



Depreciation Report Update | Project R-03577.032 The Lions, 1331 & 1367 Alberni Street, Vancouver, BC

To: The Owners, Strata Plan LMS3942 c/o Jeff Wolrige, Property Manager Southview Property Management Inc. #110 - 7580 River Road Richmond BC V6X 1X6 Site Visits: October 29, 2021 and November 15, 2021 Submitted: June 7, 2022 by RDH Building Science Inc. 4333 Still Creek Drive #400 Burnaby BC V5C 6S6

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1 Introduction

RDH Building Science Inc. (RDH) was retained by The Owners, Strata Plan LMS3942 (the Owners) to prepare a Depreciation Report Update (Report) for the residential and commercial complex known as The Lions, which is located at 1331 & 1367 Alberni Street, Vancouver, BC. Report considers the common property and limited common property components (the Assets) that the Strata Corporation is responsible to maintain, repair, and replace. This Report is prepared for the Strata Corporation as a whole (i.e.: commercial and residential strata lots combined).

The Report is intended to help the Owners, the Strata Council, and the Management Team make informed decisions about the allocation of resources to the common property Assets (such as roofs, windows, boilers, and paving). The timelines and cost estimations outlined in the Report are meant to be viewed as a starting point for the capital planning process and can help the Strata Corporation make preliminary decisions on how and when to implement projects. The Report cost estimates will require refinement as the Strata Corporation makes decisions such as what is included or excluded in a project, and if Assets will be improved or changed. In summary, the original Depreciation Report and Updates are long-range financial planning tools intended to help the Strata Corporation identify, prioritize and plan projects.

This Report meets the requirements stipulated in the current Strata Property Act and Regulations. The Report includes a physical inventory of the common property Assets; estimated costs for capital expenditures over a 30-year horizon; and four funding models. Refer to the appendices for RDH's qualifications and information on errors and omissions insurance. In accordance with the requirements of the Act, RDH declares that there is no relationship between the employees of RDH and the Owners.

This Report is an update to the original Depreciation Report, which was issued on November 3, 2015. An initial site visit for this Report was completed on October 29, 2021, and RDH returned to site on November 15, 2021. The financial data is based on the 2021/2022 fiscal year. A draft Report was distributed to the Strata Council and Strata Management on February 18, 2022. Feedback from the Strata Council was incorporated into the Report, and the final Report was issued on June 7, 2022.

The Depreciation Report and Updates are synopsis of a significant volume of data and has two parts: the summary and the appendices. The summary is intended to provide an overview of the Report. The appendices provide detailed information to support the summary. The appendices include a glossary of terms. Words that are *italicized* are defined in the glossary.

As the physical and financial status of the Assets change over time, the Report will require updating. The Strata Property Act requires updates to the Report every three years; however, the Owners can choose to update portions of the Report more frequently, at their discretion, to reflect changes to their financial status and completed work.

2 The Lions

The Lions is a 24-year-old mixed-use strata complex (as of 2022), comprised of two high-rise buildings. The buildings are of cast-in-place concrete with steel stud infill walls, located over a below-grade concrete parkade structure.

The principal systems in the complex include the building enclosure (the separation of the interior from exterior space), electrical (the electrical distribution and security equipment), mechanical (heating, cooling, and plumbing), elevators, fire safety (sprinklers, fire detection, and egress equipment), interior finishes, amenities, and site work. The Assets within each system are described in detail in Appendix B.

KEY PHYSICAL PARAMETERS TABLE 2.1 Date of first occupancy 1998 (approximate) Approximate gross floor area, including the parkade 575,700 (ft²) Total area of Unit 28.336 Entitlement Stories above-grade (Georgia Street): 31 \rightarrow East Tower 28 West Tower \rightarrow Total number of strata lots: \rightarrow Residential 453 → Commercial 10 463 Total Figure 2.1 Aerial view of The Lions (© Google)

Key physical parameters of The Lions are summarized in Table 2.1, Figure 2.1, and Figure 2.2 below.



Site photograph of The Lions ($\ensuremath{\mathbb{C}}$ Google). Approximate extent of site indicated by yellow dashed lines.

3 Assessments

The original Depreciation Report and Updates combine two distinct types of analysis: a *physical assessment*, and a *financial assessment*. The assessments are used to determine what the Strata Corporation owns, what condition the Assets are in, what the Strata is responsible for, and the *capital costs* associated with the Assets.



The process of preparing the Depreciation Report Update is summarized in Figure 3.1 below:

The following sections provide a brief overview of the physical assessment and financial assessment including a summary of key information.

3.1 Physical Assessment

The physical assessment has two parts: an inventory and an evaluation.

The Asset Inventory identifies "the common property, the common Assets and those parts of a strata lot or limited common property, or both, that the Strata Corporation is responsible to maintain or repair under the Act, the Strata Corporation's bylaws or an agreement with an Owner" (*Strata Property Act Regulation*, BC Reg 43/2000, Ch. 6.2). In other words, it identifies what the Strata Corporation owns and must repair and maintain. The Asset Inventory is included as an appendix to this Report.

Some Assets have been identified as Placeholders. Placeholder Assets are included in the Asset Inventory for reference purposes; however, they are not included in the financial analysis and do not affect the funding models or other financial calculations. Placeholder Assets are identified based on typical agreements with utilities, the Strata Corporation bylaws, and information provided by the Strata Manager and Council. A summary of placeholder Assets is provided in Table 3.1 below.

TABLE 3.1 SUMMARY OF PLACEHOLDER ASSETS						
ASSET	PARTY RESPONSIBLE FOR CAPITAL EXPENDITURES					
Mech 25 - Water Treatment Equipment - Water Conditioner	\rightarrow Third party					
Mech 43 - Trash Compactor	\rightarrow Third party					

The evaluation is used to forecast common repairs, replacements, and maintenance activities that "usually occur less often than once a year or that do not usually occur" (*Strata Property Act Regulation*, BC Reg 43/2000, Ch.6.2). In other words, the evaluation predicts only events that occur at intervals greater than one year.

The evaluation is typically based on:

- \rightarrow A review of historical documentation, such as minutes,
- \rightarrow Discussions with Strata Corporation representatives,
- \rightarrow A visual review of the complex, limited to a sample of readily accessible Assets, and
- → A review of other technical information, such as construction drawings, previous investigations or reports, and maintenance manuals.

Destructive testing, disassembly, and performance testing are not included in the physical evaluation; this Report does not replace a Warranty Review or Condition Assessment. Please visit <u>www.rdh.com</u> for additional information on Warranty Reviews and Condition Assessments.

The condition of some Assets may be concealed, for example, buried infrastructure (such as sanitary drainage lines) or building enclosure Assets (such as cladding). For Assets with the potential for concealed failure, a number of tools are used to assign a reasonable expected service life including the typical performance of the Asset in other, similar properties; the performance history reported by the Strata Corporation; the original drawings; and any previous investigation reports commissioned by the Strata Corporation. It is expected that the Strata Corporation will need more detailed reviews as Assets approach the end of their service lives. Allowances for additional reviews or investigations are included, as appropriate. Recommendations taken from any additional reviews should be incorporated into future Depreciation Report updates.

As part of the physical assessment, RDH compiled a history of completed projects by reviewing the documents provided by the Strata and interviewing Strata Corporation representatives. The history is summarized in Table 3.2 below. The history of renewals establishes the chronological age of the Assets while the history of major maintenance may affect the effective age of the Assets.

TABLE 3.2 MAINTENANCE AND RENEWALS HISTORY

Building Enclosure

- → 2019 Renewal of coating on concrete walls
- → 2019 Replacement of sealant at concrete walls
- \rightarrow 2019 Repainting of steel structures at roof levels
- \rightarrow 2019 Renewal of parkade traffic bearing membrane
- → 2018 Localized commercial unit door replacement
- → 2018 Localized roof membrane repairs
- → 2014 Localized roof membrane repairs
- \rightarrow 2013 Commissioning a review of concrete structure within parking garage
- \rightarrow 2012 Replacement of fasteners at metal panels and vent hoods on both towers
- \rightarrow 2010/11 Installation of windows with operable vents at west tower lobby and gym

TABLE 3.2 MAINTENANCE AND RENEWALS HISTORY

- \rightarrow 2010 Localized minor roof repairs (vent flashing)
- \rightarrow 2010 Localized repairs to various decks
- → 2010 Repairing of concrete and performed waterproofing at rooftop steel structure interface
- → 2010 Installation of waterproofing membrane in water entry room and electrical rooms
- → 2010 Commissioning a structural engineering report by Kunimoto and completed repairs identified in the report

Mechanical

- → 2020 & 2019 Replacement of fan coil and condensing units
- → 2020 Localized repairs to heat tracing
- \rightarrow 2019 Localized replacement of heat exchanges
- \rightarrow 2019 Replacement of hot water tanks
- → 2019 Replacement of east tower boilers
- → 2018 Repairs to make-up air units
- → 2018 Sump pump repairs
- \rightarrow 2012 Retrofit of balancing valves throughout building
- \rightarrow 2010 Commissioning a sample testing of copper pipes
- \rightarrow 2010 Replaced the garage door operator at Jervis St.
- → 2000 2012 (estimated) Localized pinhole leak repairs to domestic water distribution piping
- \rightarrow Cyclical replacement of pumps, valves, and fans

Ongoing cleaning of drain lines

Fire Safety

- → 2019 Localized replacement of dampers
- \rightarrow 2016 Replacement of fire alarm control system in east tower
- \rightarrow 2013 Replaced fire alarm control system in west tower
- → 2013 Repairs to fire pump
- \rightarrow 2011/12 Localized replacement of sprinkler heads
- \rightarrow Cyclical replacement of exit signs, extinguishers, smoke detectors etc.

Interior Finishes

- \rightarrow Annual repairs to wallpaper and paint in common areas
- → 2018 Localized replacement of indoor furniture
- \rightarrow 2018 Replacement of flooring in fitness centre
- \rightarrow 2010 Localized repairs to lobby tiles in east tower

TABLE 3.2 MAINTENANCE AND RENEWALS HISTORY

Amenities

- → 2018 Repair fitness equipment
- → 2013 Renovation of guest suites
- \rightarrow 2012 Replacement of computers at concierge desks
- \rightarrow 2011 Replacement of benches in men's sauna room
- \rightarrow 2011 Refurbishing of lounge kitchen area
- → 2010 Refurbishing of AV room
- \rightarrow 2010 Refurbishing of lobby of east tower
- \rightarrow 2010 Replacement of treadmills in gym

Sitework

- \rightarrow 2020 Repairing and resealing of aggregate paving
- → 2012 Replacement of irrigation controllers
- \rightarrow 2010 Repainting of steel canopies
- \rightarrow 2010 Repairs to tiles in plaza

On October 29, 2021 and November 15, 2021, representatives of RDH visited the site to visually review the Assets. In addition, TK Elevator Canada LTD. (TKE) (the Strata Corporation's elevator contractor) was retained by the Owners to review and provide input on the existing condition of the elevators. While the Report does not constitute a maintenance review or condition assessment, some observations regarding the general condition, design, and construction of the Assets were made as part of the visual review. These observations were used to determine a reasonable estimated remaining service life of various Assets. Table 3.3 includes examples of some observations made during the review.

TABLE 3.3 OBSERVATIONS BY SYSTEM							
SYSTEM	OBSERVATION						
Structure	\rightarrow The complex is of cast-in-place concrete construction.						
Building Enclosure	→ The buildings have protected membrane low-sloped roof, deck, and balcony assemblies (the waterproofing membranes are concealed by overburden material).						
	\rightarrow Aluminum-framed windows are installed throughout the complex.						
	→ Aluminum-framed curtain wall glazing assemblies are installed at commercial units and various other common areas throughout the complex.						
	→ The suspended parkade floor slabs are protected with a liquid-applied traffic bearing membrane.						
	→ There is localized evidence, including efflorescence, of ongoing water ingress into the parkade through below-grade concrete walls.						

TABLE 3.3 OBSERVATIONS BY SYSTEM						
SYSTEM	OBSERVATION					
Electrical	\rightarrow The complex includes a common unit sub-station.					
Mechanical	→ Various interior air-handling units have been installed throughout the complex.					
Elevator	\rightarrow The elevators throughout the complex are a traction type.					
Fire Safety	→ There are two types of sprinkler systems installed throughout the complex: Wet Head Wet System and Dry Head Dry System.					
	\rightarrow Both buildings include addressable fire alarm panels.					
	\rightarrow Both buildings include smoke control systems.					
Interior Finishes	→ Interior finishes consist of wall paint, wood paneling, carpet, floor, and wall tiles, etc.					
Amenities	\rightarrow The complex includes an exercise room and several amenity rooms.					
Site work	→ Various retaining walls and overburden have been installed over the podium and at-grade including concrete paving, unit paving, soft landscaping, etc.					

3.2 Financial Assessment

The financial assessment estimates the future costs associated with the Assets and examines how future funding requirements will be affected by current financial practises. More specifically, the financial assessment identifies:

- \rightarrow The opening balance in the *Contingency Reserve Fund* (CRF).
- → The estimated value of capital expenditures, expressed in *Current Year Dollars* (CYD).
- → The estimated future value of capital expenditures, expressed in *Future Year Dollars* (FYD). These costs are calculated by applying an inflation rate (2% per year) to the current costs.

The future value of major maintenance and renewals costs can be compared against the complex reproduction cost. The complex reproduction cost is the cost to reproduce the complex in similar materials, in accordance with current market prices, and is obtained from the most recent insurance appraisal.

The financial assessment begins with a review of the current financial situation of the Strata Corporation. Table 3.4 below summarizes the key financial parameters reviewed as part of the financial assessment.

TABLE 3.4 KEY FINANCIAL PARAMETERS		
PARAMETER	ORIGINAL DEPRECIATION REPORT (2014)	DEPRECIATION REPORT UPDATE (2021)
Fiscal year end	Novem	iber 30
Complex reproduction cost	\$102,733,700	\$140,467,000

TABLE 3.4 KEY FINANCIAL PARAMETERS		
PARAMETER	ORIGINAL DEPRECIATION REPORT (2014)	DEPRECIATION REPORT UPDATE (2021)
Operating budget (excluding CRF contribution)	\$1,131,530	\$2,276,267
Annual CRF contribution	\$111,542	\$404,000
CRF Balance		
 Contingency Reserve Capital Replacement Funding Legal Fees/Engineering Expenditures Special Projects 	\$472,536 \$1,238,109 \$14,149 \$0	\$711,452 \$1,422,894 \$0 \$433,978
Total	\$1,724,794	\$2,568,324*

*The balance in the CRF varies each month as contributions are made and funds are withdrawn for capital renewal projects and major maintenance activities. The accumulated CRF balance is reconciled as of the beginning of the 2021/2022 fiscal year.

Depreciation Report Updates include capital costs only: the costs for activities that occur at intervals greater than one year. Activities that occur annually or more frequently than once a year are considered operating expenses and are not included in the Report funding models and calculations.

Capital costs can be distributed into three general categories:

- \rightarrow *Catch-up costs*. The cost to complete any deferred maintenance and renewals.
- \rightarrow *Keep-up costs*. The cost to complete planned cyclical maintenance and renewals.
- \rightarrow *Get-ahead costs*. The cost to adapt, upgrade, and improve.

The Report is based on keep-up costs. Get-ahead costs (improvements) may also be included, but only if they are required to meet changing codes or standards.

Costs are considered *Class D* estimates (\pm 50%), as defined by the Engineers and Geoscientists of British Columbia (EGBC). Unless otherwise noted, soft costs, such as consulting fees and contingency allowances are not included, because these costs are highly dependent on the scope of work for a particular project. Scopes of work for specific projects should be developed well in advance so that project budgets, including soft costs, can be refined.

The current value of many major maintenance and renewal activities is calculated by multiplying the quantity of an Asset by standard unit rates (for example, the cost per square foot or cost per linear foot). Quantities are measured from original construction documents and visual observations on site. The unit rates are based on historical information, construction trends, information from contractors, and other sources, as appropriate. Unit rates will fluctuate over time. Basic unit rates are adjusted for the relative complexity of the property.

Costing Caveats

The capital costs given in the Report provide a basic estimate for long term planning. They are intended to help guide priority setting and provide a clearer sense of timing. They are not suitable for planning specific projects as they cannot account for project soft costs (such as taxes, grants, engineering or design, municipal permits, etc.), or for project specific construction costs (such as access to the work (e.g. scaffold), contingencies, hazardous materials, tippage/disposal, project management, etc.). Such costs cannot be estimated without more information, including a project scope and preliminary design work.

Once a project reaches the planning stages, a reasonable assumption of soft costs should be made based on the actual needs of the project. It is recommended that this happens well in advance of predicted work to allow time to plan for the funding of the soft costs.

4 Expenditures

Maintenance refers to activities that preserve the Assets, to ensure the Assets will last their predicted service lives and perform as expected. *Renewal* refers to the replacement or refurbishment of an Asset at the end of its useful service life.

Major Maintenance refers to maintenance that occurs at intervals greater than one year, for example, every 18 months, two years, five years, etc. (less frequently than once a year). Major Maintenance typically includes activities, such as testing and inspecting and is considered a capital expense. Minor Maintenance includes maintenance activities that occur once a year or more frequently, such as quarterly or monthly. The costs associated with *Major Maintenance and Renewals* are included in the Report funding models, as required by the Strata Property Act. Costs associated with Minor Maintenance are included in the Strata Corporation's operating budget.

4.1 Major Maintenance and Renewal Expenditures

TABLE 4.1 CAPITAL EXPENDITURES SUMMARY BY SYSTEM									
SYSTEM	10 YEAR CAPITAL COSTS (WITHOUT INFLATION)	10 YEAR CAPITAL COSTS (WITH INFLATION)	30 YEAR CAPITAL COSTS (WITHOUT INFLATION)	30 YEAR CAPITAL COSTS (WITH INFLATION)					
Structural	\$10,000	\$11,000	\$75,000	\$120,000					
Building Enclosure	\$4,700,000	\$5,200,000	\$25,000,000	\$34,000,000					
Electrical	\$320,000	\$350,000	\$1,200,000	\$1,700,000					
Mechanical	\$490,000	\$530,000	\$3,500,000	\$4,700,000					
Elevator	\$1,400,000	\$1,500,000	\$2,000,000	\$2,400,000					
Fire Safety	\$91,000	\$96,000	\$750,000	\$1,000,000					
Interior Finishes	\$740,000	\$780,000	\$1,600,000	\$2,200,000					
Amenities	\$180,000	\$190,000	\$380,000	\$500,000					
Sitework	\$360,000	\$410,000	\$680,000	\$900,000					
Complex Total	\$8,291,000	\$9,067,000	\$35,185,000	\$47,520,000					

Table 4.1 below summarizes all major maintenance and renewal costs by system, including costs forecasted for the next 30 years. The values are rounded.

Approximately 20% of the Strata Corporation's capital expenditures may occur in the next 10 years. The distribution of estimated capital expenditures over the next 10 years is shown in Figure 4.1 below.



Figure 4.1 Distribution of estimated capital expenditures over 10 years by system.

Section 5 discusses the timing and size of renewal projects forecast for the next 30 years. A detailed list of each major maintenance and renewals activity, including the frequency, costs expressed in Current Year Dollars (CYD), and costs including inflation rates, expressed in Future Year Dollars (FYD) are available to Strata Corporation Owners.

5 Major Maintenance and Renewals Planning Horizons

There are three common planning horizons, used for making different types of capital planning decisions:

- → Strategic (30 years): The average service life of many of Assets is approximately 25 years (such as roofs) so a long-range view captures most renewal projects. In some cases, an Asset may be replaced more than once in the 30-year horizon.
- → Tactical (5-10 years): Many residential Owners will own their strata lot for less than 10 years; the Tactical Plan captures projects that may occur while current Owners still have an interest in the Strata Corporation.
- → Operational (1 year): The annual operating period encompasses one fiscal cycle (12 months). Typically, the budget is presented and approved at the Annual General Meeting (AGM) and will include any capital expenditures paid from the CRF, as well as the CRF contributions for the year. As a minimum, the decision on the CRF contribution should consider projects forecast for the next five to 10 years.

5.1 Strategic Planning Horizon

Estimated major maintenance and renewal costs over the next 30 years are shown on the graph below (Figure 5.1). The red bars represent the estimated value of capital costs.





Figure 5.1 Strategic Forecast (30 Years), showing the approximate timing and value of some key capital expenditures.

Each bar on the graph represents a collection of different major maintenance and renewals activities, each with different values.

The Strategic Plan represents an estimate of future projects. The actual timing of projects will likely vary. Assets may be replaced earlier or later, depending on the quality of maintenance, in-service conditions, and other factors. The Strata Corporation can anticipate changes to the Strategic Plan with each update of the Depreciation Report.

5.2 Tactical Planning Horizon

The graph below shows the projected major maintenance and renewal costs for the next 10 years (Figure 5.2). Commonly, building managers refer to a 5-year tactical plan; however, a 10-year plan allows the Strata Corporation to see a wider range of projects.

The bars indicate the years in which an event (or bundle of events) is most likely to occur, as well as the total magnitude of major maintenance and renewal costs for that year and the costs broken down by system. The soft costs associated with project implementation, such as site access, design, and contract administration are not included.



Figure 5.2 Tactical Forecast (10 years), showing the approximate timing and value of some key capital expenditures.

The Tactical Plan above represents one of many possible approaches to planning major maintenance and renewals activities. The Strata Corporation can use this initial plan as a tool, a starting point to identify probable projects, priorities, and strategies. The actual cost, timing, and scope of projects will be determined by the Strata Corporation and may be reflected in updates to the Depreciation Report.

To help the Strata Corporation start the project planning process, some of the activities forecast for the next 10 years are listed below. Because the timing is somewhat uncertain, renewals and major maintenance activities are grouped into 5-year planning periods. The list below is not comprehensive; it is limited to renewals and major maintenance activities likely to cost more than \$50,000 in Current Year Dollars or significant assessments. A complete list of maintenance and renewals are included in the appendices.

2022 to 2026

Building Enclosure

- → Phased replacement of:
 - → Encl 01 Protected Waterproofing Membrane Roof
 - → Encl 02 Exposed SBS Membrane Roof
 - \rightarrow Encl 03 and Encl 04 Protected Waterproofing Membrane Decks and Balconies
 - → Encl 09 Guardrail Glazed
- → Encl 25 General and Inspections Commission a Building Enclosure Condition Assessment (BECA). The BECA would provide the Owners with detailed information on the existing conditions including concealed conditions of the building enclosure Assets, such as the sloped roofs and balcony membranes. The assessment should be completed in advance of the various building enclosure renewals to assist with the planning process.
- \rightarrow Encl 26 Sealant Replace sealant at interfaces between building enclosure assemblies.

Electrical

 \rightarrow Elec 06 Interior Light Fixtures - Replace interior light fixtures, as required.

Mechanical

- → Jetflush or auger drainage piping Assets and insert video cameras into the main lines to conduct pipe inspection (on a 5-year cycle). Some affected Assets include:
 - → Mech 09 Sanitary Drainage
 - → Mech 16 Perimeter and Foundation Drainage
 - → Mech 17 Storm Drainage
- \rightarrow Mech 40 and Mech 41 Outdoor Air Handler Rebuild or replacement of make-up air units.

Elevator

- → Elev 01 Traction Elevators As per the recommendation of the Elevator Assessment Report and Capital Budget Plan dated January, 2022 by TK Elevator (Canada) Ltd., plan for replacement of auxiliary brakes 'Sheave Jammers' with Rope Grippers.
- → Elev 02 Elevator Cabs & Hoistway Phased replacement of door operators, fixtures, and cab interiors.

Interior Finishes

- → Replacement of various interior finishes, as required including:
 - \rightarrow Finish 01 and Finish 02 Carpet
 - \rightarrow Finish 10 Paint
 - → Finish 11 Wallpaper Covering
 - → Finish 16 Interior Swing Doors

2027 to 2031

Building Enclosure

- \rightarrow Encl 05 Protected Waterproofing Membrane Podium Replacement of podium membrane.
- → Encl 11 Coated Architectural Concrete Wall Reapplication of protective coating and repair of concrete substrate.
- \rightarrow Encl 12 Stucco Clad Wall Replacement of stucco clad wall.

Electrical

 \rightarrow Elec 08 Proximity Access Control - Modernization of proximity access control components.

Sitework

- \rightarrow Replacement of various site Assets, in conjunction with replacement of podium membrane, including:
 - → Site 01 and Site 02 Concrete Paving
 - → Site 05 Concrete Retaining Walls
 - → Site 07 Soft Landscaping

Elevator

 \rightarrow Elev 01 Traction Elevators - Replacement of elevator machines, controls, and drive systems.

5.3 Project Implementation

The projects identified in the previous section represent a preliminary step that is only intended to help the Strata Corporation identify, prioritize, and plan projects. Most significant renewal projects identified in the Report will subsequently go through four basic steps before implementing the work: Assessment, Design, Documentation, and Quotation (Figure 5.3).

- → Assessment Determines what work must be done, what should be done, and what could be done in general terms. The evaluation will help the Strata Corporation understand the risks and opportunities associated with deferring or implementing renewals work.
- → Design Refines the recommendations from the evaluation and defines what work will be done in a specific project. The Design may include recommendations for different project strategies, such as phasing or bundling projects, or may include recommendations for upgrades.
- \rightarrow Documentation Describes the project in enough technical detail to get competitive pricing.
- → Quotation Obtains competitive pricing from different contractors or service providers to perform the work described in the documents, including alternate prices for optional work.



Figure 5.3 Typical phases and sub-phases associated with implementation of a renewals project.

The time period for each step can range from a few days to a few months or more, depending on the scale of the project under consideration. The budget and scope of work will be refined in each step. Most estimates currently included in the Report are considered Class D (\pm 50%) due to the lack of information regarding specific projects and are based on a number of general assumptions regarding scopes of work.

The Owners can implement projects in a variety of ways, including:

- → Targeted Projects. These projects are localized to particular portions of the complex. Different exposure conditions and wear patterns may require that only some sections of the complex require renewal at one point in time.
- → Phased Projects. These projects are carried out in multiple stages rather than as a single coordinated project. Phased projects can reduce the financial burden by spreading the costs over a longer time period.
- → Comprehensive Projects. These projects are implemented as one coordinated undertaking.
 Comprehensive projects may allow the Strata Corporation to leverage the best economies of scale, shorten the overall duration, and lower the overall costs.
- → Bundled Projects. These projects bundle or combine various related renewals activities (e.g. renewals that are located in close physical proximity, or that require the same type of trade workers). Bundled projects may allow the Strata Corporation to leverage economies of scale and lower the overall costs, improve the quality of the work, and incorporate upgrades.

The scope of the Report does not compare different implementation methods.

6 Funding Scenarios

The physical assessment and financial assessment were used to create a tentative schedule and budget for forecasted major maintenance and renewal projects. Within this section, hypothetical *funding scenarios*, also known as *funding models*, based on different annual contributions to the Contingency Reserve Fund (CRF) are presented.

The Strata Corporation can use the funding scenarios to choose an appropriate funding strategy, based on their tolerance for risk and desired standard of care for the property. RDH provides the tools so the Owners can determine a CRF contribution that suits their needs.

6.1 Minimum Funding Requirements

The Strata Property Act Regulations dictates that if the CRF closing balance is less than 25% of the operating fund, then the Strata Corporation must contribute either the difference between the balance and 25% of the operating fund, or up to 10% of the operating fund (*Strata Property Act Regulation*, BC Reg 43/2000, Ch. 6.1). Table 6.1 below shows the calculation to confirm the Strata Corporation meets the minimum requirements set out in the Strata Property Act Regulation.

TABLE 6.1 MINIMUM FUNDING REQUIREMENT CALCULATION						
PARAMETER VALUE						
2021/2022 operating budget (excluding CRF contribution)	\$ 2,276,267					
\rightarrow 25% of the operating budget	\$ 569,067					
\rightarrow 10% of the operating budget	\$ 227,627					
2020/2021 CRF closing balance	\$ 2,568,324					
2021/2022 CRF Contribution	\$ 404,000					
Does the CRF closing balance exceed 25% of the operating budget?	Yes					
Does the CRF contribution exceed 10% of the operating budget?	Yes					

Although the Strata Corporation meets the statutory minimum contribution to the CRF, it is important to note that the statutory guideline is not a good measure of the financial preparedness of the Corporation.

6.2 Alternative Funding Scenarios

The funding scenarios below compare the financial impact of different funding levels over the next 30 years. The scenarios serve as a sensitivity analysis that allow the Strata Corporation to evaluate how changes to the Contingency Reserve Fund impact the number and size of special levies. The actual size and timing of special levies will be affected by how the Strata Corporation chooses to implement the renewal projects.

While there are many different scenarios that can be generated, Table 6.2 below compares the following alternatives:

- → *Current (2021/2022)*. The CRF allocation that was approved by the Owners at the latest AGM. The Current allocation is also known as the Status Quo.
- → *Alternative #1*. An increase from the Status Quo. Alternative #1 is just one of many possible scenarios for a new funding level in the next fiscal year.

- → *Alternative #2*. An increase from the Status Quo. Alternative #2 is just one of many possible scenarios for a new funding level in the next fiscal year.
- → Progressive. This is the annual contribution that would need to be set aside, commencing in the first fiscal year of this Report, to ensure that the reserve balance is sufficient to eliminate or bring special levies over a 30-year period to a minimum. With "Progressive" reserve allocation, older Stratas with underfunded reserves may still require some special levies at some point in their Strategic Plan. The "Progressive" reserve contribution is an optimum target that a Strata Corporation could use as a guide.

TABLE 6.2 COMPARISON OF DIFFERENT FUNDING SCENARIOS							
	CURRENT (2021/2022)	ALTERNATIVE #1	ALTERNATIVE #2	PROGRESSIVE RESERVE			
Annual CRF allocation	\$404,000	\$404,000	Starting at	\$1,264,000			
			\$404,000 +				
Annual CRF increase	0 %	3 %	10 %	0 %			
Percent of progressive reserve	32 %	32 %	32 % +	100 %			
CRF contribution per unit of unit entitlement		Starting at	Starting at				
Per month	\$1.19	\$1.19 +	\$1.19 +	\$3.72			
Per year	\$14.26	\$14.26 +	\$14.26 +	\$44.61			
CRF contribution per average strata lot		Starting at	Starting at				
Per month	\$73	\$73 +	\$73 +	\$227.50			
Per year	\$876	\$876 +	\$876 +	\$2,730.02			
Approximate number of special levies (over 30 years)	11	5	4	2			
Approximate value of special levies (over 30 years)	\$32.7.M	\$26.6M	\$21.5M	\$11.8M			
Minimum Closing Balance	\$200,000						
Assumed Inflation Rate	2 %						
Assumed Interest Rate 2 %							

The following sections of the Report provide more detailed information about each funding scenario, including a graph showing the closing balance of the CRF, annual CRF contributions, and the approximate value of special levies. Tables with 10 years of cash flow data are also provided.

Appendix E includes 30 years of cash flow data for each funding scenario.

6.3 Current (2021/2022) Funding Scenario

The Current Funding Scenario is based on the CRF contribution approved by the Owners at the latest AGM. The scenario is based on a fixed annual CRF contribution (no increases).

TABLE	6.3 CURREN	T (2021/2022)	FUNDING SC	ENARIO: CAS	H FLOW TABI	E	
FISCAL YEAR	OPENING BALANCE	RESERVE CONTRIBUTION	SPECIAL LEVY	RESERVE INCOME	RENEWAL COSTS	CONTINGENCY COSTS	CLOSING BALANCE
2022	\$2,568,324	\$404,000	\$0	\$51,366	\$170,000	\$0	\$2,853,691
2023	\$2,853,691	\$404,000	\$0	\$57,074	\$393,520	\$0	\$2,921,244
2024	\$2,921,244	\$404,000	\$0	\$58,425	\$1,380,800	\$0	\$2,002,869
2025	\$2,002,869	\$404,000	\$0	\$40,057	\$1,471,030	\$0	\$975,897
2026	\$975,897	\$404,000	\$6,925	\$19,518	\$1,206,340	\$0	\$200,000
2027	\$200,000	\$404,000	\$0	\$4,000	\$39,290	\$0	\$568,710
2028	\$568,710	\$404,000	\$2,193,916	\$11,374	\$2,978,000	\$0	\$200,000
2029	\$200,000	\$404,000	\$289,740	\$4,000	\$697,740	\$0	\$200,000
2030	\$200,000	\$404,000	\$0	\$4,000	\$85,600	\$0	\$522,400
2031	\$522,400	\$404,000	\$0	\$10,448	\$687,870	\$0	\$248,978

The graph below shows the annual contribution to the CRF, the closing balance of the CRF, and the size of the special levies forecast for the next 30 years.



Figure 6.1 CRF balance, contribution, and special levies based on the current funding.

If the Strata Corporation wishes to reduce the number and/or size of special levies, then increases will need to be made over the upcoming years.

6.4 Alternative Funding Scenario #1

Alternative Funding Scenario #1 is based on an initial CRF contribution of \$404,000 and an annual increase of 3% thereafter. The initial contribution is equal to the Current funding level.

TABLE	6.4 ALTERN	ATIVE FUNDINC	G SCENARIO #	1: CASH FLO	W TABLE		
FISCAL YEAR	OPENING BALANCE	RESERVE CONTRIBUTION	SPECIAL LEVY	RESERVE INCOME	RENEWAL COSTS	CONTINGENCY COSTS	CLOSING BALANCE
2022	\$2,568,324	\$404,000	\$0	\$51,366	\$170,000	\$0	\$2,853,691
2023	\$2,853,691	\$416,120	\$0	\$57,074	\$393,520	\$0	\$2,933,364
2024	\$2,933,364	\$428,604	\$0	\$58,667	\$1,380,800	\$0	\$2,039,835
2025	\$2,039,835	\$441,462	\$0	\$40,797	\$1,471,030	\$0	\$1,051,064
2026	\$1,051,064	\$454,706	\$0	\$21,021	\$1,206,340	\$0	\$320,450
2027	\$320,450	\$468,347	\$0	\$6,409	\$39,290	\$0	\$755,916
2028	\$755,916	\$482,397	\$1,924,569	\$15,118	\$2,978,000	\$0	\$200,000
2029	\$200,000	\$496,869	\$196,871	\$4,000	\$697,740	\$0	\$200,000
2030	\$200,000	\$511,775	\$0	\$4,000	\$85,600	\$0	\$630,175
2031	\$630,175	\$527,128	\$0	\$12,604	\$687,870	\$0	\$482,037

Alternative Funding Scenario #1 eliminates some of the smaller levies, but it is not adequate to offset all the special levies over the 30-year planning horizon. The graph below shows the annual contribution to the CRF, the closing balance of the CRF, and the size of the special levies forecast for the next 30 years.



Figure 6.2 CRF balance, contribution, and special levies based on Alternative #1.

6.5 Alternative Funding Scenario #2

Alternative Funding Scenario #2 is based on an initial CRF contribution of \$404,000 and an annual increase of 10% thereafter. The initial contribution is equal to the current funding level.

TABLE	6.5 ALTERN	ATIVE FUNDING	G SCENARIO #	2: CASH FLO	W TABLE		
FISCAL YEAR	OPENING BALANCE	RESERVE CONTRIBUTION	SPECIAL LEVY	RESERVE INCOME	RENEWAL COSTS	CONTINGENCY COSTS	CLOSING BALANCE
2022	\$2,568,324	\$404,000	\$0	\$51,366	\$170,000	\$0	\$2,853,691
2023	\$2,853,691	\$444,400	\$0	\$57,074	\$393,520	\$0	\$2,961,644
2024	\$2,961,644	\$488,840	\$0	\$59,233	\$1,380,800	\$0	\$2,128,917
2025	\$2,128,917	\$537,724	\$0	\$42,578	\$1,471,030	\$0	\$1,238,190
2026	\$1,238,190	\$591,496	\$0	\$24,764	\$1,206,340	\$0	\$648,110
2027	\$648,110	\$650,646	\$0	\$12,962	\$39,290	\$0	\$1,272,428
2028	\$1,272,428	\$715,711	\$1,164,413	\$25,449	\$2,978,000	\$0	\$200,000
2029	\$200,000	\$787,282	\$0	\$4,000	\$697,740	\$0	\$293,542
2030	\$293,542	\$866,010	\$0	\$5,871	\$85,600	\$0	\$1,079,823
2031	\$1,079,823	\$952,611	\$0	\$21,596	\$687,870	\$0	\$1,366,160

Alternative Funding Scenario #2 eliminates most of the smaller levies, but it is not adequate to offset all the special levies over the 30-year planning horizon. The graph below shows the annual contribution to the CRF, the closing balance of the CRF, and the size of the special levies forecast for the next 30 years.



Figure 6.3 CRF balance, contribution, and special levies based on Alternative #2.

6.6 Progressive Funding Scenario

TABLE 6.6 PROGRESSIVE FUNDING SCENARIO: CASH FLOW TABLE							
FISCAL YEAR	OPENING BALANCE	RESERVE CONTRIBUTION	SPECIAL LEVY	RESERVE INCOME	RENEWAL COSTS	CONTINGENCY COSTS	CLOSING BALANCE
2022	\$2,568,324	\$1,264,000	\$0	\$51,366	\$170,000	\$0	\$3,713,691
2023	\$3,713,691	\$1,264,000	\$0	\$74,274	\$393,520	\$0	\$4,658,445
2024	\$4,658,445	\$1,264,000	\$0	\$93,169	\$1,380,800	\$0	\$4,634,814
2025	\$4,634,814	\$1,264,000	\$0	\$92,696	\$1,471,030	\$0	\$4,520,480
2026	\$4,520,480	\$1,264,000	\$0	\$90,410	\$1,206,340	\$0	\$4,668,550
2027	\$4,668,550	\$1,264,000	\$0	\$93,371	\$39,290	\$0	\$5,986,631
2028	\$5,986,631	\$1,264,000	\$0	\$119,733	\$2,978,000	\$0	\$4,392,363
2029	\$4,392,363	\$1,264,000	\$0	\$87,847	\$697,740	\$0	\$5,046,471
2030	\$5,046,471	\$1,264,000	\$0	\$100,929	\$85,600	\$0	\$6,325,800
2031	\$6,325,800	\$1,264,000	\$0	\$126,516	\$687,870	\$0	\$7,028,446

The Progressive Funding Scenario is based on a fixed annual CRF contribution.

The Progressive Reserve would offset all smaller special levies. However, because of the timing of anticipated renewal projects, a fixed annual contribution will not eliminate all special levies over the 30-year planning horizon. The graph below shows the annual contribution to the CRF, the closing balance of the CRF, and the size of the special levies forecast for the next 30 years.



Figure 6.4 CRF balance, contribution, and special levies based on a Progressive Reserve calculation.

7 Next Steps

The Depreciation Report Update identifies the possible major maintenance and renewal expenditures that The Lions may encounter over the next 30 years. Estimated timelines have been provided to assist the Strata Corporation with the planning process; however, the Depreciation Report Update should be considered a first step when planning for renewals. Funding scenarios have been developed to provide the Strata Corporation with an objective basis for determining appropriate CRF contributions.

The Lions is a 24-year-old complex (as of 2022), that has undertaken various capital repairs and renewals since original construction. However, as of 2022, some Assets appear to be approaching or have exceeded their anticipated service lives, which has contributed to a variety of potential expenditures being forecasted over the next 10 years, including the roof, balcony and deck membranes, and elevator components. As Depreciation Report Updates are limited to visual review, the Owners would benefit from completing a Building Enclosure Condition Assessment (BECA) and other assessments to review the concealed physical conditions of the original Assets and refine the capital expenditure forecasts accordingly.

Additional expenditures that may occur over the next 10 years relate to the major maintenance of the Assets, such as cleaning and inspection of drainage, as well as the cyclical localized renewal of Assets. The Owners should continue to be diligent in performing maintenance tasks so Assets may achieve their full service life. It is unlikely that the Owners can avoid special levies in this time period; however, there may be opportunities to reduce the scope of work needed or otherwise manage projects to alleviate the financial impact on individual Owners.

Over the past eight years since the original Depreciation Report was issued, The Lions has increased their CRF funding. This has allowed the Strata Corporation to build up a stronger CRF, in comparison to their 2014 funding, while continuing to perform maintenance and renewal of a number of Assets. By continuing to save early for anticipated large expenditures, the Strata Corporation will benefit from accrued interest and financial preparedness, while minimizing the number of special levies.

The recommendations below are intended to aid the Strata Corporation in the next steps of the renewals planning process.

Recommendations

- → Maintenance Plan. Using the Asset Inventory, develop a maintenance plan, or commission a maintenance plan through RDH. The maintenance plan should provide the Strata Corporation with information on how and when to implement different maintenance activities.
- → Building Enclosure Condition Assessment (BECA). Conduct a BECA of the building enclosure prior to or in conjunction with the update to the Depreciation Report in three years' time. The BECA should assist in refining the renewals forecast.
- → Piping Condition Assessment or Evaluation. Conduct a Condition Assessment of the piping prior to or in conjunction with the update to the Depreciation Report in three years' time. The Condition Assessment will confirm the estimated remaining service lives of piping. Update the Report with these findings and recommendations, as may be required.
- → Investigation & Review of the Buried Infrastructure. Conduct a review of the buried infrastructure, in particular the storm and sanitary drainage, prior to the update to the Depreciation Report in three years' time.

- → **Further Investigations.** Conduct additional condition assessments/investigations, as required to refine the data and confirm assumptions.
- → Updates. Plan for an update to the Report in three years' time. On a yearly basis, the Stata Corporation should review and update their CRF funding strategy based on the estimated forecasts presented in the Report.

Yours truly,

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Appendix A Glossary of Terms



Glossary

Annual Contribution – Funds allocated to the Reserve Fund each fiscal year. Sometimes referred to as the Annual Allocation. Determining the appropriate size of the Annual Allocation is aided with a Reserve Study (a Depreciation Report in B.C.).

Asset - An integrated assembly of multiple physical components, which requires periodic maintenance, repair and eventual renewal. Typical examples of assets are: roofs, boilers and hallway carpets.

Catch-up Costs – The costs associated with the accumulated backlog of deferred maintenance associated with the assets.

Chronological Age - The age of an asset relative to its date of installation (current year minus year of installation).

Classes of Cost Estimates – Until a project is actually constructed, a cost estimate represents the best judgement of the professional according to their experience and knowledge and the information available at the time. Its completeness and accuracy is influenced by many factors, including the project status and development stage. Estimates have a limited life and are subject to inflation and fluctuating market conditions. The precision of cost estimating is categorized into the following four classes and are as defined in guidelines prepared by the Association of Professional Engineers and Geoscientists of B.C. The percentage figures in parentheses refer to the level of precision or reliability of the cost estimates.

- → Class A Estimate (±10-15%): A detailed estimate based on quantity take-offs from final drawings and specifications. It is used to evaluate tenders or as a basis of cost control during day-labour construction.
- → Class B Estimate (±15-25%): An estimate prepared after site investigations and studies have been completed, and the major systems defined. It is based on a project brief and preliminary design. It is used for obtaining effective project approval and for budgetary control.
- → Class C Estimate (±25-40%): An estimate prepared with limited site information and based on probable conditions affecting the project. It represents the summation of all identifiable project elemental costs and is used for program planning, to establish a more specific definition of client needs and to obtain preliminary project approval.
- → Class D Estimate (±50%): A preliminary estimate which, due to little or no site information, indicates the approximate magnitude of cost of the proposed project, based on the client's broad requirements. This overall cost estimate may be derived from lump sum or unit costs for a similar project. It may be used in developing long term capital plans and for preliminary discussion of proposed capital projects.

Closing Balance – Alternatively referred to as the Starting Balance. The balance of funds remaining in the reserve account at the end of a fiscal period (Fiscal year end, calendar year or study period). The Closing Balance becomes the Opening Balance for the subsequent fiscal period.

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Contingency Costs - An allowance for unexpected or unforeseen costs that may impact monies required for projects to maintain or replace assets. (Not to be confused with costs of Renewal or Major Maintenance projects which are paid for out of the Reserve Fund (otherwise known the Contingency Reserve Fund.)

Contribution Threshold - A dollar value which dictates the size of the Contingency Reserve Fund (CRF) contribution based on whether the accumulated CRF balance is greater than or less than the specified dollar value. For example, the Strata Property Act indicates that if the closing balance of the CRF at the end of the fiscal year is less than 25% of the operating budget for the next fiscal year, then the CRF contribution for the next fiscal year should be a minimum of 10% of the operating budget. In this case, the threshold is 25% of the operating budget.

Current Dollars - Dollars in the year they were actually received or paid, unadjusted for price changes.

Effective Age - An assessment of the age of an asset relative to its condition and how that condition may have accelerated or decelerated the chronological age of the asset (service life minus remaining service life).

Funding Model - A mathematical model used to establish an appropriate funding level for sustaining the assets in a building. Running a number of scenarios out of the funding model using different parameters (such as inflation rates and interest rates) can serve as a sensitivity analysis to determine the financial impact of different funding levels.

Future Dollars - The projected cost of future asset renewal projects, which accounts for inflation and escalation factors.

Get Ahead Costs – These are costs associated with adaptation of the building to counter the forces of retirement associated with different forms of obsolescence, such as:

- → Functional obsolescence
- → Legal obsolescence
- → Style obsolescence

Some of the costs in this category are discretionary spending that result in either a change or an improvement to the existing strata building. This category includes projects to alter the physical plant for changes in use, codes and standards. Some typical examples include:

- \rightarrow Energy retrofits
- → Code retrofits
- → Hazardous material abatement
- → Barrier free access retrofits
- \rightarrow Seismic Upgrades

Keep-up Costs - The monies required for renewal projects as each asset reaches the end of its useful service life. If an asset is not replaced at the end of its useful service life

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and is kept in operation, through targeted repairs, then these costs get reclassified into the "catch-up" category.

Major Maintenance – Any maintenance work for common expenses that usually occurs less often than once a year or that do not usually occur. Major maintenance provides for the preservation of assets to ensure that they achieve their full intended service life.

Next Renewal Year - The forecasted date of asset replacement or renewal.

Opening Balance – Alternatively referred to as the Starting Balance. The amount of money in an account at the beginning of a fiscal period. Opening balances are derived from the balance sheet and are used in cash flow calculations in the Funding Model.

Operating Costs – Frequently recurring expenses that arise during the course of a single fiscal year and are paid from the operating budget as opposed to the Reserve Fund.

Operational Plan/Horizon (1 year) - The annual operating period encompasses one fiscal cycle (12 months). The Reserve Contribution in the operating budget should reflect the majority of the projects in the Tactical Plan (5 years) and ideally should also contemplate elements of the Strategic Plan (30 years).

Percent Funded – The ratio, at a particular point of time (typically the beginning of the fiscal year), of the actual or projected Reserve Fund balance to the accrued Reserve Fund balance, expressed as a percentage. For example: If the 100% funded balance is \$100,000 and there is \$76,000 in the Reserve Fund, the Reserve Fund is 76% funded.

Since funds can typically be allocated from one asset to another with ease, this parameter has no real meaning on an individual reserve component basis. The purpose of this parameter is to identify the relative strength or weakness of the entire Reserve Fund at a particular point in time. The value of this parameter is to provide a more stable measure of Reserve Fund strength, since cash in reserve may mean very different things to different governing bodies or Owner groups.

- → Poor Level. When the Percent Funded falls to 0% 30%, the current reserves may be considered to be at a 'poor' level. At this funding level, Special Levies are common. This is also commonly known as the Unfunded or Special Levy Model. The Owner Group does not have a Reserve Fund balance that will cover expected renewal costs and the only recourse is to raise funds by Special Levies to cover those costs when they become due.
- → Fair Level. If the Percent Funded level is 31 to 70% then the current reserve may be considered to be in a mid-range level.
- → Good Level. If the Percent Funded level is 70% or higher this is likely to be considered 'strong' because cash flow problems are rare.

Renewal - The replacement of an Asset as it reaches the end of its useful service life.

Renewal Cost - The cost required to replace an Asset, which is paid from the Reserve Fund, Special Levy or combination thereof.

Reserve Contribution – See Annual Contribution.

Reserve Fund – Also known as the Contingency Reserve Fund (CRF). The account in which the accumulated Annual Contributions are deposited and from which costs are withdrawn for Renewal projects and Major Maintenance projects.

Reserve Income - The interest earned from investing the money deposited in the Reserve Fund.

Reserve Study - Also referred to as a Reserve Fund Study or Depreciation Report in BC.

- → A long-range financial planning tool that identifies the current status of the Owners' Reserve Fund and recommends a stable and equitable funding plan to offset the costs of anticipated future major expenditures associated with replacement of the assets and major maintenance.
- → The purpose of the Reserve Study is to provide a plan for appropriate funding for renewal and major maintenance work.
- → While Reserve Studies provide analysis of the timing, costs and funding for renewal projects, they should ideally be supported by a maintenance plan that assists the Owners to plan for maintenance activities so that assets achieve their predicted service lives.

Service Life - The estimated period of time over which an asset (and its components or assembly) provides adequate performance and function.

Special Levy – Also referred to as a "Special Assessment". A financial levy to be paid by the Owner group to finance large-scale projects for major maintenance, repairs, renewal and rehabilitation of an asset, which occur as result of a shortfall in available funds and requires special decision making and approval procedures. A Reserve Study contains funding scenarios that assist the Owners in long-range financial planning.

Statutory Funding Model - A funding model which uses the Strata Property Act and Regulations to determine the minimum amount of money to contribute to the Contingency Reserve Fund on an annual basis.

Strategic Horizon – The longest of the three planning horizons, which typically covers the full study period of 30 years and identifies the long-term needs of the assets.

Style Obsolescence – When an asset is no longer desirable because it has fallen out of popular fashion, its style is obsolete. Some assets, particularly interior furnishings, reflect fashion cycles and can become out-dated.

Tactical Plan/Horizon - A period of planning for asset Renewal projects and Major Maintenance projects, which typically extends five years from the current year.
Appendix B Asset Inventory

RDH Building Science Inc. 4333 Still Creek Drive #400 Burnaby, BC V5C 6S6

The Lions

Asset Inventory

Structural

Walls & Columns

Struct 01 - CIP Concrete Walls and Columns



Floors & Beams

Struct 02 - CIP Concrete Suspended Slabs



Location

Both buildings and the below-grade parkade.

Description

Primary wall structure. Cast-in-place (CIP) concrete walls and columns supporting floor and roof structures.

Information

Service Life:	75
Installed Year:	1998
Chronological Age:	24
Effective Age:	24
Next Renewal Year:	2073

Location

Both buildings and the below grade parkade. Description Cast-in-place (CIP) concrete suspended slabs.

Information

Service Life:	75
Installed Year:	1998
Chronological Age:	24
Effective Age:	24
Next Renewal Year:	2073

Stairs

Struct 03 - Exterior Steel Stair



Location	
----------	--

North side of site.

Description

Exposed steel framed stairs with precast treads and landings, and steel and cable guardrail.

Service Life:	50
Installed Year:	1998
Chronological Age:	24
Effective Age:	24
Next Renewal Year:	2048



Enclosure

Roofs & Decks

Encl 01 - Protected Waterproofing Membrane Roof



Encl 02 - Exposed SBS Membrane Roof



Location

Main low-sloped roofs of both buildings.

Description

Waterproofing membrane overlaid with combination of insulation and gravel ballast. The renewal of this asset is phased per building.

Information

Service Life:	25
Installed Year:	1998
Chronological Age:	24
Effective Age:	23
Next Renewal Year:	2024

Location	Information	
Perimeter of main low-sloped roofs of both	Service Life:	25
buildings.	Installed Year:	1998
Description	Chronological Age:	24
I wo-ply bituminous SBS (Styrene- Butadiana-Styrena) membrana. The	Effective Age:	23
renewal of this asset is phased per building.	Next Renewal Year:	2024

Encl 03 - Protected Waterproofing Membrane Decks



Location

Decks on Lobby level and Levels 30 -33 at the east building. Decks on Level 95'-0" -Alberni level, Level 2, and Levels 27-30 at the west building.

Description

Waterproofing membrane overlaid with combination of insulation and pavers. The renewal of this asset is phased per building. The term 'deck' refers to a horizontal surface exposed to outdoors, located over a living space or a parkade and intended for pedestrian use in addition to performing the function of a roof.

Service Life:	25
Installed Year:	1998
Chronological Age:	24
Effective Age:	23
Next Renewal Year:	2024



Encl 04 - Protected Waterproofing Membrane Balconies



Location

Balconies on Lobby level, Levels 31 and 32 at the east building. Balconies at Level 95'-0" - Alberni level, Levels 28 and 29 at the west building.

Description

Waterproofing membrane overlaid with combination of drainage mat, without insulation, and pavers. The renewal of this asset is phased per building. The term 'balcony' refers to a horizontal surface exposed to outdoors and intended for pedestrian use, but projecting from the building so that it is not located over a living space.

Information

Service Life:	25
Installed Year:	1998
Chronological Age:	24
Effective Age:	23
Next Renewal Year:	2024

Encl 05 - Protected Waterproofing Membrane Podium



Location

Courtyard, landscaped areas over parking garage.

Description

Waterproofing membrane overlaid with combination of insulation, and a mix of hard and soft landscaping overburden.

Information

Service Life:	30
Installed Year:	1998
Chronological Age:	24
Effective Age:	24
Next Renewal Year:	2028

Encl 06 - Stucco Clad Soffit



Encl 07 - Metal Clad Soffit

Location

Eaves at overhangs.

Description

Stucco cladding over supporting structure. The renewal of this asset is phased per building.

Information

Service Life:	45
Installed Year:	1998
Chronological Age:	24
Effective Age:	29
Next Renewal Year:	2038

Location

Metal eave at underside of building roofs.

Description

Prefinished metal cladding over supporting structure. The renewal of this asset is phased per building.

Service Life:	45
Installed Year:	1998
Chronological Age:	24
Effective Age:	29
Next Renewal Year:	2038



Fall Protection

Encl 08 - Anchor Fall Protection Equipment



Encl 09 - Guardrail Glazed



Location	Information	
Low-sloped roofs and decks.	Service Life:	40
Description	Installed Year:	1998
Safety anchoring system for work on	Chronological Age:	24
exterior walls, windows, deck and roofs.	Effective Age:	24

Location

Decks and balconies at both towers.

Description

Prefinished aluminum or painted steel posts and railings with glass infill panels functioning as a protective barrier at the open sides of decks and balconies to prevent accidental falls from one level to another. The renewal of this asset is phased per building.

Information

Service Life:	25
Installed Year:	1998
Chronological Age:	24
Effective Age:	23
Next Renewal Year:	2024

Next Renewal Year: 2038

Walls

Encl 10 - Composite Metal Panel Wall



Location

Centre of all elevations on both buildings on all levels.

Description

Metal panel system with integral framing and anchorage to create drainage cavity over sheathing membrane. Fasteners replaced in 2012. The renewal of this asset is phased per building.

Information

Service Life:	40
Installed Year:	1998
Chronological Age:	24
Effective Age:	24
Next Renewal Year:	2038

Encl 11 - Coated Architectural Concrete Wall



Location

Exterior feature walls at corners, mechanical penthouse, and localized areas at both building.

Description

Poured-in-place architectural concrete wall with protective coating. Recoating of concrete is a component of this asset. Concrete repairs have been included as a component of this asset. Coating renewals

Service Life:	75
Installed Year:	1998
Chronological Age:	24
Effective Age:	24
Next Renewal Year:	2073

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20

24

13

40

24

24

2038

1998

2029

1998

completed in approximately 2019.

exterior sheathing membrane.

Various elevations on the ground floor for

Acrylic coated stucco applied directly over

Location

both buildings.

Description

Encl 12 - Stucco Clad Wall



Glazing Systems

Encl 13 - Aluminum Framed Window



Encl 14 - Curtain Wall



Location

Location

Description

All elevations and levels.

asset is phased per building.

Commercial units and amenity rooms.

Aluminum framed windows with double

awning operable vents. The renewal of this

insulating glazing units, casement and

Description

Curtain wall, either capped or structurally glazed, with double insulating glazing units. The renewal of this asset is phased per building.

Information

Information

Service Life:

Installed Year:

Effective Age:

Information

Service Life:

Installed Year:

Effective Age:

Chronological Age:

Chronological Age:

Next Renewal Year:

Service Life:	40
Installed Year:	1998
Chronological Age:	24
Effective Age:	24
Next Renewal Year:	2038

Next Renewal Year: 2038

Doors

Encl 15 - Aluminum Framed Glazed Swing Door



Location	Information
Various decks throughout both buildings.	Service Life:
Description	Installed Year:
Aluminum framed swing door with	Chronological Age:
insulating glazing units. The renewal of this	Effective Age:
asset is phased per building.	Next Renewal Year:



24

24

2038

1998

Encl 16 - Aluminum Framed Lobby Door



Location

Lobbies and exterior entrances to amenity rooms.

Description

Location

Description

Outswing aluminum-framed doors with fixed IGUs and low-profile thresholds with electric strike and hardware.

Various balconies, patios, and decks

of this asset is phased per building.

Aluminum framed sliding glass doors with

double insulating glazing units. The renewal

throughout both buildings.

Information

Information

Service Life:

Installed Year:

Effective Age:

Chronological Age:

Next Renewal Year:

Service Life:	40
Installed Year:	1998
Chronological Age:	24
Effective Age:	24
Next Renewal Year:	2038

Encl 17 - Aluminum Framed Sliding Glass Door



Encl 18 - Steel Swing Door



Location	Information
Access to stairwells and service areas.	Service Life:
Description	Installed Year:
Hollow steel slab swing door without	Chronological Age:
glazing.	Effective Age:
	Next Renewal Year

Service Life:	25
Installed Year:	1998
Chronological Age:	24
Effective Age:	18
Next Renewal Year:	2029

Canopies

Encl 19 - Steel Structure



Location

Main low-sloped roofs of both buildings.

Description

Steel structure embedded into concrete walls. Concrete repairs and detailing were performed in 2010. Repainting completed in 2019. The renewal of this asset is phased per building.

Service Life:	50
Installed Year:	1998
Chronological Age:	24
Effective Age:	24
Next Renewal Year:	2048



Encl 20 - Metal Frame and Glass Canopy



Location	
Entrances to both buildings and at	
courtyard.	
Description	
Canopy constructed with metal framing	g
and tempered glazing.	

Information

Service Life:	50
Installed Year:	1998
Chronological Age:	24
Effective Age:	24
Next Renewal Year:	2048

At and Below Grade

Encl 21 - Below Grade Vertical Waterproofing/ Damp-proofing



Location

Vertical surfaces of the below grade concrete foundation walls. Description

Waterproof membrane or damp-proofing concealed with back-fill material and overburden.

Information

Service Life:	75
Installed Year:	1998
Chronological Age:	24
Effective Age:	24
Next Renewal Year:	2073

Parking Garage

Encl 22 - Open-grid Overhead Parking Garage Gate



Location Entrances to parkade and Level P2.

Description

Pre-finished metal grid overhead gate for underground parking garage.

Information

Service Life:	25
Installed Year:	1998
Chronological Age:	24
Effective Age:	19
Next Renewal Year:	2028

Encl 23 - Parking Slab with Traffic-bearing Membrane



Location

Parkade Levels P1- P4.

Description

Traffic-bearing membrane on concrete parking garage floor slab. Drive aisle replaced with PUMA system in 2019. Parking stalls recoated with polyurethane system in 2019.

Service Life:	75
Installed Year:	1998
Chronological Age:	24
Effective Age:	24
Next Renewal Year:	2073



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75

24

24

2073

1998

Encl 24 - Slab-on-Grade



Parkade Level P5. Description Concrete slab on grade.

Location

Information

Service Life:	75
Installed Year:	1998
Chronological Age:	24
Effective Age:	24
Next Renewal Year:	2073

General & Inspections

Encl 25 - General & Inspections



Encl 26 - Sealant



Location

Location

Description

Throughout the complex.

Miscellaneous interior and exterior

components, such as service penetrations

and interface details, not related to any

particular assembly. General reviews.

Interfaces and service penetrations at the exterior walls, roofs and other locations. **Description**

Sealant of various types located at joints between building enclosure assemblies, as well as around components and penetrations within building enclosure assemblies. Blended age of this asset has been used. Sealant replacement at concrete wall and window joints were completed in 2019.

Information

Information

Service Life:

Installed Year:

Effective Age:

Chronological Age:

Next Renewal Year:

Service Life:	10
Installed Year:	2008
Chronological Age:	14
Effective Age:	8
Next Renewal Year:	2024

Encl 27 - Metal Grille



Location

At various elevations of the service rooms at roofs of both buildings. Description

Metal grilles with built-in doors.

Service Life:	40
Installed Year:	1998
Chronological Age:	24
Effective Age:	24
Next Renewal Year:	2038



Electrical

Power Supply

Elec 01 - Distribution Transformer - Interior



Elec 02 - Emergency Generator



Elec 03 - Unit Substation



Distribution

Elec 04 - Electrical Distribution



Location

Electrical rooms.

Description

Cutler-Hammer, 100-800 A, 120/208 V, 3 phase switchgear unit; downstream switchboards, panelboards, breakers, switches, disconnects and wiring to mechanical, lighting and power loads throughout the building and to individual

Information

Service Life:	40
nstalled Year:	1998
Chronological Age:	24
Effective Age:	24
Next Renewal Year:	2038

Location

voltage loads.

Location

Electrical rooms.

Emergency Generator room near east building parkade entrance.

Rex Manufacturing and Siemens, 10-750 KVA, 3 phase, dry-type, with Nema enclosure, coil and vibration isolators that provide power to receptacles and low

Description

Katolight power package, Volvo Penta TWD1630G motor, 400 KW, 500 KVA, 3 phase, 347/600 V, 1,800 rpm, generator with 1,136L (300 US gal), steel fuel tank to provide standby power.

Information

Service Life:	35
Installed Year:	1998
Chronological Age:	24
Effective Age:	24
Next Renewal Year:	2033

Location

High Voltage electrical room

Description

Cutler-Hammer, 3,000 KVA, 12.47 kV, 600Y/346V V, 3 phase, dry type transformer; main breaker, load break switches and metering compartments contained within unit substation to provide primary electrical service.

Information

Service Life:	35
Installed Year:	1998
Chronological Age:	24
Effective Age:	24
Next Renewal Year:	2033

Service Life:	40
Installed Year:	1998
Chronological Age:	24
Effective Age:	24
Next Renewal Year:	2038

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suites through BC Hydro owned metering devices.

Light Fixtures

Elec 05 - Exterior Light Fixtures



Location

Mounted to walls, soffits, and at various locations throughout the site.
Description

A variety of fixture types, including wall, pole and post mounted, street, pathway and recessed soffit pot lighting. A variety of lamp types, including fluorescent, compact fluorescent, halogen, etc. for exterior direct, indirect and accent lighting applications. A variety of light fixture controls, including switches, motion sensors, timers and photocells. Exterior light repairs were completed in 2018.

Information

Service Life:	20
Installed Year:	2018
Chronological Age:	4
Effective Age:	4
Next Renewal Year:	2038

Elec 06 - Interior Light Fixtures



Location

All interior common area throughout the complex.

Description

A variety of fixture types, including fixed surface (pendant, track and sconce) and recessed (pot, troffer and cove). A variety of lamp types, including fluorescent, compact fluorescent, halogen, etc. for interior direct, indirect and accent lighting applications. A variety of light fixture controls, including switches, motion sensors, timers, dimmers and photocells.

Information

Service Life:	20
Installed Year:	1998
Chronological Age:	24
Effective Age:	16
Next Renewal Year:	2026

Security

Elec 07 - Enterphone System



Location

Main entrance into buildings and parkade. **Description** Surface mounted, enterphone panels with

associated key pads and display panels.

Service Life:	25
Installed Year:	1998
Chronological Age:	24
Effective Age:	24
Next Renewal Year:	2023



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Elec 08 - Proximity Access Control	
Elec 08 - Proximity Access Control	Location Lobby and Descriptic Local pro- componen building o sensors/b controller include do boards ba
	conduit, c

d common area entrances.

on

ximity access control system nts include fob devices for occupants, fob readers, RTE outtons, electric strikes and door rs. Network level components oor control panel, communication ackup batteries, RTE board, cable and connectors. Access control system repairs were completed in 2018.

Information

Service Life:	12
Installed Year:	2010
Chronological Age:	12
Effective Age:	6
Next Renewal Year:	2028

Elec 09 - Security Surveillance



Location	Information	
Throughout common areas.	Service Life:	14
Description	Installed Year:	1998
Cameras, multiplexer, monitors and storage	Chronological Age:	24
media to deter and track activity on and	Effective Age:	13
within building premises.	Next Renewal Year:	2023

Mechanical

Controls and End Devices

Mech 01 - Controls - Boiler Electronic



Location	Infor
Rooftop mechanical rooms on both	Servi
buildings.	Insta
Description	Chro
Ranco, electronic control panel to optimize boiler operation and efficiency	Effec
soner operation and entitleney.	

rmation

Service Life:	15
Installed Year:	2003
Chronological Age:	19
Effective Age:	14
Next Renewal Year:	2023



Mech 02 - Controls - Electronic Actuators



Location	Informat
Throughout both buildings.	Service L
Description	Installed
Electronic motor-driven control devices on	Chronolo
dampers to control air flow.	Effective

tion

Service Life:	10
Installed Year:	2010
Chronological Age:	12
Effective Age:	8
Next Renewal Year:	2024

Mech 03 - Controls - HVAC Instrumentation



Thermostats, programmable thermostats, flow gauges, thermometers, metering equipment, gauges, and other field devices to monitor and regulate pressure and temperature in the HVAC and plumbing distribution systems.

Mounted to walls in common areas and

equipment service rooms

Information

20
1998
24
19
2023

Mech 04 - Gas Detection - Parking Garage



Location

Location

Description

Mounted on columns throughout parking garage.

Description

Critical Environment, SCS8002CO/CB electronic sensing devices for detection of dangerous gases, carbon monoxide (CO) and propane, produced by vehicles and to activate the exhaust fans accordingly.

Information

Service Life:	10
Installed Year:	1998
Chronological Age:	24
Effective Age:	9
Next Renewal Year:	2023

Mech 05 - Heat Tracing - Freeze Protection



Location

Controller in Water Entry room.

Description

Raychem Monitrace 1000, heat trace controller for piping systems exposed to freezing, self regulating heater cable with parallel circuit heater strip and outer thermoplastic elastomer jacket; UL listed for pipe freeze protection on fire sprinkler system. Heat trace repairs was completed in 2020.

Service Life:	15
Installed Year:	1998
Chronological Age:	24
Effective Age:	14
Next Renewal Year:	2023



13

13

2023

Plumbing & Drainage

Mech 06 - Tank - DHW - Small Domestic Electric



ocation	Information	
Nest building (3rd floor and 11th floor) and	Service Life:	10
east building (10th and unknown).	Installed Year:	2009
Description	Chronological Age:	13
A.O. Smith, 3 KW, electric domestic hot water tank for small domestic service	Effective Age:	9
water tank for small domestic service.	Next Renewal Year:	2023

Mech 07 - Boiler - DHW - Heating - Gas Fired [West - B1]



Location	Information
Rooftop mechanical room on west building.	Service Life:
Description	Installed Year:
Laars Mighty Therm, coppertube, natural	Chronological Age:
gas fired, domestic service hot water	Effective Age:
heater, 400,000 BTU input, 324,000 BTU	Next Renewal Vear
output, atmospherically vented. Water	Next Nenewal Tear.

Mech 08 - Boiler - DHW - Heating - Gas Fired [West - B2]



Location

storage tanks.

Heaters are connected to glass lined

Information Rooftop mechanical room on west building. Service Life: 14 2003 Installed Year: Description Laars Mighty Therm, coppertube, natural Chronological Age: 19 gas fired, domestic service hot water Effective Age: 13 heater, 325,000 BTU input, 263,000 BTU Next Renewal Year: 2023 output, atmospherically vented. Water Heaters are connected to glass lined storage tanks. Location



Location	Information	
Connected to waste fixtures throughout	Service Life:	50
the complex.	Installed Year:	1998
Description	Chronological Age:	24
Cast iron DWV piping, with mechanical	Effective Age:	24
drainage flushed in 2020.	Next Renewal Year:	2048



Mech 10 - Fixtures - Showers



Location

Location

Change rooms in recreation amenity room and in guest/manager's suites. Description Shower faucets and trim.

Information

Service Life:	25
Installed Year:	1998
Chronological Age:	24
Effective Age:	21
Next Renewal Year:	2026

Mech 11 - Fixtures - Taps & Lav Basins



Mech 12 - Fixtures - Toilets & Urinals

Ô	
	-

Change rooms in recreation amenity room,
washrooms near the lounge, and
guest/manager's suites.
Description
Hand basins and trim.

Information

Service Life:	25
Installed Year:	1998
Chronological Age:	24
Effective Age:	21
Next Renewal Year:	2026

Information	
Service Life:	20
Installed Year:	1998
Chronological Age:	24
Effective Age:	16
Next Renewal Year:	2026
	Information Service Life: Installed Year: Chronological Age: Effective Age: Next Renewal Year:

Mech 13 - Pump - DHW - Circulation and Recirculation



	63	**	0	n
LU	La	L	υ	

Rooftop mechanical rooms on both buildings.

Description

Pipe-mounted bronze body domestic hot water circulation pumps. Circulating hot water from boilers to tanks and recirculating hot water from system. Localized replacements of circulation pumps in 2020.

Service Life:	10
Installed Year:	2020
Chronological Age:	2
Effective Age:	2
Next Renewal Year:	2030



Mech 14 - Sump Pumps and Control Panel



Mech 15 - Tank - DHW - Storage (2019)

Location

Near stall #135 in parkade level P2 and storage room in parkade level P5.

Description

Northwest Tech-Con Systems, duplex, 0.5 HP, storm sump pumps and control panels for storm water runoff and sub-surface drainage. Pump was rebuilt in 2018.

Information

Service Life:	15
Installed Year:	1998
Chronological Age:	24
Effective Age:	4
Next Renewal Year:	2033



Location

Rooftop mechanical rooms on both buildings. **Description** Advance Metalpres , 115-120 US gallon tanks, porcelain enamel lined tank hot

tanks, porcelain enamel lined tank hot water storage tanks connected to domestic boiler system.

Information

20
2019
3
3
2039

Mech 16 - Drainage - Perimeter and Foundation



Location

Perimeter of parkade Level P5

Description

Perforated PVC piping forming part of a sub-surface foundation perimeter drainage system around perimeter of underground structures.

Information

Service Life:	40
Installed Year:	1998
Chronological Age:	24
Effective Age:	24
Next Renewal Year:	2038

Mech 17 - Drainage - Storm - Internal



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LO	Ca	u	υ	n

Roofs, decks, balconies and at grade perimeter.

Description

Trench drains, catch basins and associated piping systems for rainwater runoff. Roof drains may be included with the roof assets.

Service Life:	40
Installed Year:	1998
Chronological Age:	24
Effective Age:	24
Next Renewal Year:	2038

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Mech 18 - Piping - Domestic Water Distribution



Mech 19 - Piping - Gas Distribution

Location

Connected to fixtures throughout the complex.

Description

Mixture of K and L copper for vertical/horizontal mains system and distribution piping within the suites. Balancing valves installed in 2012.

Information

Service Life:	35
Installed Year:	1998
Chronological Age:	24
Effective Age:	24
Next Renewal Year:	2033



Location

Connected to various components throughout the complex. **Description** Gas distribution system consisting of threaded sch 40 steel piping from meter to appliance.

Information

Service Life:	50
Installed Year:	1998
Chronological Age:	24
Effective Age:	24
Next Renewal Year:	2048

Mech 20 - Pump - Domestic Water Booster



	ca	ti	n
-0	La	CI.	

Water Entry room.

Description

TornaTech, triplex system with 20 HP lead pump, 40 HP lag pumps, packaged motor control system, to supply constant boosted pressure to fixtures and equipment on all levels. This system would benefit from the retrofit of VSD control to provide energy savings.

Information

Service Life:	14
Installed Year:	1998
Chronological Age:	24
Effective Age:	12
Next Renewal Year:	2024

Mech 21 - Tank - Expansion -DHW - Diaphragm



Location

Rooftop mechanical rooms on both
buildings.
Description
Expanflex, floor mounted diaphragm
expansion tank for domestic water system

Service Life:	20
Installed Year:	1998
Chronological Age:	24
Effective Age:	19
Next Renewal Year:	2023

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Mech 22 - Valves - Backflow Prevention - Main Domestic Service



Location	
Water Entry room.	
Description	
Various types and sizes of backflow	
prevention valves.	

Information

Service Life:	20
Installed Year:	2012
Chronological Age:	10
Effective Age:	10
Next Renewal Year:	2032

Mech 23 - Valves - Cross Connection & Backflow Prevention



Location	Information	
Water Entry room.	Service Life:	20
Description	Installed Year:	1998
Various types and sizes of backflow	Chronological Age:	24
prevention valves, including vacuum	Effective Age:	18
valves on systems.	Next Renewal Year:	2024

Mech 24 - Valves - Plumbing Flow Control and Directional



Location	Information	
Water entry room.	Service Life:	20
Description	Installed Year:	199
Various types and sizes of valves, including	Chronological Age:	24
pressure reducing valves, isolation valves,	Effective Age:	17
two-way and three way valves, circuit flow control valves and check valves to regulate	Next Renewal Year:	202
the flow of water through domestic		
plumbing systems. PRV valves repairs done		
in 2020.		

Mech 25 - Water Treatment Equipment - Water Conditioner [PLACEHOLDER]



Location	Information	
Location	Information	
Water entry room.	Service Life:	8
Description	Installed Year:	2008
1ClearWater treatment tanks, filters,	Chronological Age:	14
chemical dosers, metering pumps and	Effective Age:	10
other associated equipment to provide treatment for potable water system. This	Next Renewal Year:	2020
asset is leased from 1Clearwater.		

Service Life:	20
Installed Year:	1998
Chronological Age:	24
Effective Age:	17
Next Renewal Year:	2025



Mech 26 - Boiler - DHW - Heating - Gas Fired - [East - B1]



Location	Information	
Rooftop mechanical room at east building.	Service Life:	14
Description	Installed Year:	2019
Raypak, coppertube natural gas fired,	Chronological Age:	3
domestic service hot water heater,	Effective Age:	3
Water heaters are connected to glass lined storage tanks.	Next Renewal Year:	2033

Mech 27 - Boiler - DHW - Heating - Gas Fired [East - B2]

Location

Description



Mech 28 - Tank - DHW - Storage (2002)



Heating & Cooling

Mech 29 - Fan Coil Unit



domestic service hot water heater, 600,000 BTU. Atmospherically vented . Water heaters are connected to glass lined storage tanks.	
Location	Inform
Rooftop mechanical rooms on both	Service
buildings.	Installe
Description	Chrone
Rheem Ruud and Bradford White, 115-119	Effecti

Rooftop mechanical room at east building.

Raypak coppertube natural gas fired,

US gallon tanks, porcelain enamel lined tank hot water storage tanks connected to domestic boiler system.

Information

Service Life:	14
Installed Year:	2019
Chronological Age:	3
Effective Age:	3
Next Renewal Year:	2033

nation

Service Life:	8
Installed Year:	2002
Chronological Age:	20
Effective Age:	7
Next Renewal Year:	2023

Location	Information	
Electrical rooms.	Service Life:	15
Description	Installed Year:	2020
Ceiling suspended fan coil units for air	Chronological Age:	2
conditioning; matched condensing units in	Effective Age:	2
parking garage.	Next Renewal Year:	2035



Mech 30 - Condensing Unit - Outdoor Section - AC Cooling only



Mech 31 - Unit Heater - Electric



Mech 32 - Baseboard - Electric



Mech 33 - Fan Coil Unit [2013]



Location	Information	
Throughout P1.	Service Life:	15
Description	Installed Year:	2019
Condensing units, associated indoor fan coil	Chronological Age:	3
units for air conditioning.	Effective Age:	3
	Next Renewal Year:	2034

	Location	Information	
	Storage rooms.	Service Life:	17
	Description	Installed Year:	1998
	Chalair, electric unit heater, ceiling	Chronological Age:	24
mo	mounted with fan and louver.	Effective Age:	16
		Next Renewal Year:	2023

LO	cati	ion

Stairwells, service rooms, common areas, and various other strategic locations. Description

Standard grade, wall mounted, electric convector baseboard heaters with electrical fins for localized space heating and integral ^N thermostat control.

Information

Service Life:	40
Installed Year:	1998
Chronological Age:	24
Effective Age:	24
Next Renewal Year:	2038

15

9

9

2013

2028

Location	Information
Electrical rooms with transformers.	Service Life:
Description	Installed Year:
Ceiling suspended fan coil units for air	Chronological Age:
conditioning; matched condensing units in	Effective Age:
рагкаде.	Next Renewal Year:



Mech 34 - Condensing Unit - Outdoor Section - AC Cooling only [2020]



Location	Information	
Throughout parkade.	Service Life:	15
Description	Installed Year:	2020
Carrier, condensing units with associated	Chronological Age:	2
ceiling mounted indoor fan coil units for air	Effective Age:	2
conditioning (cooling only).	Next Renewal Year:	2035

Ventilation and Air-conditioning

Mech 35 - Coil - Electric - Duct Heater



Location	Information	
Mens change room, parkade Levels P1 and	Service Life:	17
P2.	Installed Year:	1998
Description	Chronological Age:	24
10-42 KW, electric duct heaters, duct-	Effective Age:	16
mounted with clements.	Next Renewal Year:	2023

Mech 36 - Air Handler - Make Up Air Unit - Unheated



Location	Information	
Parkade Level P1.	Service Life:	20
Description	Installed Year:	1998
Engineered Air, air handler to supply make-	Chronological Age:	24
up air to the interior of the building.	Effective Age:	17
	Next Renewal Year:	2025

Mech 37 - Exhaust Fan - Propellor



Location	Information	
Emergency Generator room.	Service Life:	20
Description	Installed Year:	1998
Belt driven propellor exhaust fan mounted	Chronological Age:	24
in exterior wall with motorized louvre.	Effective Age:	19
	Next Renewal Year:	2023

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Mech 38 - Exhaust Fan - Small Service - Cabinet



Location	Information		
Service rooms	Service Life:	12	
Description	Installed Year:	1998	
Direct drive fans, ceiling and cabinet fans,	Chronological Age:	24	
and centrifugal inline blower fans.	Effective Age:	10	
	Next Renewal Year:	2024	

Mech 39 - Exhaust/Supply Fan Parkade - Inline



Location	Informa
Throughout parkade.	Service
Description	Installed
Belt driven, axial fans suspended from	Chronol
structure.	Effective

ation

Service Life:	20
Installed Year:	1998
Chronological Age:	24
Effective Age:	18
Next Renewal Year:	2024

Mech 40 - Outdoor Air Handler - Makeup Air - Gas [East Building]



Location	Informa
Main low-sloped roof of east building.	Service
Description	Installe
Engineered Air DJ-100, 10,400 CFM outdoor rooftop unit, belt-driven, centrifugal fan with natural gas fired heating to supply tempered make-up air to the interior	Chrono Effectiv Next Re
567,000 btuh output. Localized repairs and	
replacements completed in an as-needed	

ation

Service Life:	20
nstalled Year:	1998
Chronological Age:	24
Effective Age:	18
Next Renewal Year:	2024

Mech 41 - Outdoor Air Handler - Makeup Air - Gas [West Building]



Location

basis.

Main low-sloped roof of west building.

Description

Engineered Air DJ-100, 8,850 CFM outdoor rooftop unit, belt-driven, centrifugal fan with natural gas fired heating to supply tempered make-up air to the interior spaces. Capacity 650,000 btuh input, 533,000 btuh output. Localized repairs and replacements completed on an as-needed basis.

Service Life:	20
Installed Year:	1998
Chronological Age:	24
Effective Age:	18
Next Renewal Year:	2024



Other

Mech 42 - Overhead Gate Motor



Location

Main entrances into parkade and into residential parkade.

Description

1/2 HP AC motor and commercial-grade overhead sectional door controlled by an electric operator.

Information

Service Life:	20
Installed Year:	1998
Chronological Age:	24
Effective Age:	19
Next Renewal Year:	2023

Mech 43 - Trash Compactor [PLACEHOLDER]



Location Garbage rooms. Description Horizontal hydraulic ram compactor.

Information

Service Life:	20
Installed Year:	1998
Chronological Age:	24
Effective Age:	17
Next Renewal Year:	2025

Elevator

Traction

Elev 01 - Traction Elevators, Overhead Geared (6)



Location

Elevator machine room at roof level.

Description

Geared overhead traction elevators with ThyssenKrupp M3200 Microprocessor controls, HPV900 VVVF drives, Thyssen 340 geared machines, 2500/2000 lbs, 500 fpm rated speed. According to TKE, the hoist ropes are replaced on an as-needed basis under their maintenance contract.

Service Life:	30
Installed Year:	1998
Chronological Age:	24
Effective Age:	20
Next Renewal Year:	2032



Car Interiors

Elev 02 - Elevator Cabs & Hoistway (6)



-		
	Location	Information
	Elevator cab and travelling hoistway.	Service Life:
	Description	Installed Year:
	Single speed side opening doors, plastic car and hall pushbuttons, one (1) car operating	Chronological Age:
		Effective Age:
	panel (stainless steel), infrared door protection ECI-1000 door operators	Next Renewal Year
	stainless steel doors and front return,	
	mirror with painted steel reveals on side	
	walls, plastic laminate on rear wall, mirror	
	ceiling, carpet flooring, tubular stainless	
	steel handrails on all non-access walls,	
	firefighter's emergency operation, standby	
	power provisions, hands-free voice	
	communication devices, no seismic	
	provisions.	

Service Life:	30
Installed Year:	1998
Chronological Age:	24
Effective Age:	26
Next Renewal Year	2026

Fire Safety

Fire Safety

Fire 01 - Smoke Control Dampers



Location

Supply air duct dampers in both towers and parking garage vestibules. Description Motorized smoke dampers for control of smoke in buildings. Localized replacements of dampers completed in 2019.

Information

ł	Service Life:	20
	Installed Year:	1998
	Chronological Age:	24
	Effective Age:	13
	Next Renewal Year:	2029

Controls

Fire 02 - Fire Alarm Panel [East Building]



Location

Fire alarm annunicator panels (FAAP) in lobby and fire alarm control panels (FACP) in electrical room.

Description

Simplex microprocessor and supervised unit with annunciator and display.

Service Life:	20
Installed Year:	2016
Chronological Age:	6
Effective Age:	6
Next Renewal Year:	2036



Fire 03 - Fire Alarm Panel - [West Building]



Location

Fire alarm annunicator panels (FAAP) in lobby and fire alarm control panels (FACP) in electrical room.

Description

Simplex microprocessor and supervised unit with annunciator and display.

Information

Service Life:	20
Installed Year:	2013
Chronological Age:	9
Effective Age:	9
Next Renewal Year:	2033

Detection

Fire 04 - Fire Detection & Alarm [East Building]



Location

Mounted to walls and ceilings in various strategic locations throughout the east building.

Description

Smoke detectors, heat detectors, flow switches, tamper switches, horns, pull stations and other fixed apparatus field devices to detect fire and smoke conditions and initiate timely response.

Information

Service Life:	20
Installed Year:	2016
Chronological Age:	6
Effective Age:	6
Next Renewal Year:	2036

Fire 05 - Fire Detection & Alarm [West Building]



Location

Mounted to walls and ceilings in various strategic locations throughout the west building.

Description

Smoke detectors, flow switches, tamper switches, horns, pull stations and other fixed apparatus field devices to detect fire and smoke conditions and initiate timely response.

Information

Service Life:	20
Installed Year:	2013
Chronological Age:	9
Effective Age:	9
Next Renewal Year:	2033

Suppression

Fire 06 - Dry Sprinkler Compressor



Location

Water Entry room.

Description

Swan compressor with 2 HP motor to maintain the pressure of air in the dry fire sprinkler lines.

Service Life:	14
Installed Year:	1998
Chronological Age:	24
Effective Age:	13
Next Renewal Year:	2023



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Fire 07 - Fire & Jockey Pump



Fire 08 - Portable Fire Extinguisher



Fire 09 - Smoke Control



Fire 10 - Sprinkler & Standpipe - Wet



Location	Information	
Water Entry room.	Service Life:	30
Description	Installed Year:	1998
75 HP fire pump and 1 HP jockey pump,	Chronological Age:	24
connected to fire pump motor control	Effective Age:	24
centre.	Next Renewal Year:	2028

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LU	La	liu	

Mounted to walls in various strategic locations throughout the complex. **Description** Wall mounted, manually operated, 5lbs and 10lbs ABC type, pressurized vessels for controlled discharge of chemicals to extinguish small fires.

Information

Service Life:	12
Installed Year:	2013
Chronological Age:	9
Effective Age:	9
Next Renewal Year:	2025

Location
Rooftop of both building.

Description

Smoke control unit; with motorized intake dampers on fan inlets and interconnected motorized smoke dampers on each floor.

Service Life:	25
Installed Year:	1998
Chronological Age:	24
Effective Age:	24
Next Renewal Year:	2023

Location	Information	
Heated spaces throughout the complex.	Service Life:	100
Description	Installed Year:	1998
Upright, pendant and sidewall sprinkler heads, flow switches and indicating devices, gauges, steel distribution lines.	Chronological Age:	24
	Effective Age:	24
	Next Renewal Year:	2098



Fire 11 - Sprinkler System - Dry



Location	Information	
Unheated space throughout the complex.	Service Life:	60
Description	Installed Year:	1998
Exposed dry sprinklers, upright and sidewall	Chronological Age:	24
sprinkler heads, steel piping.	Effective Age:	24
	Next Renewal Year:	2058

Fire 12 - Sprinkler Valve Assembly - Dry



Location	Information	
Water Entry room.	Service Life:	40
Description	Installed Year:	1998
Gem dry sprinkler valves, trim and gauges,	Chronological Age:	24
steel piping.	Effective Age:	24
	Next Renewal Year:	2038

Egress

Fire 13 - Emergency Egress Equipment



Location	Information	
Mounted to walls and near doors in various	Service Life:	20
strategic locations throughout.	Installed Year:	2014
Description	Chronological Age:	8
Unit battery packs; exit signs.	Effective Age:	8
	Next Renewal Year:	2034

Interior Finishes

Floors

Finish 01 - Carpet



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Hallways, theatre room, boardrooms, gym, and the manager's office.

Description

Synthetic, low level loop, textile sheet floor covering glued over floor substrate.

Service Life:	15
Installed Year:	1998
Chronological Age:	24
Effective Age:	11
Next Renewal Year:	2026



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Finish 02 - Tile Carpet [Lounge]				

Location	Information	
Lounge	Service Life:	15
Description	Installed Year:	2008
Synthetic, low level loop, textile floor	Chronological Age:	14
carpet tile units glued over floor substrate.	Effective Age:	11
	Next Renewal Year:	2026

Finish 03 - Wood Flooring



Finish 04 - Wood Flooring [Lounge]



Location

Information

Service Life:	20
Installed Year:	1998
Chronological Age:	24
Effective Age:	16
Next Renewal Year:	2026

Location Lounge. Description Wood laminate flooring.

Information

Service Life:	20
Installed Year:	1998
Chronological Age:	24
Effective Age:	16
Next Renewal Year:	2026

Finish 05 - Porcelain Floor Tile [Lobbies]



Location
Various entry lobbies throughout both
buildings.
Description
Porcelain floor tile on thin set mortar with
grout.

Service Life:	45
Installed Year:	1998
Chronological Age:	24
Effective Age:	24
Next Renewal Year:	2043



24

24

1998

Finish 06 - Porcelain Floor Tile



Finish 07 - Resilient Sheet Flooring



Finish 08 - Painted Concrete Flooring



Location
Parkade elevator vestibules.
Description

Vinyl tile adhered to the substrate.

Change rooms and washrooms.

Porcelain floor tile on thin set mortar with

Location

Description

grout.

Information

Information

Service Life:

Installed Year:

Effective Age:

Chronological Age:

Service Life:	20
Installed Year:	1998
Chronological Age:	24
Effective Age:	16
Next Renewal Year:	2026

Next Renewal Year: 2043

LocationInStairwells.SDescriptionInPaint on exposed concrete floor surfaces.C

Information

Service Life:	12
Installed Year:	1998
Chronological Age:	24
Effective Age:	8
Next Renewal Year:	2026

Walls

Finish 09 - Ceramic Tile



Location

Change rooms and washrooms.

Description

Ceramic tile on mortar bed and substrate with grout and sealant at interfaces.

Service Life:	25
Installed Year:	1998
Chronological Age:	24
Effective Age:	21
Next Renewal Year:	2026

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Finish 10 - Paint



Location

Parkade elevator vestibules, guest suite, manager's suite and office, and change rooms.

Description

Location

annually.

Primers and multiple pigmented coating finishes applied to interior gypsum wallboard. Repairs completed annually.

Information

Service Life:	10
Installed Year:	1998
Chronological Age:	24
Effective Age:	6
Next Renewal Year:	2026
Chronological Age: Effective Age: Next Renewal Year:	24 6 2026

Finish 11 - Walipaper Covering	
301	•

Ceilings

Finish 12 - Acoustic Ceiling Tile



Finish 13 - Painted Ceiling



Location	Inf
Gym, lounge, boardrooms, manager's	Se

office, and theatre room. Description

Hallways, lobbies, and parking garage

Primer and multiple pigmented finish coat applied to interior exposed concrete or

infill acoustic tiles that form a drop ceiling.

Information

Hallways, lounge, boardrooms, lobbies, and	Service Life:	20
the theatre room.	Installed Year:	1998
Description	Chronological Age:	24
Decorative sheet covering adhered to substrate sheathing. Renairs completed	Effective Age:	16
annually.	Next Renewal Year:	2026

formation

Service Life:	50
Installed Year:	1998
Chronological Age:	24
Effective Age:	24
Next Renewal Year:	2048

G

Location

Description

elevator vestibules.

gypsum wallboard.

Suspended grid of metal T channels with

Service Life:	20
Installed Year:	1998
Chronological Age:	24
Effective Age:	16
Next Renewal Year:	2026



Architectural Woodwork

Finish 14 - Baseboard, Molding and Casing



Finish 15 - Carpentry and Millwork

Location

Hallways, lobbies, parking garage elevator vestibules, gym, lounge, boardrooms, manager's office, and theatre room.

Description

Linear components out of painted or finished wood or composite. Includes synthetic cove at wall to floor interface.

Information

Service Life:	40
Installed Year:	1998
Chronological Age:	24
Effective Age:	24
Next Renewal Year:	2038

Lo	ca	ti	ο	n	
			~		

Lobbies, change rooms, and washrooms.

Description

Shop fabricated custom casework, built-in countertops with laminate or composite.

Information

Service Life:	30
Installed Year:	1998
Chronological Age:	24
Effective Age:	26
Next Renewal Year:	2026

Doors

Finish 16 - Interior Swing Door - General



Location

Stairwells, hallways, lobbies, and other miscellaneous locations.

Description

Solid or hollow core wood or hollow metal swing door hung in framed opening including hardware.

Service Life:	30
Installed Year:	1998
Chronological Age:	24
Effective Age:	26
Next Renewal Year:	2026

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6

Amenities

Equipment

Amen 01 - Computer Equipment



Amen 02 - Domestic Appliances



Amen 03 - Fitness Equipment

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Location

Location

Description

facility.

Gym at west building. **Description** Various fitness machines and equipme

Service Life:

Information

Installed Year:	2010
Chronological Age:	12
Effective Age:	2
Next Renewal Year:	2026

Location	
Guest suites and manager's sui	te.

Description Refrigerator, range, dishwasher of miscellaneous brands.

Concierge desks and manager's office.

Computer, monitor, printer, keyboard and associated electronic devices required for general operations and management of the

Information

Service Life:	15
Installed Year:	2011
Chronological Age:	11
Effective Age:	11
Next Renewal Year:	2026

	Information	
	Service Life:	10
	Installed Year:	1998
d equipment.	Chronological Age:	24
	Effective Age:	3
	Next Renewal Year:	2029

Specialties

Amen 04 - Wood Storage Lockers



Location

Storage rooms in parkade.

Description

Wood framed general purpose storage locker with swing door and hardware.

Service Life:	30
Installed Year:	1998
Chronological Age:	24
Effective Age:	24
Next Renewal Year:	2028



Amen 05 - Chainlink fencing



Location	Informat
Bicycle storage rooms in parkade.	Service L
Description	Installed
Woven fence made from coated steel wire	Chronolo
and galvanized steel posts.	Effective
	Next Rer

tion

Service Life:	40
Installed Year:	1998
Chronological Age:	24
Effective Age:	24
Next Renewal Year:	2038

Furnishings

Amen 06 - Indoor Furniture & Furnishing



Amen 07 - Metal Storage Locker



Amen 08 - Bicycle Rack



Location	Information	
Various interior common areas.	Service Life:	10
Description	Installed Year:	2010
Furniture, furnishings, paintings,	Chronological Age:	12
ornaments, and other miscellaneous	Effective Age:	6
accessories throughout the common areas.	Next Renewal Year:	2026

Location	Information	
Change rooms.	Service Life:	25
Description	Installed Year:	1998
Pre-finished metal storage locker or ganged	Chronological Age:	24
locker set with doors and hardware.	Effective Age:	21
	Next Renewal Year:	2026

Location	Information	
Various locations throughout parkade.	Service Life:	30
Description	Installed Year:	1998
Floor and wall mounted steel frame bicycle	Chronological Age:	24
rack.	Effective Age:	24
	Next Renewal Year:	2028



Amen 09 - Central Mailboxes



Location

Main entry lobbies in both buildings.

Description

Flush mounted, front loading, brushed aluminum finish, extruded aluminum trim.

Information

Service Life:	30
Installed Year:	1998
Chronological Age:	24
Effective Age:	24
Next Renewal Year:	2028

Amen 10 - Pool Table



Amen 11 - Public Signage

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|--|

Lounge.

Description

Pool tables with felt on high density substrate, bumpers, pockets and frame. Protective covers, pool cues and other miscellaneous accessories.

Information

Service Life:	20
Installed Year:	1998
Chronological Age:	24
Effective Age:	16
Next Renewal Year:	2026

Location

Mounted to equipment, doors, and other locations throughout the complex. **Description**

Variety of permanently displayed information placards in the common areas of the building.

Information

Service Life:	25
Installed Year:	1998
Chronological Age:	24
Effective Age:	19
Next Renewal Year:	2028

Suite

Amen 12 - Guest & Manager Suite



Location

Suite 108 and 109 in east building and manager's suite in west building.

Description

Bed, closets, fabric blinds and drapes, artwork, bedside tables, carpet floor coverings, paintwork, interior doors, small washroom fixtures, and other miscellaneous items.

Service Life:	12
Installed Year:	2014
Chronological Age:	8
Effective Age:	8
Next Renewal Year:	2026

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20

24

17

2025

1998

Amen 13 - Audio Visual Equipment



Location
Theatre room.

Location

Change rooms

Description

2011.

Description Screen, seating, speakers and other miscellaneous equipment.

Information

Information

Service Life:

Installed Year:

Effective Age:

Next Renewal Year:

Service Life:	10
Installed Year:	2010
Chronological Age:	12
Effective Age:	6
Next Renewal Year:	2026

Pool, Spa & Sauna

Amen 14 - Dry Sauna



Sitework

Hard Landscaping

Site 01 - Concrete Paving



Location	Information	
Throughout site.	Service Life:	40
Description	Installed Year:	1998
Concrete pavement, cast with control and	Chronological Age:	24
construction joints, onto compacted gravel	Effective Age:	34
base.	Next Renewal Year:	2028

Wood paneling, wood benches, wood door, Chronological Age:

electric heater and timer control. Benches

in men's change room were replaced in

Site 02 - Concrete Aggregate Paving



	rat	101	1
LU	Lui	101	

Throughout the site

Description

Aggregate concrete pavement with coloured tiles, cast with control and construction joints, onto compacted gravel base. Localized repairs completed in 2010 and 2020.

Service Life:	40
Installed Year:	1998
Chronological Age:	24
Effective Age:	34
Next Renewal Year:	2028


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Site 03 - Water Feature



Location
Driveway adjacent to Alberni St.
Description
Ponds and channels to retain water
including liner.

Location

Description

Throughout the complex.

hardware, handrails.

Prefinished metal fence, gates with

Information

Service Life:	15
Installed Year:	1998
Chronological Age:	24
Effective Age:	9
Next Renewal Year:	2028

Site 04 - Handrails, Fences and Guardrails



Site 05 - Concrete Retaining Wall

Ground level throughout the complex. Description Concrete retaining walls

Information

Service Life:	40
Installed Year:	1998
Chronological Age:	24
Effective Age:	24
Next Renewal Year:	2038

Location

Information

Service Life:	45
Installed Year:	1998
Chronological Age:	24
Effective Age:	24
Next Renewal Year:	2043

Soft Landscaping

Site 06 - Irrigation System



Location	Information	
Water entry room	Service Life:	15
Description	Installed Year:	2012
Irritrol RD-900 controller with time clock,	Chronological Age:	10
network of pipes, valves, and irrigation	Effective Age:	9
landscaping. Two irrigation controllers were	Next Renewal Year:	2028
replaced in 2012.		



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Site 07 - Soft Landscaping



Location	Information	
Courtyard and perimeter of site.	Service Life:	15
Description	Installed Year:	1998
Lawn, ground cover, shrubs, perennials and	Chronological Age:	24
small trees (up to 30').	Effective Age:	9
	Next Renewal Year:	2028

Site Services

Site 08 - Underground Natural Gas Service



Location	Information		
Ground level	Service Life:	50	
Description	Installed Year:	1998	
Natural gas pipe installed underground from the property line to the building.	Chronological Age:	24	
	Effective Age:	24	
	Next Renewal Year:	2048	

Appendix C Asset Service Life Summary

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The Lions

Asset Service Life Summary

Asset Ref	Asset Name	Chronological Age	Estimated Remaining SL
Struct 01	CIP Concrete Walls and Columns	24	51
Struct 02	CIP Concrete Suspended Slabs	24	51
Struct 03	Exterior Steel Stair	24	26
Encl 01	Protected Waterproofing Membrane Roof	24	2
Encl 02	Exposed SBS Membrane Roof	24	2
Encl 03	Protected Waterproofing Membrane Decks	24	2
Encl 04	Protected Waterproofing Membrane Balconies	24	2
Encl 05	Protected Waterproofing Membrane Podium	24	6
Encl 06	Stucco Clad Soffit	24] 16
Encl 07	Metal Clad Soffit	24] 16 []
Encl 08	Anchor Fall Protection Equipment	24] 16
Encl 09	Guardrail Glazed	24	2
Encl 10	Composite Metal Panel Wall	24] 16
Encl 11	Coated Architectural Concrete Wall	24	51
Encl 12	Stucco Clad Wall	24	7
Encl 13	Aluminum Framed Window	24] 16
Encl 14	Curtain Wall	24] 16
Encl 15	Aluminum Framed Glazed Swing Door	24] 16
Encl 16	Aluminum Framed Lobby Door	24] 16
Encl 17	Aluminum Framed Sliding Glass Door	24] 16
Encl 18	Steel Swing Door	24	7
Encl 19	Steel Structure	24	26
Encl 20	Metal Frame and Glass Canopy	24	26
Encl 21	Below Grade Vertical Waterproofing/ Damp-proofing	24	51
Encl 22	Open-grid Overhead Parking Garage Gate	24	6
Encl 23	Parking Slab with Traffic-bearing Membrane	24	51
Encl 24	Slab-on-Grade	24	51
Encl 25	General & Inspections	24	51
Encl 26	Sealant	14	2
Encl 27	Metal Grille	24] 16
Elec 01	Distribution Transformer - Interior	24] 16
Elec 02	Emergency Generator	24	
Elec 03	Unit Substation	24	
Elec 04	Electrical Distribution	24] 16
Elec 05	Exterior Light Fixtures	4] 16
Elec 06	Interior Light Fixtures	24	4
Elec 07	Enterphone System	24	
Elec 08	Proximity Access Control	12	6

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Elec 09	Security Surveillance	24	1	
Mech 01	Controls - Boiler Electronic	19	1	
Mech 02	Controls - Electronic Actuators	12	2	
Mech 03	Controls - HVAC Instrumentation	24	1	
Mech 04	Gas Detection - Parking Garage	24	1	
Mech 05	Heat Tracing - Freeze Protection	24	1	
Mech 06	Tank - DHW - Small Domestic Electric	13	1	
Mech 07	Boiler - DHW - Heating - Gas Fired [West - B1]	13	1	
Mech 08	Boiler - DHW - Heating - Gas Fired [West - B2]	19	1	
Mech 09	Drainage - Sanitary	24	26	
Mech 10	Fixtures - Showers	24	4	
Mech 11	Fixtures - Taps & Lav Basins	24	4	
Mech 12	Fixtures - Toilets & Urinals	24	4	
Mech 13	Pump - DHW - Circulation and Recirculation	2	8	
Mech 14	Sump Pumps and Control Panel	24	11	
Mech 15	Tank - DHW - Storage (2019)	3	17	
Mech 16	Drainage - Perimeter and Foundation	24	16	
Mech 17	Drainage - Storm - Internal	24	16	
Mech 18	Piping - Domestic Water Distribution	24	11	
Mech 19	Piping - Gas Distribution	24	26	
Mech 20	Pump - Domestic Water Booster	24	2	
Mech 21	Tank - Expansion -DHW - Diaphragm	24	1	
Mech 22	Valves - Backflow Prevention - Main Domestic Service	10	10	
Mech 23	Valves - Cross Connection & Backflow Prevention	24	2	
Mech 24	Valves - Plumbing Flow Control and Directional	24	3	
Mech 25	Water Treatment Equipment - Water Conditioner	14	0	
March 20	[PLACEHOLDER]		4.4	
Mech 26	Boller - DHW - Heating - Gas Fired - [East - B1]		11	
Mech 27	Boiler - DHW - Heating - Gas Fired [East - B2]		11	
Mech 28	Tank - DHW - Storage (2002)	20	1	
Mech 29	Fan Coll Unit	2	13	
Mech 30	Condensing Unit - Outdoor Section - AC Cooling only	3	12	
Mech 31	Unit Heater - Electric	24	1	
Mech 32	Baseboard - Electric	24	16	
Mech 33	Fan Coil Unit [2013]	9	6	
Mech 34	Condensing Unit - Outdoor Section - AC Cooling only [2020]	2	13	
Mech 35	Coil - Electric - Duct Heater	24	1	
Mech 36	Air Handler - Make Up Air Unit - Unheated	24	3	
Mech 37	Exhaust Fan - Propellor	24	1	
Mech 38	Exhaust Fan - Small Service - Cabinet	24	2	
Mech 39	Exhaust/Supply Fan Parkade - Inline	24	2	

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Mech 40	Outdoor Air Handler - Makeup Air - Gas [East Building]	24	2	
Mech 41	Outdoor Air Handler - Makeup Air - Gas [West	24	2	
Mech 42	Overhead Gate Motor	24	1	
Mech 43	Trash Compactor [PLACEHOLDER]	24	3	
Elev 01	Traction Elevators, Overhead Geared (6)	24	10	
Elev 02	Elevator Cabs & Hoistway (6)	24	4	
Fire 01	Smoke Control Dampers	24	7	
Fire 02	Fire Alarm Panel [East Building]	6	14	
Fire 03	Fire Alarm Panel - [West Building]	9	11	
Fire 04	Fire Detection & Alarm [East Building]	6	14	
Fire 05	Fire Detection & Alarm [West Building]	9	11	
Fire 06	Dry Sprinkler Compressor	24	1	
Fire 07	Fire & Jockey Pump	24	6	
Fire 08	Portable Fire Extinguisher	9	3	
Fire 09	Smoke Control	24	1	
Fire 10	Sprinkler & Standpipe - Wet	24	76	
Fire 11	Sprinkler System - Dry	24	36	
Fire 12	Sprinkler Valve Assembly - Dry	24	16	
Fire 13	Emergency Egress Equipment	8	12	
Finish 01	Carpet	24	4	
Finish 02	Tile Carpet [Lounge]	14	4	
Finish 03	Wood Flooring	24	4	
Finish 04	Wood Flooring [Lounge]	24	4	
Finish 05	Porcelain Floor Tile [Lobbies]	24	21	
Finish 06	Porcelain Floor Tile	24	21	
Finish 07	Resilient Sheet Flooring	24	4	
Finish 08	Painted Concrete Flooring	24	4	
Finish 09	Ceramic Tile	24	4	
Finish 10	Paint	24	4	
Finish 11	Wallpaper Covering	24	4	
Finish 12	Acoustic Ceiling Tile	24	26	
Finish 13	Painted Ceiling	24	4	
Finish 14	Baseboard, Molding and Casing	24	16	
Finish 15	Carpentry and Millwork	24	4	
Finish 16	Interior Swing Door - General	24	4	
Amen 01	Computer Equipment	12	4	
Amen 02	Domestic Appliances	11	4	
Amen 03	Fitness Equipment	24	7	
Amen 04	Wood Storage Lockers	24	6	
Amen 05	Chainlink fencing	24	16	



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Amen 06	Indoor Furniture & Furnishing	12) 4
Amen 07	Metal Storage Locker	24) 4
Amen 08	Bicycle Rack	24) 6
Amen 09	Central Mailboxes	24) 6
Amen 10	Pool Table	24) 4
Amen 11	Public Signage	24) 6
Amen 12	Guest & Manager Suite	8) 4
Amen 13	Audio Visual Equipment	12) 4
Amen 14	Dry Sauna	24	3
Site 01	Concrete Paving	24) 6
Site 02	Concrete Aggregate Paving	24) 6
Site 03	Water Feature	24) 6
Site 04	Handrails, Fences and Guardrails	24) 16
Site 05	Concrete Retaining Wall	24	21
Site 06	Irrigation System	10) 6
Site 07	Soft Landscaping	24) 6
Site 08	Underground Natural Gas Service	24	26

Appendix D Disclosures and Disclaimers

Disclosures and Disclaimers

Condition of the Assets

The method of determining the physical condition of the assets is based on a visual review of a representative sampling of the assets in readily accessible locations, discussions with facility representatives, and review of readily available reference documents. No destructive testing or exploratory openings are carried out on any of the assets and the equipment is not disassembled, operated, or subject to re-commissioning tests. The physical review is not a full "condition assessment" since operating, testing, or exploratory openings are excluded from the scope of services.

Cost Estimating for Assets

- \rightarrow All estimates of costs are provided in future year dollars.
- → All estimates of costs are Class D estimates intended for planning purposes and not for accounting or tender use. See Glossary of Terms for definition of Class D estimates.
- → Actual costs will vary depending on several factors. The estimates assume economies of scale will be achieved by bundling work tasks together into larger renewal, repair, or rehabilitation projects. Small tasks performed individually may exceed the estimates presented.
- → Soft costs, such as consulting services and contingency allowances are not included in the budget estimates. When developing cost estimates for projects in greater detail for budgeting, each project should include appropriate soft costs such as Owner contingency, permit fees, engineering fees, etc. Depending on the sizes, scope and timing of individual projects, the magnitude of the soft costs will vary.
- → Construction costs are subject to the vagaries of the marketplace. At the time of tender, costs may vary depending on the time of the year, contractor availability, and other factors.
- → The estimates must be updated over time, further developed for scope of work and confirmed by competitive tender before any contracts are awarded.
- → Detailed repair specifications are required to be prepared in order to confirm scopes of work and costs.
- → The estimates do not include allowances for site specific access requirements or environmental concerns, which should be addressed on a project-by-project basis.
- → Consideration may sometimes need to be given to costs arising from the impact of projects on occupancy use and facility operations.
- → Replacement costs are typically based on like-for-like with a similar asset unless code or other circumstances require the replacement cost to include an upgrade.

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Maintenance of the Assets:

The maintenance checklists are not exhaustive and are intended as a framework for the ongoing refinement of the maintenance program.

- → Work must only be carried out by appropriately qualified personnel who have the necessary and sufficient knowledge about the maintenance tasks and maintenance intervals.
- → The manufacturers' latest printed instructions should take precedence in the event of any conflict with the maintenance checklists.
- → The Owners' maintenance staff and/or service contractors are responsible to verify what is contained in the manufacturers' documentation regarding recommended maintenance procedures and intervals.
- → The maintenance checklists and maintenance intervals should be reviewed annually and adjusted, as required, to reflect the service environment, feedback from contractors, etc.

Specialist and Non-Specialist Reviews

Our personnel collect the asset inventory data for all the different systems, including mechanical, plumbing, fire safety, elevator, electrical, interior finishes, and sitework. Our scope of services is to identify the assets within each system, determine their age and report on their reasonable service life-cycles according to accepted industry standards. RDH personnel do not make observations with regard to specialty building system conditions unless specifically addressed in our proposal.

Forecasting the Useful Service Life of Assets

The service life of assets can be affected by a variety of circumstances, including the following:

- → The quality of the maintenance conducted on an asset will affect the service life of the asset. Poor maintenance can lead to a reduced service life and may result in the premature failure of an asset.
- → Insurable losses (force majeure), such as earthquakes, fires, and floods can shorten the life of an asset. These events are not considered in a Depreciation Report.
- → Asset service life in a Depreciation Report is determined according to accepted industry standards.

Funding Models

The funding models for Depreciation Reports are based on a 30-year horizon and use "future year dollars termed" methodology. This methodology projects the costs (in future year dollars) over the planning horizon and not beyond the terminus year of the planning horizon. The current year is the starting year of the planning horizon. The term,



therefore, matches the initial horizon and does not respect a shifting horizon. This means that in year 1 the funding scenarios will look forward for 30 years.

For example, in 2012 the model looks forward to 2042. In year two, it will be accurate for 29 years, as it is only looking forward to year 2042. When an update study is performed in three years, the revised funding scenarios will look forward 30 years from 2015 to 2045. Renewal and major maintenance projects that occur beyond the 30-year planning horizon are not considered in the scenarios; that is, those projects that occur beyond 30 years are unfunded in the funding scenarios.

Appendix E Funding Scenario Cash Flow Tables



Building - Funding Model The Lions



Name			202	2 - Fixed Annual	Funding of \$404,0 Curre)	000 nt)		<u>.</u> .			<i>t</i> 2	
Туре					Ba	sic	Init Catchup	o Cost			\$0	
Regard	ding				The Lic	ons	Operating B	udget		\$2,276,267		
Start \	Year				20	122	Starting Res	erve Balance		\$2,568,324		
Intere	st/Investment Rate		2.022			Reserve Contribution Threshold			\$500,000			
Ectima	ated Contingency Al	lowance	2.0%			\$0	Contribution Below Threshold			\$404,000		
Tau Da	ated contingency At	lowance	30			20	Contribution Above Threshold			\$404,000		
Tax Rate			0.0%			.0%	Reserve Contribution Increase			0.00 %		
Planni	ing Horizon		30			30	Monthly Avg	. Unit Contribution			\$73	
Numbe	er of Units				4	463		-				
Year	Opening Balance	Co	Reserve ntribution	Special Assessment	Reserve Income	Ren	newal Costs	Contingency Costs	Tax Liability	Closing Balance	Percent Funded	
2022	\$2,568,324		\$404,000	\$0	\$51,366		\$170,000	\$0	\$0	\$2,853,691	17.63 %	
2023	\$2,853,691		\$404,000	\$0	\$57,074		\$393,520	\$0	\$0	\$2,921,244	16.89 %	
2024	\$2,921,244		\$404,000	\$0	\$58,425		\$1,380,800	\$0	\$0	\$2,002,869	11.46 %	
2025	\$2,002,869		\$404,000	\$0	\$40,057		\$1,471,030	\$0	\$0	\$975,897	5.56 %	

2024	\$2,921,244	\$404,000	\$0	\$58,425	\$1,380,800	\$0	\$0	\$2,002,869	11.46 %
2025	\$2,002,869	\$404,000	\$0	\$40,057	\$1,471,030	\$0	\$0	\$975,897	5.56 %
2026	\$975,897	\$404,000	\$6,925	\$19,518	\$1,206,340	\$0	\$0	\$200,000	1.12 %
2027	\$200,000	\$404,000	\$0	\$4,000	\$39,290	\$0	\$0	\$568,710	2.93 %
2028	\$568,710	\$404,000	\$2,193,916	\$11,374	\$2,978,000	\$0	\$0	\$200,000	1.11 %
2029	\$200,000	\$404,000	\$289,740	\$4,000	\$697,740	\$0	\$0	\$200,000	1.06 %
2030	\$200,000	\$404,000	\$0	\$4,000	\$85,600	\$0	\$0	\$522,400	2.57 %
2031	\$522,400	\$404,000	\$0	\$10,448	\$687,870	\$0	\$0	\$248,978	1.17 %
2032	\$248,978	\$404,000	\$196,352	\$4,980	\$654,310	\$0	\$0	\$200,000	0.89 %
2033	\$200,000	\$404,000	\$2,795,920	\$4,000	\$3,203,920	\$0	\$0	\$200,000	0.96 %
2034	\$200,000	\$404,000	\$146,900	\$4,000	\$554,900	\$0	\$0	\$200,000	0.91 %
2035	\$200,000	\$404,000	\$0	\$4,000	\$173,900	\$0	\$0	\$434,100	1.87 %
2036	\$434,100	\$404,000	\$0	\$8,682	\$362,300	\$0	\$0	\$484,482	1.98 %
2037	\$484,482	\$404,000	\$0	\$9,690	\$126,370	\$0	\$0	\$771,802	2.96 %
2038	\$771,802	\$404,000	\$11,580,952	\$15,436	\$12,572,190	\$0	\$0	\$200,000	1.32 %
2039	\$200,000	\$404,000	\$11,815,830	\$4,000	\$12,223,830	\$0	\$0	\$200,000	5.28 %
2040	\$200,000	\$404,000	\$0	\$4,000	\$311,500	\$0	\$0	\$296,500	7.42 %
2041	\$296,500	\$404,000	\$0	\$5,930	\$372,260	\$0	\$0	\$334,170	8.08 %
2042	\$334,170	\$404,000	\$0	\$6,683	\$78,900	\$0	\$0	\$665,953	14.60 %
2043	\$665,953	\$404,000	\$0	\$13,319	\$662,520	\$0	\$0	\$420,753	9.52 %
2044	\$420,753	\$404,000	\$0	\$8,415	\$516,370	\$0	\$0	\$316,798	7.19 %
2045	\$316,798	\$404,000	\$0	\$6,336	\$215,090	\$0	\$0	\$512,044	10.98 %
2046	\$512,044	\$404,000	\$38,816	\$10,241	\$765,100	\$0	\$0	\$200,000	4.57 %
2047	\$200,000	\$404,000	\$0	\$4,000	\$155,540	\$0	\$0	\$452,460	9.73 %
2048	\$452,460	\$404,000	\$451,191	\$9,049	\$1,116,700	\$0	\$0	\$200,000	5.04 %
2049	\$200,000	\$404,000	\$2,806,650	\$4,000	\$3,214,650	\$0	\$0	\$200,000	18.43 %
2050	\$200,000	\$404,000	\$580,870	\$4,000	\$988,870	\$0	\$0	\$200,000	87.33 %
2051	\$200,000	\$404,000	\$0	\$4,000	\$276,930	\$0	\$0	\$331,070	100.00 %
		\$12,120,000	\$32,904,062		\$47,656,340				











Building - Funding Model The Lions



Name	2022 - Initial Funding of \$404,000 + 3% Annual Increase (Alternative #1)
Туре	Basic
Regarding	The Lions
Start Year	2022
Interest/Investment Rate	2.0%
Estimated Contingency Allowance	\$0
Tax Rate	0.0%
Planning Horizon	30
Number Of Units	463

Init Catchup Cost	\$0
Operating Budget	\$2,276,267
Starting Reserve Balance	\$2,568,324
Reserve Contribution Threshold	\$500,000
Contribution Below Threshold	\$404,000
Contribution Above Threshold	\$404,000
Reserve Contribution Increase	3.00 %
Monthly Avg. Unit Contribution	\$73

Year	Opening Balance	Reserve Contribution	Special Assessment	Reserve Income	Renewal Costs	Contingency Costs	Tax Liability	Closing Balance	Percent Funded
2022	\$2,568,324	\$404,000	\$0	\$51,366	\$170,000	\$0	\$0	\$2,853,691	17.63 %
2023	\$2,853,691	\$416,120	\$O	\$57,074	\$393,520	\$0	\$0	\$2,933,364	16.96 %
2024	\$2,933,364	\$428,604	\$0	\$58,667	\$1,380,800	\$0	\$0	\$2,039,835	11.67 %
2025	\$2,039,835	\$441,462	\$0	\$40,797	\$1,471,030	\$0	\$0	\$1,051,064	5.99 %
2026	\$1,051,064	\$454,706	S0	\$21,021	\$1,206,340	\$0	\$0	\$320,450	1.79 %
2027	\$320,450	\$468,347	\$0	\$6,409	\$39,290	\$0	\$0	\$755,916	3 .90 %
2028	\$755,916	\$482,397	\$1,924,569	\$15,118	\$2,978,000	\$0	\$0	\$200,000	1.11 %
2029	\$200,000	\$496,869	\$196,871	\$4,000	\$697,740	\$0	\$0	\$200,000	1.06 %
2030	\$200,000	\$511,775	S0	\$4,000	\$85,600	\$0	\$0	\$630,175	3.10 %
2031	\$630,175	\$527,128	\$0	\$12,604	\$687,870	\$0	\$0	\$482,037	2.26 %
2032	\$482,037	\$542,942	\$0	\$9,641	\$654,310	\$0	\$0	\$380,310	1.70 %
2033	\$380,310	\$559,230	\$2,456,774	\$7,606	\$3,203,920	\$0	\$0	\$200,000	0.96 %
2034	\$200,000	\$576,007	\$0	\$4,000	\$554,900	\$0	\$0	\$225,107	1.03 %
2035	\$225,107	\$593,287	\$0	\$4,502	\$173,900	\$0	\$0	\$648,997	2.80 %
2036	\$648,997	\$611,086	\$0	\$12,980	\$362,300	\$0	\$0	\$910,763	3.72 %
2037	\$910,763	\$629,419	S0	\$18,215	\$126,370	\$0	\$0	\$1,432,027	5.50 %
2038	\$1,432,027	\$648,301	\$10,663,222	\$28,641	\$12,572,190	\$0	\$0	\$200,000	1.32 %
2039	\$200,000	\$667,750	\$11,552,080	\$4,000	\$12,223,830	\$0	\$0	\$200,000	5.28 %
2040	\$200,000	\$687,783	\$0	\$4,000	\$311,500	\$0	\$0	\$580,283	14.52 %
2041	\$580,283	\$708,416	\$0	\$11,606	\$372,260	\$0	\$0	\$928,044	22.44 %
2042	\$928,044	\$729,669	S0	\$18,561	\$78,900	\$0	\$0	\$1,597,374	35.03 %
2043	\$1,597,374	\$751,559	\$0	\$31,947	\$662,520	\$0	\$0	\$1,718,360	38.88 %
2044	\$1,718,360	\$774,105	\$O	\$34,367	\$516,370	\$0	\$0	\$2,010,462	45.63 %
2045	\$2,010,462	\$797,328	\$0	\$40,209	\$215,090	\$0	\$0	\$2,632,910	56.50 %
2046	\$2,632,910	\$821,248	\$O	\$52,658	\$765,100	\$0	\$0	\$2,741,717	62.76 %
2047	\$2,741,717	\$845,886	\$0	\$54,834	\$155,540	\$0	\$0	\$3,486,897	75.03 %
2048	\$3,486,897	\$871,262	S0	\$69,738	\$1,116,700	\$0	\$0	\$3,311,197	83.53 %
2049	\$3,311,197	\$897,400	S0	\$66,224	\$3,214,650	\$0	\$0	\$1,060,171	97.71 %
2050	\$1,060,171	\$924,322	\$0	\$21,203	\$988,870	\$0	\$0	\$1,016,826	444.02 %
2051	\$1,016,826	\$952,052	\$0	\$20,337	\$276,930	\$0	\$0	\$1,712,284	100.00 %
		\$19,220,459	\$26,793,516		\$47,656,340				











Building - Funding Model The Lions



Name	2022 - Initial Funding of \$404,000 + 10% Annual Increase (Alternative #2)
Туре	Basic
Regarding	The Lions
Start Year	2022
Interest/Investment Rate	2.0%
Estimated Contingency Allowance	\$0
Tax Rate	0.0%
Planning Horizon	30
Number Of Units	463

Init Catchup Cost	\$0
Operating Budget	\$2,276,267
Starting Reserve Balance	\$2,568,324
Reserve Contribution Threshold	\$3,000,000
Contribution Below Threshold	\$404,000
Contribution Above Threshold	\$0
Reserve Contribution Increase	10.00 %
Monthly Avg. Unit Contribution	\$73

Year	Opening Balance	Reserve Contribution	Special Assessment	Reserve Income	Renewal Costs	Contingency Costs	Tax Liability	Closing Balance	Percent Funded
2022	\$2,568,324	\$404,000	\$0	\$51,366	\$170,000	\$0	\$0	\$2,853,691	17.63 %
2023	\$2,853,691	\$444,400	\$0	\$57,074	\$393,520	\$0	\$0	\$2,961,644	17.12 %
2024	\$2,961,644	\$488,840	\$0	\$59,233	\$1,380,800	\$0	\$0	\$2,128,917	12.18 %
2025	\$2,128,917	\$537,724	\$0	\$42,578	\$1,471,030	\$0	\$0	\$1,238,190	7.05 %
2026	\$1,238,190	\$591,496	\$0	\$24,764	\$1,206,340	\$0	\$0	\$648,110	3.63 %
2027	\$648,110	\$650,646	\$0	\$12,962	\$39,290	\$0	\$0	\$1,272,428	6.56 %
2028	\$1,272,428	\$715,711	\$1,164,413	\$25,449	\$2,978,000	\$0	\$0	\$200,000	1.11 %
2029	\$200,000	\$787,282	\$0	\$4,000	\$697,740	\$0	\$0	\$293,542	1.55 %
2030	\$293,542	\$866,010	\$0	\$5,871	\$85,600	\$0	\$0	\$1,079,823	5.31 %
2031	\$1,079,823	\$952,611	\$0	\$21,596	\$687,870	\$0	\$0	\$1,366,160	6.42 %
2032	\$1,366,160	\$1,047,872	\$0	\$27,323	\$654,310	\$0	\$0	\$1,787,046	8.03 %
2033	\$1,787,046	\$1,152,659	\$428,474	\$35,741	\$3,203,920	\$0	\$0	\$200,000	0.96 %
2034	\$200,000	\$1,267,925	\$0	\$4,000	\$554,900	\$0	\$0	\$917,025	4.21 %
2035	\$917,025	\$1,394,718	\$0	\$18,341	\$173,900	\$0	\$0	\$2,156,184	9.30 %
2036	\$2,156,184	\$1,534,190	\$0	\$43,124	\$362,300	\$0	\$0	\$3,371,197	13.79 %
2037	\$3,371,197	\$0	\$0	\$67,424	\$126,370	\$0	\$0	\$3,312,251	12.73 %
2038	\$3,312,251	\$0	\$9,393,694	\$66,245	\$12,572,190	\$0	\$0	\$200,000	1.32 %
2039	\$200,000	\$2,042,007	\$10,177,823	\$4,000	\$12,223,830	\$0	\$0	\$200,000	5.28 %
2040	\$200,000	\$2,246,207	\$0	\$4,000	\$311,500	\$0	\$0	\$2,138,708	53.54 %
2041	\$2,138,708	\$2,470,828	\$0	\$42,774	\$372,260	\$0	\$0	\$4,280,050	103.50 %
2042	\$4,280,050	\$0	\$0	\$85,601	\$78,900	\$0	\$0	\$4,286,751	94.02 %
2043	\$4,286,751	\$0	\$0	\$85,735	\$662,520	\$0	\$0	\$3,709,966	83.95 %
2044	\$3,709,966	\$0	\$0	\$74,199	\$516,370	\$0	\$0	\$3,267,795	74.16 %
2045	\$3,267,795	\$0	\$0	\$65,356	\$215,090	\$0	\$0	\$3,118,061	66.91 %
2046	\$3,118,061	\$0	\$0	\$62,361	\$765,100	\$0	\$0	\$2,415,323	55.29 %
2047	\$2,415,323	\$4,377,224	\$0	\$48,306	\$155,540	\$0	\$0	\$6,685,313	143.86 %
2048	\$6,685,313	\$0	\$0	\$133,706	\$1,116,700	\$0	\$0	\$5,702,319	143.85 %
2049	\$5,702,319	\$0	\$0	\$114,046	\$3,214,650	\$0	\$0	\$2,601,716	239.78 %
2050	\$2,601,716	\$5,826,085	\$0	\$52,034	\$988,870	\$0	\$0	\$7,490,964	3,271.16 %
2051	\$7,490,964	\$0	\$0	\$149,819	\$276,930	\$0	\$0	\$7,363,854	100.00 %
		\$29,798,436	\$21,164,403		\$47,656,340				











Building - Funding Model The Lions



Name	2022 - Fixed Annual Funding of \$1,264,000 (Progressive)
Туре	Basic
Regarding	The Lions
Start Year	2022
Interest/Investment Rate	2.0%
Estimated Contingency Allowance	\$0
Tax Rate	0.0%
Planning Horizon	30
Number Of Units	463

Init Catchup Cost	\$0
Operating Budget	\$2,276,267
Starting Reserve Balance	\$2,568,324
Reserve Contribution Threshold	\$500,000
Contribution Below Threshold	\$1,264,000
Contribution Above Threshold	\$1,264,000
Reserve Contribution Increase	0.00 %
Monthly Avg. Unit Contribution	\$228

Year	Opening Balance	Reserve Contribution	Special Assessment	Reserve Income	Renewal Costs	Contingency Costs	Tax Liability	Closing Balance	Percent Funded
2022	\$2,568,324	\$1,264,000	\$0	\$51,366	\$170,000	\$0	\$0	\$3,713,691	22.95 %
2023	\$3,713,691	\$1,264,000	\$0	\$74,274	\$393,520	\$0	\$0	\$4,658,445	26.94 %
2024	\$4,658,445	\$1,264,000	\$0	\$93,169	\$1,380,800	\$0	\$0	\$4,634,814	26.51 %
2025	\$4,634,814	\$1,264,000	\$0	\$92,696	\$1,471,030	\$0	\$0	\$4,520,480	25.76 %
2026	\$4,520,480	\$1,264,000	\$0	\$90,410	\$1,206,340	\$0	\$0	\$4,668,550	26.17 %
2027	\$4,668,550	\$1,264,000	\$0	\$93,371	\$39,290	\$0	\$0	\$5,986,631	3 0.90 %
2028	\$5,986,631	\$1,264,000	\$0	\$119,733	\$2,978,000	\$0	\$0	\$4,392,363	24.40 %
2029	\$4,392,363	\$1,264,000	\$0	\$87,847	\$697,740	\$0	\$0	\$5,046,471	26.79 %
2030	\$5,046,471	\$1,264,000	\$0	\$100,929	\$85,600	\$0	\$0	\$6,325,800	31.12 %
2031	\$6,325,800	\$1,264,000	\$0	\$126,516	\$687,870	\$0	\$0	\$7,028,446	33.05 %
2032	\$7,028,446	\$1,264,000	\$0	\$140,569	\$654,310	\$0	\$0	\$7,778,705	34 .97 %
2033	\$7,778,705	\$1,264,000	\$0	\$155,574	\$3,203,920	\$0	\$0	\$5,994,359	28.89 %
2034	\$5,994,359	\$1,264,000	\$0	\$119,887	\$554,900	\$0	\$0	\$6,823,346	31.37 %
2035	\$6,823,346	\$1,264,000	\$0	\$136,467	\$173,900	\$0	\$0	\$8,049,913	34.75 %
2036	\$8,049,913	\$1,264,000	\$0	\$160,998	\$362,300	\$0	\$0	\$9,112,611	37.28 %
2037	\$9,112,611	\$1,264,000	\$0	\$182,252	\$126,370	\$0	\$0	\$10,432,493	40.12 %
2038	\$10,432,493	\$1,264,000	\$867,047	\$208,650	\$12,572,190	\$0	\$0	\$200,000	1.32 %
2039	\$200,000	\$1,264,000	\$10,955,830	\$4,000	\$12,223,830	\$0	\$0	\$200,000	5.28 %
2040	\$200,000	\$1,264,000	\$0	\$4,000	\$311,500	\$0	\$0	\$1,156,500	28.95 %
2041	\$1,156,500	\$1,264,000	\$0	\$23,130	\$372,260	\$0	\$0	\$2,071,370	50.09 %
2042	\$2,071,370	\$1,264,000	\$0	\$41,427	\$78,900	\$0	\$0	\$3,297,898	72.33 %
2043	\$3,297,898	\$1,264,000	\$0	\$65,958	\$662,520	\$0	\$0	\$3,965,336	89.7 3 %
2044	\$3,965,336	\$1,264,000	\$0	\$79,307	\$516,370	\$0	\$0	\$4,792,272	108.76 %
2045	\$4,792,272	\$1,264,000	\$0	\$95,845	\$215,090	\$0	\$0	\$5,937,028	127.40 %
2046	\$5,937,028	\$1,264,000	\$0	\$118,741	\$765,100	\$0	\$0	\$6,554,668	150.06 %
2047	\$6,554,668	\$1,264,000	\$0	\$131,093	\$155,540	\$0	\$0	\$7,794,222	167.72 %
2048	\$7,794,222	\$1,264,000	\$0	\$155,884	\$1,116,700	\$0	\$0	\$8,097,406	204.27 %
2049	\$8,097,406	\$1,264,000	\$0	\$161,948	\$3,214,650	\$0	\$0	\$6,308,704	581.44 %
2050	\$6,308,704	\$1,264,000	\$0	\$126,174	\$988,870	\$0	\$0	\$6,710,008	2,930.13 %
2051	\$6,710,008	\$1,264,000	\$0	\$134,200	\$276,930	\$0	\$0	\$7,831,278	100.00 %
		\$37,920,000	\$11,822,877		\$47,656,340				









Appendix F RDH Qualifications

Maintenance and Planning (MaP)

RDH

Our Maintenance and Planning (MaP) group works with your owner group to plan and develop strategies for the long- and short-term needs of your building—everything from roof maintenance to boiler replacement. As the acronym suggests, our services are designed so that we can provide you with a comprehensive roadMaP for the management of your assets.

RDH staff have broad practical experience assisting building owners with all aspects of planning for the long term stewardship of their building(s). Our reserve fund analysts, engineers, architects, and technologists have a wide variety of formal training—including building science, structural engineering, and mechanical engineering. We believe that by using a team approach, we can ensure an appropriate level of thoroughness and quality. We have prepared hundreds of Depreciation Reports and are recognized as industry leaders.

Depreciation Reports

A Depreciation Report is a long-range financial planning tool. It's used to identify funding requirements for costs associated with future repair, renewal, and replacement projects. The report establishes where you need to focus resources and is a good place to start developing your roadMaP.

The first step in preparing the report is to compile an inventory of all of your building's assets (roofs, boilers, carpets, etc.). Using the inventory as a foundation, we estimate the remaining life of each asset, forecast the replacement costs in future-year dollars, and display the financial analysis with graphs and cash flow tables.

Building Asset Management Software (BAMS)

All of this information is accessible through our propriety online BAM Software—we do the groundwork and provide the critical information so that you can leverage the Software to track and report on maintenance, repair, and renewal activities. Alternatively, we can follow up and manage the activities on your behalf.

The Software tool also empowers you to create your own funding scenarios so you can evaluate different funding levels and find a solution that works specifically for your building. Where a Depreciation Report identifies what items you need to spend money on and when you need to spend it, this tool helps you optimize the way you spend your money. Ultimately, we can help you track what work is completed versus what is outstanding so that you are better able to produce reports and make informed decisions.



Principals

RDH



Mark Will | B.A. Econ.

Principal, Vancouver Regional Manager

Jason Dunn | B.Arch.Sc., CCCA Principal, Senior Project Manager → B.Arch.Sc., Building Science Option

- \rightarrow B.A., Economics
- \rightarrow Has worked in project management since 1997
- → Member of the Board of Directors, Condominium Home Owner's Association (CHOA)
- → Member of Professional Association of Managing Agents (PAMA)



Davi Princip → Eng → PRC

David Taguchi | Eng.L., RRO

Principal, Building Science Specialist

→ Eng.L., Engineers & Geoscientists of British Columbia

→ Certified Construction Contract Administrator, CSC
→ Has worked in building science consulting since 2004

- → RRO, Roofing Consultants Institute Inc.
- \rightarrow Member of Applied Science Technologists and Techicians of British Columbia
- \rightarrow Has 19 years of Building Science Experience



Heather Reid | P.Eng.

Principal, Building Science Engineer

- → B.A.Sc., Civil Engineering
- → Diploma, Advanced Civil Engineering Technology
- → Diploma, Civil Engineering Technology, Structural Option
- \rightarrow Has worked in maintenance and planning consulting since 2017
- \rightarrow Registered Professional Engineer, Engineers and Geoscientists of BC

Associates and Project Managers



Brandon Carreira | Dipl.T.

Project Manager

- \rightarrow MaP Service Area Leader
- → Dipl.T., Architectural & Building Engineering Technology (Building Science Option)
- \rightarrow Has worked in maintenance and planning consulting since 2011
- → Prepared 150+ Depreciation Reports and has been involved with 200+ MaP projects

Jesse Listoen | Dipl.T.

Associate, Project Manager

- → Dipl.T., Architectural & Building Engineering Technology (Building Science Option)
- → 5+ years' experience in maintenance and planning consulting and has been involved in the preparation 70+ depreciation reports
- \rightarrow Has worked in maintenance and planning



Michael Grummett | P.Eng.

Associate, Building Science Engineer

- B.Eng., Structural Engineering
- \rightarrow Has worked in maintenance and planning consulting since 2015
- Registered Professional Engineer, Engineers and Geoscientists of BC





Robyn Edgar | P.Eng. **Associate, Building Science Engineer**

- → Associate Certificate (hons), Project Management
- → B.A.Sc.(with Distinction), Civil Engineering
- Has worked in maintenance and planning consulting since 2019 \rightarrow
- Hold 10 years of Building Science experience \rightarrow
- \rightarrow Registered Professional Engineer, Engineers and Geoscientists of BC

Len Sakurgi | P.Eng.

Associate, Building Science Engineer

- \rightarrow B.A.Sc., Mechanical Engineering
- \rightarrow Has worked in maintenance and planning consulting since 2020
- \rightarrow Registered Professional Engineer, Engineers and Geoscientists of BC



Ryan McNamara M.A.Sc., P.Eng.

Building Science Engineer

- M.A.Sc., Mechanical Engineering \rightarrow
- \rightarrow Has specialized in building energy performance and sustainable design since 2016
- \rightarrow Conducts building energy simulations and utility data analysis
- \rightarrow Registered Professional Engineer, Engineers and Geoscientists of BC

Talen Springer | EIT **Building Science Engineer (EIT)**

- → B.A.Sc., Civil Engineering
- \rightarrow Has worked in maintenance and planning consulting since 2016
- \rightarrow Engineer in Training, Engineers and Geoscientists of BC



Kasra Vahidi | B.A.Sc., EIT

Building Science Engineer (EIT)

- → B.A.Sc., Civil Engineering, Minor in Commerce
- \rightarrow Has worked in maintenance and planning consulting since 2018
- → Engineer in Training, Engineers and Geoscientists of BC

Josh Chambers | RSE, RRO

Project Manager

- → B.Tech., Construction Management Program
- \rightarrow Red Seal Endorsement (RSE), Industry Training Authority
- Registered Roof Observer (RRO), Roofing Consultants Institute \rightarrow
- \rightarrow Has worked in maintenance and planning consulting since 2021
- \rightarrow Joined RDH as a Building Science Technologist in 2015

RDI **Technical Staff**

Alex Seto | Dipl.T. **Building Science Technologist**

- → Dipl.T., Architectural & Building Engineering Technology (Building Science Option)
- \rightarrow Has worked in maintenance and planning consulting since 2012



Jackie Wong | Dipl.T. **Building Science Technologist**

- → Dipl.T., Architectural & Building Engineering Technology (Building Science Option)
- \rightarrow Has worked in maintenance and planning consulting since 2016



Preston Wu | Dipl.T. **Building Science Technologist**

- → Dipl.T., Architectural & Building Engineering Technology (Building Science Option)
- \rightarrow Has worked in maintenance and planning consulting since 2016



Cameron Skoglund | GradTech. **Building Science Technologist**

- \rightarrow GradTech., ASTTBC
- \rightarrow Has worked in maintenance and planning consulting since 2017



Building Science Technologist

- → Dipl.T., Architectural & Building Engineering Technology (Building Science Option)
- \rightarrow Has worked in maintenance and planning consulting since 2017

Torrance Beamish | B.F.A., Dipl.T.



RDH Qualifications

Daniela Beilmann

Building Science Technologist

- \rightarrow Diploma in Architectural and Building Technology
- \rightarrow Has worked in maintenance and planning consulting since 2018

Yan Marineau-Brachmann | B.A.Sc.

- **Building Science Engineer (EIT)**
- → B.A.Sc., Civil Engineering
- \rightarrow Has worked in maintenance and planning consulting since 2018



Joseph Hildebrandt | B.A.Sc., EIT

Building Science Engineer (EIT)

- → B.A.Sc., Mechanical Engineering (Thermofluids Option)
- \rightarrow Has worked in maintenance and planning consulting since 2020



Joshua Villanueva

Building Science Technologist

- \rightarrow Diploma in Architectural and Building Technology
- \rightarrow Has worked in maintenance and planning consulting since 2021

Administrators and Client Support



Vanessa Jumawan

Maintenance and Planning Coordinator

- \rightarrow Has worked in administration within engineering/architecture since 2008
- \rightarrow Preparation of Depreciation Report estimates and proposals



Anna Qiu

Maintenance and Planning Project Assistant

- \rightarrow Certificate, Business Administration
- \rightarrow Has worked in administration within engineering/architecture firms since 2004

Software Support and Programmer



RDH

Matthew Branch | P.Eng.

Software Developer

- \rightarrow B.Sc., Civil Engineering
- \rightarrow Registered Professional Engineer, Engineers and Geoscientists of BC
- \rightarrow Has worked in engineering data analysis since 2000

Acknowledgements



Serge Desmarais | B.Arch. Architect AIBC, CP

Principal (In Memoriam), Senior Building Science Specialist RDH gratefully acknowledges the contributions of Serge Desmarais as the building science technical lead for the MaP group.

- → Registered Architect AIBC, Certified Professional
- → 30+ years' experience in building design and construction capital renewal projects
- → RDH 2004 2017

Appendix G Insurance Certificate

Ref. No. 320008778690

Aon Reed Stenhouse Inc. 401 West Georgia Street, Suite 1200 PO Box 3228 STN. TERMINAL Vancouver BC V6B 3X8 *tel* 604-688-4442 *fax* 604-682-4026

Re: Evidence of Insurance:

To Whom It May Concern Suite 400, 4333 Still Creek Drive Burnaby, BC V5C 6S6

Insurance as described herein has been arranged on behalf of the Insured named herein under the following policy(ies) and as more fully described by the terms, conditions, exclusions and provisions contained in the said policy(ies) and any endorsements attached thereto.

Insured

RDH Building Science Inc. Suite 400, 4333 Still Creek Drive Burnaby, BC V5C 6S6

Coverage

Commercial General Liability		Insurer	Zurich Insuran	ice Company Ltd			
	Policy #	8850746					
	Effective	02-May-2021	Expiry	01-Jul-2022			
	Limits of Liability	Bodily Injury & Property Damage, Each Occurrence \$1,000,000 Products and Completed Operations, Aggregate \$2,000,000 Non-Owned Automobile Liability \$1,000,000 Legal Liability for Damage to Hired Automobiles \$100,000 Policy may be subject to a general aggregate and other aggregates where applicable					
Architects & Engineers Professional Liability		Insurer	Lloyd's Under	writers			
	Policy #	PSDEF2100249					
	Effective	02-May-2021	Expiry	01-Jul-2022			
		Subject to aggregate v	vhere applicable				

Terms and / or Additional Coverage

Commercial General Liability includes: General Aggregate: \$2,000,000

Professional Liability Limit: \$1,000,000 Per Claim Limit / \$2,000,000 Aggregate Limit

THE POLICY CONTAINS A CLAUSE THAT MAY LIMIT THE AMOUNT PAYABLE OR, IN THE CASE OF AUTOMOBILE INSURANCE,

1 of 2

THE POLICY CONTAINS A PARTIAL PAYMENT OF LOSS CLAUSE THIS CERTIFICATE DOES NOT AMEND, EXTEND, OR ALTER THE COVERAGE AFFORDED BY THE POLICY



THIS CERTIFICATE CONSTITUTES A STATEMENT OF THE FACTS AS OF THE DATE OF ISSUANCE AND ARE SO REPRESENTED AND WARRANTED ONLY TO THE INSURED. OTHER PERSONS RELYING ON THIS CERTIFICATE DO SO AT THEIR OWN RISK.

Dated : 04-May-2021

Aon Reed Stenhouse Inc


Appendix H Strategic Plan



RDH Building Science Inc. 4333 Still Creek Drive #400 Burnaby, BC V5C 6S6

Making Buildings Better™

The Lions **Strategic Plan**

Accuracy of Budget Cost Estimates:

- 1. Budget costs in this report are provided in both current year dollars (without inflation or escalation factors) and future year dollars (with inflation or escalation factors).
- 2. All budget costs are preliminary estimates intended for planning purposes and not for accounting use.
- 3. Actual costs will vary depending on several factors. The budget estimates assume economies of scale will be achieved by bundling work items together into larger projects. Small projects done individually may exceed the budget estimates.
- 4. Each project should include appropriate cost line-items when developing an overall project budget.
- 5. Labour and material costs are subject to the vagaries of the marketplace. At the time of tender, costs may vary depending on the time of the year and/or contractor availability.
- 6. The budget estimates must be updated over time and confirmed by competitive tender before any contracts are awarded.
- 7. Detailed repair specifications are required to be prepared in order to confirm scopes of work and costs.
- 8. Soft costs, such as consulting services and contingency allowances are not included in the budget estimates. Depending on the sizes, scope and timing of individual projects, the magnitude of the soft costs will vary.
- 9. Cost savings may be realized depending on the use of in-house labor or 3rd party-contractors.
- 10. The estimates do not include allowances for site specific access requirements and environmental concerns, which should be addressed on a project-by-project basis.
- 11. Consideration may sometimes need to be given to costs arising from the impact of projects on occupancy use and facility operations.

Asset Ref ID	Maint. Ref ID	Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
STRUCTU	JRAL																				
WALLS &	COLUM	NS																			
Struct 01	R02	Provided maintenance and repairs are completed to adjacent assets, structural assets are not likely to require renewal	75 Yrs	\$0	2073	\$0															
FLOORS &	& BEAMS																				
Struct 02	R01	Provided maintenance and repairs are completed to adjacent assets, structural assets are not likely to require renewal.	75 Yrs	\$0	2073	\$0															
STAIRS																					
Struct 03	J01	Repaint the steel staircases and support framing.	10 Yrs	\$10,000	2025	\$11,000				•										•	
Struct 03	R01	Replace exterior steel stairs.	50 Yrs	\$45,000	2048	\$77,000															
Asset Ref ID	Maint. Ref ID	Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
ENCLOSU	JRE																				
ROOFS &	DECKS																				
Encl 01	R01	Phased replacement of roof membrane assembly and associated components.	25 Yrs	\$224,000	2025	\$240,000				•											
Encl 01	R02	Phased replacement of roof membrane assembly and associated components.	25 Yrs	\$224,000	2024	\$240,000			•												
Encl 02	R01	Phased replacement of SBS membrane roof assembly and associated components.	25 Yrs	\$77,000	2025	\$83,000				•											
Encl 02	R02	Phased replacement of SBS membrane roof assembly and associated components.	25 Yrs	\$77,000	2024	\$82,000			•												
Encl 03	R01	Phased replacement of deck membrane assembly and associated components. Some of the pavers may be salvageable.	30 Yrs	\$493,500	2025	\$530,000				•											



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Asset Ref ID	Maint. Ref ID	Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	2022	2023 2024	2025	2026 2027	2028	2029 2030	2031	2032	2033 2034	2035	2036	2038	2039	2040	2041 2042	2043	2044	2045	2047	2048	2049	2051
ENCLOS	JRE		· /											I														
Encl 03	R02	Phased replacement of deck membrane assembly and associated components. Some of the pavers may be salvageable.	30 Yrs	\$493,500	2024	\$520,000		•																				
Encl 04	R01	Phased replacement of balcony membrane assembly and associated components. Some of the pavers may be salvageable.	30 Yrs	\$42,000	2025	\$45,000			•																			
Encl 04	R02	Phased replacement of balcony membrane assembly and associated components. Some of the pavers may be salvageable.	30 Yrs	\$42,000	2024	\$45,000		•																				
Encl 05	R01	Replace podium membrane assembly and associated components. Some of the pavers may be salvageable.	30 Yrs	\$1,925,600	2028	\$2,200,000					•																	
Encl 06	R01	Phased replacement of stucco clad soffit and associated components.	45 Yrs	\$71,000	2039	\$100,000													•									
Encl 06	R02	Phased replacement of stucco clad soffit and associated components.	45 Yrs	\$71,000	2038	\$99,000												•										
Encl 07	R01	Phased replacement of the metal panel soffit and associated components.	45 Yrs	\$50,000	2039	\$71,000													•									
Encl 07	R02	Phased replacement of the metal panel soffit and associated components.	45 Yrs	\$50,000	2038	\$70,000												•										
FALL PRC	TECTIC	N	· · · · · ·		· · · · · · · · · · · · · · · · · · ·																							
Encl 08	R01	Replace components of fall protection system, as required.	40 Yrs	\$72,000	2038	\$100,000												•										
Encl 09	R01	Phased replacement of exterior guardrails.	25 Yrs	\$84,240	2025	\$91,000			•																		•	
Encl 09	R02	Phased replacement of exterior guardrails.	25 Yrs	\$84,240	2024	\$89,000		•																			•	
WALLS	1						,																					
Encl 10	R01	Phased replacement of metal panels along with associated flashing and sealants. Consideration should be given to replacement of vent hoods and other accessories that penetrated the cladding at the time of cladding replacement.	40 Yrs	\$349,200	2039	\$500,000													•									
Encl 10	R02	Phased replacement of metal panels along with associated flashing and sealants. Consideration should be given to replacement of vent hoods and other accessories that penetrated the cladding at the time of cladding replacement.	40 Yrs	\$349,200	2038	\$490,000												•										
Encl 11	J02	Locally repair delaminated or spalled concrete, should be carried out prior to re-coating.	10 Yrs	\$53,100	2029	\$53,000						•							•								•	
Encl 11	R01	Reapplication of the protective coating as required, including preparation of the concrete substrate.	10 Yrs	\$407,100	2029	\$480,000						•							•								•	
Encl 11	R02	Concrete wall is durable and not deemed a renewable asset. Maintenance of the concrete substrate is required for the asset to achieve longevity.	75 Yrs	\$0	2073	\$0																						
Encl 12	J02	Re-paint stucco surface as required.	20 Yrs	\$6,000	2049	\$0																						
Encl 12	R01	Clean and renew acrylic stucco finish coat as required.	10 Yrs	\$5,625	2039	\$8,000													•									
Encl 12	R02	Replace stucco cladding along with associated flashing and sealants. Consideration should be given to replacement of vent hoods and other accessories that penetrated the cladding at the time of cladding replacement.	20 Yrs	\$63,000	2029	\$74,000						•															•	
GLAZING	SYSTEM	15																										
Encl 13	J03	Replace insulating glazing units (IGUs) with condensation or misting between panes of glass.	2 Yrs	\$15,000	2023	\$15,000	•		•	•		•	•	•		•	•		•	•		•		•	•		•	•
																									Crea	ted O	Page 2 n: 2022	2 of 13 2-06-07



Asset Ref ID	Maint. Ref ID	Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	2022	2023	2024 2025	2026	2027	2028	2029	2031	2032	2034	2035 2036	2037	2038	2039	2041	2042	2043	2044	2045	2046 2047	2048	2049	2051
ENCLOSU	JRE																												
Encl 13	R01	Phased replacement of aluminum framed windows and associated components.	40 Yrs	\$7,176,060	2039	\$10,000,000														•									
Encl 13	R02	Phased replacement of aluminum framed windows and associated components.	40 Yrs	\$7,176,060	2038	\$10,000,000													•										
Encl 14	R01	Replace insulating glazing units (IGUs) with condensation or misting between panes of glass.	2 Yrs	\$3,100	2023	\$3,200	•	•	•		•	•	,	•	•		•	•		•	•		•		•	•		•	•
Encl 14	R02	Phased replacement or refurbishing of curtain wall assembly.	40 Yrs	\$341,000	2039	\$490,000														•									
Encl 14	R03	Phased replacement or refurbishing of curtain wall assembly.	40 Yrs	\$341,000	2038	\$480,000													•										
DOORS																													
Encl 15	J01	Replace insulating glazing units (IGUs) with condensation or misting between panes of glass.	2 Yrs	\$500	2023	\$510		•	•		•	•		•	•		•	•		•	•		•		•	•		•	•
Encl 15	R01	Phased replacement of aluminum framed swing doors.	40 Yrs	\$21,000	2039	\$30,000														•									
Encl 15	R02	Phased replacement of aluminum framed swing doors.	40 Yrs	\$21,000	2038	\$29,000													•										
Encl 16	R01	Replace aluminum frame lobby doors.	40 Yrs	\$20,000	2038	\$28,000													•										
Encl 17	J01	Replace insulating glazing units (IGUs) with condensation or misting between panes of glass.	5 Yrs	\$1,500	2023	\$1,500	•	•				•			•				•				•				•		
Encl 17	R01	Phased replacement of sliding glass doors and associated components.	40 Yrs	\$140,300	2039	\$200,000														•									
Encl 17	R02	Phased replacement of sliding glass doors and associated components.	40 Yrs	\$140,300	2038	\$200,000													•										
Encl 18	R01	Repaint steel door finish.	10 Yrs	\$2,000	2039	\$2,900								•						•								•	
Encl 18	R02	Replace steel swing doors.	25 Yrs	\$12,800	2029	\$15,000						•																	
CANOPIES	5																												
Encl 19	R01	Repaint exposed metal frame and sheddng surface of canopy assemblies.	20 Yrs	\$0	2029	\$0						•																•	
Encl 19	R02	Phased replacement of steel structure assembly.	50 Yrs	\$40,000	2049	\$70,000																						•	
Encl 19	R03	Phased replacement of steel structure assembly.	50 Yrs	\$40,000	2048	\$68,000																					•		
Encl 20	R01	Repaint exposed metal frame of canopy assemblies.	10 Yrs	\$13,000	2029	\$15,000						•								•									
Encl 20	R02	Replace metal and glass canopy assembly.	50 Yrs	\$182,000	2048	\$310,000																					•		
AT AND E	BELOW C	IRADE																											
Encl 21	R01	Complete localized crack injections, as required.	5 Yrs	\$10,000	2023	\$10,000		•				•			•				•				•				•		
Encl 21	R02	Provided maintenance and repairs are completed to adjacent assets, below-grade vertical waterproofing is not likely to require renewal.	75 Yrs	\$0	2073	\$0																							
PARKING	GARAG	E																											
Encl 22	R01	Replacement of sectional overhead door and associated hardware.	25 Yrs	\$15,000	2028	\$17,000						•																	
Encl 23	J01	Re-apply traffic demarcation striping and directional signage as required. Frequency will depend on traffic volume and other factors.	10 Yrs	\$3,938	2029	\$4,600						•								•								•	



Asset Ref Ma ID Ref	faint. A Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	2022	2024	2025	2026	2027 2028	2029	2030 2031	2032	2033 2034	2035	2036	2038	2039	2040	2041	2042	2043	2045	2046	2047	2048	2049 2050	2051
ENCLOSURE	E																											
Encl 23 J02	D2 Repair damaged and delaminated membrane prior to re- application of top coat.	30 Yrs	\$53,424	2034	\$69,000									•														
Encl 23 R0	01 Re-apply membrane top coat in high traffic areas (e.g. drive aisles).	30 Yrs	\$118,720	2034	\$150,000									•														
Encl 23 RO	02 Prepare concrete surface and re-apply traffic-bearing membrane.	30 Yrs	\$816,200	2049	\$1,400,000																					•	,	
Encl 23 R0	Concrete slab is durable and not deemed a renewable asset. Maintenance of the concrete substrate is required for the asset to achieve longevity.	75 Yrs	\$0	2073	\$0																							
Encl 24 J01	Re-apply traffic demarcation striping and directional signage.	5 Yrs	\$1,500	2029	\$1,800						•			•				•				•	,			•	,	
Encl 24 R0	Concrete slab is durable and not deemed a renewable asset. Maintenance of the concrete substrate is required for the asset to achieve longevity.	75 Yrs	\$O	2073	\$O																							
GENERAL & IN	INSPECTIONS																											
Encl 25 J03	Update depreciation report.	3 Yrs	\$16,000	2024	\$17,000		•		•		•		•			•		•			•		•			•		•
Encl 25 J04	Perform full condition assessment of all enclosure systems.	5 Yrs	\$20,000	2023	\$21,000	•				•			•				•					•				•		
Encl 25 R0	01 This is not a renewable asset.	75 Yrs	\$0	2073	\$0																							
Encl 26 R0	01 Replace sealants at interfaces between building enclosure assemblies, and at penetrations through assemblies.	10 Yrs	\$150,000	2024	\$180,000		•							•								•	•					
Encl 27 R0	02 Replace metal grille.	40 Yrs	\$10,000	2038	\$14,000												•											
Asset Ref Ma ID Ref	Maint. Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	2022	2024	2025	2026	2027 2028	2029	2030	2032	2033 2034	2035	2036	2038	2039	2040	2041	2042	2043	2045	2046	2047	2048	2049	2051
ELECTRICAL	L																											
POWER SUPPL	PLY																											
Elec 01 J01	Clean and maintain all unit substation equipment (reference subsequent maintenance tasks). Vacuum to remove accumulated dust. Check oil levels of oil filled equipment.	5 Yrs	\$3,000	2025	\$3,200			•			•				•				•				•				•	
Elec 01 J02	Conduct infrared thermography and ultrasonic scanning tests on unit substation equipment. Results may diagnose hidden hazards; contractor should provide certificate for insurance purposes. To be coordinated with maintenance activities.	5 Yrs	\$3,000	2025	\$3,200			•			•				•				•				•				•	
Elec 01 J03	Check for tightness of electrical connections.	5 Yrs	\$0	2025	\$0			•			•				•				•				•				•	
Elec 01 J04	Tighten bolted connections.	5 Yrs	\$0	2025	\$0			•			•				•				•				•				•	
Elec 01 R0	.01 Cyclical replacement of distribution transformers, as required.	20 Yrs	\$8,500	2025	\$9,200			•															•					
Elec 01 R0	02 Cyclical replacement of distribution transformers, as required.	40 Yrs	\$221,000	2038	\$310,000												•											
Elec 02 R0	01 Repair generator fuel tank, as required.	10 Yrs	\$2,500	2023	\$2,600	•							•									•						
Elec 02 RO	02 Rebuild emergency generator.	17 Yrs	\$15,000	2025	\$16,000			•													•							
Elec 02 R0	Replace generator battery packs and hoses, as required.	4 Yrs	\$300	2023	\$300	•			•			•			•			•				•			•			•



RDH Building Science Inc. 4333 Still Creek Drive #400 Burnaby, BC V5C 6S6

Asset Ref ID	f Maint. Ref ID	Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	2022	2023 2024	2025	2026 2027	2028	2029	2030 2031	2032	2033	2034 2035	2036	2037	2038	2040	2041	2042	2043 2044	2045	2046	2047 2048	2049	2050 2051
ELECTRI	CAL																											
Elec 02	R04	Replace emergency generator and transfer switch.	35 Yrs	\$120,000	2033	\$150,000									•													
Elec 03	J01	Lubricate all moving contacts.	5 Yrs	\$0	2025	\$0			•			•				•				•				•			•	,
Elec 03	J02	Perform mechanical tests in accordance with manufacturer guidelines to verify mechanical integrity of unit substation equipment and main secondary disconnects (e.g. check switches for correct operation and alignment; megger and verify equipment phase colours; inspect candles for damage or cracking, oil leakage and oil level for oil circuit breakers).	5 Yrs	\$0	2025	\$0			•			•				•				•				•			•	
Elec 03	J03	Calibrate electrical relays to match documented (or utility company) settings.	5 Yrs	\$0	2025	\$0			•			•				•				•				•			•	,
Elec 03	J04	Prior to cleaning verify nameplate information; check insulator chips, cracks and tracking; inspect lightning arrestors and visually inspect contacts and bus.	5 Yrs	\$0	2025	\$0			•			•				•				•				•			•	,
Elec 03	J05	Verify that unit substation grounding network is adequate to ensure safety during work and while equipment is in operation.	5 Yrs	\$0	2025	\$0			•			•				•				•				•			•	
Elec 03	J06	Check tightness and torque all electrical connections. To be coordinated with 5-year system shutdown and cleaning.	5 Yrs	\$0	2025	\$0			•			•				•				•				•			•	,
Elec 03	R01	Clean and maintain all unit substation equipment (reference subsequent maintenance tasks). Vacuum to remove accumulated dust. Check oil levels of oil filled equipment.	5 Yrs	\$5,000	2025	\$5,400			•			•				•				•				•			•	,
Elec 03	R02	Conduct infrared thermography and ultrasonic scanning tests on unit substation equipment. Results may diagnose hidden hazards; contractor should provide certificate for insurance purposes. To be coordinated with maintenance activities.	5 Yrs	\$3,000	2025	\$3,200			•			•				•				•				•			•	1
Elec 03	R03	Replace unit substation equipment.	35 Yrs	\$120,000	2033	\$150,000									•													
DISTRIBU	TION																											
Elec 04	J01	Check for any exposed wiring and visually inspect wiring, where accessible, for signs of distress. Repair as required.	2 Yrs	\$0	2022	\$0	•	•		•	•	•		•		•	•		•	•		•	•		•	•	•	,
Elec 04	J02	Check raceways and cables for proper mechanical support, check insulation for abrasion or cracks at support points, examine raceway joints for clean and tight connections. Check busducts connections for proper tightness and evidence of overheating, corrosion, arcing or other deterioration. Clean and torque dirty and loose connections.	2 Yrs	\$0	2022	\$0	•	•		•	•	•		•		•	•		•	•		•	•		•	•	•	
Elec 04	R01	Conduct infrared thermography and ultrasonic scanning tests on all switchgear, distribution panels, cable and bus connections, and other critical equipment. Results may diagnose hidden hazards; contractor should provide certificate for insurance purposes. To be coordinated prior to planned maintenance to identify areas that require immediate attention. Tests should be conducted on energized equipment during peak demand periods if possible.	5 Yrs	\$3,000	2025	\$3,200			•			•				•				•				•			•	
Elec 04	R02	Cyclical replacement of components of the electrical distribution equipment, as required.	40 Yrs	\$80,000	2038	\$110,000													•									
LIGHT FI	XTURES																											
Elec 05	R01	Cyclical group replacement of lamps in exterior lighting fixtures. A set of lamps is replaced at a scheduled time.	3 Yrs	\$0	2022	\$0	•		•		•		•			•		•		•		•			•		•	



Asset Ref ID	Maint. Ref ID	Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	2022	2023	2024	2026	2027	2028	2029 2030	2031	2032	2033 2034	2035	2036	1010	2039	2040	2041	2042	2043	2045	2046	2047	2048	2049 2050	2051
ELECTRIC	CAL		I	I	· · · · · · · · · · · · · · · · · · ·	\																								
Elec 05	R02	Cyclical replacement of lighting controls (timers, motion sensors, etc.) as required.	6 Yrs	\$0	2024	\$0			•				•					•					•					•		
Elec 05	R04	Cyclical replacement of electronic ballasts.	10 Yrs	\$0	2028	\$0						•							•									•		
Elec 05	R05	Replace exterior light fixtures, as required, for aesthetic purposes, to match ballast replacement cycles, or technological obsolescence.	20 Yrs	\$10,000	2038	\$14,000													•											
Elec 06	R01	Cyclical group replacement of lamps in interior lighting fixtures. A set of lamps are replaced at a scheduled time.	3 Yrs	\$0	2022	\$0	•		•			•		•		•		•			•			•		•		•		
Elec 06	R02	Cyclical replacement of lighting controls (timers, motion sensors, etc.) as required.	6 Yrs	\$0	2024	\$0			•				•					•					•					•		
Elec 06	R04	Cyclical replacement of electronic ballasts.	10 Yrs	\$0	2022	\$0	•								•								•							
Elec 06	R05	Replace interior light fixtures, as required, for aesthetic purposes, to match ballast replacement cycles, or technological obsolescence.	20 Yrs	\$60,000	2026	\$60,000				•																•				
SECURITY																														
Elec 07	R01	Replace enterphone panels, excluding field wiring.	25 Yrs	\$18,000	2023	\$19,000		•																				•		
Elec 08	R01	Replace media in recording device to maintain continuous records from proximity access control devices. Retain records in secure archive for period determined by policy.	6 Yrs	\$0	2024	\$0			•				•					•					•					•		
Elec 08	R02	Modernize components of the proximity access control system, excluding field wiring, as required by technological obsolescence.	12 Yrs	\$160,000	2028	\$180,000						•									•									
Elec 09	R01	Service the multiplex unit, update software as required.	5 Yrs	\$0	2025	\$0			•				•				•				•				•				•	
Elec 09	R02	Modernize components of the security surveillance system, excluding field wiring, as required by technological obsolescence.	14 Yrs	\$20,000	2023	\$21,000		•										•												•
Asset Ref ID	Maint. Ref ID	Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	2022	2023	2024	2026	2027	2028	2029 2030	2031	2032	2033 2034	2035	2036	1502	2039	2040	2041	2042	2043	2045	2046	2047	2048	2049 2050	2051
MECHAN	ICAL		I																	1							· / .			
CONTROL	S AND	END DEVICES																												
Mech 01	R01	Cyclical replacement of sensors and other field devices, as required.	3 Yrs	\$O	2022	\$O	•		•			•		•		•		•			•			•		•		•		
Mech 01	R02	Replace boiler control, as required.	15 Yrs	\$6,000	2023	\$6,000		•											•											
Mech 02	R01	Cyclical replacement of electronic actuator controls, as required.	10 Yrs	\$2,000	2024	\$2,000			•							•									•					
Mech 03	R01	Cyclical replacement of miscellaneous HVAC instrumentation, as required.	3 Yrs	\$2,000	2023	\$2,100		•		•		•			•		•		•			•			•		•		•	
Mech 04	R01	Cyclical replacement of gas detection sensors.	5 Yrs	\$18,000	2023	\$19,000		•				•				•			•					•				•		
Mech 05	R01	Cyclical replacement of components of electric heat tracing cable, including control module and pipe insulation.	15 Yrs	\$5,000	2023	\$5,000		•											•											
PLUMBING	5 & DRA	NINAGE	· · · · · ·	· · · ·																					-					
Mech 06	R01	Cyclical replacement of electric hot water reheat tank.	5 Yrs	\$3,000	2023	\$3,100		•				•				•			•					•				•		



| Maintenance Description | Frequency | Current Cost | Next Event

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| Cyclical replacement of gas fired domestic hot water heaters. | 14 Yrs | \$11,000 | 2023

 | \$11,000

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| Cyclical replacement of gas fired domestic hot water heaters. | 14 Yrs | \$10,000 | 2023

 | \$10,000

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| nsert video cameras into main lines to conduct pipe nspection. | 5 Yrs | \$5,000 | 2025

 | \$5,400

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| Hydroflush lateral drain lines. | 5 Yrs | \$7,000 | 2025

 | \$7,000

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| Repair and/or replace components of sanitary drainage distribution system, as required. | 50 Yrs | \$70,000 | 2048

 | \$120,000

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| Cyclical replacement of faucets and trim, as required. | 25 Yrs | \$4,500 | 2026

 | \$5,000

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| Cyclical replacement of sinks and faucets, as required. | 25 Yrs | \$12,000 | 2026

 | \$13,000

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| Cyclical replacement of toilets and urinals, as required. | 20 Yrs | \$9,000 | 2026

 | \$9,000

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| Cyclical replacement of recirculating pumps, as required. | 10 Yrs | \$9,000 | 2030

 | \$11,000

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| Dverhaul storm sump pumps. | 5 Yrs | \$2,000 | 2023

 | \$2,200

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| Cyclical replacement of sump pump storm lift and control
panels. | 15 Yrs | \$8,000 | 2033

 | \$10,000

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| Cyclical replacement of domestic hot water storage tanks. | 20 Yrs | \$17,000 | 2039

 | \$24,000

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| nsert video cameras into main lines to conduct pipe nspection. | 5 Yrs | \$2,000 | 2025

 | \$2,200

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| etflush/auger lateral drain lines. | 5 Yrs | \$3,000 | 2025

 | \$3,200

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| Repair and/or replace components of perimeter drainage system, as required. | 40 Yrs | \$25,000 | 2038

 | \$35,000

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| etflush/auger lateral drain lines. | 5 Yrs | \$3,000 | 2025

 | \$3,200

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| nsert video cameras into main lines to conduct pipe nspection. | 5 Yrs | \$2,000 | 2025

 | \$2,200

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| Repair and/or replace components of storm water drainage
listribution system, as required. | 40 Yrs | \$80,000 | 2038

 | \$110,000

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| Check that pipe hangars are properly fastened and dissimilar netals are isolated from one another. | 5 Yrs | \$0 | 2025

 | \$0

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| Check piping and supports for mechanical damage, proper clearance, adequate insulation, and labeling. | 5 Yrs | \$0 | 2025

 | \$0

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| Check integrity of all soldered pipe connections and
couplings. | 5 Yrs | \$0 | 2025

 | \$0

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| Comprehensive third party testing and inspection of the copper domestic water distribution system. | 30 Yrs | \$10,000 | 2025

 | \$10,000

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| Replace components of domestic plumbing distribution system, including domestic valves. | 35 Yrs | \$1,856,000 | 2033

 | \$2,400,000

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| Cyclical replacement of fittings and valves, as required. | 20 Yrs | \$11,500 | 2048

 | \$20,000

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| Replace motor bearings, pump bearings and seals. Inspect nounts and housing, repair as required. | 7 Yrs | \$4,950 | 2023

 | \$5,100

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| Replace domestic booster pumps and motor control panel.
<each motor="" pump=""></each> | 14 Yrs | \$15,000 | 2024

 | \$15,000

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| Cyclical replacement of hot water expansion tanks, as equired. | 20 Yrs | \$3,000 | 2023

 | \$3,100

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| Eyclical replacement of back flow prevention valves, as required. | 20 Yrs | \$10,000 | 2032

 | \$12,000

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| | laintenance Description yclical replacement of gas fired domestic hot water heaters. yclical replacement of gas fired domestic hot water heaters. yclical replacement of gas fired domestic hot water heaters. yclical replacement of gas fired domestic hot water heaters. yclical replacement of faucets of sanitary drainage istribution system, as required. yclical replacement of faucets and trim, as required. yclical replacement of toilets and urinals, as required. yclical replacement of recirculating pumps, as required. yclical replacement of recirculating pumps, as required. yclical replacement of sump pump storm lift and control anels. yclical replacement of domestic hot water storage tanks. usert video cameras into main lines to conduct pipe spection. ttflush/auger lateral drain lines. epair and/or replace components of perimeter drainage ystem, as required. ttflush/auger lateral drain lines. usert video cameras into main lines to conduct pipe spection. epair and/or replace components of perimeter drainage ystem, as required. ttflush/auger lateral drain lines. usert video cameras into main lines to conduct pipe spection. epair and/or replace components of storm water drainage istribution system, as required. heck that pipe hangars are properly fastened and dissimilar tetals are isolated from one another. heck piping and supports for mechanical damage, proper earance, adequate insulation, and labeling. heck integrity of all soldered pipe connections and suplings. omprehensive third party testing and inspection of the speer domestic water distribution system. eplace components of domestic plumbing distribution ystem, including domestic valves. yclical replacement of hot water expansion tanks, as equired. yclical replacement of hot water expansion tanks, as equired. | laintenance DescriptionFrequencyvclical replacement of gas fired domestic hot water heaters.14 Yrsvclical replacement of gas fired domestic hot water heaters.14 Yrsseert video cameras into main lines to conduct pipe5 Yrsspection.5 Yrsspection.5 Yrsepair and/or replace components of sanitary drainage50 Yrssyclical replacement of faucets and trim, as required.25 Yrsyclical replacement of sinks and faucets, as required.20 Yrsyclical replacement of toilets and urinals, as required.20 Yrsyclical replacement of toilets and urinals, as required.10 Yrsyclical replacement of sump pump storm lift and control
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Asset Ref Maint. ID Ref ID	Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	2022 2023	2024	2025	2026	2027	0202	2029 2030	2031	2032	2033	2034	2036	2037	2038	2039	2041	2042	2043	2045	2046	2047 2048	2049	2050 2051
MECHANICAL		II				II	II																		1 1			
Mech 23 R01	Cyclical replacement of cross connection & back flow prevention valves, as required.	10 Yrs	\$10,000	2024	\$10,000		•									•							•					
Mech 24 R01	Cyclical replacement of valves, as required.	10 Yrs	\$10,000	2025	\$11,000			•								•								•				
Mech 25 R01	Replacement of components of water treatment equipment. [PLACEHOLDER]	8 Yrs	\$0	2020	\$0																							
Mech 26 R01	Cyclical replacement of gas fired domestic hot water heaters.	14 Yrs	\$19,500	2033	\$25,000										•										•			
Mech 27 R01	Cyclical replacement of gas fired domestic hot water heaters.	14 Yrs	\$19,500	2033	\$25,000										•										•			
Mech 28 R01	(Cyclical) replacement of domestic hot water storage tanks.	8 Yrs	\$27,000	2023	\$28,000	•							•						•	,					•			
HEATING & COO	LING	I					··																	-				
Mech 29 R01	Cyclic replacement of split system AC unit fan coils.	15 Yrs	\$33,000	2035	\$43,000											•												•
Mech 30 R01	Cyclical replacement of components of condensing units on split system AC.	15 Yrs	\$18,000	2034	\$23,000											•											•	
Mech 31 R01	Replacement of electric unit heaters.	17 Yrs	\$5,000	2023	\$5,000	•														•								
Mech 32 R01	Cyclical replacement of electric baseboard heaters, as required.	40 Yrs	\$19,125	2038	\$27,000														•									
Mech 33 R01	Cyclic replacement of split system AC unit fan coils.	15 Yrs	\$11,000	2028	\$13,000					•													,					
Mech 34 R01	Cyclical replacement of components of condensing units and fan coil units on split system AC.	15 Yrs	\$15,000	2035	\$19,000											•												•
VENTILATION AN	ID AIR-CONDITIONING																											
Mech 35 R01	Cyclical replacement of electric duct heaters.	17 Yrs	\$3,000	2023	\$3,000	•														•								
Mech 36 R01	Cyclical replacement of pulleys and motors and vibration isolation, as required.	8 Yrs	\$0	2023	\$0	•							•						•	,					•			
Mech 36 R02	Rebuild air make-up units.	20 Yrs	\$2,000	2025	\$2,000			•																•				
Mech 37 R01	Cyclical replacement of motors, fan blades and bearings on supply and exhaust fans, as required.	3 Yrs	\$500	2023	\$510	•			•		•			•		•			•		•		•		•			•
Mech 37 R02	Rebuild of powerventer, as required.	20 Yrs	\$2,500	2023	\$2,600	•																						
Mech 38 R01	Cyclical replacement of failed or damaged general purpose exhaust fans, as required.	12 Yrs	\$18,750	2024	\$20,000		•										•									•		
Mech 39 R01	Cyclical replacement of motors, fan blades and bearings on supply and exhaust fans, as required.	3 Yrs	\$5,500	2023	\$5,600	•			•		•			•		•			•		•		•		•			•
Mech 39 R02	Rebuild of supply and exhaust fans, as required.	20 Yrs	\$22,000	2024	\$23,000		•																•					
Mech 40 R01	Cyclical replacement of pulleys and motors and vibration isolation, as required.	8 Yrs	\$2,000	2025	\$2,000			•							•						•						•	
Mech 40 R02	Cyclical rebuild or replacement of make-up air units.	20 Yrs	\$60,000	2024	\$64,000		•																•					
Mech 41 R01	Cyclical replacement of pulleys and motors and vibration isolation, as required.	8 Yrs	\$0	2025	\$0			•							•						•						•	
Mech 41 R02	Cyclical rebuild or replacement of make-up air units.	20 Yrs	\$60,000	2024	\$64,000		•																•					
OTHER																												
Mech 42 R01	Replace motor and drive unit.	20 Yrs	\$7,500	2023	\$7,800	•																	,					
Mech 43 R03	Replace trash compactor. [PLACEHOLDER]	20 Yrs	\$0	2025	\$0																							



Asset Re ID	f Maint. Ref ID	Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	2022 2023	2024	2025	2026	2027 2028	2029	2030 2031	2032	2033	2034	2036	2037	2038	2039	2041	2042	2043	2044	2045	2046	2047	2049	2050	1007
ELEVAT	OR																													
TRACTIC	N																													l
Elev 01	J01	Check and test the overload devices.	2 Yrs	\$0	2024	\$0		•		•	•	•		•		•	•		•	•		•		•	•		•		,	Ì
Elev 01	J02	With test weights, load each elevator to contract capacity and operate the elevator in both directions, making single and two floor runs as well as runs for the full travel.	2 Yrs	\$0	2024	\$0		•		•	•	•		•		•	•		•	•		•		•	•		•		,	
Elev 01	J03	Conduct full load performance test.	2 Yrs	\$0	2024	\$0		•		•	•	•		•		•	•		•	•		•		•	•		•		,	
Elev 01	R03	Replace elevator auxiliary brake device.	30 Yrs	\$165,000	2022	\$170,000	•																							
Elev 01	R04	Replace elevator geared machines, controls and drive systems. Note: Fire alarm upgrades may be required if this asset is implemented. The budget for fire alarm upgrade is not included in the estimate. The next renewal event is extended based on the review comments provided by TKE.	30 Yrs	\$510,000	2031	\$610,000							•																	
Elev 01	R05	Replace elevator geared machines, controls and drive systems. Note: Fire alarm upgrades may be required if this asset is implemented. The budget for fire alarm upgrade is not included in the estimate. The next renewal event is extended based on the review comments provided by TKE.	30 Yrs	\$510,000	2032	\$620,000								•																
CAR INT	ERIORS																													
Elev 02	R01	Replace door operators.	20 Yrs	\$162,000	2023	\$170,000	•																•							
Elev 02	R02	Replace elevator operating and signal fixtures, upgrade cab interiors.	30 Yrs	\$265,500	2025	\$280,000			•																					
Elev 02	R03	Replace elevator operating and signal fixtures, upgrade cab interiors.	30 Yrs	\$265,500	2026	\$290,000				•																				
Asset Re	f Maint.	Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	022 023	024	025	026	027	029	030	032	033	034	036	037	038	039	041	042	043	044	045	046	048	049	050	100
	Kerib						0 0	2	2	0	0 V	0	0 0	2	2	0	1 0	2	0	0 0	1 0	2	2	2	0	0 0	N	2		1
FIRE SAI	ETY																													
FIRE SAF	ETY																													
Fire 01	R01	Replace damper operators and seals.	20 Yrs	\$12,000	2029	\$12,000						•																•		_
CONTRO	LS																													
Fire 02	J01	Replace battery packs for fire alarm control panels.	5 Yrs	\$0	2025	\$O			•			•				•				•					•			•	,	
Fire 02	R01	Replace battery packs.	5 Yrs	\$0	2025	\$0			•			•				•				•					•			•	•	
Fire 02	R02	Replace fire alarm annunciator panels and control panel, excluding field wiring and field devices.	20 Yrs	\$90,000	2036	\$120,000											•													
Fire 03	J01	Replace battery packs for fire alarm control panels.	5 Yrs	\$0	2025	\$0			•			•				•				•					•				•	
Fire 03	R01	Replace battery packs.	5 Yrs	\$0	2025	\$O			•			•				•				•					•				,	
Fire 03	R02	Replace fire alarm annunciator panels and control panel, excluding field wiring and field devices.	20 Yrs	\$90,000	2033	\$110,000									•															



Asset Ref ID	f Maint. Ref ID	Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	2022 2023	2024	2025	2026 2027	2028	2029 2030	2031	2032	2034	2035	2037	2038	2039	2040 2041	2042	2043	2044	2046	2047 2048	2049	2050 2051
FIRE SAF	ETY						1	1					1 1											1 1		1 1	
DETECTIO	ON																										
Fire 04	R01	Cyclical replacement of speakers, heat detectors, smoke detectors and related modules, excluding field wiring.	20 Yrs	\$60,000	2036	\$79,000										•											
Fire 05	R01	Cyclical replacement of speakers, heat detectors, smoke detectors and related modules, excluding field wiring.	20 Yrs	\$168,000	2033	\$210,000								•													
SUPPRESS	SION																										
Fire 06	R01	Replace fire sprinkler compressor.	14 Yrs	\$2,000	2023	\$2,100	•										•										•
Fire 07	J01	Conduct flow test.	5 Yrs	\$0	2025	\$0		•				•				•			•				•				•
Fire 07	R01	Replace jockey pump.	12 Yrs	\$2,000	2024	\$2,000		•								•									•		
Fire 07	R02	Rebuild fire pump.	15 Yrs	\$5,000	2024	\$5,000		•										•	•								
Fire 07	R03	Replace fire pump and motor control centre.	30 Yrs	\$27,000	2028	\$27,000					•																
Fire 08	R01	Cyclical replacement of fire extinguishers.	12 Yrs	\$26,000	2025	\$28,000		•									•									•	
Fire 09	R01	Replace smoke exhaust fans.	25 Yrs	\$4,000	2023	\$4,200	•																		•		
Fire 10	J01	Conduct flow test and pipe line condition (flushing) test to NFPA25.	5 Yrs	\$0	2025	\$0		•				•				•			•				•				•
Fire 10	J02	Sprinkler Heads - Test extra high temperature on sprinkler heads.	5 Yrs	\$0	2025	\$0		•				•				•			•				•				•
Fire 10	R01	Phased replacement of sprinkler zone control valves, as required.	20 Yrs	\$2,500	2026	\$2,800			•															•			
Fire 10	R02	Renew compromised portions of piping, gaskets connections, valves, devices and trim to maintain required function.	5 Yrs	\$3,000	2026	\$3,800			•				•			•				•				•			•
Fire 10	R03	Replace all heads, or submit representative sample of heads for testing by recognised testing agency, to the satisfaction of the authority having jurisdiction, in accordance with NFPA 25.	10 Yrs	\$9,000	2048	\$15,000																			•		
Fire 10	R04	Replace entire system including risers, branch piping, valves, heads swaybracing, and all related trim, back to Sprinkler Room.	100 Yrs	\$30,000	2098	\$0																					
Fire 11	J01	Sprinkler Piping - Conduct flow test and pipe line condition (flushing) test to NFPA25.	5 Yrs	\$0	2025	\$0		•				•				•			•				•				•
Fire 11	J02	Sprinkler Heads - Test extra high temperature on sprinkler heads.	5 Yrs	\$0	2025	\$0		•				•				•			•				•				•
Fire 11	R01	Replace damaged sprinkler heads, hangers and leaking gaskets, cages, sway-braces, drains, etc. as required.	5 Yrs	\$4,375	2028	\$5,000					•			•				•				•			•		
Fire 11	R02	Replace all heads, or submit representative sample of heads for testing by recognised testing agency, to the satisfaction of the authority having jurisdiction, in accordance with NFPA 25.	10 Yrs	\$52,500	2048	\$90,000																			•		
Fire 11	R03	Replace entire system including risers, branch piping, valves, heads, swaybracing, and all related trim back to Sprinkler Room.	60 Yrs	\$175,000	2058	\$360,000																					
Fire 12	R01	Phased replacement of sprinkler zone control valves, as required.	20 Yrs	\$0	2024	\$0		•														•					
Fire 12	R02	Replace gaskets in dry sprinkler valves.	20 Yrs	\$0	2024	\$0		•														•	,				
Fire 12	R03	Rebuild dry sprinkler valves.	20 Yrs	\$0	2024	\$0		•														•					



Asset Ref Maint ID Ref ID	Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	2022 2023	2024	2025	2026	2027	2028	2029 2030	2031	2032	2033	2034	2036	2037	2038	2039	2041	2042	2043	2044	2045	2046	2048	2049	2050	2051
FIRE SAFETY																														
Fire 12 R04	Replace sprinkler valves, as required.	40 Yrs	\$18,000	2038	\$25,000														•											
EGRESS																														
Fire 13 R01	Cyclical replacement of batteries and lamps in DC battery packs.	5 Yrs	\$0	2025	\$0			•				•				•				•					•				•	
Fire 13 R02	Cyclical replacement of LED exit signs.	20 Yrs	\$60,000	2034	\$78,000										•	,														
Asset Ref Maint ID Ref ID	Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	2022 2023	2024	2025	2026	2027	2028	2029 2030	2031	2032	2033	2034	2036	2037	2038	2039	2040 2041	2042	2043	2044	2045	2046	2048	2049	2050	2051
INTERIOR FINIS	HES																													
FLOORS																														
Finish 01 R01	Renew carpet.	15 Yrs	\$191,200	2026	\$190,000				•												•									
Finish 02 R01	Renew carpet.	15 Yrs	\$14,000	2026	\$14,000				•												•									
Finish 03 R01	Replace wood flooring, as required.	20 Yrs	\$16,900	2026	\$17,000				•																	•				
Finish 04 R01	Replace wood flooring, as required.	20 Yrs	\$26,000	2026	\$26,000				•																	•				
Finish 05 R01	Renew porcelain tile floor.	45 Yrs	\$81,400	2043	\$130,000																		•							
Finish 06 R01	Renew porcelain tile floor.	45 Yrs	\$31,460	2043	\$49,000																		•							
Finish 07 R01	Replace resilient flooring.	20 Yrs	\$10,500	2026	\$11,000				•																	•				
Finish 08 R01	Repaint concrete floor surfaces at high traffic areas.	4 Yrs	\$2,600	2024	\$2,800		•	•				•			•							•				•				
Finish 08 R02	Repaint concrete floor surfaces. Repaint faded stair tread safety markings , as required.	12 Yrs	\$26,000	2026	\$26,000				•										•										•	
WALLS																														
Finish 09 R02	Replace ceramic wall tiles.	25 Yrs	\$21,600	2026	\$24,000				•																					•
Finish 10 R01	Repaint interior wall in high traffic area, as required.	5 Yrs	\$12,800	2031	\$16,000								•								•									•
Finish 10 R02	Repaint wall surface including preparation of substrate.	10 Yrs	\$51,200	2026	\$57,000				•								•									•				
Finish 11 R01	Replace wallpaper covering at affected walls.	20 Yrs	\$220,800	2026	\$240,000				•																	•				
CEILINGS		•		•																										
Finish 12 R01	Replace acoustic ceiling tiles.	25 Yrs	\$8,250	2026	\$9,100				•																					
Finish 12 R02	Replace suspended frame and acoustic ceiling tiles.	50 Yrs	\$8,250	2048	\$14,000																						•			
Finish 13 R01	Renew all paint after preparing substrate.	20 Yrs	\$27,300	2026	\$27,000				•																	•				
ARCHITECTURAL	WOODWORK		'																											
Finish 14 R01	Replace sections of damaged baseboard, molding, and casing.	40 Yrs	\$6,400	2038	\$9,000														•										Τ	
Finish 15 R01	Replace damaged components of carpentry and millwork, as required.	30 Yrs	\$7,700	2026	\$8,500				•																					



Asset Ref Maint. ID Ref ID	Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	2022	2023 2024	2025	2026	2027	2028 2029	2030	2031	2032	2033	2035	2036	2037	2038	2039	2040	2041	2043	2044	2045	2046	2047	2040 2049	2050	2051
INTERIOR FINIS	HES																													
DOORS																														
Finish 16 J03	Recoat door and frame in high-traffic locations as required.	8 Yrs	\$18,625	2034	\$24,000			•							•						T	•							•	
Finish 16 R01	Replace interior swing door as required.	30 Yrs	\$74,500	2026	\$82,000				•																					
Asset Ref ID Ref ID	Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	2022	£202	2025	2026	2027	2028	2030	2031	2032	2033	2035	2036	2037	2038	2039	2040	2041	2043	2044	2045	2046	2047	2048 2049	2050	2051
AMENITIES																														
EQUIPMENT																														
Amen 01 R01	Replace components of electronic equipment.	6 Yrs	\$6,000	2026	\$6,000				•					•					•		T			•					•	
Amen 02 R01	Replace domestic appliances.	15 Yrs	\$3,500	2026	\$3,900				•												•							_		
Amen 03 R01	Replace components of fitness equipment, as required.	10 Yrs	\$10,000	2029	\$12,000						•								•									•		
SPECIALTIES					ł										·															
Amen 04 R01	Repair wood storage lockers, as required.	30 Yrs	\$12,000	2028	\$14,000					•																				
Amen 05 R01	Replace chainlink fencing, as required.	25 Yrs	\$1,500	2038	\$2,100														•									_		
FURNISHINGS	· · · · · · · · · · · · · · · · · · ·			I	I				I				I	1				I												
Amen 06 R01	Replace furniture and furnishing and associated component.	10 Yrs	\$10,000	2026	\$10,000				•								•				T					•			1	
Amen 07 R01	Replace metal storage lockers, as required.	25 Yrs	\$16,000	2026	\$18,000				•																					•
Amen 08 R01	Replace bicycle racks, as required.	30 Yrs	\$8,000	2028	\$9,200					•	,																			
Amen 09 R01	Replace central mail boxes as required.	30 Yrs	\$25,000	2028	\$29,000					•																				
Amen 10 R01	Replace pool table, as required.	20 Yrs	\$7,500	2026	\$7,500				•																	•				
Amen 11 R01	Replace damaged and outdated signage, as required.	25 Yrs	\$10,000	2028	\$11,000					•																				
SUITE																														
Amen 12 R01	Cyclical replacement of applied finishes, damaged fittings, appliances and accessories, as required.	12 Yrs	\$15,000	2026	\$17,000				•										•										•	
Amen 13 R01	Cyclical replacement and upgrade of components of audiovisual equipment, excluding field wiring, as required.	10 Yrs	\$20,000	2026	\$20,000				•								•									•				
POOL, SPA & SAU	JNA																													
Amen 14 R01	Replace heating element.	7 Yrs	\$4,000	2023	\$4,000	•								•					•											
Amen 14 R02	Refurbish sauna interior finish and element.	20 Yrs	\$30,000	2025	\$30,000			•																	•					
Asset Ref Maint. ID Ref ID	Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	2022	2023 2024	2025	2026	2027	2028	2030	2031	2032	2033	2035	2036	2037	2038	2039	2040	2041	2043	2044	2045	2046	2047	2048 2049	2050	2051



SITEWORK																			
HARD LA	HARD LANDSCAPING																		
Site 01	R02	Replace sections of concrete paving, as required.	20 Yrs	\$41,760	2028	\$48,000			•									•	
Site 02	R01	Replace sections of concrete aggregate paving, as required.	40 Yrs	\$30,240	2028	\$35,000			•										
Site 03	J01	Drain pond and visually review the surface of the membrane, paying close attention to all penetration locations for signs of distress, such as ridges, cracks, and delamination. Clean as required.	5 Yrs	\$0	2025	\$0		•				•		•				•	
Site 03	R01	Replacement of pond liner.	15 Yrs	\$5,000	2028	\$5,700			•							•			
Site 04	J02	Locally replace metal handrails, fences, and guardrails in coordination with podium membrane renewals, as required.	30 Yrs	\$30,000	2028	\$34,000			•										
Site 04	R02	Replace metal handrails, fences and guardrails.	40 Yrs	\$100,000	2038	\$140,000								•					
Site 05	R01	Replace sections of concrete retaining walls incoordination with podium membrane renewals.	10 Yrs	\$60,800	2028	\$70,000			•					•				•	
Site 05	R02	Concrete retaining wall is not deemed to be a renewable asset.	45 Yrs	\$0	2043	\$0										•			
SOFT LANDSCAPING																			
Site 06	R01	Cyclical replacement of components of irrigation sprinkler system, as required.	15 Yrs	\$5,000	2028	\$5,700			•							•			
Site 07	R01	Renovation of soft landscaping. Some renovation of soft landscaping may be necessary in conjunction with replacement of other assets.	30 Yrs	\$147,360	2028	\$170,000			•										
Site 07	R02	Renovate sections of the soft landscaping, as required.	15 Yrs	\$36,840	2028	\$42,000			•							•			
SITE SERVICES																			
Site 08	R01	Replace gas services where not owned by Utility	50 Yrs	\$10,000	2048	\$17,000												•	