat roof appears to be covered with modified bitumen roofing assembly. Exterior doors are

Collaborating to Provide Asset Data You Can Trust

painted, insulated hollow metal. Exterior windows appear to be operable, aluminum-framed units. Motorized sectional metal overhead doors are installed in the apparatus bays. Interior wall partitions appear to be gypsum wallboard. Interior doors are painted hollow-core wood. The second floor is provided with kitchen cabinets. The washroom is provided with typical fixtures. Flooring throughout the apparatus bay is painted concrete, while the washroom has ceramic floor tile. Ceilings are provided with a paint covering and second floor is suspended acoustic ceiling. The overall architectural systems are in good condition.

1.4.2 Plumbing and Mechanical Systems Summary

The facility is provided with a domestic water distribution system. The washroom plumbing fixtures include floor mounted water closets, countertop mounted lavatories and shower assemblies. Domestic hot water is provided by a gas fired domestic water heater installed in the boiler room. Ventilation for the apparatus bay is provided by vehicle exhaust system with ducting, controls, hose reels and flexible hoses. Heating is provided by fin tube radiation units on the second floor and radiant floor heating in the apparatus bay. The building uses electric controls as a method of control for HVAC systems. The overall mechanical systems are in good condition.

1.4.3 Electrical Systems Summary

The building is supplied with 120/208V power that is stepped down via utility owned pole mounted transformer. The facility is provided with a main electrical disconnect rated at 200 amps (A), 120/208 volts (V). Interior lighting fixtures, which are a combination of Linear LED light fixtures in the apparatus bay and linear T-8 fixtures on the second floor. There are LED wall pack fixtures installed along the building perimeter. The other electrical components include a fire alarm system, data systems, and an intrusion alarm. Exit signs are strategically located throughout the building to mark the path of emergency egress. The emergency power generator system includes a gas fired generator located on the north/east elevation. The overall electrical systems are in good condition.

1.4.4 Site Feature Systems Executive Summary

The site elements include an asphalt and concrete paved driveway, and a chain-link fence. The underground water supply line is provided from the municipality water supply to the storage room. The underground sanitary sewer line is provided from the storage room to the municipality sewer system. The underground electrical service is provided underground from the utility to the building electrical service equipment. The overall site systems are in good condition.

2 SCOPE OF WORK

The FCA carried out by FCAPX is generally based on the ASTM Standard Guide for Property Condition Assessments: Baseline Property Condition Assessment Process (E2018-15) and consisted of the following:

Page No: 2

Project No. 21075

© Copyright 2021 FCAPX a Division of Roth IAMS Ltd.- All rights reserved

Collaborating to Provide Asset Data You Can Trust

- Background Information Request and Review;
- Interview(s) with Knowledgeable Site Staff;
- Walk-through Site Assessment Visit;
- Summary of Opinions of Probable Costs to remedy observed physical deficiencies;
- Summary of Opinions of Probable Costs to replace components which will exceed their expected useful life (EUL) over the evaluation period; and
- Preparation of an FCA Report, including salient findings and supporting photographs.

The ASTM defines a physical deficiency as a conspicuous defect or significant deferred maintenance of a site's material systems, components, or equipment as observed during the site assessor's walk-through site visit. Included within this definition are material systems, components, or equipment that are approaching, have reached, or have exceeded their typical expected useful life (EUL) or whose remaining useful life (RUL) should not be relied upon in view of actual or effective age, abuse, excessive wear and tear, exposure to the elements, lack of proper or routine maintenance, etc. This definition specifically excludes deficiencies that may be remedied with routine maintenance, miscellaneous minor repairs, normal operating maintenance, etc., and excludes conditions that generally do not constitute a material physical deficiency of the site.

The review of the Site was based on a visual walk-through review of the visible and accessible components of the property, building and related structures. The roof surface, interior and exterior wall finishes, and floor and ceiling finishes of the on-site building and related structures were visually assessed to determine their condition and to identify physical deficiencies, where observed. The assessment did not include an intrusive investigation of wall assemblies, ceiling cavities, or any other enclosures/assemblies. No physical tests were conducted, and no samples of building materials were collected to substantiate observations made, or for any other reason.

The review of the mechanical systems, electrical systems, and fire & life safety systems at the property included discussions with the site representative and review of pertinent maintenance records that were made available. A visual walk-through assessment of the mechanical systems, electrical systems, and fire & life safety systems was conducted to determine the type of systems present, age, and aesthetic condition, with considerations of the reported performance. No physical tests were conducted on these systems.

A detailed evaluation of the property development's compliance with applicable national and/or provincial Building Codes and/or Fire Codes is not part of the scope of this assessment. It is assumed that the existing buildings and related structures were reviewed and approved by local authorities at the time of construction. However,

Collaborating to Provide Asset Data You Can Trust

applicable codes may be referenced by FCAPX, at their discretion, to identify deficiencies and appropriate recommendations.

Replacement and repair costs are based on unit rates published by Means Publishing and/or Marshall & Swift Valuation Service, combined with local experience gained by FCAPX. The quantities associated with each item have been estimated during a walk-through site assessment and do not represent exact measurements or quantities. At the time of replacement, specific "scope of work" statements and quotations should be determined, and the budgetary items revised to reflect actual expenditures. Not included are items that would be addressed as routine maintenance. However, the capital costs may include items, which are currently managed under the Operations and Maintenance budget for the site.

Opinions of probable costs for deficiencies that are individually less than the established threshold amount are generally not included in the FCA cost tables. The exception are deficiency costs relating to life, safety or accessibility, these may be included regardless of this cost threshold.

2.1 DEVIATIONS FROM THE GUIDE

The major deviations from ASTM E2018-15 for this project that was not included are as follows:

- A review of municipal/public records for zoning;
- A comprehensive building and/or fire & life safety code/regulatory review for compliance. It is assumed that at the time of building construction/commission and/or subsequent renovation(s), a duty of care was undertaken to ensure the building and related structures were constructed in accordance with the current building and fire code, as well as reviewed and approved by the local authorities having jurisdiction;
- An assessment of the property's compliance with barrier-free accessibility requirements; and
- A review of municipal/regional records to determine if the property resides in a designated flood plain.

Furthermore, the FCA did not include a:

- Verification of the number of parking spaces;
- Verification of gross and net usable areas of the site building(s); and
- Review of as-built construction drawings for the building and site.

Collaborating to Provide Asset Data You Can Trust

2.2 LIMITING CONDITIONS

This report has been prepared for the exclusive and sole use of the Peace River Regional District (PRRD). The report may not be relied upon by any other person or entity without the express written consent of FCAPX and PRRD.

Any reliance on this report by a third party, any decisions that a third party makes based on this report, or any use at all of this report by a third party is the responsibility of such third parties. FCAPX accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made, or actions taken, based on this report.

The assessment of the building/site components was performed using methods and procedures that are consistent with standard commercial and customary practice as outlined in ASTM Standard E 2018-15 for facility condition assessments. As per this ASTM Standard, the assessment of the building/site components was based on a visual walk-through site visit, which captured the overall condition of the site at that specific point in time only.

No legal surveys, soil tests, environmental assessments, geotechnical assessments, detailed barrier-free compliance assessments, seismic assessments, detailed engineering calculations, or quantity surveying compilations have been made. No responsibility, therefore, is assumed concerning these matters. FCAPX did not design or construct the building(s) or related structures and therefore will not be held responsible for the impact of any design or construction defects, whether or not described in this report. No guarantee or warranty, expressed or implied, with respect to the property, building components, building systems, property systems, or any other physical aspect of the property is made.

The recommendations and our opinion of probable costs associated with these recommendations, as presented in this report, are based on walk-through non-invasive observations of the parts of the building which were readily accessible during our visual review. Conditions may exist that are not as per the general condition of the system being observed and reported in this report. Opinions of probable costs presented in this report are also based on information received during interviews with operations and maintenance staff. In certain instances, FCAPX has been required to assume that the information provided is accurate and cannot be held responsible for incorrect information received during the interview process. Should additional information become available with respect to the condition of the building and/or site elements, FCAPX requests that this information be brought to our attention so that we may reassess the conclusions presented herein.

The opinions of probable costs are intended for order of magnitude budgeting purposes only. The scope of work and the actual costs of the work recommended can only be determined after a detailed examination of the element/system in question, understanding of the site restrictions, understanding of the effects on the ongoing operations of the

Page No: 5

Project No. 21075

© Copyright 2021 FCAPX a Division of Roth IAMS Ltd. - All rights reserved

Collaborating to Provide Asset Data You Can Trust

site/building, definition of the construction schedule, and preparation of tender documents. We expressly waive any responsibilities for the effects of any action taken as a result of these endeavors unless we are specifically advised of prior to, and participate in the action, at which time, our responsibility will be negotiated.

Our opinions and recommendations presented in our reports will be rendered in accordance with generally accepted professional standards and are not to be construed as a warranty or guarantee regarding existing or future physical conditions at the Site or regarding compliance of Site systems/components and procedures/operations with the various regulating codes, standards, regulations, ordinances, etc.

3 DEFINITIONS

The following are definitions to aid in the understanding of the assessment.

3.1 EVALUATION PERIOD

For the purpose of this report, the opinions of probable cost to repair major defects in materials or systems that may significantly affect the value of the property or continued operation of the facilities, and to replace base building equipment/systems that have reached, or may reach their expected useful life, will be a thirty (30) year evaluation period.

3.2 OPINIONS OF PROBABLE COSTS

Opinions of probable costs for repair and/or replacement of components and/or additional investigation of the conditions identified in this report are based on the noted method of evaluation. These opinions are not construction costs and are for general budgeting purposes only since they are based on historical costing information and our experience with similar systems in other buildings. A detailed or exhaustive examination of quantities/costs of equipment, materials, or labour required for the remedial work has not been performed. Unless otherwise stated, engineering costs for remedial work have not been included in this report.

Cost estimates within the report are Class D (+/- 40%).

Only planned actions with a total cost over \$5,000 have been included in this report. Actions below this cost threshold are assumed to be handled under Operation and Maintenance budgets. Actions relating to life safety may be included in the report, regardless of cost.

As components are replaced they will need to meet current code requirements, therefore, additional costs may be required.

Collaborating to Provide Asset Data You Can Trust

3.3 ASSET LIFE EXPECTANCY

The facility systems observed during the assessment were broken down by their major assets and assigned an expected useful life (EUL). This value was used to determine the remaining useful life (RUL) of the asset. The values for EUL are based on information provided in manufacturer's literature, industry standards, our observations of the assets, and our experience with similar materials and systems in similar locales. Based on the asset's overall reported and/or observed physical condition an "Equivalent Age" was determined that represents the point within the asset's lifecycle based on the EUL. This was then used to determine the RUL.

The EUL of assets is a theoretical number, which is an estimate, that is a function of quality of materials used, manufacturing and installation, as well as frequency and intensity of service, the degree of maintenance afforded to the asset, and local weather conditions.

The realization of an asset's EUL does not necessarily constitutes its replacement. A detailed condition assessment or investigation is recommended as a prudent approach to confirm the component RUL and the need for either a repair (maintenance) or a refurbishment. Risk, including safety or the cost of damage to the facility and its use, was considered in estimating the RUL and the schedule for major repairs or replacements.

3.4 RECOMMENDATION TYPE

Recommendation types in this report indicate the action that is to take place based on the review of the component. The recommendation type categories are shown below.

- **Study:** Includes recommendations for further investigation into the condition or options for determining the appropriate repair/replacement action.
- **Major Repair:** Any component or system in which future major repair is anticipated but not replacement of the entire component.
- **Lifecycle Replacement:** Any component or system in which future full replacement is anticipated.

3.5 CONDITION RATINGS AND SITE OBSERVATIONS

ASTM defines "physical deficiencies" as "the presence of conspicuous defects or material deferred maintenance of a subject property's material systems, components, or equipment as observed during the field observer's walk-through survey. Included within this definition are material systems, assets, or equipment that is approaching, has reached, or has exceeded its typical expected useful life (EUL) or whose remaining useful life (RUL) should not be relied upon in view of actual or effective age, abuse, excessive wear and tear, lack of proper maintenance, etc. This specifically excludes deficiencies that may be remediated with routine maintenance or miscellaneous minor repairs and

Collaborating to Provide Asset Data You Can Trust

excludes conditions that generally do not constitute a material physical deficiency of the site.

The physical condition of major facility / site systems and assets is dependent on whether a physical deficiency is associated with that asset / system. The physical condition of assets / systems noted in this report have been rated as either “Critical”, “Poor”, “Fair”, “Good”, or “Excellent”. Definitions for these ratings are provided below.

- 1- EXCELLENT: The component is new and no immediate concerns are evident.
- 2- GOOD: No immediate concerns are evident. The components appear to meet all present requirements and to be adequately maintained. Replacement anticipated in 6 years or beyond.
- 3- FAIR: The medium level condition rating. Generally, components meet present requirements and have been adequately maintained. Some minor deficiencies may be noted. A repair or lifecycle replacement is anticipated within the evaluation period between 3-5 years.
- 4- POOR: The component is not able to meet current requirements and has significant deficiencies. Generally, components may have failed, may be at or near the end of their service life, or may exhibit evidence of deterioration or insufficient maintenance. Recommendations may include urgent repair, replacement or upgrades within 1-2 years.
- 5- CRITICAL: Generally, components may have failed resulting in a high risk of injury, health and safety concerns, or critical system failure. Recommendations for urgent repair, replacement or upgrades are anticipated within the year (<12 months).

3.6 FACTORS

Difficulty – used to adjust the unit costs of the component based on its size, construction, etc. compared to the standard criteria for that component.

Regional – used to adjust the component costs based on the building’s geographical location within the Province and Country. Regional factors were provided by PRRD.

Soft Costs – Engineering or Architectural design fees, engineering review fees, etc. This factor is set to 1 when soft costs are not included in the component’s replacement costs. Typically, soft costs are required for large projects involving the replacement of several components at the same time (i.e. Heating System). As the FCA separates components into individual replacements, soft costs have not been included.

Collaborating to Provide Asset Data You Can Trust

4 FACILITY CONDITION ASSESSMENT

Herein we present the findings of our assessment, based on the Scope of Work outlined in this report. The Facility Condition Assessment & Opinion of Probable Cost is included in Appendix A. Appendix B contains the Capital Planning Table.

4.1 FACILITY CONDITION INDEX

The Facility Condition Index (FCI) gives an indication of a building or portfolio's overall condition. The value is based on a 0-100%+ scale and is derived by dividing the repair costs for a facility by a Current Replacement Value (CRV). The FCI is calculated using only the current condition values, not taking into account the future needs identified in the life cycle evaluation. Site and miscellaneous items are removed from this calculation as the focus is on the building itself.

The overall condition is based on Table 1 below. It should be noted that there is no industry standard for the overall building condition based on a 5-Year FCI. The condition categories are recommendations to be considered.

Table 1: FCI Condition Categories	
5-year Calculated FCI	Condition Category
0% to 10%	Good
11% to 20%	Fair
21% to 50%	Poor
>50%	Prohibitive to Repair

The 5-Year FCI is calculated as follows:

$$\text{5-Year FCI} = \frac{\text{Sum of 5-Year Renewal Need for the Building}}{\text{Current Replacement Value of the Building}} \times 100$$

$$\text{5-Year FCI} = \frac{\$264,703}{\$2,565,000} \times 100$$

$$\text{5-Year FCI} = 10.3\%$$

The 5-Year Renewal Need is the sum of renewal costs recommended in the next 5 years to keep the building functional, and does not consider soft cost factor, criticality, available budget or capital planning decisions made. The total 5-Year Renewal Need cost, (2021-2025) excluding the renewal costs for the site features (roadways, parking lot, walkways,

Page No: 9

Project No. 21075

© Copyright 2021 FCAPX a Division of Roth IAMS Ltd.- All rights reserved

Collaborating to Provide Asset Data You Can Trust

etc.) for the subject building is \$165,098. The building Current Replacement Value (CRV) was estimated based on the Marshall and Swift insurable value. For the subject building the CRV (or Cost of Reproduction New (CRN)) was determined to be \$2,565,000. The subject building 5-year Facility Condition Index (FCI), calculated based on the 5-Year Renewal Need is 10.3%. Based on the table above, the FCI suggests that the building is in Fair to Good condition overall.

5 RESERVE FUND ANALYSIS

The scope of work of the review of the Charlie Lake Fire Hall includes the review of the Asset Management Reserve Fund (AMRF) to ensure funding levels meet the required amounts.

Charlie Lake Fire Hall does not currently contribute annually to the fund. Cashflow Scenario 0 presented in this report shows the fund balance with no contributions. Cashflow Scenario 1 presented in this report shows the recommended annual contribution and one-time contributions to an AMRF to ensure funding is available for capital replacement projects in future years.

The cashflow projection considers the following:

- The cashflow scenario is based on the inflated FCA expenditures anticipated during the 30-year evaluation period.
- An annual inflation rate of **2.00%** has been applied to adjust projected replacement costs over the course of the evaluation period.
 - o It must be appreciated that both inflation and interest rates can be volatile due to a number of factors such as global business cycles, the state of the economy, and government policies.
- A positive closing balance was maintained in the AMRF.
- A 2021 AMRF Opening Balance of \$394,522 (Provided by PRRD).
- The 2021 Expenditures from the AMRF are \$16,615.
- It should be appreciated that the accuracy of this projected cash flow decreases toward the end of the 30-year period as a result of uncertainties related to the economy, interest and inflation rates, annual contributions and future replacement costs.
- Annual expenditures as per the findings of the FCA (of note only expenditures over \$5,000 were included).
- Annual inflation rate of 2.0% applied to the estimated FCA expenditures.
- The AMRF is assumed to earn 2.0% interest.

Collaborating to Provide Asset Data You Can Trust

The projections included in this table are estimates only, based on the information available at the time of preparation. The condition assessment must be updated regularly as the actual figures will vary from the amounts detailed in this table due to changes in interest rates, inflation rates and scheduling of the repair/replacement work.

The reserve fund scenario is included in Appendix C.

6 SITE PLAN

A site plan has been provided in Appendix D indicating the site boundary for the facility.

7 PREVENTATIVE MAINTENANCE PLAN

The compiled Preventative Maintenance Plan (PMP) for this facility are presented in Appendix E.

In general, the PMP provides a list of industry standard maintenance tasks for pertinent equipment and systems observed at the time of the facility condition assessment. In addition, the task list also includes recommendations on the amount of time that should be budgeted for each task, and the required skill sets and/or recommendations for the staff who should conduct the tasks.

It is the responsibility of the building owner to ensure that any federal, provincial, and municipal legislative requirements regarding preventative maintenance tasks are being complied with, including but not limited to; requirements enacted by those authorities having jurisdiction, changes over time to code requirements, and the licensing/training of technicians.

8 CLOSURE

This report has been prepared for the use of the Peace River Regional District as part of the due diligence process regarding the noted property, and no representations are made by FCAPX to any party other than Peace River Regional District.

Prepared by,

Inder Grewal

Facility Assessor

Phone: 604-691-2169, ext. 219

Email: inder.grewal@rothiams.com

Meaghen Figg-Derksen, P. Tech. (Eng.)

Facility Assessor

Phone: 587-441-1577, ext. 225

Email: Meaghen.derksen@rothiams.com

Reviewed by,

Mike Plomske, P.Eng.

Technical Reviewer

Curtis Loblick, P.Eng., CEM

Vice President, Western Canada

Page No: 11

Project No. 21075

© Copyright 2021 FCAPX a Division of Roth IAMS Ltd. - All rights reserved

Collaborating to Provide Asset Data You Can Trust

Phone: 587-441-1577, ext. 211

Email: Mike.plomske@rothiams.com

Phone: 587-441-1577, ext. 204

Email: curtis.loblick@rothiams.com

Collaborating to Provide Asset Data You Can Trust

APPENDIX A
Facility Condition Assessment

Project No. 21075

© Copyright 2021 FCAPX a Division of Roth IAMS Ltd.- All rights reserved



A Substructure

A10 Foundations

Element Description	
Name	A101001 - Standard Foundations - Original
Installation Year	1977
Condition	2 - Good
Expected Useful Life	75 Years
Remaining Useful Life	31 Years
Renewal Year	2052
Quantity / Unit of Measure	69 / LM Footprint
Unit Cost	\$984.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$126,761.83

Description

While concealed from view, standard foundations for the facility are presumed to comprise wood timbers that bear on concrete blocks and pavers. While concealed from view, the floor structure likely consists of a plywood sub-floor that bears on dimensional wood joists and beams.

Condition Narrative

No major deficiencies were observed or reported during the assessment.

Photos



Charlie Lake Fire Hall - A101001



Charlie Lake Fire Hall - A101001

Element Description	
Name	A101001 - Standard Foundations - Addition
Installation Year	1987
Condition	2 - Good
Expected Useful Life	75 Years
Remaining Useful Life	41 Years
Renewal Year	2062
Quantity / Unit of Measure	53 / LM Footprint
Unit Cost	\$984.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$97,367.78

Description

While concealed from view, standard foundations for the facility are presumed to comprise wood timbers that bear on concrete blocks and pavers. While concealed from view, the floor structure likely consists of a plywood sub-floor that bears on dimensional wood joists and beams.

Condition Narrative

No major deficiencies were observed or reported during the assessment.

Photos



Charlie Lake Fire Hall - A101001

Element Description	
Name	A103001 - Slab on Grade - Addition
Installation Year	1987
Condition	2 - Good
Expected Useful Life	75 Years
Remaining Useful Life	41 Years
Renewal Year	2062
Quantity / Unit of Measure	166 / SM Footprint
Unit Cost	\$71.33
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$22,106.74

Description

A cast-in-place concrete slab-on-grade floor is constructed throughout the first level of the addition. The slab is presumably reinforced with conventional steel.

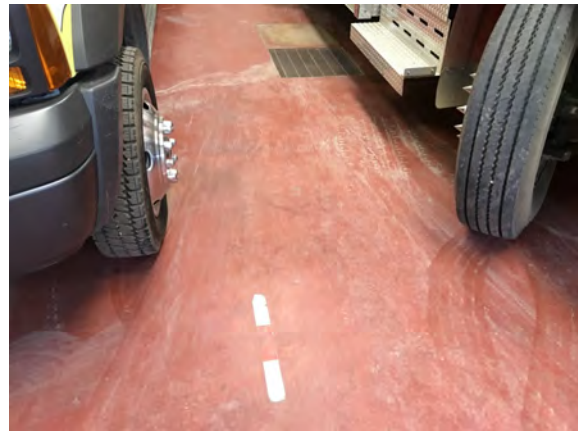
Condition Narrative

There are some localized cracks and uneven surfaces in the building. A repair allowance has been included herein to repair these areas. The remaining useful life has been left unchanged with the assumption that repairs are completed.

Photos



Charlie Lake Fire Hall - A103001



Charlie Lake Fire Hall - A103001

Recommendations

Recommendations #1 - Repairs - Concrete Slab On Grade	
Type	Major Repair
Year	2022
Cost	\$8,000.00

Undertake repairs to areas of localized cracking/scaling, and correct uneven surfaces.

Element Description	
Name	A103001 - Slab on Grade - Original
Installation Year	1977
Condition	2 - Good
Expected Useful Life	75 Years
Remaining Useful Life	31 Years
Renewal Year	2052
Quantity / Unit of Measure	292 / SM Footprint
Unit Cost	\$71.33
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$38,886.55

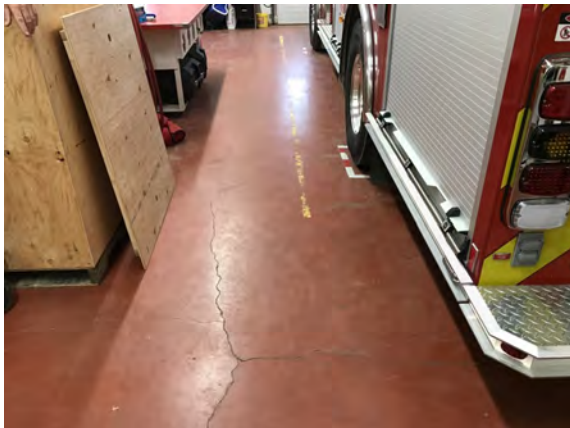
Description

A cast-in-place concrete slab-on-grade floor is constructed throughout the original structure. The slab is presumably reinforced with conventional steel.

Condition Narrative

There are some localized cracks and uneven surfaces in the building. A repair allowance has been included herein to repair these areas. The remaining useful life has been left unchanged with the assumption that repairs are completed

Photos



Charlie Lake Fire Hall - A103001

Recommendations

Recommendations #1 - Repairs - Concrete Slab On Grade	
Type	Major Repair
Year	2022
Cost	\$15,000.00

Undertake repairs to areas of localized cracking/scaling, and correct uneven surfaces.

B Shell
B10 Superstructure

Element Description	
Name	B101001 - Floor Construction
Installation Year	1977
Condition	2 - Good
Expected Useful Life	75 Years
Remaining Useful Life	31 Years
Renewal Year	2052
Quantity / Unit of Measure	40 / SM Building
Unit Cost	\$249.38
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$18,623.70

Description

A mezzanine structure is constructed in the original building. The mezzanine includes a wood floor deck that is presumably supported by wood floor joists and wood stud framework.

Condition Narrative

No major deficiencies were observed or reported during the assessment.

Photos



Charlie Lake Fire Hall - B101001

Element Description	
Name	B103001 - Structure - Addition
Installation Year	1987
Condition	2 - Good
Expected Useful Life	75 Years
Remaining Useful Life	41 Years
Renewal Year	2062
Quantity / Unit of Measure	332 / SM Building
Unit Cost	\$280.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$173,556.32

Description

While concealed from view during the assessment, the addition roof and floor structures are understood to be composed of wood decking that is supported by wood trusses, beams, and stud framework.

Condition Narrative

No major deficiencies were observed or reported during the assessment. Second floor and main wall between original building has damage due to a prior water leak. Given the nature of the component, full-scale replacement during a specific year is not expected to be required. However, a cost allowance for partial replacement and/or repairs has been carried forward in this report as a precautionary measure.

Photos



Charlie Lake Fire Hall - B103001

Recommendations

Recommendations #1 - Study - Second Floor Structure	
Type	Engineering Study
Year	2021
Cost	\$5,000.00

Based on the limited understanding of the component condition, further investigation is recommended to confirm performance and remaining useful life of the second floor and main wall between original building . The scope of the investigation should include potential remedial options, a renewal schedule and a cost to address the deficiencies and mitigate further deterioration.

Recommendations #2 - Repair - Second Floor Structure

Type	Major Repair
Year	2022
Cost	\$35,000.00

Budgetary repair allowance to undertake a remedial action to address the observed deficiencies and mitigate further deterioration.

Element Description	
Name	B103001 - Structure - Original
Installation Year	1977
Condition	2 - Good
Expected Useful Life	75 Years
Remaining Useful Life	31 Years
Renewal Year	2052
Quantity / Unit of Measure	292 / SM Building
Unit Cost	\$280.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$152,645.92

Description

While concealed from view during the assessment, the original building roof structure is understood to be composed of wood decking that is supported by wood trusses and stud framework.

Condition Narrative

No major deficiencies were observed or reported during the assessment.

Photos



Charlie Lake Fire Hall - B103001

B20 Exterior Enclosure

Element Description	
Name	B201008 - Exterior Soffits
Installation Year	1987
Condition	2 - Good
Expected Useful Life	50 Years
Remaining Useful Life	16 Years
Renewal Year	2037
Quantity / Unit of Measure	46 / SM
Unit Cost	\$110.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$9,447.02

Description

Prefinished, perforated metal soffit panels are installed on the roof overhang on the building perimeter.

Condition Narrative

No major deficiencies were observed or reported during the assessment. Gaps were observed in some areas around lights. Also missing soffit on second floor around downspout. It is recommended these gaps be sealed to minimize the risk of pest infestation. Repair as part of maintenance.

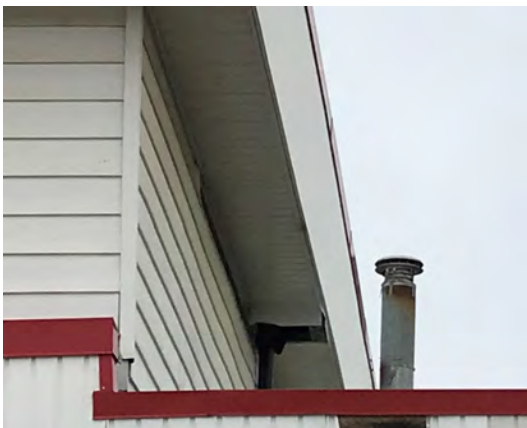
Photos



Charlie Lake Fire Hall - B201008



Charlie Lake Fire Hall - B201008



Charlie Lake Fire Hall - B201008

Recommendations

Recommendations #1 - Exterior Soffits	
Type	Life Cycle Replacement
Year	2037
Cost	\$9,447.02

Replace Exterior Soffits

Element Description	
Name	B201025 - Vinyl Siding
Installation Year	1977
Condition	3 - Fair
Expected Useful Life	25 Years
Remaining Useful Life	3 Years
Renewal Year	2024
Quantity / Unit of Measure	410 / SM
Unit Cost	\$85.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$65,064.95

Description

The building is clad on its perimeter with lapped segments of horizontal vinyl siding. Vinyl fascia panels with a vertically-grooved profile are provided above apparatus bay doors.

Condition Narrative

The siding was observed to be generally performing as intended, although sections of damaged and missing siding were noted, along with isolated buckling and stained surfaces. Based on age and observed conditions, short-term replacement is recommended to maintain the performance of the building enclosure, and the building's external aesthetic appeal. In the interim, missing sections of siding are recommended for replacement to mitigate the risk of moisture infiltration.

Photos



Charlie Lake Fire Hall - B201025



Charlie Lake Fire Hall - B201025



Charlie Lake Fire Hall - B201025



Charlie Lake Fire Hall - B201025

Recommendations

Recommendations #1 - Vinyl Siding	
Type	Life Cycle Replacement
Year	2024
Cost	\$65,064.95

Replace Vinyl Siding

Element Description	
Name	B202001 - Windows
Installation Year	1987
Condition	3 - Fair
Expected Useful Life	35 Years
Remaining Useful Life	4 Years
Renewal Year	2025
Quantity / Unit of Measure	6 / SM
Unit Cost	\$950.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$10,641.90

Description

Exterior windows composed of insulating double-paned glass set in operable wood frames are installed on the north/west elevations of the second floor addition.

Condition Narrative

The window frames appeared to remain serviceable although they exhibited wear and discoloration that is generally consistent with their age. Condensation was observed between the glass panes on a few windows on the north elevation (conference room) and on the mezzanine loft, suggesting glazing unit seal failure.

Photos



Charlie Lake Fire Hall - B201025

Recommendations

Recommendations #1 - Windows	
Type	Life Cycle Replacement
Year	2025
Cost	\$10,641.90

Replace Windows

Element Description	
Name	B203022 - Overhead Doors - Industrial
Installation Year	2010
Condition	2 - Good
Expected Useful Life	25 Years
Remaining Useful Life	14 Years
Renewal Year	2035
Quantity / Unit of Measure	4 / Each
Unit Cost	\$12,000.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$89,616.00

Description

Motorized sectional metal overhead doors are installed for the apparatus bay.

Condition Narrative

No major deficiencies were observed or reported during the assessment. Door seals were deteriorating, replace/repair as part of maintenance.

Photos



Charlie Lake Fire Hall - B203022



Charlie Lake Fire Hall - B203022



Charlie Lake Fire Hall - B203022

Recommendations

Recommendations #1 - Overhead Doors - Industrial	
Type	Life Cycle Replacement
Year	2035
Cost	\$89,616.00

Replace Overhead Doors - Industrial

Element Description	
Name	B203023 - Single Door - Hollow Metal
Installation Year	1987
Condition	3 - Fair
Expected Useful Life	30 Years
Remaining Useful Life	4 Years
Renewal Year	2025
Quantity / Unit of Measure	4 / Each
Unit Cost	\$3,200.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$23,897.60

Description

Exterior doors are composed of painted hollow metal swing-type units that are hinge-mounted in painted, pressed steel frames.

Condition Narrative

Exterior steel doors have reached the end of their expected useful life and are exhibiting wear and tear that is consistent with the age of the materials including loose hardware, difficulty latching (second floor emergency exit), and worn painted panels. Lifecycle replacement is recommended within the short-term of the evaluation period.

Photos



Charlie Lake Fire Hall - B203023



Charlie Lake Fire Hall - B203023



Charlie Lake Fire Hall - B203023



Charlie Lake Fire Hall - B203023

Recommendations

Recommendations #1 - Single Door - Hollow Metal	
Type	Life Cycle Replacement
Year	2025
Cost	\$23,897.60

Replace Single Door - Hollow Metal

B30 Roofing

Element Description	
Name	B301022 - Conventional - Modified Bitumen
Installation Year	2010
Condition	3 - Fair
Expected Useful Life	22 Years
Remaining Useful Life	11 Years
Renewal Year	2032
Quantity / Unit of Measure	458 / SM
Unit Cost	\$200.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$171,017.20

Description

Flat roof sections are covered with a two-ply modified bitumen membrane roofing assembly that is presumably installed over layers of fiberboard, rigid insulation, vapour barrier, and gypsum board sheathing.

Condition Narrative

Roof access was not available during the assessment. Where visible, the gutters were observed to have inadequate drainage. It is recommended repairs be conducted in the short-term to address the drainage issues. An allowance for repairs has been provided.

Photos



Charlie Lake Fire Hall - B301023



Charlie Lake Fire Hall - B301023

Recommendations

Recommendations #1 - Repair - Drainage Issues	
Type	Repair
Year	2023
Cost	\$48,000.00

Repair the roofing assembly drainage slopes.

Recommendations #2 - Conventional - Modified Bitumen	
Type	Life Cycle Replacement
Year	2032
Cost	\$171,017.20

Replace Conventional - Modified Bitumen

C Interiors

C10 Interior Construction

Element Description	
Name	C101001 - Fixed Partitions - Addition
Installation Year	1987
Condition	2 - Good
Expected Useful Life	75 Years
Remaining Useful Life	41 Years
Renewal Year	2062
Quantity / Unit of Measure	332 / SM Building
Unit Cost	\$95.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$58,885.18

Description

Interior fixed partitions throughout the addition are composed of gypsum wall board affixed to wood studs. Gypsum board ceilings are installed above the apparatus bay and second floor.

Condition Narrative

No major deficiencies were observed or reported during the assessment.

Photos



Charlie Lake Fire Hall - C101001



Charlie Lake Fire Hall - C101001



Charlie Lake Fire Hall - C101001

Element Description	
Name	C101001 - Fixed Partitions - Original
Installation Year	1977
Condition	2 - Good
Expected Useful Life	75 Years
Remaining Useful Life	31 Years
Renewal Year	2052
Quantity / Unit of Measure	292 / SM Building
Unit Cost	\$95.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$51,790.58

Description

Interior fixed partitions throughout the original building are composed of gypsum wall board affixed to wood studs. Gypsum board ceilings are installed above the apparatus bay.

Condition Narrative

No major deficiencies were observed or reported during the assessment.

Photos



Charlie Lake Fire Hall - C101001

Element Description	
Name	C101005 - Interior Windows
Installation Year	2010
Condition	2 - Good
Expected Useful Life	75 Years
Remaining Useful Life	64 Years
Renewal Year	2085
Quantity / Unit of Measure	2 / SM
Unit Cost	\$600.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$2,240.40

Description

Fixed and operable vinyl framed windows with single-pane or insulating glass units are installed between the office and apparatus bay.

Condition Narrative

No major deficiencies were observed or reported during the assessment.

Photos



Charlie Lake Fire Hall - C101005

Element Description	
Name	C102022 - Single Door - Wood - Addition
Installation Year	1987
Condition	2 - Good
Expected Useful Life	40 Years
Remaining Useful Life	6 Years
Renewal Year	2027
Quantity / Unit of Measure	1 / Each
Unit Cost	\$2,000.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$3,734.00

Description

A wood-framed passage door that is hinge-mounted in a wood-frame is installed at the entrance to the second floor washroom.

Condition Narrative

No major deficiencies were observed or reported during the assessment.

Photos



Charlie Lake Fire Hall - C102022

Recommendations

Recommendations #1 - Single Door - Wood	
Type	Life Cycle Replacement
Year	2027
Cost	\$3,734.00

Replace Single Door - Wood

Element Description	
Name	C102022 - Single Door - Wood - Original
Installation Year	2010
Condition	2 - Good
Expected Useful Life	40 Years
Remaining Useful Life	29 Years
Renewal Year	2050
Quantity / Unit of Measure	5 / Each
Unit Cost	\$2,000.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$18,670.00

Description

Wood-framed passage doors that are hinge-mounted in wood-frames are installed at entrances to washrooms and offices in the original building. A wood-framed bi-folding closet door is installed at the communication/electrical closet.

Condition Narrative

No major deficiencies were observed or reported during the assessment.

Photos



Charlie Lake Fire Hall - C102022



Charlie Lake Fire Hall - C102022

Recommendations

Recommendations #1 - Single Door - Wood	
Type	Life Cycle Replacement
Year	2050
Cost	\$18,670.00

Replace Single Door - Wood

Element Description	
Name	C103009 - Cabinets - Kitchens
Installation Year	1987
Condition	3 - Fair
Expected Useful Life	35 Years
Remaining Useful Life	5 Years
Renewal Year	2026
Quantity / Unit of Measure	4 / LM
Unit Cost	\$1,500.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$11,202.00

Description

Wall and floor-mounted fixed casework of laminated wood construction is installed in the addition on the second floor. The base cabinetry includes laminated wood countertops.

Condition Narrative

While generally performing as intended, the casework exhibited evidence of wear that is consistent with its age. Lifecycle replacement is recommended in the short-term of the evaluation period.

Photos



Charlie Lake Fire Hall - C103009

Recommendations

Recommendations #1 - Cabinets - Kitchens	
Type	Life Cycle Replacement
Year	2026
Cost	\$11,202.00

Replace Cabinets - Kitchens

Element Description	
Name	C103010 - Vanities - Addition
Installation Year	1987
Condition	3 - Fair
Expected Useful Life	25 Years
Remaining Useful Life	4 Years
Renewal Year	2025
Quantity / Unit of Measure	2 / LM
Unit Cost	\$600.00
Difficulty / Regional / Soft Cost Factors	2.00 / 1.867 / 1
Replacement Cost	\$4,480.80

Description

A floor-mounted vanity of wood construction is installed in the second floor washroom of the addition.

Condition Narrative

No major deficiencies were observed or reported during the assessment. The component has exceeded its expected useful life, although its remaining useful life has been extended to a later year due to the absence of significant observed or reported deficiencies. The difficulty factor has been increased based on the vanity design.

Photos



Charlie Lake Fire Hall - C103010

Recommendations

Recommendations #1 - Vanities	
Type	Life Cycle Replacement
Year	2025
Cost	\$4,480.80

Replace Vanities

Element Description	
Name	C103010 - Vanities - Original
Installation Year	2014
Condition	2 - Good
Expected Useful Life	25 Years
Remaining Useful Life	18 Years
Renewal Year	2039
Quantity / Unit of Measure	2 / LM
Unit Cost	\$600.00
Difficulty / Regional / Soft Cost Factors	2.00 / 1.867 / 1
Replacement Cost	\$4,480.80

Description

Floor-mounted vanities of laminated wood construction are installed in washrooms in the original building.

Condition Narrative

No major deficiencies were observed or reported during the assessment. The difficulty factor has been increased based on the vanity design.

Photos



Charlie Lake Fire Hall - C103010



Charlie Lake Fire Hall - C103010

Recommendations

Recommendations #1 - Vanities	
Type	Life Cycle Replacement
Year	2039
Cost	\$4,480.80

Replace Vanities

Element Description	
Name	C103011 - Cabinets - General
Installation Year	1987
Condition	3 - Fair
Expected Useful Life	35 Years
Remaining Useful Life	4 Years
Renewal Year	2025
Quantity / Unit of Measure	6 / LM
Unit Cost	\$1,200.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$13,442.40

Description

Wall and floor-mounted fixed casework of painted wood construction is installed around the addition apparatus bay. The floor-mounted casework is provided with wood countertops.

Condition Narrative

No major deficiencies were observed or reported. The cabinetry observed to be dated. The component will reach its expected useful life, although its remaining useful life has been extended to a later year due to the absence of significant observed or reported deficiencies.

Photos



Charlie Lake Fire Hall - C103011



Charlie Lake Fire Hall - C103011

Recommendations

Recommendations #1 - Cabinets - General	
Type	Life Cycle Replacement
Year	2025
Cost	\$13,442.40

Replace Cabinets - General

Element Description	
Name	C103099 - Other Fittings - Metal Pipe Storage Racks
Installation Year	2010
Condition	2 - Good
Expected Useful Life	30 Years
Remaining Useful Life	19 Years
Renewal Year	2040
Quantity / Unit of Measure	6 / Lump Sum
Unit Cost	\$5,000.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$56,010.00

Description

Wall and floor-mounted painted metal pipe storage racks are installed in the apparatus bay.

Condition Narrative

No major deficiencies were observed or reported during the assessment.

Photos



Charlie Lake Fire Hall - C103099

Recommendations

Recommendations #1 - Other Fittings	
Type	Life Cycle Replacement
Year	2040
Cost	\$56,010.00

Replace Other Fittings

C20 Stairs

Element Description	
Name	C201001 - Interior Stair Construction
Installation Year	1987
Condition	2 - Good
Expected Useful Life	75 Years
Remaining Useful Life	41 Years
Renewal Year	2062
Quantity / Unit of Measure	27 / Per Riser
Unit Cost	\$800.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$40,327.20

Description

A wood-framed staircase is constructed to connect the main floor with the second level of the addition. The staircase is bordered on one side by wall-mounted painted wood handrails.

Condition Narrative

No major deficiencies were observed or reported during the assessment.

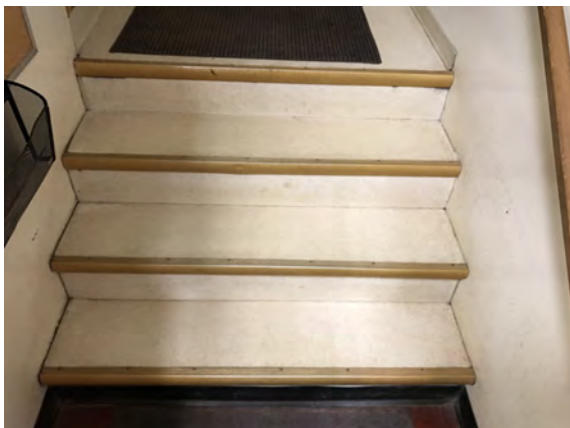
Photos



Charlie Lake Fire Hall - C201001



Charlie Lake Fire Hall - C201001



Charlie Lake Fire Hall - C201001

Element Description	
Name	C201002 - Exterior Stair Construction
Installation Year	1987
Condition	2 - Good
Expected Useful Life	40 Years
Remaining Useful Life	6 Years
Renewal Year	2027
Quantity / Unit of Measure	31 / Per Riser
Unit Cost	\$1,000.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$57,877.00

Description

Exterior metal-framed stairs are constructed on the north and south/east elevations. The stairs include steel grille treads and upper landing areas that are supported by painted metal stringers, channels, and posts. The stairs are bordered along their outer edges by base-mounted, painted metal guardrails.

Condition Narrative

No major deficiencies were observed or reported during the assessment. Periodic refinishing of steel surfaces is expected to be handled as a maintenance activity.

Photos



Charlie Lake Fire Hall - C201002



Charlie Lake Fire Hall - C201002

Recommendations

Recommendations #1 - Exterior Stair Construction	
Type	Life Cycle Replacement
Year	2027
Cost	\$57,877.00

Replace Exterior Stair Construction

Element Description	
Name	C201027 - Access Ladders - Addition
Installation Year	1987
Condition	3 - Fair
Expected Useful Life	40 Years
Remaining Useful Life	6 Years
Renewal Year	2027
Quantity / Unit of Measure	5 / LM
Unit Cost	\$1,000.00
Difficulty / Regional / Soft Cost Factors	0.50 / 1.867 / 1
Replacement Cost	\$4,667.50

Description

A fixed, wall-mounted wood ladder is installed to access the tower balcony.

Condition Narrative

The ladder is not worksafe approved and should be addressed to meet current building code standards. The difficulty factor has been adjusted based on the ladder material and design.

Photos



Charlie Lake Fire Hall - C201027



Charlie Lake Fire Hall - C201027

Recommendations

Recommendations #1 - Access Ladders	
Type	Life Cycle Replacement
Year	2027
Cost	\$4,667.50

Replace Access Ladders

Element Description	
Name	C201027 - Access Ladders - Original
Installation Year	1977
Condition	3 - Fair
Expected Useful Life	40 Years
Remaining Useful Life	5 Years
Renewal Year	2026
Quantity / Unit of Measure	3 / LM
Unit Cost	\$1,000.00
Difficulty / Regional / Soft Cost Factors	0.50 / 1.867 / 1
Replacement Cost	\$2,800.50

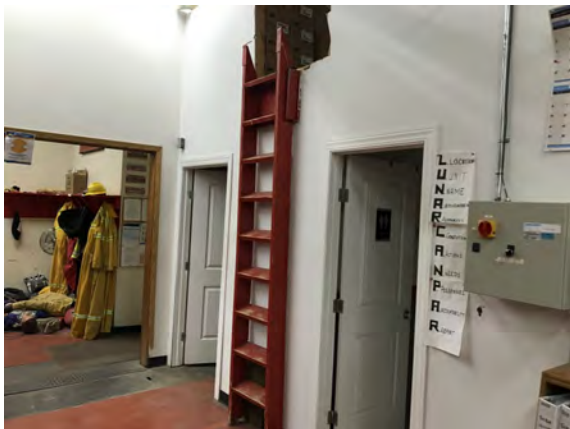
Description

A wall-mounted wood ladder is installed to provide access to the mezzanine.

Condition Narrative

The ladder was observed to have worn paint finishes. No major deficiencies were observed or reported during the assessment. Renewal of paint finishes is recommended as part of routine maintenance activities. The component has exceeded its expected useful life, although its remaining useful life has been extended to a later year due to the absence of significant observed or reported deficiencies. The difficulty factor has been adjusted based on the ladder material and design.

Photos



Charlie Lake Fire Hall - C201027



Charlie Lake Fire Hall - C201027

Recommendations

Recommendations #1 - Access Ladders	
Type	Life Cycle Replacement
Year	2026
Cost	\$2,800.50

Replace Access Ladders

Element Description	
Name	C202027 - Vinyl Sheet
Installation Year	2000
Condition	2 - Good
Expected Useful Life	20 Years
Remaining Useful Life	6 Years
Renewal Year	2027
Quantity / Unit of Measure	27 / Per Riser
Unit Cost	\$75.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$3,780.68

Description

A vinyl sheet finish is applied to treads and risers on stairs located in the addition.

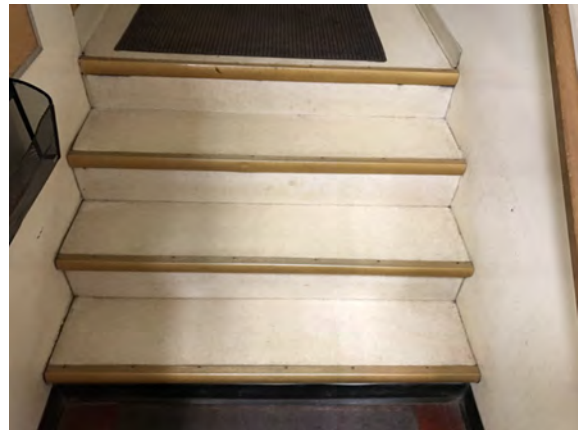
Condition Narrative

No major deficiencies were observed or reported during the assessment. The component has exceeded its expected useful life, although its remaining useful life has been extended beyond the short-term of the evaluation period due to the absence of significant observed or reported deficiencies.

Photos



Charlie Lake Fire Hall - C202027



Charlie Lake Fire Hall - C202027

Recommendations

Recommendations #1 - Vinyl Sheet	
Type	Life Cycle Replacement
Year	2027
Cost	\$3,780.68

Replace Vinyl Sheet

C30 Interior Finishes

Element Description	
Name	C301005 - Paint Wall Covering
Installation Year	2010
Condition	3 - Fair
Expected Useful Life	10 Years
Remaining Useful Life	5 Years
Renewal Year	2026
Quantity / Unit of Measure	624 / SM Building
Unit Cost	\$40.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$46,600.32

Description

Most interior fixed partitions throughout the building are provided with a paint finish.

Condition Narrative

While the paint finish was observed to be in fair condition at the time of assessment, it is likely that it will require renewal within the short-term of the evaluation period.

Photos



Charlie Lake Fire Hall - C301005



Charlie Lake Fire Hall - C301005

Recommendations

Recommendations #1 - Paint Wall Covering	
Type	Life Cycle Replacement
Year	2026
Cost	\$46,600.32

Replace Paint Wall Covering

Element Description	
Name	C301022 - Wood Wall Finish
Installation Year	1977
Condition	2 - Good
Expected Useful Life	25 Years
Remaining Useful Life	6 Years
Renewal Year	2027
Quantity / Unit of Measure	16 / SM
Unit Cost	\$270.00
Difficulty / Regional / Soft Cost Factors	0.50 / 1.867 / 1
Replacement Cost	\$4,032.72

Description

Board and batten wood wall finishes are used to cover interior wall surfaces in the main office.

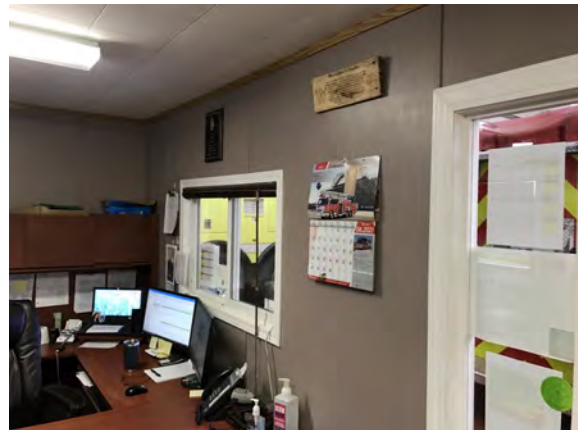
Condition Narrative

The component has exceeded its expected useful life, although its remaining useful life has been extended beyond the short-term of the evaluation period due to the absence of significant observed or reported deficiencies. The difficulty factor has been adjusted based on the design of the wall finish.

Photos



Charlie Lake Fire Hall - C301022



Charlie Lake Fire Hall - C301022

Recommendations

Recommendations #1 - Wood Wall Finish	
Type	Life Cycle Replacement
Year	2027
Cost	\$4,032.72

Replace Wood Wall Finish

Element Description	
Name	C301023 - Ceramic Wall Tile
Installation Year	2014
Condition	2 - Good
Expected Useful Life	40 Years
Remaining Useful Life	33 Years
Renewal Year	2054
Quantity / Unit of Measure	8 / SM
Unit Cost	\$160.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$2,389.76

Description

A ceramic tile finish is installed on interior wall surfaces in the original building washrooms.

Condition Narrative

No major deficiencies were observed or reported during the assessment.

Photos



Charlie Lake Fire Hall - C301023



Charlie Lake Fire Hall - C301023

Element Description	
Name	C302001 - Ceramic Tile Floor
Installation Year	2014
Condition	2 - Good
Expected Useful Life	40 Years
Remaining Useful Life	33 Years
Renewal Year	2054
Quantity / Unit of Measure	10 / SM
Unit Cost	\$180.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$3,360.60

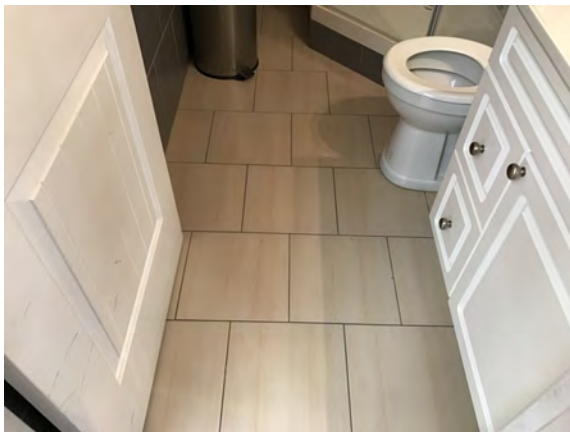
Description

A ceramic tile floor finish is installed in the original building washrooms.

Condition Narrative

No major deficiencies were observed or reported during the assessment.

Photos



Charlie Lake Fire Hall - C302001



Charlie Lake Fire Hall - C302001

Element Description	
Name	C302005 - Carpet Floor
Installation Year	1987
Condition	3 - Fair
Expected Useful Life	10 Years
Remaining Useful Life	3 Years
Renewal Year	2024
Quantity / Unit of Measure	16 / SM
Unit Cost	\$90.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$2,688.48

Description

Carpet sheet flooring is installed the main office of the original building.

Condition Narrative

Carpet surfaces were noted to be worn and stained. The observed condition is consistent with the component's age. Replacement is recommended.

Photos



Charlie Lake Fire Hall - C302005

Recommendations

Recommendations #1 - Carpet Floor	
Type	Life Cycle Replacement
Year	2024
Cost	\$2,688.48

Replace Carpet Floor

Element Description	
Name	C302007 - Painted / Sealed Concrete Floor
Installation Year	2000
Condition	2 - Good
Expected Useful Life	15 Years
Remaining Useful Life	6 Years
Renewal Year	2027
Quantity / Unit of Measure	458 / SM
Unit Cost	\$40.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$34,203.44

Description

The concrete slab-on-grade floor in the apparatus bay is an exposed concrete floor protected with a paint sealer.

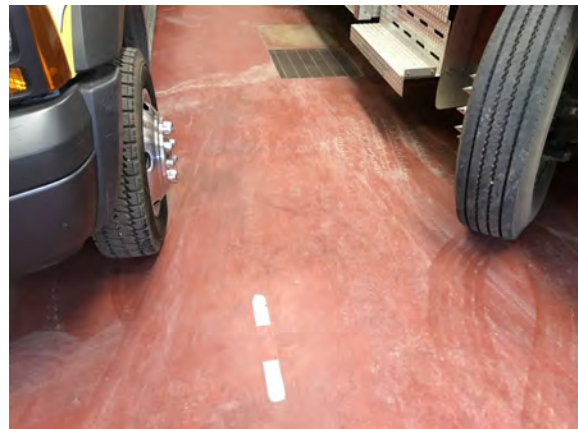
Condition Narrative

No major deficiencies were observed or reported during the assessment. Minor sections of damaged finish are expected to undergo repair/touch-up as a maintenance activity. The component has exceeded its expected useful life, based on the absence of significant observed or reported deficiencies, lifecycle replacement has been extended to a later year.

Photos



Charlie Lake Fire Hall - C302007



Charlie Lake Fire Hall - C302007

Recommendations

Recommendations #1 - Painted / Sealed Concrete Floor	
Type	Life Cycle Replacement
Year	2027
Cost	\$34,203.44

Replace Painted / Sealed Concrete Floor

Element Description	
Name	C302023 - Vinyl Sheet Floor
Installation Year	2000
Condition	2 - Good
Expected Useful Life	15 Years
Remaining Useful Life	6 Years
Renewal Year	2027
Quantity / Unit of Measure	140 / SM
Unit Cost	\$120.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$31,365.60

Description

Resilient sheet vinyl flooring is installed on the second floor of the addition.

Condition Narrative

The component has exceeded its expected useful life, although its remaining useful life has been extended beyond the short-term of the evaluation period due to the absence of significant observed or reported deficiencies.

Photos



Charlie Lake Fire Hall - C302023



Charlie Lake Fire Hall - C302023

Recommendations

Recommendations #1 - Vinyl Sheet Floor	
Type	Life Cycle Replacement
Year	2027
Cost	\$31,365.60

Replace Vinyl Sheet Floor

Element Description	
Name	C303004 - Acoustic Tile Ceiling
Installation Year	1977
Condition	3 - Fair
Expected Useful Life	30 Years
Remaining Useful Life	5 Years
Renewal Year	2026
Quantity / Unit of Measure	16 / SM
Unit Cost	\$70.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$2,091.04

Description

Acoustic tile ceilings are installed in the main office of the original building.

Condition Narrative

However, as the component has long surpassed its expected useful life and plays a critical function in building operations, short-term replacement is recommended to minimize the risk and impact of sudden failure.

Photos



Charlie Lake Fire Hall - C303004

Recommendations

Recommendations #1 - Acoustic Tile Ceiling	
Type	Life Cycle Replacement
Year	2026
Cost	\$2,091.04

Replace Acoustic Tile Ceiling

Element Description	
Name	C303006 - Painted Ceiling Structures
Installation Year	2000
Condition	2 - Good
Expected Useful Life	15 Years
Remaining Useful Life	7 Years
Renewal Year	2028
Quantity / Unit of Measure	458 / SM
Unit Cost	\$30.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$25,652.58

Description

A painted finish is applied to the ceiling of the apparatus bay for the original building and addition.

Condition Narrative

No major deficiencies were observed or reported during the assessment. The component has exceeded its expected useful life, although its remaining useful life has been extended beyond the short-term of the evaluation period due to the absence of significant observed or reported deficiencies.

Photos



Charlie Lake Fire Hall - C303006

Recommendations

Recommendations #1 - Painted Ceiling Structures	
Type	Life Cycle Replacement
Year	2028
Cost	\$25,652.58

Replace Painted Ceiling Structures

Element Description	
Name	C303007 - Suspended Acoustic Ceiling Panels
Installation Year	1987
Condition	2 - Good
Expected Useful Life	25 Years
Remaining Useful Life	6 Years
Renewal Year	2027
Quantity / Unit of Measure	152 / SM
Unit Cost	\$90.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$25,540.56

Description

Suspended metal T-bar grid ceilings with in-laid acoustic panels are installed on the second floor of the addition.

Condition Narrative

The component has exceeded its expected useful life, although its remaining useful life has been extended beyond the short-term of the evaluation period due to the absence of significant observed or reported deficiencies.

Photos



Charlie Lake Fire Hall - C303007



Charlie Lake Fire Hall - C303007

Recommendations

Recommendations #1 - Suspended Acoustic Ceiling Panels	
Type	Life Cycle Replacement
Year	2027
Cost	\$25,540.56

Replace Suspended Acoustic Ceiling Panels

D Services D20 Plumbing

Element Description	
Name	D201001 - Water Closets - Addition
Installation Year	1987
Condition	2 - Good
Expected Useful Life	35 Years
Remaining Useful Life	6 Years
Renewal Year	2027
Quantity / Unit of Measure	1 / Each
Unit Cost	\$1,000.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$1,867.00

Description

A floor-mounted, flush-tank water closet of vitreous china construction is installed in the second floor washroom of the addition. The water closet has a manually-operated flush valve.

Condition Narrative

No major deficiencies were observed or reported during the assessment. The component will reach its expected useful life, although its remaining useful life has been extended beyond the short-term of the evaluation period due to the absence of significant observed or reported deficiencies.

Photos



Charlie Lake Fire Hall - D201001

Recommendations

Recommendations #1 - Water Closets	
Type	Life Cycle Replacement
Year	2027
Cost	\$1,867.00

Replace Water Closets

Element Description	
Name	D201001 - Water Closets - Original
Installation Year	2014
Condition	2 - Good
Expected Useful Life	35 Years
Remaining Useful Life	28 Years
Renewal Year	2049
Quantity / Unit of Measure	2 / Each
Unit Cost	\$1,000.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$3,734.00

Description

Floor-mounted, flush-tank water closets of vitreous china construction are installed in the main floor washrooms of the original building. The water closets have manually-operated flush valves.

Condition Narrative

No major deficiencies were observed or reported during the assessment.

Photos



Charlie Lake Fire Hall - D201001



Charlie Lake Fire Hall - D201001

Recommendations

Recommendations #1 - Water Closets	
Type	Life Cycle Replacement
Year	2049
Cost	\$3,734.00

Replace Water Closets

Element Description	
Name	D201003 - Lavatories - Addition
Installation Year	1987
Condition	2 - Good
Expected Useful Life	35 Years
Remaining Useful Life	6 Years
Renewal Year	2027
Quantity / Unit of Measure	1 / Each
Unit Cost	\$1,000.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$1,867.00

Description

A counter-set lavatory of enameled steel construction is installed in the second floor washroom of the addition. The lavatory includes a centre-set faucet with a manually-operated hot/cold water tap set.

Condition Narrative

No major deficiencies were observed or reported during the assessment. The component will reach its expected useful life, although its remaining useful life has been extended beyond the short-term of the evaluation period due to the absence of significant observed or reported deficiencies.

Photos



Charlie Lake Fire Hall - D201003

Recommendations

Recommendations #1 - Lavatories	
Type	Life Cycle Replacement
Year	2027
Cost	\$1,867.00

Replace Lavatories

Element Description	
Name	D201003 - Lavatories - Original
Installation Year	2014
Condition	2 - Good
Expected Useful Life	35 Years
Remaining Useful Life	28 Years
Renewal Year	2049
Quantity / Unit of Measure	2 / Each
Unit Cost	\$1,000.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$3,734.00

Description

Lavatory basins of molded marble construction are built integrally with vanity countertops in the main floor washrooms of the original building. The lavatories include centre-set faucets with manually-operated single-lever tap sets.

Condition Narrative

No major deficiencies were observed or reported during the assessment.

Photos



Charlie Lake Fire Hall - D201003

Recommendations

Recommendations #1 - Lavatories	
Type	Life Cycle Replacement
Year	2049
Cost	\$3,734.00

Replace Lavatories

Element Description	
Name	D201004 - Sinks - Addition
Installation Year	2000
Condition	2 - Good
Expected Useful Life	35 Years
Remaining Useful Life	14 Years
Renewal Year	2035
Quantity / Unit of Measure	1 / Each
Unit Cost	\$1,000.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$1,867.00

Description

A counter-set, double-basin sink of stainless steel construction is installed in the second floor kitchen of the addition. The sink includes a centre-set faucet with a manually-operate single-lever water valve.

Condition Narrative

No major deficiencies were observed or reported during the assessment.

Photos



Charlie Lake Fire Hall - D201004

Recommendations

Recommendations #1 - Sinks	
Type	Life Cycle Replacement
Year	2035
Cost	\$1,867.00

Replace Sinks

Element Description	
Name	D201004 - Sinks - Utility Sink
Installation Year	2014
Condition	2 - Good
Expected Useful Life	35 Years
Remaining Useful Life	28 Years
Renewal Year	2049
Quantity / Unit of Measure	2 / Each
Unit Cost	\$1,000.00
Difficulty / Regional / Soft Cost Factors	0.50 / 1.867 / 1
Replacement Cost	\$1,867.00

Description

Free-standing, single-basin utility sinks of molded plastic construction are installed adjacent to the apparatus bay in the addition. One (1) sink is positioned below a set of domestic hot/cold water valves.

Condition Narrative

No major deficiencies were observed or reported during the assessment. The difficulty factor has been adjusted based on the component design.

Photos



Charlie Lake Fire Hall - D201004

Recommendations

Recommendations #1 - Sinks	
Type	Life Cycle Replacement
Year	2049
Cost	\$1,867.00

Replace Sinks

Element Description	
Name	D201012 - Shower Assembly
Installation Year	2014
Condition	2 - Good
Expected Useful Life	25 Years
Remaining Useful Life	18 Years
Renewal Year	2039
Quantity / Unit of Measure	2 / Each
Unit Cost	\$3,000.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$11,202.00

Description

Shower assemblies presumably of acrylic construction are installed in the main floor washrooms of the original building. The showers include glass panel enclosures, through-wall shower heads, and wall-mounted single-lever mixing valves.

Condition Narrative

No major deficiencies were observed or reported during the assessment.

Photos



Charlie Lake Fire Hall - D201012



Charlie Lake Fire Hall - D201012

Recommendations

Recommendations #1 - Shower Assembly	
Type	Life Cycle Replacement
Year	2039
Cost	\$11,202.00

Replace Shower Assembly

Element Description	
Name	D202001 - Domestic Water Pipes and Fittings
Installation Year	1987
Condition	2 - Good
Expected Useful Life	40 Years
Remaining Useful Life	6 Years
Renewal Year	2027
Quantity / Unit of Measure	624 / SM Building
Unit Cost	\$40.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$46,600.32

Description

Domestic water is distributed in the building via copper piping. Domestic water piping and fittings are primarily concealed behind wall, floor, or ceiling finishes.

Condition Narrative

Original pipe runs were presumably repaired or replaced as part of renovation activities performed subsequent to the building's construction. For reporting purposes, an average installation year of 1987 has been assumed. Repair allowance for moving domestic piping away from electrical outlets. No major deficiencies were observed or reported during the assessment.

Photos



Charlie Lake Fire Hall - D202001



Charlie Lake Fire Hall - D202001



Charlie Lake Fire Hall - D202001



Charlie Lake Fire Hall - D202001

Recommendations

Recommendations #1 - Repair - Move Piping

Type	Major Repair
Year	2022
Cost	\$5,000.00

Move domestic piping away from electrical outlets.

Recommendations #2 - Domestic Water Pipes and Fittings

Type	Life Cycle Replacement
Year	2027
Cost	\$46,600.32

Replace Domestic Water Pipes and Fittings

Element Description	
Name	D202034 - Gas Fired Domestic Water Heaters (Residential Tank Type)
Installation Year	2005
Condition	5 - Missing/Failed
Expected Useful Life	12 Years
Remaining Useful Life	0 Years
Renewal Year	2021
Quantity / Unit of Measure	189 / Liter
Unit Cost	\$25.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$8,821.58

Description

A tank-type, natural gas-fired domestic water heater manufactured by Rheem is installed in the boiler room. The water heater has a volume and input heating capacity of 189 L (50 US Gal.), and 50 MBH, respectively. The water heater is vented via metal flue that connects with a metal chimney installed at roof level.

Condition Narrative

The water heater exhibited corrosion on its housing, and a generally worn/dated appearance. The water heater is also reportedly not performing as intended. Replacement is recommended immediately.

Photos



Charlie Lake Fire Hall - D202034



Charlie Lake Fire Hall - D202034

Recommendations

Recommendations #1 - Gas Fired Domestic Water Heaters (Residential Tank Type)	
Type	Life Cycle Replacement
Year	2021
Cost	\$8,821.58

Replace Gas Fired Domestic Water Heaters (Residential Tank Type)

Element Description	
Name	D203001 - Sanitary Waste and Vent Piping - Addition
Installation Year	1987
Condition	2 - Good
Expected Useful Life	50 Years
Remaining Useful Life	16 Years
Renewal Year	2037
Quantity / Unit of Measure	624 / SM Building
Unit Cost	\$45.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$52,425.36

Description

Sanitary waste and vent piping is a combination of cast iron and ABS piping which connects fixtures and floor drains to common sanitary lines serving the building's sanitary system. Sanitary waste and vent piping is primarily concealed behind wall, floor, and ceiling finishes.

Condition Narrative

Original sanitary waste and vent lines were presumably repaired or replaced as part of renovation activities performed subsequent to the building's construction. For reporting purposes, an average installation year of 1987 has been assumed. No major deficiencies were observed or reported during the assessment.

Photos



Charlie Lake Fire Hall - D203001

Recommendations

Recommendations #1 - Sanitary Waste and Vent Piping	
Type	Life Cycle Replacement
Year	2037
Cost	\$52,425.36

Replace Sanitary Waste and Vent Piping

Element Description	
Name	D203007 - Interceptor Systems
Installation Year	1987
Condition	3 - Fair
Expected Useful Life	25 Years
Remaining Useful Life	5 Years
Renewal Year	2026
Quantity / Unit of Measure	1 / Each
Unit Cost	\$10,000.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$18,670.00

Description

The apparatus bay is provided with an interceptor pit that is understood to drain to site.

Condition Narrative

No major deficiencies were observed or reported. The component has exceeded its expected useful life, although its remaining useful life has been extended to a later year due to the absence of significant observed or reported deficiencies.

Photos



Charlie Lake Fire Hall - D203007

Recommendations

Recommendations #1 - Interceptor Systems	
Type	Life Cycle Replacement
Year	2026
Cost	\$18,670.00

Replace Interceptor Systems

Element Description	
Name	D204001 - Rain Water Drainage Piping and Fittings
Installation Year	1987
Condition	2 - Good
Expected Useful Life	50 Years
Remaining Useful Life	16 Years
Renewal Year	2037
Quantity / Unit of Measure	624 / SM Building
Unit Cost	\$30.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$34,950.24

Description

Rainwater drainage from flat roof sections is through roof drains with dome strainers, which connect with internal rain water leader piping that is understood to consist of cast iron or rigid plastic. The piping exits through the exterior walls where it discharges onto grade.

Condition Narrative

No major deficiencies were observed or reported during the assessment.

Photos



Charlie Lake Fire Hall - D204001



Charlie Lake Fire Hall - D204001

Recommendations

Recommendations #1 - Rain Water Drainage Piping and Fittings	
Type	Life Cycle Replacement
Year	2037
Cost	\$34,950.24

Replace Rain Water Drainage Piping and Fittings

Element Description	
Name	D204005 - Sump Pump
Installation Year	2019
Condition	1 - Excellent
Expected Useful Life	15 Years
Remaining Useful Life	13 Years
Renewal Year	2034
Quantity / Unit of Measure	1 / Each
Unit Cost	\$3,000.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$5,601.00

Description

A sump is installed in the addition. The single-stage sump serves the washing machine and discharges to sanitary waste lines.

Condition Narrative

No major deficiencies were observed or reported during the assessment.

Photos



Charlie Lake Fire Hall - D204005

Recommendations

Recommendations #1 - Sump Pump	
Type	Life Cycle Replacement
Year	2034
Cost	\$5,601.00

Replace Sump Pump

D30 HVAC

Element Description	
Name	D301002 - Gas Supply Systems
Installation Year	1987
Condition	2 - Good
Expected Useful Life	40 Years
Remaining Useful Life	6 Years
Renewal Year	2027
Quantity / Unit of Measure	624 / SM
Unit Cost	\$20.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$23,300.16

Description

The building is provided with a natural gas feed that emerges from below-grade on the south/east elevation prior to connecting with a wall-mounted natural gas meter and pressure regulator. The gas feed is subsequently delivered to the mechanical room where it connects with natural gas-fired equipment. The distribution of natural gas appeared to be made via black steel pipe.

Condition Narrative

No major deficiencies were observed or reported during the assessment. Periodic refinishing of external pipe runs is expected to be performed as a maintenance activity to address surface corrosion and wear.

Photos



Charlie Lake Fire Hall - D301002



Charlie Lake Fire Hall - D301002

Recommendations

Recommendations #1 - Gas Supply Systems	
Type	Life Cycle Replacement
Year	2027
Cost	\$23,300.16

Replace Gas Supply Systems

Element Description	
Name	D302002 - Hot Water Boilers less than 1000 MBH
Installation Year	2010
Condition	2 - Good
Expected Useful Life	30 Years
Remaining Useful Life	19 Years
Renewal Year	2040
Quantity / Unit of Measure	270 / MBH
Unit Cost	\$75.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$37,806.75

Description

There is a natural gas-fired hot water boiler installed in the boiler room. The boiler is manufactured by Super Hot (model SG-270-N_E), with a heating capacity of 270 MBH.

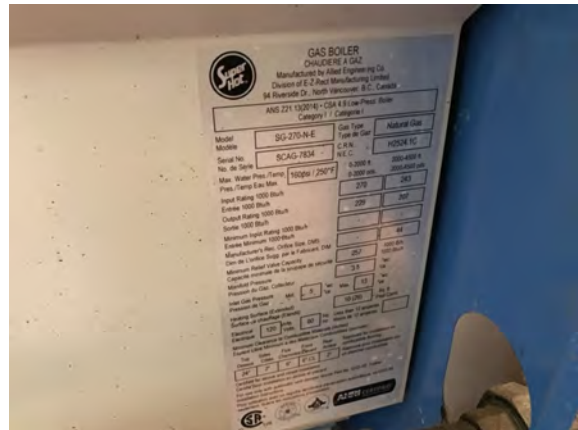
Condition Narrative

No major deficiencies were observed or reported during the assessment. Supports for the boiler's chimney are missing/damaged, replace as part of maintenance.

Photos



Charlie Lake Fire Hall - D302002



Charlie Lake Fire Hall - D302002

Recommendations

Recommendations #1 - Hot Water Boilers less than 1000 MBH	
Type	Life Cycle Replacement
Year	2040
Cost	\$37,806.75

Replace Hot Water Boilers less than 1000 MBH

Element Description	
Name	D304003 - Heating Water Distribution Systems
Installation Year	1987
Condition	3 - Fair
Expected Useful Life	45 Years
Remaining Useful Life	11 Years
Renewal Year	2032
Quantity / Unit of Measure	624 / SM Building
Unit Cost	\$90.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$104,850.72

Description

There is a closed loop heating water distribution system composed of copper piping and a glycol system. The system is distributed throughout the building to mechanical equipment. Piping is primarily hidden within ceiling, wall, and floor cavities.

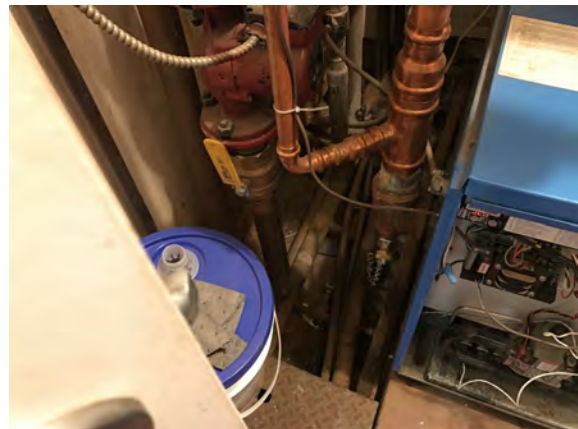
Condition Narrative

The piping has reported leaks and glycol is added monthly. Given the nature of the component, full-scale replacement is not expected to be required. However, a cost allowance for partial replacement and study has been carried forward in this report as a precautionary measure.

Photos



Charlie Lake Fire Hall - D304003



Charlie Lake Fire Hall - D304003

Recommendations

Recommendations #1 - Study - Heating Water Distribution Systems	
Type	Engineering Study
Year	2022
Cost	\$5,000.00

Based on the limited understanding of the component condition, further investigation is recommended to confirm performance and remaining useful life of the heating water piping. The scope of the investigation should include potential remedial options, a renewal schedule, and a cost to address the deficiencies and mitigate further deterioration.

Recommendations #2 - Repair - Heating Water Distribution Systems	
---	--

Type	Repair
Year	2022
Cost	\$13,500.00

Budgetary repair allowance to undertake a remedial action to address the observed deficiencies and mitigate further deterioration.

Recommendations #3 - Heating Water Distribution Systems	
--	--

Type	Life Cycle Replacement
Year	2032
Cost	\$104,850.72

Replace Heating Water Distribution Systems

Element Description	
Name	D304021 - HVAC Pumps (Up to 10 HP)
Installation Year	2010
Condition	2 - Good
Expected Useful Life	20 Years
Remaining Useful Life	9 Years
Renewal Year	2030
Quantity / Unit of Measure	5 / Each
Unit Cost	\$4,000.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$37,340.00

Description

There are five (5) in-line HVAC circulating pumps installed in the mechanical room serving the heating water distribution system.

Condition Narrative

No major deficiencies were observed or reported during the assessment.

Photos



Charlie Lake Fire Hall - D202007



Charlie Lake Fire Hall - D202007

Recommendations

Recommendations #1 - HVAC Pumps (Up to 10 HP)	
Type	Life Cycle Replacement
Year	2030
Cost	\$37,340.00

Replace HVAC Pumps (Up to 10 HP)

Element Description	
Name	D304033 - Exhaust Fan - Ceiling (Residential)
Installation Year	2014
Condition	2 - Good
Expected Useful Life	25 Years
Remaining Useful Life	18 Years
Renewal Year	2039
Quantity / Unit of Measure	2 / Each
Unit Cost	\$1,000.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$3,734.00

Description

Ceiling-mounted exhaust fans are installed in the main floor washrooms of the original building to serve as ventilation for these spaces. Technical specifications for the fans are not available.

Condition Narrative

No major deficiencies were observed or reported during the assessment.

Photos



Charlie Lake Fire Hall - D304033

Recommendations

Recommendations #1 - Exhaust Fan - Ceiling (Residential)	
Type	Life Cycle Replacement
Year	2039
Cost	\$3,734.00

Replace Exhaust Fan - Ceiling (Residential)

Element Description	
Name	D305004 - Fin Tube Radiation Units
Installation Year	1987
Condition	2 - Good
Expected Useful Life	30 Years
Remaining Useful Life	6 Years
Renewal Year	2027
Quantity / Unit of Measure	48 / LM
Unit Cost	\$280.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$25,092.48

Description

Perimeter heating for the second floor of the addition consists of hydronic finned tube radiation units, installed at baseboard level.

Condition Narrative

The component has exceeded its expected useful life, although its remaining useful life has been extended beyond the short-term of the evaluation period due to the absence of significant observed or reported deficiencies.

Photos



Charlie Lake Fire Hall - D305004

Recommendations

Recommendations #1 - Fin Tube Radiation Units	
Type	Life Cycle Replacement
Year	2027
Cost	\$25,092.48

Replace Fin Tube Radiation Units

Element Description	
Name	D305033 - Access Control Systems
Installation Year	2020
Condition	1 - Excellent
Expected Useful Life	20 Years
Remaining Useful Life	19 Years
Renewal Year	2040
Quantity / Unit of Measure	500 / SM
Unit Cost	\$15.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$14,002.50

Description

The building is provided with an access control system that includes a control panel, door access panel, card swipes (keypads), maglocks, and shielded wiring.

Condition Narrative

No major deficiencies were observed or reported during the assessment.

Photos



Charlie Lake Fire Hall - D305033

Recommendations

Recommendations #1 - Access Control Systems	
Type	Life Cycle Replacement
Year	2040
Cost	\$14,002.50

Replace Access Control Systems

D40 Fire Protection

Element Description	
Name	D403002 - Fire Extinguishers
Installation Year	2000
Condition	3 - Fair
Expected Useful Life	10 Years
Remaining Useful Life	3 Years
Renewal Year	2024
Quantity / Unit of Measure	624 / SM Building
Unit Cost	\$1.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$1,165.01

Description

Portable ABC-type fire extinguishers that are mounted to wall brackets are installed throughout the building.

Condition Narrative

No major deficiencies were observed or reported during the assessment. Annual inspection appeared to be current. However, as the component has long surpassed its expected useful life and plays a critical function in building safety, short-term replacement is recommended to minimize the risk and impacts of sudden failure.

Photos



Charlie Lake Fire Hall - D403002



Charlie Lake Fire Hall - D403002

Recommendations

Recommendations #1 - Fire Extinguishers	
Type	Life Cycle Replacement
Year	2024
Cost	\$1,165.01

Replace Fire Extinguishers

D50 Electrical

Element Description	
Name	D501005 - Panelboards up to 400A
Installation Year	2010
Condition	2 - Good
Expected Useful Life	40 Years
Remaining Useful Life	29 Years
Renewal Year	2050
Quantity / Unit of Measure	2 / Each
Unit Cost	\$5,000.00
Difficulty / Regional / Soft Cost Factors	0.75 / 1.867 / 1
Replacement Cost	\$14,002.50

Description

The building is provided with electrical distribution panels manufactured by Square D and Eaton. Each panel is provided with an electrical rating of 100 Amps 120/208 Volts.

Condition Narrative

No major deficiencies were observed or reported during the assessment. The difficulty factor has been adjusted based on the panel sizes/amperages.

Photos



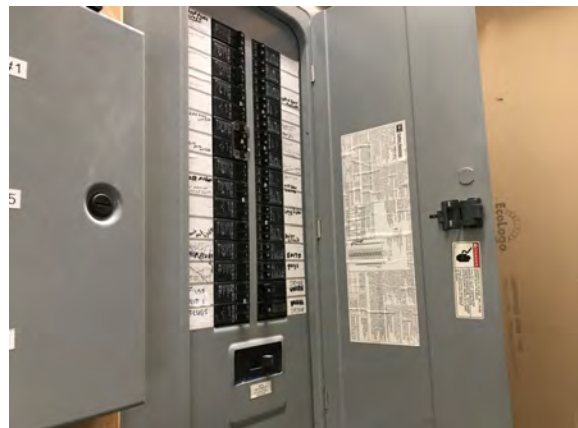
Charlie Lake Fire Hall - D501005



Charlie Lake Fire Hall - D501005



Charlie Lake Fire Hall - D501005



Charlie Lake Fire Hall - D501005

Recommendations

Recommendations #1 - Panelboards up to 400A	
Type	Life Cycle Replacement
Year	2050
Cost	\$14,002.50

Replace Panelboards up to 400A

Element Description	
Name	D501025 - LV Main Service Disconnects
Installation Year	2010
Condition	2 - Good
Expected Useful Life	40 Years
Remaining Useful Life	29 Years
Renewal Year	2050
Quantity / Unit of Measure	1 / Each
Unit Cost	\$10,000.00
Difficulty / Regional / Soft Cost Factors	0.30 / 1.867 / 1
Replacement Cost	\$5,601.00

Description

The building's incoming electrical service is delivered to the addition apparatus bay. The electrical feed connects with a fused electrical disconnect switch manufactured by Square D. The disconnect switch is rated for a 200 Amp, 120/208 Volt electrical feed.

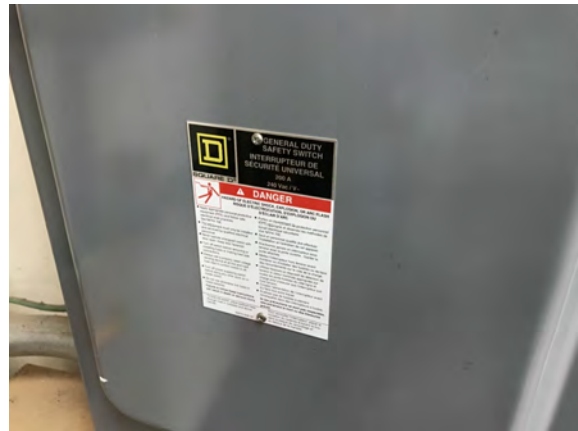
Condition Narrative

No major deficiencies were observed or reported during the assessment. The difficulty factor has been adjusted based on the switch amperage.

Photos



Charlie Lake Fire Hall - D501025



Charlie Lake Fire Hall - D501025

Recommendations

Recommendations #1 - LV Main Service Disconnects	
Type	Life Cycle Replacement
Year	2050
Cost	\$5,601.00

Replace LV Main Service Disconnects

Element Description	
Name	D502001 - Branch Wiring and Devices - Addition
Installation Year	1987
Condition	2 - Good
Expected Useful Life	50 Years
Remaining Useful Life	16 Years
Renewal Year	2037
Quantity / Unit of Measure	332 / SM Building
Unit Cost	\$95.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$58,885.18

Description

The low voltage electrical distribution system of the addition includes branch wiring to end devices such as switches and receptacles. The wiring includes commercial grade insulated copper wire, flex or armoured cable, outlets, switches and receptacles.

Condition Narrative

No major deficiencies were observed or reported during the assessment. however, some plugs over sinks did not appear to have ground fault protection. It is recommended to provide GFCI protected plugs over sinks. The cost complete with work is presumed to fall below the cost for repair threshold (\$5,000) and should therefore be completed as a maintenance activity.

Photos



Charlie Lake Fire Hall - D502001



Charlie Lake Fire Hall - D502001

Recommendations

Recommendations #1 - Branch Wiring and Devices	
Type	Life Cycle Replacement
Year	2037
Cost	\$58,885.18

Replace Branch Wiring and Devices

Element Description	
Name	D502001 - Branch Wiring and Devices - Original
Installation Year	1977
Condition	2 - Good
Expected Useful Life	50 Years
Remaining Useful Life	6 Years
Renewal Year	2027
Quantity / Unit of Measure	292 / SM Building
Unit Cost	\$95.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$51,790.58

Description

The low voltage electrical distribution system of the original building includes branch wiring to end devices such as switches and receptacles. The wiring includes commercial grade insulated copper wire, flex or armoured cable, outlets, switches and receptacles.

Condition Narrative

No major deficiencies were observed or reported during the assessment.

Photos



Charlie Lake Fire Hall - D502001

Recommendations

Recommendations #1 - Branch Wiring and Devices	
Type	Life Cycle Replacement
Year	2027
Cost	\$51,790.58

Replace Branch Wiring and Devices

Element Description	
Name	D502002 - Interior Lighting - Second Floor, Offices, and Washrooms
Installation Year	2000
Condition	2 - Good
Expected Useful Life	35 Years
Remaining Useful Life	14 Years
Renewal Year	2035
Quantity / Unit of Measure	206 / SM Building
Unit Cost	\$85.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$32,691.17

Description

The interior lighting system includes a combination of linear fluorescent tube light fixtures on the second floor and decorative light fixtures in main floor washrooms and offices. Linear fixtures have T8 lamps. Decorative light fixtures have CFLs.

Condition Narrative

No major deficiencies were observed or reported during the assessment. Replace fluorescent fixtures with LED in future upgrade.

Photos



Charlie Lake Fire Hall - D502002



Charlie Lake Fire Hall - D502002



Charlie Lake Fire Hall - D502002



Charlie Lake Fire Hall - D502002

Recommendations

Recommendations #1 - Interior Lighting	
Type	Life Cycle Replacement
Year	2035
Cost	\$32,691.17

Replace Interior Lighting

Element Description	
Name	D502002 - Interior Lighting - Apparatus Bay
Installation Year	2019
Condition	1 - Excellent
Expected Useful Life	35 Years
Remaining Useful Life	33 Years
Renewal Year	2054
Quantity / Unit of Measure	418 / SM Building
Unit Cost	\$85.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$66,334.51

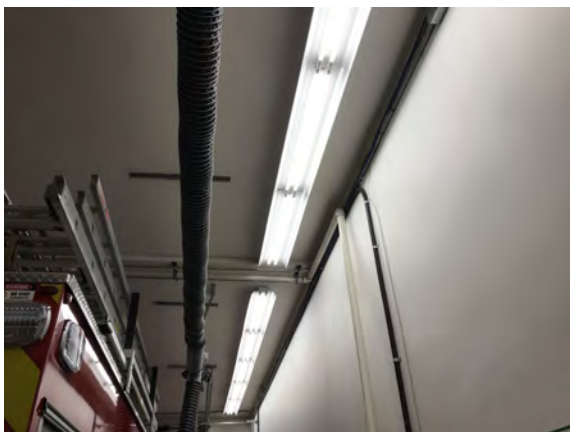
Description

The interior lighting system includes linear light fixtures in the apparatus bays. Linear fixtures are LED's.

Condition Narrative

No major deficiencies were observed or reported during the assessment.

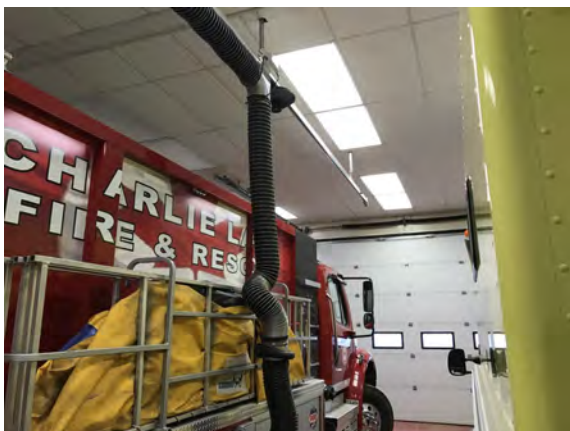
Photos



Charlie Lake Fire Hall - D502002



Charlie Lake Fire Hall - D502002



Charlie Lake Fire Hall - D502002



Charlie Lake Fire Hall - D502002

Element Description	
Name	D502041 - Exterior Lighting
Installation Year	2019
Condition	1 - Excellent
Expected Useful Life	20 Years
Remaining Useful Life	18 Years
Renewal Year	2039
Quantity / Unit of Measure	8 / Each
Unit Cost	\$500.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$7,468.00

Description

The exterior lighting system includes wall pack fixtures along the perimeter of the building. The wall fixtures are LED.

Condition Narrative

No major deficiencies were observed or reported during the assessment.

Photos



Charlie Lake Fire Hall - D502041



Charlie Lake Fire Hall - D502041



Charlie Lake Fire Hall - D502041



Charlie Lake Fire Hall - D502041

Recommendations

Recommendations #1 - Exterior Lighting	
Type	Life Cycle Replacement
Year	2039
Cost	\$7,468.00

Replace Exterior Lighting

Element Description	
Name	D502053 - Illuminated Combo Exit Signs
Installation Year	2000
Condition	2 - Good
Expected Useful Life	35 Years
Remaining Useful Life	14 Years
Renewal Year	2035
Quantity / Unit of Measure	4 / Each
Unit Cost	\$450.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$3,360.60

Description

The exit lighting system includes illuminated single-sided combination exit signs along egresses and at exits. The system includes exit signs and wiring.

Condition Narrative

No major deficiencies were observed or reported during the assessment.

Photos



Charlie Lake Fire Hall - D502053



Charlie Lake Fire Hall - D502053



Charlie Lake Fire Hall - D502053

Recommendations

Recommendations #1 - Illuminated Combo Exit Signs	
Type	Life Cycle Replacement
Year	2035
Cost	\$3,360.60

Replace Illuminated Combo Exit Signs

Element Description	
Name	D503002 - Telecommunication Systems - Telephone System
Installation Year	2010
Condition	2 - Good
Expected Useful Life	25 Years
Remaining Useful Life	14 Years
Renewal Year	2035
Quantity / Unit of Measure	624 / SM Building
Unit Cost	\$5.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$5,825.04

Description

The building is equipped with a VOIP telephone system.

Condition Narrative

No major deficiencies were observed or reported during the assessment.

Photos



Charlie Lake Fire Hall - D503002



Charlie Lake Fire Hall - D503002

Recommendations

Recommendations #1 - Telecommunication Systems	
Type	Life Cycle Replacement
Year	2035
Cost	\$5,825.04

Replace Telecommunication Systems

Element Description	
Name	D503002 - Telecommunication Systems - LAN System
Installation Year	2010
Condition	2 - Good
Expected Useful Life	25 Years
Remaining Useful Life	14 Years
Renewal Year	2035
Quantity / Unit of Measure	624 / SM Building
Unit Cost	\$5.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$5,825.04

Description

The building is equipped with a local area network system.

Condition Narrative

No major deficiencies were observed or reported during the assessment.

Photos



Charlie Lake Fire Hall - D503002

Recommendations

Recommendations #1 - Telecommunication Systems	
Type	Life Cycle Replacement
Year	2035
Cost	\$5,825.04

Replace Telecommunication Systems

Element Description	
Name	D503008 - Security Systems - Intrusion Alarm Systems
Installation Year	2010
Condition	2 - Good
Expected Useful Life	20 Years
Remaining Useful Life	9 Years
Renewal Year	2030
Quantity / Unit of Measure	624 / SM Building
Unit Cost	\$10.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$11,650.08

Description

The building is provided with a DSC intrusion detection system that includes door contacts, and motion sensors. Keypads for arming/disarming the system are located at both entrances. Control panels for the system are installed in communication closet.

Condition Narrative

No major deficiencies were observed or reported during the assessment.

Photos



Charlie Lake Fire Hall - D503008



Charlie Lake Fire Hall - D503008

Recommendations

Recommendations #1 - Security Systems - Intrusion Alarm Systems	
Type	Life Cycle Replacement
Year	2030
Cost	\$11,650.08

Replace Security Systems - Intrusion Alarm Systems

Element Description	
Name	D509012 - Emergency Power Generator Systems Natural Gas
Installation Year	2010
Condition	2 - Good
Expected Useful Life	30 Years
Remaining Useful Life	19 Years
Renewal Year	2040
Quantity / Unit of Measure	57 / kVA
Unit Cost	\$600.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$63,851.40

Description

The emergency power generator system includes a natural gas generator located north/east of the building. The generator is manufactured by Kohler and rated for 57 kVA at 208V. The system includes the generator, radiator, air intake, exhaust muffler, battery charger, and control panel.

Condition Narrative

No major deficiencies were observed or reported during the assessment.

Photos



Charlie Lake Fire Hall - D509002



Charlie Lake Fire Hall - D509002



Charlie Lake Fire Hall - D509002



Charlie Lake Fire Hall - D509002

Recommendations

Recommendations #1 - Emergency Power Generator Systems Natural Gas	
Type	Life Cycle Replacement
Year	2040
Cost	\$63,851.40

Replace Emergency Power Generator Systems Natural Gas

Element Description	
Name	D509031 - Automatic Transfer Switches (ATSs) up to 400A
Installation Year	2010
Condition	2 - Good
Expected Useful Life	40 Years
Remaining Useful Life	29 Years
Renewal Year	2050
Quantity / Unit of Measure	1 / Each
Unit Cost	\$7,500.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$14,002.50

Description

The low voltage electrical distribution system includes a Thompson Technology automatic transfer switch located in the addition apparatus bay. The transfer switch has a rating of 200A at 208/120V.

Condition Narrative

No major deficiencies were observed or reported during the assessment.

Photos



Charlie Lake Fire Hall - D509031



Charlie Lake Fire Hall - D509031

Recommendations

Recommendations #1 - Automatic Transfer Switches (ATSs) up to 400A	
Type	Life Cycle Replacement
Year	2050
Cost	\$14,002.50

Replace Automatic Transfer Switches (ATSs) up to 400A

E Equipment & Furnishings

E10 Equipment

Element Description	
Name	E102010 - Vehicle Exhaust Systems
Installation Year	2010
Condition	2 - Good
Expected Useful Life	25 Years
Remaining Useful Life	14 Years
Renewal Year	2035
Quantity / Unit of Measure	5 / Per Hose Connection
Unit Cost	\$7,500.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$70,012.50

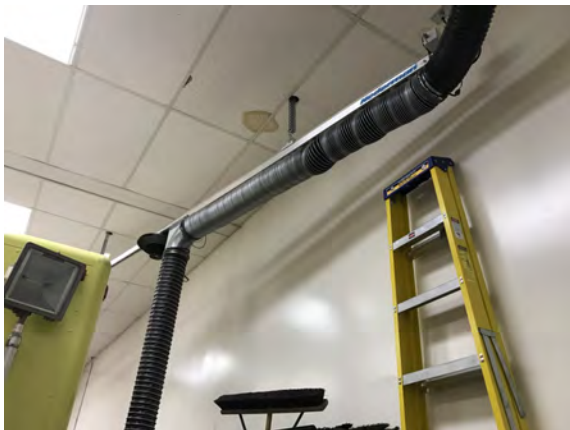
Description

The building includes a vehicle exhaust system with ducting, controls, hose reels and flexible hoses provided in the apparatus bay. The exhaust fan is located on the mezzanine.

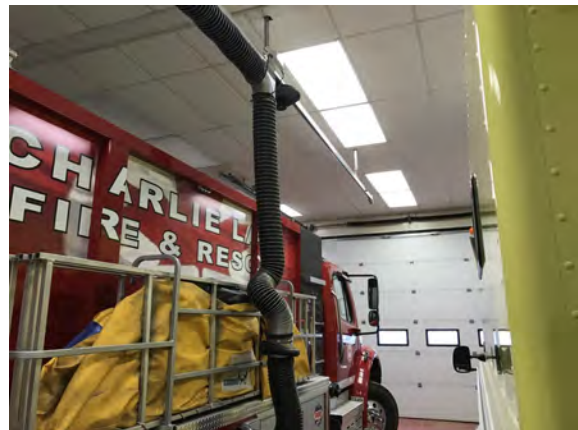
Condition Narrative

No major deficiencies were observed or reported during the assessment.

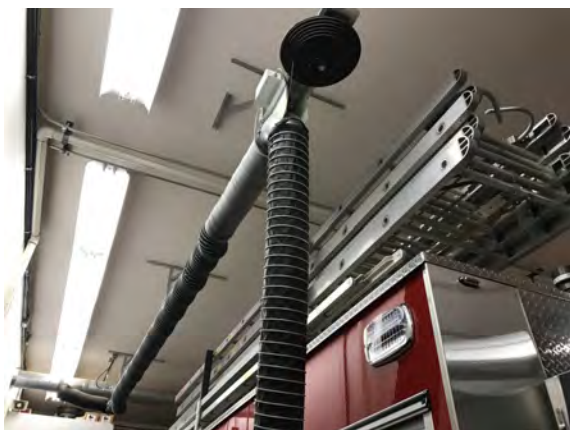
Photos



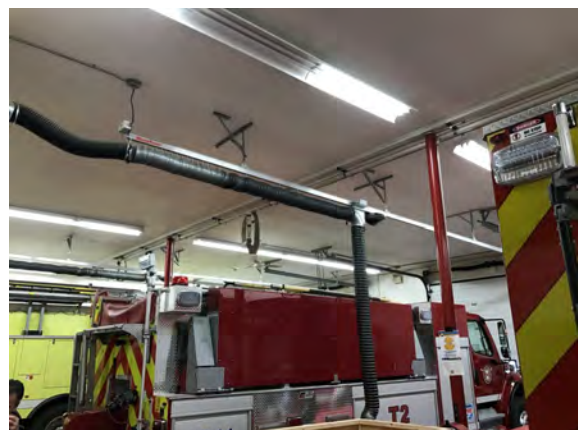
Charlie Lake Fire Hall - E102010



Charlie Lake Fire Hall - E102010



Charlie Lake Fire Hall - E102010



Charlie Lake Fire Hall - E102010

Recommendations

Recommendations #1 - Vehicle Exhaust Systems	
Type	Life Cycle Replacement
Year	2035
Cost	\$70,012.50

Replace Vehicle Exhaust Systems

G Building Sitework

G20 Site Improvements

Element Description	
Name	G201023 - Concrete Paved Surface - Roadway
Installation Year	2010
Condition	2 - Good
Expected Useful Life	30 Years
Remaining Useful Life	19 Years
Renewal Year	2040
Quantity / Unit of Measure	410 / SM
Unit Cost	\$215.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$164,576.05

Description

A concrete-surfaced roadway that presumably incorporates a light-duty paving structure is constructed north/west of the building.

Condition Narrative

No major deficiencies were observed or reported during the assessment. Site personnel expressed concerns regarding settlement in the compound that may affect the asphalt and gravel yard. In addition, there is reportedly settlement and frost heave at the Main Entry door which is setting off the alarm. An allowance for an engineering study has been provided along with an allowance for repairs. The repair allowance is a placeholder value only. Repair costs will be based on the results or recommendations in the study.

Photos



Charlie Lake Fire Hall - G201023



Charlie Lake Fire Hall - G201023

Recommendations

Recommendations #1 - Study - Yard Settlement	
Type	Engineering Study
Year	2021
Cost	\$5,000.00

Based on the limited understanding of the component condition, further investigation is recommended to confirm settlement of ground around the building. The scope of the investigation should include potential remedial options, a renewal schedule and a cost to address the deficiencies and mitigate further deterioration.

Recommendations #2 - Repair - Yard Grading	
Type	Major Repair
Year	2022
Cost	\$30,000.00

Budgetary repair allowance to undertake a remedial action to address the observed deficiencies and mitigate further deterioration.

Recommendations #3 - Concrete Paved Surface - Roadway	
Type	Life Cycle Replacement
Year	2040
Cost	\$164,576.05

Replace Concrete Paved Surface - Roadway

Element Description	
Name	G202021 - Asphalt Paved Surfaces - Parking Area
Installation Year	2010
Condition	2 - Good
Expected Useful Life	25 Years
Remaining Useful Life	14 Years
Renewal Year	2035
Quantity / Unit of Measure	830 / SM
Unit Cost	\$75.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$116,220.75

Description

An asphalt-surfaced roadway that presumably incorporates a light-duty paving structure is constructed north/west of the building.

Condition Narrative

No major deficiencies were observed or reported during the assessment.

Photos



Charlie Lake Fire Hall - G202021



Charlie Lake Fire Hall - G202021

Recommendations

Recommendations #1 - Asphalt Paved Surfaces - Parking Area	
Type	Life Cycle Replacement
Year	2035
Cost	\$116,220.75

Replace Asphalt Paved Surfaces - Parking Area

Element Description	
Name	G204021 - Fencing and Gates - Chain Link Fence
Installation Year	2010
Condition	2 - Good
Expected Useful Life	30 Years
Remaining Useful Life	19 Years
Renewal Year	2040
Quantity / Unit of Measure	60 / LM
Unit Cost	\$360.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$40,327.20

Description

On the north/east property perimeter a chain link fence is provided.

Condition Narrative

No major deficiencies were observed or reported during the assessment.

Photos



Charlie Lake Fire Hall - G204021



Charlie Lake Fire Hall - G204021

Recommendations

Recommendations #1 - Fencing and Gates - Chain Link Fence	
Type	Life Cycle Replacement
Year	2040
Cost	\$40,327.20

Replace Fencing and Gates - Chain Link Fence

Element Description	
Name	G204081 - Message Sign - Wall-Mounted
Installation Year	2010
Condition	2 - Good
Expected Useful Life	20 Years
Remaining Useful Life	9 Years
Renewal Year	2030
Quantity / Unit of Measure	1 / Each
Unit Cost	\$1,300.00
Difficulty / Regional / Soft Cost Factors	4.00 / 1.867 / 1
Replacement Cost	\$9,708.40

Description

Dimensional lettering that appeared to consist of aluminum is installed on the building's north and east elevations. The lettering spells out the facility name.

Condition Narrative

No major deficiencies were observed or reported during the assessment. Difficulty factor adjusted to reflect size of sign.

Photos



Charlie Lake Fire Hall - G204081

Recommendations

Recommendations #1 - Message Sign - Wall-Mounted	
Type	Life Cycle Replacement
Year	2030
Cost	\$9,708.40

Replace Message Sign - Wall-Mounted

G30 Site Mechanical Utilities

Element Description	
Name	G301021 - Water Supply
Installation Year	1977
Condition	2 - Good
Expected Useful Life	50 Years
Remaining Useful Life	6 Years
Renewal Year	2027
Quantity / Unit of Measure	60 / LM
Unit Cost	\$153.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$17,139.06

Description

While concealed from view below-grade, the underground water supply line is estimated to be steel piping in a trench from the municipality water supply to the north/east of the addition apparatus bay.

Condition Narrative

No major deficiencies were observed or reported during the assessment.

Recommendations

Recommendations #1 - Water Supply	
Type	Life Cycle Replacement
Year	2027
Cost	\$17,139.06

Replace Water Supply

Element Description	
Name	G302001 - Sanitary Sewer
Installation Year	1977
Condition	2 - Good
Expected Useful Life	50 Years
Remaining Useful Life	6 Years
Renewal Year	2027
Quantity / Unit of Measure	60 / LM
Unit Cost	\$200.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$22,404.00

Description

While concealed from view below-grade, the underground sanitary sewer line is estimated to be cast iron piping in a trench from the building to the municipality sewer system.

Condition Narrative

No major deficiencies were observed or reported during the assessment.

Recommendations

Recommendations #1 - Sanitary Sewer	
Type	Life Cycle Replacement
Year	2027
Cost	\$22,404.00

Replace Sanitary Sewer

Element Description	
Name	G306006 - Gas Distribution (Natural or Propane)
Installation Year	1977
Condition	2 - Good
Expected Useful Life	50 Years
Remaining Useful Life	6 Years
Renewal Year	2027
Quantity / Unit of Measure	60 / LM
Unit Cost	\$84.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$9,409.68

Description

While concealed from view below-grade, the underground natural gas line is estimated to be welded steel piping in a trench from the utility to the meter on the exterior of the building.

Condition Narrative

No major deficiencies were observed or reported during the assessment.

Photos



Charlie Lake Fire Hall - G306006

Recommendations

Recommendations #1 - Gas Distribution (Natural or Propane)	
Type	Life Cycle Replacement
Year	2027
Cost	\$9,409.68

Replace Gas Distribution (Natural or Propane)

G40 Site Electrical Utilities

Element Description	
Name	G401011 - Electrical Service
Installation Year	1987
Condition	2 - Good
Expected Useful Life	50 Years
Remaining Useful Life	16 Years
Renewal Year	2037
Quantity / Unit of Measure	60 / LM
Unit Cost	\$655.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	\$73,373.10

Description

The overhead single-phase electrical service is provided from the utility to the building electrical service equipment.

Condition Narrative

No major deficiencies were observed or reported during the assessment.

Photos



Charlie Lake Fire Hall - G401011



Charlie Lake Fire Hall - G401011

Recommendations

Recommendations #1 - Electrical Service	
Type	Life Cycle Replacement
Year	2037
Cost	\$73,373.10

Replace Electrical Service

Collaborating to Provide Asset Data You Can Trust

APPENDIX B

30-Year Capital Plan Renewal and Repair Summary

Project No. 21075

© Copyright 2021 FCAPX a Division of Roth IAMS Ltd.- All rights reserved



OPINION OF PROBABLE COST TABLE

Client		Peace River Regional District	
Site No.			
Building Name		Charlie Lake Fire Hall	
Address			
Project No.		21375	
Date		November 18, 2021	

Element Name	Recommendation Description	Element Condition	Recommendation Type	Expected Useful Life (Yrs)	Recommendation Year	Recommendation Cost	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	Totals (2021 - 2050)
A - Substructure																																					
A103001 Slab on Grade - Addition	Undertake repairs to areas of localized cracking, scaling, and correct uneven surfaces.	2 - Good	Major Repair	75	2022	\$8,000		\$8,000																												\$8,000	
A103001 Slab on Grade - Original	Undertake repairs to areas of localized cracking, scaling, and correct uneven surfaces.	2 - Good	Major Repair	75	2022	\$15,000		\$15,000																												\$15,000	
B - Shell																																					
B15 - Superstructure																																					
B103001 Structure - Addition	Based on the limited understanding of the component condition, further investigation is recommended to confirm performance and remaining useful life of the second floor and main wall between original building. The scope of the investigation should include potential remedial options, a renewal schedule and a cost to address the deficiencies and mitigate further deterioration.	2 - Good	Engineering Study	75	2021	\$5,000	\$5,000																													\$5,000	
B103001 Structure - Addition	Budgetary repair allowance to undertake a remedial action to address the observed deficiencies and mitigate further deterioration.	2 - Good	Major Repair	75	2022	\$35,000		\$35,000																												\$35,000	
B20 - Exterior Enclosures																																					
B201008 Exterior Soffits	Replace Exterior Soffits	2 - Good	Life Cycle Replacement	50	2037	\$9,447																	\$9,447												\$9,447		
B201025 Vinyl Siding	Replace Vinyl Siding	3 - Fair	Life Cycle Replacement	25	2024	\$65,065				\$65,065																										\$130,130	
B202001 Windows	Replace Windows	3 - Fair	Life Cycle Replacement	35	2025	\$10,642					\$10,642																									\$10,642	
B203022 Overhead Doors - Industrial	Replace Overhead Doors - Industrial	2 - Good	Life Cycle Replacement	25	2035	\$89,616																														\$89,616	
B203023 Single Door - Hollow Metal	Replace Single Door - Hollow Metal	3 - Fair	Life Cycle Replacement	30	2025	\$23,898					\$23,898																									\$23,898	
B30 - Roofing																																					
B301022 Conventional - Modified Bitumen	Repair the roofing assembly drainage slopes.	3 - Fair	Repair	22	2023	\$48,000																														\$48,000	
B301022 Conventional - Modified Bitumen	Replace Conventional - Modified Bitumen	3 - Fair	Life Cycle Replacement	22	2032	\$171,017													\$171,017																	\$171,017	
C - Interiors																																					
C103022 Single Door - Wood - Addition	Replace Single Door - Wood	2 - Good	Life Cycle Replacement	40	2027	\$3,734								\$3,734																						\$3,734	
C102022 Single Door - Wood - Original	Replace Single Door - Wood	2 - Good	Life Cycle Replacement	40	2050	\$18,670																														\$18,670	
C103009 Cabinets - Kitchens	Replace Cabinets - Kitchens	3 - Fair	Life Cycle Replacement	35	2026	\$11,202						\$11,202																								\$11,202	
C103010 Vanities - Addition	Replace Vanities	3 - Fair	Life Cycle Replacement	25	2025	\$4,481					\$4,481																									\$8,962	
C103010 Vanities - Original	Replace Vanities	2 - Good	Life Cycle Replacement	25	2039	\$4,481																					\$4,481									\$4,481	
C103011 Cabinets - General	Replace Cabinets - General	3 - Fair	Life Cycle Replacement	35	2025	\$13,442					\$13,442																									\$13,442	
C103099 Other Fittings - Metal Pipe Storage Racks	Replace Other Fittings	2 - Good	Life Cycle Replacement	30	2040	\$56,010																														\$56,010	
C201022 Exterior Stair Construction	Replace Exterior Stair Construction	2 - Good	Life Cycle Replacement	40	2027	\$57,877								\$57,877																						\$57,877	
C201027 Access Ladders - Addition	Replace Access Ladders	3 - Fair	Life Cycle Replacement	40	2027	\$4,668								\$4,668																						\$4,668	
C201027 Access Ladders - Original	Replace Access Ladders	3 - Fair	Life Cycle Replacement	40	2026	\$2,801											\$2,801																			\$2,801	
C202027 Vinyl Sheet	Replace Vinyl Sheet	2 - Good	Life Cycle Replacement	20	2027	\$3,781																														\$7,561	
C301005 Paint Wall Covering	Replace Paint Wall Covering	3 - Fair	Life Cycle Replacement	10	2026	\$46,600																														\$139,801	
C301022 Wood Wall Finish	Replace Wood Wall Finish	2 - Good	Life Cycle Replacement	25	2027	\$4,033																														\$4,033	
C302005 Carpet Floor	Replace Carpet Floor	3 - Fair	Life Cycle Replacement	10	2024	\$2,688																														\$8,065	
C302007 Painted / Sealed Concrete Floor	Replace Painted / Sealed Concrete Floor	2 - Good	Life Cycle Replacement	15	2027	\$34,203																														\$68,407	
C302023 Vinyl Sheet Floor	Replace Vinyl Sheet Floor	2 - Good	Life Cycle Replacement	15	2027	\$31,366																														\$62,731	
C303004 Acoustic Tile Ceiling	Replace Acoustic Tile Ceiling	3 - Fair	Life Cycle Replacement	30	2026	\$2,091																														\$2,091	
C303006 Painted Ceiling Structures	Replace Painted Ceiling Structures	2 - Good	Life Cycle Replacement	15	2028	\$25,653																														\$51,306	
C303007 Suspended Acoustic Ceiling Panels	Replace Suspended Acoustic Ceiling Panels	2 - Good	Life Cycle Replacement	25	2027	\$25,541																														\$25,541	
D - Services																																					
D10 - Convenience																																					
D20 - Plumbing																																					
D201001 Water Closets - Addition	Replace Water Closets	2 - Good	Life Cycle Replacement	35	2027	\$1,867																														\$1,867	
D201001 Water Closets - Original	Replace Water Closets	2 - Good	Life Cycle Replacement	35	2049	\$3,734																														\$3,734	
D201003 Lavatories - Addition	Replace Lavatories	2 - Good	Life Cycle Replacement	35	2027	\$1,867																														\$1,867	
D201003 Lavatories - Original	Replace Lavatories	2 - Good	Life Cycle Replacement	35	2049	\$3,734																														\$3,734	
D201004 Sinks - Addition	Replace Sinks	2 - Good	Life Cycle Replacement	35	2035	\$1,867																														\$1,867	
D201004 Sinks - Utility Sink	Replace Sinks	2 - Good	Life Cycle Replacement	35	2049	\$1,867																														\$1,867	
D201012 Shower Assembly	Replace Shower Assembly	2 - Good	Life Cycle Replacement	25	2039	\$11,202																														\$11,202	
D202001 Domestic Water Pipes and Fittings	Move domestic piping away from electrical outlets.	2 - Good	Major Repair	40	2022	\$5,000																														\$5,000	
D202001 Domestic Water Pipes and Fittings	Replace Domestic Water Pipes and Fittings	2 - Good	Life Cycle Replacement	40	2027	\$46,600																														\$46,600	
D202034 Gas Fired Domestic Water Heaters (Residential Tank Type)	Replace Gas Fired Domestic Water Heaters (Residential Tank Type)	5 - Missing/Failed	Life Cycle Replacement	12	2021	\$8,822	\$8,822																													\$26,466	
D203001 Sanitary Waste and Vent Piping - Addition	Replace Sanitary Waste and Vent Piping	2 - Good	Life Cycle Replacement	50	2037	\$52,425																														\$52,425	
D203007 Interceptor Systems	Replace Interceptor Systems	3 - Fair	Life Cycle Replacement	25	2026	\$18,670																														\$18,670	
D204001 Rain Water Drainage Piping and Fittings	Replace Rain Water Drainage Piping and Fittings	2 - Good	Life Cycle Replacement	50	2037	\$34,950																														\$34,950	
D204005 Sump Pump	Replace Sump Pump	1 - Excellent	Life Cycle Replacement	15	2034	\$5,601																														\$5,601	
D30 - HVAC																																					
D301002 Gas Supply Systems	Replace Gas Supply Systems	2 - Good	Life Cycle Replacement	40	2027	\$23,300																														\$23,300	
D302002 Hot Water Boilers less than 1000 MBH	Replace Hot Water Boilers less than 1000 MBH	2 - Good	Life Cycle Replacement	30	2040	\$37,807																														\$37,807	
D304003 Heating Water Distribution Systems	Based on the limited understanding of the component condition, further investigation is recommended to confirm performance and remaining useful life of the heating water piping. The scope of the investigation should include potential remedial options, a renewal schedule, and a cost to address the deficiencies and																																				

OPINION OF PROBABLE COST TABLE

Client	Peace River Regional District																																	
Site No.																																		
Building Name	Charlie Lake Fire Hall																																	
Address	21375																																	
Project No.																																		
Date	November 18, 2021																																	

Element Name	Recommendation Description	Element Condition	Recommendation	Expected Useful Life (Years)	Recommendation Year	Recommendation Cost	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	Totals (2021 - 2050)	
G201023 Concrete Paved Surface - Roadway	Replace Concrete Paved Surface - Roadway	2 - Good	Life Cycle Replacement	30	2040	\$164,576																				\$164,576											\$164,576	
G202021 Asphalt Paved Surfaces - Parking Area	Replace Asphalt Paved Surfaces - Parking Area	2 - Good	Life Cycle Replacement	25	2035	\$116,221															\$116,221																\$116,221	
G204021 Fencing and Gates - Chain Link Fence	Replace Fencing and Gates - Chain Link Fence	2 - Good	Life Cycle Replacement	30	2040	\$40,327																				\$40,327											\$40,327	
G204081 Message Sign- Wall-Mounted	Replace Message Sign - Wall-Mounted	2 - Good	Life Cycle Replacement	20	2030	\$9,708										\$9,708											\$40,327										\$9,708	\$19,417
G301021 Water Supply	Replace Water Supply	2 - Good	Life Cycle Replacement	50	2027	\$17,139							\$17,139																								\$17,139	
G302001 Sanitary Sewer	Replace Sanitary Sewer	2 - Good	Life Cycle Replacement	50	2027	\$22,404																															\$22,404	
G306006 Gas Distribution (Natural or Propane)	Replace Gas Distribution (Natural or Propane)	2 - Good	Life Cycle Replacement	50	2027	\$9,410							\$9,410																								\$9,410	
G401011 Electrical Service	Replace Electrical Service	2 - Good	Life Cycle Replacement	50	2037	\$73,373																	\$73,373														\$73,373	
Total Capital Renewals						\$2,131,127	\$18,822	\$111,500	\$48,000	\$68,918	\$52,463	\$81,364	\$364,872	\$25,653	\$0	\$58,698	\$0	\$275,868	\$8,822	\$9,454	\$325,418	\$46,600	\$229,081	\$0	\$26,885	\$378,574	\$0	\$65,989	\$25,853	\$3,853	\$8,822	\$46,600	\$3,781	\$0	\$80,001	\$115,455	\$2,478,525	

APPENDIX C
Reserve Fund Analysis

Cash Flow Table								
Scenario 0: No Contribution								
Reserve Fund Opening Balance		\$	394,522	Assumed Annual Inflation Rate for Reserve Fund Expenditures				2.00%
Projected Minimum Reserve Fund Balance		\$	(3,080,636)	Assumed Annual Interest Rate for Interest Earned on Reserve Fund				2.00%
Year	Opening Balance	Recommended Annual Contribution	Other Contribution	Estimated Inflation Adjusted Expenditures	Estimated Interest Earned	% Increase In Recommended Annual Contribution	Closing Balance	Average Contribution Per Unit, Per Month
2021	\$ 394,522	\$ -	\$ -	\$ 19,950	\$ 7,890	n/a	\$ 382,463	\$ -
2022	\$ 382,463	\$ -	\$ -	\$ 119,952	\$ 7,770	2.00%	\$ 270,280	\$ -
2023	\$ 270,280	\$ -	\$ -	\$ 52,436	\$ 6,527	2.00%	\$ 224,372	\$ -
2024	\$ 224,372	\$ -	\$ -	\$ 76,885	\$ 4,947	2.00%	\$ 152,434	\$ -
2025	\$ 152,434	\$ -	\$ -	\$ 59,101	\$ 3,768	2.00%	\$ 97,101	\$ -
2026	\$ 97,101	\$ -	\$ -	\$ 95,061	\$ 2,495	2.00%	\$ 4,535	\$ -
2027	\$ 4,535	\$ -	\$ -	\$ 431,602	\$ 1,016	2.00%	\$ (426,050)	\$ -
2028	\$ (426,050)	\$ -	\$ -	\$ 31,359	\$ -	2.00%	\$ (457,410)	\$ -
2029	\$ (457,410)	\$ -	\$ -	\$ -	\$ -	2.00%	\$ (457,410)	\$ -
2030	\$ (457,410)	\$ -	\$ -	\$ 74,036	\$ -	2.00%	\$ (531,446)	\$ -
2031	\$ (531,446)	\$ -	\$ -	\$ -	\$ -	2.00%	\$ (531,446)	\$ -
2032	\$ (531,446)	\$ -	\$ -	\$ 360,330	\$ -	2.00%	\$ (891,775)	\$ -
2033	\$ (891,775)	\$ -	\$ -	\$ 11,985	\$ -	2.00%	\$ (903,760)	\$ -
2034	\$ (903,760)	\$ -	\$ -	\$ 13,583	\$ -	2.00%	\$ (917,343)	\$ -
2035	\$ (917,343)	\$ -	\$ -	\$ 451,658	\$ -	2.00%	\$ (1,369,001)	\$ -
2036	\$ (1,369,001)	\$ -	\$ -	\$ 66,419	\$ -	2.00%	\$ (1,435,419)	\$ -
2037	\$ (1,435,419)	\$ -	\$ -	\$ 328,645	\$ -	2.00%	\$ (1,764,064)	\$ -
2038	\$ (1,764,064)	\$ -	\$ -	\$ -	\$ -	2.00%	\$ (1,764,064)	\$ -
2039	\$ (1,764,064)	\$ -	\$ -	\$ 38,991	\$ -	2.00%	\$ (1,803,055)	\$ -
2040	\$ (1,803,055)	\$ -	\$ -	\$ 576,679	\$ -	2.00%	\$ (2,379,734)	\$ -
2041	\$ (2,379,734)	\$ -	\$ -	\$ -	\$ -	2.00%	\$ (2,379,734)	\$ -
2042	\$ (2,379,734)	\$ -	\$ -	\$ 103,444	\$ -	2.00%	\$ (2,483,178)	\$ -
2043	\$ (2,483,178)	\$ -	\$ -	\$ 42,205	\$ -	2.00%	\$ (2,525,384)	\$ -
2044	\$ (2,525,384)	\$ -	\$ -	\$ 6,623	\$ -	2.00%	\$ (2,532,006)	\$ -
2045	\$ (2,532,006)	\$ -	\$ -	\$ 96,265	\$ -	2.00%	\$ (2,628,271)	\$ -
2046	\$ (2,628,271)	\$ -	\$ -	\$ 80,964	\$ -	2.00%	\$ (2,709,235)	\$ -
2047	\$ (2,709,235)	\$ -	\$ -	\$ 7,028	\$ -	2.00%	\$ (2,716,264)	\$ -
2048	\$ (2,716,264)	\$ -	\$ -	\$ -	\$ -	2.00%	\$ (2,716,264)	\$ -
2049	\$ (2,716,264)	\$ -	\$ -	\$ 148,074	\$ -	2.00%	\$ (2,864,338)	\$ -
2050	\$ (2,864,338)	\$ -	\$ -	\$ 216,298	\$ -	2.00%	\$ (3,080,636)	\$ -

Note 1: The contributions for the 2021 fiscal year are amounts budgeted by Charlie Lake Fire Hall

Note 2: The 2021 Estimated Inflation Adjusted Expenditures includes approved CRF expenditures for the fiscal year, if any.

Note 3: The projections included in this table are estimates only, based on the information available at the time of preparation. The condition assessment must be updated regularly as the actual figures will vary from the amounts detailed in this table due to changes in interest rates, inflation rates and scheduling of the repair/replacement work.

F·CAP·X

Cash Flow Table								
Scenario 1: Contributions Increase with Inflation								
Reserve Fund Opening Balance		\$	394,522	Assumed Annual Inflation Rate for Reserve Fund Expenditures				2.00%
Projected Minimum Reserve Fund Balance		\$	21,795	Assumed Annual Interest Rate for Interest Earned on Reserve Fund				2.00%
Year	Opening Balance	Recommended Annual Contribution	Other Contribution	Estimated Inflation Adjusted Expenditures	Estimated Interest Earned	% Increase In Recommended Annual Contribution	Closing Balance	Average Contribution Per Unit, Per Month
2021	\$ 394,522	\$ -	\$ -	\$ 19,950	\$ 7,890	n/a	\$ 382,463	\$ -
2022	\$ 382,463	\$ 85,000	\$ -	\$ 119,952	\$ 7,770	2.00%	\$ 355,280	\$ 7,083
2023	\$ 355,280	\$ 86,700	\$ -	\$ 52,436	\$ 7,377	2.00%	\$ 396,922	\$ 7,225
2024	\$ 396,922	\$ 88,434	\$ -	\$ 76,885	\$ 7,522	2.00%	\$ 415,993	\$ 7,370
2025	\$ 415,993	\$ 90,203	\$ -	\$ 59,101	\$ 8,129	2.00%	\$ 455,224	\$ 7,517
2026	\$ 455,224	\$ 92,007	\$ -	\$ 95,061	\$ 8,712	2.00%	\$ 460,882	\$ 7,667
2027	\$ 460,882	\$ 93,847	\$ -	\$ 431,602	\$ 9,161	2.00%	\$ 132,288	\$ 7,821
2028	\$ 132,288	\$ 95,724	\$ -	\$ 31,359	\$ 5,932	2.00%	\$ 202,584	\$ 7,977
2029	\$ 202,584	\$ 97,638	\$ -	\$ -	\$ 3,349	2.00%	\$ 303,571	\$ 8,137
2030	\$ 303,571	\$ 99,591	\$ -	\$ 74,036	\$ 5,062	2.00%	\$ 334,188	\$ 8,299
2031	\$ 334,188	\$ 101,583	\$ -	\$ -	\$ 6,378	2.00%	\$ 442,148	\$ 8,465
2032	\$ 442,148	\$ 103,615	\$ -	\$ 360,330	\$ 7,763	2.00%	\$ 193,196	\$ 8,635
2033	\$ 193,196	\$ 105,687	\$ -	\$ 11,985	\$ 6,353	2.00%	\$ 293,252	\$ 8,807
2034	\$ 293,252	\$ 107,801	\$ -	\$ 13,583	\$ 4,864	2.00%	\$ 392,334	\$ 8,983
2035	\$ 392,334	\$ 109,957	\$ -	\$ 451,658	\$ 6,856	2.00%	\$ 57,489	\$ 9,163
2036	\$ 57,489	\$ 112,156	\$ -	\$ 66,419	\$ 4,498	2.00%	\$ 107,724	\$ 9,346
2037	\$ 107,724	\$ 114,399	\$ 200,000	\$ 328,645	\$ 1,652	2.00%	\$ 95,130	\$ 9,533
2038	\$ 95,130	\$ 116,687	\$ -	\$ -	\$ 2,029	2.00%	\$ 213,846	\$ 9,724
2039	\$ 213,846	\$ 119,021	\$ -	\$ 38,991	\$ 3,090	2.00%	\$ 296,965	\$ 9,918
2040	\$ 296,965	\$ 121,401	\$ 175,000	\$ 576,679	\$ 5,108	2.00%	\$ 21,795	\$ 10,117
2041	\$ 21,795	\$ 123,829	\$ -	\$ -	\$ 3,188	2.00%	\$ 148,812	\$ 10,319
2042	\$ 148,812	\$ 126,306	\$ -	\$ 103,444	\$ 1,706	2.00%	\$ 173,379	\$ 10,525
2043	\$ 173,379	\$ 128,832	\$ -	\$ 42,205	\$ 3,222	2.00%	\$ 263,227	\$ 10,736
2044	\$ 263,227	\$ 131,408	\$ -	\$ 6,623	\$ 4,366	2.00%	\$ 392,379	\$ 10,951
2045	\$ 392,379	\$ 134,036	\$ -	\$ 96,265	\$ 6,556	2.00%	\$ 436,706	\$ 11,170
2046	\$ 436,706	\$ 136,717	\$ -	\$ 80,964	\$ 8,291	2.00%	\$ 500,750	\$ 11,393
2047	\$ 500,750	\$ 139,452	\$ -	\$ 7,028	\$ 9,375	2.00%	\$ 642,548	\$ 11,621
2048	\$ 642,548	\$ 142,241	\$ -	\$ -	\$ 11,433	2.00%	\$ 796,222	\$ 11,853
2049	\$ 796,222	\$ 145,085	\$ -	\$ 148,074	\$ 14,388	2.00%	\$ 807,620	\$ 12,090
2050	\$ 807,620	\$ 147,987	\$ -	\$ 216,298	\$ 16,038	2.00%	\$ 755,348	\$ 12,332

Note 1: The contributions for the 2021 fiscal year are amounts budgeted by Charlie Lake Fire Hall

Note 2: The 2021 Estimated Inflation Adjusted Expenditures includes approved CRF expenditures for the fiscal year, if any.

Note 3: The projections included in this table are estimates only, based on the information available at the time of preparation. The condition assessment must be updated regularly as the actual figures will vary from the amounts detailed in this table due to changes in interest rates, inflation rates and scheduling of the repair/replacement work.

F·CAP·X

APPENDIX D

Site Plan



APPENDIX E
Preventative Maintenance Plan

Charlie Lake Fire Hall

Equipment List

Uniformat Code	Uniformat Name	Quantity	Description (If Applicable)	PM ID Number
B203022	Overhead Doors - Industrial	4		0003
D202034	Gas Fired Domestic Water Heaters (Residential Tank Type)	1		0022
D204005	Sump Pump	1		0025
D302002	Hot Water Boilers less than 1000 MBH	1	Condensing	0096
D304005	Glycol Distribution Systems	N/A		0040
D304021	HVAC Pumps (Up to 10 HP)	5		0016
D403002	Fire Extinguishers	Not Available		0071
D501005	Panelboards up to 400A	2		0077
D501025	LV Main Service Disconnects	1		0079
D502053	Illuminated Combo Exit Signs	Not Available		0086
D509012	Emergency Power Generator Systems Natural Gas	1		0085
D509031	Automatic Transfer Switches (ATSs) up to 400A	1		0088
E102010	Vehicle Exhaust Systems	1		0101

Charlie Lake Fire Hall

Preventative Maintenance Plan

PM ID Number	Component Name	PM Task List	Frequency	Estimated Time (Minutes)	Quantity	Resource/Craft	Materials / Consumables	LOTO (Y/N)
0003	Overhead Doors - Industrial	Clean all hinges/hardware and lubricate as required per the manufacture's specifications.	quarterly	120	Each	Door Technician	Toolset, Lubricant, Testing Equipment	Y
		Inspect and clean all rollers, bearings, cables, chains, shaft, tracks, and hardware.						
		Clean and test automatic sensors/door operators.						
		Test operation of all buttons, controls, and switches.						
		Inspect the motor, including electrical connections.						
		Check electric motors for excessive vibration, unusual noise, and odours.						
		Lubricate the motor as per manufacturer's specifications.						
		Tighten the sprockets, brake solenoids, and armatures, as required.						
		Lubricate all bearings, chains, gear reducers, disconnects and pivot points as per the manufacturer's specifications,						
		Inspect the operator bearings, disconnect linkage, and chain hoist assemblies (If Applicable).						
0016	Pumps	Test the emergency shut-off switch, if present.	weekly	10	Each	Building Technician	Toolset	N
		Verify the sequence of operation, including any controls and safety mechanisms.						
		Visually assess the pump, fittings, and mounts for signs of corrosion, excessive sweating, and leaks.						
		Lubricate pump bearings as per manufacturer's specifications						
		Lubricate motor bearing as per manufacturer's specifications						
		Check motor mounts and vibration pads to ensure there is not excessive vibration (If applicable).						
		Ensure vents are clear of dust and obstruction.						
		Visually assess electrical connections for loose or frayed wiring.						
		Visually assess all mechanical seals.						
		Verify the sequence of operation, including any controls, redundancy systems, and safety mechanisms.						
0022	Gas Fired Domestic Water Heaters	Inspect the tank and associated pipes and fittings for signs of leaks or corrosion.	semi-annually	20	Each	Building Technician	Toolset, Drain Hose/Transfer Pump	N
		Visually assess electrical connections for loose or frayed wiring.						
		Inspect the gas supply lines for signs of leaking, deterioration, and odours.						
		Check to ensure the water heater is adequately vented and check the chimney for rust/leaks.						
		Flush the tank. To prevent a vacuum from forming during flushing, run the hot water in a nearby sink and leave it running for the duration of the flushing process. Connect a hose or transfer pump to the drain outlet of the hot water heater and open the drain/blow down valve. Leave the valve open until water runs clear and free of sediment. Close the drain valve and turn off the hot water in the nearby tap set.						
0025	Sump Pump	Clean pump as required to ensure unimpeded impeller operation and discharge vents.	weekly	15	Each	Building Technician	Toolset, Cleaning Supplies	Y
		Inspect the float arm and mechanism to ensure proper operation. Adjust as required.						
		Inspect check valves for proper valve function (if applicable)						
		Visually assess electrical connections for loose or frayed wiring.						
		Verify the sequence of operation, including any controls, redundancy systems, and safety mechanisms.						
0025	Sump Pump	Remove the pump and clean/de-scale the wet well.	quarterly	60	Each	Building Technician	Toolset, Wet Vacuum,	Y
		Lubricate pump/motor bearings as per manufacturer specifications.						
0040	Glycol Distribution Systems	Visually assess accessible piping for signs of corrosion or leaks.	weekly	20	Total	Building Technician	NA	N
		Check pressure gauges and compare pressures with past data.						
		Check accessible insulation for moisture and repair any loose/damaged sections.						
		Check the glycol holding tank/check system glycol levels to ensure they meet design specifications. Add glycol solution as needed, if qualified to do so.						
0040	Glycol Distribution Systems	If a glycol holding tank is present, inspect it for leaks or damage.	semi-annually	5	Each	Building Technician	Toolset	N
		Exercise main shut-off/isolation valves.						
0040	Glycol Distribution Systems	Draw a sample of glycol water in the system from each sampling point and test it for quality, glycol percentage, and contaminants.	semi-annually	60	Total	Qualified Vendor	Specialized testing equipment	N
		Provide a detailed report of the testing results.						
0040	Glycol Distribution Systems	If system is closed loop, glycol will need to be replaced based on a variable schedule to be determined by semi-annual testing results of glycol.	1-3 years	480	Total	HVAC Technician	Glycol, Toolset, Vacuums, Pumps	Y
		Dispose of used glycol in accordance with legislation enacted by those authorities having jurisdiction.						
0071	Fire Extinguishers	Inspect the fire extinguisher and ensure the needle reads within acceptable ranges on the pressure gauge. Ensure the fire extinguisher is properly mounted/seated.	monthly	5	Each	Building Technician	NA	N
		Check to ensure pins are in place and secured with unbroken break-away ties.						
		Initial the monthly inspection tags.						
0071	Fire Extinguishers	Complete an annual inspection in accordance with fire code regulations and update inspection tags. Annual inspections must be performed by a technician who is licensed to do so.	annually	10	Each	Licensed Technician	Inspection Tags	N
0071	Fire Extinguishers	Complete hydrostatic testing. Recharge or replace the fire extinguisher as needed.	10 years	30	Each	Licensed Technician	Specialized re-charging equipment.	N

Charlie Lake Fire Hall

Preventative Maintenance Plan

PM ID Number	Component Name	PM Task List	Frequency	Estimated Time (Minutes)	Quantity	Resource/Craft	Materials / Consumables	LOTO (Y/N)
0077	Panelboards	Perform thermal imaging (infrared scanning) to detect hot spots (excess heat) in electrical components. While thermal imaging is being undertaken, inspect electrical panelboards for missing breakers, panel schedules, knockouts, or unusual sounds or odours. Provide a detailed thermal imaging report based on the results of the infrared scanning.	3 years	10	Each	Electrician	Thermal Imaging Camera, Toolset	N
0079	Main Switches / Disconnects	Perform thermal imaging (infrared scanning) to detect hot spots (excess heat) in electrical components. While thermal imaging is being undertaken, inspect the switch for missing schedules, knockouts, or unusual sounds or odours. Provide a detailed thermal imaging report based on the results of the infrared scanning.	3 years	10	Each	Electrician	Thermal Imaging Camera, Toolset	N
0085	Emergency Power Generator Systems	Inspect fuel level and pressure to ensure it is full. Inspect lubricating oil and engine coolant levels and report if they not compliant with manufacturer specifications. Test annunciator lamps to confirm that they are operational, if applicable. If the unit has a display, check it to ensure there are no alarms or notifications. Visually assess the entire system for signs of damage, leaks, corrosion, or other issues. Operate the generator for 30 minutes, not under electrical load. (No Load Test) Inspect the unit while it is running and monitor for unusual noises, odours, or excessive vibration. Record any available statistics while the generator is operable and compare to past collected data. Inspect for correct operation of all auxiliary equipment, e.g., radiator shutter control, coolant pumps, fuel transfer pumps, oil coolers, and engine room ventilation system(s).	weekly	45	Each	Building Technician	Hearing Protection	N
0085	Emergency Power Generator Systems	Note: This monthly preventative maintenance event should replace the weekly preventative maintenance event that would normally fall on this week. Inspect day tank fuel level and pressure to ensure it is full. Inspect lubricating oil and engine coolant levels and report if they not compliant with manufacturer specifications. Test annunciator lamps to confirm that they are operational, if applicable. If the unit has a display, check it to ensure there are no alarms or notifications. Visually assess the entire system for signs of damage, leaks, corrosion, or other issues. Operate the generator for 60 minutes under electrical load. (Full Load Test) Inspect the unit while it is running and monitor for unusual noises, odours, or excessive vibration. Record any available statistics while the generator is operable and compare to past collected data. While the full load test is being completed, ensure any lighting operated by the generator for use as emergency lighting is illuminated properly. Inspect for correct operation of all auxiliary equipment, e.g., radiator shutter control, coolant pumps, fuel transfer pumps, oil coolers, and engine room ventilation system(s).	monthly	75	Each	Building Technician	Hearing Protection	N
0085	Emergency Power Generator Systems	Inspect, test, and calibrate all generator systems including but not limited to; the engine and all associated components, fuel tanks, fuel pumps, filters, oil, coolant, controls, transfer switches, dampers/linkages, safety systems. Clean all generator systems with a manufacturer approved degreasing agent or non-abrasive cleaner. Lubricate any bearings/nipples as per manufacturer specifications. Replace any oil/coolant filters Test the voltage of the batteries and replace if they are outputting less than 80% of the rated voltage. Inspect, test, and calibrate the battery charging station. Check belt alignment and correct as needed. Replace the belts, if needed. Test operation of any manual or automatic transfer switching equipment. Operate the generator for 60 minutes, under full electrical load. (Full Load Test) Record any available statistics while the generator is operable and compare to past collected data.	semi-annually	180	Each	Licensed Generator Technician	Hearing Protection, Toolset, Lubricant, Belts, Coolant, Cleaning Supplies	Y

Charlie Lake Fire Hall

Preventative Maintenance Plan

PM ID Number	Component Name	PM Task List	Frequency	Estimated Time (Minutes)	Quantity	Resource/Craft	Materials / Consumables	LOTO (Y/N)
0085	Emergency Power Generator Systems	<p>Inspect, test, and calibrate all generator systems including but not limited to; the engine and all associated components, fuel tanks, fuel pumps, filters, oil, coolant, controls, transfer switches, dampers/linkages, safety systems.</p> <p>Clean all generator systems with a manufacturer approved degreasing agent or non-abrasive cleaner.</p> <p>Lubricate any bearings/nipples as per manufacturer specifications.</p> <p>Clean and lubricate all linkages/dampers.</p> <p>Test the voltage of the batteries and replace if they are outputting less than 80% of the rated voltage.</p> <p>Inspect, test, and calibrate the battery charging station.</p> <p>Check belt alignment and correct as needed. Replace the belts, if needed.</p> <p>Test operation of any manual or automatic transfer switching equipment.</p> <p>Test strength of coolant and chemical protection level of coolant inhibitors.</p> <p>Inspect the exhaust system. Check and record the back pressure of the exhaust system to ensure that it complies with the engine manufacturer's requirements, and compare with previous readings.</p> <p>Test surge suppressor and rotating rectifier on brushless machines.</p> <p>Clean rotor and stator windings using clean compressed air.</p> <p>Inspect coupling bolts and alignment.</p> <p>For spark ignition engines, inspect all components of ignition system(s) and service or replace as appropriate.</p> <p>Inspect all external surfaces of heat exchanger(s) and clean as necessary.</p> <p>Operate the generator for 120 minutes, under full electrical load. (Full Load Test)</p> <p>Record any available statistics while the generator is operable and compare to past collected data.</p>	annually	240	Each	Licensed Generator Technician	Hearing Protection, Toolset, Lubricant, Belts, Coolant, Cleaning Supplies	Y
0086	Emergency Lighting - Battery Pack Units (EBUs), Emergency Lighting Systems, Illuminated Combo Exit Signs	<p>Check to confirm operation of light(s) and that unit is secure and free from obstruction. Confirm operation of light by engaging test switch (Battery Operated Devices) or otherwise depowering the unit. Lights must remain illuminated for 30 minutes.</p> <p>Initial the monthly inspection tags.</p>	monthly	60	Total	Building Technician	NA	N
0086	Emergency Lighting - Battery Pack Units (EBUs), Emergency Lighting Systems, Illuminated Combo Exit Signs	<p>Annual certification of the emergency lighting system including a full timed test for each light (90 minutes). Annual certification must be completed by a technician who is licensed to do so.</p> <p>Provide annual inspection tags on each unit.</p>	annually	180	Total	Licensed Technician	Toolset, Testing Equipment	N
0088	Automatic Transfer Switches (ATSs) up to 400A	<p>Note that transfer switch operation is included under the emergency generator task list and this task list is specific to the electrical components of the transfer switch.</p> <p>Perform thermal imaging (infrared scanning) to detect hot spots (excess heat) in electrical components.</p> <p>While thermal imaging is being undertaken, inspect the transfer switch for missing knockouts, or unusual sounds or odours.</p> <p>Provide a detailed thermal imaging report based on the results of the infrared scanning.</p>	3 years	10	Each	Electrician	Thermal Imaging Camera, Toolset	Y
0096	Condensing Hot Water Boilers	<p>Remove the front cover(s) and inspect and test all system components including but not limited to; gas/fuel-fired burners, ignition systems, pilot light systems, burner assemblies, pumps, chimneys/flues, and heat exchangers.</p> <p>Check the fireside of the heat exchanger for fouling and clean as required. If using an oil coating on the heat exchanger surface ensure that it complies with manufacturer specifications.</p> <p>Remove and clean the burner mesh and burner assemblies.</p> <p>Replace consumable components as required, such as, but not limited to; igniters, flame rods, gaskets, filters.</p> <p>Test and examine all water treatment equipment. Verify quantities, concentrations, and replace filters as needed, as per system design specifications.</p> <p>Calibrate combustion and check draft readings.</p> <p>Visually assess electrical connections for loose or frayed wiring.</p> <p>Verify the sequence of operation, including any controls, redundancy systems, and safety mechanisms.</p>	semi-annually	180	Each	Licensed Gas Technician	Toolset, Testing/Calibration Equipment, Consumable Parts	Y
0101	Vehicle Exhaust Systems	<p>Depower the fan unit(s) and open the fan cabinet/remove the fan hood and clean the interior, including fan blades.</p> <p>While the fan(s) is off, inspect the interior components for signs of damage, burns, or unusual odours.</p> <p>Ensure fan bearings are lubricated as per manufacturer specification.</p> <p>Check belt alignment (if present). Make adjustments as needed. Replace belt if required.</p> <p>Visually assess electrical connections for loose or frayed wiring.</p> <p>Replace fan hood/close the fan cabinet and restore power to the unit.</p> <p>Inspect vehicle hoses for any signs of deterioration or leaks and ensure they move freely along the track.</p> <p>Inspect the system under normal operation and monitor for unusual noises, odours, or excessive vibration.</p> <p>Verify the sequence of operation, including any controls, redundancy systems, and safety mechanisms.</p>	monthly	25	Per Fan	Building Technician	Toolset, Lubricant, Cleaning Supplies, Belts	Y