PEACE RIVER REGIONAL DISTRICT

Submission to

Peace River Regional District

Facility Condition Assessment Report Moberly Lake Fire Hall

Version: Final

November 17, 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

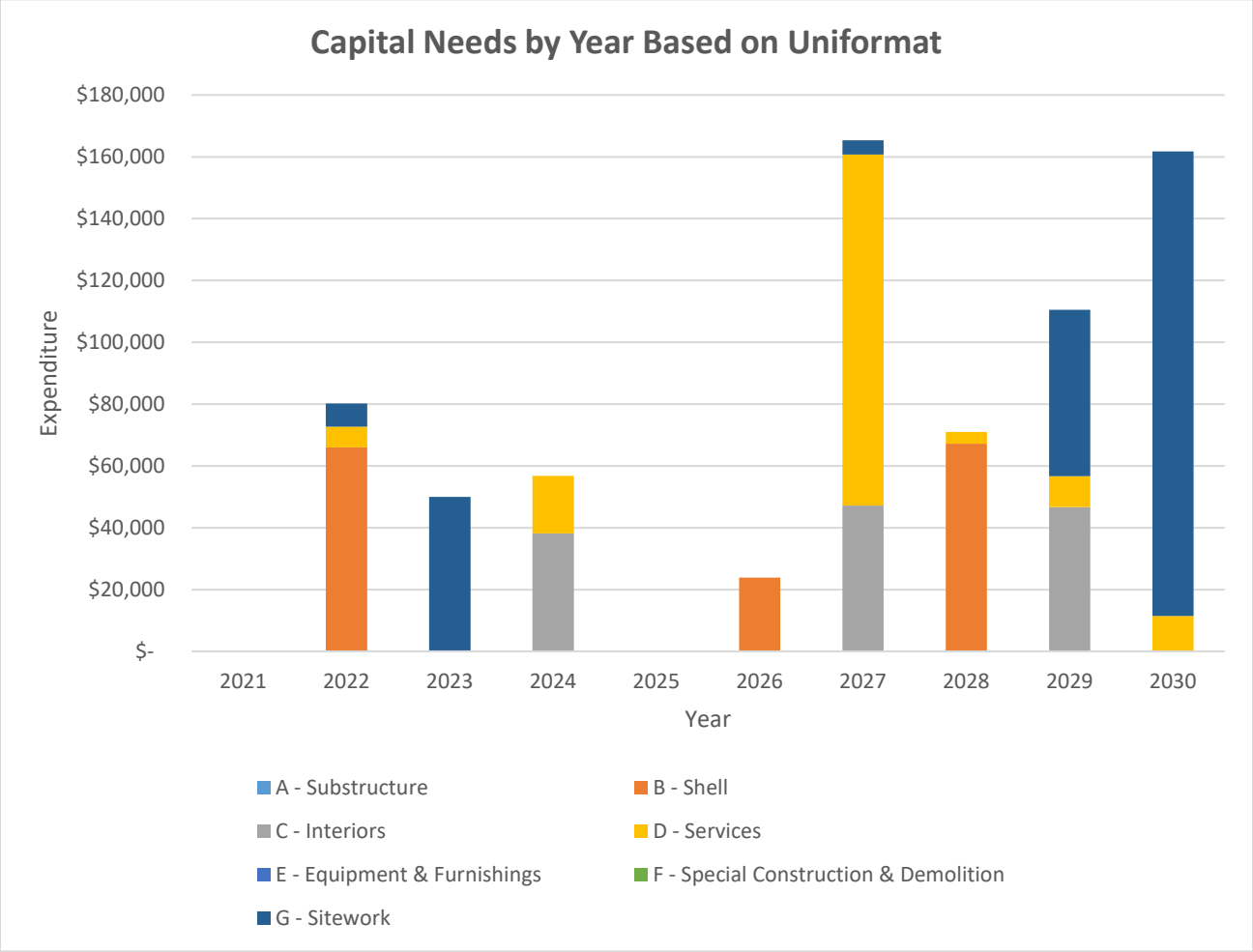
FCAPX a division of Roth IAMS Ltd. (FCAPX) was retained by the Peace River Regional District (PRRD) to conduct a Facility Condition Assessment (FCA) of the Moberly Lake Fire Hall, BC. The objective of the FCA was to identify, based on current observed conditions, deficiencies and potential lifecycle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

Facility Summary

Moberly Lake Fire Hall is located at 6494 Lakeshore Drive in Moberly Lake, BC. This facility is a two-storey structure without a basement, constructed in 1983. An addition was constructed on the west side in 1991. The total gross floor area is estimated to be about 410 SM in size. The building was assessed on June 22, 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.



FCAPX
A Division of Roth IAMS

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.

Uniformat Division	Immediate 2021	Short Term 2022-2026	Mid Term 2027-2031	Long Term 2032-2050	Totals
A-Substructure	$ -	$ -	$ -	$ -	$ -
B- Shell	$ -	$ 89,908	$ 67,212	$ 348,475	$ 505,595
C – Interiors	$ -	$ 38,158	$ 93,873	$ 191,629	$ 323,660
D – Services	$ -	$ 25,391	$ 138,787	$ 296,657	$ 460,835
E – Equipment & Furnishings	$ -	$ -	$ -	$ -	$ -
F – Special Construction	$ -	$ -	$ -	$ 9,335	$ 9,335
G – Building Sitework	$ -	$ 57,500	$ 208,732	$ 461,829	$ 728,061
Totals	$ 0	$ 210,957	$ 508,604	$ 1,307,925	$ 2,027,486

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

Table of Contents

FCAPX
A Division of Roth IAMS

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 Moberly Lake Fire Hall in Moberly 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	Moberly Lake Fire Hall
Address	6494 Lakeshore Drive, Moberly Lake, BC
Estimated Building Floor Area (sq.m.)	410
Number of Storeys	2
Date of Construction	1983

1.2 SITE REVIEW

A site visit was performed on June 22, 2021 by the following FCAPX personnel:

- Brenton Wier, 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

Construction years and the total area of the facility have been estimated based on the data provided by the client. The facility was constructed in parts with the oldest section being constructed circa 1983. The original structure includes a vehicle bay and hose tower. The original building section measures approximately 110 SM. In circa 1991 a section with an additional vehicle bay, an administration area, two washrooms, and an upstairs lunchroom was added on the west side. The approximate area of the 1991 addition is 300 SM. The total building area is approximately 410 SM. The facility sits facing west, with Lakeshore Drive running along the property to the north. The Moberley Lake

Fire Hall sits to the east of the Community Hall. The main entrance is installed on the west elevation of the 1991 building section.

The building is conventional wood framing with a pitched, wood roof clad in metal roofing resting atop a concrete slab-on-grade. Painted metal siding is provided on all exterior elevations. Metal exterior doors are provided at entrances and exits. Interior finishes comprise painted walls, metal wall and ceiling panels, rolled vinyl flooring, wood kitchen cabinets with laminate countertops, and painted ceilings.

1.4.2 Plumbing and Mechanical Systems Summary

A buried domestic water feed enters the mechanical room to a pressure tank. Domestic water is provided by an electric domestic hot water heater. Plumbing fixtures include water closets, lavatories, sinks, and showers. The administration areas and washrooms are heated via electric baseboard heaters. The lunchroom is provided with a propane gas-fire forced air furnace. Vehicle bays are heated via electric unit heaters and propane gas-fired radiant tube heaters

1.4.3 Electrical Systems Summary

An overhead Single-Phase, 120/240V electrical service terminates to the main disconnect switch installed in the original building section. Power is fed to subdistribution panelboards. Interior lighting is a mix of LED and incandescent fixtures. Exterior lighting is incandescent/LED fixtures. Emergency lighting battery packs and exit lighting are provided. There is an automatic transfer switch that connects to the generator system installed on the exterior south elevation. The generator system also serves the Moberly Lake Community Hall.

1.4.4 Site Feature Systems Executive Summary

The gravel roadway that connects Don Phillips Way to Lakeshore Drive to the south is owned and operated by the Fire Hall. There is a gravel parking lot on the west elevation. Concrete barriers are provided at the edge of the parking lot and around the exterior truck fill area. Poured concrete pads are provided at the east and south elevations. A diesel fuel tank with a fill pump is installed south of the facility. There is a buried septic tank south of the facility and a buried domestic water tank installed south of the Moberly Lake Community Hall. Both tanks are owned and operated by the Fire Hall but are shared with Community Hall. There is a buried water tank connecting to a municipally owned cistern on the north side of the facility for truck filling. An overhead electrical service is provided by the local utility.

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:

- 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, 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.

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 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.

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 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.

FCAPX
A Division of Roth IAMS

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:

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

$$\text{5-Year FCI} = \frac{\$129{,}559}{\$1{,}612{,}500} \times 100$$

5-Year FCI = 8%

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,

etc.) for the subject building is $129,559. The building Current Replacement Value (CRV) was estimated based on Marshall and Swift insurable value. For the subject building the CRV (or Cost of Reproduction New (CRN)) was determined to be $1,612,500. The subject building 5-year Facility Condition Index (FCI), calculated based on the 5-Year Renewal Need is 8%. Based on the table above, the FCI suggests that the building is in Good condition overall.

5 RESERVE FUND ANALYSIS

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

Moberly 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.
    - 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 $274,135 (Provided by PRRD).
- The 2021 Expenditures from the AMRF are nil.
- 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.

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 FLOOR PLAN/SITE PLAN

A floor plan displaying the basic layout of the facility has been provided in Appendix D.

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,

Brenton Wier
Facility Assessor
Phone: 587-441-1577, ext. 216
Email: brenton.wier@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
Phone: 587-441-1577, ext. 211
Email: Mike.plomske@rothiams.com

Curtis Loblick, P.Eng., CEM
Vice President, Western Canada
Phone: 587-441-1577, ext. 204
Email: curtis.loblick@rothiams.com

FCAPX
A Division of Roth IAMS

APPENDIX A

Facility Condition Assessment

Project No. 21075

FCAPX
A Division of Roth IAMS

A Substructure
A10 Foundations

Element Description	
Name	A101001 - Standard Foundations
Installation Year	1983
Condition	2 - Good
Expected Useful Life	75 Years
Remaining Useful Life	37 Years
Renewal Year	2058
Quantity / Unit of Measure	150 / LM Footprint
Unit Cost	$984.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	$275,569.20

Description
Construction drawings were not available for review during the assessment. While concealed from view below-grade, standard foundations for the building are presumably composed of cast-in-place concrete foundation walls and strip footings on the building perimeter.

Condition Narrative
No major deficiencies were observed or reported. It is understood that the original building was constructed in 1983, and the west addition was constructed in 1999. As the remaining useful life falls outside the evaluation window for the oldest installed section, this system has been combined using the oldest known install date (1983).

Element Description	
Name	A103001 - Slab on Grade
Installation Year	1983
Condition	2 - Good
Expected Useful Life	75 Years
Remaining Useful Life	37 Years
Renewal Year	2058
Quantity / Unit of Measure	330 / SM Footprint
Unit Cost	$71.33
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	$43,947.13

Description

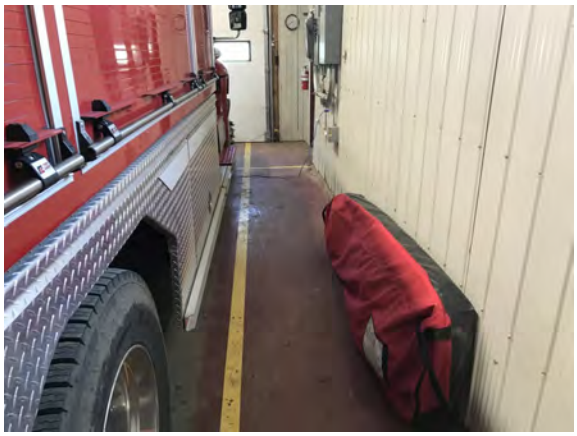
A cast-in-place concrete slab-on-grade floor is constructed throughout the building. The slab is presumably reinforced with conventional steel.

Condition Narrative

No major deficiencies were observed or reported. It is understood that the original building was constructed in 1983, and the west addition was constructed in 1999. As the remaining useful life falls outside the evaluation window for the oldest installed section, this system has been combined using the oldest known install date (1983).

Photos

Moberly Lake Fire Hall - A103001



Moberly Lake Fire Hall - A103001

B Shell
B10 Superstructure

Element Description	
Name	B103001 - Structure
Installation Year	1983
Condition	3 - Fair
Expected Useful Life	75 Years
Remaining Useful Life	37 Years
Renewal Year	2058
Quantity / Unit of Measure	410 / SM Building
Unit Cost	$280.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	$214,331.60

Description

While concealed from view, the building structure is presumably composed of wood decking that is supported by wood trusses, beams, and perimeter wood stud framework. A hose tower is installed east of the laundry room. The building was constructed in parts with the oldest built circa 1983, housing a vehicle bay and hose tower. The 1999 addition features an additional vehicle bay, administration offices, washrooms, and an upstairs lunchroom and lounge.

Condition Narrative

No major deficiencies were observed or reported, however, the wood ladder and wood platforms constructed within the hose tower are reportedly unsafe. As a result, the hose tower is not in use. It is recommended to provide an automated winch system for the hose drying tower to eliminate the need to climb the tower. Unsafe wood infrastructure should be removed. A cost to provide an automated hoist system has been provided. Additionally, in the 1999 vehicle bay, there is a through-wall penetration lined with galvanized ductwork that should be investigated. If used for combustion air, it is recommended to install a grill or fan as a maintenance activity. The Fire Chief indicated onsite that the tower could be removed altogether as it has not been in use for several years with no impact on operations. As the remaining useful life falls outside the evaluation window for the oldest installed section, this system has been combined using the oldest known install date (1983).

Photos

Moberly Lake Fire Hall - B103001

Moberly Lake Fire Hall - B103001

Moberly Lake Fire Hall - B103001

Recommendations

Recommendations #1 - Hose Tower - Install Automated Winch / Remove Wood Ladders and Platforms	
Type	Major Repair
Year	2022
Cost	$10,000.00

Remove the wood ladder and platforms and install an automated winch system for the hose drying tower.

B20 Exterior Enclosure

Element Description	
Name	B201010 - Exterior Coatings/Paint
Installation Year	1999
Condition	4 - Poor
Expected Useful Life	10 Years
Remaining Useful Life	1 Year
Renewal Year	2022
Quantity / Unit of Measure	750 / SM
Unit Cost	$40.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	$56,010.00

Description

Exterior sheet metal siding and the trim around overhead doors are provided with a paint finish.

Condition Narrative

The paint is worn and sun-damaged. The paint is thin in spots. Lifecycle replacement is recommended to preserve the metal siding.

Photos

Moberly Lake Fire Hall - B201010

Moberly Lake Fire Hall - B201010

Moberly Lake Fire Hall - B201010

Recommendations

Recommendations #1 - Exterior Coatings/Paint	
Type	Life Cycle Replacement
Year	2022
Cost	$56,010.00

Replace Exterior Coatings/Paint

Element Description	
Name	B201024 - Metal Siding
Installation Year	1999
Condition	2 - Good
Expected Useful Life	40 Years
Remaining Useful Life	18 Years
Renewal Year	2039
Quantity / Unit of Measure	750 / SM
Unit Cost	$160.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	$224,040.00

Description

All exterior elevations are provided with vertically-corrugated, sheet metal siding.

Condition Narrative

No major deficiencies were observed or reported.

Photos

Moberly Lake Fire Hall - B201024

Moberly Lake Fire Hall - B201024

Moberly Lake Fire Hall - B201024

Recommendations

Recommendations #1 - Metal Siding	
Type	Life Cycle Replacement
Year	2039
Cost	$224,040.00

Replace Metal Siding

Element Description	
Name	B202001 - Windows
Installation Year	1999
Condition	2 - Good
Expected Useful Life	35 Years
Remaining Useful Life	13 Years
Renewal Year	2034
Quantity / Unit of Measure	7 / SM
Unit Cost	$950.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	$12,415.55

Description

There are two (2) fixed windows installed on the main floor. There are fixed and operable sash windows installed on the upper south elevation in the lunchroom. Windows are vinyl and contain insulating glazing units. The main floor windows feature security bars.

Condition Narrative

No major deficiencies were observed or reported.

Photos

Moberly Lake Fire Hall - B202001

Moberly Lake Fire Hall - B202001

Moberly Lake Fire Hall - B202001

Recommendations

Recommendations #1 - Windows	
Type	Life Cycle Replacement
Year	2034
Cost	$12,415.55

Replace Windows

Element Description	
Name	B203022 - Overhead Doors - Industrial
Installation Year	2003
Condition	2 - Good
Expected Useful Life	25 Years
Remaining Useful Life	7 Years
Renewal Year	2028
Quantity / Unit of Measure	3 / Each
Unit Cost	$12,000.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	$67,212.00

Description

There are three (3) sectional metal overhead doors installed on the building's east and west elevations to serve the vehicle bays. The doors feature automatic door openers and glazing inserts.

Condition Narrative

No major deficiencies were observed or reported.

Photos

Moberly Lake Fire Hall - B203022

Moberly Lake Fire Hall - B203022

Moberly Lake Fire Hall - B203022

Recommendations

Recommendations #1 - Overhead Doors - Industrial	
Type	Life Cycle Replacement
Year	2028
Cost	$67,212.00

Replace Overhead Doors - Industrial

Element Description	
Name	B203023 - Single Door - Hollow Metal
Installation Year	1983
Condition	3 - Fair
Expected Useful Life	30 Years
Remaining Useful Life	5 Years
Renewal Year	2026
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

Hollow metal swing-type doors set in pressed metal frames are installed on the building's north, south, and west elevations.

Condition Narrative

No major deficiencies were observed or reported, however, some doors are marked as exit doors, yet do not have panic hardware. It is recommended to install panic hardware on these doors to meet requirements for emergency exit doors. The cost to complete these repairs is presumed to fall below the cost threshold for repair recommendations ($5,000) and should be completed as a routine maintenance activity. Doors were installed between 1983 and 1999. The components have surpassed their expected useful life, however, the Remaining Useful Life has been extended to a later year based on the absence of significant deficiencies.

Photos

Moberly Lake Fire Hall - B203023

Moberly Lake Fire Hall - B203023

Moberly Lake Fire Hall - B203023

Recommendations

Recommendations #1 - Single Door - Hollow Metal	
Type	Life Cycle Replacement
Year	2026
Cost	$23,897.60

Replace Single Door - Hollow Metal

B30 Roofing

Element Description	
Name	B301028 - Metal Roofing
Installation Year	2019
Condition	1 - Excellent
Expected Useful Life	40 Years
Remaining Useful Life	38 Years
Renewal Year	2059
Quantity / Unit of Measure	370 / SM
Unit Cost	$280.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	$193,421.20

Description

The pitched roof is clad in sheet metal roofing. The roof assembly includes perforated metal soffits, and metal fascia at roof edges. Metal gutters and downspouts are installed at roof edges.

Condition Narrative

No major deficiencies were observed or reported.

Photos

Moberly Lake Fire Hall - B301028

Moberly Lake Fire Hall - B301028

C Interiors
C10 Interior Construction

Element Description	
Name	C101001 - Fixed Partitions
Installation Year	1983
Condition	2 - Good
Expected Useful Life	75 Years
Remaining Useful Life	37 Years
Renewal Year	2058
Quantity / Unit of Measure	410 / SM Building
Unit Cost	$95.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	$72,719.65

Description

Interior fixed partitions are assumed to consist of gypsum-clad wood stud assemblies. Ceilings are provided with a gypsum board finish in the administration area, utility rooms, and the lunchroom.

Condition Narrative

No major deficiencies were observed or reported. As the remaining useful life falls outside the evaluation window for the oldest installed section, this system has been combined using the oldest known install date (1983). It is recommended to conduct a Hazardous Materials Assessment based on the age of the building. A cost to complete the assessment has been provided herein.

Photos

Moberly Lake Fire Hall - C101001

Moberly Lake Fire Hall - C101001

Recommendations

Recommendations #1 - Hazardous Materials Assessment	
Type	Engineering Study
Year	2024
Cost	$5,000.00

Undertake a hazardous materials assessment.

Element Description	
Name	C101005 - Interior Windows
Installation Year	1999
Condition	2 - Good
Expected Useful Life	75 Years
Remaining Useful Life	53 Years
Renewal Year	2074
Quantity / Unit of Measure	6 / SM
Unit Cost	$600.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	$6,721.20

Description

Interior vinyl windows are installed in the second-floor lunchroom to overlook the vehicle bay in the 1999 building section.

Condition Narrative

No major deficiencies were observed or reported.

Photos

Moberly Lake Fire Hall - C101005

Element Description	
Name	C102022 - Single Door - Wood
Installation Year	1999
Condition	2 - Good
Expected Useful Life	40 Years
Remaining Useful Life	18 Years
Renewal Year	2039
Quantity / Unit of Measure	9 / Each
Unit Cost	$2,000.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	$33,606.00

Description

Swing-type wood doors set in wood or metal frames are installed throughout the building. The lunchroom door is a wood french door with glass inserts.

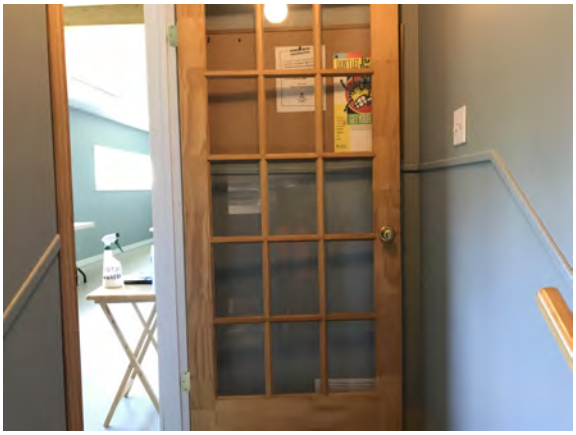
Condition Narrative

No major deficiencies were observed or reported during the assessment. It is assumed that the majority of interior doors were installed in 1999.

Photos

Moberly Lake Fire Hall - C102022

Moberly Lake Fire Hall - C102022



Moberly Lake Fire Hall - C102022

Recommendations

Recommendations #1 - Single Door - Wood	
Type	Life Cycle Replacement
Year	2039
Cost	$33,606.00

Replace Single Door - Wood

Element Description	
Name	C103009 - Cabinets - Kitchens
Installation Year	1983
Condition	2 - Good
Expected Useful Life	35 Years
Remaining Useful Life	6 Years
Renewal Year	2027
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

There are base and wall-mounted wood-framed cabinets with wood panels and laminate countertops installed in the lunchroom.

Condition Narrative

No major deficiencies were observed or reported. The components have surpassed their expected useful life, however, the Remaining Useful Life has been extended to a later year based on the absence of significant deficiencies.

Photos

Moberly Lake Fire Hall - C103009

Recommendations

Recommendations #1 - Cabinets - Kitchens	
Type	Life Cycle Replacement
Year	2027
Cost	$11,202.00

Replace Cabinets - Kitchens

Element Description	
Name	C103010 - Vanities
Installation Year	1999
Condition	2 - Good
Expected Useful Life	25 Years
Remaining Useful Life	6 Years
Renewal Year	2027
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

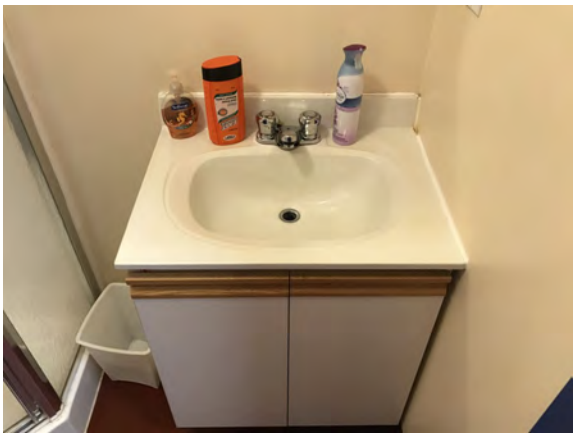
Description

There are base-mounted wood-framed vanities with pressed wood panels installed in the washrooms.

Condition Narrative

No major deficiencies were observed or reported during the assessment. The components have surpassed their expected useful life, however, the Remaining Useful Life has been extended to a later year based on the absence of significant deficiencies. The cost factor has been increased due to the type of vanity construction.

Photos



Moberly Lake Fire Hall - C103010

Recommendations

Recommendations #1 - Vanities	
Type	Life Cycle Replacement
Year	2027
Cost	$4,480.80

Replace Vanities

Element Description	
Name	C103011 - Cabinets - General
Installation Year	1999
Condition	2 - Good
Expected Useful Life	35 Years
Remaining Useful Life	13 Years
Renewal Year	2034
Quantity / Unit of Measure	20 / LM
Unit Cost	$1,200.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	$44,808.00

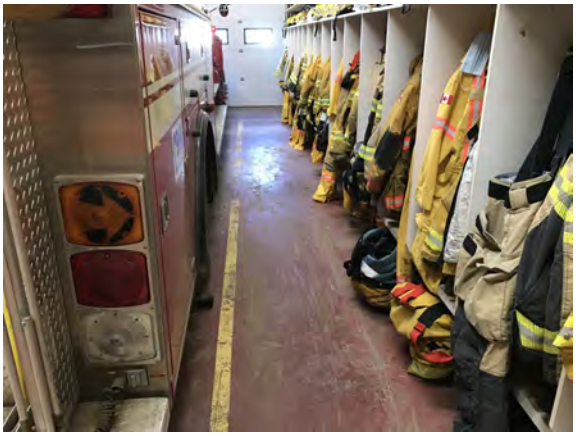
Description

There are base and wall-mounted storage partitions installed to line the apparatus floor. Racking is a mix of painted metal or wood.

Condition Narrative

No major deficiencies were observed or reported. The cost factor has been increased due to the type of vanity construction.

Photos



Moberly Lake Fire Hall - C103011

Moberly Lake Fire Hall - C103011

Recommendations

Recommendations #1 - Cabinets - General	
Type	Life Cycle Replacement
Year	2034
Cost	$44,808.00

Replace Cabinets - General

C20 Stairs

Element Description	
Name	C201001 - Interior Stair Construction
Installation Year	1999
Condition	2 - Good
Expected Useful Life	75 Years
Remaining Useful Life	53 Years
Renewal Year	2074
Quantity / Unit of Measure	16 / Per Riser
Unit Cost	$800.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	$23,897.60

Description

Wood-framed close-backed stairs are installed to provide access to the lunchroom. The staircase features wall-mounted wood handrails. The stairs are provided with a paint finish.

Condition Narrative

No major deficiencies were observed or reported during the assessment.

Photos

Moberly Lake Fire Hall - C201001

Element Description	
Name	C201002 - Exterior Stair Construction
Installation Year	1999
Condition	2 - Good
Expected Useful Life	40 Years
Remaining Useful Life	18 Years
Renewal Year	2039
Quantity / Unit of Measure	20 / Per Riser
Unit Cost	$1,000.00
Difficulty / Regional / Soft Cost Factors	0.50 / 1.867 / 1
Replacement Cost	$18,670.00

Description

Wood-framed open-backed stairs to grade from the lunchroom on the building exterior. The staircase features base-mounted wood guardrails. An upper landing is supported by wood posts.

Condition Narrative

No major deficiencies were observed or reported during the assessment, however, it is recommended to paint the stairs to preserve the wood finish. The cost adjustment factor has been decreased to account for the wood construction.

Photos

Moberly Lake Fire Hall - C201026

Moberly Lake Fire Hall - C201026

Recommendations

Recommendations #1 - Exterior Stair Construction	
Type	Life Cycle Replacement
Year	2039
Cost	$18,670.00

Replace Exterior Stair Construction

C30 Interior Finishes

Element Description	
Name	C301005 - Paint Wall Covering
Installation Year	2017
Condition	2 - Good
Expected Useful Life	10 Years
Remaining Useful Life	6 Years
Renewal Year	2027
Quantity / Unit of Measure	160 / SM Building
Unit Cost	$40.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	$11,948.80

Description
Interior walls in the administration area, washrooms, utility rooms, and lunchroom are provided with a paint finish.

Condition Narrative
No major deficiencies were observed or reported.

Photos

Moberly Lake Fire Hall - C301005


Moberly Lake Fire Hall - C301005

Recommendations

Recommendations #1 - Paint Wall Covering	
Type	Life Cycle Replacement
Year	2027
Cost	$11,948.80

Replace Paint Wall Covering

Element Description	
Name	C301099 - Other Wall Finishes - Metal Wall Finish
Installation Year	1999
Condition	2 - Good
Expected Useful Life	30 Years
Remaining Useful Life	8 Years
Renewal Year	2029
Quantity / Unit of Measure	1 / Lump Sum
Unit Cost	$5,000.00
Difficulty / Regional / Soft Cost Factors	5.00 / 1.867 / 1
Replacement Cost	$46,675.00

Description

The 1999 vehicle bay interior walls and ceilings are provided with a sheet metal finish.

Condition Narrative

No major deficiencies were observed or reported. Unit cost has been determined based on $100/SM of the vehicle bays (250 SM). The average install date is estimated circa 1999.

Photos

Moberly Lake Fire Hall - C301099

Moberly Lake Fire Hall - C301099

Recommendations

Recommendations #1 - Other Wall Finishes	
Type	Life Cycle Replacement
Year	2029
Cost	$46,675.00

Replace Other Wall Finishes

Element Description	
Name	C302007 - Painted / Sealed Concrete Floor
Installation Year	2012
Condition	2 - Good
Expected Useful Life	15 Years
Remaining Useful Life	6 Years
Renewal Year	2027
Quantity / Unit of Measure	262 / SM
Unit Cost	$40.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	$19,566.16

Description

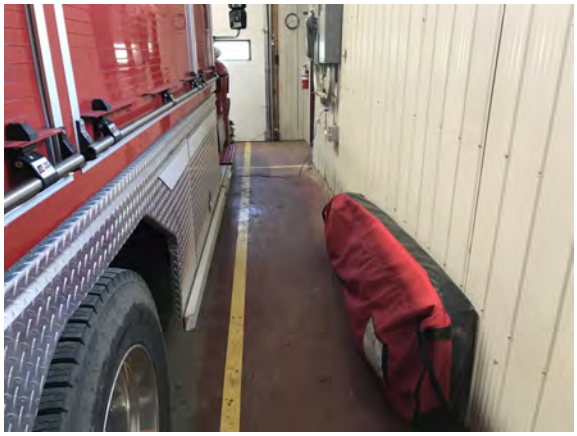
Vehicle bays and mechanical room floors are provided with a paint finish on concrete floor surfaces.

Condition Narrative

No major deficiencies were observed or reported.

Photos

Moberly Lake Fire Hall - C302007



Moberly Lake Fire Hall - C302007

Recommendations

Recommendations #1 - Painted / Sealed Concrete Floor	
Type	Life Cycle Replacement
Year	2027
Cost	$19,566.16

Replace Painted / Sealed Concrete Floor

Element Description	
Name	C302023 - Vinyl Sheet Floor
Installation Year	1999
Condition	3 - Fair
Expected Useful Life	15 Years
Remaining Useful Life	3 Years
Renewal Year	2024
Quantity / Unit of Measure	148 / SM
Unit Cost	$120.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	$33,157.92

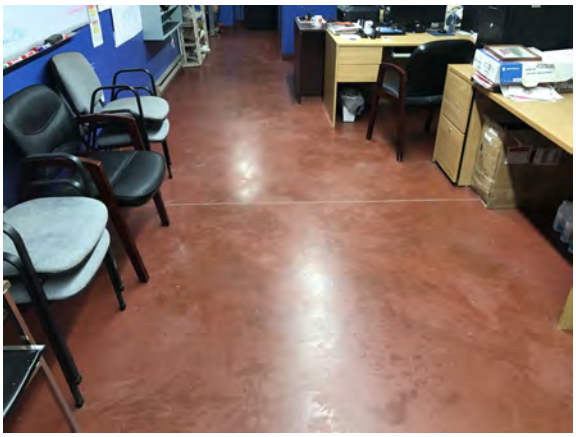
Description

The administration area, washrooms, and lunchroom are provided with a rolled vinyl floor with welded seams.

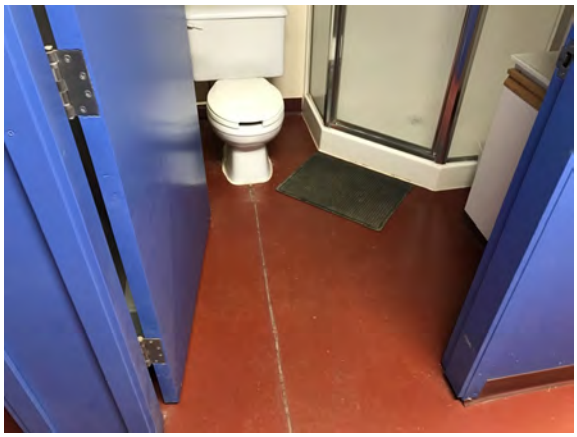
Condition Narrative

The flooring has exceeded its expected useful life and is exhibiting wear and tear that is consistent with age including separating at seams, lifting, and worn finishes in high traffic areas. Lifecycle replacement is recommended.

Photos



Moberly Lake Fire Hall - C302023



Moberly Lake Fire Hall - C302023

Recommendations

Recommendations #1 - Vinyl Sheet Floor	
Type	Life Cycle Replacement
Year	2024
Cost	$33,157.92

Replace Vinyl Sheet Floor

Element Description	
Name	C303006 - Painted Ceiling Structures
Installation Year	2017
Condition	2 - Good
Expected Useful Life	15 Years
Remaining Useful Life	11 Years
Renewal Year	2032
Quantity / Unit of Measure	160 / SM
Unit Cost	$30.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	$8,961.60

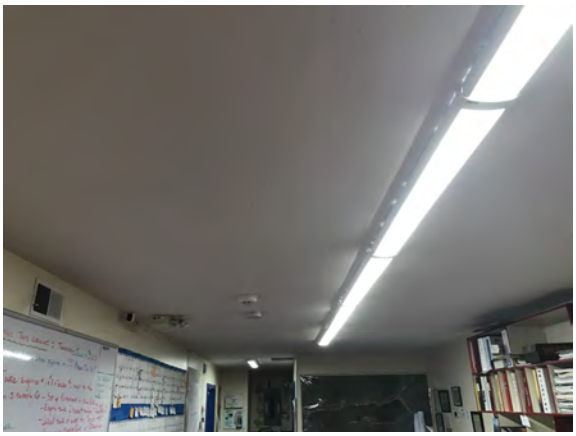
Description

The ceilings in administration areas, washrooms, utility rooms, and the lunchroom are provided with a paint finish.

Condition Narrative

No major deficiencies were observed or reported.

Photos



Moberly Lake Fire Hall - C303006

Recommendations

Recommendations #1 - Painted Ceiling Structures	
Type	Life Cycle Replacement
Year	2032
Cost	$8,961.60

Replace Painted Ceiling Structures

D Services
D20 Plumbing

Element Description	
Name	D201001 - Water Closets
Installation Year	1999
Condition	2 - Good
Expected Useful Life	35 Years
Remaining Useful Life	13 Years
Renewal Year	2034
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

There are two (2) floor-mounted vitreous china water closets with flush tanks installed in the washrooms.

Condition Narrative

No major deficiencies were observed or reported.

Photos

Moberly Lake Fire Hall - D201001

Moberly Lake Fire Hall - D201001

Recommendations

Recommendations #1 - Water Closets	
Type	Life Cycle Replacement
Year	2034
Cost	$3,734.00

Replace Water Closets

Element Description	
Name	D201003 - Lavatories
Installation Year	1999
Condition	2 - Good
Expected Useful Life	35 Years
Remaining Useful Life	13 Years
Renewal Year	2034
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

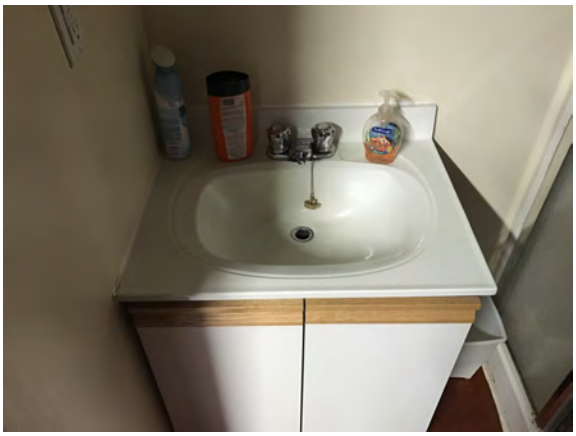
Description

There are two (2) single-piece vanity countertops with an integrated lavatory installed in the washrooms. The lavatories each include a manually operated tap-set.

Condition Narrative

No major deficiencies were observed or reported.

Photos



Moberly Lake Fire Hall - D201003

Recommendations

Recommendations #1 - Lavatories	
Type	Life Cycle Replacement
Year	2034
Cost	$3,734.00

Replace Lavatories

Element Description	
Name	D201004 - Sinks
Installation Year	1999
Condition	2 - Good
Expected Useful Life	35 Years
Remaining Useful Life	13 Years
Renewal Year	2034
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

There is a dual-basin stainless steel sink with a manually operated tap-set installed in the lunchroom.

Condition Narrative

No major deficiencies were observed or reported.

Photos

Moberly Lake Fire Hall - D201004

Recommendations

Recommendations #1 - Sinks	
Type	Life Cycle Replacement
Year	2034
Cost	$1,867.00

Replace Sinks

Element Description	
Name	D201012 - Shower Assembly
Installation Year	1999
Condition	2 - Good
Expected Useful Life	25 Years
Remaining Useful Life	6 Years
Renewal Year	2027
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

There are two (2) individual fibreglass shower assemblies installed in the washrooms. Showers feature through-wall valve sets, showerheads, and swinging glass doors.

Condition Narrative

The components have surpassed their expected useful life, however, due to limited or less than average use, they remain in good condition. Remaining Useful Life has been extended to a later year based on the absence of significant deficiencies.

Photos

Moberly Lake Fire Hall - D201012

Moberly Lake Fire Hall - D201012

Moberly Lake Fire Hall - D201012

Moberly Lake Fire Hall - D201012

Recommendations

Recommendations #1 - Shower Assembly	
Type	Life Cycle Replacement
Year	2027
Cost	$11,202.00

Replace Shower Assembly

Element Description	
Name	D201016 - Custodial Sinks
Installation Year	1999
Condition	2 - Good
Expected Useful Life	30 Years
Remaining Useful Life	8 Years
Renewal Year	2029
Quantity / Unit of Measure	2 / Each
Unit Cost	$2,000.00
Difficulty / Regional / Soft Cost Factors	0.25 / 1.867 / 1
Replacement Cost	$1,867.00

Description

There are two (2) free-standing fibreglass utility sinks installed in the laundry room. Each sink is provided with a manually operated tap-set.

Condition Narrative

No major deficiencies were observed or reported. The cost factor has been decreased to account for the type of sinks.

Photos

Moberly Lake Fire Hall - D201016

Recommendations

Recommendations #1 - Custodial Sinks	
Type	Life Cycle Replacement
Year	2029
Cost	$1,867.00

Replace Custodial Sinks

Element Description	
Name	D202001 - Domestic Water Pipes and Fittings
Installation Year	1983
Condition	2 - Good
Expected Useful Life	40 Years
Remaining Useful Life	6 Years
Renewal Year	2027
Quantity / Unit of Measure	410 / SM Building
Unit Cost	$40.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	$30,618.80

Description

A buried water service connects the shared exterior buried domestic water tank to domestic water equipment in the mechanical room. Domestic water is distributed via a mix of copper and cross-linked polyethylene (PEX) piping. Firefighting water is fed from a municipally-owned cistern located off-property. Piping enters the west end of the 1999 vehicle bay and includes a fill valve with a flexible hose.

Condition Narrative

No major deficiencies were observed or reported. A large portion of the domestic water piping was replaced in 2017. The components have surpassed their expected useful life, however, the Remaining Useful Life has been extended to a later year based on the absence of significant deficiencies.

Photos

Moberly Lake Fire Hall - D202001

Moberly Lake Fire Hall - D202001

Recommendations

Recommendations #1 - Domestic Water Pipes and Fittings	
Type	Life Cycle Replacement
Year	2027
Cost	$30,618.80

Replace Domestic Water Pipes and Fittings

Element Description	
Name	D202006 - Domestic Water Booster Systems/Pumps
Installation Year	2017
Condition	2 - Good
Expected Useful Life	20 Years
Remaining Useful Life	16 Years
Renewal Year	2037
Quantity / Unit of Measure	1 / Each
Unit Cost	$10,000.00
Difficulty / Regional / Soft Cost Factors	0.20 / 1.867 / 1
Replacement Cost	$3,734.00

Description

There is a domestic water pump installed in the mechanical room to pull water from the exterior buried domestic water tank. The pump is rated at 1/2 HP and is manufactured by Diamond.

Condition Narrative

No major deficiencies were observed or reported. The difficulty factor has been decreased to account for the size of the pump.

Photos

Moberly Lake Fire Hall - D202006

Moberly Lake Fire Hall - D202006

Recommendations

Recommendations #1 - Domestic Water Booster Systems/Pumps	
Type	Life Cycle Replacement
Year	2037
Cost	$3,734.00

Replace Domestic Water Booster Systems/Pumps

Element Description	
Name	D202008 - Domestic Water Expansion Tanks/Pressure Tank
Installation Year	2017
Condition	2 - Good
Expected Useful Life	30 Years
Remaining Useful Life	26 Years
Renewal Year	2047
Quantity / Unit of Measure	1 / Each
Unit Cost	$4,000.00
Difficulty / Regional / Soft Cost Factors	0.40 / 1.867 / 1
Replacement Cost	$2,987.20

Description

There is a residential-grade pressure tank installed in the mechanical room.

Condition Narrative

No major deficiencies were observed or reported. The difficulty factor has been decreased to account for the residential grade equipment.

Photos

Moberly Lake Fire Hall - D202008

Moberly Lake Fire Hall - D202008

Moberly Lake Fire Hall - D202008

Recommendations

Recommendations #1 - Domestic Water Expansion Tanks/Pressure Tank	
Type	Life Cycle Replacement
Year	2047
Cost	$2,987.20

Replace Domestic Water Expansion Tanks/Pressure Tank

Element Description	
Name	D202035 - Electric Domestic Water Heaters (Residential Tank Type)
Installation Year	2017
Condition	2 - Good
Expected Useful Life	12 Years
Remaining Useful Life	8 Years
Renewal Year	2029
Quantity / Unit of Measure	175 / Liter
Unit Cost	$25.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	$8,168.13

Description

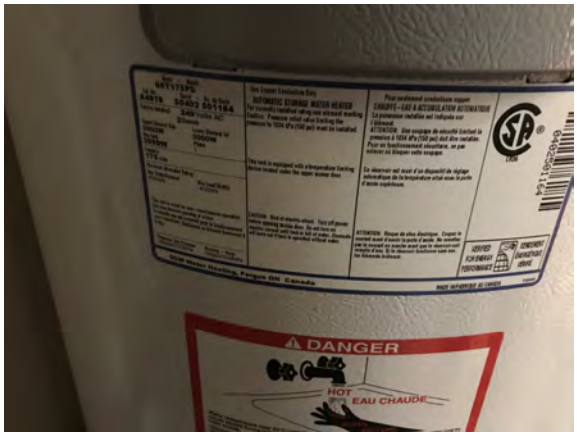
There is an electric domestic water heater installed in the mechanical room. It is manufactured by GSW (Model: 6ET175PS) and has a tank capacity of 175 litres. The heating input rating is 3000 Watts.

Condition Narrative

No major deficiencies were observed or reported.

Photos

Moberly Lake Fire Hall - D202035



Moberly Lake Fire Hall - D202035

Recommendations

Recommendations #1 - Electric Domestic Water Heaters (Residential Tank Type)	
Type	Life Cycle Replacement
Year	2029
Cost	$8,168.13

Replace Electric Domestic Water Heaters (Residential Tank Type)

Element Description	
Name	D203001 - Sanitary Waste and Vent Piping
Installation Year	1983
Condition	2 - Good
Expected Useful Life	50 Years
Remaining Useful Life	12 Years
Renewal Year	2033
Quantity / Unit of Measure	410 / SM Building
Unit Cost	$45.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	$34,446.15

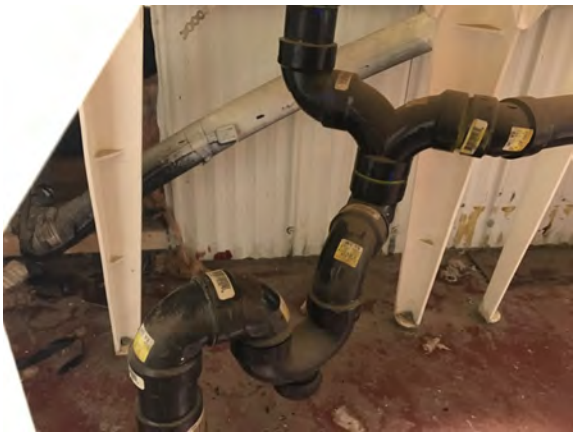
Description

Sanitary waste and vent piping is ABS and connects fixtures and floor drains to a common drain line that is directed to the site septic tank.

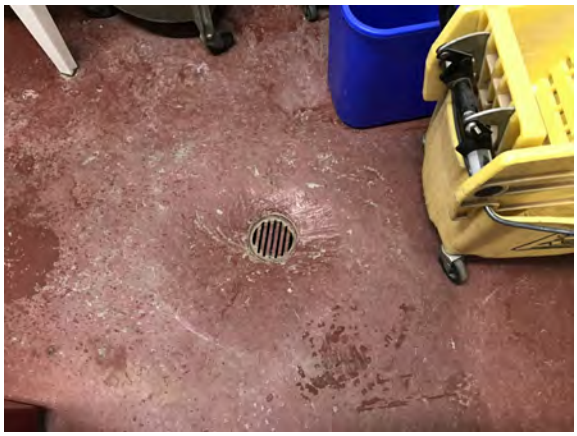
Condition Narrative

No major deficiencies were observed or reported.

Photos



Moberly Lake Fire Hall - D203001



Moberly Lake Fire Hall - D203001

Recommendations

Recommendations #1 - Sanitary Waste and Vent Piping	
Type	Life Cycle Replacement
Year	2033
Cost	$34,446.15

Replace Sanitary Waste and Vent Piping

Element Description	
Name	D203007 - Interceptor Systems
Installation Year	1999
Condition	2 - Good
Expected Useful Life	25 Years
Remaining Useful Life	6 Years
Renewal Year	2027
Quantity / Unit of Measure	2 / Each
Unit Cost	$10,000.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	$37,340.00

Description

There is an inceptor system installed in the 1983 vehicle bay. It is assumed that a second interceptor is installed in the 1991 bay, though it was covered by a parked truck.

Condition Narrative

No major deficiencies were observed or reported. The majority of the system is concealed from view. The components are nearing their expected useful life and should therefore be inspected by a qualified tradesperson to determine piping and basin integrity. The cost to complete this inspection is presumed to fall below the cost threshold for repair recommendations ($5,000) and therefore should be completed as a maintenance activity. In the absence of observed or reported deficiencies, the Remaining Useful Life has been extended.

Photos

Moberly Lake Fire Hall - D203007

Recommendations

Recommendations #1 - Interceptor Systems	
Type	Life Cycle Replacement
Year	2027
Cost	$37,340.00

Replace Interceptor Systems

D30 HVAC

Element Description	
Name	D301002 - Gas Supply Systems
Installation Year	1983
Condition	2 - Good
Expected Useful Life	40 Years
Remaining Useful Life	6 Years
Renewal Year	2027
Quantity / Unit of Measure	410 / SM
Unit Cost	$20.00
Difficulty / Regional / Soft Cost Factors	0.61 / 1.867 / 1
Replacement Cost	$9,338.73

Description

There is a steel piped propane gas distribution system to provide propane gas to gas-fired mechanical equipment. Propane is delivered via a tank located on the site grounds. The regulator valve is installed on the exterior north elevation.

Condition Narrative

No major deficiencies were observed or reported, however, exterior sections of gas piping should be inspected/tested by a qualified technician due to the presence of oxidation on the piping. Once inspected/tested, piping should be repainted as a maintenance activity. The cost to assess/test and repaint exterior sections of piping is presumed to fall below the cost threshold for repair recommendations ($5,000) and should therefore be completed as a maintenance activity. In the absence of significant deficiencies being observed or reported, lifecycle replacement has been deferred. The exterior propane tank is utility-owned and operated and is not included within this report. The cost adjustment factor has been reduced to account for the limited amount of gas-fired equipment.

Photos

Moberly Lake Fire Hall - D203001

Recommendations

Recommendations #1 - Gas Supply Systems	
Type	Life Cycle Replacement
Year	2027
Cost	$9,338.73

Replace Gas Supply Systems

Element Description	
Name	D302003 - Fuel Fired Forced Air Furnace
Installation Year	1999
Condition	4 - Poor
Expected Useful Life	18 Years
Remaining Useful Life	1 Year
Renewal Year	2022
Quantity / Unit of Measure	60 / MBH
Unit Cost	$40.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	$4,480.80

Description

There is a propane gas-fired forced-air furnace installed to provide heating and ventilation to the lunchroom. It is manufactured by American Standard (Model: AUD060C924H3) and has a heating input rating of 60 MBH.

Condition Narrative

The furnace has exceeded its expected useful life and is exhibiting wear and tear that is consistent with age including loud operation and presumed loss of efficiency. Lifecycle replacement is recommended.

Photos

Moberly Lake Fire Hall - D302003

Moberly Lake Fire Hall - D302003

Moberly Lake Fire Hall - D302003

Recommendations

Recommendations #1 - Fuel Fired Forced Air Furnace	
Type	Life Cycle Replacement
Year	2022
Cost	$4,480.80

Replace Fuel Fired Forced Air Furnace

Element Description	
Name	D302032 - Fuel-Fired Radiant Tube Heaters
Installation Year	1999
Condition	3 - Fair
Expected Useful Life	18 Years
Remaining Useful Life	3 Years
Renewal Year	2024
Quantity / Unit of Measure	2 / Each
Unit Cost	$5,000.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	$18,670.00

Description

There are two (2) propane gas-fired radiant tube heaters installed in the vehicle bays. Technical specifications are not available.

Condition Narrative

No major deficiencies were observed or reported, however, the equipment has exceeded its expected useful life and therefore has a higher likelihood of failure. Lifecycle replacement is recommended.

Photos

Moberly Lake Fire Hall - D302032

Moberly Lake Fire Hall - D302032

Recommendations

Recommendations #1 - Fuel-Fired Radiant Tube Heaters	
Type	Life Cycle Replacement
Year	2024
Cost	$18,670.00

Replace Fuel-Fired Radiant Tube Heaters

Element Description	
Name	D304001 - Air Distribution Systems
Installation Year	1999
Condition	2 - Good
Expected Useful Life	50 Years
Remaining Useful Life	28 Years
Renewal Year	2049
Quantity / Unit of Measure	80 / SM Building
Unit Cost	$120.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	$17,923.20

Description

There is low velocity galvanized steel ductwork installed to provide ventilation in the lunchroom. Ductwork terminates in floor-mounted deflecting diffusers.

Condition Narrative

No major deficiencies were observed or reported. There was a noted lack of make-up air and exhaust systems present in vehicle bays. It is recommended to consult with local authorities having jurisdiction to ensure that existing infrastructure provides adequate airflow/air exchange in vehicle bays.

Photos

Moberly Lake Fire Hall - D304001

Recommendations

Recommendations #1 - Air Distribution Systems	
Type	Life Cycle Replacement
Year	2049
Cost	$17,923.20

Replace Air Distribution Systems

Element Description	
Name	D304033 - Exhaust Fan - Ceiling (Residential)
Installation Year	2003
Condition	2 - Good
Expected Useful Life	25 Years
Remaining Useful Life	7 Years
Renewal Year	2028
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

There are ceiling-mounted residential grade exhaust fans installed in the washrooms. Technical specifications are not available.

Condition Narrative

No major deficiencies were observed or reported.

Photos

Moberly Lake Fire Hall - D304033

Recommendations

Recommendations #1 - Exhaust Fan - Ceiling (Residential)	
Type	Life Cycle Replacement
Year	2028
Cost	$3,734.00

Replace Exhaust Fan - Ceiling (Residential)

Element Description	
Name	D305009 - Unit Heaters (Electric)
Installation Year	1999
Condition	2 - Good
Expected Useful Life	18 Years
Remaining Useful Life	6 Years
Renewal Year	2027
Quantity / Unit of Measure	2 / Each
Unit Cost	$2,500.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	$9,335.00

Description

There are two (2) suspended electric unit heaters installed in the 1983 vehicle bay. Technical specifications are not available.

Condition Narrative

No major deficiencies were observed or reported. The components have surpassed their expected useful life, however, the Remaining Useful Life has been extended to a later year based on the absence of significant deficiencies, likely due to the limited use of the heater.

Photos

Moberly Lake Fire Hall - D305009

Recommendations

Recommendations #1 - Unit Heaters (Electric)	
Type	Life Cycle Replacement
Year	2027
Cost	$9,335.00

Replace Unit Heaters (Electric)

Element Description	
Name	D305010 - Electric Baseboard Heaters
Installation Year	1999
Condition	4 - Poor
Expected Useful Life	18 Years
Remaining Useful Life	1 Year
Renewal Year	2022
Quantity / Unit of Measure	4 / Each
Unit Cost	$300.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	$2,240.40

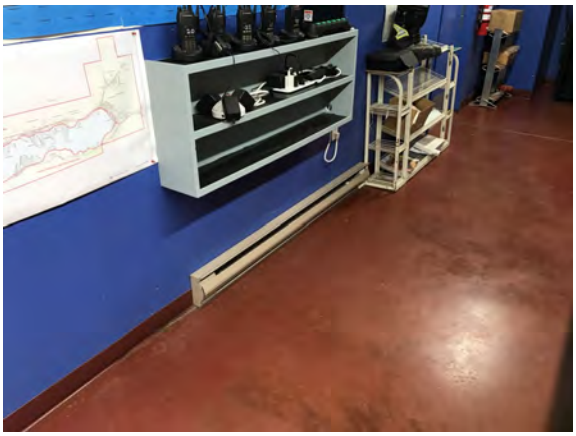
Description

The administration area and the washrooms are provided with electric baseboard heaters.

Condition Narrative

No major deficiencies were observed or reported, however, the baseboards have exceeded their expected useful life and should therefore be replaced.

Photos



Moberly Lake Fire Hall - D305010

Moberly Lake Fire Hall - D305010

Recommendations

Recommendations #1 - Electric Baseboard Heaters	
Type	Life Cycle Replacement
Year	2022
Cost	$2,240.40

Replace Electric Baseboard Heaters

D40 Fire Protection

Element Description	
Name	D403002 - Fire Extinguishers
Installation Year	2017
Condition	2 - Good
Expected Useful Life	10 Years
Remaining Useful Life	6 Years
Renewal Year	2027
Quantity / Unit of Measure	410 / SM Building
Unit Cost	$1.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	$765.47

Description

There are wall-mounted ABC-type fire extinguishers installed throughout the building.

Condition Narrative

No major deficiencies were observed or reported. Annual inspection tags appeared to be up to date.

Photos

Moberly Lake Fire Hall - D403002

Moberly Lake Fire Hall - D403002

Recommendations

Recommendations #1 - Fire Extinguishers	
Type	Life Cycle Replacement
Year	2027
Cost	$765.47

Replace Fire Extinguishers

D50 Electrical

Element Description	
Name	D501005 - Panelboards up to 400A - 1983
Installation Year	1983
Condition	2 - Good
Expected Useful Life	40 Years
Remaining Useful Life	6 Years
Renewal Year	2027
Quantity / Unit of Measure	1 / Each
Unit Cost	$5,000.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	$9,335.00

Description

There is a 120/240V panelboard installed on the south elevation of the 1983 vehicle bay. The amperage reading is not available.

Condition Narrative

No major deficiencies were observed or reported, however, it is recommended to include breaker schedules in the panels as a maintenance activity. The component has surpassed its expected useful life, however, the Remaining Useful Life has been extended to a later year based on the absence of significant deficiencies.

Photos

Moberly Lake Fire Hall - D501005

Moberly Lake Fire Hall - D501005

Recommendations

Recommendations #1 - Panelboards up to 400A	
Type	Life Cycle Replacement
Year	2027
Cost	$9,335.00

Replace Panelboards up to 400A

Element Description	
Name	D501005 - Panelboards up to 400A - 2015
Installation Year	2015
Condition	2 - Good
Expected Useful Life	40 Years
Remaining Useful Life	34 Years
Renewal Year	2055
Quantity / Unit of Measure	1 / Each
Unit Cost	$5,000.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	$9,335.00

Description

There is a 120/240V panelboard installed in the administration area. It is manufactured by Siemens and contains a 100A main breaker.

Condition Narrative

No major deficiencies were observed or reported, however, the panel is blocked by server equipment. Server equipment should be relocated as a maintenance activity.

Photos

Moberly Lake Fire Hall - D501005

Moberly Lake Fire Hall - D501005

Moberly Lake Fire Hall - D501005

Element Description	
Name	D501025 - LV Main Service Disconnects
Installation Year	1983
Condition	2 - Good
Expected Useful Life	40 Years
Remaining Useful Life	6 Years
Renewal Year	2027
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 main disconnect switch is installed on the south wall in the 1983 vehicle bay. It is manufactured by Square D and is rated for 200A at 240V.

Condition Narrative

No major deficiencies were observed or reported during the assessment. The difficulty factor has been lowered to account for the size of the switch. The component has surpassed its expected useful life, however, the Remaining Useful Life has been extended to a later year based on the absence of significant deficiencies.

Photos

Moberly Lake Fire Hall - D501025

Moberly Lake Fire Hall - D501025

Recommendations

Recommendations #1 - LV Main Service Disconnects	
Type	Life Cycle Replacement
Year	2027
Cost	$5,601.00

Replace LV Main Service Disconnects

Element Description	
Name	D502001 - Branch Wiring and Devices
Installation Year	1983
Condition	2 - Good
Expected Useful Life	50 Years
Remaining Useful Life	12 Years
Renewal Year	2033
Quantity / Unit of Measure	410 / SM Building
Unit Cost	$95.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	$72,719.65

Description

Branch wiring consists of a mix of residential-grade and commercial-grade wiring which terminates to electrical distribution panelboards and terminal components, including stratification fans in the apparatus bay. Branch wiring is primarily hidden within wall and ceiling finishes.

Condition Narrative

No major deficiencies were observed or reported, however, the plug installed over the sink in the kitchen should be replaced with a GFCI rated plug as a maintenance activity.

Photos

Moberly Lake Fire Hall - D502001

Moberly Lake Fire Hall - D502001

Recommendations

Recommendations #1 - Branch Wiring and Devices	
Type	Life Cycle Replacement
Year	2033
Cost	$72,719.65

Replace Branch Wiring and Devices

Element Description	
Name	D502002 - Interior Lighting
Installation Year	2019
Condition	1 - Excellent
Expected Useful Life	35 Years
Remaining Useful Life	33 Years
Renewal Year	2054
Quantity / Unit of Measure	410 / SM Building
Unit Cost	$85.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	$65,064.95

Description

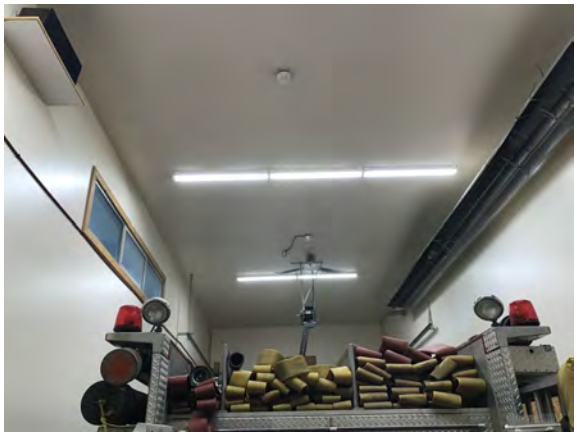
Interior lighting is primarily provided via ceiling-mounted LED fixtures. Lighting in the washrooms and stairwell is provided via incandescent fixtures. There is a 4-lamp halogen fixture installed in the kitchenette in the lunchroom.

Condition Narrative

No major deficiencies were observed or reported.

Photos

Moberly Lake Fire Hall - D502002



Moberly 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	4 / Each
Unit Cost	$500.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	$3,734.00

Description

Exterior lighting is primarily provided via wall-mounted LED fixtures. There are incandescent fixtures installed on the north and south elevations.

Condition Narrative

No major deficiencies were observed or reported, however, the remaining incandescent fixtures should be replaced with LED as a routine maintenance activity.

Photos

Moberly Lake Fire Hall - D502041

Moberly Lake Fire Hall - D502041

Recommendations

Recommendations #1 - Exterior Lighting	
Type	Life Cycle Replacement
Year	2039
Cost	$3,734.00

Replace Exterior Lighting

Element Description	
Name	D502053 - Illuminated Combo Exit Signs
Installation Year	2010
Condition	2 - Good
Expected Useful Life	35 Years
Remaining Useful Life	24 Years
Renewal Year	2045
Quantity / Unit of Measure	5 / Each
Unit Cost	$450.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	$4,200.75

Description

There are wall-mounted combination exit and emergency lighting battery packs installed over exits to direct and illuminate the path of emergency egress. Some units contain emergency lighting only.

Condition Narrative

No major deficiencies were observed or reported.

Photos

Moberly Lake Fire Hall - D502041

Recommendations

Recommendations #1 - Illuminated Combo Exit Signs	
Type	Life Cycle Replacement
Year	2045
Cost	$4,200.75

Replace Illuminated Combo Exit Signs

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	410 / SM Building
Unit Cost	$10.00
Difficulty / Regional / Soft Cost Factors	1.50 / 1.867 / 1
Replacement Cost	$11,482.05

Description

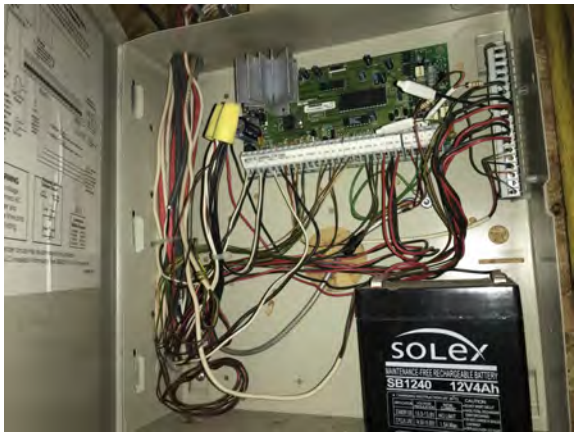
There is an intrusion detection system installed that includes keypads, motion sensors, and door contacts. The main controller is located in the mechanical room. The system is manufactured by DSC and is externally monitored. The system also connects to and monitors the hard-wired smoke detectors installed in the Fire Hall.

Condition Narrative

No major deficiencies were observed or reported. The difficulty factor has been increased to account for the smoke detectors included in the system.

Photos

Moberly Lake Fire Hall - D503008



Moberly Lake Fire Hall - D503008

Moberly Lake Fire Hall - D503008

Recommendations

Recommendations #1 - Security Systems - Intrusion Alarm Systems	
Type	Life Cycle Replacement
Year	2030
Cost	$11,482.05

Replace Security Systems - Intrusion Alarm Systems

Element Description	
Name	D503031 - Video Surveillance Systems
Installation Year	2015
Condition	2 - Good
Expected Useful Life	20 Years
Remaining Useful Life	14 Years
Renewal Year	2035
Quantity / Unit of Measure	410 / SM
Unit Cost	$10.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	$7,654.70

Description

There is a video surveillance system with a camera in the administration area to monitor the exterior generator and fuel tank.

Condition Narrative

No major deficiencies were observed or reported.

Photos

Moberly Lake Fire Hall - D503031

Recommendations

Recommendations #1 - Video Surveillance Systems	
Type	Life Cycle Replacement
Year	2035
Cost	$7,654.70

Replace Video Surveillance Systems

Element Description	
Name	D509002 - Emergency Power Generator Systems
Installation Year	2015
Condition	2 - Good
Expected Useful Life	30 Years
Remaining Useful Life	24 Years
Renewal Year	2045
Quantity / Unit of Measure	100 / kVA
Unit Cost	$450.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	$84,015.00

Description

There is a packaged diesel-fired emergency power generator installed on the south exterior elevation. The generator is manufactured by Kohler Power Systems (Model: 80RE0ZJD). The assembly is rated for 100 kVA and will generate 278 amps at 120/208V.

Condition Narrative

No major deficiencies were observed or reported.

Photos

Moberly Lake Fire Hall - D509002

Moberly Lake Fire Hall - D509002

Moberly Lake Fire Hall - D509002

Recommendations

Recommendations #1 - Emergency Power Generator Systems	
Type	Life Cycle Replacement
Year	2045
Cost	$84,015.00

Replace Emergency Power Generator Systems

Element Description	
Name	D509031 - Automatic Transfer Switches (ATSs) up to 400A
Installation Year	2015
Condition	2 - Good
Expected Useful Life	40 Years
Remaining Useful Life	34 Years
Renewal Year	2055
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

There is an automatic transfer switch installed on the south wall of the 1983 vehicle bay. It is manufactured by Kohler Power Systems.

Condition Narrative

No major deficiencies were observed or reported.

Photos

Moberly Lake Fire Hall - D509031

F Special Construction & Demolition
F10 Special Construction

Element Description	
Name	F101099 - Other Special Construction - Seacan
Installation Year	2012
Condition	2 - Good
Expected Useful Life	30 Years
Remaining Useful Life	21 Years
Renewal Year	2042
Quantity / Unit of Measure	1 / Lump Sum
Unit Cost	$5,000.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	$9,335.00

Description
There is a packaged shipping container located south of the Fire Hall that is used for general storage.

Condition Narrative
No major deficiencies were observed or reported.

Photos

Moberly Lake Fire Hall - F101099


Moberly Lake Fire Hall - F101099

Recommendations

Recommendations #1 - Other Special Construction	
Type	Life Cycle Replacement
Year	2042
Cost	$9,335.00

Replace Other Special Construction

G Building Sitework
G20 Site Improvements

Element Description	
Name	G201005 - Guardrails and Barriers
Installation Year	1999
Condition	2 - Good
Expected Useful Life	30 Years
Remaining Useful Life	8 Years
Renewal Year	2029
Quantity / Unit of Measure	24 / LM
Unit Cost	$1,200.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	$53,769.60

Description

There are concrete-filled steel bollards installed on the east and west elevations to guard against vehicle impacts. There are pre-cast concrete jersey barriers installed at the south end of the gravel parking lot and at the north exterior truck fill line.

Condition Narrative

No major deficiencies were observed or reported. It is recommended to paint the barriers with exterior grade high visibility paint to help with visibility. The cost to paint the barriers is presumed to fall below the cost threshold for repair recommendations ($5,000) and should be completed as a routine maintenance activity.

Photos

Moberly Lake Fire Hall - G201005

Moberly Lake Fire Hall - G201005

Moberly Lake Fire Hall - G201005

Moberly Lake Fire Hall - G201005

Recommendations

Recommendations #1 - Guardrails and Barriers	
Type	Life Cycle Replacement
Year	2029
Cost	$53,769.60

Replace Guardrails and Barriers

Element Description	
Name	G201025 - Gravel Paved Surface - Roadway
Installation Year	2015
Condition	3 - Fair
Expected Useful Life	15 Years
Remaining Useful Life	9 Years
Renewal Year	2030
Quantity / Unit of Measure	2300 / SM
Unit Cost	$35.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	$150,293.50

Description

It is understood that the entire length of gravel surfaced roadway that connects Don Phillips Way to the north, to the asphalt-paved section of Lakeshore Drive to the south, is owned and maintained by the Moberly Lake Fire Hall.

Condition Narrative

No major deficiencies were observed or reported, however, there are reportedly some grading issues with the roadway. At times of heavy rainfall or snowmelt, water ponds at the west entrance to the fire hall, and reportedly is not contained within the drainage ditch that runs parallel to the roadway. There is some evidence of ground heaving around the west entrance. It is recommended to undertake an engineering study to determine a solution for site ponding/heaving. A recommendation for a study and a placeholder repair have been provided herein.

Photos

Moberly Lake Fire Hall - G201025

Moberly Lake Fire Hall - G201025

Moberly Lake Fire Hall - G201025

Moberly Lake Fire Hall - G201025

Recommendations

Recommendations #1 - Engineering Study - Site Ponding / Heaving	
Type	Engineering Study
Year	2022
Cost	$7,500.00

Undertake an engineering study to determine the source and provide a solution for site stormwater ponding and ground heaving around the west entrance.

Recommendations #2 - Placeholder Repair - Site Ponding / Heaving	
Type	Major Repair
Year	2023
Cost	$50,000.00

Complete regrading/repairs as directed by the engineering report.

Recommendations #3 - Gravel Paved Surface - Roadway	
Type	Life Cycle Replacement
Year	2030
Cost	$150,293.50

Replace Gravel Paved Surface - Roadway

Element Description	
Name	G202024 - Gravel Paved Surface - Parking Area
Installation Year	2000
Condition	2 - Good
Expected Useful Life	15 Years
Remaining Useful Life	6 Years
Renewal Year	2027
Quantity / Unit of Measure	100 / SM
Unit Cost	$25.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	$4,667.50

Description

There is a gravel-surfaced parking area provided at the east elevation.

Condition Narrative

No major deficiencies were observed or reported during. The components have surpassed their expected useful life, however, the Remaining Useful Life has been extended to a later year based on the absence of significant deficiencies.

Photos

Moberly Lake Fire Hall - G202024

Moberly Lake Fire Hall - G202024

Recommendations

Recommendations #1 - Gravel Paved Surface - Parking Area	
Type	Life Cycle Replacement
Year	2027
Cost	$4,667.50

Replace Gravel Paved Surface - Parking Area

Element Description	
Name	G203022 - Concrete Paved Surfaces
Installation Year	2012
Condition	2 - Good
Expected Useful Life	30 Years
Remaining Useful Life	21 Years
Renewal Year	2042
Quantity / Unit of Measure	135 / SM
Unit Cost	$165.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	$41,587.43

Description

There is a cast-in-place concrete pad poured at the west vehicle bay entrance. An additional cast-in-place concrete slab is poured at the south exit below the generator and fuel tank.

Condition Narrative

No major deficiencies were observed or reported.

Photos

Moberly Lake Fire Hall - G203022

Moberly Lake Fire Hall - G203022

Moberly Lake Fire Hall - G203022

Moberly Lake Fire Hall - G203022

Recommendations

Recommendations #1 - Concrete Paved Surfaces	
Type	Life Cycle Replacement
Year	2042
Cost	$41,587.43

Replace Concrete Paved Surfaces

Element Description	
Name	G204021 - Fencing and Gates - Chain Link Fence
Installation Year	2012
Condition	2 - Good
Expected Useful Life	30 Years
Remaining Useful Life	21 Years
Renewal Year	2042
Quantity / Unit of Measure	15 / LM
Unit Cost	$360.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	$10,081.80

Description

There is a galvanized metal chain-link fence installed to surround the generator and fuel tank on the south elevation.

Condition Narrative

No major deficiencies were observed or reported.

Photos

Moberly Lake Fire Hall - G204021

Moberly Lake Fire Hall - G204021

Recommendations

Recommendations #1 - Fencing and Gates - Chain Link Fence	
Type	Life Cycle Replacement
Year	2042
Cost	$10,081.80

Replace Fencing and Gates - Chain Link Fence

G30 Site Mechanical Utilities

Element Description	
Name	G301024 - Water Supply Infrastructure
Installation Year	1999
Condition	2 - Good
Expected Useful Life	50 Years
Remaining Useful Life	28 Years
Renewal Year	2049
Quantity / Unit of Measure	30 / LM
Unit Cost	$588.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	$32,933.88

Description

A buried water line connects domestic water equipment in the mechanical room to the buried domestic water tank installed south of the Moberly Lake Community Hall.

Condition Narrative

No major deficiencies were observed or reported.

Recommendations

Recommendations #1 - Water Supply Infrastructure	
Type	Life Cycle Replacement
Year	2049
Cost	$32,933.88

Replace Water Supply Infrastructure

Element Description	
Name	G301099 - OtherWater Supply - Buried Water Tanks
Installation Year	1999
Condition	2 - Good
Expected Useful Life	50 Years
Remaining Useful Life	28 Years
Renewal Year	2049
Quantity / Unit of Measure	2 / Lump Sum
Unit Cost	$10,000.00
Difficulty / Regional / Soft Cost Factors	2.00 / 1.867 / 1
Replacement Cost	$74,680.00

Description

It is understood that there are two (2) buried water tanks installed at the site. The first tank is buried north of the Fire Hall and connects to a municipally-owned cistern installed off-property to provide fill-water for fire trucks. The tank includes a fill line at grade level. The second tank is buried south of the Moberly Lake Community Hall and is used for domestic water. Each tank has an estimated size of 10,000 litres. The domestic water tank is used to provide domestic water to the Moberly Lake Community Hall as well as the Fire Hall.

Condition Narrative

No major deficiencies were observed or reported. The difficulty factor has been adjusted to account for the estimated size of the tanks.

Photos

Moberly Lake Fire Hall - G301099

Recommendations

Recommendations #1 - OtherWater Supply	
Type	Life Cycle Replacement
Year	2049
Cost	$74,680.00

Replace OtherWater Supply

Element Description	
Name	G302016 - Septic Tank (4000 Gallons)
Installation Year	1983
Condition	2 - Good
Expected Useful Life	50 Years
Remaining Useful Life	12 Years
Renewal Year	2033
Quantity / Unit of Measure	1 / Each
Unit Cost	$26,500.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	$49,475.50

Description

There is a buried septic tank that is reportedly located south of the Fire Hall. Technical specifications are not available. Buried sanitary piping connects the tank to the Fire Hall.

Condition Narrative

The septic tank did not have any reported issues, however, the date it was last emptied is unknown. It is recommended to have the tank emptied as a precaution.

Recommendations

Recommendations #1 - Septic Tank (4000 Gallons)	
Type	Life Cycle Replacement
Year	2033
Cost	$49,475.50

Replace Septic Tank (4000 Gallons)

Element Description	
Name	G306004 - Fuel Storage Tanks - Aboveground Less than 10,000 L
Installation Year	2012
Condition	2 - Good
Expected Useful Life	30 Years
Remaining Useful Life	21 Years
Renewal Year	2042
Quantity / Unit of Measure	1315 / L
Unit Cost	$30.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	$73,653.15

Description

There is a double-walled diesel fuel tank of steel construction installed on the south elevation. It is manufactured by Westell and has a capacity of 1,315 litres. The tank includes a 1/6 HP fuel pump with a hose and nozzle for truck filling.

Condition Narrative

No major deficiencies were observed or reported.

Photos

Moberly Lake Fire Hall - G306004

Moberly Lake Fire Hall - G306004

Recommendations

Recommendations #1 - Fuel Storage Tanks - Aboveground Less than 10,000 L	
Type	Life Cycle Replacement
Year	2042
Cost	$73,653.15

Replace Fuel Storage Tanks - Aboveground Less than 10,000 L

G40 Site Electrical Utilities

Element Description	
Name	G401011 - Electrical Service
Installation Year	1999
Condition	2 - Good
Expected Useful Life	50 Years
Remaining Useful Life	28 Years
Renewal Year	2049
Quantity / Unit of Measure	20 / LM
Unit Cost	$655.00
Difficulty / Regional / Soft Cost Factors	1.00 / 1.867 / 1
Replacement Cost	$24,457.70

Description

An overhead, single-phase, 120/240V electrical service connects with a meter installed on the building's south elevation from a utility-owned, pole-mounted transformer.

Condition Narrative

No major deficiencies were observed or reported.

Photos

Moberly Lake Fire Hall - G401011

Recommendations

Recommendations #1 - Electrical Service	
Type	Life Cycle Replacement
Year	2049
Cost	$24,457.70

Replace Electrical Service

APPENDIX B

30-Year Capital Plan Renewal and Repair Summary

Project No. 21075

FCAPX
A Division of Roth IAMS

OPINION OF PROBABLE COST TABLE

Client	Peace River Regional District
Site No.	
Building Name	Moberly Lake Fire Hall
Address	
Project No.	21075
Date	November 17, 2021

Element Name	Recommendation Description	Element Condition	Recommendation Type	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)
A - Substructure																																					
B - Shell																																					
B10 - Superstructure																																					
B103001 Structure	Remove the wood ladder and platforms and install an automated winch system for the hose drying tower.	3 - Fair	Major Repair	75	2022	$10,000		$10,000																													$10,000
B20 - Exterior Enclosure																																					
B201010 Exterior Coatings/Paint	Replace Exterior Coatings/Paint	4 - Poor	Life Cycle Replacement	10	2022	$56,010		$56,010										$56,010										$56,010									$168,030
B201024 Metal Siding	Replace Metal Siding	2 - Good	Life Cycle Replacement	40	2039	$224,040																			$224,040											$224,040
B202001 Windows	Replace Windows	2 - Good	Life Cycle Replacement	35	2034	$12,416														$12,416																	$12,416
B203022 Overhead Doors - Industrial	Replace Overhead Doors - Industrial	2 - Good	Life Cycle Replacement	25	2028	$67,212								$67,212																							$67,212
B203023 Single Door - Hollow Metal	Replace Single Door - Hollow Metal	3 - Fair	Life Cycle Replacement	30	2026	$23,898						$23,898																									$23,898
B30 - Roofing																																					
C - Interiors																																					
C101001 Fixed Partitions	Undertake a hazardous materials assessment.	2 - Good	Engineering Study	75	2024	$5,000				$5,000																											$5,000
C102022 Single Door - Wood	Replace Single Door - Wood	2 - Good	Life Cycle Replacement	40	2039	$33,606																			$33,606											$33,606
C103009 Cabinets - Kitchens	Replace Cabinets - Kitchens	2 - Good	Life Cycle Replacement	35	2027	$11,202							$11,202																								$11,202
C103010 Vanities	Replace Vanities	2 - Good	Life Cycle Replacement	25	2027	$4,481							$4,481																								$4,481
C103011 Cabinets - General	Replace Cabinets - General	2 - Good	Life Cycle Replacement	35	2034	$44,808														$44,808																	$44,808
C201002 Exterior Stair Construction	Replace Exterior Stair Construction	2 - Good	Life Cycle Replacement	40	2039	$18,670																			$18,670											$18,670
C301005 Paint Wall Covering	Replace Paint Wall Covering	2 - Good	Life Cycle Replacement	10	2027	$11,949							$11,949										$11,949										$11,949				$35,846
C301099 Other Wall Finishes - Metal Wall Finish	Replace Other Wall Finishes	2 - Good	Life Cycle Replacement	30	2029	$46,675									$46,675																						$46,675
C302007 Painted / Sealed Concrete Floor	Replace Painted / Sealed Concrete Floor	2 - Good	Life Cycle Replacement	15	2027	$19,566							$19,566															$19,566									$39,132
C302023 Vinyl Sheet Floor	Replace Vinyl Sheet Floor	3 - Fair	Life Cycle Replacement	15	2024	$33,158				$33,158															$33,158											$66,316
C303006 Painted Ceiling Structures	Replace Painted Ceiling Structures	2 - Good	Life Cycle Replacement	15	2032	$8,962												$8,962															$8,962				$17,923
D - Services																																					
D10 - Conveying																																					
D20 - Plumbing																																					
D201001 Water Closets	Replace Water Closets	2 - Good	Life Cycle Replacement	35	2034	$3,734														$3,734																	$3,734
D201003 Lavatories	Replace Lavatories	2 - Good	Life Cycle Replacement	35	2034	$3,734														$3,734																	$3,734
D201004 Sinks	Replace Sinks	2 - Good	Life Cycle Replacement	35	2034	$1,867														$1,867																	$1,867
D201012 Shower Assembly	Replace Shower Assembly	2 - Good	Life Cycle Replacement	25	2027	$11,202							$11,202																								$11,202
D201016 Custodial Sinks	Replace Custodial Sinks	2 - Good	Life Cycle Replacement	30	2029	$1,867									$1,867																						$1,867
D202001 Domestic Water Pipes and Fittings	Replace Domestic Water Pipes and Fittings	2 - Good	Life Cycle Replacement	40	2027	$30,619							$30,619																								$30,619
D202006 Domestic Water Booster Systems/Pumps	Replace Domestic Water Booster Systems/Pumps	2 - Good	Life Cycle Replacement	20	2037	$3,734																	$3,734													$3,734
D202008 Domestic Water Expansion Tanks/Pressure Tank	Replace Domestic Water Expansion Tanks/Pressure Tank	2 - Good	Life Cycle Replacement	30	2047	$2,987																											$2,987				$2,987
D202035 Electric Domestic Water Heaters (Residential Tank Type)	Replace Electric Domestic Water Heaters (Residential Tank Type)	2 - Good	Life Cycle Replacement	12	2029	$8,168									$8,168												$8,168									$16,336
D203001 Sanitary Waste and Vent Piping	Replace Sanitary Waste and Vent Piping	2 - Good	Life Cycle Replacement	50	2033	$34,446													$34,446																	$34,446
D203007 Interceptor Systems	Replace Interceptor Systems	2 - Good	Life Cycle Replacement	25	2027	$37,340							$37,340																								$37,340
D30 - HVAC																																					
D301002 Gas Supply Systems	Replace Gas Supply Systems	2 - Good	Life Cycle Replacement	40	2027	$9,339							$9,339																								$9,339
D302003 Fuel Fired Forced Air Furnace	Replace Fuel Fired Forced Air Furnace	4 - Poor	Life Cycle Replacement	18	2022	$4,481		$4,481																		$4,481											$8,962
D302032 Fuel-Fired Radiant Tube Heaters	Replace Fuel-Fired Radiant Tube Heaters	3 - Fair	Life Cycle Replacement	18	2024	$18,670				$18,670																		$18,670									$37,340
D304001 Air Distribution Systems	Replace Air Distribution Systems	2 - Good	Life Cycle Replacement	50	2049	$17,923																													$17,923		$17,923
D304033 Exhaust Fan - Ceiling (Residential)	Replace Exhaust Fan - Ceiling (Residential)	2 - Good	Life Cycle Replacement	25	2028	$3,734								$3,734																							$3,734
D305009 Unit Heaters (Electric)	Replace Unit Heaters (Electric)	2 - Good	Life Cycle Replacement	18	2027	$9,335							$9,335																			$9,335				$18,670
D305010 Electric Baseboard Heaters	Replace Electric Baseboard Heaters	4 - Poor	Life Cycle Replacement	18	2022	$2,240		$2,240																		$2,240											$4,481
D40 - Fire Protection																																					
D403002 Fire Extinguishers	Replace Fire Extinguishers	2 - Good	Life Cycle Replacement	10	2027	$765							$765										$765										$765				$2,296
D50 - Electrical																																					
D501005 Panelboards up to 400A - 1983	Replace Panelboards up to 400A	2 - Good	Life Cycle Replacement	40	2027	$9,335							$9,335																								$9,335
D501025 LV Main Service Disconnects	Replace LV Main Service Disconnects	2 - Good	Life Cycle Replacement	40	2027	$5,601							$5,601																								$5,601
D502001 Branch Wiring and Devices	Replace Branch Wiring and Devices	2 - Good	Life Cycle Replacement	50	2033	$72,720													$72,720																	$72,720
D502041 Exterior Lighting	Replace Exterior Lighting	1 - Excellent	Life Cycle Replacement	20	2039	$3,734																			$3,734											$3,734
D502053 Illuminated Combo Exit Signs	Replace Illuminated Combo Exit Signs	2 - Good	Life Cycle Replacement	35	2045	$4,201																									$4,201					$4,201
D503008 Security Systems - Intrusion Alarm Systems	Replace Security Systems - Intrusion Alarm Systems	2 - Good	Life Cycle Replacement	20	2030	$11,482										$11,482																			$11,482	$22,964
D503031 Video Surveillance Systems	Replace Video Surveillance Systems	2 - Good	Life Cycle Replacement	20	2035	$7,655															$7,655															$7,655
D509002 Emergency Power Generator Systems	Replace Emergency Power Generator Systems	2 - Good	Life Cycle Replacement	30	2045	$84,015																									$84,015					$84,015
E - Equipment & Furnishings																																					
F - Special Construction & Demolition																																					
F101099 Other Special Construction - Seacan	Replace Other Special Construction	2 - Good	Life Cycle Replacement	30	2042	$9,335																						$9,335									$9,335
G - Site Surfacing and Landscaping																																					
G201005 Guardrails and Barriers	Replace Guardrails and Barriers	2 - Good	Life Cycle Replacement	30	2029	$53,770									$53,770																						$53,770
G201025 Gravel Paved Surface - Roadway	Undertake an engineering study to determine the source and provide a solution for site stormwater ponding and ground heaving around the west entrance.	3 - Fair	Engineering Study	15	2022	$7,500		$7,500																													$7,500
G201025 Gravel Paved Surface - Roadway	Complete regrading/repairs as directed by the engineering report.	3 - Fair	Major Repair	15	2023	$50,000			$50,000																												$50,000
G201025 Gravel Paved Surface - Roadway	Replace Gravel Paved Surface - Roadway	3 - Fair	Life Cycle Replacement	15	2030	$150,294										$150,294																					$300,587
G202024 Gravel Paved Surface - Parking Area	Replace Gravel Paved Surface - Parking Area	2 - Good	Life Cycle Replacement	15	2027	$4,668							$4,668															$4,668									$9,335
G203022 Concrete Paved Surfaces	Replace Concrete Paved Surfaces	2 - Good	Life Cycle Replacement	30	2042	$41,587																						$41,587									$41,587
G204021 Fencing and Gates - Chain Link Fence	Replace Fencing and Gates - Chain Link Fence	2 - Good	Life Cycle Replacement	30	2042	$10,082																						$10,082									$10,082
G301024 Water Supply Infrastructure	Replace Water Supply Infrastructure	2 - Good	Life Cycle Replacement	50	2049	$32,934																													$32,934		$32,934
G301099 OtherWater Supply - Buried Water Tanks	Replace OtherWater Supply	2 - Good	Life Cycle Replacement	50	2049	$74,680																													$74,680		$74,680
G302016 Septic Tank (4000 Gallons)	Replace Septic Tank (4000 Gallons)	2 - Good	Life Cycle Replacement	50	2033	$49,476													$49,476																	$49,476
G306004 Fuel Storage Tanks - Aboveground Less than 10,000 L	Replace Fuel Storage Tanks - Aboveground Less than 10,000 L	2 - Good	Life Cycle Replacement	30	2042	$73,653																						$73,653									$73,653
G401011 Electrical Service	Replace Electrical Service	2 - Good	Life Cycle Replacement	50	2049	$24,458																													$24,458		$24,458
					Total Capital Renewals	$1,619,015	$0	$80,231	$50,000	$56,828	$0	$23,898	$165,401	$70,946	$110,480	$161,776	$0	$64,972	$156,641	$66,559	$7,655	$0	$16,448	$0	$313,208	$6,721	$8,168	$233,571	$0	$0	$247,844	$0	$24,663	$0	$149,995	$11,482	$2,027,486

APPENDIX C

Reserve Fund Analysis

Project No. 21075

FCAPX

A Division of Roth IAMS

Cash Flow Table

Scenario 0: No Contribution

Reserve Fund Opening Balance	$ 274,135	Assumed Annual Inflation Rate for Reserve Fund Expenditures	2.00%
Projected Minimum Reserve Fund Balance	$ (2,678,316)	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	$ 274,135	$ -	$ -	$ -	$ 5,483	n/a	$ 279,618	$ -
2022	$ 279,618	$ -	$ -	$ 85,680	$ 5,538	2.00%	$ 199,476	$ -
2023	$ 199,476	$ -	$ -	$ 54,621	$ 4,791	2.00%	$ 149,646	$ -
2024	$ 149,646	$ -	$ -	$ 63,513	$ 3,491	2.00%	$ 89,623	$ -
2025	$ 89,623	$ -	$ -	$ -	$ 2,393	2.00%	$ 92,016	$ -
2026	$ 92,016	$ -	$ -	$ 27,823	$ 1,816	2.00%	$ 66,010	$ -
2027	$ 66,010	$ -	$ -	$ 195,108	$ 1,580	2.00%	$ (127,518)	$ -
2028	$ (127,518)	$ -	$ -	$ 85,635	$ -	2.00%	$ (213,152)	$ -
2029	$ (213,152)	$ -	$ -	$ 136,557	$ -	2.00%	$ (349,709)	$ -
2030	$ (349,709)	$ -	$ -	$ 202,030	$ -	2.00%	$ (551,739)	$ -
2031	$ (551,739)	$ -	$ -	$ -	$ -	2.00%	$ (551,739)	$ -
2032	$ (551,739)	$ -	$ -	$ 84,860	$ -	2.00%	$ (636,600)	$ -
2033	$ (636,600)	$ -	$ -	$ 207,738	$ -	2.00%	$ (844,338)	$ -
2034	$ (844,338)	$ -	$ -	$ 91,005	$ -	2.00%	$ (935,343)	$ -
2035	$ (935,343)	$ -	$ -	$ 11,084	$ -	2.00%	$ (946,427)	$ -
2036	$ (946,427)	$ -	$ -	$ -	$ -	2.00%	$ (946,427)	$ -
2037	$ (946,427)	$ -	$ -	$ 36,036	$ -	2.00%	$ (982,462)	$ -
2038	$ (982,462)	$ -	$ -	$ 73,513	$ -	2.00%	$ (1,055,975)	$ -
2039	$ (1,055,975)	$ -	$ -	$ 470,893	$ -	2.00%	$ (1,526,868)	$ -
2040	$ (1,526,868)	$ -	$ -	$ 9,178	$ -	2.00%	$ (1,536,046)	$ -
2041	$ (1,536,046)	$ -	$ -	$ 12,482	$ -	2.00%	$ (1,548,528)	$ -
2042	$ (1,548,528)	$ -	$ -	$ 373,991	$ -	2.00%	$ (1,922,518)	$ -
2043	$ (1,922,518)	$ -	$ -	$ -	$ -	2.00%	$ (1,922,518)	$ -
2044	$ (1,922,518)	$ -	$ -	$ -	$ -	2.00%	$ (1,922,518)	$ -
2045	$ (1,922,518)	$ -	$ -	$ 417,148	$ -	2.00%	$ (2,339,666)	$ -
2046	$ (2,339,666)	$ -	$ -	$ -	$ -	2.00%	$ (2,339,666)	$ -
2047	$ (2,339,666)	$ -	$ -	$ 43,927	$ -	2.00%	$ (2,383,594)	$ -
2048	$ (2,383,594)	$ -	$ -	$ -	$ -	2.00%	$ (2,383,594)	$ -
2049	$ (2,383,594)	$ -	$ -	$ 274,211	$ -	2.00%	$ (2,657,805)	$ -
2050	$ (2,657,805)	$ -	$ -	$ 20,511	$ -	2.00%	$ (2,678,316)	$ -

Note 1: The contributions for the 2021 fiscal year are amounts budgeted by Moberly 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.

Cash Flow Table

Scenario 1: Contributions Increase with Inflation

Reserve Fund Opening Balance	$ 274,135	Assumed Annual Inflation Rate for Reserve Fund Expenditures	2.00%
Projected Minimum Reserve Fund Balance	$ 21,944	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	$ 274,135	$ -	$ -	$ -	$ 5,483	n/a	$ 279,618	$ -
2022	$ 279,618	$ 73,500	$ -	$ 85,680	$ 5,538	2.00%	$ 272,976	$ 6,125
2023	$ 272,976	$ 74,970	$ -	$ 54,621	$ 5,526	2.00%	$ 298,851	$ 6,248
2024	$ 298,851	$ 76,469	$ -	$ 63,513	$ 5,718	2.00%	$ 317,525	$ 6,372
2025	$ 317,525	$ 77,999	$ -	$ -	$ 6,164	2.00%	$ 401,687	$ 6,500
2026	$ 401,687	$ 79,559	$ -	$ 27,823	$ 7,192	2.00%	$ 460,616	$ 6,630
2027	$ 460,616	$ 81,150		$ 195,108	$ 8,623	2.00%	$ 355,281	$ 6,762
2028	$ 355,281	$ 82,773	$ -	$ 85,635	$ 8,159	2.00%	$ 360,578	$ 6,898
2029	$ 360,578	$ 84,428	$ -	$ 136,557	$ 7,159	2.00%	$ 315,608	$ 7,036
2030	$ 315,608	$ 86,117	$ -	$ 202,030	$ 6,762	2.00%	$ 206,457	$ 7,176
2031	$ 206,457	$ 87,839	$ -	$ -	$ 5,221	2.00%	$ 299,517	$ 7,320
2032	$ 299,517	$ 89,596	$ -	$ 84,860	$ 5,060	2.00%	$ 309,312	$ 7,466
2033	$ 309,312	$ 91,388		$ 207,738	$ 6,088	2.00%	$ 199,051	$ 7,616
2034	$ 199,051	$ 93,216	$ -	$ 91,005	$ 5,084	2.00%	$ 206,345	$ 7,768
2035	$ 206,345	$ 95,080	$ -	$ 11,084	$ 4,054	2.00%	$ 294,395	$ 7,923
2036	$ 294,395	$ 96,982	$ -	$ -	$ 5,007	2.00%	$ 396,384	$ 8,082
2037	$ 396,384	$ 98,921	$ -	$ 36,036	$ 6,908	2.00%	$ 466,178	$ 8,243
2038	$ 466,178	$ 100,900	$ -	$ 73,513	$ 8,626	2.00%	$ 502,190	$ 8,408
2039	$ 502,190	$ 102,918	$ -	$ 470,893	$ 9,684	2.00%	$ 143,899	$ 8,576
2040	$ 143,899	$ 104,976	$ -	$ 9,178	$ 6,461	2.00%	$ 246,158	$ 8,748
2041	$ 246,158	$ 107,076	$ -	$ 12,482	$ 3,901	2.00%	$ 344,652	$ 8,923
2042	$ 344,652	$ 109,217	$ -	$ 373,991	$ 5,908	2.00%	$ 85,787	$ 9,101
2043	$ 85,787	$ 111,401	$ -	$ -	$ 4,304	2.00%	$ 201,493	$ 9,283
2044	$ 201,493	$ 113,630	$ -	$ -	$ 2,873	2.00%	$ 317,995	$ 9,469
2045	$ 317,995	$ 115,902	$ -	$ 417,148	$ 5,195	2.00%	$ 21,944	$ 9,659
2046	$ 21,944	$ 118,220	$ -	$ -	$ 3,399	2.00%	$ 143,563	$ 9,852
2047	$ 143,563	$ 120,585	$ -	$ 43,927	$ 1,655	2.00%	$ 221,876	$ 10,049
2048	$ 221,876	$ 122,996	$ -	$ -	$ 3,654	2.00%	$ 348,526	$ 10,250
2049	$ 348,526	$ 125,456	$ -	$ 274,211	$ 5,704	2.00%	$ 205,475	$ 10,455
2050	$ 205,475	$ 127,965	$ -	$ 20,511	$ 5,540	2.00%	$ 318,470	$ 10,664

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

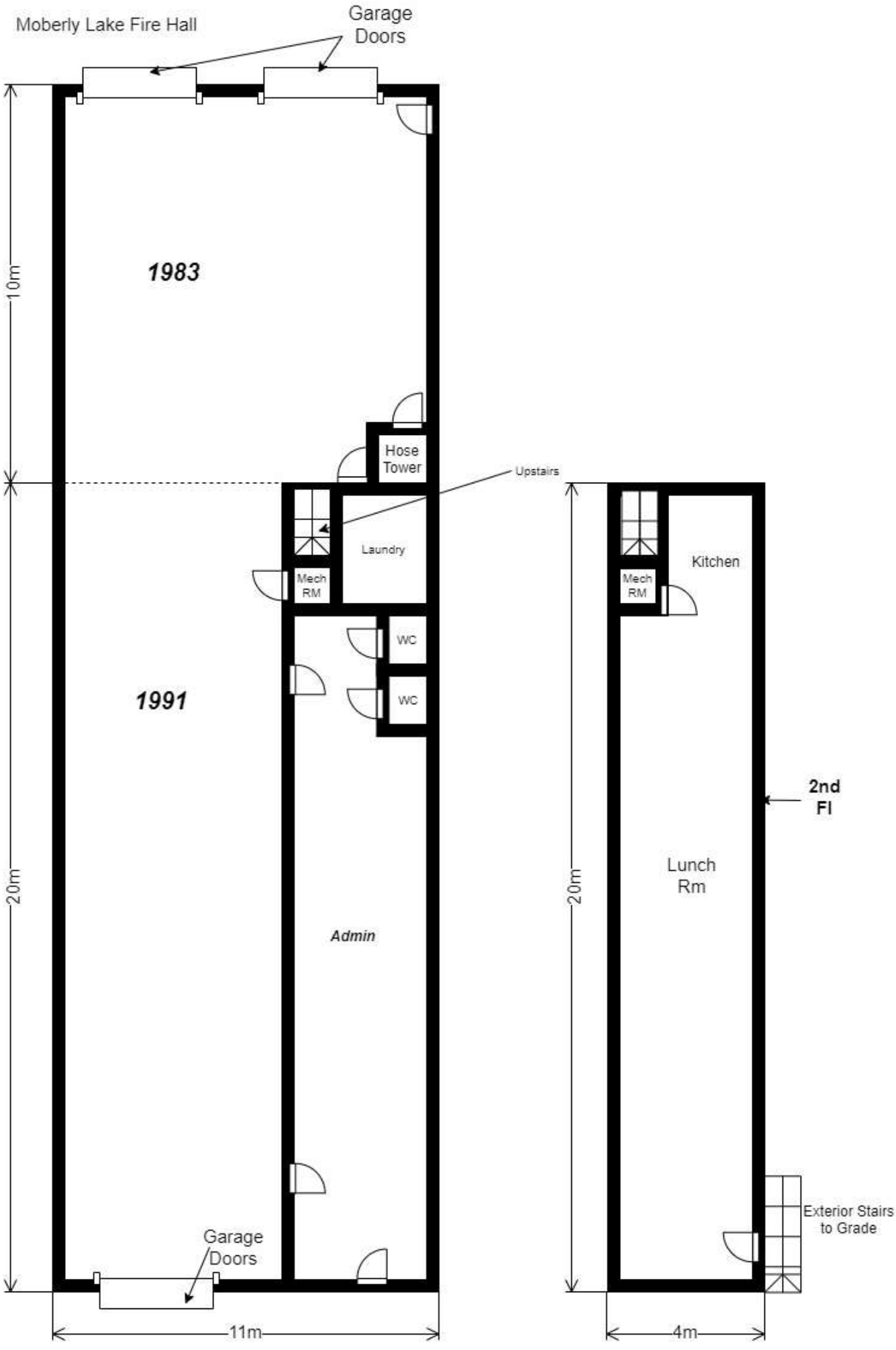
Note 2: The 2021 Estimated Inflation Adjusted Expenditures includes approved CRF expenditures for the fiscal year, if any.

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.

APPENDIX D

Floor Plan/Site Plan


N
Highway 29
Highway 29
Moberly Lake Community Hall
Moberly Lake Fire Hall
Generator
Lakeshore Drive
Lakeshore Drive
Lakeshore Drive


Moberly Lake Fire Hall
Garage Doors
1983
10m
Hose Tower
Upstairs
Laundry
Mech RM
WC
WC
1991
20m
Admin
Garage Doors
11m
Kitchen
Mech RM
2nd Fl
Lunch Rm
20m
Exterior Stairs to Grade
4m

APPENDIX E

Preventative Maintenance Plan

Project No. 21075

FCAPX
A Division of Roth IAMS

Moberly Lake Fire Hall

Equipment List

Uniformat Code	Uniformat Name	Quantity	Description (If Applicable)	PM ID Number
B203022	Overhead Doors - Industrial	3		0003
D202006	Domestic Water Booster Systems/Pumps	1		0016
D202008	Domestic Water Expansion Tanks/Pressure Tank	1	Well Water Pressure Tank	0017
D202035	Electric Domestic Water Heaters (Residential Tank Type)	1		0023
D302003	Fuel Fired Forced Air Furnace	1		0030
D302032	Fuel-Fired Radiant Tube Heaters	2		0031
D305009	Unit Heaters (Electric)	2		0058
D403002	Fire Extinguishers	Not Available		0071
D501005	Panelboards up to 400A	2		0077
D501025	LV Main Service Disconnects	1		0079
D509002	Emergency Power Generator Systems	1		0085
D503008	Illuminated Combo Exit Signs	Not Available		0086
D509031	Automatic Transfer Switches (ATSs) up to 400A	1		0088
G306004	Fuel Storage Tanks - Aboveground Less than 10,000 L	1		0092

Moberly 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. 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). Test the emergency shut-off switch, if present. Verify the sequence of operation, including any controls and safety mechanisms.	quarterly	120	Each	Door Technician	Toolset, Lubricant, Testing Equipment	Y
0016	Pumps	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.	weekly	10	Each	Building Technician	Toolset	N
0017	Domestic Water Expansion Tanks/Pressure Tank,	Visually assess the tank and associated fittings for signs of corrosion or leaks. Check and record any associated pressure gauges and compare with past data. If there is a drop in pressure, or domestic water pressure is low, test the pressure of the tank and add/remove air as required. If possible, listen for unusual sounds that may indicate a perforation in the interior bladder (if applicable) such as bubbling or dripping.	weekly	5	Each	Building Technician	NA	N
0023	Electric Domestic Water Heaters	Inspect the tank and associated pipes and fittings for signs of leaks or corrosion. Visually assess electrical connections for loose or frayed wiring. 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.	semi-annually	20	Each	Building Technician	Toolset, Drain Hose/Transfer Pump	N
0030	Fuel Fired Forced Air Furnace	Replace filters, if needed. Depower the furnace and remove the front cover(s). Remove any dirt and debris from the cabinet interior. Check the interior components for signs of excessive wear and tear, indications of burn marks or short circuits, and oxidization. Check the burner element for signs of material breakdown or blockages. Inspect the blower motor for sings of damage or excessive wear and tear. Visually assess electrical connections for loose or frayed wiring. Check to ensure the condensate drain line is free of clogs or blockages and is properly directed to a sanitary drain. (If applicable) Check to ensure the vent/chimney is free of blockages. Inspect the chimney to ensure it is free of rust, moisture, or leaks. Inspect gas/fuel piping to ensure it is free of rust or leaks. Verify the sequence of operation, including any controls, redundancy systems, and safety mechanisms.	quarterly	20	Each	Building Technician	Toolset, Filters, Cleaning Supplies	Y
0030	Fuel Fired Forced Air Furnace	Replace filters. Replace the fan belt (If applicable). 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, blower motor, dampers, and chimneys. Tighten all mechanical and electrical components. Verify the sequence of operation, including any controls, redundancy systems, and safety mechanisms.	semi-annually	45	Each	HVAC Technician	Toolset, Filters, Belts, Testing Equipment	Y
0031	Fuel Fired Radiant Tube Heaters	Clean heating elements with a non-abrasive cleaner that is approved by the manufacturer. Compressed air may be used to clear out dust and debris. Inspect radiant heating elements for signs of cracks, damage, deterioration, or leaks. Remove the 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, dampers, and chimneys. Tighten all mechanical and electrical components. Verify the sequence of operation, including any controls, redundancy systems, and safety mechanisms.	semi-annually	120	Each	Gas Technician	Toolset, Testing Equipment, Cleaning Supplies, Air Compressor	Y

Moberly 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)
0058	Unit Heaters (Electric)	Depower the unit and open the cabinet and clean the interior, including fan blades if they are accessible. While the unit is off, inspect the interior components for signs of damage, burns, or unusual odours. Ensure fan bearings are lubricated as per manufacturer specification. Visually assess electrical connections and heating element for loose or frayed wiring. Clean any fins or manifolds. Close the cabinet and restore power to the unit. Inspect the unit under normal operation and monitor for unusual noises, odours, or excessive vibration. Verify the sequence of operation, including any controls, redundancy systems, and safety mechanisms.	quarterly	20	Each	Building Technician	Toolset, Cleaning Supplies	Y
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. Check to ensure pins are in place and secured with unbroken break-away ties. Initial the monthly inspection tags.	monthly	5	Each	Building Technician	NA	N
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
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

Moberly 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	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.	semi-annually	180	Each	Licensed Generator Technician	Hearing Protection, Toolset, Lubricant, Belts, Coolant, Cleaning Supplies	Y
		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.						
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.	annually	240	Each	Licensed Generator Technician	Hearing Protection, Toolset, Lubricant, Belts, Coolant, Cleaning Supplies	Y
		Clean all generator systems with a manufacturer approved degreasing agent or non-abrasive cleaner.						
		Lubricate any bearings/nipples as per manufacturer specifications.						
		Clean an d lubricate all linkages/dampers.						
		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.						
		Test strength of coolant and chemical protection level of coolant inhibitors.						
		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.						
		Test surge suppressor and rotating rectifier on brushless machines.						
		Clean rotor and stator windings using clean compressed air.						
		Inspect coupling bolts and alignment.						
		For spark ignition engines, inspect all components of ignition system(s) and service or replace as appropriate.						
		Inspect all external surfaces of heat exchanger(s) and clean as necessary.						
		Operate the generator for 120 minutes, under full electrical load. (Full Load Test)						
		Record any available statistics while the generator is operable and compare to past collected data.						
0086	Emergency Lighting - Battery Pack Units (EBUs), Emergency Lighting Systems, Illuminated Combo	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.	monthly	60	Total	Building Technician	NA	N
		Initial the monthly inspection tags.						
0086	Emergency Lighting - Battery Pack Units (EBUs), Emergency Lighting Systems,	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.	annually	180	Total	Licensed Technician	Toolset, Testing Equipment	N
		Provide annual inspection tags on each unit.						
0088	Automatic Transfer Switches (ATSs) up to 400A	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.	3 years	10	Each	Electrician	Thermal Imaging Camera, Toolset	Y
		Perform thermal imaging (infrared scanning) to detect hot spots (excess heat) in electrical components.						
		While thermal imaging is being undertaken, inspect the transfer switch for missing knockouts, or unusual sounds or odours.						
		Provide a detailed thermal imaging report based on the results of the infrared scanning.						
0092	Fuel Storage Tanks - Aboveground Less than 10,000 L	Ensure the pathway to the tank is clear of obstruction.	weekly	10	Each	Building Technician	NA	N
		Remove vegetation growth around the tank and cement pad (if applicable).						
		Check for leaks, spills, or unusual odours.						
		Wipe the tank exterior with a damp rag to removed build-up of grime.						
		Visually assess the tank fill or regulator components.						
		Ensure the fill cap is secured and locked (if applicable).						