



**AGENDA**  
**TOWN OF PINCHER CREEK**  
**COMMITTEE OF THE WHOLE**  
Wednesday, May 5, 2021 AT 9:00 A.M.  
962 St. John Avenue, Council Chambers  
[Virtual via Zoom](#)

1. **Call to Order**
2. **Agenda Approval**
3. **Scheduled Delegations**
  - 3.1 AHS COVID Update – Kristen Dykstra – 9:00 am
  - 3.2 Atrum Coal – Andy Caruso – 9:15 am
4. **Committee Reports**
5. **Administration**
  - 5.1 Upcoming Meetings
6. **Business Arising from the Minutes**
7. **Policy**
8. **New Business**
  - 8.1 Oldman River Regional Urban GIS
  - 8.2 Arena Fire Alarm Assessment Report
9. **Closed Session**
  - 9.1 Early Learning Centre – Service Contract – No RFD – FOIP s. 16
  - 9.2 KPMG Organization Review – FOIP s. 17
  - 9.3 Personnel – No RFD - FOIP s. 17
10. **Adjournment**

# TOWN OF PINCHER CREEK

## REQUEST FOR DECISION

*Council*

<b>SUBJECT:</b> ORRSC GIS Transition	
<b>PRESENTED BY:</b> Al Roth, Director of Operations	<b>DATE OF MEETING:</b> 5/5/2021

**PURPOSE:**

To bring forward to Council's attention the challenges with the Town's current use of the Oldman River Regional Services Commission's GIS system, and present the opportunities of utilizing a different GIS system. Note - GIS services are a separate offering from ORRSC than the Town's Planning Services, which administration is not recommending any changes to.

**RECOMMENDATION:**

That Council for the Town of Pincher Creek direct administration to submit to the Oldman River Regional Services Commission a one-years' notice of termination of GIS Services.

**BACKGROUND/HISTORY:**

This topic was presented to the Operations Committee on March 30, 2021 and resulted in a motion to bring forward this presentation to Council.

The Town of Pincher Creek currently uses the Oldman River Regional Services Commission (ORRSC) as our provider for Geographical Information System (GIS) Services. This service is a separate offering from ORRSC than our Planning Services, which administration is not recommending any changes to.

Administration has had various concerns with the GIS services offered by ORRSC including:

- Unreliable availability (frequent outages)
- Extremely long wait times for updated information (example from 2020 was 6 months)
- Lost information
- Inability to edit data
- No mobile application (phone app)
- Incompatibility with our Asset Management Software (and future Work Order Software)

Risks from having inconsistent, incorrect or unavailable information in our GIS system include incorrect locates for Alberta One Call, incorrect information being provided to Developers, incorrect materials being ordered for repairs resulting in delays and additional costs, and incorrect information being available during emergency repairs.

The largest concern from administration regarding the current GIS system is not being compatible with the Town's Asset Management Software. Information input is required to be duplicated as it is both required in the GIS for operational purposes, and in our

CityWide platform for Tangible Capital Assets and Asset Management planning. This not only leads to duplication of effort, but also runs the risk of inconsistent information across multiple platforms.

Administration is recommending in the 2022 budget to transition to eGIS Services with CityWide, which would integrate with the Town's Asset Management Software. In the 2022 Budget it will also be recommended to move forward with Work Order Software. By having a compatible GIS program, all aspects would be integrated including service requests, work orders, mapping, and asset management. This would allow Operational Staff to be able to access mapping in the field through an app on their phone or tablet. It would also allow workers to see service requests and work orders in the field.

For example, a facility maintenance worker could be on site, away from their desk, and see an urgent service request that has come in for repairs at another building. They would then be able to re-prioritize their workday, as opposed to completing their current task and not see the urgent work order until they returned to their office later in the day.

Having access to a mobile app with connect GIS and Asset Management Software can also allow for field data collection for things such as routine facility inspections, condition assessments for sidewalks or roads, and provide pre-set "routes" for their assigned tasks, such as garbage collection.

Administration is not looking for a financial commitment at this time, however, in anticipation of a transition to a new GIS system in 2022, ORRSC's GIS agreement with the Town requires a one-year notice period to terminate the existing service agreement. Administration is requesting this notice be provided in 2021 in order to mitigate paying for two services in the same year.

**ALTERNATIVES:**

that Council for the Town of Pincher Creek request additional information from administration.

**IMPLICATIONS/SUPPORT OF PAST STUDIES OR PLANS:**

Providing a one-year notice would not immediately affect any services offered by the Town. A transition plan would be implemented following the budget approval for the new GIS and Work Order system.

**FINANCIAL IMPLICATIONS:**

No funding is being requested at this time.

Town's current ORRSC GIS payment: \$20,395.20/year

2022 proposed GIS System:

- One-Time Implementation and Training: \$10,100
- Annual Maintenance & Support: \$5,500/year

**PUBLIC RELATIONS IMPLICATIONS:**

The public would still have access to Town GIS on the Pincher Creek website, as they do now.

The public would still have access to service requests on the website, as they do now.

**ATTACHMENTS:**

None at this time.

**CONCLUSION/SUMMARY:**

Administration supports providing ORRSC with a one-year service termination notice for their GIS services. This will allow the Town to have more control over the data we possess on our assets and land.

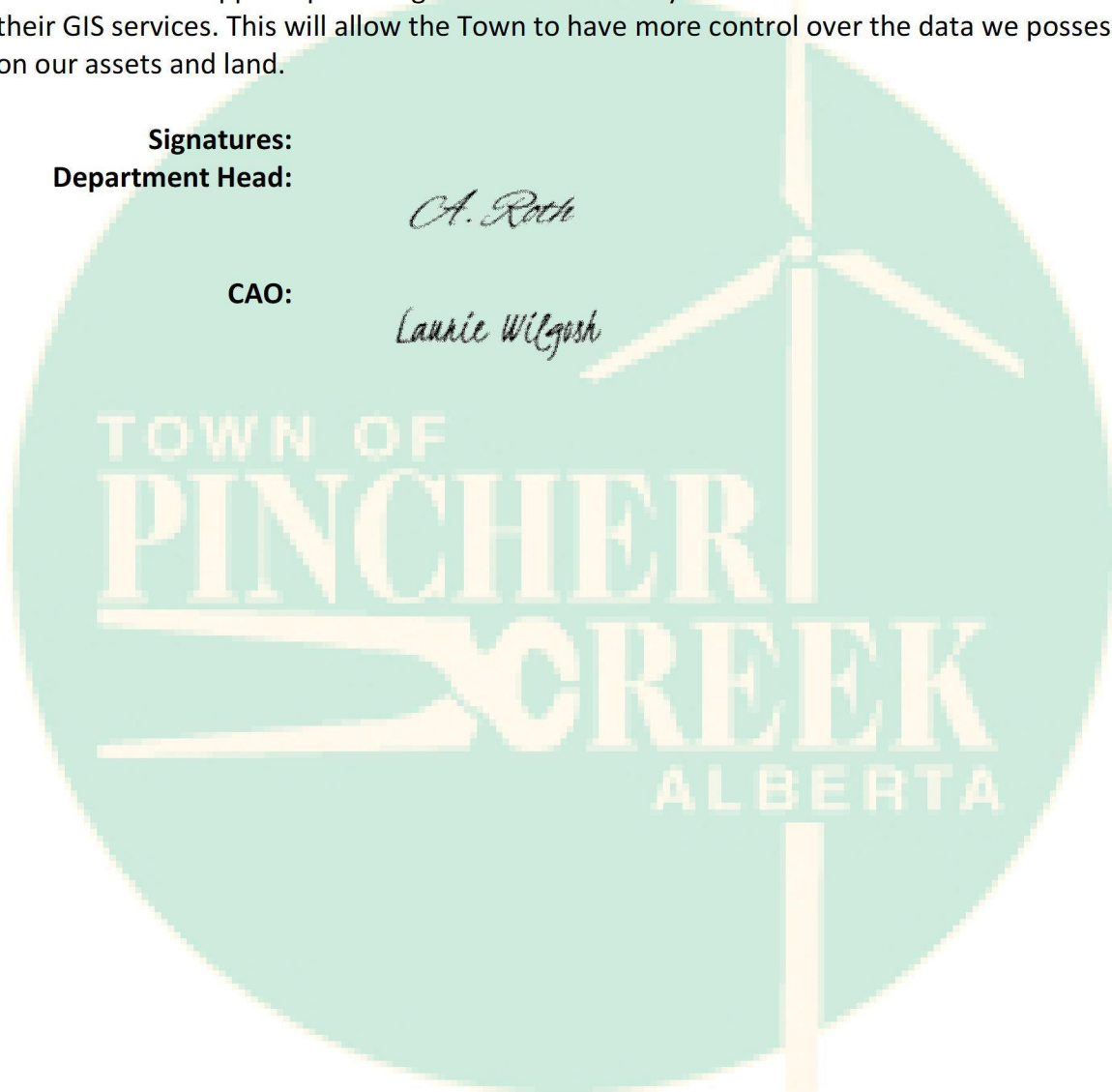
**Signatures:**

**Department Head:**

*A. Roth*

**CAO:**

*Laurie Wilgosh*



# TOWN OF PINCHER CREEK

## REQUEST FOR DECISION

*Council*

<b>SUBJECT:</b> Arena Fire Alarm Assesment	
<b>PRESENTED BY:</b> Adam, Recreation Manager	<b>DATE OF MEETING:</b> 5/5/2021

**PURPOSE:**

Committee of the Whole for the Town of Pincher Creek review the 2021 Stantec Arena Fire Alarm Assessment, and Proposal.

**RECOMMENDATION:**

That Council for the Town of Pincher Creek refer the arena fire alarm proposal to the May 10th, 2021 regular meeting of Council for decision.

**BACKGROUND/HISTORY:**

There was \$12,000 allocated in the 2020 operating budget to upgrade the arena fire alarm panel to be tied in with the swimming pool monitoring system. Several attempts to have contactors upgrade this system were unsuccessful due to the age of the system. In late 2020 Stantec Engineering was contracted to provide an assessment report as to the state of the current fire alarm system in the arena, provide cost estimates for replacement, and a proposal for engineering services to complete an upgrade to this system.

**ALTERNATIVES:**

None

**IMPLICATIONS/SUPPORT OF PAST STUDIES OR PLANS:**

The 2020 Stephensen Engineering Structural Study recommended that the fire alarm panel be replaced within the next year to meet current fire code requirements. In February 2021 Stantec Engineering conducted a fire alarm assessment and provided recommendations for upgrade/replacement.

**FINANCIAL IMPLICATIONS:**

Stantec predicted a total cost to replace the system would be approximately \$90,000.

\$12,000 was approved in the 2020 operating budget and carried forward to 2021.

**PUBLIC RELATIONS IMPLICATIONS:**

None

**ATTACHMENTS:**

20200123\_FNL\_RPT\_FL\_A\_Pincher Creek Ice Rink - 2640

Arena\_FA\_report\_20210209\_Final - 2640

**CONCLUSION/SUMMARY:**

Administration supports that Committee of the Whole for the Town of Pincher Creek refer the arena fire alarm proposal to the May 10th, 2021 regular meeting of Council for decision.

**Signatures:**

**Department Head:**

*Adam Grose*

**CAO:**

*Lannie Wilgosh*





# FINAL REPORT

## Facility Lifecycle Assessment Report MCC Arena 867 Main Street Pincher Creek, AB

Submitted to:  
**Town of Pincher Creek.**  
962 St. John Avenue (Box 159)  
Pincher Creek, AB, T0K 1W0  
Attention: Alexa Levair

Submitted by:  
**Stephenson Engineering Ltd.**  
639 5<sup>th</sup> Avenue SE, Suite 710  
Calgary, Alberta T2G 4Z6

Date: January 23, 2020  
Project No.: 20191806

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## EXECUTIVE SUMMARY

Stephenson Engineering Ltd. (Stephenson) was retained by Town of Pincher Creek (TPC) to perform a Facility Lifecycle Assessment (FLA) in accordance with Stephenson's proposal dated September 12<sup>th</sup>, 2019 of the property located at 867 Main Street, in the Town of Pincher Creek, Alberta (the "Site").

The building is known as the Memorial Community Centre (MCC) Arena, and provides approximately 2,230 m<sup>2</sup> (24,000 ft<sup>2</sup>) gross floor area (GFA) according to information provided by the client and was constructed circa 1964 and is situated on a Site covering approximately 0.53 hectares (1.31 acres) of land. The building is utilised as a hockey rink, and provides service to the town regarding local sports organizations and events. It consists of a concrete masonry unit (CMU) construction, as well as wood frame components on the interior and the roof. It hosts a number of rooms, including a canteen/lobby area, as well as dressing rooms, a small office space and full seating area which is provided by wood bleachers.

### 1.1. Defined General Terms

The common abbreviations noted below may or may not appear in the report and may not be all inclusive:

**ABS:** Acrylonitrile butadiene styrene

**ACM:** Asbestos containing material(s)

**BUR:** Built-up roof

**CFL:** Compact fluorescent light

**CIP:** Cast-in-place

**CMU:** Concrete masonry unit

**CPT:** Carpet tile

**CRT:** Capital reserve table

**CT:** Ceramic tile

**EPDM:** Ethylene propylene diene terpolymer

**FLA:** Facility Lifecycle Assessment

**GFCI:** Ground fault circuit interrupter

**GFA:** Gross floor area

**GWB:** Gypsum wall board

**HID:** High intensity discharge

**HPS:** High pressure sodium  
**HVAC:** Heating, ventilation and air conditioning  
**IGU:** Insulated glazing unit  
**LED:** Light emitting diode  
**PCA:** Property condition assessment  
**PCB:** Polychlorinated biphenyl  
**PEX:** Cross-linked polyethylene  
**PVC:** Polyvinyl chloride  
**RTU:** Roof top unit  
**SBS:** Styrene-butadiene-styrene  
**SF:** Square foot  
**SM:** Square metre  
**SOG:** Slab-on-grade  
**VCT:** Vinyl composite tiles

## 1.2. Summary of Findings

A cursory summary of findings of this Facility Lifecycle Assessment (FLA) is provided below. However, details are not included or fully developed in this section, and the report must be read in its entirety for a comprehensive understanding of the items contained herein. To assess the physical condition of the site components and building, a Site Representative was interviewed and a visual site review was conducted. No destructive or non-destructive testing was conducted. No calculations were performed to confirm the adequacy of the original design.

Based on the findings of this FLA, the following conclusions are made:

- **Architectural**

The site and building were developed circa 1964, while the buildings main entrance and canteen area were developed in 1975 as a later addition. The sidewalks in front of the property consist of cast-in-place (CIP) concrete. Vehicle access is provided directly from Main Street at the south elevation. The pavements throughout the parking lot consist of asphalt, with parking provided at the building's west elevation.

The exterior cladding was reviewed visually from grade level. The building envelope is primarily clad with concrete masonry units and prefinished metal panels, and the main entrance is veneer brick. Exterior wall insulation was concealed and not directly reviewed but assumed to be provided with batt insulation and polyethylene vapour barrier. The section of the building

occupied by the Senior Citizen Centre is not a part of the project scope, and will therefore not be covered in this report. The main entry doors on the south elevation are aluminum storefront doors with transoms, with secondary storefront entrances provided near the main entry point (on the east elevation). Painted metal utility doors (some with glazed inserts) in painted metal frames are provided on the west and east elevations. A prefinished overhead door is provided on the north elevation.

Interior floor finishes are generally rubber tile throughout, while some areas are exposed or painted concrete, including the main lobby/canteen area and service rooms. Interior walls consist of painted CMU and ceramic tiles in the washrooms. Interior ceiling finishes generally consist of painted and stained wood boards, exposed structure and some acoustic ceiling tiles in the two public washrooms.

The roof has both a flat and arched roof section that are finished with Styrene-Butadiene-Styrene (SBS). Water is drained from roof surfaces through internal roof drains on the flat roof system, while gutters and downspouts are provided along sections of the arched roof. Prefinished metal fascia is provided along the perimeter of the building. A prefinished vented metal soffit is provided on the roof overhangs of the arched roof.

The architectural components are in overall acceptable condition.

- **Structural**

The foundation system is generally concealed by architectural flooring, wall and grade outside. According to drawings provided, the building sub-structure consists of concrete piers and concrete grade beams. A small length of grade beam at the north-east corner of the main building was above grade and visible. The main floor in the building consists of a concrete slab on grade.

The superstructure mainly consists of load bearing CMU walls and concrete columns in the main arena building. Some vertical cracks were also observed in the CMU wall inside the building. But they appear to be the designed joints in the wall.

The wood joists form the flat roof over the Lobby and office space. In the Lobby area wood beams and round steel columns were provided to replace load bearing walls. The mono-pitched roof on the east side of the main building is also formed with wood joists. The roof over the arena is formed by 120'-0" span wood trusses with a curved top chord. Wood purlins span between trusses which supports the roof sheathing, deck and insulation. Diagonal cross bracings are provided in alternate bay between trusses. Connection of trusses to the walls and steel plates and bolts used as connecting members was observed.

The structural components are in overall good condition.

- **Mechanical**

Domestic water is supplied from the local service provider. Sanitary waste is disposed to the municipal mains. Storm water is drained by gutters and downspouts and internal roof drains, which feed to both the grade and to municipal storm drains. Domestic water distribution piping is

generally copper where observed. Sanitary drainage pipe was concealed and therefore not directly reviewed. Inspections of sanitary lines under building can be accessed through crawl space. As the area was a confined space, inspection could not be completed. Domestic hot water is provided by one gas-fired water heater located in the basement mechanical room.

Heating to the building is provided by a Lennox gas-fired furnace, four ceiling mounted radiant unit heaters, and three hydronic baseboard heaters throughout the rink. Cooling for the ice rink is provided by natural means, as well as a roof mounted air conditioning unit. Ventilation was provided by openings and ceiling mount fans, while exhausted was provided through grilles that lead to ducts, and vented out to roof mounted exhaust fans. In general, the visual review of the premises revealed that the mechanical equipment and systems have had routine maintenance, and where equipment has failed it has generally been repaired and/or replaced.

The building is equipped with ABC type fire extinguishers throughout.

The mechanical components are in overall good condition.

- **Electrical**

Electrical service is provided to the building via buried conductors from a pad-mounted transformer located southwest of the building and owned by a local service provider. Primary electrical distribution is accomplished by one 277/408 V, 600 Amp, 3-Phase, 4-Wire Siemens main switchgear Central Distribution Panel (CDP). Power is then stepped down via two transformers. This leads to typical 120/208 V, 100-125 Amp, Westington sub-panels. Interior lighting throughout the building is typically tubular fluorescent T-8 and T-12 fixtures and LED lighting in the rink. Exterior lighting is wall and soffit mounted LED lights controlled by photocell receptors. Lighting on the interior is controlled by in-line voltage switches. Building access is provided by magnetic locks, while some interior doors are provided with keypad access. The building is equipped with battery packs emergency lighting and LED exit signs throughout.

In general, the visual review of the property indicates that the electrical equipment is old and outdated, and much of it will require replacement within the evaluation period.

The electrical components are in overall marginal condition.

- **Hazard Materials**

Given the year of original construction of the building (~1964), hazardous building construction materials such as asbestos-containing materials (ACMs) and/or polychlorinated biphenyls (PCBs) may be present.

- **Immediate and Capital Reserve Summary**

Immediate investigation / action items identified pertain to repair of tripping hazard on wheelchair ramp, installation of GFCI receptacles where necessary and replace damaged junction boxes. Deficiencies and Capital Reserve Items have been identified within the 20-Year time frame of this report with respect to architectural, mechanical and electrical components and systems. The Immediate Repairs and Capital Reserve Analysis are included in Appendix C.

### 1.3. Opinions of Probable Costs

The following tables summarize our opinion of budgets for capital expenditures above the threshold value of \$3,000 over the 20-Year evaluation period that is identified by this report. Expenditures that are expected to be managed as part of normal operations are not shown. The budgets assume a prudent level of ongoing maintenance.

Section	Description	Immediate	Reserve Years 1 to 5 (2020 - 2024)	Reserve Years 6 to 10 (2025 - 2029)	Reserve Years 11 to 20 (2030- 2039)	20-Year Reserve Total
4.0	Architectural	\$2,000	\$858,500	\$121,100	\$178,800	\$1,158,400
5.0	Structural	\$0	\$9,000	\$0	\$0	\$9,000
6.0	Mechanical	\$0	\$199,200	\$0	\$247,539	\$446,739
7.0	Electrical	\$6,000	\$207,700	\$5,000	\$96,700	\$309,400
<b>TOTALS</b>		\$8,000	\$1,274,600	\$126,100	\$523,039	\$1,923,539

**Note:** Immediate expenditures are not included in the Capital Reserve totals.

**Table 1: Summary of Capital Reserve Expenditures per year (uninflated)**

Year 1	Year 2	Year 3	Year 4	Year 5
\$166,400	\$70,000	\$0	\$0	\$1,038,000
Year 6	Year 7	Year 8	Year 9	Year 10
\$0	\$77,100	\$0	\$13,400	\$35,600
Year 11	Year 12	Year 13	Year 14	Year 15
\$0	\$65,000	\$0	\$0	\$282,400
Year 16	Year 17	Year 18	Year 19	Year 20
\$0	\$5,000	\$19,400	\$113,700	\$37,539

## 2. INTRODUCTION

### 2.1. Background

Stephenson Engineering Ltd. (Stephenson) was retained by Town of Pincher Creek (TPC) to perform a Facility Lifecycle Assessment (FLA) in accordance with Stephenson's proposal dated September 12<sup>th</sup>, 2019 of the property located at 867 Main Street, in the Town of Pincher Creek, Alberta (the "Site").

### 2.2. Objectives

The objective of the FLA was to document the Site conditions at the time of the Site reconnaissance and, based on available sources of information and observations of surface conditions during the Site reconnaissance, to identify the exterior site improvements as well as the building structure, envelope, interior finishes, mechanical systems, electrical systems, fire/life safety systems, conveyance devices and visually obvious signs of non-compliance with respect to building code and barrier free accessibility.

### 2.3. Methodology

The FLA was conducted in general accordance with the American Society for Testing and Materials (ASTM) "Standard Guide for Property Condition Assessments: Baseline Property Condition Process E 2018-15", as locally applicable and as stated in our Mandate and Report Resources in Appendix A.

Deviations and exceptions from the aforementioned ASTM are included in this report under section 2.4 ("Deviations from the Guide"). Limitations to our work are provided in Appendix B ("Limitations and Use of the Report").

Site Escort and general building information was provided by Sherry Belanger, Maintenance Manager at the rink (hereafter referred to as the "Site Representative"). Site reconnaissance was conducted by Tyler Borden, A.E.T., Bea Dilan, E.I.T, and Sanjay Desai, P. Eng. of Stephenson on November 21<sup>st</sup>, 2019. The FLA was completed by Tyler Borden, A.E.T., and reviewed by Lawrence McSorley, Architect, AAA of Stephenson. The weather at the time of assessment was sunny and -1 °C with previous snowfalls limiting investigation of some areas on site. However, most areas were accessible at the time of the site visit.

The scope of work did not include sampling or testing to identify the potential presence of hazardous building construction materials such as asbestos-containing materials (ACMs), lead-based paints (LBPs), polychlorinated biphenyl (PCB)-containing electrical equipment or other hazardous materials. Due to the year of construction of the building, 1964, it is possible that hazardous building construction materials may be present on Site.

## 2.4. Deviations from the Guide

The FLA was conducted and this report prepared in accordance with the scope of work outlined in accordance with Stephenson’s proposal dated September 13<sup>th</sup>, 2019 and executed by the Client on September 27<sup>th</sup>, 2019.

The deviations from the ASTM used as a reference to complete the FLA and report for this project were as follows:

- Capital Threshold used is the \$3,000 recommended amount which was agreed upon with the Client
- The term “Point of Contact” has been replaced with “Site Representative”
- Verification of number of parking spaces was not conducted.
- Verification of gross and net usable areas of the site buildings was not performed.

## 2.5. Evaluation Criteria

The FLA was completed in general accordance with TPC stated scope of work as documented in 2019-OP-13 Arena and Curling Rink Assessments (hereafter referred to as the “RFP”). The scope of the FLA was limited to identifying components, systems and potential concerns by visual examination of surface features and operating practices, and from available documented information sources. Only those items identified as being above the specified Capital Threshold will be addressed in the Capital Reserve Table. The Condition Rating system (CR) used throughout this report is based on the RFP:

Code	Description
1	<b>Critical Unsafe-</b> high risk of injury or critical system failure.
2	<b>Poor-</b> does not meet requirements, has significant deficiencies. May have high operating / maintenance costs.
3	<b>Marginal-</b> meets minimum requirements, has significant deficiencies. May have above average operating / maintenance costs.
4	<b>Acceptable-</b> meets present requirements, minor deficiencies. Average operating/maintenance costs.
5	<b>Good-</b> meets all present requirements. No deficiencies.
6	<b>Excellent-</b> as new/state of the art, meets present and foreseeable requirements.



The capital expenditures identified with respect to deficiencies or deferred maintenance shall be identified by the following categories (“Cat X”):

Category	Description
A	Code & Safety
B	Repair & Maintenance
C	Capital Expenditure
D	Modernization / Improvements
E	Other

Items identified with a CR rating of 1 and/or Cat A, shall be treated as “Immediate” action items, considered to have conditions that include deficiencies that require action in the next 60 to 90 days. Items identified with a CR of 2 or 3 and/or Cat B shall be considered to have conditions that include deficiencies that can be addressed within the next five years (2020 to 2024 in the Capital Reserve Table). Preventative Maintenance (PM) items may have been identified. These PM items are items anticipated to be required to maintain specific components/systems through to the end of their Expected Useful Life (EUL) and are considered to have CR of 4 or better that can be addressed at any time within the 20-year evaluation period (2020 to 2039 in the Capital Reserve Table).

Other non-urgent conditions identified with a CR of 4 to 6, are prioritized by their identification as Cat B to Cat E and are included in the Capital Reserve Table in an appropriate year. For items with no observed or reported deficiencies, a lifecycle replacement (LCR) cost estimate has been provided in the Capital Reserve Table spreadsheet in the year equal to the year of original installation plus that component’s EUL. For example, if an item with no observed or reported deficiencies is nearing or has surpassed its EUL in the next 5 years (i.e., 2020 to 2024), an LCR cost estimate will be provided in the Lifecycle Plan spreadsheet in year 2024.

For similar components that have been replaced/installed at different times but where the age difference is equal to or less than 20% of the component’s EUL, the average install year has been used in calculating the next lifecycle replacement event (i.e., for similar vinyl floor tile installed in 2007 versus 2009, each having a 20 year EUL, an average install year of 2008 has been used to calculate a single lifecycle replacement event in 2028).

No building material sampling or testing was conducted as part of this assessment.

## 2.6. Recommendations for Additional Investigation

RAI.1) Barrier free study of the buildings interior circulation and building access.

RAI.2) Further investigation into roof leaks and drainage of arched roof.

RAI.3) Electrical study.

## 2.7. Desktop Data Collection

The following documents were reviewed:

- Architectural drawings, prepared by UMA Engineering Ltd., dated August 2<sup>nd</sup>, 1992.

## 2.8. Outstanding Information

No outstanding information.

## 2.9. Building and Fire Code Compliance Overview

The Site Representative reported that they were not aware of any outstanding work orders, building code violations or infractions, building ordinances or municipal health and fire safety by-laws violations.

## 2.10. Evidence of Mould

Evidence of mould spores were observed on the building's exterior walls.

## 2.11. Outline of the Report

The report that follows this section contains a summary description of the Site and building systems/components along with a detailed listing and description of systems/components. Furthermore, current, imminent or anticipated deficiencies above the Capital Threshold (if any) and excluding normal operating maintenance are presented with a CR, including a description of the risk/consequence of deferral, probability of imminent/anticipated failure and/or a further description of any failure if it has already occurred.

A more detailed Capital Reserve Table is presented in Appendix C outlining the specific systems/components, EUL, Install Date, Remaining Useful Life (RUL), replacement event type, basis of estimate and specific years for Capital Reserve planning.

## 2.12. Mandate and Report Resources

Please refer to Appendix A for the report General Purpose, Scope of Work and Reliance for this project and for additional resources related to the assumptions used in preparing this report such as:

Operating and Maintenance Items; and,

Discussions of Overall Concepts and Terminology.

### 3. SITE DESCRIPTION

#### 3.1. Site Location and Setting

Stephenson was retained by TPC to perform a FLA in accordance with Stephenson’s proposal dated September 12<sup>th</sup>, 2019 of the property located at 867 Main Street, in the Town of Pincher Creek, Alberta (the “Site”).

The building, the MCC Arena, consists of a CMU construction, as well as wood frame components on the interior and the roof. It hosts a number of rooms, including a canteen/lobby area, as well as dressing rooms, a small office space and full seating area which is provided by wood bleachers.

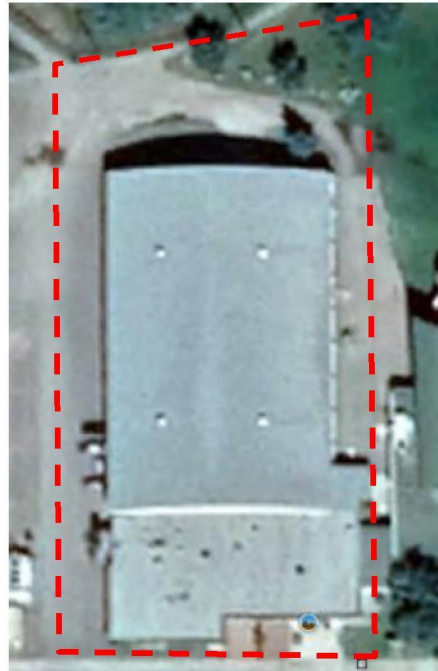
#### 3.2. Site Physical Description

**Table 2: Building Physical Description**

<b>Site Area</b>	0.53 hectares (1.31 acres)
<b>Number of Buildings on Site</b>	1
<b>Building (s) Footprint</b>	(2,230 m <sup>2</sup> ) (24,000 ft <sup>2</sup> )
<b>Levels Above Grade</b>	1
<b>Levels Below Grade</b>	None
<b>Date of Building Construction</b>	1964
<b>Date of Major Renovations</b>	1975 & 2013 (Ice Plant)
<b>Percentage Site Coverage by Building(s)</b>	60.4%
<b>Percentage Site Coverage by Landscaped/Grassed/Bare Ground Areas</b>	7%
<b>Percentage Site Coverage by Paved or Other Sealed Surface Materials</b>	32.6%



General view of the Site building.



Site plan including the building.

## 4. ARCHITECTURAL

The site and building were developed circa 1964, while the buildings main entrance and canteen area were developed in 1975 as a later addition. The sidewalks in front of the property consist of cast-in-place (CIP) concrete. Vehicle access is provided directly from Main Street at the south elevation. The pavements throughout the parking lot consist of asphalt, with parking provided at the building's west elevation.

The exterior cladding was reviewed visually from grade level. The building envelope is primarily clad with concrete masonry units and prefinished metal panels, and the main entrance is veneer brick. Exterior wall insulation was concealed and not directly reviewed but assumed to be provided with batt insulation and polyethylene vapour barrier. The section of the building occupied by the Senior Citizen Centre is not a part of the project scope, and will therefore not be covered in this report. The main entry doors on the south elevation are aluminum storefront doors with transoms, with secondary storefront entrances provided near the main entry point (on the east elevation). Painted metal utility doors (some with glazed inserts) in painted metal frames are provided on the west and east elevations. A prefinished overhead door is provided on the north elevation.

Interior floor finishes are generally rubber tile throughout, while some areas are exposed or painted concrete, including the main lobby/canteen area and service rooms. Interior walls consist of painted CMU and ceramic tiles in the washrooms. Interior ceiling finishes generally consist of painted and stained wood boards, exposed structure and some acoustic ceiling tiles in the two public washrooms.

The roof has both a flat and arched roof section that are finished with Styrene-Butadiene-Styrene (SBS). Water is drained from roof surfaces through internal roof drains on the flat roof system, while gutters and downspouts are provided along sections of the arched roof. Prefinished metal fascia is provided along the perimeter of the building. A prefinished vented metal soffit is provided on the roof overhangs of the arched roof.

A cursory review was performed regarding the accessibility and barrier free compliance of the building. Generally, the building appears to be barrier-free compliant, but some issues regarding interior circulation and washrooms were noted.

The architectural components are in overall acceptable condition. Immediate action items with respect to mould presence is required. Capital expenditures with respect to interior finishes, barrier free study and a mould study are anticipated within the evaluation period. Additional investigation is recommended with respect to mould presence and barrier free elements are expected.

A detailed description of Site and building systems/components including (if any) current, imminent or anticipated deficiencies above the Capital Threshold and excluding normal operating maintenance are presented below.

A01.0 SITE

I.D#	SYSTEM/COMPONENT	DESCRIPTION	CR	Cat.	COMMENTS/ASSESSMENT
A01.1	Site Servicing	<p><b>Water:</b> Water is provided by the local service provider.</p> <p><b>Sanitary Sewer:</b> Sanitary sewer is disposed to the municipal sewer mains.</p> <p><b>Electrical:</b> power is fed to the building from the local service provider pad mounted electrical transformer and into the building through underground conductors.</p>	4	-	No concerns observed or reported.
A01.2	Parking Lots & Drive Aisles	~2016: The parking lot and drive aisles are finished with asphalt pavement.	4	B	Parking lot was partially covered by snow at the time of assessment but is showing some longitude and transverse cracks throughout the parking lot. However, parking lot should continue to perform throughout the time frame of this report with continued maintenance and repairs. No concerns observed or reported. A repair allowance is provided in the capital reserve table.
A01.3	Parking Lot Markings	Not present.	-	-	No markings were visible throughout the parking lot. It is recommended that markings be installed throughout at a cost below the capital threshold.
A01.4	Concrete Sidewalks	~2016: The sidewalks at the front (south elevation) of the property are constructed with cast-in-place concrete. Coloured concrete is provided adjacent to the main entry.	4	-	Minor cracking of the concrete sidewalks was observed at the time of the site review. No other concerns observed or reported.
A01.5	Concrete Curbs / Pads	~2016: Concrete pads are provided at egress doors on the east and west elevations and at the coiling door on the north elevation.	4	-	No concerns observed or reported.
A01.6	Parking Islands	Not present.	-	-	N/A

A01.7	Parking Bumpers	~2016: Painted metal parking bumpers are provided on the west facing elevation.	4	C	No concerns observed or reported. (See Note 4B)
A01.8	Site Drainage	~1975: One catch basin was identified in front of the entry drive to the parking area located in the roadway/public right of way. The site surface drains to the street or to the north of the building.	4	-	No issues with ponding were noted or reported at the time of the review.
A01.9	Grassed Areas	~1964: Sodding and various plantings, trees, shrubs and planter beds at Northwest corner of property.	4	-	No concerns observed or reported.
A01.10	Fencing	~1975: Chain link fencing is located at the back of the property.	4	-	Property management maintains that this fencing is not the property of the rink, and will therefore not be included in costing.
A01.11	Retaining Walls	Not present.	-	-	N/A
A01.12	Amenities	~2016: A painted metal enclosure for propane tanks are provided on the north elevation of the building with a wood framed roof.	4	-	The wood portions of the enclosure should be painted. See Note 4A)
A01.13	Amenities - Signage	~1975: Wall mounted painted metal signage was observed on the building's south and west elevations. Building mounted metal parking signs are provided on the west elevation of the building.	4	-	No concerns observed or reported. (See Note 4A)
A01.14	Amenities - Site Furnishing	~2016: Three aluminum/wood picnic tables, a metal/wood bench and painted metal bike rack are provided at the south and north elevations of the property.	4	-	No concerns observed or reported.
A01.15	Ancillary Buildings	~1975: A wood framed storage building with vinyl siding is provided behind the breezeway connector on the north side of the building.	4	C	No concerns observed or reported. (See Note 4B)
A01.16	Bollards	~2016: Painted metal concrete filled bollards are provided by the on-site transformers on both the east and west elevations.	4	C	No concerns were observed or reported. (See Note 4B)

A01.17	Exterior Ramp	~2016: A CIP Concrete ramp and landing with painted metal handrails is provided at the egress doors on the east elevation of the building.	4	-	No concerns observed or reported.
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#### A02.0 EXTERIOR WALLS

I.D#	SYSTEM/COMPONENT	DESCRIPTION	CR	Cat.	COMMENTS/ASSESSMENT
A02.1	CMU Cladding	~1964/1975: The building envelope is primarily clad with unpainted CMU. The upper portion of the exterior walls are clad with prefinished metal siding.	4	B	The CMU cladding is in serviceable condition, but minor cracking in mortar joints and holes in cladding were observed upon investigation. A repair allowance will be provided in the capital reserve table.
A02.2	Brick Cladding	~1964/1975: The south elevation is clad with brick veneer.	4	-	No concerns observed or reported
A02.3	Metal Cladding	~1964/1975: The upper portion of the exterior walls are clad with prefinished metal siding.	4	C	No concerns observed or reported. (See Note 4B)
A02.4	Exterior Paint	~1990: The exterior utility doors and frames are painted.	3	B	The paint was peeling in several locations. (See Note 4A).
A02.5	Joint Sealers	~1985: Urethane -based sealants are provided at expansion joints and material transitions.	2	C	The caulking was observed to be cracked or disconnected from the surrounding materials in several locations. A replacement cost has been provided in the Capital Reserve Table. In addition, property management reported that some openings were not provided with sealants, and investigation confirmed this. It is recommended that sealants be provided at these areas to ensure that heat loss is retained.
A02.6	Louvers	~1975: Prefinished metal wall louvers were observed for ventilation along the north facing exterior wall of the arena.	4	-	No concerns observed or reported. (See note 4A)
A02.7	Insulation	~1964: Concealed, but likely batt fiber glass insulation.	-	-	No concerns observed or reported.



A02.8	Roof Insulation	~2009: Vinyl faced batt insulation is provided in the roof system.	-	-	No concerns observed or reported.
A02.9	Vapour Barrier	~1964: Concealed, but likely a polyethylene vapour barrier.	-	-	No concerns observed or reported.

#### A03.0 EXTERIOR WINDOWS

I.D#	SYSTEM/COMPONENT	DESCRIPTION	CR	Cat.	COMMENTS/ASSESSMENT
A03.1	Exterior Windows	~1975: Storefront windows are present in the breezeway connection of leading from the hockey rink to the swimming pool. Windows are double pane and aluminum.	-	-	Was not mentioned in scope, and therefore will not be priced. However, no concerns observed or reported.
A03.2	Curtain Wall	Not present.	-	-	N/A.

#### A04.0 EXTERIOR DOORS

I.D#	SYSTEM/COMPONENT	DESCRIPTION	CR	Cat.	COMMENTS/ASSESSMENT
A04.1	Main Entrance Door	~1975: The main entrance to the building is located on the south elevation. The building entrances are three sets of aluminum store-front double doors in aluminum l frames and transoms above. The center door is equipped with an automatic door opener.	4	C	The exterior doors are in serviceable condition. No concerns observed or reported. (See Note 4B)
A04.2	Secondary Doors	~1975: Secondary entrances are located in on the east elevation of the south entrance and consist of:	4	C	No concerns observed or reported. (See Note 4B) The cost has been combined with item A04.1 above.

		One pair and one single aluminum storefront in aluminum frames with transoms above.			
A04.3	Utility Doors	~1964: Painted metal utility doors in painted metal frames are provided on the west and east elevations of the building. (some are provided with vision panes)	3	C	Paint chipping and weather deterioration was observed on doors. Doors are serviceable, but will require replacement within the time frame of this report as their EUL is near expiration.
A04.4	Overhead Doors	~2004/2013: Overhead doors are provided at the Zamboni storage area (leading into the rink), as well as the back of the ice rink (North elevation).	4	C	No concerns observed or reported, but will require replacement within the time frame of this report. (See Note 4B)

#### A05.0 FASCIA AND SOFFITS

I.D#	SYSTEM/COMPONENT	DESCRIPTION	CR	Cat.	COMMENTS/ASSESSMENT
A05.1	Fascia	~1994: Prefinished metal fascia is provided along the roof perimeter on the west and east elevations.	4	-	No concerns observed or reported. (See Note 4A)
A05.2	Soffit	~1994: Prefinished vented metal soffit is provided along the underside of the roof overhangs.	4	-	No concerns observed or reported. (See Note 4A)

#### A06.0 INTERIOR WALLS AND PARTITIONS

I.D#	SYSTEM/COMPONENT	DESCRIPTION	CR	Cat.	COMMENTS/ASSESSMENT
A06.1	Fixed Partitions	~1964/1975: Interior partitions are generally CMU walls.	4	-	No concerns observed or reported.

A06.2	Interior Sports Partitions	~1964: Movable wood framed dasher boards with plastic faced panel and acrylic guards above are provided surrounding the rinks ice surface.	4	C	No concerns observed or reported. Boards have been replaced as needed throughout their service life (See Note 4B).
A06.3	Interior Paint	~2011: Interior paint is provided throughout the building.	4	C	No concerns observed or reported. (See Note 4B)
A06.4	Wallpaper	Not present.	-	-	N/A
A06.5	Ceramic Tiles	~2005: Ceramic wall tiles are provided in washrooms and shower stalls throughout the ice rink.	4	-	No concerns observed or reported.

#### A07.0 INTERIOR DOORS AND WINDOWS

I.D#	SYSTEM/COMPONENT	DESCRIPTION	CR	Cat.	COMMENTS/ASSESSMENT
A07.1	Interior Doors	~1964/1975: Interior wood doors and frames and metal doors in metal frames are located throughout the building.	3	C	Wood doors throughout appear to be original, with any replacements occurring as needed. Upon investigation, some doors were shown to have holes in them and possible rot in wood due to age. It is recommended that interior wood doors be replaced with metal doors and frames. A cost for this has been provided in the capital reserve table. (See note 4B)
A07.2	Interior Fire Rated Doors	~1964/1975: Fire rated metal doors (some with wire glass vision panes) are provided at most locations along corridors, mechanical, electric, service rooms, kitchen, change rooms/washrooms and the separation between the lobby and the rink.	4	C	No concerns observed or reported. (See note 4B)
A07.3	Counter Shutters	~1975: Two fire rated rolling counter shutters are provided in the kitchen.	4	C	No concerns observed or reported. (See note 4B)

A07.4	Interior Windows	~1975: Interior single pane wire glass metal framed windows were observed in wall separating the main lobby addition and the ice rink. Metal framed windows are provided in the press box.	4	C	No concerns observed or reported. (See note 4B)
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#### A08.0 CEILINGS

I.D#	SYSTEM/COMPONENT	DESCRIPTION	CR	Cat.	COMMENTS/ASSESSMENT
A08.1	Suspended Ceilings	~1995: Acoustic ceiling tiles in metal grids are provided in some of the offices, service rooms, change rooms and washrooms.	4	C	No concerns observed or reported. (See note 4B)
A08.2	Gypsum Ceiling	~1975: Some of the washrooms, kitchen and corridor ceilings are provided with painted GWB.	4	-	No concerns observed or reported.
A08.3	Exposed Structure	~1964: Exposed wood framed structure exists in corridors below the bleachers, portions of the rink roof, the Zamboni room, and some service rooms.	4	-	No concerns observed or reported.
A08.4	Wood Boards	~1975: Wood decking boards are utilised as a ceiling finish throughout the additions in the lobby/café area of the ice rink, in the main washrooms and change rooms.	4	-	No concerns observed or reported. Property management reports that that wood ceiling consists of structural lumber, and therefore will not require to be replaced within the time frame of this report.
A08.5	Ceiling Paint	~2011: Ceiling paint is provided wherever wood board finish is present, with exception to the main lobby of the building- which has a stained finish.	4	C	No concerns observed or reported. (See Note 4B)

**A09.0 FLOORING**

I.D#	SYSTEM/COMPONENT	DESCRIPTION	CR	Cat.	COMMENTS/ASSESSMENT
A09.1	Ceramic Tiles	~1975: Ceramic floor tiles are present in the shower stalls located in the ice rink dressing rooms, as well as the breezeway connecting the ice rink and pool.	4	C	Tiles are showing signs of wear from age, and stain where mortar joints are present. Will be due for replacement within the time frame from of this report. As such a cost has been provided for replacement in the capital reserve table.
A09.2	Resilient Flooring (Rubber Sheet)	~1975: Rubber sheet flooring is provided throughout the ice rink and dressing rooms.	4	C	Rubber sheet flooring is beginning to deteriorate due to high foot traffic and skate blades. Will reach its EUL within the time frame of this report and will need to be replaced. A cost has been provided in the capital reserve table.
A09.3	Resilient flooring (Tiles)	Not present.	-	-	N/A
A09.4	Carpet	Not present.	-	-	N/A
A09.5	Floor Paint	~2011: Floor paint is present in areas where concrete slab is exposed. This includes the main lobby and offices.	4	C	No concerns observed or reported. (See Note 4B)

**A10.0 FIXTURES**

I.D#	SYSTEM/COMPONENT	DESCRIPTION	CR	Cat.	COMMENTS/ASSESSMENT
A10.1	Counter/Cabinets	~1975/2005: Wood base cabinets with stainless steel counter tops are provided in the kitchen. Washrooms are provided with plastic laminate countertops.	2	C	Counter tops as well as cabinets are beginning to show signs of significant wear, in kitchen. All components are present from original build, and will need to be replaced within the time frame of this report. (See Note 4B).

A10.2	Seating	~1975: Painted wood bleachers are provided inside the ice rink. Painted wood benches are provided in the change rooms.	4	-	No concerns observed or reported
A10.3	Railings	~1975: Painted metal railings are provided on the stadium bleachers.	4	-	No concerns observed or reported.
A10.4	Lockers	~1975: Heavy duty steel storage lockers are provided near one of the rink gates at the secondary entrance on the western elevation.  ~1975: Four (4) standing metal equipment lockers are located in the ice rinks janitor closet.	4	C	No concerns observed or reported. (See Note 4B)  Lockers found in the janitors closet will also require replacement within the time timeframe of this report, but will be priced at a cost below capital threshold.
A10.5	Washrooms Accessories	~2008: Washrooms accessories include mirrors, grab bars, paper towel and hand soap dispensers, wall mounted waste receptables in women's bathroom and hand dryers.	4	C	No concerns observed or reported. (See Note 4B)
A10.6	Toilet Partitions	~1975: Toilet partitions are present in the washrooms located off the main lobby.	4	C	According to property management, any issues were addressed when the bathroom partitions were repainted in 2011. No concerns have been observed or reported, but the units will be past their useful life and should be replaced within the timeframe of this report. (See Note 4B)
A10.7	Appliances	~1975/2008: Commercial grade appliances such as a griddle, fryer and fume hood, refrigerator drink cooler, freezer is present in the building's kitchen.	4	C	No concerns were observed or reported, but appliances are outdated and will need replacement within the time frame of this report.
A10.8	Wayfinding	~1975: Fire diagrams are posted throughout the building. Adhesive vinyl signs are provided on doors for room identification.	4	-	No concerns observed or reported, signs have been replaced as need throughout the years.

**A11.0 BARRIER-FREE REQUIREMENTS**

I.D#	SYSTEM/COMPONENT	DESCRIPTION	CR	Cat.	COMMENTS/ASSESSMENT
A11.1	Parking	The parking lot does not fully comply with barrier free requirements.	3	A	Wall mounted signage on the buildings exterior wall indicates an area for barrier free parking is provided, however no striping and surface stall sign is provided delineating the parking space. No concerns observed or reported. (See note 4C)
A11.2	Access Route and Building Entrance	The access route from the parking lot to the main entrance is barrier free, with a concrete walkway leading from the parking area to the main entrance. In addition, access through the buildings main entrance is provided by automatic door openers.	4	A	No immediate concerns were observed or reported, but the distance from the parking lot to the rink main entrance was an issue with seniors going to the senior citizen centre. A barrier free study is recommended to be carried out. This will include a study of interior circulation for the overall MC. (See Note 4D) (RAI.01)
A11.3	Interior Circulation	For the most part, interior circulation in the building does not fully meet requirements.	2	D	Door hardware for the most part is knob rather than levers, and the ramp does not appear to be in accordance to code as it does not have hand rails, and has an existing trip hazard at the access point at bottom of ramp. Stairs in the bleachers have non compliant and insufficient number of handrails. As mentioned in the previous line item, a barrier free study is recommended for the building's interior circulation. Immediate action is recommended for tripping hazard on wheelchair ramp. An allowance will be provided for this. (See Note 4D) (See Imm.01)
A11.4	Washrooms	The main washrooms off the lobby of the building appear to be mostly barrier free.	2	D	The main doors are provided automatic openers; however, the mirrors are mounted too high, and the stalls do not have rear grab bars. The men's room does not have a compliant urinal. No other concerns observed or reported. (See Note 4D)
A11.5	Other	Not present.	-	-	N/A

**R01.0 ROOFING**

I.D#	SYSTEM/COMPONENT	DESCRIPTION	CR	Cat.	COMMENTS/ASSESSMENT
R01.1	Styrene-Butadiene-Styrene Roofing	~1994/2008: The arched roof and flat roofing sections of the building is both observed to be styrene-butadiene-styrene roofing (SBS)	3	C	The roofs were mostly snow covered at the time of the site visit. Property management reports that there are minor roof leaks in some areas of the building. In addition, the roof study should be able to determine reason for leaks and the cause of the CMU wall staining on the exterior of the building., and determine final repair costs. A repair allowance is provided in year 2 if necessary. (See Note 4B) (See Note 4D) (See RAI.02)
R01.2	Asphalt shingles	1994: The sloped roof over the Zamboni room is finished with asphalt shingles.	4	-	Roof was mostly covered by snow at the time of site visit, but will require replacement within the timeframe of this report. No leaks were observed or reported during investigation. (See Note 4A)
R01.3	Gutters and Downspouts	~1994: Prefinished metal gutters and downspouts are provided on a portion of the arched roof and sloped roof.	3	B/C	Exterior walls were showing signs of water stain from roof runoff, which could be a result of poor roof drainage. In addition, gutters were not provided on full length of overhangs, only serving a small portion of the arched roof. It is recommended that additional gutters and downspouts are added for the entire length of the arena, as well as replacement of existing downspouts and gutters. A cost will be provided on the capital reserve table.
R01.4	Roof Drains	1994: Internal roof drains are provided on flat roof section of the building.	4	C	No concerns observed or reported. (See Note 4B)
R01.5	Cap Flashing	1994: Metal cap flashing is provided along the perimeter of flat roof section.	4	C	No concerns observed or reported (See Note 4B)
R01.6	Skylights	Not present.	-	-	N/A
R01.7	Roof Ladder	Roof access ladder is present in the swimming pool connected to the hockey rink.	-	-	Access to the roof was provided through the swimming pool service room, but because the swimming pool is not in the



					scope of work provided, the ladder becomes not applicable for pricing and evaluation purposes.
<b>R01.8</b>	<b>Roof Railing</b>	Not present.	-	-	N/A

**A99.0 OTHER (STAIRS AND CONVEYANCE DEVICES)**

I.D#	SYSTEM/COMPONENT	DESCRIPTION	CR	Cat.	COMMENTS/ASSESSMENT
<b>A99.1</b>	<b>Mould</b>	~1964: The building was constructed in 1964 and property management reports no active mould.	4	-	Upon investigation of the building's exterior, possible mould and staining was noted along the face of CMU walls. Although not confirmed upon assessment as mould, possible poor drainage from the ice rinks arched roof appeared to be causing the water staining on the blocks. Prolonged moisture on blocks may be led to the eventual transfer of moisture from the exterior to the interior which then can lead to interior mould issues. It is recommended that a roof drainage study be performed. (See RAI.02)
<b>A99.2</b>	<b>Elevators</b>	Not present.	-	-	N/A

**NOTES:**

4A) The cost associated with repairs/replacement of this item is expected to fall below the Capital Threshold; as such, no costing has been included in the Capital Reserve Table.

4B) Line item identified will surpass its EUL within the time frame of this report; as such, a cost will be provided on the capital reserve table.

4C) It is recommended that barrier free parking stall is painted with appropriate markings. This will come at a cost below capital threshold.

4D) Recommended study will determine final cost of any additional repairs required; a repair allowance has been provided.

**IMMEDIATE ITEMS IDENTIFIED:**

Imm.1) Fix wheelchair access ramp tripping hazard.

No other immediate action items identified.

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**CAPITAL RESERVE ITEMS IDENTIFIED:**

- A01.2) Repair asphalt pavement.
  - A01.7) Replace metal parking bumpers.
  - A01.15) Wood Storage shed repairs.
  - A01.16) Replace concrete-filled metal bollards.
  - A02.1) Repairs to exterior concrete masonry cladding.
  - A02.3) Replace metal panel siding.
  - A02.4) Repainting of exterior finishes.
  - A02.5) Repairs to exterior joint sealants.
  - A04.1) Replacement of automatic entrance double door.
  - A04.1 & A04.2) Replacement of storefront doors.
  - A04.3) Replacement of utility doors.
  - A04.4) Replacement of both overhead doors.
  - A06.2) Replacement and repairs of sports (ice surface) partitions.
  - A06.3) Repainting of interior walls.
  - A07.1) Replacement of interior doors.
  - A07.2) Replacement of all fire rated doors.
  - A07.3) Replacement of fire rated counter shutters in kitchen.
  - A07.4) Replacement of interior windows.
  - A08.1) Replacement of acoustic ceiling tiles throughout.
  - A08.5) Repainting of ceilings throughout.
  - A09.1) Replacement of ceramic floor tiles.
  - A09.2) Replacement of all rubber flooring.
  - A09.5) Repainting of floors throughout.
  - A10.1) Replacement of outdated wood cabinetry.
  - A10.4) Replacement of metal storage lockers near ammonia plant.
  - A10.5) Replacement of washroom accessories throughout.
  - A10.6) Replacement of toilet partitions in men and women's washrooms.
  - A10.7) Replacement of commercial appliances and equipment.
  - RAI.01) Barrier free study for interior circulation and washrooms, as well as building access.
  - RAI.02) Roof study for water runoff/roof drainage.
  - R01.1) Replacement of SBS roofing on flat and arched roof systems.
  - R01.3) Replacement and installment of current and additional metal downspouts and gutters.
  - R01.4) Replacement of roof drains.
  - A01.5) Replacement of parapet cap flashing.
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No other Capital Reserve Items above the threshold identified.

**RECOMMENDED ADDITIONAL INVESTIGATION:**

- RAI.1) Additional investigation is recommended for easier barrier free access to building entrance and interior circulation of ice rink.  
RAI.2) Additional investigation is recommended for leaks and drainage of arched roof system.

No other recommended additional investigation required.

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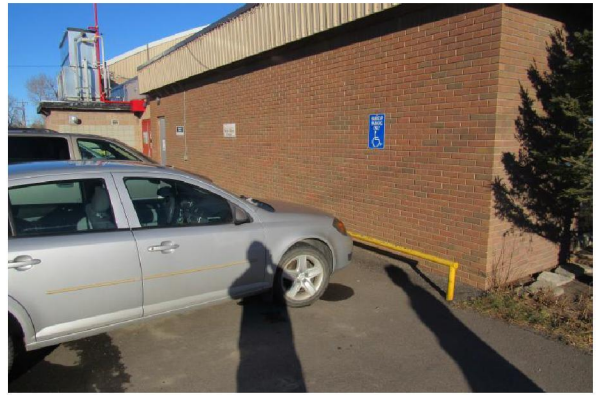
Photo #A1: Site parking lot.



Photo #A2: Asphalt Cracks in parking lot.



**Photo #A3:** Concrete pad walkway near front entrance.



**Photo #A4:** Barrier-free parking space.



**Photo #A5:** Exterior cladding finishes.



**Photo #A6:** Previous fix in cladding exposed to elements.



**Photo #A7:** Disconnected Joint Sealers on the exterior wall.



**Photo #A8:** Improper sealant (weather stripping) shown at the overhead door on the rear of the building.



**Photo #A9:** Storm sewer in street near entry drive.



**Photo #A10:** Building main entrance.

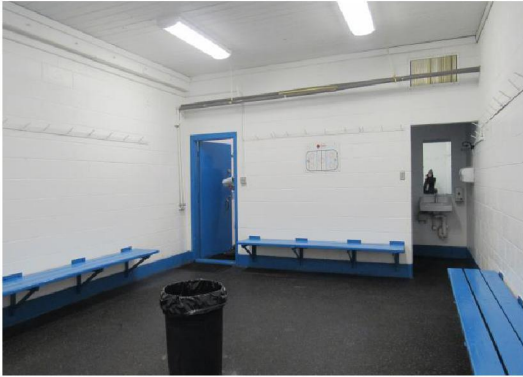


**Photo #A11:** Main lobby interior finishes.



**Photo #A12:** Metal railings and painted bleachers in the rink.





**Photo #A13:** Change room finishes.



**Photo #A14:** Ceramic wall and floor tiles in change room shower area.



Photo #A15: Ammonia plant entry and utility egress doors.



Photo #A16: Interior fire rated door.



**Photo #A17:** Urinals located in main lobby washroom; not barrier free compliant.



**Photo #A18:** Tripping hazard and lack of handrails on barrier free ramp near bleachers.



**Photo #A19:** SBS flat roof system.



**Photo #A20:** Cap flashing and SBS arched roof and asphalt shingle sloped roof.

## 5. STRUCTURAL

The foundation system is generally concealed by architectural flooring, wall and grade outside. Therefore, it was not reviewed in detail at the time of the assessment. According to drawings provided, the building sub-structure consists of concrete piers and concrete grade beams. A small length of grade beam at the north-east corner of the main building was above grade and visible. No cracks or spalls were found on the concrete surface.

The superstructure mainly consists of load bearing CMU walls and concrete columns in the main arena building. Short, intermittent cracks were observed in the piers of CMU walls at various locations on exterior west side of the main building. The walls between piers appeared to be structurally in good condition. Some vertical cracks were also observed in the CMU wall inside the building. But they appear to be the designed joints in the wall. Overall the walls are in good condition.

The main floor in the building consists of a concrete slab on grade. Some cracks and spalls were observed were observed in the Zamboni room. Some cracks were also visible under the seating space. The cracks and spalls in slab on grade shall be repaired with epoxy grout. Overall the concrete slab is in good condition.

The wood joists form the flat roof over the Lobby and office space. In the Lobby area wood beams and round steel columns were provided to replace load bearing walls. There was some indication of previous moisture penetration but it appeared to have been resolved. The mono-pitched roof on the east side of the main building is also formed with wood joists and appears to be in good condition. No excessive deflections or deformations were observed. The roof over the arena is formed by 120'-0" span wood trusses with a curved top chord. Wood purlins span between trusses which supports the roof sheathing, deck and insulation. Diagonal cross bracings are provided in alternate bay between trusses. Previous report indicated cracking observed in some of the wood members and it appears that repair was completed before this review. No new location of cracking in wood members of the trusses or the braces were observed. Previous report also indicated rusting of bolt connection. This is expected in a high moisture atmosphere of an ice rink. The rusting of bolts was not found to be unusual or excessive. Connection of trusses to the walls was also reviewed and bolts were found to be in acceptable condition. No excessive deflection, deformation or damage to wood members of trusses and braces as well as steel plates and bolts used as connecting members was observed.

The structural components are in overall good condition. No Immediate action items have been identified. No Capital expenditures are anticipated within the evaluation period; however, allowances have been included for the slab-on-grade and CMU wall repairs. No additional investigation is recommended at this time.

A detailed description of the Site and building structural systems/components including (if any) current, imminent or anticipated deficiencies above the Capital Threshold and excluding normal operating maintenance are presented below.

**S01.0 FOUNDATIONS**

I.D#	SYSTEM/COMPONENT	DESCRIPTION	CR	Cat.	COMMENTS/ASSESSMENT
S01.1	Footings	~1964: Concealed. No information available on drawings reviewed on site.	4	-	No concerns observed or reported.
S01.2	Foundation Walls	~1964: Conventional reinforced concrete grade beam / wall around the building perimeter, partially visible	4	-	No concerns observed or reported.

**S02.0 FLOORS ON GRADE**

I.D#	SYSTEM/COMPONENT	DESCRIPTION	CR	Cat.	COMMENTS/ASSESSMENT
S02.1	Slab on Grade	~1964: The main floor consists of concrete slab-on-grade	4	B	Some cracks observed. No abnormal cracking or heaving or settlement was observed. Provide \$ 3000 for repair works.

**S03.0 SUSPENDED FLOOR AND STAIRS**

I.D#	SYSTEM/COMPONENT	DESCRIPTION	CR	Cat.	COMMENTS/ASSESSMENT
S03.1	Suspended Floors	Not present.	-	-	N/A
S03.2	Crawlspace	Not present.	-	-	N/A
S03.3	Stairs	Not present.	-	-	N/A

**S04.0 ROOF STRUCTURES**

I.D#	SYSTEM/COMPONENT	DESCRIPTION	CR	Cat.	COMMENTS/ASSESSMENT
S04.1	Framing	Wood joists and wood trusses.	4	-	No concerns observed or reported.
S04.2	Decking	Plywood sheathing.	4	-	No concerns observed or reported.
S04.3	Lateral Resistance	Wood cross bracing in the roof over arena.	4	-	No concerns observed or reported.

**S05.0 INTERIOR WALLS AND COLUMNS**

I.D#	SYSTEM/COMPONENT	DESCRIPTION	CR	Cat.	COMMENTS/ASSESSMENT
S05.1	Interior Walls	CMU walls.	4	B	Some cracks observed. No concerns observed or reported. Provide \$3000 for repair works.
S05.2	Interior Columns	Steel columns in cafeteria area.	4	-	No concerns observed or reported.

**S06.0 EXTERIOR WALLS AND COLUMNS**

I.D#	SYSTEM/COMPONENT	DESCRIPTION	CR	Cat.	COMMENTS/ASSESSMENT
S06.1	Exterior Load-bearing Walls	CMU walls.	4	B	Some cracks observed. No concerns observed or reported. Provide \$3000 for repair works.
S06.2	Exterior Columns	Concrete columns for the arena building. Encased in CMU piers. Not available for review.	-	-	No concerns observed or reported.

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**S99.0 OTHER**

I.D#	SYSTEM/COMPONENT	DESCRIPTION	CR	Cat.	COMMENTS/ASSESSMENT
S99.1	Specially Engineered Construction	None	-	-	N/A

**NOTES:**

None.

**IMMEDIATE ITEMS IDENTIFIED:**

No immediate work items were identified.

**CAPITAL RESERVE ITEMS IDENTIFIED:**

- S02.1) Slab-on-grade repairs.
- S05.1) CMU interior wall repairs.
- S06.1) CMU exterior wall repairs.

No other Capital Reserve Items above the threshold identified.

**RECOMMENDED ADDITIONAL INVESTIGATION:**

No additional investigation recommended at this time.





**Photo #S1:** Wood Beam-Steel Column in Lobby.



**Photo #S2:** Crack in slab-on-grade under the seating area.



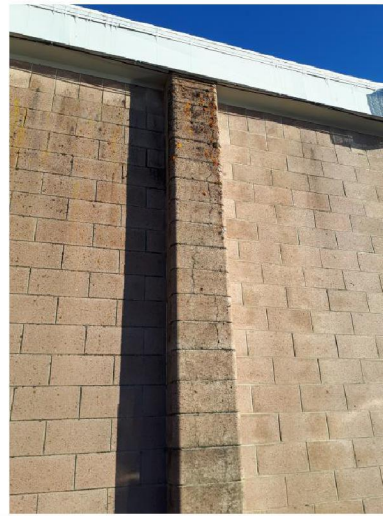
**Photo #S3:** Vertical joint separation in CMU wall.



**Photo #S4:** Cross bracing between trusses over arena.



**Photo #S5:** Repaired cracks in wood members of trusses.



**Photo #S6:** Cracks in pier of the exterior CMU wall.



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**Photo #S7:** Wood truss-concrete column connection.

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## 6. MECHANICAL

Domestic water is supplied from the local service provider. Sanitary waste is disposed to the municipal mains. Storm water is drained by gutters and downspouts and internal roof drains, which feed to both the grade and to municipal storm drains. Domestic water distribution piping is generally copper where observed. Sanitary drainage pipe was concealed and therefore not directly reviewed. Inspections of sanitary lines under building can be accessed through crawl space. As the area was a confined space, inspection could not be completed. Domestic hot water is provided by one gas-fired water heater located in the basement mechanical room.

Heating to the building is provided by a Lennox gas-fired furnace, four ceiling mounted radiant unit heaters, and three hydronic baseboard heaters throughout the rink. Cooling for the ice rink is provided by natural means, as well as a roof mounted air conditioning unit. Ventilation was provided by openings and ceiling mount fans, while exhausted was provided through grilles that lead to ducts, and vented out to roof mounted exhaust fans. In general, the visual review of the premises revealed that the mechanical equipment and systems have had routine maintenance, and where equipment has failed it has generally been repaired and/or replaced.

The building is equipped with ABC type fire extinguishers throughout.

The mechanical components are in overall good condition. No immediate action is required. Capital expenditures with respect to hot water heaters, plumbing fixtures and ice making equipment will be needed. No additional investigation is recommended at this time.

A detailed description of the Site and building mechanical systems/components including (if any) current, imminent or anticipated deficiencies above the Capital Threshold and excluding normal operating maintenance are presented below.

**M01.0 SITE SERVICES**

I.D#	SYSTEM/COMPONENT	DESCRIPTION	CR	Cat.	COMMENTS/ASSESSMENT
M01.1	Domestic Water Supply	Domestic waster is supplied by municipal mains.	4	-	No concerns observed or reported.
M01.2	Sanitary Sewer	Sanitary waste is disposed to municipal mains.	4	-	No concerns observed or reported.
M01.3	Storm Sewer	Storm water is drained through overland soil absorption and surface drainage and to municipal storm water drainage system.	4	-	No concerns observed or reported.
M01.4	Natural Gas	Gas is supplied into the building by the local service provider.	4	-	No concerns observed or reported.

**M02.0 PLUMBING**

I.D#	SYSTEM/COMPONENT	DESCRIPTION	CR	Cat.	COMMENTS/ASSESSMENT
M02.1	Water Distribution	~1975: Copper domestic water distribution piping is provided.	4	-	Minor leaks were reported by property management but no major concerns were observed or reported. Any repairs should come at a cost below the capital threshold.
M02.2	Backflow Prevention	~2010/1975: A backflow prevention device for the ice rinks sprinkler system is present in a mechanical room located in the local swimming pool attached to the rink facility.  Make: Watts (in the adjacent building) Model: 774 Size: 4"	4	C	Backflow device for sprinklers is a part of another facility which was not in the scope of work; therefore, no costing will be provided.  However, backflow prevention device located in rink's furnace room is original and will require replacement within the timeframe of this report. A cost will be provided in the capital reserve table.

		An additional backflow device is present in the ice rinks furnace room.  Make: Watts Model: 009M2 Size: 2"			
M02.3	Domestic Hot Water Heater	<p>~2004/2016: Domestic hot water is generated by 3 gas-fired, category 1, atmospheric type domestic hot water boiler units located in the furnace room, which is found in the back of the rink's ice plant.</p> <p>Make: Giant (2004) Model: UG40-36LE-N1U Capacity: 40 Gal Input: 36,000 Btu/Hr</p> <p>Make: A.O Smith Water Products Co. (2016) Model: BTRC 75A 118 Capacity: 100 Gal Input: 47,500 Btu/Hr</p> <p>Make: A.O Smith Water Products Co. (2016) Model: BTRC 75A 118 Capacity: 100 Gal Input: 47,500 Btu/Hr</p>	4	C	No concerns observed or reported. The Giant hot water heater will require replacement within the time frame of this report. A cost will be provided on the capital reserve table.
M02.4	Instantaneous Hot Water Heater	~2004: An electrical, instant hot water heater is present in the janitors closet next to the washrooms located in the main lobby. Hot water heater is manufactured by Rinnai, and likely services the washrooms and kitchen area.	4	C	No concerns observed or reported (See Note 6B).
M02.5	Waste Water Piping	~1995: Cast iron waste water piping is provided.	4	-	No concerns observed or reported.
M02.6	Irrigation System	Not present	-	-	N/A

M02.7	Washrooms Fixtures	~1975/2011: The washrooms fixtures include vitreous china flush tank water closets, and ground recessed urinals with automatic flush valves, wall mounted vitreous china snicks and counter-mounted china sinks with chrome finished, single lever faucets.	4	C	Washroom fixtures including urinals and water closets are all original and due for replacement. A cost for replacement will be provided in the capital reserve table for such.  Sinks were replaced in 2011 and show no concerns upon investigation. Will not need to be replaced during the timeframe of the report.
M02.8	Sinks	~1975: Counter mounted stainless-steel single and double basin sinks are provided for the kitchen/canteen. A cast iron and one plastic floor mop sinks are provided in the janitor's closet	4	C	No concerns observed or reported. (See Note 6B)
M02.9	Grease Trap	~2017: A PVC grease trap is present under canteens stainless steel sink, and is utilised to prevent oil and grease runoff in graywater disposal pipes from clogging.	4	-	No concerns observed or reported.
M02.10	Drinking Fountain	~2011: A stainless steel drinking fountain is provided in the corridor of the rink. .	4	-	No concerns observed or reported.

### M03.0 HEATING

I.D#	SYSTEM/COMPONENT	DESCRIPTION	CR	Cat.	COMMENTS/ASSESSMENT
M03.1	Boilers	Not present.	-	-	N/A.
M03.2	Unit Heaters	2016: 4 gas-fired unit heaters were located throughout the ice rink and manufactured by Modine and Stelpro.	4	-	No concerns observed or reported.
M03.3	Baseboard Heaters	~2010: 3 radiant baseboards electric heaters are present in some rooms in the ice rink.	4	-	No concerns observed or reported. (See Note 6A)



		No nameplates were visible at the time of inspection.			
M03.4	Radiators	~2004: both Gas fired and electric radiant heater is provided above the bleachers in the rink, a gas fired radiant heater is provided above the main lobby. One wall mounted electric heater is provided in the Zamboni Room. Manufacture label were not legible.	4	C	No concerns observed or reported. (See Note 6B)
M03.5	Heat Exchanger	~2015: A Heat Exchanger is provided in the Ice Plant room and tied to the chiller. Make: Docal Model: DELSA-18 10:2 B7169 CRN: A2361 32 Serial #: 15986	4	-	No concerns observed or reported.
M03.6	Furnace	~2004: One Lennox gas fired furnace is present in the buildings mechanical room, which is attached to the ice plant. The furnace is as follows:  Make: Lennox Model: G40UH-60D-155-07 Capacity: 154,000 Btu/Hr	4	C	No concerns observed or reported. (See Note 6B)

#### M04.0 COOLING

I.D#	SYSTEM/COMPONENT	DESCRIPTION	CR	Cat.	COMMENTS/ASSESSMENT
M04.1	Chillers	2015: One Shell and tube chiller with a surge tank is present in the ice plant.  Make: Docal Model: DLESA-14 7 B7169 CRN: H2290.2	4	C	No concerns observed or reported. (See Note 6B)

		Serial # 15986			
<b>M04.2</b>	<b>Cooling Tower</b>	<p>2014: A Vilter evaporative cooling tower is provided atop the ice plant.</p> <p>Make: Vilter          Model: VC1-100          Serial: U15884801-1-1</p>	4	C	No concerns observed or reported. (See Note 6B)
<b>M04.3</b>	<b>Air Handling Unit</b>	Not present.	-	-	N/A
<b>M04.4</b>	<b>Air Conditioner Unit</b>	<p>1999: One Lennox air conditioning compressor unit is found on the roof above the rinks lobby and is tied to the furnace as part of a split system.</p> <p>Make: Lennox          Model: 10ACB36-11P          Serial: 5899F 62751</p>	4	-	No concerns observed. Will soon surpass EUL and will require replacement. (See Note 6A)

**M05.0 VENTILATION**

I.D#	SYSTEM/COMPONENT	DESCRIPTION	CR	Cat.	COMMENTS/ASSESSMENT
<b>M05.1</b>	<b>Air Distribution</b>	Not present.	4	-	N/A
<b>M05.2</b>	<b>Ventilation</b>	<p>~1985: There are 6 through wall fans mounted on the end walls of the arena for outside air. Through wall fans also provide outside air to the ice plant and Zamboni Room.</p> <p>~1985: Six roof mounted gooseneck and box type supply air fans provide ventilation for the wash and change rooms at the flat roof section of the building as well as those located in the rink section. No label information was present.</p>	4	C	No concerns observed or reported. (See Note 6B)

M05.3	Air Outlets & Inlets	~1975: Metal grilles with covers are provided throughout the building in areas such as the washroom and dressing rooms, which feeds into metal ducts.	4	-	No concerns observed or reported. Any repairs or replacements should come at a cost below capital threshold.
M05.4	Exhaust Fans	~2017: building exhaust of the rink is via four (4) rooftop mounted mushroom exhaust fans on the arched roof and one wall mounted exhaust fan located in the Zamboni room and the ice plant.  ~1985/2017: The flat roof section has a total of six exhaust fans that serve the kitchen, washrooms, and service rooms located in this portion of the building.  No nameplates were observed at the time of assessment, with the exception of one; this one was manufactured by Solar & Palau and AMCA.	4	C	No concerns observed or reported. Will surpass the time frame of evaluation. (See Note 6B)

#### M06.0 FIRE PROTECTION

I.D#	SYSTEM/COMPONENT	DESCRIPTION	CR	Cat.	COMMENTS/ASSESSMENT
M06.1	Fire Extinguishers	Portable dry-type ABC fire extinguishers are provided throughout the building.	4	-	Inspections were observed to be up to date. Continue to inspect annually and replace as needed. Costs are below the capital threshold.
M06.2	Kitchen Hood dry chemical suppression	~1975: A kitchen hood rain guard fire-extinguishing system is present above the canteen gas fired stove.	4	C	No concerns observed or reported. (See Note 6B)

<b>M06.3</b>	<b>Sprinklers</b>	~1975: Wet-type sprinkler provide coverage throughout ice rink, covering areas of main arena as well as mechanical/ electrical rooms and Zamboni room, ice plant and change/washrooms.	4	-	No concerns observed or reported. Annual inspections on sprinkler systems should be carried out at a price below capital threshold. Inspections were noted to be up to date.
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#### M07.0 CONTROLS

I.D#	SYSTEM/COMPONENT	DESCRIPTION	CR	Cat.	COMMENTS/ASSESSMENT
<b>M07.1</b>	<b>Electric and Electronic Controls</b>	Manual and digital thermostats were observed to control internal temperature in the building.	4	-	No concerns observed or reported.

#### M99.0 OTHER

I.D#	SYSTEM/COMPONENT	DESCRIPTION	CR	Cat.	COMMENTS/ASSESSMENT
<b>M99.1</b>	<b>Humidifiers</b>	Not present.	4	-	No concerns observed or reported.
<b>M99.2</b>	<b>De-humidifiers</b>	Not present.	4	-	No concerns observed or reported.
<b>M99.3</b>	<b>Compressor</b>	~1964: One compressor is present in the ice plant. Make: Mycom Model: NW8A	4	C	No concerns observed or reported. Replace at the end of its life.
<b>M99.4</b>	<b>Compressor Motor</b>	~2009: A motor for the compressor is assembled with the compressor and maintain 75 HP. Make: Nema Premium Optimum HE Plus Model: AEHH8N	4	C	No concerns observed or reported. Replace at the end of its life. (See Note 6B)

		Serial: JWP7119359002			
M99.5	Oil Interceptor	~2014: Two (2) oil interceptors are provided in the ice plant room.  No name plates were observed at the time of the site visit.	4	C	No concerns observed or reported. (See Note 6B)
M99.6	Brine Tank	~2014: One brine storage tank is present in the in the ice plant.	4	C	No concerns observed or reported. Will need replacement at the end of its life. A cost will be provided on the capital reserve table. (See Note 6C)
M99.7	Brine Pump	~1964/2018: One brine pump is located in the ice plant attached to the chiller and brine tank. Make: Nema Premium Model: 02018OT3E2567C-S Serial: T0o1COXON0000301084	4	-	No concerns observed. Pump is original, but was rebuilt within the last year. Property management maintains no issues and that brine pump is functioning well; thus, it is expected that pump's EUL will surpass the evaluation period of this report.
M99.8	Calcium Tank	~2014: One calcium tank is provided near the entry point of the ice plant.	4	C	No concerns observed or reported. Will need replacement at the end of its life. A cost will be provided on the capital reserve table. (See Note 6C)
M99.9	Circulation Cooling Pump	~2014: A circulation pump is attached to the calcium tank and feeds into the cooling tower for the ice plant.  Make: Nema Premium Model: 00318OT3E182TC-S Serial: To01COXON0000301503	4	C	No concerns observed or reported. Replace at the end of its life. (See Note 6B)
M99.10	Brine Pressure Gauge	~2014: A pressure gauge is present beside the brine pump and monitors and protects the pumps net positive suction.  Make: Pall Deland Model: X-100 Serial: 1076093	4	-	It is essential that this pressure gauge is implemented to prevent the pump from overload; thus, it is important for regular maintenance and inspection.  Moreover, the gauge will require replacement within the time frame of this report at a cost below capital threshold.

M99.11	Brine Pipes	<p>~1964: Brine header pipes are provided under wood planks and rubber flooring along the front of the ice surface.</p> <p>Brine pipes are used to flood brine onto slab and create an ice surface.</p>	4	-	<p>Property management reports that minor leaks occur at times in pipes, but overall are in acceptable condition. It is recommended that regular maintenance is carried out on the pipes, with any repairs coming at a cost below the capital threshold.</p>
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**NOTES:**

- 6A) The cost associated with repairs/replacement of this item is expected to fall below the Capital Threshold; as such, no costing has been included in the Capital Reserve Table.
- 6B) Line item identified will surpass its EUL within the time frame of this report; as such, a cost will be provided on the capital reserve table.
- 6C) Storage tanks will be provided as a combined sum on the capital reserve table as they both consist of the same model, but store different chemicals.

**IMMEDIATE ITEMS IDENTIFIED:**

No immediate items were identified.

**CAPITAL RESERVE ITEMS IDENTIFIED:**

- M02.2) Replace backflow prevention device.
- M02.3) Replacement of gas-fired Domestic Hot Water Heaters at end of expected useful life.
- M02.4) Replacement of instant hot water heater in janitor room.
- M02.7) Replacement of bathroom fixtures (toilets, urinals).
- M02.8) Replacement of bathroom sinks.
- M03.1) Replacement of gas and electric overhead heaters.
- M03.6) Replacement of gas-fired Lennox furnace.
- M04.1) Replacement of ice plant chiller at end of expected useful life.
- M04.2) Replacement of ice plant cooling tower at the end of expected life.
- M04.4) Replacement of Rooftop Unit at end of expected useful life.
- M05.2) Replacement of supply air fans.
- M05.4) Replacement of Exhaust Fans at end of expected useful life.
- M06.2) Replacement of chemical fire extinguishing suppression system.
- M99.3 & 99.4) Replacement of Compressor and motor at end of expected useful life.
- M99.5) Replacement of Oil Separators at end of expected useful life.
- M99.6 & 99.8) Replacement of brine and calcium tanks.
- 99.9) Replacement of circulation cooling pump.

No other capital reserve items identified.

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**RECOMMENDED ADDITIONAL INVESTIGATION:**

No additional investigation recommended at this time.

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**Photo #M1:** Stainless steel double basin sinks in canteen.



**Photo #M2:** Grease trap and piping.



**Photo #M3:** Water closet fixture.



**Photo #M4:** Counter mounted sinks in washroom.





**Photo #M5:** Ceiling mounted radiant heater.



**Photo #M6:** Hydronic baseboard heater.



**Photo #M7:** Overhead electric radiant heaters.



**Photo #M8:** RINNAI instant hot water heaters.



**Photo #M9:** Lennox furnace.



**Photo #M10:** AO Smith water heater.



Photo #M11: Wet pipe sprinkler system in Zamboni room.

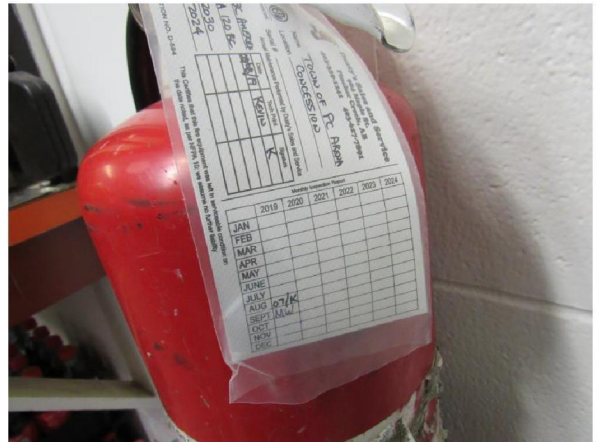


Photo #M12: ABC fire extinguisher.



**Photo #M13:** Ice plant chiller/heat exchanger.



**Photo #M14:** Cooling tower for ice plant.



**Photo #M15:** Oil interceptor.



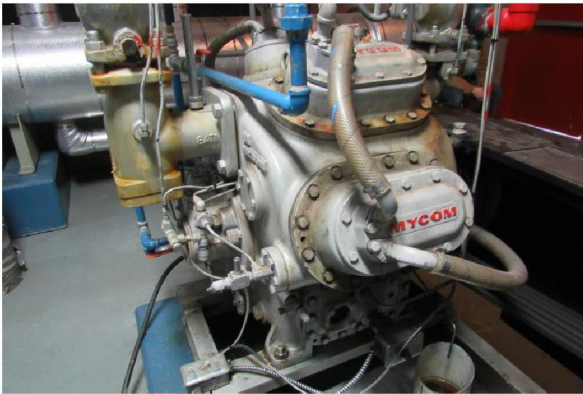
**Photo #M16:** Brine Pump.



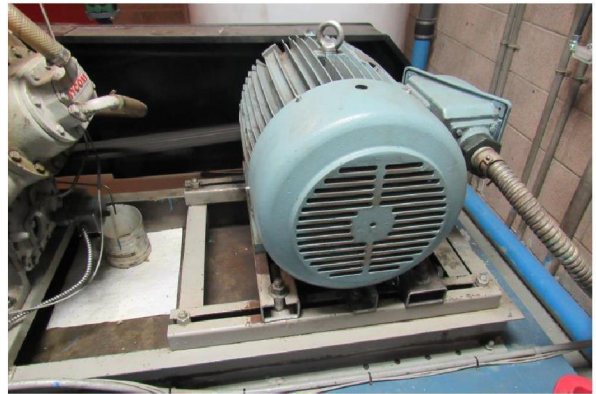
**Photo #M17:** Brine pressure gauge.



**Photo #M18:** Compressor and circulation pumps in ice plant.



**Photo #M19:** Ice Plant Compressor.



**Photo #M20:** Compressor motor.



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## 7. ELECTRICAL

Electrical service is provided to the building via buried conductors from a pad-mounted transformer located southwest of the building and owned by a local service provider. Primary electrical distribution is accomplished by one 277/408 V, 600 Amp, 3-Phase, 4-Wire Siemens main switchgear Central Distribution Panel (CDP). Power is then stepped down via two transformers. This leads to typical 120/208 V, 100-125 Amp, Westington sub-panels. Interior lighting throughout the building is typically tubular fluorescent T-8 and T-12 fixtures and LED lighting in the rink. Exterior lighting is wall and soffit mounted LED lights controlled by photocell receptors. Lighting on the interior is controlled by in-line voltage switches. Building access is provided by magnetic locks, while some interior doors are provided with keypad access. The building is equipped with battery packs emergency lighting and LED exit signs throughout.

In general, the visual review of the property indicates that the electrical equipment is old and outdated, and much of it will require replacement within the evaluation period.

Testing of the entire system - coordination, balancing, ground fault relays, and complete infrared scanning of switches and panels shall be done, as part of routine maintenance, on an annually basis and, all found deficiencies shall immediately be rectified.

The electrical components are in overall marginal condition. Immediate action items with respect to GFCI receptacles and damaged cover plates. Capital expenditures with respect to electrical distribution equipment, lighting and fire alarm systems are anticipated within the evaluation period. Additional investigation is recommended with respect to additional electrical distribution and arc flash.

A detailed description of Site and building electrical systems/components including (if any) current, imminent or anticipated deficiencies above the Capital Threshold and excluding normal operating maintenance are presented below.

**E01.0 INCOMING SERVICES**

I.D#	SYSTEM/COMPONENT	DESCRIPTION	CR	Cat.	COMMENTS/ASSESSMENT
E01.1	Exterior Transformers	Power to the building is fed from a pad mounted transformer.	4	-	No concerns observed or reported.
E01.2	Conductors	Underground power conductors from the exterior transformer and into the interior main electrical panel provide power for the building.	4	-	No concerns observed or reported.

**E02.0 DISTRIBUTION EQUIPMENT**

I.D#	SYSTEM/COMPONENT	DESCRIPTION	CR	Cat.	COMMENTS/ASSESSMENT
E02.1	Primary Distribution (Switchgear, CDPs, splitters, disconnects)	~1964: Primary power is supplied through a central distribution panel manufactured by Westinghouse, rated at 400 Amps, 277/480 Volts, 3 phase 4 wire.	3	C	Primary distribution equipment is outdated and will require replacement in the short-term time frame of this report. A cost for replacement is provided in the capital reserve table.
E02.2	Interior Transformers	~1964: Two interior transformers are present in the electrical service room. Transformers are as follows:  Manufacturer: Polygon Location: Electrical Room Rating: 50 KVA  Manufacturer: General Electric Location: Electrical Room Rating: 45 KVA	3	C	No concerns observed or reported, but transformers are outdated and will require replacement within the time frame of this report. A cost will be provided for replacement in the capital reserve table.

E02.3	Secondary Distribution (disconnects, splitters & sub-panels)	<p>~1975: Secondary power distribution is provided by a number of subpanels throughout.</p> <p>Manufacturer: Westinghouse (2)          Location: Referee Room          Rating: 100 Amp, 120/208 Volt, 3 phase, 4 wire          Circuits: 42 Circuits</p> <p>Manufacturer: Federal Pioneer          Location: Canteen          Rating: 100 Amp, 120/240 Volt, 1 phase, 3 wire</p> <p>Manufacturer: Westinghouse          Location: Near Metal Lockers          Rating: 125 Amp, 120/208 Volt, 3 phase, 4 wire          Circuits: 36 Circuits</p> <p>Another Westinghouse panel is located on site, but is no longer being used and should be removed. In addition, two electrical disconnects are present in the rinks electrical room.</p>	2	D	<p>Property management reported that its possible not enough circuits are available for the building power distribution. As a result, it is recommended that an electrical study is provided for additional electrical service. A cost will be provided. (See Note 7B) (See Note 7C) (See Note 7C) (RAI.04)</p> <p>Electrical disconnects are reportedly utility owned, and will therefore not be included in the capital reserve table.</p>
E02.4	Motor Starter/VFD	<p>~1975/2014: Several motor starters and one VFD devices are provided in the building for mechanical equipment. Brands include Danfoss and ABB. Original units are Allen-Bradley</p>	4	C	<p>No Concerns observed or reported. (See Note 7B)</p>
E02.5	Branch Wiring	<p>~1964: Electrical branch circuit wiring is reportedly copper throughout the building.</p>	1	A/C	<p>Some junction boxes are shown to have dented cover plates, but remain intact. Damaged junction boxes should be replaced immediately to prevent any risk of fire hazard. No other concerns observed or reported. (See note 7B) (Imm. 03)</p>

E02.6	Receptacles	~1964: Electrical receptacles are provided throughout the building.	1	A	<p>The Canadian Electrical Code (Part 1) requires that receptacles located within 1.5 m of sink, bathtub, or shower shall be protected by a ground fault circuit interrupter (GFCI) of the Class A type (subrule 26-700). The receptacles near the sinks in the kitchen should be replaced with GFCI protection. (See Imm. 03)</p> <p>In addition, receptacles are past due and will need replacement within the short-term time frame of this report. A cost will be provided in the capital reserve table for replacements.</p>
E02.7	Surge Protection	Not present.	-	-	N/A

### E03.0 LIGHTING

I.D#	SYSTEM/COMPONENT	DESCRIPTION	CR	Cat.	COMMENTS/ASSESSMENT
E03.1	Interior Lighting	~1975/2011/2014: Lighting is provided by surface mounted light fixtures; linear fluorescent, compact fluorescent (consist of T12 and T8 bulbs) and LED lighting in the arena.	3	C	<p>Lighting in the rink's café is original and was installed in 1975. A number of lighting boxes in this section are no longer in use and will need replacement within the time frame of this report.</p> <p>Lighting elsewhere with exception to the ice surface was replaced in 2011, but will surpass their EUL within the time frame of this report. A cost will be provided for replacement as well.</p> <p>Lighting over the ice surface was replaced in 2014 and consist of LED hanging lights. No concerns observed or reported. (See Note 7B)</p>

E03.2	Lighting Controls	~1975: Interior lighting is controlled by in-line voltage switches. Exterior lighting is reportedly controlled by photocells.	4	C	No concerns observed or reported. An allowance has been provided.
E03.3	Emergency Lighting	~2017: Battery packs with integral lighting heads are provided throughout the building.	4	C	No concerns observed or reported. (See Note 7B)
E03.4	Exit Lighting	~2017: LED exist signs are provided at emergency exits and corridors.	4	C	No concerns observed or reported. (See Note 7B)
E03.5	Exterior Lighting	~1975: Exterior lighting is provided by wall mounted LED type lamps.	3	D	No concerns observed or reported. (See Note 7B)

#### E04.0 GROUNDING

I.D#	SYSTEM/COMPONENT	DESCRIPTION	CR	Cat.	COMMENTS/ASSESSMENT
E04.1	Grounding	~1995: Concealed, but assumed to be present on major electrical equipment and conduit systems.	4	-	No concerns observed or reported.

#### E05.0 FIRE ALARM

I.D#	SYSTEM/COMPONENT	DESCRIPTION	CR	Cat.	COMMENTS/ASSESSMENT
E05.1	Fire Alarm Panel	~1975: The building is outfitted with an Edwards EST fire alarm system. This alarm panel is located in the referee dressing room.	2	D	No issues were reported at the time of assessment, but fire alarm panel is extremely outdated and will require replacement within the next year in accordance to fire safety. (See Note 7A)
E05.2	Devices	~1975: The fire alarm system monitors audible devices (bells & buzzers), pull stations, detectors. In addition, ammonia and CO2 detectors are	3	D	No concerns observed or reported, but systems appear to be outdated and will need some upgrades within the short-term time frame of this report. A cost for this will be provided in the capital reserve table.

		present in areas near ice plant, Zamboni room and mechanical room.			
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**E06.0 COMMUNICATIONS, DATA & SECURITY**

I.D#	SYSTEM/COMPONENT	DESCRIPTION	CR	Cat.	COMMENTS/ASSESSMENT
E06.1	Telephone	~2009: Telephone services are provided by a local provider.	4	-	No concerns observed ore reported.
E06.2	Internet Systems	~2009: Internet services are provided by a local provider.	4	-	No concerns observed ore reported.
E06.3	Intrusive Systems	Not present.	-	-	N/A.
E06.4	Surveillance Systems	~2008: The building is provided with a closed-circuit television (CCTV) video surveillance system. The system records footage in colour.	4	C	No concerns observed ore reported. (See Note 7B)
E06.5	Access Controls	~2008: The front entrance doors are equipped with magnetic locks. Entrances throughout the building, including offices and service areas are accessed through keypad locks.	4	C	No concerns observed ore reported. (See Note 7B)

**E99.0 OTHERS**

I.D#	SYSTEM/COMPONENT	DESCRIPTION	CR	Cat.	COMMENTS/ASSESSMENT
E99.1	Emergency Generators	Not present.	-	-	N/A
E99.2	Electronic Scoreboards	~2005: An electronic scoreboard is provided on the back of the rink, above the overhead door on the	4	C	No concerns observed or reported. (See Note 7B)

		north elevation and protected by metal wire grating.			
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**NOTES:**

7A) The cost associated with repairs/replacement of this item is expected to fall below the Capital Threshold; as such, no costing has been included in the Capital Reserve Table.

7B) It is recommended to perform an Arch Flash Hazard Analysis (CSA Z462-12) on all electrical equipment throughout the building. The purpose of the study is to identify potential arc flash hazards prior to any work being performed on energized equipment. Warning labels will be affixed to the electrical equipment which provide recommendations for protective personal equipment (PPE), set boundaries for approaches, and establish safe work practices.

7C) Subpanels will be priced individually, and then combined into a lump sum total on the capital reserve table.

7D) Electrical study will determine future replacement costs. As such, only cost for electrical study will be provided.

**IMMEDIATE ITEMS IDENTIFIED:**

Imm.2) Replacement of damaged junction boxes.

Imm.3) Installment of GFCI receptacles at sinks.

No other immediate action items identified.

**CAPITAL RESERVE ITEMS IDENTIFIED:**

E02.1) Replacement of central distribution panel in electrical room.

E02.2) Replacement of interior transformers.

E02.3) Replacement of subpanels throughout the ice rink.

E02.4) Replacement of motor starters and VFD's.

E02.6) Replacement of receptacles throughout the ice rink.

E03.1) Replacement of interior fluorescent lighting.

E03.1) Replacement of LED lights above ice surface.

E03.2) Replacement of lighting controls.

E03.3) Replacement of emergency lighting packs.

E03.4) Replacement of LED exit signs.

E03.5) Exterior LED wall mounted lighting.

E05.1) Replacement of fire alarm panel.

E05.2) Upgrades to fire detection and alarm devices.

E06.4) Replacement of surveillance video.

E06.5) Replacement of access controls.

E99.2) Replacement of electronic scoreboard.

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No other Capital Reserve Items above the threshold identified.

**RECOMMENDED ADDITIONAL INVESTIGATION:**

RAI.3) Additional investigation into electrical systems to determine an adequate number of subpanels and an arc flash study.

No other recommended additional investigation is required at this time.

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**Photo #E1:** On site electrical transformer.



**Photo #E2:** Interior transformer.





**Photo #E3:** Central distribution panel/switchgear.



**Photo #E4:** Circuit layout in CDP.



**Photo #E5:** Subpanels located in referee room.



**Photo #E6:** Non GFCI receptacle found within 1 meter of a sink.



**Photo #E7:** Ceiling mounted fluorescent lights.



**Photo #E8:** Exterior LED light.



**Photo #E9:** Exit and emergency lighting.



**Photo #E10:** Northern surveillance camera

## 8. HAZARDOUS MATERIALS REPORTS

No previous hazardous materials reports were made available for review. Based on the year of the construction of the building outlined in this report (~1965), hazardous building construction materials such as ACMs (asbestos containing materials), and/or PCBs (polychlorinated biphenyls) may be present in the building.

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## Report Signature Page

**STEPHENSON ENGINEERING LTD.**



Tyler Borden, A.E.T  
Building Conditions Assessor  
Report Author



Lawrence McSorley, Architect, AAA  
Principal - Building Science  
Senior Reviewer

# APPENDIX A

## Mandate & Report Resources

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## MANDATE AND REPORT RESOURCES

### Authorization

Written Notice of Award of 2019-OP-13 Arena and Curling Rink Assessments was provided on September 27th, 2019. A Facility Lifecycle Assessment (FLA) of the Site identified in the Introduction section of the report was subsequently conducted. The Site is currently owned and managed the Town of Pincher Creek, Alberta.

### Purpose

The primary objective of the FLA was to visually examine and evaluate the present condition of the property elements, buildings and related structures. The FLA process is being undertaken to assist (TPC) in capital planning and evaluating the potential financial liabilities associated with the condition of the site elements, building and related structures on the sites. Stephenson Engineering understands that (TPC) will rely on the contents of this report for capital planning.

### Scope

The FLA was conducted in general accordance with the American Society for Testing and Materials (ASTM) “Standard Guide for Property Condition Assessments: Baseline Property Condition Process E 2018-15”, as locally applicable. The Stephenson Engineering Assessors (identified on the first page of the report) conducted the sites reconnaissance on the date shown. The Site reconnaissance was limited to a walk around the sites, a walk-through of the buildings and interview with personnel listed in the Introduction section of the report (referred to as the “Site Representative” in this report). Copies of selected photographs documenting conditions at the time of the visit are provided throughout the report.

The purpose of the report is to communicate identified physical deficiencies, future capital projects, and the associated opinions of estimated costs where the cost is greater than the Capital Threshold and expected to occur within the time frame used for the report. In accordance with this agreed mandate, assumptions were required to delineate between capital items and routine maintenance. Please refer to the “Operating and Maintenance Item” list below. Also, please refer to the attached “Discussions of Overall Concepts and Terminology” for additional explanation of assumptions used.

The review of the structural elements was limited to a visual review of the accessible, exposed portions of the buildings and related structures during our visit to the building. The roofs, walls, floors and ceilings were visually reviewed to collect information in this regard.

The review of the mechanical, electrical and fire safety systems was performed by non-specialists in conjunction with discussions with the Site Representative. A detailed assessment by a mechanical or electrical professional consultant should be conducted if further information regarding the condition, durability and/or expected future capital expenditures related to these systems is required.



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Compliance with national and provincial building codes and/or fire codes is not part of the scope of this assessment.

The estimated costs outlined in this report are based on the conditions encountered and observations made during the reconnaissance. Estimates of quantities and areas are based on information supplied, field observations and/or interviews. Item repair/replacement costs are approximate only. Restoration costs are sensitive to local and overall economic factors and therefore, specific quotations from qualified contractors should be obtained when a specific deficiency is addressed or a capital project is to be implemented.

### Operating and Maintenance Items

Stephenson Engineering assumes the following items will be maintained under normal operating budgets and are therefore not included in the Capital Reserve Table.

#### SITE

- Buried services
- Landscaping

#### STRUCTURE

- Foundations and footings

#### ROOF

- Periodic maintenance

#### WALLS AND WINDOWS

- Local periodic repairs and needle glazing
- Weather-stripping

#### INTERIORS

- Various common furnishings, specialty equipment
- Small residential appliances

#### MECHANICAL

- Motors, ductwork and in-duct equipment
- Oil supply systems
- HVAC distribution piping
- Air inlets and outlets

#### ELECTRICAL

- Buried conductors

### DISCUSSIONS OF OVERALL CONCEPTS AND TERMINOLOGY

#### Evaluation Period

The period of evaluation used for this report is 20 years. Capital repairs and replacement that are reasonably expected to be required within this evaluation period and that cost in excess of the Capital Threshold are included in the Capital Reserve Table.

#### Effective Age

The estimated age of a building component that considers actual age as affected by maintenance history, location, weather conditions, and other factors. Effective age may be more or less than actual age.

#### **Expected Useful Life (EUL)**

The average amount of time in years that an item, component or system is estimated to function without material repair when installed new and assuming routine maintenance is practiced.

#### **Site Representative (POC)**

Client, client's agent, or client-identified person or persons knowledgeable about the physical characteristics, maintenance, and repair of the subject property.

#### **Remaining Useful Life (RUL)**

A subjective estimate based upon observations, or average estimates of similar items, components, or systems, or a combination thereof, of the number of remaining years that an item, component, or system is estimated to be able to function in accordance with its intended purpose before warranting replacement. Such period of time is affected by the initial quality of an item, component, or system, the quality of the initial installation, the quality and amount of preventive maintenance exercised, climatic conditions, extent of use, etc.

#### **Capital Threshold**

The Capital Threshold used for this report is (\$3,000). This threshold is used to determine whether a capital repair item is to be included in the Capital Reserve Table. Capital repairs identified and estimated to cost less than the threshold, or that will likely to be performed in phases, as a part of routine maintenance as required, at a cost less than the threshold are not included in the Capital Reserve Table.

#### **Costs**

Costs presented in this study for future capital repairs and replacement projects are our Opinions of Probable Budgets and are intended to include the work as per the description, taxes, permit fees, contingency and where appropriate, Engineering fees for design, specifications, tendering, project management and construction monitoring. We have generally assumed replacement will occur on a like-for-like basis except where obsolescence or technological advancements logically dictates an upgrade. More accurate costing in the future will require a condition assessment, choice and development of an appropriate repair option, designing and tendering the work to qualified contactors.

#### **Recommended Work**

Work that is required due to end of EUL, current condition, code or immediate health risks to keep the facility operating over the evaluation period of this report. This work is considered to be beyond normal or routine maintenance work or for maintenance procedures

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that are currently not in force but are strongly recommended to maintain the system under consideration.

### Immediate Items

Immediate repairs include deficiencies that require action in the next 60 to 90 days as a result of (i) existing or potentially unsafe conditions, (ii) negative conditions significantly impacting marketability or habitability, (iii) material building code violations, (iv) poor or deteriorated condition of a critical element or system, or (v) a condition that if left “as is” with extensive delay in addressing same, would result in or contribute to critical element or system failure within 12 months or a significant escalation in the repair cost.

### Short Term Work (1 to 5 years)

Short term work includes work items that may not warrant immediate attention, but require repairs or replacement that should be undertaken on a priority basis in addition to routine preventive maintenance.

### Mid Term Work (6 to 10 years)

Mid term work includes work items that require repair or replacement but do not have significant deficiencies or have not reached their EUL.

### Long Term Work (more than 10 years)

Long term work includes work items that require repair or replacement beyond the evaluation period of this report or those which under our opinion, with periodic scheduled maintenance, replacement can be deferred beyond the evaluation period.

### Capital Reserve Analysis

The Capital Reserve Table includes a section that provides the average annual capital costs per square foot. Replacement Reserves include (i) deficiencies that may not warrant immediate attention, but require repair or replacement that should be undertaken on a priority basis over routine preventive maintenance work and (ii) components or systems that have realized or exceeded their Expected Useful Life (EUL) during the evaluation period (realization of EUL alone does not constitute an immediate repair). Replacement reserve costs are included in Appendix C.

Opinions of probable costs are provided for material physical deficiencies and not for repairs or improvements that could be classified as:

- Cosmetic or decorative;
- Part or parcel of a building renovation program or tenant improvement/finishes;
- Enhancements to reposition the asset in the marketplace;
- For warranty transfer purposes;
- Routine or normal preventative maintenance;

- Less than the capital threshold for this report; and
- Are expected to occur beyond the time frame of this report

#### Cost Inflation Rate

We have presented the costs in current year (2020) values. We have used 3% in the capital reserve table attached. Further sensitivity analysis using other inflation assumptions should be tested when projecting future cash-flows.

#### Life Expectancies

Our estimates of the life expectancy of common element components, systems and sub-systems are based on our opinion of the observed condition during our Site visit, experience with similar material at other buildings, published industry standards, articles and recommendations made by material suppliers and manufacturers. For some materials or systems, the history of use is not sufficient to predict life expectancy accurately. Monitoring and adjustments to the assumptions are required.

The year in which the capital work is required is estimated on the basis of the current observed conditions, or the construction methods and materials used. This may be shorter or longer than the remaining time in the standard estimated life cycle based on the current age of the item. Our estimates of life cycles reflect our understanding of the standards that the prudent long-term owners would maintain. Deferring and phasing of work is often possible keeping in mind that doing so could reduce building standards, increase disruption to residents, increase costs and risks.

## **APPENDIX B**

### Limitations and Use of the Report

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## LIMITATIONS

This report is intended to provide an assessment of the property conditions at the subject property, at the time of the site visit. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of the third parties. Should additional parties require reliance on this report, Stephenson Engineering may be contacted to extend reliance to such parties. Stephenson Engineering disclaims responsibility of consequential financial effects on transactions or property values, or requirements for follow-up actions and costs, which result from reporting the factual information contained herein.

The conclusions as presented represent the judgement of Stephenson Engineering based on the visual observations of the accessible, exposed building elements, supplemented by information and data obtained by Stephenson Engineering and discussions with the Site Representative and other representatives of the owner identified. Except as otherwise may be requested, Stephenson Engineering disclaims any obligation to update this report for events taking place, or with respect to information that becomes available to Stephenson Engineering after the time during which Stephenson Engineering conducted the FLA. No physical testing or intrusive investigations were conducted, and no samples of building materials were collected to substantiate the observations made.

In evaluating the Site, Stephenson Engineering has relied in good faith on information provided by other individuals noted in this report. Stephenson Engineering in certain instances has been required to assume that the information provided is factual and accurate. In addition, the findings in this report are based, to a large degree, upon information provided by the Site Representative. Stephenson Engineering accepts no responsibility for any deficiency, misstatement or inaccuracy contained in this report as a result of omissions, misinterpretations or fraudulent acts of persons interviewed or contacted.

Actual costs may vary from the opinions of probable cost outlined by Stephenson Engineering. Factors affecting actual cost may include, but are not limited to, type and design of suggested remedy, quality of materials and installation, manufacturer and type of equipment or system selected, field conditions, whether a physical deficiency is repaired or replaced in whole, phasing of the work (if applicable), quality of contractor, quality of project management exercised, market conditions, and whether competitive pricing is solicited, etc.

Stephenson Engineering makes no other representations whatsoever, including those concerning the legal significance of its findings, or as to other legal matters touched on in this report, including, but not limited to, ownership of any property, or the application of any law to the facts set forth herein. With respect to regulatory compliance issues, regulatory statutes are subject to interpretation. These interpretations may change over time, thus any parties making use of this report should review these issues with appropriate legal counsel.

Should additional information become available with respect to the building elements or systems, Stephenson Engineering requests that this information be brought to our attention so that we may re-assess the conclusions presented herein.

## **APPENDIX C**

### Capital Reserve Table



Appendix D - Capital Reserve Table

Project Information

Total Gross Floor Area (m <sup>2</sup> )	2,230	Year Built	1964	Reserve Term (years)	20
Number of Buildings	1	Age	56	Assumed Inflation	2%

Modified Cuts

Report Section	Building Component	Expected Useful Life	Observed Age	Remaining Useful Life	Unit Rate	Quantity	Recommended Action	Immediate	Short Term										Mid Term										Long Term										Total
									Year 1 2020	Year 2 2021	Year 3 2022	Year 4 2023	Year 5 2024	Year 6 2025	Year 7 2026	Year 8 2027	Year 9 2028	Year 10 2029	Year 11 2030	Year 12 2031	Year 13 2032	Year 14 2033	Year 15 2034	Year 16 2035	Year 17 2036	Year 18 2037	Year 19 2038	Year 20 2039											
<b>4 ADAPTIVE</b>																																							
<b>401 Site</b>																																							
401.2	Park eq. lot, Asphalt Paving	15	3	22	\$22,000/Allowance	1 unit	Replace		\$5,000																														
401.7	Park eq. lot, Asphalt	20	3	17	\$3,000/Lump Sum	1 unit	Replace																																
401.15	Wood Frame Siding Repair	10	5	15	\$2,000/Allowance	1 unit	Replace																																
401.16	Park eq. lot, Berland	20	5	15	\$2,000/Allowance	1 unit	Replace																																
402	Interior Walls																																						
402.0	Charging Concrete Block	100	56	44	\$10,000/Allowance	1 unit	Repair																																
402.3	Charging Metal	40	40	0	\$100/m <sup>2</sup>	200 m <sup>2</sup>	Replace																																
402.4	Concrete Paint	15	0	15	\$2,000/Allowance	1 unit	Repair																																
402.5	Joint Sealers	20	20	0	\$70/m	76 m	Repair / Replace																																
403	Interior Windows																																						
No Capital Items Identified																																							
404	Interior Doors																																						
404.1	Interior Doors, Automatic Entrance	30	23	5	\$12,225 each	1 unit	Replace																																
404.1.1.2	Interior Doors, Aluminium Storm/Screen	30	23	5	\$12,000/Lump Sum	1 unit	Replace																																
404.1.2	Interior Doors, Glass	40	30	5	\$1,975 each	10 units	Replace																																
404.4	Overhead Doors	25	6	19	\$12,225 each	1 unit	Replace																																
404.4	Overhead Doors	25	13	10	\$7,000 each	1 unit	Replace																																
405	Fenestration and Sillings																																						
No Capital Items Identified																																							
406	Interior Walls and Partitions																																						
406.2	Interior Wall, Acoustic	30	-	-	\$20,000/Lump Sum	1 unit	Replace																																
406.3	Wall, Finish, Interiors/Exter	15	0	7	\$11/m <sup>2</sup> GFA	2,230 m <sup>2</sup> GFA	Repair		\$10,000																														
407	Interior Doors and Windows																																						
407.1	Interior Door, Heavy	30	23	5	\$12,225 each	10 units	Upgrade																																
407.2	Interior Doors, Glass	40	30	5	\$2,900 each	10 units	Replace																																
407.3	Window Shutters	40	30	10	\$2,500/Lump Sum	1 unit	Replace																																
407.4	Window Windows	40	30	10	\$475 each	10 units	Replace																																
408	Ceilings																																						
408.1	Ceiling, Fiberglass Acoustic Ceiling Tiles	25	20	5	\$76/m <sup>2</sup>	150 m <sup>2</sup>	Replace																																
408.5	Ceiling, Fiberglass, Acoustic	15	0	7	\$6/m <sup>2</sup> GFA	1,600 m <sup>2</sup> GFA	Repair																																
409	Flooring																																						
409.1	Floor Finish, Tile	40	35	5	\$166/m <sup>2</sup>	46 m <sup>2</sup>	Replace																																
409.2	Floor Finish, Rubber Tile	20	13	5	\$260/m <sup>2</sup>	46 m <sup>2</sup>	Replace																																
409.3	Floor Finish, Carpet	10	0	5	\$4/m <sup>2</sup> GFA	2,230 m <sup>2</sup> GFA	Repair																																
410	Furniture																																						
410.1	Fired Casework	15	20	5	\$12,000/Lump Sum	12 units	Replace																																
410.4	Storage lockers	30	25	5	\$425 each	8 units	Replace																																
410.5	Workstation accessories	20	15	5	\$6/m <sup>2</sup> GFA	2,230 m <sup>2</sup> GFA	Replace																																
410.6	Tables, Partitions	30	15	15	\$3,000 each	7 units	Replace																																
410.7	Commercial Appliances & Equipment	25	20	5	\$10,000/Lump Sum	1 unit	Replace																																
410.7	Commercial Appliances & Equipment	25	10	15	\$10,000/Lump Sum	1 unit	Replace																																
411	Barriers/Frame																																						
411.0.1	Braking Hazard Repair	-	-	-	\$2,000/Allowance	1 unit	Safety	\$2,000																															
411.1	Barrier Frame, Weather Circulation	-	-	-	\$2,000/Lump Sum	1 unit	Repair / Replace	\$2,000																															
411.1	Barrier Frame, Upgrade	-	-	-	\$50,000/Lump Sum	1 unit	Repair / Replace	\$50,000																															
412	Roofing																																						
412.2	Roof Study	-	-	-	\$22,000/Lump Sum	1 unit	Study / Repair	\$22,000																															
412.3	Asphalt Roof, SBS	25	20	5	\$100/m <sup>2</sup>	2,230 m <sup>2</sup>	Replace																																
412.4	Flat Roof, SBS	25	10	15	\$100/m <sup>2</sup>	874 m <sup>2</sup>	Replace																																
412.5	Roof Gutter and Downspouts	30	20	10	\$28/m	2,230 m	Repair / Replace																																
412.6	Roof Drain	40	25	15	\$26 each	4 units	Replace																																
412.7	Roofing Cap/Flashing	40	25	15	\$3,000/Lump Sum	1 unit	Replace																																
413	Other																																						
No Capital Items Identified																																							
<b>5 STRUC TURAL</b>																																							
<b>501 Foundations</b>																																							
No Capital Items Identified																																							
502	Floor on Grade																																						
502.1	Sub-on-grade repair	-	-	-	\$2,000/Allowance	1 unit	Replace																																
503	Suspended Floors and Stairs																																						
No Capital Items Identified																																							
<b>504 Roof Structure</b>																																							
No Capital Items Identified																																							
505	Interior Walls and Columns																																						
505.1	CAB Interior wall repair	-	-	-	\$2,000/Allowance	1 unit	Replace																																





Town of Fisher/Oriskany  
NEC A/B/C  
817 Main Street, Elm Hill, ON, L0R 1S0

Report Section	Building Component	Expected Useful Life	Observed Age	Remaining Useful Life	Unit Rate	Quantity	Recommended Action	Immediate	Short Term					Mid Term					Long Term					Total						
									Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15		Year 16	Year 17	Year 18	Year 19	Year 20	
586	Exterior Walls and Columns	-	-	-	\$3,000	(Allowance)	1 unit	Replace						\$3,000																\$3,000
599	Other																													
6	<b>Mechanical</b>																													
6B1	Boiler Services																													
6B2	Flue Gas																													
6B3	Heating																													
6B4	Cooling																													
6B5	Ventilation																													
6B6	Fire Protection																													
6B7	Controls																													
6B8	Other																													
7	<b>ELECTRICAL</b>																													
7A1	Receiving Services																													
7A2	Distribution Equipment																													
7A3	Lighting																													
7A4	Fire Alarm																													
7A5	Communications, Data & Security																													
7A6	Other																													
7A7	Electronic Scoreboard																													

Capital Reserve Analysis

Included	Excluded
\$2,522,424	\$29,377
\$45.52	\$41.12

Total Costs

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	Total
Average Cost / Year	\$8,000	\$144,403	\$76,000	\$0	\$0	\$1,832,000	\$0	\$77,600	\$0	\$11,400	\$13,600	\$0	\$53,200	\$0	\$0	\$382,400	\$0	\$3,000	\$19,600	\$171,700	\$37,216	\$4,823,529
Average Cost / Year / Sq. Ft.	\$8,000	\$171,342	\$74,263	\$0	\$0	\$1,801,224	\$0	\$94,633	\$0	\$17,464	\$14,643	\$0	\$59,624	\$0	\$0	\$419,470	\$0	\$8,244	\$13,827	\$199,224	\$30,446	\$2,452,929

Compiled by: TEB  
Reviewed by: LHM



## **Electrical Fire Alarm System Assessment Report**

Memorial Community Centre Arena, Pincher  
Creek, AB

**Final**

February 8, 2021  
110773796

Prepared for:

Town of Pincher Creek

Prepared by:

Stantec Consulting Ltd  
200 - 325 25th Street SE Calgary, AB  
T2A 7H8

# Sign-off Sheet

## “ELECTRICAL FIRE ALARM PROTECTION SYSTEM ASSESSMENT REPORT, MEMORIAL COMMUNITY CENTRE ARENA PINCHER CREEK”

This document entitled “Electrical Fire Alarm Protection System Assessment Report, Memorial Community Centre Arena Pincher Creek” was prepared by Stantec Consulting Ltd. (“Stantec”) for the account of Town of Pincher Creek (the “Client”). Any reliance on this document by any third party is strictly prohibited. The material in it reflects Stantec’s professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document.




Prepared by

**Peter Threlfall, P.Tech (Eng.) – Project Lead (Electrical)**



Reviewed by

**Ted Larson, P.Eng – Project Manager**

<b>PERMIT TO PRACTICE STANTEC CONSULTING LTD.</b>	
Signature	
Date	2021-02-09
<b>PERMIT NUMBER: P 0258</b>	
The Association of Professional Engineers and Geoscientists of Alberta	



Approved by

**Walid Hamed, P.Eng – Senior Electrical Engineer**



2021-02-08



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## 1.0 ELECTRICAL

### 1.1 BACKGROUND

The Town of Pincher Creek retained Stantec to complete an assessment of the Memorial Community Centre Arena fire alarm system. The following report summarizes the findings of the site assessment and provides recommendations for system modifications to meet current code requirements.

### 1.2 STANDARDS AND CODES

The following are applicable codes and standards for the Fire Alarm protection system.

1. National Building Code - 2019 Alberta Edition - NBC(AE)
2. National Fire Code – 2019 Alberta Edition
3. Canadian Electrical Code CEC C22.1 - 2018
4. CAN/ULC S524-14, Standard Installation of Fire Alarm Systems.
5. CAN/ILC S537-13, Standard for Verification of Fire Alarm Systems
6. CAN/ULC-S526, Standards for Visible Signaling for Fire Alarm and Signaling Systems, including accessories.
7. CAN/ULC-S529, Standards for Smoke Detectors for Fire Alarm Systems.
8. CAN/ULC-S530, Standards for Heat Actuated Fire Detectors for Fire Alarm Systems.
9. CAN/ULC-S1001-1, Standards for Integrated Systems Testing of Fire Protection and Life Safety
10. CSA Z462-18, Work Place Electrical Safety.

### 1.3 LIFE SAFETY SYSTEMS

The Life Safety Systems for the facility is comprised of four main components:

1. Fire Protection System
2. Fire Alarm System
3. Emergency Egress Lighting
4. Exit Signage

The site assessment included a review of the existing fire alarm system only.



## 1.4 FIRE ALARM PROTECTION SYSTEM – EXISTING SYSTEM

The existing fire alarm system is comprised of an Edwards Model 2280 conventional fire alarm panel, which dates back to the 1960's. The panel is located in a changing room, along with an antiquated annunciator panel, located in the foyer, and there are manual pull stations at each exit door. A number of smoke and heat detectors are located within the building. There also appears to be a non-engineered sprinkler system located within the Zamboni room, which is not connected back to the fire alarm panel, which appears to be a possible code violation.

The fire alarm system does not include any duct smoke detectors as the building is heated using radiators.

The building is annunciated using bells located in a few places within the building. The exterior of the building also includes a red luminaire outside the main door. There does not appear to be sufficient number of signaling devices that can satisfy the 10dBA above average noise level and the 87bA minimum average sound pressure level required by NBC(AE) clause 3.2.4.19.(a), (C) “Audibility of the Fire Alarm System”. The system does not include a dial out system to a certified alarm receiving center in accordance with CAN/ULC 561.

The existing system has been installed using a combination of conduit and cable and AC90 (BX) cables, of which do not meet current codes and standards. The feed for the fire alarm panel comes from very old antiquated panel, that is well past its service life and we recommend that this panel is replaced and/or the feed for a new panel is taken from an adjacent panelboard.

The Ammonia control panel alarm currently goes back to the town via the SCADA system, as opposed to the Fire Alarm panel. There is a requirement for a connection to also go back to the Fire Alarm panel in case of a gas leak.

## 1.5 FIRE ALARM PROTECTION SYSTEM – CURRENT CODE REQUIREMENTS

On review of the latest National Fire Code - Alberta Edition and ULC-S524 with respect to the existing fire alarm protection system, the current code requires the following, based on a Combustible Structure:

1. Cabling shall be in accordance with CEC C22.1 requirement as follows:
  - .1 FAS cable or,
  - .2 Installed in totally enclosed non-metallic raceway.
2. National Building Code - 2019 Alberta Edition
  - .1 Audibility of the fire alarm system shall not be less than 65dBA average sound pressure level and 10dBA above average noise level.
  - .2 A fire alarm that includes sprinkler system notification to the fire department installed as per CAN/ULC 561 requirement
  - .3 Is required in assembly occupancies in which music and other sounds associated with performances could exceed 100db(A).



- .4 CAN/ULC-S524 “Standard installation of Fire Alarm System, requires audible signal devices within building shall generate similar sounds and sound patterns when activated.
- .5 In a building or portions thereof intended for use primarily by persons with a hearing impairment.

## **1.6 CONCLUSION**

Our recommendation, based on the age/condition of the existing fire alarm system and the magnitude of modifications required to meet latest code requirements, is to replace the whole fire alarm system with an addressable type of fire alarm system.

Stantec has developed a high-level cost estimate for the entire fire alarm system replacement. We anticipate that the replacement would cost approximately \$90,000 including engineering, upgrades, and contingency.

Although not part of this assessment, we also recommend the swimming pool fire alarm system, which is an Edwards 6616 conventional fire alarm system, which was installed in 1999 and is over the recommended 20 year service life also be replaced sometime in the near future with an addressable system similar to what is being recommended for the Arena.

We also recommend the sprinkler system located in the Zamboni garage is reviewed by an Alberta registered Fire Protection Engineer and to be connected to the Fire Alarm.



February 23, 2021  
File: 110789000

**Attention: Adam Grose**  
Recreation Manager - Town of Pincher Creek  
962 St. John Avenue  
Pincher Creek, Alberta  
T0K 1W0

Dear Mr. Grose,

**RE: TOWN OF PINCHER CREEK – ARENA FIRE ALARM SYSTEM REPLACEMENT**

Stantec Consulting Ltd. presents for your consideration our proposal to undertake the Arena Fire Alarm System Replacement project, under the terms of our Master Service Agreement dated January 6, 2020. Our proposed scope of services is presented herein, which is based on a request from the Town of Pincher Creek and our understanding of project requirements.

**1.0 BACKGROUND**

Stantec Consulting Ltd has completed a preliminary fire alarm system assessment at the Arena for the Town of Pincher Creek. The recommendation provided within the preliminary assessment report was to replace the existing Arena fire alarm system.

**2.0 SCOPE OF SERVICES, DELIVERABLES, AND METHODOLOGY**

The following scope of services is proposed based on Stantec's understanding of the project requirements:

**2.1 Project Management & Administration**

- Project Coordination
- Controlling Progress and Budgets
- Management of Project Financials, Quality, and Safety

**2.2 Detailed Design**

- Prepare Building Layouts (CAD)
  - One site visit will be required to prepare the building layout drawings (CAD), to verify dimensions and confirm the accuracy of the PDF map provided by the Town. CAD layout files will be provided to the Town for their use on future projects.
- Detailed Design of Fire Alarm System Replacement (Electrical)
- Issued for Tender Drawings / Specifications
- Issued for Construction Drawings / Specifications



**RE: ARENA FIRE ALARM SYSTEM REPLACEMENT****2.3 Quotation Services**

- Preparation of Front-End Documents (instructions to bidders, bid form, etc.)
- Correspondence with Bidders During Quotation Period (Responses to questions and preparation of addendums)
- Bid Evaluation Services (Attendance in bid review meeting)

**2.4 Construction Administration Services**

- Correspondence with Contractor During Construction
- Responses to Contractor RFIs
- Shop Drawing Reviews
- Fire Alarm Verification and Inspection (One site visit)

**3.0 CLARIFICATIONS / ASSUMPTIONS****3.1 General Assumptions / Exclusions**

1. All deliverables will be provided electronically.
2. We have assumed that quotations from contractors will be obtained via a “request for quotation” invitational process, with minimum three qualified contractors. A full-scale tender package and process is not anticipated to be required.
3. We have assumed that the Town of Pincher Creek will coordinate pre-bid site meetings with contractors, upon their request, prior to the quotation period closing.

**4.0 HEALTH, SAFETY, AND QUALITY**

All site work will be conducted in accordance with the Town of Pincher Creek’s specific site safety protocols and Stantec’s Health and Safety Program. This project will be carried out under Stantec’s ISO 9001:2008 Quality Management System.

**5.0 PROJECT TEAM**

<b>Name &amp; Title</b>	<b>Project Responsibility</b>
<b>Ted Larson, P.Eng</b>	Project Manager
<b>Peter Threlfall, P.Tech (Eng)</b>	Electrical Lead
<b>Walid Hamed, P.Eng</b>	Electrical Engineer

**RE: ARENA FIRE ALARM SYSTEM REPLACEMENT****6.0 SCHEDULE**

Stantec is prepared to commence work on the project immediately following receipt of written approval to proceed. The following key milestone dates are proposed, some of which are dependent on the timing of approval to proceed (award):

<b>Project Milestone</b>	<b>Target Completion Date</b>
Kick-off Meeting	2 Weeks Following Award
Tender Documents Complete	8 Weeks Following Award
Quotation Period (Two Weeks Anticipated)	Spring 2021
Construction Start	Spring 2021
Construction Complete	Summer 2021

**7.0 OPINION OF PROBABLE ENGINEERING COST**

Stantec proposes to complete the aforementioned services based on time and materials, up to a maximum of **\$18,040**. The following is a high-level breakdown of project costs including expenses, disbursements, and excluding applicable taxes. All fees will be invoiced on a monthly basis.

<b>Task</b>	<b>OPEC</b>
Project Management and Administration	\$1,320
Detailed Design	\$8,960
Quotation Services	\$2,730
Construction Administration Services	\$5,030
<b>Total (Excluding Tax)</b>	<b>\$18,040</b>

A specific hourly/task breakdown for all personnel can be provided upon request. Engineering fees will be billed on hourly basis for actual hours worked.

**8.0 VALIDITY**

This proposal is valid for 30 days.

**9.0 CONFLICT OF INTEREST STATEMENT**

Stantec and all the members of the project team identified in this proposal are involved in no situations nor actions that might be regarded as an actual, potential, or perceived conflict of interest.

**10.0 PANDEMIC CONSIDERATIONS**

As we are all aware, we are working in unprecedented times as a result of the COVID-19 pandemic. The situation is fluid. Our proposal is based on our understanding of performing these services in normal conditions. As the nature and extent of the impacts due to this outbreak cannot be fully identified or quantified at this time, we feel it would be prudent to submit this proposal based on normal conditions, without accounting for impacts due this outbreak, and to discuss with you once we are able to evaluate the impacts and to work collaboratively with you on a path forward. We would be pleased to have a further discussion with you to share our respective plans and efforts to help mitigate the impact of this evolving situation on your proposed project.

**RE: ARENA FIRE ALARM SYSTEM REPLACEMENT**

**11.0 CONCLUSION**

We appreciate the opportunity to submit this proposal and look forward to working with the Town of Pincher Creek on this interesting project. If you have any questions or would like to discuss our proposed approach, please contact the undersigned at your convenience.

Regards,

**STANTEC CONSULTING LTD.**

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\*Approved for Submission

cc. Peter Threlfall                      Stantec Consulting Ltd.  
Marty Anderson                      Stantec consulting Ltd.

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