Project No. CA0053161.3566

BUILDING CONDITION ASSESSMENT

ARCHIE BROWNING SPORTS CENTRE
1151 ESQUIMALT ROAD
Victoria, British Columbia

DECEMBER 16, 2025

Prepared For:

Township of Esquimalt
1229 Esquimalt Road
Esquimalt, BC, V9A 3P1
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GENERAL DESCRIPTION

The Archie Browning Sports Centre, located at 1151 Esquimalt Road in Esquimalt, consists of a two-storey recreational facility that includes a hockey rink, curling rink, gym, and other recreational facilities. According to the drawings and questionnaire, the gross floor area is about 6,050 m² and the property was originally constructed in about 1960. According to the Maintenance Coordinator and the questionnaire, the building had major renovations completed in around 1985 and 2007.

Exterior walls include uninsulated wood-framed end walls with vinyl siding and wood plank sheathing. The remaining walls are constructed of concrete masonry units (CMUs) with painted or clear-coated face-sealed finishes.

Windows are limited to office areas and include older single-glazed metal-framed units and newer PVC or aluminum-framed units with insulated glazing units (IGUs). The main entrance features a two-storey aluminum curtain wall with clear and fritted glazing, one operable unit, and a canopy with integrated lighting.

Exterior doors include a main aluminum sliding door, roll-up service doors, aluminum storefront office doors, and metal service doors, some with card readers.

Flat roofs are surfaced with modified bitumen and drained via gutters, scuppers, and downspouts. Most are unballasted, except the section between arenas, which has a liquid-applied membrane with gravel ballast.

Two large curved barrel roofs over the arenas are clad in white TPO, slope to metal gutters and downspouts, and include ridge-mounted fall arrest systems and grated walkways for maintenance.

The Curling Arena has a suspended foil-faced fabric ceiling for acoustic dampening, radiant heat reflection, and concealing roof framing. A similar ceiling in the Hockey Arena was removed due to puck damage.

The building is equipped with a single-stage fire alarm system. The building does not have a central fire suppression system. Fire suppression is limited to a small dry sprinkler system for the boiler room and portable fire extinguishers throughout the facility. Emergency lighting is provided by remote heads with battery packs.

Conditioned air is distributed throughout the floors by a series of local air handling units. The hockey rink and curling rink are each served by a rooftop dehumidifier unit, local heaters, exhaust fans, and a central ammonia ice-making plant. A central heating plant supplies domestic hot water and heating water for the hydronic heating system.

Electrical distribution is fed from a high-voltage switchgear rated at 600A, 347/600V and a step-down transformer in the lower-level electrical room to the main electrical switchgear rated at 1200A, 120/208V located in the upper-level electrical room before feeding the various subpanels and end fixtures.

There is a single small hydraulic pedestrian lift with relay logic controls.

EXECUTIVE SUMMARY

We acknowledge that the building is on the traditional Indigenous territory of the Á,LEN̲ENEĆ ŁTE (W̲SÁNEĆ), Lekwungen/Songhees, and Te'mexw Treaty Association.

MANDATE

This report was prepared at the request of the Township of Esquimalt as a capital plan. Our review considers a 20-year capital renewal timeframe and a $10,000 capital threshold.

This report was prepared as part of the Township of Esquimalt Building Retrofit Study and is intended to act as a capital planning guide and a baseline capital expenditure scenario for the Building Retrofit Study.

Like-for-like system and component replacements are included in this report, and energy efficiency upgrades have not been included.

GENERAL CONDITION

The building located at 1151 Esquimalt Road in Victoria, BC, is in serviceable overall condition. The building is adequately performing its intended functions. The building is currently around 65 years old and approaching an age when lifecycle renewal of major components is expected. The capital recommendations in this plan are at an expected level for a facility of this type and age.

CAPITAL RENEWAL HISTORY

The following major renewal has been completed over the past 10 years:
- 2024: Replaced the dehumidifier unit serving the hockey rink;
- 2024: Replaced rooftop ice plant condenser and glycol cooling unit;
- 2020: Replaced flat roofing membrane between two arenas
- 2018-2024: Replaced all ice plant heat exchangers;
- 2022: Replaced three oil separators on the ice plant compressor discharge lines;
- 2021: Replaced three ice plant hot water heat reclaim tanks;
- 2018/19: Site LED lighting upgrade;
- 2018: Replaced both ice plant evaporator chillers;
- 2014-2017: Replaced main entrance cladding and entrance doors with a curtain wall system.

KEY FINDINGS

The exposed roof structure in the Hockey Arena is in serviceable condition, with stable truss bearings. The Curling Arena roof structure was concealed and should be reviewed during future ceiling access.

Structural CMU walls, concrete beams, bleachers, and stair assemblies are stable with minor surface wear. Concrete spalling at the northwest stair requires patch repair and recoating.

The south balcony assembly shows signs of aging and water exposure, including corrosion at flashing and door frames, worn pavers, and rusting canopy supports. A full replacement is recommended, including membrane, pavers, flashing, sliding door, guardrails, and canopy.

CMU walls are in good condition; only repainting is planned for maintenance.

Windows vary in age and performance. Older metal units are inefficient and prone to leakage. Newer units perform better but lack consistency. Full window replacement with uniform, thermally broken frames and IGUs is recommended.

Some metal service doors show corrosion and wear; about half are recommended for replacement this term.

Flat roofs are scheduled for phased replacement: the oldest sections around the Hockey Arena office areas in the short term due to end-of-life condition, the eastern sections in the medium term, and the newer western and central areas near year 2045.

The main barrel roofs were replaced in 2007 with TPO membrane and are in serviceable condition. With continued annual maintenance,

replacement is expected towards the end of this reporting term. Gutters are in fair to poor condition and lack snow guards, which has led to damage and hazards. Partial gutter replacement and snow guard installation are recommended.

The Curling Arena fabric ceiling has localized damage and requires ongoing repairs until full replacement. Reinstating a similar but impact-resistant ceiling fabric in the Hockey Arena is recommended.

The fire alarm panel is anticipated to reach the end of its typical service life within the next five years. Due to the life-safety nature of the equipment, we recommend proactive replacement at that time to mitigate potential unplanned failures and replacements.

While the two gas-fired boilers have had overhauls and upgrades over the years, they have exceeded their typical service life and general replacement is anticipated within the next few years. The Maintenance Coordinator reports that one of the water heater tanks failed last year and is scheduled for replacement this year. The other tank is reportedly of similar age, functional, but it has reached the end of its typical service life. As such, the report includes the replacement of both heater tanks in the short term.

The air handling units are currently between 10 to 14 years old. Based on the age of the equipment, escalating repair needs should be expected, with costs likely to be affected by the phase-out of R-410A refrigerant. Based on a typical service life, general replacement of all units is anticipated within the next 10 to 15 years.

The dehumidifier unit (DH-2) serving the curling rink is older and expected to require replacement in the next few years. The replacement unit is expected to be a packaged electric unit similar to DH-1 serving the hockey rink.

The HRV was not functioning at the time of review, and the Maintenance Coordinator reported that it is no longer used. Based on the age and condition, replacing most of the supplemental HVAC equipment will be required within the report term, including the HRV and hockey rink heaters. As such, replacement projects have been included within the report term.

Due to the complexity, size, and age of the control systems, an allowance is included to upgrade portions of the BAS to keep pace with changing technology, including software and head-end system upgrades and partial point device replacements.

The hydronic heating distribution system components (excluding the piping) have varying expected service lives ranging from 20 to over 50 years. Based on suspected age, we have included a replacement budget for the radiators, distribution pumps, VFDs, and heat exchangers.

The Maintenance Coordinator reported that the ice melting pit heat rejection loop is not currently operational, and there are plans to repair and replace components to have it running again. As such, the report includes the replacement of the ice melt pit boiler, circulation pump, heat exchanger, and expansion tank.

According to the asset lists provided, the cold water piping is original, while the hot water piping was replaced in 2018. Based on the age of the cold water piping and the timing of hot water piping replacement, full replacement of the domestic cold water distribution piping is anticipated within the report term.

The building is approaching an age where renewal of the main electrical distribution equipment will likely be needed, but the scope and timing of such work are difficult to predict. Based on age, we have included a budget to replace the high-voltage switchgear, transformer, main switchgear, larger disconnect switches, and some of the larger original distribution panels.

The second-level 'Crow's Nest' exercise area remains with the older fluorescent strip lighting and is reportedly planned to be replaced with LED, like the rest of the building. As such, a project has been included for the remaining lighting replacement and LED upgrade.

The age of the hydraulic pedestrian lift components is unknown, but they are estimated to be between 30 and 50 years old. The lift was likely installed at a time before internal safety bulkheads or modern corrosion protection measures were mandatory. Based on the age of the system, we recommend planning to replace the cylinder and modernize the controls within the report term.

The Maintenance Coordinator reported that the brine piping network within the hockey and curling rink slabs is original and leaking, which has continued to get worse over time. Given the piping age and the continued use of the rinks in the community, large projects to generally renew the concrete slabs and all brine piping are planned in the next few years; as such, projects have been included for replacing the rink slabs and associated brine piping and headers.

The four ice plant compressors vary in age and have all undergone overhauls over the years. Given the age of the components, overhauls of each of the compressors are anticipated within the report term, assuming replacement parts can continue to be sourced.

The ice plant evaporator chillers are anticipated to require an overhaul at around the mid-point of their service life to generally renew worn components and provide reliable operation. As such, a project has been included for chiller overhaul.

The ice plant heat exchangers serving as bond breaks will require replacement near the end of the report term to generally renew reliability in the system and provide increased efficiencies.

LIFE CYCLE RENEWAL

A number of components or systems will reach the end of a normal service life within the term of this report. The Expenditure Table, which follows, includes budgets for those systems that are likely to require renewal or capital repair.

EXCLUDED FROM REVIEW

The following components, systems and/or equipment are specifically excluded from our review:

- Interior finishes, fixtures, and equipment;
- Site finishes, including paving, retaining walls, landscaping, and drainage;
- Site finishes, including the greenhouses, garages, and equipment sheds; and
- Tenant-specific operational or process-related equipment, such as the Zambont. Our review included a non-specialist review of the ice-making equipment.

CLOSURE

No part of this report should be read in isolation. It is intended to be relied upon only in its entirety including the Scope of Work and Limitations.

CAPITAL EXPENDITURES

The table on the following page summarizes our opinion of reasonable budgets for the capital expenditures identified over the term of this report.

The budgets assume a prudent level of ongoing maintenance. Dollars shown are inflated, and include contingencies (typically 5 to 15%) and allowances for design/project management (typically 5 to 15%), where relevant. Taxes are excluded.

Capital projects are classified as follows:

1 = Life Safety or Urgent
2 = Deferred Maintenance
3 = Normal and Life Cycle Renewal
4 = Statutory Compliance

The budgets provided are intended as order-of-magnitude advice only and should be considered Class D level or lower. For most projects, detailed engineering studies followed by a specification and tender process will be required to confirm budget allocations. Unless specifically identified, the budgets do not include allowances for cost escalation related to abatement or managing around designated substances such as ACMs, lead in mortar, mould, etc.

INFLATION RATE

This report uses an inflation rate of 3.8%. For many materials and components, the rate of inflation over the past few years was anomalously high due to global factors. Based on 2024 data, inflation rates are decreasing. Since this does not apply across all sectors, and since we cannot reasonably predict the evolution of the rate over the coming 20-year report term, we have used the current published 20-year average construction price inflation rate, which includes the years 2005-2024.

EXPENDITURE TABLE

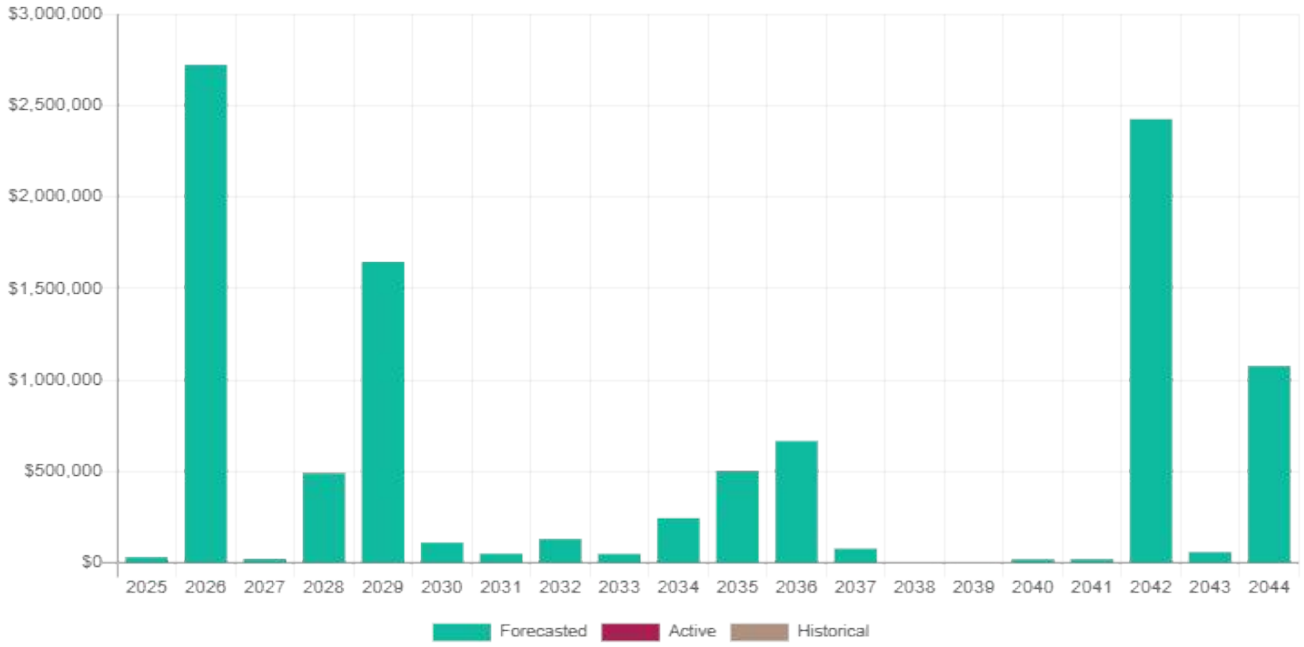
ANNUAL BUDGETS

Item	Description	Class	Status	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
1	**Structure**													
1.1.1	Repair Concrete Stairs at the Northwest	3	Forecasted	$0	$10,380	$0	$0	$0	$0	$0	$0	$0	$0	$0
1.2.1	Renovate South Balcony	2	Forecasted	$0	$35,749	$0	$0	$0	$0	$0	$0	$0	$0	$0
2	**Building Envelope**													
2.1.1	Repaint CMU Walls	3	Forecasted	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$212,358
2.2.1	Replace Windows	2	Forecasted	$0	$45,988	$0	$0	$0	$0	$0	$0	$0	$0	$0
2.3.1	Replace 13 Exterior Doors	3	Forecasted	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$58,807
2.4.1	Replace Flat Roofing- Phase1	3	Forecasted	$0	$170,118	$0	$0	$0	$0	$0	$0	$0	$0	$0
2.4.2	Replace Flat Roofing- Phase2	3	Forecasted	$0	$0	$0	$0	$0	$0	$0	$0	$0	$130,488	$0
2.4.3	Replace Flat Roofing- Phase3	3	Forecasted	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2.5.1	Replace TPO Roofing	3	Forecasted	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2.5.2	Replace Gutters and Downspouts of Barrel Roof	3	Forecasted	$0	$20,241	$0	$0	$0	$0	$0	$0	$0	$0	$0
2.6.1	Reinstante Interior Ceiling above Hockey Rink	5	Forecasted	$0	$319,496	$0	$0	$0	$0	$0	$0	$0	$0	$0
3	**Fire Safety**													
3.1.1	Replace Fire Alarm Panel	3	Forecasted	$0	$0	$0	$0	$0	$32,535	$0	$0	$0	$0	$0
4	**HVAC**													
4.2.1	Replace Boilers B1 and B2	3	Forecasted	$0	$0	$0	$106,135	$110,168	$0	$0	$0	$0	$0	$0
4.3.1	Replace Air Handling Units AHU-1 to AHU-4	3	Forecasted	$0	$0	$0	$0	$0	$0	$0	$0	$0	$113,378	$117,686
4.3.2	Replace Air Handling Unit AHU-5	3	Forecasted	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
4.3.3	Replace Air Handling Unit AHU-6	3	Forecasted	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
4.4.1	Replace Dehumidifier Unit DH-2	3	Forecasted	$0	$0	$0	$383,048	$0	$0	$0	$0	$0	$0	$0
4.5.1	Replace HRV-1	3	Forecasted	$0	$0	$21,549	$0	$0	$0	$0	$0	$0	$0	$0
4.5.2	Replace Hockey Rink Electric Heaters	3	Forecasted	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$22,652
4.6.1	Exhaust/Ventilation Fan Replacement Allowance	3	Forecasted	$0	$0	$0	$0	$0	$0	$31,270	$0	$0	$0	$0
4.7.1	DDC Upgrade/Repair Allowance	3	Forecasted	$0	$0	$0	$0	$0	$60,250	$0	$0	$0	$0	$0
4.8.1	Replace Ice Melting System Components	3	Forecasted	$0	$34,254	$0	$0	$0	$0	$0	$0	$0	$0	$0
4.8.2	Replace Hydronic Heating Distribution System Components	3	Forecasted	$0	$0	$0	$0	$126,420	$0	$0	$0	$0	$0	$0
5	**Plumbing**													
5.1.1	Replace Domestic Hot Water Heater Tanks	3	Forecasted	$11,000	$11,418	$0	$0	$0	$0	$0	$0	$0	$0	$0
5.1.2	Replace Domestic Cold Water Piping	3	Forecasted	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$89,607
6	**Electrical**													
6.1.1	Replace Main Electrical Distribution Equipment	3	Forecasted	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
6.2.1	Replace/Upgrade Lighting at 'Crow's Nest'	3	Forecasted	$20,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
7	**Conveyance**													
7.1.1	Modernize Pedestrian Lift and Replace Cylinder	3	Forecasted	$0	$0	$0	$0	$0	$0	$0	$111,136	$0	$0	$0
8	**Specialty Systems**													
8.1.1	Replace Hockey Rink Slab and Brine Piping	3	Forecasted	$0	$2,076,000	$0	$0	$0	$0	$0	$0	$0	$0	$0
8.1.2	Replace Curling Rink Slab and Brine Piping	3	Forecasted	$0	$0	$0	$0	$1,393,063	$0	$0	$0	$0	$0	$0
8.1.3	Overhaul Ice Plant Compressors	3	Forecasted	$0	$0	$0	$0	$17,413	$18,075	$18,762	$19,475	$0	$0	$0
8.1.4	Overhaul Chillers	3	Forecasted	$0	$0	$0	$0	$0	$0	$0	$0	$48,516	$0	$0
8.1.5	Replace Brine Heater Heat Exchangers	3	Forecasted	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total				**$31,000**	**$2,723,644**	**$21,549**	**$489,183**	**$1,647,064**	**$110,860**	**$50,032**	**$130,611**	**$48,516**	**$243,866**	**$501,110**
$ / ft²				$0.48	$41.82	$0.33	$7.51	$25.29	$1.70	$0.77	$2.01	$0.75	$3.74	$7.70

Item	Description	Class	Status	2036	2037	2038	2039	2040	2041	2042	2043	2044
1	**Structure**											
1.1.1	Repair Concrete Stairs at the Northwest	3	Forecasted	$0	$0	$0	$0	$0	$0	$0	$0	$0
1.2.1	Renovate South Balcony	2	Forecasted	$0	$0	$0	$0	$0	$0	$0	$0	$0
2	**Building Envelope**											
2.1.1	Repaint CMU Walls	3	Forecasted	$0	$0	$0	$0	$0	$0	$0	$0	$0
2.2.1	Replace Windows	2	Forecasted	$0	$0	$0	$0	$0	$0	$0	$0	$0
2.3.1	Replace 13 Exterior Doors	3	Forecasted	$0	$0	$0	$0	$0	$0	$0	$0	$0
2.4.1	Replace Flat Roofing- Phase1	3	Forecasted	$0	$0	$0	$0	$0	$0	$0	$0	$0
2.4.2	Replace Flat Roofing- Phase2	3	Forecasted	$0	$0	$0	$0	$0	$0	$0	$0	$0
2.4.3	Replace Flat Roofing- Phase3	3	Forecasted	$0	$0	$0	$0	$0	$0	$0	$0	$1,046,532
2.5.1	Replace TPO Roofing	3	Forecasted	$0	$0	$0	$0	$0	$0	$2,426,710	$0	$0
2.5.2	Replace Gutters and Downspouts of Barrel Roof	3	Forecasted	$0	$0	$0	$0	$0	$0	$0	$0	$0
2.6.1	Reinstante Interior Ceiling above Hockey Rink	5	Forecasted	$0	$0	$0	$0	$0	$0	$0	$0	$0

Item	Description	Class	Status	2036	2037	2038	2039	2040	2041	2042	2043	2044
3	**Fire Safety**											
3.1.1	Replace Fire Alarm Panel	3	Forecasted	$0	$0	$0	$0	$0	$0	$0	$0	$0
4	**HVAC**											
4.2.1	Replace Boilers B1 and B2	3	Forecasted	$0	$0	$0	$0	$0	$0	$0	$0	$0
4.3.1	Replace Air Handling Units AHU-1 to AHU-4	3	Forecasted	$0	$0	$0	$0	$0	$0	$0	$0	$0
4.3.2	Replace Air Handling Unit AHU-5	3	Forecasted	$56,369	$0	$0	$0	$0	$0	$0	$0	$0
4.3.3	Replace Air Handling Unit AHU-6	3	Forecasted	$0	$76,972	$0	$0	$0	$0	$0	$0	$0
4.4.1	Replace Dehumidifier Unit DH-2	3	Forecasted	$0	$0	$0	$0	$0	$0	$0	$0	$0
4.5.1	Replace HRV-1	3	Forecasted	$0	$0	$0	$0	$0	$0	$0	$0	$0
4.5.2	Replace Hockey Rink Electric Heaters	3	Forecasted	$0	$0	$0	$0	$0	$0	$0	$0	$0
4.6.1	Exhaust/Ventilation Fan Replacement Allowance	3	Forecasted	$0	$0	$0	$0	$0	$0	$0	$0	$0
4.7.1	DDC Upgrade/Repair Allowance	3	Forecasted	$0	$0	$0	$0	$0	$0	$0	$0	$0
4.8.1	Replace Ice Melting System Components	3	Forecasted	$0	$0	$0	$0	$0	$0	$0	$0	$0
4.8.2	Replace Hydronic Heating Distribution System Components	3	Forecasted	$0	$0	$0	$0	$0	$0	$0	$0	$0
5	**Plumbing**											
5.1.1	Replace Domestic Hot Water Heater Tanks	3	Forecasted	$0	$0	$0	$0	$19,247	$19,978	$0	$0	$0
5.1.2	Replace Domestic Cold Water Piping	3	Forecasted	$0	$0	$0	$0	$0	$0	$0	$0	$0
6	**Electrical**											
6.1.1	Replace Main Electrical Distribution Equipment	3	Forecasted	$609,474	$0	$0	$0	$0	$0	$0	$0	$0
6.2.1	Replace/Upgrade Lighting at 'Crow's Nest'	3	Forecasted	$0	$0	$0	$0	$0	$0	$0	$0	$0
7	**Conveyance**											
7.1.1	Modernize Pedestrian Lift and Replace Cylinder	3	Forecasted	$0	$0	$0	$0	$0	$0	$0	$0	$0
8	**Specialty Systems**											
8.1.1	Replace Hockey Rink Slab and Brine Piping	3	Forecasted	$0	$0	$0	$0	$0	$0	$0	$0	$0
8.1.2	Replace Curling Rink Slab and Brine Piping	3	Forecasted	$0	$0	$0	$0	$0	$0	$0	$0	$0
8.1.3	Overhaul Ice Plant Compressors	3	Forecasted	$0	$0	$0	$0	$0	$0	$0	$0	$30,468
8.1.4	Overhaul Chillers	3	Forecasted	$0	$0	$0	$0	$0	$0	$0	$0	$0
8.1.5	Replace Brine Heater Heat Exchangers	3	Forecasted	$0	$0	$0	$0	$0	$0	$0	$58,705	$0
Total				**$665,843**	**$76,972**	**$0**	**$0**	**$19,247**	**$19,978**	**$2,426,710**	**$58,705**	**$1,077,000**
$ / ft²				$10.22	$1.18	$0.00	$0.00	$0.30	$0.31	$37.26	$0.90	$16.54

GRAPH-TOTAL EXPENDITURES



EXPENDITURE SUMMARY TABLE

EXPENDITURES SUMMARY TABLE

	Uninflated	Inflated
Total For 20-Year Reporting Period	$7,679,634	$10,341,890
Forecasted Projects Total	$7,679,634	$10,341,890
Active Projects Total	$0	$0
Historical Projects Total	$0	$0
Total Per Unit	$7,679,634	$10,341,890
Total Per ft²	$118	$159
Average Annual Budget	$383,982	$517,094
Average Annual Budget Per Unit	$383,982	$517,094
Average Annual Budget Per ft²	$5.90	$7.94

Total Number of Units: 1

Total Area: 65,121 ft²

Average Area Per Unit: 65,121 ft²

Inflation Rate: 3.8%

COMPONENT ASSESSMENT

1. STRUCTURE

1.1 STRUCTURAL FRAME

Description:

The main arena structures comprise concrete columns supporting large timber roof trusses. The roof structure over the north hockey arena consists of solid sawn wood truss members with bolted steel plate connections. The underside is exposed in this area, showing wood joists and wood decking supported over the primary trusses. In the south curling rink, the roof structure is concealed by interior finishes and could not be directly reviewed; however, based on typical construction and the symmetry of the facility, we presume it also consists of similar wood truss and decking construction. Some roof truss end-spans bear directly on concrete columns, while others are supported by steel bearing plates or welded steel brackets mechanically anchored to the concrete structure.

Exterior and Interior load-bearing walls are generally constructed of concrete masonry units (CMUs). Cast-in-place concrete beams are visible along the upper portion of some exterior walls, spanning between CMU wall sections and supporting the wall structure and roof framing above. These beams are integrally formed with the CMU walls and follow the general alignment of the perimeter structure.

Bleachers within the arenas are reinforced cast-in-place concrete and are supported by ground-level substructure and concrete shear walls below them.

A galvanized steel caged ladder is mounted at the south end of the facility, providing secure access from the lower service yard to the roof levels. The ladder is wall-mounted with bolted brackets and includes a full-height safety cage.

Multiple exterior staircases are present around the buildings. These include both painted steel and concrete-framed assemblies. The steel stairs consist of steel stringers and closed riser stair treads with slip-resistant surfacing. Painted metal guardrails and handrails are provided on both sides. Concrete stairs are cast-in-place and supported by concrete columns or walls, with metal guardrails mechanically fastened to the stair edges.

The substructure was not exposed and no drawings were available for review; however, based on typical construction practices for facilities of this age, we presume the foundation consists of reinforced concrete strip or pad footings beneath the load-bearing elements.

Condition / Recommendation:

The exposed roof structure over the north hockey arena, including wood trusses, joists, and decking, appeared in serviceable condition with no signs of structural distress. Truss bearing connections at concrete columns or steel brackets also appeared stable. The roof structure over the curling rink could not be reviewed due to ceiling finishes; we recommend its inspection during future ceiling access opportunities.

Load-bearing CMU walls and cast-in-place concrete beams showed no signs of cracking or displacement. The concrete bleachers and seating structure were intact with only typical surface wear. Interior and exterior stair assemblies, including painted steel and concrete-framed stairs, were secure, with no major defects or corrosion observed.

The exterior metal staircases appeared in good condition with no structural concerns noted. Regular inspection of fasteners, welds, and surface coatings is recommended to ensure continued performance. Repainting and other minor upkeep are assumed to be covered by ongoing maintenance budgets, with no capital cost allocated.

Localized concrete spalling with exposed reinforcement was noted at the northwest exterior concrete staircase. We recommend patch repair and protective recoating, which we assume can be completed at relatively minor cost below the capital threshold of this project as a maintenance item.

The caged ladder appeared in excellent condition with no signs of corrosion, damage, or instability. It appears to be relatively new, with no replacement anticipated during this reporting term. Regular inspection and maintenance are essential to ensure continued safe use.

The foundations were not accessible for review, but no signs of settlement or structural movement were observed. We recommend ongoing routine inspections of exposed structural elements, repainting of steel stairs as needed, and monitoring for signs of wear or movement at key structural connections.

The main building structures are generally protected from the deteriorating effects of weather. No major capital cost is expected within the timeframe of this study for the protected structural components.

This complex is located in a region with relatively high seismic risk. Based on its age and overall structural configuration, the building is not expected to meet current seismic design standards. Our services excluded a detailed seismic assessment. Current code requirements for earthquake resistance are significantly more stringent than the code to which this building was designed; however, upgrading to current code is normally only required if major structural renovations are undertaken (eg. expansions, removing load-bearing walls). In the absence of any planned major structural renovations, we have not included a budget for seismic retrofits.

1.1.1 Repair Concrete Stairs at the Northwest

Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrence	Class	Status
$10,000	$10,380	2026	N/A	One time	3	Forecasted

1.2 BALCONIES

Description:

A second-level balcony is located above the south-facing entrance to the office area. The balcony features a flat walking surface with large-format concrete pavers laid over a raised membrane assembly. The waterproofing type could not be confirmed during the review; however, it is assumed to be a modified bitumen system.

The balcony is enclosed with painted metal guardrails supported by base-mounted posts, and covered by a sloped blue translucent canopy supported by a steel frame. Access is provided through an aluminum-framed sliding glass door.

Condition / Recommendation:

The waterproofing system could not be confirmed during the review, but is assumed to be a modified bitumen membrane. The installation date is unknown. However, extensive corrosion was observed at the metal breakout flashing (skirt) below the sliding door and metal flashing, indicating prolonged moisture exposure and an aging system. The painted metal guardrails are base-mounted and appeared in serviceable condition. The sliding glass door is of an older aluminum-framed type and shows corrosion at the threshold and frame base. The concrete pavers are worn and uneven in some areas, with organic debris accumulated in joints. The overhead canopy, supported by a steel frame, shows widespread coating deterioration and rusting of steel components, particularly at the framing intersections.

A full replacement project is recommended to address all deteriorated components in a coordinated manner and minimize disruption. The project should include replacement of the waterproofing membrane, concrete pavers, sliding glass door assembly, metal flashing, lower breakout panel, canopy structure, and guardrails. Replacing the guardrails with face-mounted types is advised to improve water management and reduce the likelihood of future leakage at the membrane interface. This comprehensive approach is expected to extend service life, improve performance, and avoid piecemeal repairs.

1.2.1 Renovate South Balcony

Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrence	Class	Status
$34,440	$35,749	2026	20	Recurring	2	Forecasted

2.1 WALLS

Description:

The exterior walls at the Archie Browning Sports Centre include two main construction types. Raised, semi-circular wood-framed end walls enclose the east and west ends of each barrel-vaulted roof. These assemblies are clad with profiled vinyl siding. Interior observations, infrared (IR) scan results, and air leakage testing suggest these walls lack thermal insulation and a dedicated weather barrier. Exterior sheathing, visible from inside, is horizontal wood planks, approximately 8–10" wide, with visible gaps between boards.

The remainder of the exterior walls are constructed of concrete masonry units (CMUs), either painted or left unpainted with what appears to be a clear protective coating. These assemblies are face-sealed systems with no drainage cavity, relying on the integrity of the exterior surface to prevent water ingress.

The aluminum-framed curtain wall system at the main entrance is described in a separate section.

Condition / Recommendation:

The concrete masonry unit (CMU) walls were generally in serviceable condition, with no signs of significant deterioration, displacement, or water ingress. These walls function as moisture storage systems, temporarily absorbing and later releasing moisture through drying. They are not moisture-sensitive unless persistent moisture affects interior finishes, which was neither observed nor reported. No major rehabilitation is anticipated this period, though a repainting project is included for the painted CMU sections to maintain surface protection and aesthetic.

The exterior walls clad with profiled vinyl siding appear to be in serviceable condition.

2.1.1 Repaint CMU Walls

Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrence	Class	Status
$146,250	$212,358	2035	15	Recurring	3	Forecasted

2.2 WINDOWS, LOUVRES, AND CURTAIN WALL SYSTEM

Description:

Windows are limited to the attached office portions of the facility and are installed in both punched and horizontal strip configurations. The assemblies are varied in type and appearance, reflecting staged replacements over time. Frame materials include older painted metal units with single-pane glazing, as well as newer PVC and aluminum-framed assemblies in different colours and profiles. The newer windows are typically sealed double-glazed insulating glass units (IGUs), while some older panes are single-glazed, frosted, or wire-reinforced. Operability types include fixed, horizontally sliding, and awning units. Interior blinds are present at some windows. Sealant joints are located at window perimeters and where assemblies interface with wall cladding systems.

A two-storey aluminum-framed curtain wall encloses the main entrance vestibule and upper meeting room. It incorporates vertical and horizontal mullions supporting insulated glazing units (IGUs) with alternating clear and fritted lites. A single operable awning unit is located on the upper level. The system is interior-glazed with pressure caps and perimeter sealants. It wraps around three sides of the entry structure and connects to the adjacent CMU walls. A horizontal canopy with integrated downlights is installed above the ground-level entrance.

The facility includes several metal ventilation louvres located at various wall elevations, primarily serving fresh air intake and exhaust for mechanical equipment rooms, service rooms, and utility areas. The louvres vary in size and configuration but are typically fixed-blade units integrated into the CMU or concrete walls.

History of Repairs:

2014-2017: Installed new curtain wall system along the main entrance of the building.

Condition / Recommendation:

The existing windows are in varied condition and represent multiple generations of installations, with frame types, glazing configurations, and finishes differing across elevations. Some of the older painted metal-framed units with single-pane or wired glass appear aged and are likely original or early replacements, with limited thermal resistance and poor protection against air and water infiltration. Newer windows—though visually inconsistent and varying in frame type (PVC or aluminum)—appear to perform better, but the exact installation dates could not be confirmed.

Despite the presence of some more recent replacements, the overall window inventory lacks uniformity in both performance and appearance. To improve energy efficiency, occupant comfort, and visual consistency, we recommend a full window replacement project in the near future. The new assemblies should be selected as a consistent, thermally broken frame and sealed double-glazed IGU system, which can significantly improve thermal insulation, air- and water-tightness, acoustic performance, and durability over older systems. Modern windows also provide improved operability, UV protection, and reduced maintenance requirements.

The curtain wall system at the main entrance appears to be in good condition, with no deficiencies observed or reported during our review. The system consists of a high-quality aluminum frame with insulated glazing, and perimeter seals appeared intact. No capital renewal project is anticipated during this reporting term. Regular inspections and maintenance of seals, operable hardware, and frame finishes are recommended and assumed to be covered under routine operating costs.

Several ventilation louvres exhibit visible surface corrosion and paint deterioration, particularly at lower elevations. Some are in better condition but show signs of aging. We assume localized repairs, repainting, and replacements will be carried out as needed and funded through ongoing operating maintenance. As such, no capital cost allowance is included.

2.2.1 Replace Windows

Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrence	Class	Status
$44,304	$45,988	2026	40	Recurring	2	Forecasted

2.3 EXTERIOR DOORS

Description:

The facility includes a range of exterior door types serving various functional areas, including public entrances, service access, and secured entries.

The main public entrance on the east elevation consists of a double-leaf aluminum-framed automatic sliding door integrated into the curtain wall glazing system, accompanied by a nearby single aluminum-framed exit door with panic hardware.

Two sectional overhead roll-up doors are located at the south end of the facility near the boiler room, providing service access; interior access was not available during the review.

Also on the south side, two manual double storefront doors provide access to office areas and a staircase. One appears older and the other of intermediate age; both are aluminum-framed and equipped with automatic openers and panic hardware.

A number of single and double metal-framed service doors are distributed around the building, providing access to stairwells, mechanical, service, office, and utility rooms, and emergency exits. These doors are generally fitted with lever handles or panic bars, with some equipped with card readers for restricted access.

History of Repairs:

2014-2017: Installed new main entrance door and a side door along with new curtain wall system installation.

Condition / Recommendation:

Most exterior doors appeared serviceable with no major issues noted. The main sliding entrance door and adjacent exit door are in good condition, with no capital costs anticipated this term.

Several exposed metal service doors, particularly those without protective overhangs, show corrosion, paint delamination, and hardware deterioration. Approximately 50% of these are expected to require replacement within this reporting term. The remainder, including aluminum-framed doors, are expected to remain in use with periodic maintenance such as hardware, weatherstripping, and recoating, funded through the operating budget.

The older sliding glass door at the south balcony is assumed to be replaced as part of the upcoming balcony membrane project.

2.3.1 Replace 13 Exterior Doors

Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrence	Class	Status
$40,500	$58,807	2035	35	Recurring	3	Forecasted

2.4 FLAT ROOFING

Description:

The facility includes several flat roof sections located at various elevations surrounding the main barrel-vault roof. These roofs serve a range of functions, including mechanical equipment placement, access pathways, and transitional drainage between levels. Some flat roof areas also act as walkways that provide access to the upper barrel roof, while others serve as buffer zones to protect street-level areas from falling snow or ice shedding off the sloped barrel roof.

Flat roofs are surfaced with modified bitumen (mod-bit) membranes. The upper-level flat roofs and sloped perimeter sections of the barrel roof discharge to metal-lined gutters or through-wall scuppers at their edges. These gutters and scuppers connect to vertical downspouts that either drain directly to lower flat roofs or, where no lower roof exists, route back into the wall system via elbows and discharge to the below-grade storm system.

Lower flat roofs are drained by internal area drains, as well as recessed square boxes that connect to vertical piping and ultimately discharge to the below-grade drainage system. Screens are installed over most drains to prevent debris ingress. Some flat roof sections also include mechanical curbs and duct supports mounted on structural pads, with membrane flashing transitions visible at penetrations.

These roof areas are not ballasted, except for the large flat roof section between the Curling and Hockey arenas, which accommodates major rooftop mechanical systems such as humidifiers. This section is finished with an addition of liquid-applied membrane system and gravel ballast.

History of Repairs:

2020: Replaced Flat roofs, cost $750K, between two barrel roofs (where humidifiiers are) and west section of Curling Arena Cost: Based on the information provided in questionnaire and roofing replacement documents.

Condition / Recommendation:

- Phase1, Replace in 2026
This roof surrounds the main barrel roof of the hockey arena along its north, east, and west elevations. These sections are surfaced with older 2-ply SBS modified bitumen membranes and exhibit clear signs of aging and deterioration, including surface alligatoring, membrane cracking, and multiple localized patch repairs. The membrane surface also shows extensive dirt staining and biological growth, particularly near edges and drainage paths. Debris accumulation is visible around drains, which may restrict water flow and contribute to premature membrane degradation or localized leakage. Regular cleaning is essential, both before and after the upcoming roof replacement, to preserve drainage performance and extend service life.

Based on visual review and observed deterioration patterns, these flat roofs have reached end-of-life condition and replacement is recommended in the short term.

- Phase 2- Replace Flat Roofing in 2030
This phase includes the three flat roof sections located on the east side of the complex.The membranes in these areas appear to be in fair condition, with no significant membrane failure or widespread deterioration observed. However, dirt buildup around drains, aging membrane seams, and staining from rooftop equipment suggest that these roofs are approaching the end of their service life.

Replacement is recommended in the medium term, with an estimated five years of remaining service life, assuming continued routine maintenance. Regular cleaning and resealing of penetrations are advised to help preserve membrane integrity until full replacement is undertaken.

Phase 3 – Replace Flat Roofing in 2045
This phase includes the flat roof section located west of the Curling Arena and between the Curling and Hockey Arenas, and also includes a smaller roof above the main entrance. Based on available information, this roof section was replaced in 2020. The membrane and flashings were observed to be in good condition, with no deficiencies noted or reported during the review.

Replacement is anticipated near the end of this reporting term, with an estimated remaining service life of approximately 20 years, assuming continued routine inspection and maintenance.

2.4.1 Replace Flat Roofing- Phase1

Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrence	Class	Status
$163,890	$170,118	2026	25	Recurring	3	Forecasted

2.4.2 Replace Flat Roofing- Phase2

Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrence	Class	Status
$93,281	$130,488	2034	25	Recurring	3	Forecasted

2.4.3 Replace Flat Roofing- Phase3

Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrence	Class	Status
$515,232	$1,046,532	2044	25	Recurring	3	Forecasted

2.5 TPO ROOFING

Description:

The facility includes two large, curved barrel roofs located over the Hockey Arena (north) and the Curling Arena (south). These roof structures are clad with a white thermoplastic polyolefin (TPO) membrane.

Each barrel roof slopes toward continuous metal gutters located at both eaves. Water is directed into metal downspouts, which

discharge runoff either to the lower flat roofs or directly to the below-grade storm system, depending on location.

A fall arrest system is installed along the ridge of both barrel roofs and consists of anchored cable lines and intermediate supports (see highlighted elements in photo). This system provides secure tie-off points for workers accessing the roofs for inspection or maintenance purposes.

Walkways with grating and traction surfacing are also present along the crest of the roofs, improving access and safety for maintenance personnel.

These barrel roofs span the full length of each arena and are elevated above the adjacent flat roof sections, with defined terminations into vertical cladding systems at both ends.

History of Repairs:

2007 (approx.): Replaced both roofs, estimated based on visual condition.

Condition / Recommendation:

Roof Membrane:
Based on the information provided, including site observations and facility records, the barrel roofs over the Hockey Arena and Curling Arena were replaced in about 2007. No leakage issues have been reported since, and no deficiencies were noted in the thermoplastic polyolefin (TPO) membrane surfaces during our review. Minor surface soiling and biological debris accumulation are visible but appear superficial and do not affect membrane integrity.

Regular annual inspection and cleaning were reported, which can support the roofs in reaching their typical service life of up to 35 years. Assuming this maintenance trend continues, full replacement is anticipated around 2042, though the timeline may vary by 5 to 10 years depending on future upkeep and performance.

Gutters:
The gutter systems along the barrel roof eaves were observed to be misaligned, corroded in areas, and generally in poor condition. The absence of snow guards has reportedly contributed to drifting snow during snowfall events, leading to periodic gutter damage and posing a safety hazard to pedestrians and vehicles at the west side of the Curling Arena, where the area is reportedly barricaded following snow events.

The upper downspout sections also exhibit signs of age and corrosion. Short term replacement of approximately 50% of the gutters is recommended, along with the installation of a more robust gutter profile and a snow guard system above the west-side parking area.

2.5.1 Replace TPO Roofing

Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrence	Class	Status
$1,287,250	$2,426,710	2042	35	Recurring	3	Forecasted

2.5.2 Replace Gutters and Downspouts of Barrel Roof

Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrence	Class	Status
$19,500	$20,241	2026	35	Recurring	3	Forecasted

2.6 RELFECTIVE CEILING

Description:

The ceiling system in the Curling Arena consists of stretched fabric with a foil-faced or reflective finish, suspended below the main barrel roof. The fabric appears to be installed in wide strips and is supported by tensioned cables or wires, which create the visible linear divisions. The ceiling is not air-sealed, with an approximate 1-foot gap left around the perimeter between the fabric and the adjacent walls. As such, it does not function as a continuous thermal barrier or air control layer.

Its primary functions are acoustic dampening—by reducing sound reverberation within the large open arena—and providing some degree of radiant thermal resistance due to the reflective surface. It also visually conceals the upper roof framing and services. A similar ceiling was reportedly installed in the Hockey Arena but was removed due to frequent impact damage from hockey pucks.

History of Repairs:

Date Unknown: Ceiling System removed from Hockey Arena

Condition / Recommendation:

The fabric ceiling in the Curling Arena shows signs of wear, including visible holes and detached seams in several areas. No similar ceiling is currently present in the Hockey Arena, where the previous system was reportedly removed due to repeated impact damage from hockey pucks.

We recommend ongoing maintenance of the Curling Arena ceiling to address localized damage and preserve its function until full replacement is required. For the Hockey Arena, we recommend reinstating a ceiling system with similar acoustic and radiant heat reflective properties but incorporating a final layer with improved impact resistance suitable for hockey environments.

2.6.1 Reinstante Interior Ceiling above Hockey Rink

Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrence	Class	Status
$307,800	$319,496	2026	N/A	One time	5	Forecasted

3.1 FIRE SAFETY SYSTEMS

Description:

The building has a single-stage fire alarm system. The control panel was manufactured by Mircom (Model FX-2000) and is in the second-level electrical room. A remote annunciator is located in the main entrance lobby. According to data tags, the fire alarm panel was installed in about 2010. The fire alarm system monitors smoke and heat detectors and manual pull stations at exits. Signalling devices (bells) are installed throughout the facility. The system is serviced by Comfire Victoria.

The building does not contain a central fire suppression system. There is a small sprinkler system serving the boiler room and ice plant room. The fire line branches off the main water service and is equipped with a backflow preventer. Local portable fire extinguishers are installed throughout the building.

Emergency lighting is provided by local battery-powered fixtures.

Condition / Recommendation:

The fire alarm system was in a serviceable overall condition. No major issues were noted in the latest annual inspection, which identified only maintenance-type activities. Based on visual review, fire safety devices are replaced as needed when identified in annual inspections. A fire alarm panel replacement budget is included once the panel reaches its typical service life. As technologies advance, the panels will become obsolete, and replacement parts may become more scarce and expensive to source. Due to the life-safety nature of the equipment, we recommend proactive replacement to mitigate potential unplanned failures and replacements. The budget assumes that the panel will be replaced with a similar, compatible system, reusing the majority of the existing field devices and wiring. Given the Code requirements and age of the equipment, this may not be possible; further review is needed to confirm this. If the devices and wiring require replacement, the cost would be significantly higher than that shown.

The fire suppression line is reportedly in a serviceable overall condition with no issues reported. The fire line backflow preventer is reportedly serviced regularly. The portable extinguishers are serviced and replaced as needed through annual inspections. Given the limited number of components, the existing fire suppression system is expected to be maintained for the report term with continued maintenance or at costs below the capital threshold. The municipality may retroactively require a central fire suppression system to be installed if future larger building renovations are completed which would carry a significant cost premium on the renovation cost; as this report considers a like-for-like replacement, no capital expenditures are included for a new central fire suppression system.

The emergency lighting was in a serviceable condition and is routinely reviewed and serviced through annual inspections. We anticipate these maintenance activities to continue, with local replacement as needed, paid for as a maintenance expense.

3.1.1 Replace Fire Alarm Panel

Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrence	Class	Status
$27,000	$32,535	2030	20	Recurring	3	Forecasted

4.1 GENERAL

Description:

Heating and cooling, and ventilation for the building are primarily provided by packaged rooftop mechanical units, dehumidifier units, a hydronic heating system supplied by a central heating plant, and various ventilation and exhaust fans. Supplemental heating, cooling, and ventilation are provided by a heat recovery ventilator, split-system air conditioning unit, electric baseboard heaters, and electric wall-mounted heaters. The major HVAC systems are primarily controlled by an integrated building automation system. Please refer to the individual sections below for further discussion.

4.2 CENTRAL HEATING PLANT

Description:

The heating plant is in the boiler room on the ground level and supplies the baseboard radiator heating system and the domestic hot water for the building. The plant consists of two gas-fired, atmospheric boilers (B-1 and B-2). The boilers were manufactured by Buderus (Model No. G505/9) in 1985 and have gas burners manufactured by Webster (Model No. UB1G-03-RM7895C...) in 1998. Each boiler has a rated heating input of 1273 MBH and a rated heating output of 1062 MBH, according to the data plates.

The boiler water temperature is controlled by indoor controllers. These units regulate the water temperature in the system based on outdoor air temperature and return loop temperature. This is a common arrangement for this type of building.

Refer to the "HVAC Distribution System" for further information on the hot water radiator heating system.

History of Repairs:

2023: Replaced both boiler controllers, according to the Maintenance Coordinator and data tags.

Condition / Recommendation:

The Maintenance Coordinator reports that the boilers have been performing well and have undergone multiple rounds of overhauls and upgrades to their burners and controllers since their original installation. The boilers continue to be serviced biannually by Apex Steel & Gas.

While the boilers have had overhauls and upgrades over the years, they have exceeded their typical service life and general replacement is anticipated within the next three to five years. The budget is based on replacement with equivalent-capacity units and assumes that newer, higher-efficiency units available would be installed. The budget is phased over two years, assuming one boiler would be replaced per year to maintain building operations.

Periodic repair and replacement of individual components are expected to be managed as a maintenance expense.

4.2.1 Replace Boilers B1 and B2

Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrence	Class	Status
$189,800	$212,270	2028	20	Recurring	3	Forecasted

Project Phased

2028	2029
50%	50%
$106,135	$110,168

4.3 AIR HANDLING UNITS

Description:

Heating, cooling and ventilation are provided to discrete areas of the facility by the following air handling unit (AHUs):

- AHU-1 serves the main lounge and is on the main roof level above the lounge. The packaged rooftop heat pump unit was manufactured by Trane (Model No. WSC120EWRGA05E4) in 2011. The unit is equipped with a R410A refrigerant DX cooling coil rated at 10 tons, an electric heater, and supply and return air fans.

- AHU-2 serves the lower arena lobby/hallway and is on the main roof level above the second-floor washroom. The packaged unit was manufactured by MagicAire (data plate illegible) in 2011. The unit is smaller and likely equipped with a refrigerant cooling coil, an electric heater, and supply and return air fans.

- AHU-3 serves the Crowsnest and is on the main roof level above the Crowsnest. The packaged rooftop heat pump unit was manufactured by Trane (Model No. WSC120EWRGA08) in 2011. The unit is equipped with a R410A refrigerant DX cooling coil rated at 10 tons, an 18 kW electric heater, and supply and return air fans.

- AHU-4 serves the hockey arena dressing rooms and is in the dropped ceiling space above Dressing Room 3. The unit was manufactured by Trane (data plate not accessed) in 2011. The unit was not accessed and is likely equipped with a refrigerant cooling coil, an electric heater, and supply and return air fans.

- AHU-5 serves the offices and is on the main roof level above the offices. The packaged rooftop heat pump unit was manufactured by MicroMetl (Model No. B6HZ030A25A) in 2013. The unit is equipped with a R410A refrigerant DX cooling coil rated at 2.5 tons, an electric heater, and supply and return air fans.

- AHU-6 serves the boardroom and is on the main roof level above the offices. The packaged rooftop heat pump unit was manufactured by York (Model No. XP036E05P2AZZ10003C) in 2015. The unit is equipped with a R410A refrigerant DX cooling coil rated at 10 tons, an 18 kW electric heater, and supply and return air fans.

The AHUs have variable frequency drives (VFDs) equipped and are controlled by the DDC building automation system (Refer to "Control Systems" section of the report).

Condition / Recommendation:

The AHUs were operating at the time of our site review. The Maintenance Coordinator reports that the AHUs have been performing well, with only normal maintenance needs to date. Some of the units are beginning to show their age with local rust on casings and supply piping.

The cooling equipment uses R-410A refrigerant, which is a hydrofluorocarbon (HFC)-based refrigerant. In 2021, the EPA released a plan to phase out HFC-based refrigerants, based on the American Innovation & Manufacturing (AIM) Act, due to their global warming potential. The plan includes a phase-out of R-410A in new A/C equipment by 2025 and an 85% reduction in HFC production by 2036. Like with the previous R-22 phase-out, this is expected to make R-410A refrigerant less available and more expensive, although the extent of these changes is not yet known. Refrigerant is needed to top-up equipment where some has been lost due to repairs or leaks. As such, the phase-out is expected to affect mainly older equipment with greater repair needs.

The AHUs are currently between 10 to 14 years old. Based on the age of the equipment, escalating repair needs should be expected within the report term. The cost of these repairs is likely to be affected by the phase-out of R-410A, and we assume continued repairs will become cost-prohibitive within the report term. General replacement of all units is anticipated after a typical service life of about 25 to 30 years. It may be possible to convert the equipment to a newer refrigerant, but the feasibility and cost-effectiveness of this approach would need to be confirmed. All units are assumed to be wholly replaced.

Periodic repair and replacement of individual components (such as comperssors, heaters, fan components, etc.) are expected to be managed as a maintenance expense or at a cost below the capital threshold of the report.

4.3.1 Replace Air Handling Units AHU-1 to AHU-4

Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrence	Class	Status
$162,100	$226,756	2034	25	Recurring	3	Forecasted

Project Phased

2034	2035
50%	50%
$113,378	$117,686

4.3.2 Replace Air Handling Unit AHU-5

Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrence	Class	Status
$37,400	$56,369	2036	25	Recurring	3	Forecasted

4.3.3 Replace Air Handling Unit AHU-6

Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrence	Class	Status
$49,200	$76,972	2037	25	Recurring	3	Forecasted

4.4 DEHUMIDIFIERS

Description:

There are two outdoor dessicant dehumidifier units located on the main roof level above the Crowsnest, with the northern unit serving the hockey rink and the southern unit serving the curling rink via ducted supply and return air grilles and ductwork.

The hockey rink dehumidifier unit (DH-1) was manufactured by Novelaire (Model No. DH-8000) in 2024. The packaged unit includes a 1.5 HP regeneration fan, 7.5 HP supply fan, three 33 kW electric heaters, and a dessicant wheel.

The curling rink dehumidifier unit (DH-2) was manufactured by Munters (Model No. HCD-1125-DGA-SF) in about 2011. The unit includes a natural gas burner providing a heating capacity of 100 MBH and a desiccant wheel.

History of Repairs:

2024: Replaced the dehumidifier unit (DH-1) serving the hockey rink, according to the Maintenance Coordinator and the documents received.

Condition / Recommendation:

The dehumidifier units were reportedly operational at the time of review. No major issues were reported regarding capacity or operation during the site review. The dehumidifier unit DH-2 casing is rusting and showing signs of general weathering from years of weather exposure.

The dehumidifier unit DH-1 serving the hockey rink was replaced in 2024 with a packaged electric unit and is anticipated to be maintained for the report term.

The dehumidifier unit DH-2 is older and will surpass its expected service life in the near term; as such, the unit is recommended for general replacement. The new unit is expected to be sized correctly for its continued use serving the curling rink and will be transitioned to a packaged electric unit similar to DH-1. We recommend a detailed evaluation to ensure the existing unit is correctly sized.

Periodic repair and replacement of individual dehumidifier components (such as heaters, fan components, etc.) are expected to be managed as a maintenance expense.

4.4.1 Replace Dehumidifier Unit DH-2

Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrence	Class	Status
$342,500	$383,048	2028	20	Recurring	3	Forecasted

4.5 SUPPLEMENTAL HVAC

Description:

The building contains the following local HVAC equipment that supplements the main HVAC equipment:

- Heat recovery ventilator (HRV-1) serves the hockey arena dressing rooms and is located on the lower east roof level above the dressing rooms. The unit was manufactured by Renewaire (data plate illegible) in 2011.

- split-system heat pump unit serving the ground-level offices. The condensing unit is on the main roof level above the offices and was manufactured by Samsung (Model No. AC024BXADCH) in 2023 with a heating capacity of 27 MBH and a cooling capacity of 2 tons using R410A refrigerant.

- 20 ceiling-hung electric radiant heaters serving the hockey rink bleachers and spectator areas.

- local electric baseboard heaters with wall-mounted thermostats at the board room and water entry room

History of Repairs:

2015: Replaced boardroom electric baseboard heater, according to the Master Asset list received.

Condition / Recommendation:

The supplemental HVAC equipment appeared to be in a serviceable overall condition where reviewed. The HRV was not functioning at the time of review, and the Maintenance Coordinator reported that it is no longer used.

Based on the age and condition, replacing most of the supplemental HVAC equipment will be required within the report term, including the HRV and hockey rink heaters. As such, replacement projects have been included within the report term. Other local equipment replacement, including the split-system heat pump, is anticipated to occur as needed as a maintenance expense or at a cost below the capital threshold of this report.

4.5.1 Replace HRV-1

Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrence	Class	Status
$20,000	$21,549	2027	25	Recurring	3	Forecasted

4.5.2 Replace Hockey Rink Electric Heaters

Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrence	Class	Status
$15,600	$22,652	2035	25	Recurring	3	Forecasted

4.6 VENTILATION/EXHAUST SYSTEM

Description:

The building contains approximately 20 total exhaust fans and seven total louvre vents for ventilation and exhaust. The following summarizes the ventilation and exhaust equipment:

- Approximately nine rooftop exhaust fans serve the lobbies, offices, foyers, hockey rink bleachers, dressing rooms, and washrooms. According to the master asset list and visual review, most of the rooftop fans were manufactured by Greenheck in around 2011.

- Two through-wall exhaust fans serving the hockey and curling rinks

- Approximately nine ducted exhaust fans at the ceiling space serve the hockey rink dressing rooms, concession, exercise room (former bar area), storage rooms, and the elevator machine room. Ceiling space exhaust fans are ducted through the wall or the roof with metal weather caps/vent hoods.

- Metal exhaust stacks for the gas-fired boilers at the lower east roof level over the boiler room

- Through-wall louvre vents serve the hockey rink, Dressing Room 3, the ice plant room, the boiler room, and the lower-level electrical room. The ice plant louvre has a motorized damper connected to the room's ammonia sensors.

Several of the exhaust fans have variable frequency drives (VFDs) equipped and are controlled by the DDC building automation system (Refer to "Control Systems" section of the report).

Condition / Recommendation:

Where checked, the ventilation and exhaust system equipment was operating during our visit. Most of the equipment has been replaced or repaired as needed in previous years.

Based on the number of exhaust fans and the reportedly similar age of the equipment, an allowance to replace several exhaust fans as they reach the end of their service life is included within the report term.

In between larger replacement projects, individual exhaust fans and stacks may need to be repaired or replaced individually, which is understood to be paid as a maintenance expense or at a cost below the capital threshold of this report.

4.6.1 Exhaust/Ventilation Fan Replacement Allowance

Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrence	Class	Status
$25,000	$31,270	2031	20	Recurring	3	Forecasted

4.7 CONTROL SYSTEMS

Description:

An EnteliWEB by Delta building automation system (BAS) monitors and controls the operation of the HVAC systems. The equipment is controlled by direct digital control (DDC) actuation. The BAS is operated remotely by the service contractor, Island Temperature Controls, and can be accessed remotely by the maintenance staff.

There is a second EnteliTOUCH BAS monitoring and operating the ammonia ice plant components and alarm system, controlled by DDC actuation. This BAS system is operated remotely by the service contractor, Cimco, and can be accessed remotely by the maintenance staff.

Condition / Recommendation:

The building's control systems are reportedly in serviceable overall condition. The existing systems are reasonably modern, and the Maintenance Coordinator reports they are functioning well.

Due to the complexity, size, and age of the control systems, an allowance is included to upgrade portions of the BAS to keep pace with changing technology, including software and head-end system upgrades and partial point device replacements. Individual repairs or component replacements are understood to be part of ongoing maintenance.

4.7.1 DDC Upgrade/Repair Allowance

Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrence	Class	Status
$50,000	$60,250	2030	15	Recurring	3	Forecasted

4.8 HVAC DISTRIBUTION SYSTEM

Description:

The hydronic heating distribution system includes:

- 12 hydronic baseboard radiators or forced-flow heaters
- Steel distribution piping from the central plants to terminal heater units
- One heating distribution pump
- Two boiler pumps
- One small plate heat exchanger which transfers heat between the hydronic heating loop and the domestic hot water loop
- Three-way and Mixing valves, which control the temperature in the secondary loops
- Isolation and other flow control valves located throughout the system
- one expansion tank
- automatic chemical treatment system, which helps maintain a neutral pH level in the water, and reduces the potential for corrosion of the piping

There is also a heat rejection loop between the Zamboni ice melting pit and the central heating plant that includes:

- Steel distribution piping from the central plant to the pit
- electric boiler
- One circulation pump
- One small plate heat exchanger
- Two expansion tanks

Condition / Recommendation:

The Maintenance Coordinator reported that there are no known problems with the central HVAC distribution system.

The hydronic distribution piping is mostly concealed behind interior finishes. In addition, the condition of the internal pipe walls cannot be determined without destructive cut tests or ultrasonic testing. With diligent regular maintenance and proper water treatment, these systems can often last the life of the building without capital repairs. Therefore, based on the presence of a water treatment system and given the reported absence of major concerns to date, general replacement of the hydronic distribution piping is not expected within the report term. Test cuts or ultrasonic testing is advisable to confirm this assumption. We assume minor issues and isolated replacements will be managed from repair and maintenance budgets.

The hydronic heating distribution system components (excluding the piping) have varying expected service lives ranging from 20 to over 50 years. Based on suspected age, we have included a replacement budget for the radiators, distribution pumps, VFDs, and heat exchangers. Replacement of small components such as valves and expansion tanks is assumed to be handled individually as needed as part of regular maintenance or at a cost below the capital threshold of this report.

The Maintenance Coordinator reported that the ice melting pit heat rejection loop is not currently operational, and there are plans to repair and replace components to have it running again. As such, the report includes the replacement of the ice melt pit boiler, circulation pump, heat exchanger, and expansion tank. The piping is anticipated to last the report term with local repairs as needed.

4.8.1 Replace Ice Melting System Components

Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrence	Class	Status
$33,000	$34,254	2026	20	Recurring	3	Forecasted

4.8.2 Replace Hydronic Heating Distribution System Components

Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrence	Class	Status
$108,900	$126,420	2029	25	Recurring	3	Forecasted

5.1 DOMESTIC WATER SYSTEMS

Description:

The domestic cold water incoming line is 2.5 inches in diameter and enters through the floor slab in the ammonia ice plant room and travels to the mechanical room accessed from the exterior on the east side of the building. The main line is equipped with a backflow preventer and bypass loop with check valves before it feeds the heating plant and the cold water distribution.

Domestic hot water is generated by a central heating plant consisting of two gas-fired boilers and two heater tanks. Refer to the "Central Heating Plant" section under the "HVAC" heading in the report.

Domestic hot water is stored in two insulated heater tanks manufactured by Super Hot. According to the Asset list received, the units were manufactured in around 2004 and 2008. Each tank has an estimated storage capacity of 119 USGAL (450 L).

The domestic water distribution piping primarily appears to be copper.

Condition / Recommendation:

The Maintenance Coordinator reports that one of the water heater tanks failed last year and is scheduled for replacement this year. The other tank is reportedly of similar age, functional, and able to accommodate the building's needs, but it also has reached the end of its typical service life. As such, the report includes the replacement of both heater tanks in the short term. The budget is based on replacement with equivalent-capacity units and assumes that newer, higher-efficiency units available would be installed. The budget is phased over two years, assuming one tank would be replaced per year to maintain building operations.

No major issues or leaks were reported for the domestic water piping. The Maintenance Coordinator reported no problems with water flow or pressure. According to the asset lists provided, the cold water piping is original, while the hot water piping was replaced in 2018. The service life of piping varies widely between about 15 and 40 years and depends largely on materials and flow rates. Failure typically begins as isolated pinhole leaks, with leakage rates increasing over time and eventually justifying full replacement. Based on the age of the cold water piping and the timing of hot water piping replacement, full replacement of the domestic cold water distribution piping is anticipated in the next 10 years. We assume isolated pinhole leaks and individual component replacements, like valves, backflow preventers, etc., will be addressed as needed as part of ongoing maintenance or at a cost below the capital threshold of this report.

5.1.1 Replace Domestic Hot Water Heater Tanks

Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrence	Class	Status
$22,000	$22,000	2025	15	Recurring	3	Forecasted

Project Phased

2025	2026
50%	50%
$11,000	$11,418

5.1.2 Replace Domestic Cold Water Piping

Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrence	Class	Status
$61,712	$89,607	2035	50	Recurring	3	Forecasted

5.2 DRAINAGE SYSTEMS

Description:

The sanitary system consists of in-suite plumbing fixtures and drains connected to central stacks that discharge to the buried sanitary services line.

The storm drainage system controls rainwater runoff for the site. The roofs are drained by leaders and stacks that discharge directly to the below-grade storm system. Internal area drains serve the lowest level areas.

The type of buried storm and sanitary drainage piping could not be confirmed.

Condition / Recommendation:

No problems with the drainage system were reported to us during our review and interview. The condition of the buried and concealed piping cannot be evaluated visually. We recommend that drains be flushed and scoped routinely, which maximizes the service life of the piping and also helps identify repair needs; we assume this will be done as part of ongoing maintenance.

6.1 ELECTRIC SUPPLY AND DISTRIBUTION

Description:

Electricity is supplied underground via a pad-mounted transformer on the east side of the building to the lower-level electrical room off the boiler room.

There is a high-voltage switchgear manufactured by Federal Pioneer located in the lower-level electrical rated at 600A, 347/600V, three-phase, four-wire and contains two cells:

- Cell 1: Main disconnect switch, rated at 600A
- Cell 2: three 400A disconnects and one 200A disconnect

The lower-level electrical room also contains a dry-type transformer rated at 300 kVA, stepping voltage down from 600 V to 120/208 V, to serve the main switchgear.

The main switchgear is manufactured by Federal Pioneer and is located in the upper-level electrical room. The switchgear is rated for 1200A, 120/208V, three-phase, four-wire and contains three cells:

- Cell 1: Main disconnect switch, rated at 1000A
- Cell 2: one 15A, five 100A, three 200A, and one 300A disconnect switches for various subpanels
- Cell 3: two 60A, six 100A, two 200A, and one 400A disconnect switches for various subpanels

The upper-level electrical room also contains the following:

- disconnect switches rated at 600A, 400A, 200A, 125A, and 100A
- Electrical distribution panel 'H' rated at 225A and panel 'M' rated at 100A
- Two heating panels, each rated at 225A
- lighting control panel 'H'

Power is distributed to approximately 14 subpanels located throughout the hallways, common areas, and service rooms before being supplied to the end fixtures. The circuit-breaker-type panels are rated from 100A to 300A, 120/208V.

Where seen, the wiring is copper.

Condition / Recommendation:

No problems with performance or service capacity were reported by the Maintenance Coordinator.

Major electrical equipment has an average service life of about 40 to 50 years. The building is approaching an age where some capital expenditures are likely to be needed, but the scope and timing of such work are difficult to predict. Based on age, we have included a budget to replace the high-voltage switchgear, transformer, main switchgear, larger disconnect switches, and some of the larger original distribution panels. Replacement of smaller panels and individual components may also be needed, but we expect the costs to be below the capital threshold of the report.

We recommend that all panels and equipment be thermally scanned every few years to identify hot spots that require repair. The scans and related repairs found to be needed (assuming minor tightening, etc.) are assumed to be a maintenance expense.

6.1.1 Replace Main Electrical Distribution Equipment

Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrence	Class	Status
$404,375	$609,474	2036	50	Recurring	3	Forecasted

6.2 LIGHTING

Description:

Interior lighting systems include strip fixtures and recessed pot lights with primarily LED lamps, except for the second-level 'Crow's Nest' exercise area and a few local storage/service rooms that remain fluorescent T8 lamps. Most interior lighting is controlled by motion sensors, with local rooms controlled by manual switches.

Exterior lighting includes wall-mounted fixtures above the main entrance doors, exit/service doors, overhead doors and along the adjacent drive aisles on the east and west elevations. All fixtures have LED lamps and are controlled by timers.

History of Repairs:

2018/19: Replaced and upgraded most of the interior and exterior lighting to LED, according to the Maintenance Coordinator and questionnaire received.

Condition / Recommendation:

The fixtures, where reviewed, are in serviceable condition, and the lamps are generally considered energy efficient.

The second-level 'Crow's Nest' exercise area remains with the older fluorescent strip lighting and is reportedly planned to be replaced with LED, like the rest of the building. As such, a project has been included for the remaining lighting replacement and LED upgrade. General replacement of the LED lighting systems is not expected within the report term, unless desired as part of an aesthetic upgrade. Local repairs and lamp replacement are understood to occur as needed as part of maintenance.

6.2.1 Replace/Upgrade Lighting at 'Crow's Nest'

Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrence	Class	Status
$20,000	$20,000	2025	25	Recurring	3	Forecasted

7.1 ELEVATORS

Description:

The building has a single roped hydraulic pedestrian lift with an above-grade hydraulic cylinder and older relay-type controls, serving the two levels. The lift was originally manufactured by Plimley Elevator Mfg. Ltd. and currently has a controller manufactured by Texacone and a hydraulic cylinder manufactured by Sealum, served by a 1 HP electric motor manufactured by Doerr.

Condition / Recommendation:

The lift is maintained under a maintenance contract by TK Elevator. According to the Maintenance Coordinator, the lift is in a serviceable condition. According to the TK Elevator maintenance log, the lift has around two callbacks per month outside of regular maintenance.

The age of the lift components is likely original to the major renovation of the building in 1985 (40 years old). Based on the age of the system, we recommend planning to replace the cylinder and modernize the controls within the report term. The budget assumes the lift will remain in its current use and configuration and be replaced like-for-like. Local repairs are understood to be addressed as needed through the maintenance contractor and paid for as a maintenance expense.

The maintenance contractor reports that the lift can continue to operate in its current use. Any desire to provide an elevator to serve the building would require that the existing lift be decommissioned and a new elevator, including the machine, controls, core, and pit, be built in a new location and sized accordingly per current Code regulations. Budgets for this voluntary upgrade are not included.

7.1.1 Modernize Pedestrian Lift and Replace Cylinder

Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrence	Class	Status
$85,600	$111,136	2032	40	Recurring	3	Forecasted

8.1 ICE MAKING EQUIPMENT

Description:

The building contains a central ice plant to produce and maintain the hockey and curling rink ice surfaces utilizing Ammonia (R717). The ice plant system cools the concrete slabs at the hockey and curling rinks via a network of embedded pipes that circulate brine. The plant includes the following equipment:

- Four reciprocating compressors (C-1 to C-4) manufactured by Mycom (Model No. N6WA, N6A, and N4M), reportedly manufactured in 1985, 1995, 2000, and 2011. According to the data plates, the compressors have motors rated at 40, 50 and 75 HP. Each compressor is equipped with an oil separator installed in 2022. The compressor motors operate with controllers by Cimco and variable frequency drives (VFDs) by ABB.

- Two evaporator (heat exchanger) chillers (HX-1 and HX-2) manufactured by Alfa Laval (Model No. MK15BW-FD and M10BW-FD) in 2018, one serving the hockey rink and the other serving the curling rink. Each chiller is equipped with a liquid separator and filter, all from 2018. According to the data plate, the chillers have nominal cooling capacities of 225 kW (768 MBH) and 116 kW (396 MBH), respectively.

- Two heat exchangers (HX-3 and HX-4) manufactured by HT Industrial in 2018, one on each of the cooling loops for the hockey and curling rinks, exchange heat with the domestic hot water loops and serve as brine heaters (bond breaks).

- An evaporative condenser unit (EC-1) manufactured by Baltimore Aircoil Company (Model No. VC1-205) and a glycol cooling unit manufactured by Refplus (Model No. FLD-113F-9-E) in 2024, both located outdoors on the main roof level between the two raised rink roofs on the east side. According to the data plate, the condenser unit has a nominal cooling capacity of 145 tons and includes an integrated 20 HP fan and small circulation pump (P-4).

- Three circulation pumps (P-1 to P-3), all manufactured by Armstrong. Pumps P-1 and P-2 (Model No. 4030-6x5x10 and 4030-6x4x8) were installed in 2018 and serve the cooling loops for the hockey and curling rinks. According to the data plates, the pumps have motors rated at 25 HP and 15 HP, respectively. Pump P-3 (Model No. 4280-3x1.5x8) serves the glycol loop with a motor rated at 2 HP. All pumps operate with VFDs.

- Three expansion tanks, one on each of the cooling loops for the hockey and curling rinks and the third on the glycol loop. The two cooling loop tanks are located on the roof adjacent to the ice plant room.

- Ammonia Receiver tank (HPR-1) manufactured by HT Industrial (Model No. RA-30050-500) in 2018.

- Three hot water heat reclaim tanks (HX-5 to HX-7) manufactured by Mueller (Therma-Stor) in 2021.

History of Repairs:

2024: Replaced condenser unit and glycol cooling unit, according to the Maintenance Coordinator and documents received.
2024: Replaced all ice plant heat exchangers, according to the Maintenance Coordinator and documents received.
2022: Replaced three oil separators on the compressor discharge lines, according to the Maintenance Coordinator and documents received.
2021: Replaced three heat reclaim tanks, according to the Maintenance Coordinator and documents received.
2018: Replaced both evaporator chillers, according to the Maintenance Coordinator and documents received.

Condition / Recommendation:

The ice plant was not operating at the time of review, as both ice sheets were off for the summer months. The Maintenance Coordinator reported that the ice surfaces are on between September and March each year.

Many of the ice plant's core components have undergone renewal or major overhaul in the last seven years (refer to the "History of Repairs"), and the Maintenance Coordinator reports the system is operating well. Most of these components are expected to last the report term with routine and proactive maintenance and repairs, unless noted below.

The Maintenance Coordinator reported that the brine piping network within the hockey and curling rink slabs is original and leaking, which has continued to get worse over time. Given the piping age and the continued use of the rinks in the community, the Maintenance Coordinator reports that large projects to generally renew the concrete slabs and all brine piping are planned in the next few years, starting with the hockey rink slab next year; as such, projects have been included for replacing the rink slabs and associated brine piping and headers.

The four compressors vary in age and have all undergone overhauls over the years. Given the age of the components, overhauls of each of the compressors are anticipated within the report term, assuming replacement parts can continue to be sourced.

The evaporator chillers are in a serviceable overall condition. Based on age, the chillers are anticipated to require an overhaul at around the mid-point of their service life to generally renew worn components and provide reliable operation. As such, a project has been included for chiller overhaul.

The heat exchangers serving as bond breaks are in a serviceable overall condition. Based on age, the heat exchangers will require replacement near the end of the report term to generally renew reliability in the system and provide increased efficiencies.

8.1.1 Replace Hockey Rink Slab and Brine Piping

Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrence	Class	Status
$2,000,000	$2,076,000	2026	50	Recurring	3	Forecasted

8.1.2 Replace Curling Rink Slab and Brine Piping

Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrence	Class	Status
$1,200,000	$1,393,063	2029	50	Recurring	3	Forecasted

8.1.3 Overhaul Ice Plant Compressors

Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrence	Class	Status
$60,000	$69,653	2029	15	Recurring	3	Forecasted

Project Phased

2029	2030	2031	2032
25%	25%	25%	25%
$17,413	$18,075	$18,762	$19,475

8.1.4 Overhaul Chillers

Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrence	Class	Status
$36,000	$48,516	2033	30	Recurring	3	Forecasted

8.1.5 Replace Brine Heater Heat Exchangers

Present Cost	Inflated Cost	First Occur.	Cycle	# Occurrence	Class	Status
$30,000	$58,705	2043	25	Recurring	3	Forecasted

SCOPE OF WORK

AUTHORIZATION

This report was prepared at the request of Steve Knoke, Director of Parks and Recreation Services for the Township of Esquimalt, as a capital plan for the property.

MANDATE

Our scope of work is in general conformance with the ASTM Standard Guide for Property Condition Assessments: Baseline Property Condition Assessment (ASTM E2018-15) with specific exceptions.
- We considered a higher capital threshold than is recommended by the Standard to better align with the scale of the building and typical management objectives;
- We did not make requests to building and fire officials for outstanding work-orders or violations on file; we believe this is part of your legal due diligence;
- We make no comment on requirements of the Americans with Disabilities Act (an American standard which does not apply here) or any RBQ or NBC of Canada barrier-free provisions as these generally apply to new construction only;
- We make no comment on seismic or flood plain risks; and
- We did not review rent roll, lease agreements, zoning or other documents related to the business operations at the site.

The purpose of this report is to provide a general indication of the present physical condition of the building(s) with respect to easily visible portions of the structure; enclosure; site work; mechanical, electrical, and plumbing systems; active fire safety systems; and elevating devices. Passive fire safety systems (e.g., fire containment and egress), and interior finishes, furniture, and tenant equipment, are specifically excluded from our mandate. We were to record deficiencies or conditions noted during a single visual walk-through review that, in our opinion, will likely require Capital expenditures by the Owner over the next 20 years. Capital expenditures are defined as expenditures that are expected to exceed an annual threshold of $10,000 per building, and are not normally associated with routine maintenance.

Our opinions of cost, assume a prudent level of ongoing maintenance. It is not within our mandate to check the adequacy of existing maintenance practices, or confirm that all mandatory system tests and inspections have been completed (e.g., annual fire alarm testing). In the course of our review, we may identify some maintenance-type issues, but this should not be seen to indicate that a maintenance audit has been completed.

Our mandate was to complete a visual walk-through survey of items, components, and systems that are conspicuous, patent, and that may be observed visually during the walk-through survey without intrusion, removal of material, exploratory probing, and the use of special equipment or design calculations. Therefore, concealed physical deficiencies and design inadequacies are specifically excluded from our mandate. Our interviews of building personnel attempt to uncover known concerns at the property, but we cannot attest to the integrity or knowledge of the interviewees, nor can this process, or the scope of work in its entirety, be considered technically exhaustive or be considered to eliminate all risks related to owning this property. Only conditions actually seen during examination of representative samples can be said to have been assessed, and comments on the balance of the conditions are assumptions based upon extrapolation.

Our mandate does not include an exhaustive review of visible conditions against all code, property standards by-law, or other legislative requirements that existed at the time of construction, or that may retroactively apply, including Human Rights Code violations. During our review patent concerns may be identified such as adequacy and acceptability of guards (stairs, retaining walls, etc.), backflow preventers or other potential compliance concerns. The inclusion of these findings in the report does not imply or infer that an exhaustive review has been completed.

Our mandate is to provide opinions of probable costs that reflect the repair strategies that we foresee and should be considered preliminary budgets only. Accurate figures can only be obtained by establishing a scope of work and receiving quotes from suitable contractors. We cannot guarantee the actual age of equipment, apparent maintenance practices, or the service lives that we have predicted. Time frames given for undertaking work represent our opinion of when to budget for the work. Failure of the item, or the optimum repair/replacement process, may vary from our estimate. There can be no assurance that this forward-looking information will prove to be accurate, as actual results and future events could differ materially from those anticipated. Accordingly, readers should not place undue reliance on forward-looking information. Typically further investigation and design will be needed to firm up construction budgets and timing for any significant projects.

In selecting repair strategies, we try to select strategies to match the client's business strategy for the building, when this is communicated to us. In many circumstances, more or less conservative repair approaches could be selected. Our opinions of costs apply only to the strategies described in our report.

Our review was intended to identify conditions resulting from past and current uses. Additional evaluation may be required if a change of use, renovations or additions are anticipated.

Our work is subject to the terms, conditions and limitations referenced in the General Terms and Conditions issued at the time of engagement.

SURVEY METHOD

WSP reviewed the building structure; the building envelope; the site lighting; active fire safety systems; and mechanical, electrical, and plumbing systems. WSP also completed a non-specialist review of the elevating devices. The site visit was completed on June 12, 2025.

Our field observers were Nima Khalkhali Shijini and Scott Gassen. Sonia Tsang from WSP completed an Energy Audit at the same time as our review. The report was prepared by Nima Khalkhali Shijini and Scott Gassen and reviewed by Kevin Grasty of WSP.

The survey consisted of a visual review of samples of the following:

- the exterior walls and windows from ground level; sample locations from roof level; and from interior areas where possible;
- the roofs;
- service areas;
- common areas;
- the perimeter site.

Our review of the elevators excluded access to the pits and hoistways.

INFORMATION PROVIDED

Kurt Reed and Dan Henderson from the Township of Esquimalt, referred to in the report as the Maintenance Coordinator, answered our questions about the history of performance of the various systems, described existing capital plans, etc., and accompanied us during our site visit.

A questionnaire was issued to the Owner requesting information regarding known problems, past repairs, etc. The

information received was reviewed, and included in the report.

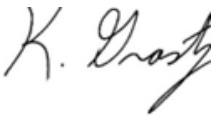
The following reports/documents were provided:
- Parks and Recreation Esquimalt Capital Plan 2025
- Esquimalt Parks and Recreation Asset Master Sheet
- Electrical Panel and Lighting schematic drawings
- Fire Inspection and Gas Testing Reports
- 2019 Roof Replacement Progress Report and Contact Info
- Technical Safety BC Permits and Certificates
- Asbestos Testing Reports
- Previous Consultant Reports for Ice Plant
- HVAC equipment summary
- Various Diagrams, Schematics, and Drawings of the parking lot, underground utilities, building plans, the ice plant, ice melt pit, and boiler room
- Mechanical Drawings for Chiller Replacement, prepared by Rocky Point Engineering, dated February 1, 2019
- Structural Drawings for new Roof Ladder and Guarding, prepared by WSP, dated July 17, 2017
- Structural Drawings for Roof Fall Restraint Anchor Support, prepared by Harjim, dated November 2018

The following service contractors were contacted:
- Lift: TK Elevator, Scott Tueber, 250-880-0732

PROJECT TEAM

We trust that this report addresses your requirements. Should you require clarification, please contact the undersigned.

Respectfully submitted,
WSP Canada Inc.

NAME	TITLE	DATE	SIGNATURE
Nima Khalkhali Shijini	Property Condition Report Writer	16 Dec 2025	
Scott Gassen, P.Eng.	Property Condition Report Writer	16 Dec 2025	
Kevin Grasty, P.Eng., LEED AP	Property Condition Report Reviewer	16 Dec 2025	

LIMITATIONS

WSP Canada Inc ("WSP") prepared this report solely for the use of the intended recipient, Township of Esquimalt, in accordance with the professional services agreement. In the event a contract has not been executed, the parties agree that the WSP General Terms for Consultant shall govern their business relationship which was provided to you prior to the preparation of this report.

The report is intended to be used in its entirety. No excerpts may be taken to be representative of the findings in the assessment.

The conclusions presented in this report are based on work performed by trained, professional and technical staff, in accordance with their reasonable interpretation of current and accepted engineering and scientific practices at the time the work was performed.

The intended recipient is solely responsible for the disclosure of any information contained in this report. If a third party makes use of, relies on, or makes decisions in accordance with this report, said third party is solely responsible for such use, reliance or decisions. WSP does not accept responsibility for damages, if any, suffered by any third party as a result of decisions made or actions taken by said third party based on this report.

The content and opinions contained in the present report are based on the observations and/or information available to WSP at the time of preparation, using investigation techniques and engineering analysis methods consistent with those ordinarily exercised by WSP and other engineering/scientific practitioners working under similar conditions, and subject to the same time, financial and physical constraints applicable to this project.

It is understood and agreed by WSP and the recipient of this report that WSP provides no warranty, express or implied, of any kind. Without limiting the generality of the foregoing, it is agreed and understood by WSP and the recipient of this report that WSP makes no representation or warranty whatsoever as to the sufficiency of its scope of work for the purpose sought by the recipient of this report.

Only the specific information identified has been reviewed. No physical or destructive testing and no design calculations have been performed unless specifically recorded. Conditions existing but not recorded were not apparent given the level of study undertaken. Only conditions actually seen during examination of representative samples can be said to have been appraised and comments on the balance of the conditions are assumptions based upon extrapolation. Therefore, this work does not eliminate uncertainty regarding the potential for existing or future costs, hazards, or losses in connection with a property. We can perform further investigation on items of concern if so required.

Applicable codes and design standards may have undergone revision since the subject property was designed and constructed. Unless specifically included in our scope, no calculations or evaluations have been completed to verify compliance with current building codes and design standards.

Unless otherwise agreed in writing by WSP, the Report shall not be used to express or imply warranty as to the suitability of the site for a particular purpose. WSP disclaims any responsibility for consequential financial effects on transactions or property values, or requirements for follow-up actions or costs.

WSP is not responsible for, or obligated to identify, mistakes or insufficiencies in the information obtained from the various sources, or to verify the accuracy of the information.

WSP makes no other representations whatsoever concerning the legal significance of its findings.

WSP is not investigating or providing advice about pollutants, contaminants or hazardous materials. The Client and other users of this report expressly deny any right to any claim against the Consultant, including claims arising from personal injury related to pollutants, contaminants or hazardous materials, including but not limited to asbestos, mould, mildew or other fungus.

Budget figures are our opinion of a probable current dollar value of the work and are provided for approximate budget purposes only. Accurate figures can only be obtained by establishing a scope of work and receiving quotes from suitable contractors.

Time frames given for undertaking work represent our opinion of when to budget for the work. Failure of the item, or the optimum repair/replacement process, may vary from our estimate.

WSP disclaims any obligation to update this report if, after the date of this report, any conditions appear to differ significantly from

those presented in this report; however, WSP reserves the right to amend or supplement this report based on additional information, documentation or evidence.

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This limitations statement is considered an integral part of this report.

PHOTOS

Photo #1: Cover Photo

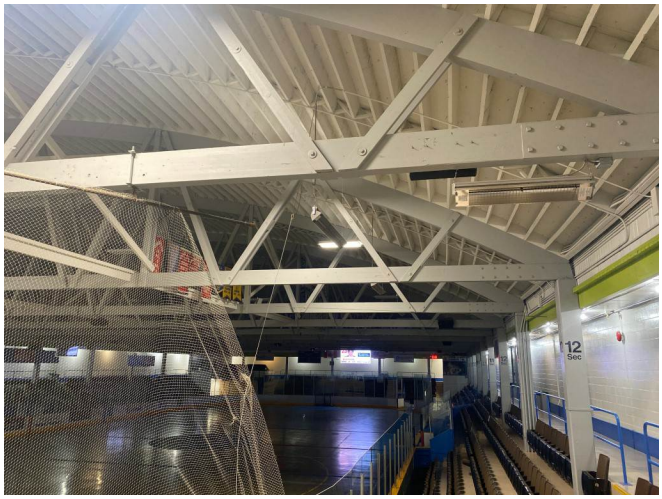

Photo #2: Arena Roof Structure

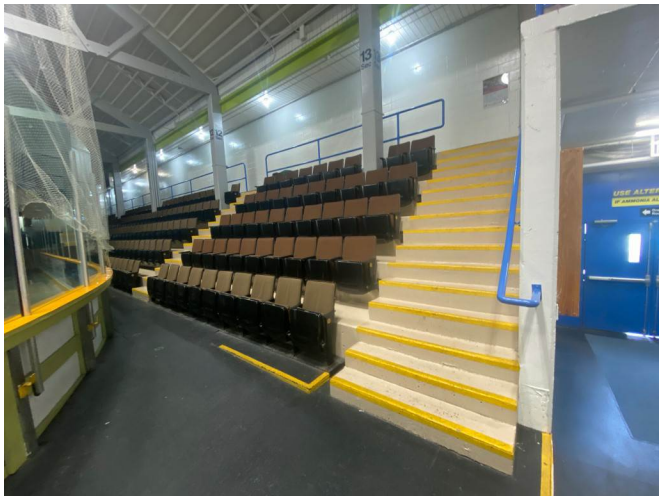

Photo #3: Bleacher Concrete Structure

Photo #4: South Balcony

Photo #5: Balcony Door

Photo #6: Exterior Metal Staircase

Photo #7: Exterior Concrete Stairase.

Photo #8: Caged Ladder

Photo #9: Vinyl Clad Walls

Photo #10: CMU Walls- Unpainted

Photo #11: CMU Walls, Painted

Photo #12: 2-Ply SBS Roofing in Fair Condition

Photo #13: 2-Ply SBS Roofing in Poor Condition

Photo #14: 2-Ply SBS Roofing in Serviceable Condition

Photo #15: 2-Ply SBS Roofing with Gravel Balast

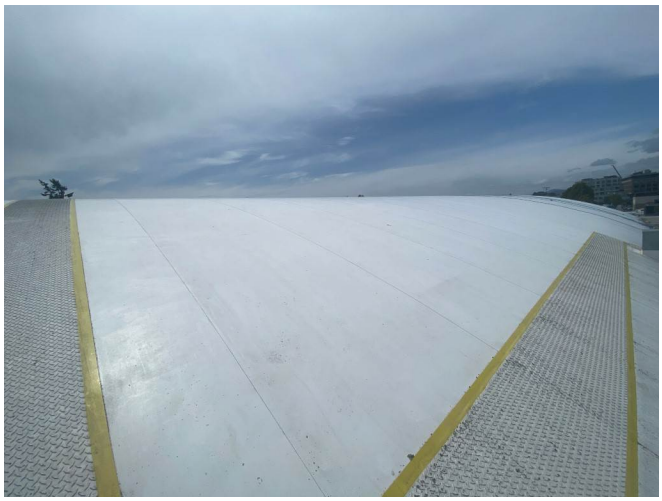

Photo #16: TPO Roofing

Photo #17: Newer Windows

Photo #18: Older Windows

Photo #19: Main Entrance Curtain Wall System

Photo #20: Entrance Door- South Office Area

Photo #21: Exit Door

Photo #22: Main Entrance Door

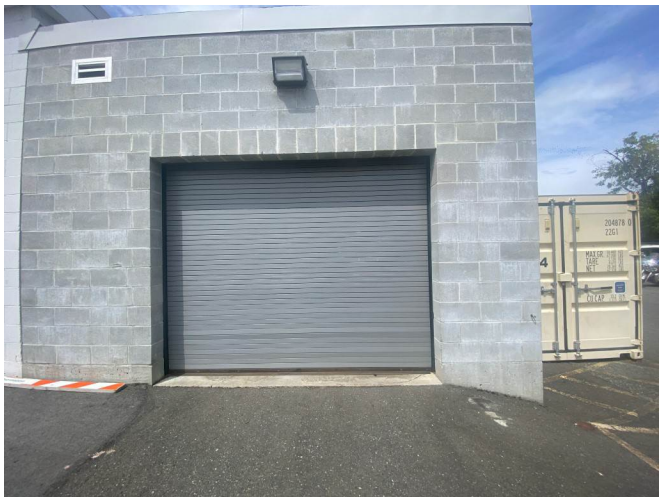

Photo #23: Roll-up Overhead Door

Photo #24: Service Doors, typical

Photo #25: Drop Ceiling in Curling Arena

Photo #26: Ventilation Louvre in Poor Condition

Photo #27: Fire Alarm Control Panel

Photo #28: Curling Rink Dehumidifier Unit

Photo #29: Packaged Rooftop Air Handling Unit - Typical

Photo #30: Rooftop HRV

Photo #31: Rooftop Exhaust Fan - Typical

Photo #32: New Hockey Rink Dehumidifer Unit

Photo #33: Ice Plant Heat Exchange Tanks

Photo #34: HVAC VFDs - Typical

Photo #35: Rink Vent Louvre - Typical

Photo #36: DDC Building Automation System Control Panel

Photo #37: Incoming Water Service

Photo #38: Gas-fired Boiler

Photo #39: Hydronic Heating Circulation Pump - Typical

Photo #40: Hydronic Heating Heat Exchanger

Photo #41: Ice Melt Pit

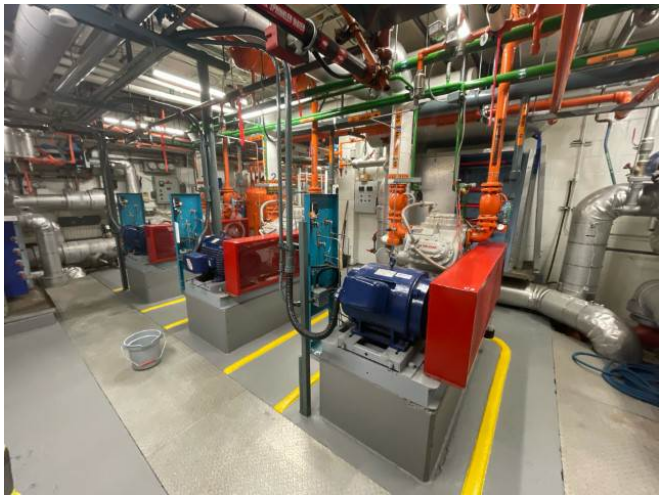

Photo #42: Ice Plant Compressors

Photo #43: Ice Plant Evaporator Chiller - Typical

Photo #44: Ice Plant Condensor and Glycol Cooling Unit

Photo #45: Ice Plant Controller Bank

Photo #46: Site Transformer

Photo #47: High-Voltage Switchgear and Transformer

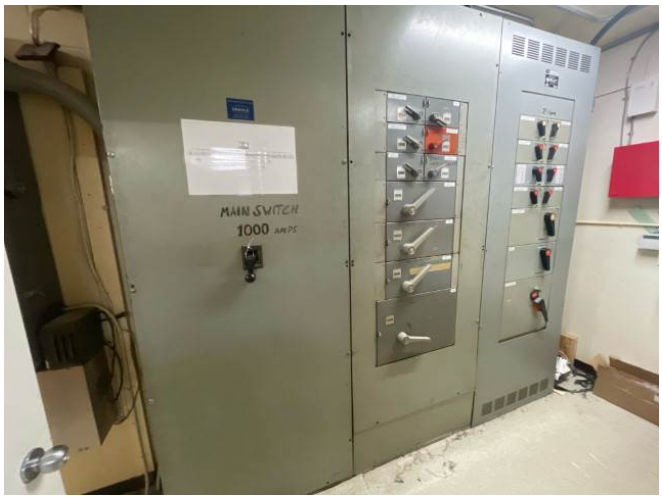

Photo #48: Main Electrical Switchgear

Photo #49: Electrical Distribution Panels and Disconnects - Typical

Photo #50: Lighting Panel - Typical

Photo #51: Interior LED Pot Lights - Typical

Photo #52: Interior LED Strip Lighting - Typical

Photo #53: Exterior Lighting - Typical

Photo #54: Elevator Machine