Depreciation Report | Project R-10776.000

Remix, 733 14th Street, North Vancouver, BC

To: The Owners, Strata Plan EPS1945
c/o Grant Hastings, Property Manager
Pacific Quorum Properties Inc.
430 – 1200 West 73rd Avenue
Vancouver BC V6P 6G5

Site Visit: March 3 2021
Submitted: January 12, 2022 by
RDH Building Science Inc.
4333 Still Creek Drive #400
Burnaby BC V5C 6S6

Contents

Appendices

1 Introduction

RDH Building Science Inc. (RDH) was retained by Strata Plan EPS1945 (the Owners) to prepare a Depreciation Report (the Report) for the building known as Remix, which is located at 733 14th Street, North Vancouver, BC. Remix is comprised of Sections (Joint, Residential, and Commercial) and this Report is prepared for the Joint and Residential Sections. The Report considers the common property and limited common property components (the Assets) that the Strata Corporation is responsible to maintain, repair, and replace.

The Report is intended to help the Owners, the Strata Council, and the Property Management team make informed decisions about the allocation of resources to the common property Assets (such as roofs, windows, piping, and paving).

This Report meets the requirements stipulated in the current Strata Property Act and Regulations (the Act). 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.

A site visit was completed on March 3, 2021, and the financial data is based on the 2021/2022 fiscal year. A draft Report was distributed to the Strata Council and Strata Management on July 16, 2021. Feedback from the Strata Council was incorporated into the final report, which was issued on January 12, 2022.

The Depreciation Report is a 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 Depreciation Report. The Appendices provide detailed information to support the Summary Report. 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 Strata Corporation can choose to update portions of the Report more frequently, at their discretion, to reflect changes to their financial status and completed work.

2 Remix

Remix is an approximately 7-year-old (as of 2021), low-rise, mixed-use building with commercial and residential sections. The building is of wood-framed construction on Levels 2-4, and cast-in-place concrete construction on the ground floor and below-grade parkade.

The principal systems in the building include the building enclosure (the separation of the interior from exterior space), electrical (the electrical distribution, communications, and security equipment), mechanical (heating and plumbing), elevator, 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 of Remix are summarized in Table 2.1, Figure 2.1, and Figure 2.2 below.

TABLE 2.1 KEY PHYSICAL PARAMETERS

Figure 2.1 North elevation photograph of Remix

Date of first occupancy (approximate)	2014
Approximate gross floor area, including the parkade (ft²)	103,500
Total area of Unit Entitlement (m²)	5,488
Stories above-grade	4
Number of strata lots	
→ Commercial	10
→ Residential	60
Total	**70**

Figure 2.2 Aerial photograph of Remix (Imagery ©2021 Google).

3 Assessments

Depreciation Reports 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 a Depreciation Report is summarized in Figure 3.1 below:

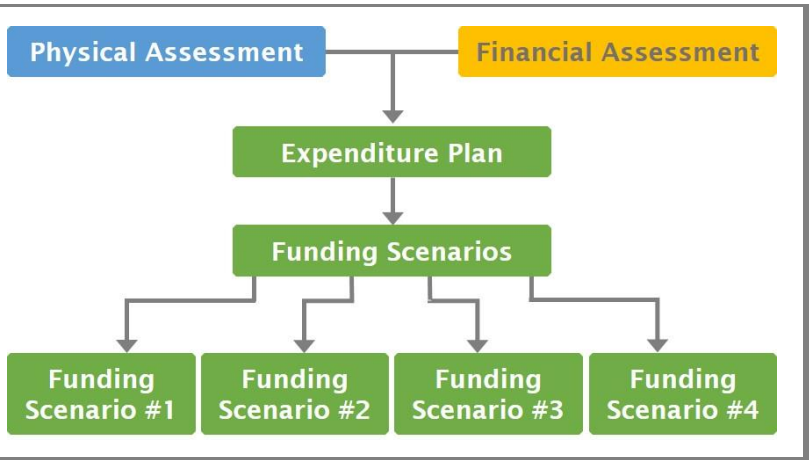


Figure 3.1

Depreciation Report Process

Funding models are built based on the Strategic Plan (30 years).

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 21 - Heat Exchanger - LEC	→ Lonsdale Energy Corporation (LEC)
Site 08 - Electrical Site Services	→ BC Hydro
Site 11 - Underground Natural Gas Service	→ Fortis BC

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:

- A review of historical documentation, such as minutes, invoices, and the general ledger,
- Discussions with Strata Corporation representatives,
- A visual review of the building, 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 www.rdh.com 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 → 2021 – Commissioned a roof review by BC Roof Inspections. → 2019 – Commissioned 5-Year Warranty Review by JRS Engineering. → 2019 – Commissioned 5th Year Annual Building Envelope Review by Aqua-Coast Engineering. → 2018 – Localized roof leak repair above Unit #408. → 2016 – Completed roof repairs and maintenance by Design Roofing. → 2015 – Commissioned 15-Month Warranty Review by Sense Engineering. → 2014 – Commissioned a roof inspection by BC Roof Inspections.
Electrical → 2018 – Replaced light fixtures in water feature.
Mechanical → 2021 – Repaired and replaced hydronic loop pumps.

TABLE 3.2 MAINTENANCE AND RENEWALS HISTORY
→ 2021 – Replaced LEC heat exchanger. → 2020 – Replaced two storm sump pumps. → 2020 – Overhauled water feature pump. → 2018 - Replaced five storage tanks and installed a new heat exchanger and filter. → 2018 – Repaired 2.5" backflow prevention valve. BPV's are winterized annually and cleaned every four years. → 2018 – Replaced two 2" check valves and installed 3" PVC piping from sanitary sump to city connection. → 2016/2017 – Replaced sanitary sump pumps. → 2016 – Replaced heat exchanger. → Annually – Cleaned sumps and catch basins.
Elevator → 2021 – Repairs to elevator shaft/pit due to flood damage caused by power outage. → 2020 – Installed a fan in elevator and repaired inset lights and ballast to prevent possible fire hazard. → 2018 – Repaired elevator shaft/pit due to flood damage.
Interior Finishes → 2021 – Repaired common changeroom/washroom due to water damage from shower fixture left running. Repairs included new swing door, two exhaust fans, baseboard heater, and interior finishes.

On March 3, 2021, a representative of RDH visited the site to visually review the Assets. In addition, a sub-consultant, Gunn Consultants, reviewed the elevator. While the Depreciation 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
Building Enclosure	→ The Owners have recently commissioned a review of the roofing membranes by BC Roof Inspections, please see report for more details. → Evidence of water ingress, with staining and efflorescence, into below-grade parkade at Visitor's Parking #1-4 and Stairwells P2 and P3. → Localized delamination of the parkade traffic-bearing membrane at ramp and commercial parkade. → Localized dark staining on wood siding and worn wood protective staining. → Localized delamination of vinyl balcony membrane at perimeter edges. → High humidity in water feature mechanical room and moisture behind water feature wall. → Localized cracks with staining and efflorescence at exterior concrete walls. → Localized efflorescence at brick cladding. → Localized plants growing on wall cladding at rooftop deck. → Localized unsealed cracks with efflorescence and delaminated paint at concrete canopies. → Localized areas of at-grade waterproofing membrane may be exposed to UV.
Interior Finishes	→ Localized damaged edges of carpet tiles.
Amenities	→ Delaminated river rocks at water feature wall.
Site work	→ Localized cracks in concrete paving.

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:

→ 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 renewal costs can be compared against the building reproduction cost. The building reproduction cost is the cost to reproduce the building 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. The commercial operating budget and CRF balance were not provided.

TABLE 3.4 KEY FINANCIAL PARAMETERS	
PARAMETER	INITIAL STUDY (2021/2022)
Fiscal year end	June 30
Building reproduction cost	$22,993,000
Operating budget (excluding CRF contribution)	
→ Joint	$336,561
→ Residential	$64,110
→ Commercial	$15,913
Total	**$416,584**
Annual CRF contribution	
→ Joint	$40,000
→ Residential	$12,000
→ Commercial	$1,600
Total	**$53,600**
Opening Balance of the CRF*	
→ Joint	$92,979
→ Residential	$57,648
→ Commercial	$11,079
Total	**$161,706**

**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 CRF balance is reconciled as of June 2021.*

Depreciation Reports 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 Depreciation Report funding models and calculations.

Capital costs can be distributed into three general categories:

→ *Catch-up costs*. The cost to complete any deferred maintenance and renewals.

→ *Keep-up costs*. The cost to complete planned cyclical maintenance and renewals.

→ *Get-ahead costs*. The cost to adapt, upgrade, and improve.

The Depreciation 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 (±50%), as defined by the Engineers and Geoscientists of British Columbia (EGBC), or unless noted otherwise. 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. A detailed list of activities and their associated costs are available in Appendix H.

Costing Caveats

The capital costs given in the Depreciation 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 occurs 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 Depreciation 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 below summarizes all major maintenance and renewal costs by system, including costs forecasted for the next 30 years. The values are rounded.

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	$0	$0	$0	$0
Building Enclosure	$660,000	$740,000	$4,900,000	$7,100,000
Electrical	$59,000	$65,000	$200,000	$270,000
Mechanical	$180,000	$210,000	$1,300,000	$1,800,000
Elevator	$0	$0	$120,000	$160,000
Fire Safety	$25,000	$27,000	$150,000	$210,000
Interior Finishes	$65,000	$69,000	$250,000	$340,000
Amenities	$11,000	$12,000	$49,000	$68,000
Sitework	$42,000	$48,000	$200,000	$280,000
Building Total	**$1,042,000**	**$1,171,000**	**$7,169,000**	**$10,228,000**

Approximately 15% 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.

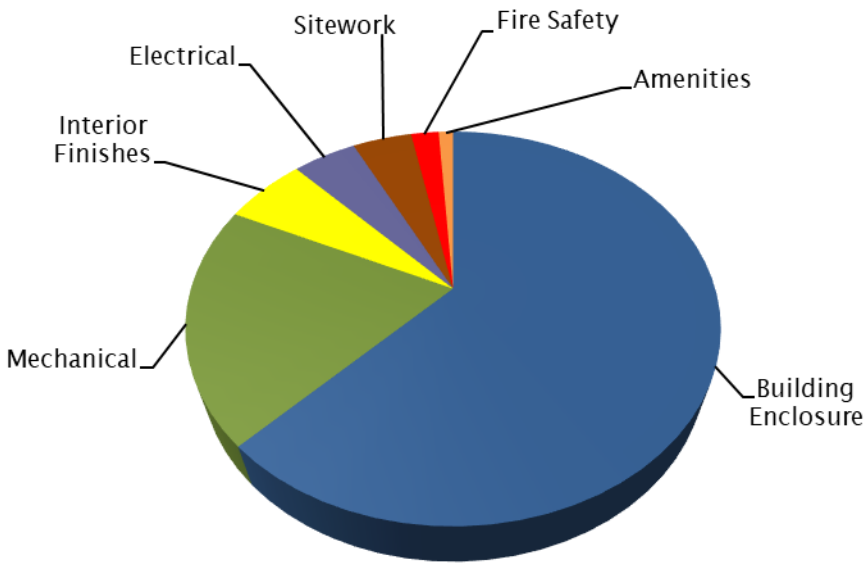


Figure 4.1 Distribution of estimated capital expenditures over 10 years by system.

Section 5 discusses the timing and size of renewal projects forecast for the next 30 years. A detailed list of each major maintenance and renewal 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 Renewal 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.

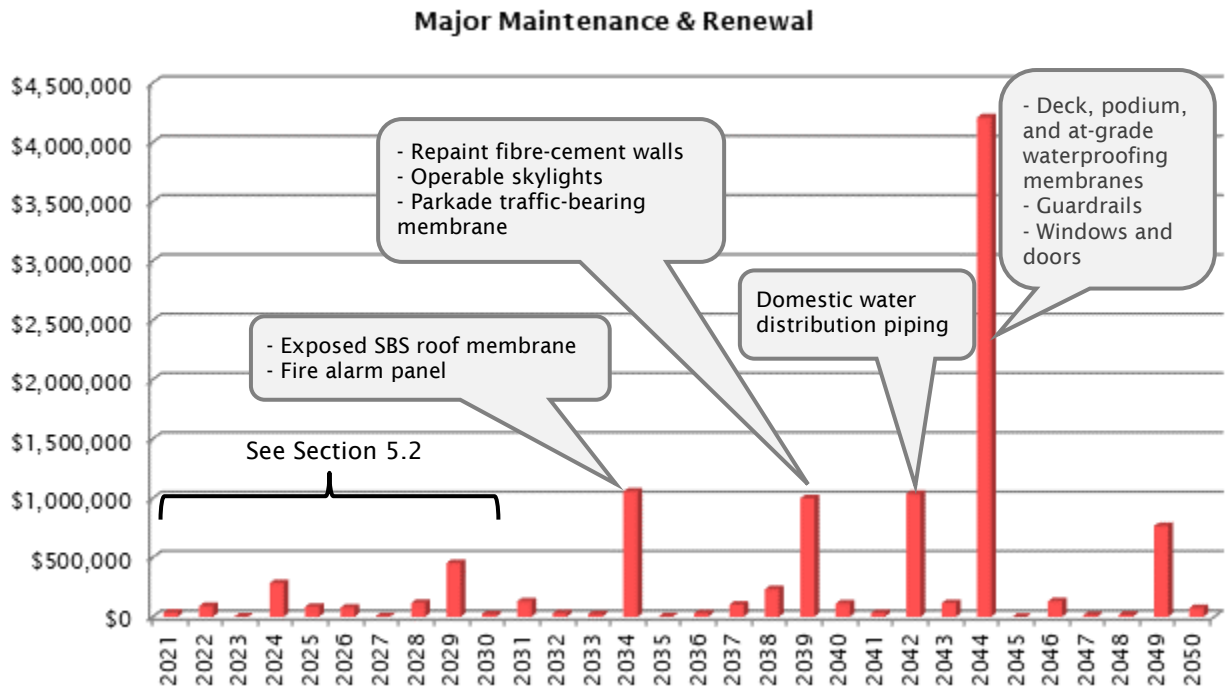


Figure 5.1 Strategic Forecast (30 Years), showing the approximate timing and value of some key capital expenditures.

Each bar on the graph represents a collection of different major maintenance and renewal activities, each with different values. Detailed information about each year, including a description of the maintenance and renewal activities and estimated costs, is also available through Appendix H.

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 costs associated to correct any warranty defects are not included. The soft costs associated with project implementation, such as site access, design, and contract administration are not included.

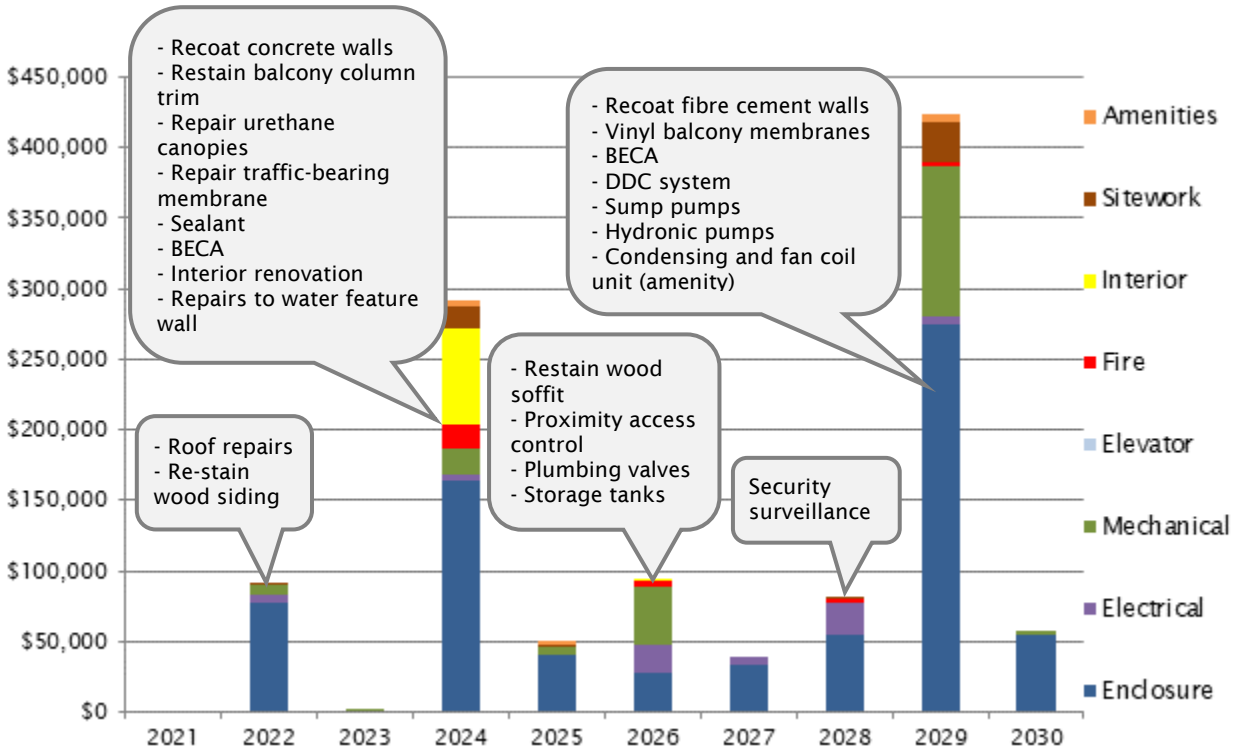


Figure 5.2 Tactical Forecast (10 years), showing the approximate timing and value of some key capital expenditures.

The Tactical Plan above represents one of many possible approaches to planning major maintenance and renewal 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 three-year planning periods. The list below is not comprehensive; however, it is limited to renewals and major maintenance activities likely to cost more than $5,000 in current year dollars or significant assessments. A complete list of maintenance and renewals are included in the Appendix H.

2021 to 2023

Building Enclosure

- → Encl 01/02/03 Roof/Deck/Podium – Repairs to the roof, deck, and podium assemblies, as recommended in the 2021 Roof Review by BC Roof Inspections.
- → Encl 04 Protected Liquid-applied Membrane At-Grade – Commissioning a review of the at-grade assembly above visitor's parking at Stalls #1-4 in the residential parkade.
- → Encl 08 Coated Concrete Wall – Sealing of the cracks and repainting of the exterior concrete walls.
- → Encl 11 Wood Siding Wall – Cleaning and re-staining of the wood siding wall cladding, on a 3-year cycle.
- → Encl 12 Wood Trim – Restaining of the wood trim around balcony columns, on a 3-year cycle.
- → Encl 22 Exposed Urethane Canopy Membrane – Localized repairs to the urethane membrane on concrete canopies.
- → Encl 25 Parking Slab with Traffic-bearing Membrane – Localized repairs to the traffic-bearing membrane at ramp and commercial parkade.
- → Encl 27 Sealant – Replacement of the exterior sealant at interfaces between the building enclosure assemblies and at penetrations.

Electrical

- → Elec 01 Electrical Distribution – Cleaning and infrared scanning of the electrical equipment.
- → Elec 06 Security Surveillance – Updating of the software and hardware, and installation of the additional security cameras.

Mechanical

- → Mech 40 Overhead Gate Motor – Replacement of the two (commercial and residential) parkade gate operators.
- → Mech 06/07/08 Perimeter, Storm, & Sanitary Drainage – Camera-scoping and jet-flushing of the perimeter, storm, and sanitary drainage lines.

Interior Finishes

- → Finish 02/06 Tile Carpet and Interior Painting – Interior renovations are completed to refurbish the interior common areas and are typically renewed at the Ownership group's discretion. The tile carpet and interior painting is forecast for renewal in 2024.

Sitework

- → Site 02 Water Feature – Localized repairs to the water feature wall.
- → Site 03 Water Feature Circulation & Filtration – Replacement of various components of the water feature circulation and filtration equipment.

2024 to 2026

Building Enclosure

- → Encl 05 Wood Soffit – Restaining of the wood soffits, to coincide with Encl 12 activities below.
- → Encl 11 Wood Siding Wall – Cleaning and re-staining of the wood siding wall cladding, on a 3-year cycle.
- → Encl 12 Wood Trim – Restaining of the wood trim around balcony columns, on a 3-year cycle.
- → Encl 28 General & Inspections – Commissioning of a Building Enclosure Condition Assessment (BECA) to confirm the existing conditions, including concealed conditions, of the building enclosure Assets and refine renewals forecast.

Electrical

- → Elec 05 Proximity Access Control – Modernization of the proximity access control system.

Mechanical

- → Mech 12 Storm Lift and Control Panel – Replacement of the storm sump pumps.
- → Mech 15 Plumbing Valves – Replacement of the various plumbing valves.
- → Mech 17 DHW Storage Tanks – Replacement of the DHW storage tanks.

Fire Safety

- → Fire 02 Fire Detection & Alarm – Replacement of the smoke detectors and other field devices every 10 years.

2027 to 2030

Building Enclosure

- → Encl 09 Thin Brick Veneer Wall – Repointing the mortar joints in the thin brick veneer wall.
- → Encl 10 Fibre Cement Wall – Recoating of the fibre cement wall cladding.
- → Encl 11 Wood Siding Wall – Cleaning and re-staining of the wood siding wall cladding, on a 3-year cycle.
- → Encl 12 Wood Trim – Restaining of the wood trim around balcony columns, on a 3-year cycle.
- → Encl 23 Exposed Vinyl Balcony Membrane – Replacement of the vinyl balcony membranes.
- → Encl 28 General & Inspections – Commissioning of a Building Enclosure Condition Assessment (BECA) to confirm the existing conditions, including concealed conditions, of the building enclosure Assets and refine renewal forecast.

Electrical

- → Elec 01 Electrical Distribution – Cleaning and infrared scanning of the electrical equipment.
- → Elec 06 Security Surveillance – Modernizing components of the security surveillance equipment.

Mechanical

- → Mech 01 Direct Digital Controls – Modernizing components of the direct digital control (DDC) system.
- → Mech 03 Gas Detection – Replacement of the gas detection equipment in the parkades.

- → Mech 04 Heat Tracing – Replacement of the heat tracing equipment.
- → Mech 06/07/08 Perimeter, Storm, & Sanitary Drainage – Camera-scoping and jet-flushing of the perimeter, storm, and sanitary drainage lines.
- → Mech 11/12 Sanitary & Storm Lift and Control Panel – Replacement of the sanitary and storm sump pumps and control panels.
- → Mech 25/26 Hydronic Loop Pumps – Replacement of the hydronic loop pumps.
- → Mech 31/32 Condensing Unit and Fan Coil Unit – Replacement of the condensing unit and fan coil unit servicing the amenity room.

Sitework

- → Site 01 Concrete Paving – Replace sections of the concrete paving.
- → Site 04 Wood Pergola – Replacement of the wood pergola on the podium level (courtyard).
- → Site 06 Irrigation System – Replacement of the irrigation sprinkler controller, lines, and sprinkler heads.
- → Site 07 Soft Landscaping – Renovate sections of the soft landscaping, such as on the podium level (courtyard).

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 Depreciation Report will subsequently go through four basic steps before implementing the work: Assessment, Design, Documentation, and Quotation.

- → 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.
- → 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.

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 Depreciation Report are considered Class D (±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 building. Different exposure conditions and wear patterns may require that only some sections of the building 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 renewal 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 Depreciation 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)	$ 416,584
→ 25% of the operating budget	$ 104,146
→ 10% of the operating budget	$ 41,658
2020/2021 CRF closing balance	$ 161,706
2021/2022 CRF contribution	$ 53,600
Does the CRF closing balance exceed 25% of the operating budget?	Yes
Does the CRF contribution exceed 10% of the operating budget?	N/A

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 2021/2022 Annual General Meeting (AGM). The current allocation is also known as the Status Quo.

→ ***Alternative #1***. An increase from the Status Quo with a fixed annual contribution of $70,000, approximately double the current funding. 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 with an initial contribution of $100,000 and is increased by 3% annually in subsequent years. 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	$53,600	$70,000	Starting at $100,000	$338,000
Annual CRF increase	-	-	3%	-
Percent of progressive reserve	16%	21%	30%+	100%
CRF contribution per unit of unit entitlement			Starting at	
Per month	$0.81	$1.06	$1.52+	$5.13
Per year	$9.77	$12.76	$18.22+	$61.59
CRF contribution per average strata lot			Starting at	
Per month	$64	$83	$119+	$402
Per year	$766	$1,000	$1,429+	$4,829
Approximate number of special levies (over 30 years)	16	13	4	0
Approximate value of special levies (over 30 years)	$8.5M	$8M	$5.6M	$0
Minimum Closing Balance	$35,000			
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 2021/2022 AGM. The scenario is based on a fixed annual CRF contribution (no increases).

TABLE 6.3 CURRENT (2021/2022) FUNDING SCENARIO: CASH FLOW TABLE

FISCAL YEAR	OPENING BALANCE	RESERVE CONTRIBUTION	SPECIAL LEVY	RESERVE INCOME	RENEWAL COSTS	CONTINGENCY COSTS	CLOSING BALANCE
2021	$161,706	$53,600	$0	$3,234	$35,000	$1,000	$182,540
2022	$182,540	$53,600	$0	$3,651	$90,900	$1,000	$147,891
2023	$147,891	$53,600	$0	$2,958	$2,100	$1,000	$201,349
2024	$201,349	$53,600	$60,044	$4,027	$283,020	$1,000	$35,000
2025	$35,000	$53,600	$29,500	$700	$82,800	$1,000	$35,000
2026	$35,000	$53,600	$23,530	$700	$76,830	$1,000	$35,000
2027	$35,000	$53,600	$0	$700	$5,600	$1,000	$82,700
2028	$82,700	$53,600	$13,546	$1,654	$115,500	$1,000	$35,000
2029	$35,000	$53,600	$398,680	$700	$451,980	$1,000	$35,000
2030	$35,000	$53,600	$0	$700	$20,500	$1,000	$67,800

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.

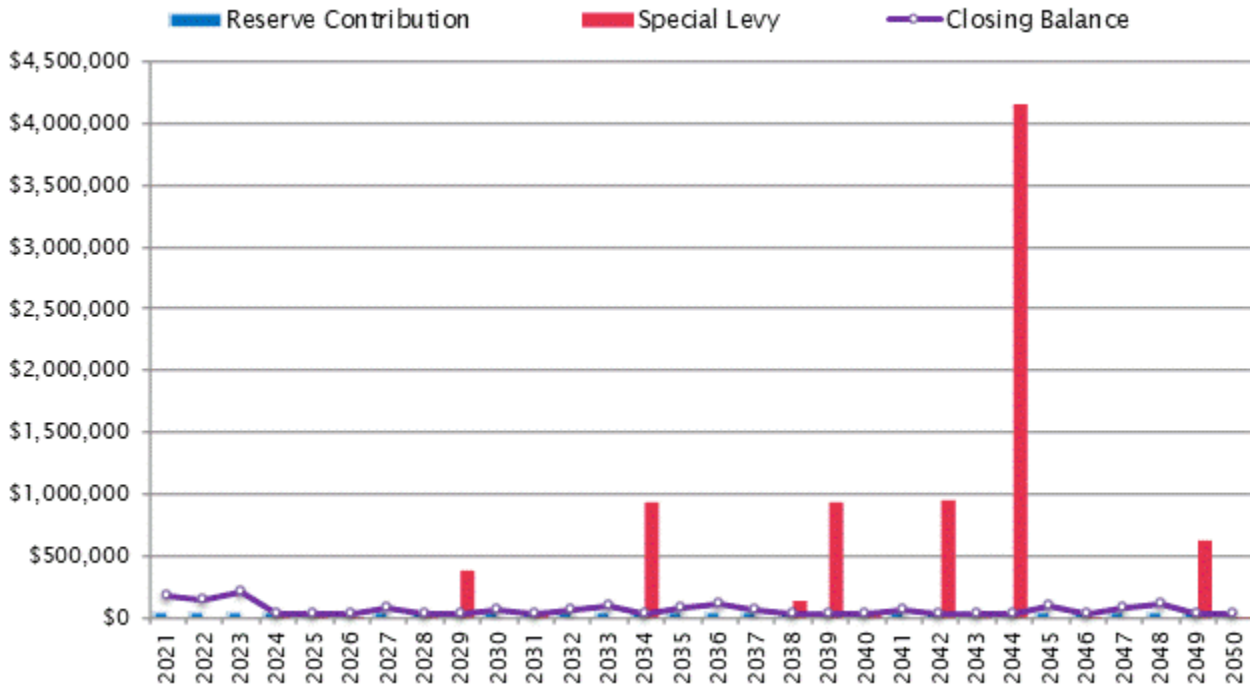


Figure 6.1 CRF balance, contribution, and special levies based on the current funding.

If the Strata Corporation wishes to reduce the number and 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 a fixed annual CRF contribution.

TABLE 6.4 ALTERNATIVE FUNDING SCENARIO #1: CASH FLOW TABLE

FISCAL YEAR	OPENING BALANCE	RESERVE CONTRIBUTION	SPECIAL LEVY	RESERVE INCOME	RENEWAL COSTS	CONTINGENCY COSTS	CLOSING BALANCE
2021	$161,706	$70,000	$0	$3,234	$35,000	$1,000	$198,940
2022	$198,940	$70,000	$0	$3,979	$90,900	$1,000	$181,019
2023	$181,019	$70,000	$0	$3,620	$2,100	$1,000	$251,539
2024	$251,539	$70,000	$0	$5,031	$283,020	$1,000	$42,550
2025	$42,550	$70,000	$5,399	$851	$82,800	$1,000	$35,000
2026	$35,000	$70,000	$7,130	$700	$76,830	$1,000	$35,000
2027	$35,000	$70,000	$0	$700	$5,600	$1,000	$99,100
2028	$99,100	$70,000	$0	$1,982	$115,500	$1,000	$54,582
2029	$54,582	$70,000	$362,306	$1,092	$451,980	$1,000	$35,000
2030	$35,000	$70,000	$0	$700	$20,500	$1,000	$84,200

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.

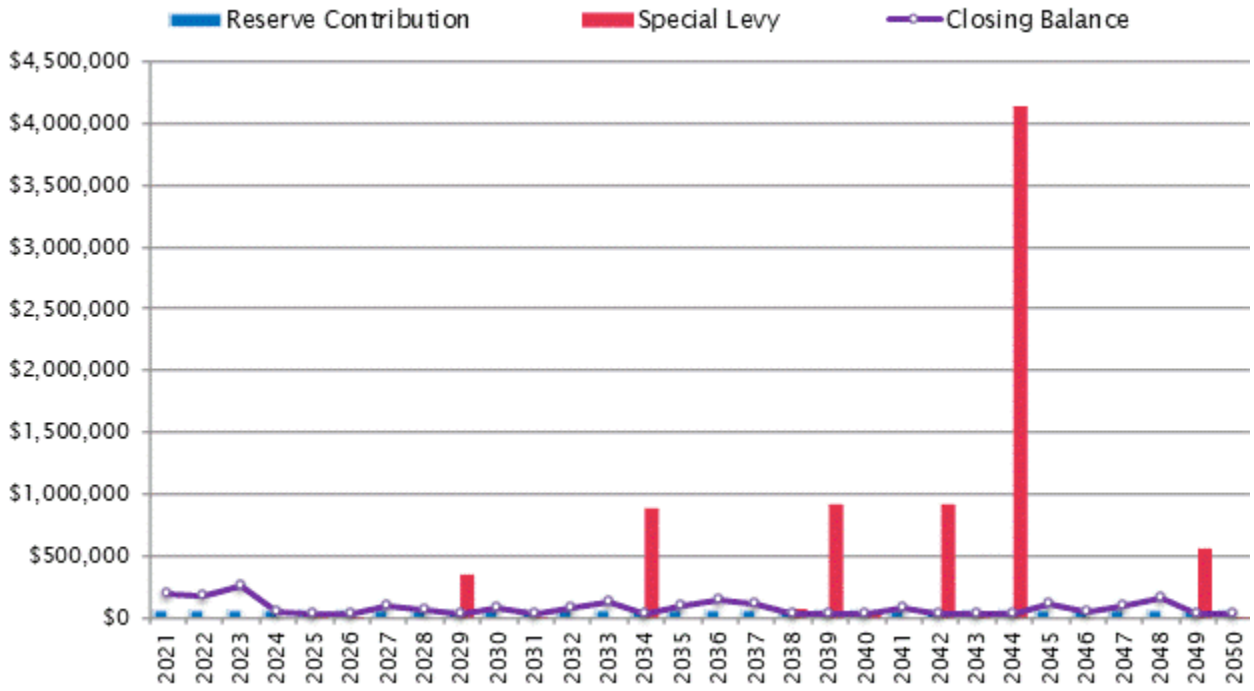


Figure 6.2 CRF balance, contribution, and special levies based on Alternative #1.

6.5 Alternative Funding Scenario #2

Alternative Funding Scenario #2 is based on an initial annual CRF contribution of $100,000, with a 3% annual increase in subsequent years. The initial annual contribution is approximately double the current contribution.

TABLE 6.5 ALTERNATIVE FUNDING SCENARIO #2: CASH FLOW TABLE

FISCAL YEAR	OPENING BALANCE	RESERVE CONTRIBUTION	SPECIAL LEVY	RESERVE INCOME	RENEWAL COSTS	CONTINGENCY COSTS	CLOSING BALANCE
2021	$161,706	$100,000	$0	$3,234	$35,000	$1,000	$228,940
2022	$228,940	$103,000	$0	$4,579	$90,900	$1,000	$244,619
2023	$244,619	$106,090	$0	$4,892	$2,100	$1,000	$352,501
2024	$352,501	$109,273	$0	$7,050	$283,020	$1,000	$184,804
2025	$184,804	$112,551	$0	$3,696	$82,800	$1,000	$217,251
2026	$217,251	$115,927	$0	$4,345	$76,830	$1,000	$259,693
2027	$259,693	$119,405	$0	$5,194	$5,600	$1,000	$377,693
2028	$377,693	$122,987	$0	$7,554	$115,500	$1,000	$391,734
2029	$391,734	$126,677	$0	$7,835	$451,980	$1,000	$73,265
2030	$73,265	$130,477	$0	$1,465	$20,500	$1,000	$183,708

Alternative Funding Scenario #2 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.

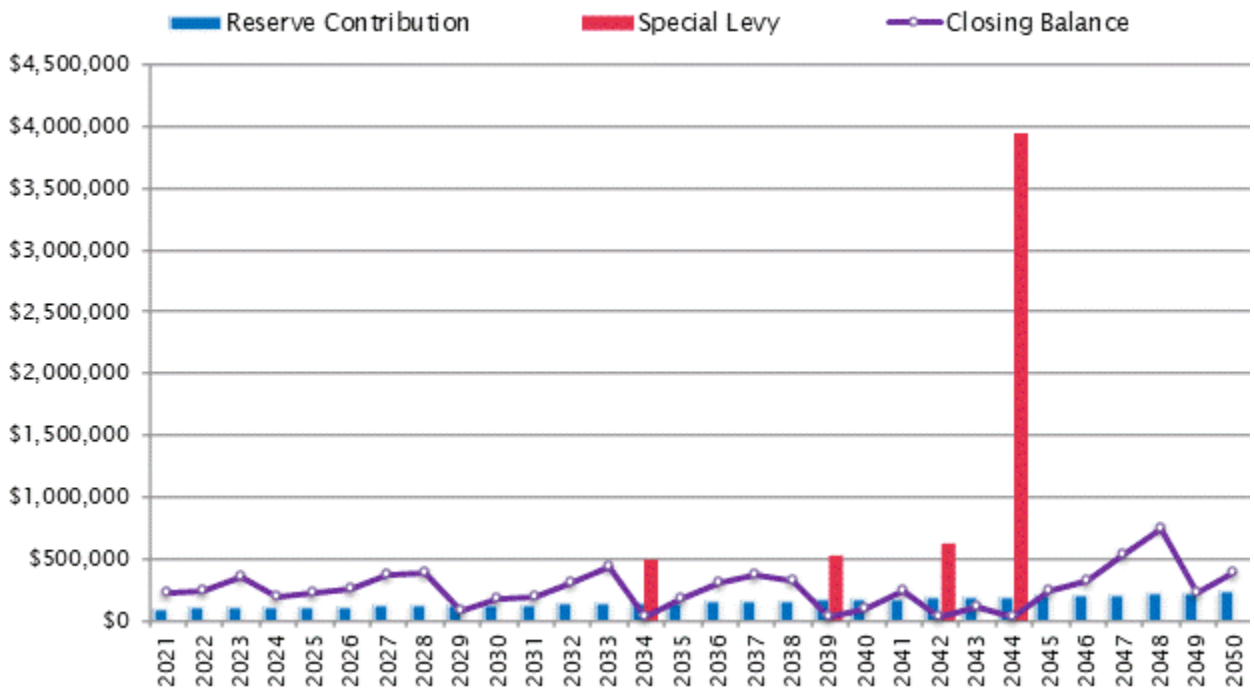


Figure 6.3 CRF balance, contribution, and special levies based on Alternative #2.

6.6 Progressive Funding Scenario

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

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
2021	$161,706	$338,000	$0	$3,234	$35,000	$1,000	$466,940
2022	$466,940	$338,000	$0	$9,339	$90,900	$1,000	$722,379
2023	$722,379	$338,000	$0	$14,448	$2,100	$1,000	$1,071,727
2024	$1,071,727	$338,000	$0	$21,435	$283,020	$1,000	$1,147,141
2025	$1,147,141	$338,000	$0	$22,943	$82,800	$1,000	$1,424,284
2026	$1,424,284	$338,000	$0	$28,486	$76,830	$1,000	$1,712,940
2027	$1,712,940	$338,000	$0	$34,259	$5,600	$1,000	$2,078,598
2028	$2,078,598	$338,000	$0	$41,572	$115,500	$1,000	$2,341,671
2029	$2,341,671	$338,000	$0	$46,833	$451,980	$1,000	$2,273,524
2030	$2,273,524	$338,000	$0	$45,470	$20,500	$1,000	$2,635,495

The Progressive Reserve would offset all special levies. 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.

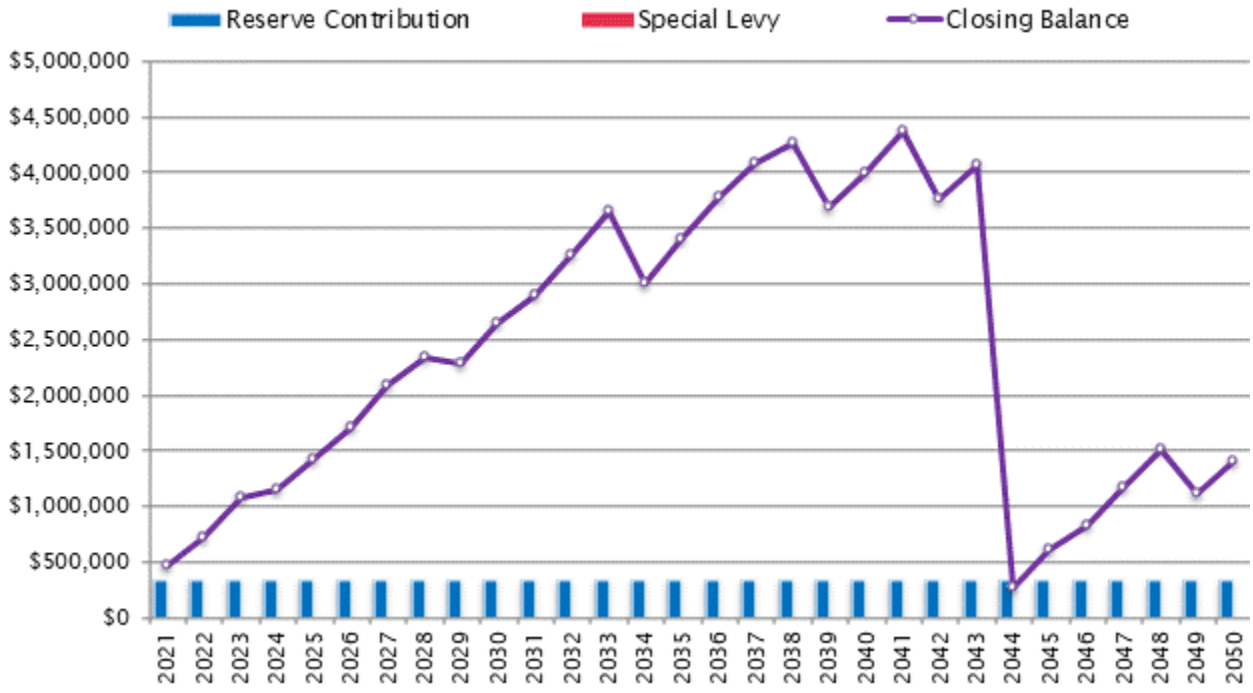


Figure 6.4 CRF balance, contribution, and special levies based on a Progressive Reserve calculation.

7 Next Steps

The Depreciation Report identifies the possible major maintenance and renewal expenditures that Remix 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 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.

Remix is a 7-year-old building (as of 2021), and aside from the potential renewal of the balcony membranes, carpet tiles, interior painting, and various fans and pumps, most expenditures that occur over the next 10 years relate to the major maintenance of the Assets, such as drainage cleaning, repainting, and localized repair of various claddings. This is a fairly typical renewal pattern for younger Strata Corporations, such as Remix. The Strata should continue to be diligent in performing maintenance tasks so Assets may achieve their full service life. It is unlikely that the Strata Corporation 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.

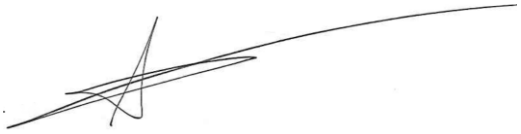
The recommendations below are intended to aid the Strata Corporation in the next steps of the renewals planning process.

Recommendations

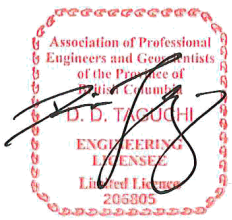
- **Project Planning:** Review the information in Section 5.2, and begin planning for significant projects, including commissioning assessments, requesting information, and preparing construction budgets, well in advance of the forecasted date of renewal. The planning process will assist the Strata Corporation in refining the actual timing, scope of work, and project budget.
- **Major Maintenance Planning:** Review Appendix H for a detailed checklist of forecasted major maintenance activities and renewals on an annual basis.
- **Record keeping:** Continue to record significant renewals, repairs, and maintenance activities. These records will be used to improve the forecast at the time of the Depreciation Report Update.
- **CRF Planning:** On a yearly basis, review and update the CRF funding strategy based on the estimated forecasts presented in this Report and update information obtained from assessments, investigations and quotations.
- **Building Enclosure Condition Assessment:** Conduct a Building Enclosure Condition Assessment (BECA) Report of the building enclosure prior to the update to the Depreciation Report in three years' time. The BECA should inform the renewal timing of the vinyl balcony membranes, polyurethane canopy membranes, parkade traffic-bearing membrane, and sealant.
- **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.

We trust this Report meets your needs at this time. Please do not hesitate to contact the undersigned should you wish to discuss any aspect of this Report or should the Owners require any additional building enclosure assistance.

Yours truly,



Alex Seto | Dipl T
Building Science Technologist
aseto@rdh.com
RDH Building Science Inc.



January 12 2022
Permit to Practice No. 1003380

Reviewed by
David Taguchi | P.L.Eng., RRO
Associate, Building Science Specialist
RDH Building Science Inc.

Reviewed by
Mark Will | BA Econ.
Principal
RDH Building Science Inc.

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.

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:

- → Energy retrofits
- → Code retrofits
- → Hazardous material abatement
- → Barrier free access retrofits
- → 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

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

Remix

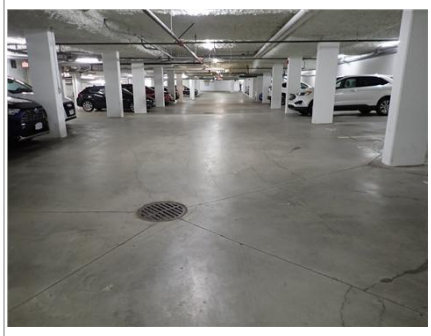
Asset Inventory

Report evaluated for 2021

Structural

Foundations

Struct 01 - CIP Concrete Foundation and Basement Construction



Location

Below-grade portion of the building.

Description

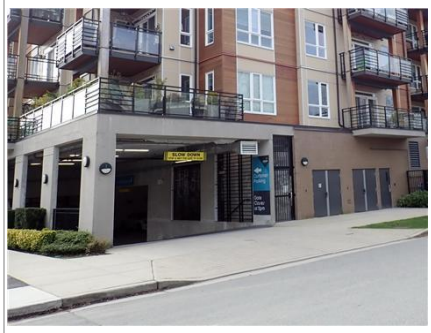
Cast-in-place (CIP) concrete strip and spread foundations and slab on grade supported directly on existing grade. Below grade, concrete foundation walls. Concrete suspended slab floors and podium ceiling.

Information

Service Life:	75	Install Year:	2014
Chronological Age:	7	Next Event Year:	2089
Effective Age:	7		

Walls & Columns

Struct 02 - CIP Concrete Walls, Columns, and Slab



Location

Level 1.

Description

Primary structure of Level 1. Cast-in-place (CIP) concrete walls and columns supporting a suspended slab. Concrete is exposed to weathering at exterior walls.

Information

Service Life:	75	Install Year:	2014
Chronological Age:	7	Next Event Year:	2089
Effective Age:	7		

Struct 03 - Wood Structure

Location

Levels 2-4.

Description

Wood framed walls, floors, roof, and balconies.

Information

Service Life:	75	Install Year:	2014
Chronological Age:	7	Next Event Year:	2089
Effective Age:	7		

Enclosure

Roofs & Decks

Encl 01 - Exposed SBS Membrane Roof

Location

Perimeter of main roof, elevated roofs, and various locations on Level 3.

Description

Bituminous and modified bituminous (SBS)(styrene-butadiene-styrene) membrane at low-slope roof. Conventional vented low-slope assembly with insulation in roof joists. Overlaid with rock ballast above corridors on the roof.

Information

Service Life:	20	Install Year:	2014
Chronological Age:	7	Next Event Year:	2034
Effective Age:	7		

Encl 02 - Protected SBS Membrane Deck (Conventional Assembly)

Location

Rooftop decks.

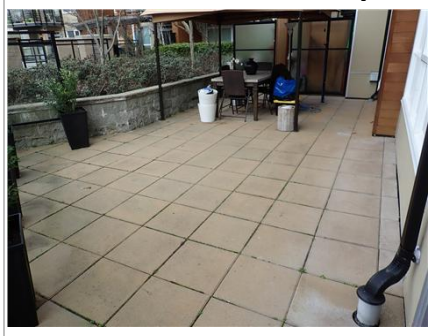
Description

SBS membrane overlaid with concrete pavers at rooftop decks. Conventional vented low-slope assembly with insulation in roof joists. The term 'deck' refers to an exterior horizontal surface that is intended for pedestrian use, but is located over occupied space.

Information

Service Life:	30	Install Year:	2014
Chronological Age:	7	Next Event Year:	2044
Effective Age:	7		

Encl 03 - Protected Liquid-Applied Membrane Podium



Location

Level 2 decks (podium).

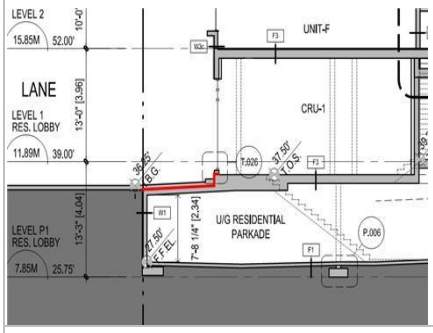
Description

Liquid-applied hot rubberized asphalt podium waterproofing membrane overlaid with combination of pea gravel, filter cloth, concrete paving, and soft landscaping. The term 'podium' refers to the concrete slab between Level 1 and 2. The podium is located over occupied interior space (commercial units) and the commercial parkade.

Information

Service Life:	30	Install Year:	2014
Chronological Age:	7	Next Event Year:	2044
Effective Age:	7		

Encl 04 - Protected Liquid-Applied Membrane At-Grade



Location

Ground level, localized areas of concrete floor slab located above the below-grade parkade.

Description

Liquid-applied waterproofing membrane overlaid with concrete paving, and soft landscaping.

Information

Service Life:	30	Install Year:	2014
Chronological Age:	7	Next Event Year:	2044
Effective Age:	7		

Encl 05 - Wood Soffit

Location

Underside of roof eaves, balconies, and concrete eyebrows.

Description

Stained wood soffit over a wood framing and concrete substrates.

Information

Service Life:	40	Install Year:	2014
Chronological Age:	7	Next Event Year:	2054
Effective Age:	7		

Fall Protection

Encl 06 - Glazed Aluminum Frame Divider

Location

Podium on Level 2 and rooftop decks.

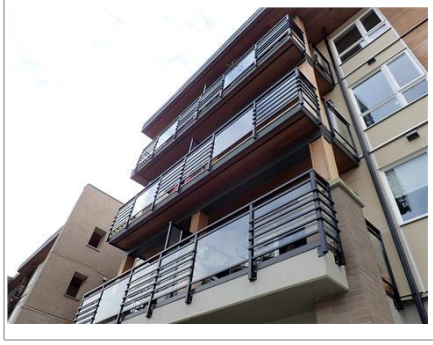
Description

Aluminum frame and glass infill panels functioning as a 6' high privacy barrier between decks.

Information

Service Life:	30	Install Year:	2014
Chronological Age:	7	Next Event Year:	2044
Effective Age:	7		

Encl 07 - Guardrail Glazed Aluminum



Location

Balcony perimeters on Levels 2-4.

Description

Aluminum posts and glass infill panels functioning as a protective barrier at the open sides of balconies to prevent accidental falls from one level to another.

Information

Service Life:	30	Install Year:	2014
Chronological Age:	7	Next Event Year:	2044
Effective Age:	7		

Walls

Encl 08 - Coated Concrete Wall

Location

East and south elevations on ground level.

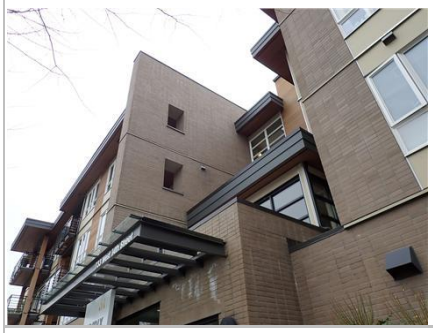
Description

Poured-in-place concrete wall with protective coating.

Information

Service Life:	75	Install Year:	2014
Chronological Age:	7	Next Event Year:	2089
Effective Age:	7		

Encl 09 - Thin Brick Veneer Wall



Location

All elevations and levels of the building.

Description

Thin brick applied as a veneer with a drained and vented cavity over exterior sheathing membrane.

Information

Service Life:	40	Install Year:	2014
Chronological Age:	7	Next Event Year:	2054
Effective Age:	7		

Encl 10 - Fibre Cement Wall - Drained

Location

All elevations on Levels 2-4 and roof.

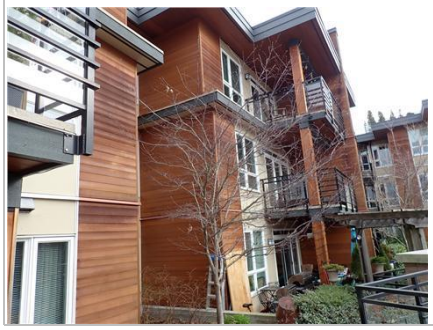
Description

Fibre cement cladding installed on wood strapping to create a drained cavity over the exterior sheathing membrane.

Information

Service Life:	40	Install Year:	2014
Chronological Age:	7	Next Event Year:	2054
Effective Age:	7		

Encl 11 - Wood Siding Wall - Drained



Location

All elevations on Levels 2-4 and roof.

Description

Stained wood siding installed on furring to create a drained cavity over the exterior sheathing membrane.

Information

Service Life:	35	Install Year:	2014
Chronological Age:	7	Next Event Year:	2049
Effective Age:	7		

Encl 12 - Wood Trim

Location

Roof and balcony facias, balcony columns, and underside of Level 2 canopies.

Description

Vertical and horizontal wood trim boards with stained surface for protection of the substrate and aesthetics.

Information

Service Life:	30	Install Year:	2014
Chronological Age:	7	Next Event Year:	2044
Effective Age:	7		

Glazing Systems

Encl 13 - Aluminum Storefront

Location

North, south, and west elevations on ground level.

Description

Aluminum framed, thermally broken, storefront system with insulating glazing units, and no operable vents.

Information

Service Life:	40	Install Year:	2014
Chronological Age:	7	Next Event Year:	2054
Effective Age:	7		

Encl 14 - Operable Skylight

Location

Access to decks on rooftop.

Description

Operable skylight hatches with double glazed insulating glazing units.

Information

Service Life:	25	Install Year:	2014
Chronological Age:	7	Next Event Year:	2039
Effective Age:	7		

Encl 15 - Vinyl Framed Window

Location

All elevations on Levels 2-4.

Description

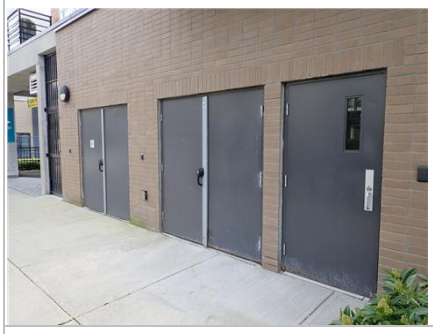
Vinyl framed windows with double insulating glazing units, and casement operable vents.

Information

Service Life:	30	Install Year:	2014
Chronological Age:	7	Next Event Year:	2044
Effective Age:	7		

Doors

Encl 16 - Steel Swing Door



Location

Emergency egress and service room doors.

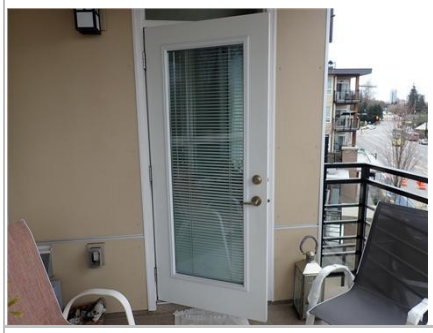
Description

Hollow steel slab swing door with and without wired glazing.

Information

Service Life:	25	Install Year:	2014
Chronological Age:	7	Next Event Year:	2039
Effective Age:	7		

Encl 17 - Vinyl Frame Glazed Swing Door



Location

Access to various balconies and decks on Levels 2-4.

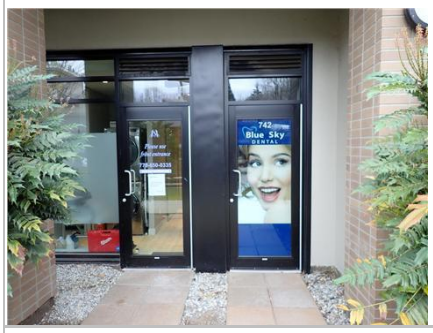
Description

Vinyl frame swing door with insulating glazing units.

Information

Service Life:	25	Install Year:	2014
Chronological Age:	7	Next Event Year:	2039
Effective Age:	7		

Encl 18 - Aluminum Frame Glazed Swing Door



Location

Various commercial units on the ground level.

Description

Aluminum frame swing door with insulated glazing units.

Information

Service Life:	25	Install Year:	2014
Chronological Age:	7	Next Event Year:	2039
Effective Age:	7		

Encl 19 - Aluminum Frame Lobby Door

Location

Residential lobby entrance doors.

Description

Outswing aluminum-framed doors with astragal plate, automatic door operator, fixed IGU's, and low-profile thresholds with electric strike and hardware.

Information

Service Life:	20	Install Year:	2014
Chronological Age:	7	Next Event Year:	2034
Effective Age:	7		

Encl 20 - Aluminum Framed Double Sliding Entrance Door

Location

Various commercial units on the ground level.

Description

Aluminum framed commercial sliding glass doors with louvers.

Information

Service Life:	20	Install Year:	2014
Chronological Age:	7	Next Event Year:	2034
Effective Age:	7		

Encl 21 - Vinyl Framed Sliding Glass Door

Location

Access to various balconies and decks on Levels 2-4.

Description

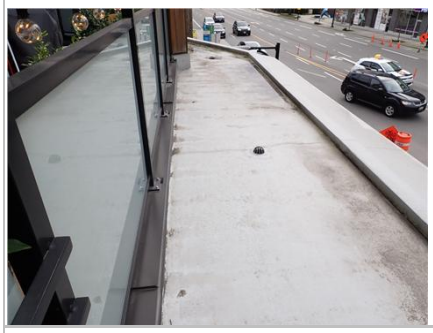
Sliding glass doors, double insulating glazing units, vinyl framing.

Information

Service Life:	30	Install Year:	2014
Chronological Age:	7	Next Event Year:	2044
Effective Age:	7		

Balconies

Encl 22 - Exposed Urethane Canopy Membrane - Concrete Substrate



Location

Canopies on Level 2.

Description

Liquid-applied urethane membrane applied over concrete canopies.

Information

Service Life:	25	Install Year:	2014
Chronological Age:	7	Next Event Year:	2039
Effective Age:	7		

Encl 23 - Exposed Vinyl Balcony Membrane

Location

Balconies on Levels 3-4.

Description

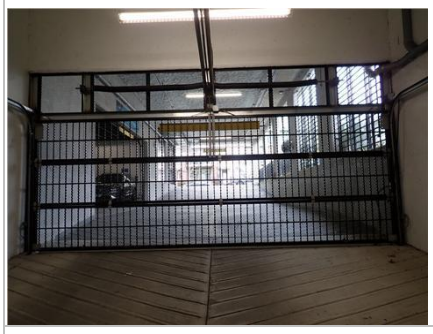
Sheet vinyl membrane applied over wood balcony sheathing. The term 'balcony' refers to an exterior horizontal surface that is intended for pedestrian use, but which projects from the building such that it is not located over occupied space.

Information

Service Life:	15	Install Year:	2014
Chronological Age:	7	Next Event Year:	2029
Effective Age:	7		

Parking Garage

Encl 24 - Open-grid Overhead Parkade Gate



Location

Entrances to commercial and residential parkades.

Description

Pre-finished metal grid overhead gate with motor drive and hardware. Residential gate was reinforced with new springs in 2020.

Information

Service Life:	25	Install Year:	2014
Chronological Age:	7	Next Event Year:	2039
Effective Age:	7		

Encl 25 - Parking Slab with Traffic-bearing Membrane

Location

Parkade entry ramp and commercial parkade on Level 1.

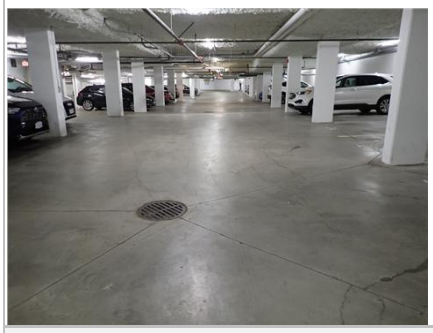
Description

Traffic-bearing membrane on concrete ramp and suspended slab of commercial parkade.

Information

Service Life:	75	Install Year:	2014
Chronological Age:	7	Next Event Year:	2089
Effective Age:	7		

Encl 26 - Slab-on-Grade



Location

Residential parkade on P1.

Description

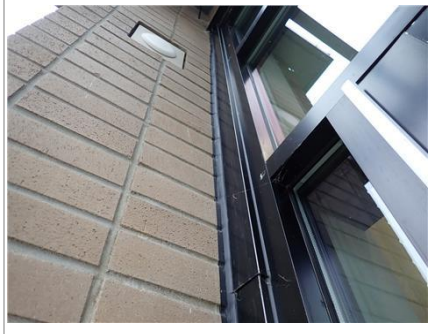
Concrete slab on grade.

Information

Service Life:	75	Install Year:	2014
Chronological Age:	7	Next Event Year:	2089
Effective Age:	7		

General & Inspections

Encl 27 - Sealant



Location

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.

Information

Service Life:	10	Install Year:	2014
Chronological Age:	7	Next Event Year:	2024
Effective Age:	7		

Encl 28 - General & Inspections

Location

Throughout the site.

Description

Miscellaneous interior and exterior components, such as service penetrations and interface details, not related to any particular assembly. Warranty and general reviews.

Information

Service Life:	75	Install Year:	2014
Chronological Age:	7	Next Event Year:	2089
Effective Age:	7		

Electrical

Distribution

Elec 01 - Electrical Distribution

Location

Throughout the building, electrical rooms in parkade.

Description

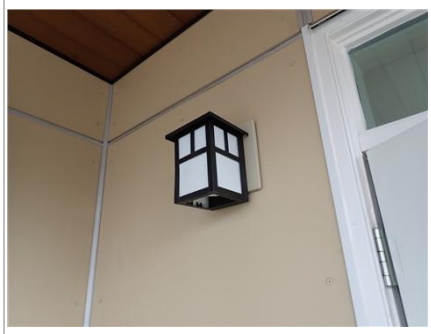
Eaton, 1,600 A, 208/120V main disconnect switch; downstream switchboards, panelboards, breakers, switches, disconnects and wiring to mechanical, lighting and power loads throughout the building and to individual suites through BC Hydro owned metering devices.

Information

Service Life:	40	Install Year:	2014
Chronological Age:	7	Next Event Year:	2054
Effective Age:	7		

Light Fixtures

Elec 02 - Exterior Light Fixtures



Location

Mounted to exterior walls and soffits.

Description

A variety of fixture types, including wall and soffit pot lighting for exterior direct, indirect and accent lighting applications. A variety of light fixture controls, including switches, motion sensors, timers, and photocells.

Information

Service Life:	20	Install Year:	2014
Chronological Age:	7	Next Event Year:	2034
Effective Age:	7		

Elec 03 - Interior Light Fixtures

Location

All common areas throughout the building.

Description

A variety of fixture types, including fixed surface and recessed. A variety of lamp types, including fluorescent, compact fluorescent, halogen, LED, 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	Install Year:	2014
Chronological Age:	7	Next Event Year:	2034
Effective Age:	7		

Security

Elec 04 - Enterphone System

Location

Entrances to residential lobby, parkade, and elevator vestibule.

Description

SES, surface mounted, enterphone panels with associated key pads and display panels.

Information

Service Life:	25	Install Year:	2014
Chronological Age:	7	Next Event Year:	2039
Effective Age:	7		

Elec 05 - Proximity Access Control

Location

Common area entrances such as parkades (commercial and residential), garbage rooms, pedestrian access doors, common changeroom, amenity room, lobby, and elevator lobby.

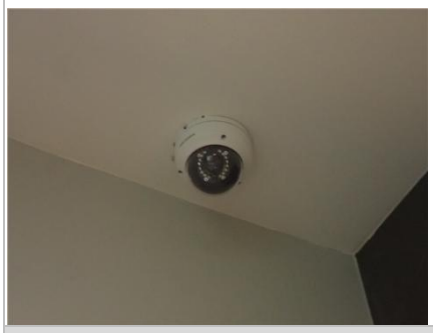
Description

Local proximity access control system components include fob devices for building occupants, fob readers, RTE sensors/buttons, electric strikes, and door controllers. Network level components include door control panel, communication boards, backup batteries, RTE board, conduit, cable, and connectors.

Information

Service Life:	12	Install Year:	2014
Chronological Age:	7	Next Event Year:	2026
Effective Age:	7		

Elec 06 - Security Surveillance



Location

Strategically located throughout the building and parkades.

Description

Cameras, multiplexer, monitors, and storage media to deter and track activity on and within building premises.

Information

Service Life:	14	Install Year:	2014
Chronological Age:	7	Next Event Year:	2028
Effective Age:	7		

Mechanical

Controls and End Devices

Mech 01 - Controls - Direct Digital

Location

Mechanical room in P1.

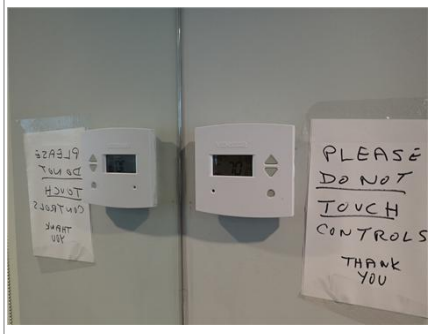
Description

Direct digital control panels to control heating of hydronic and domestic hot water systems.

Information

Service Life:	15	Install Year:	2014
Chronological Age:	7	Next Event Year:	2029
Effective Age:	7		

Mech 02 - Controls - HVAC Instrumentation - Gym HVAC



Location

Gym.

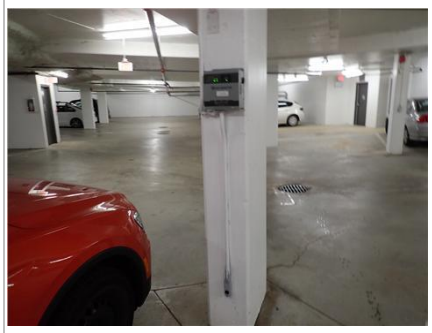
Description

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

Information

Service Life:	20	Install Year:	2014
Chronological Age:	7	Next Event Year:	2034
Effective Age:	7		

Mech 03 - Gas Detection - Parkade



Location

Mounted to columns throughout the parkades.

Description

Electronic sensing devices for detection of dangerous gases, carbon monoxide (CO), propane, and combustible fuels produced by vehicles and to activate the exhaust fans accordingly.

Information

Service Life:	10	Install Year:	2014
Chronological Age:	7	Next Event Year:	2024
Effective Age:	7		

Mech 04 - Heat Tracing - Freeze Protection

Location

Throughout the parkades.

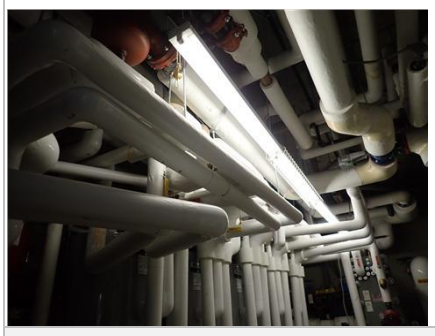
Description

Nextron Tracemate 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.

Information

Service Life:	15	Install Year:	2014
Chronological Age:	7	Next Event Year:	2029
Effective Age:	7		

Mech 05 - Controls - Electronic Actuators



Location

Mechanical room.

Description

Electronic motor-driven control devices on valves, dampers, etc. to control heating and domestic hot water system, etc.

Information

Service Life:	10	Install Year:	2014
Chronological Age:	7	Next Event Year:	2024
Effective Age:	7		

Plumbing & Drainage

Mech 06 - Drainage - Perimeter and Foundation

Location

Perimeter of P1.

Description

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

Information

Service Life:	40	Install Year:	2014
Chronological Age:	7	Next Event Year:	2054
Effective Age:	7		

Mech 07 - Drainage - Storm - Internal

Location

Throughout the building.

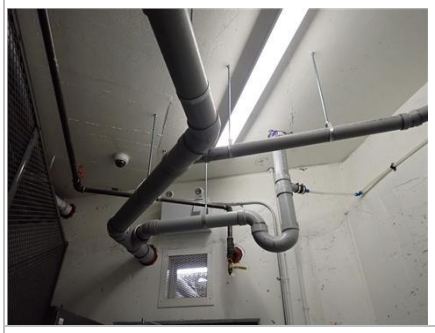
Description

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

Information

Service Life:	40	Install Year:	2014
Chronological Age:	7	Next Event Year:	2054
Effective Age:	7		

Mech 08 - Drainage - Sanitary



Location

Connected to waste fixtures throughout the building.

Description

A mix of cast iron and ABS-DWV piping with mechanical joints and solvent joints; includes p-traps and fittings.

Information

Service Life:	50	Install Year:	2014
Chronological Age:	7	Next Event Year:	2064
Effective Age:	7		

Mech 09 - Interceptor - Oil

Location

P1 parkade, adjacent to stall 41.

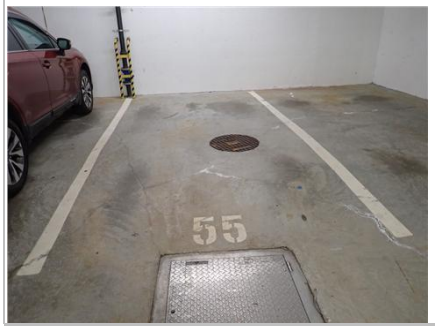
Description

Multi-chamber flow-through interceptor with hatches to grade.

Information

Service Life:	50	Install Year:	2014
Chronological Age:	7	Next Event Year:	2064
Effective Age:	7		

Mech 10 - Interceptor - Sediment



Location

P1 parkade, adjacent to stall 55.

Description

Underslab concrete silt interceptor assembly with backwater valve, cast steel cover and frame

Information

Service Life:	50	Install Year:	2014
Chronological Age:	7	Next Event Year:	2064
Effective Age:	7		

Mech 11 - Pumps - Sanitary Lift and Control Panel

Location

P1 parkade, adjacent to stall 53.

Description

SES duplex, 1/2 HP, sanitary lift station sump pumps and control panels for sanitary lift/drainage.

Information

Service Life:	15	Install Year:	2014
Chronological Age:	7	Next Event Year:	2029
Effective Age:	7		

Mech 12 - Pumps - Storm Lift and Control Panel

Location

P1 parkade, adjacent to stall 56.

Description

SES duplex, 3 HP, storm sump pumps and control panels for storm water runoff and sub-surface drainage.

Information

Service Life:	15	Install Year:	2014
Chronological Age:	7	Next Event Year:	2029
Effective Age:	7		

Mech 13 - Piping - Domestic Water Distribution

Location

Connected to fixtures throughout the building.

Description

Mixture of copper for vertical/horizontal mains system and PEX distribution piping within the suites.

Information

Service Life:	28	Install Year:	2014
Chronological Age:	7	Next Event Year:	2042
Effective Age:	7		

Mech 14 - Valves - Cross Connection & Backflow Prevention

Location

Mechanical room in P1.

Description

Various types and sizes of backflow prevention valves, including vacuum breakers, double check, reduced pressure valves on systems.

Information

Service Life:	20	Install Year:	2014
Chronological Age:	7	Next Event Year:	2034
Effective Age:	7		

Mech 15 - Valves - Plumbing Flow Control and Directional

Location

Mechanical room in P1 and other various locations throughout the building.

Description

Various types and sizes of valves, including pressure reducing valves, isolation valves, two-way and three-way valves, circuit flow control valves and check valves to regulate the flow of water through domestic plumbing systems.

Information

Service Life:	12	Install Year:	2014
Chronological Age:	7	Next Event Year:	2026
Effective Age:	7		

Mech 16 - Pump - DHW - Circulation and Recirculation

Location

Mechanical room.

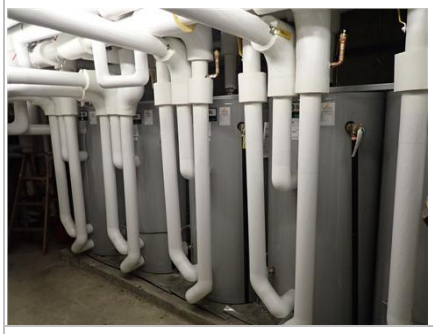
Description

Pipe-mounted bronze body domestic hot water circulation pumps (P8 & P9).

Information

Service Life:	10	Install Year:	2014
Chronological Age:	7	Next Event Year:	2024
Effective Age:	7		

Mech 17 - Tank - DHW - Storage



Location

Mechanical room.

Description

A.O. Smith TJV-120M, 119 gallon tanks, glass-lined hot water storage tanks connected to heat exchanger.

Information

Service Life:	8	Install Year:	2018
Chronological Age:	3	Next Event Year:	2026
Effective Age:	3		

Mech 18 - Tank - Expansion -DHW - Diaphragm

Location

Mechanical room.

Description

Amtrol diaphragm expansion tank for domestic water system.

Information

Service Life:	20	Install Year:	2014
Chronological Age:	7	Next Event Year:	2034
Effective Age:	7		

Mech 19 - Piping - Gas Distribution

Location

Throughout the building.

Description

Gas distribution system consisting of threaded sch 40 steel piping from meter to gas appliances.

Information

Service Life:	50	Install Year:	2014
Chronological Age:	7	Next Event Year:	2064
Effective Age:	7		

Mech 20 - Fixtures - Plumbing

Location

Common changeroom on Level 1.

Description

Shower, toilet, and sink.

Information

Service Life:	25	Install Year:	2014
Chronological Age:	7	Next Event Year:	2039
Effective Age:	7		

Heating & Cooling

Mech 21 - Heat Exchanger - LEC [PLACEHOLDER]

Location

LEC mechanical room in parkade.

Description

Lonsdale Energy Corp heat exchanger to provide primary heating source to the building.

Information

Service Life:	20	Install Year:	2021
Chronological Age:	0	Next Event Year:	2034
Effective Age:	7		

Mech 22 - Heat Exchanger - Plate & Frame

Location

Mechanical room.

Description

Bell & Gossett P47DW, plate-and-frame heat exchangers to separate domestic system from the main heating loop.

Information

Service Life:	20	Install Year:	2018
Chronological Age:	3	Next Event Year:	2038
Effective Age:	3		

Mech 23 - Piping - Hydronic Distribution

Location

Throughout the building.

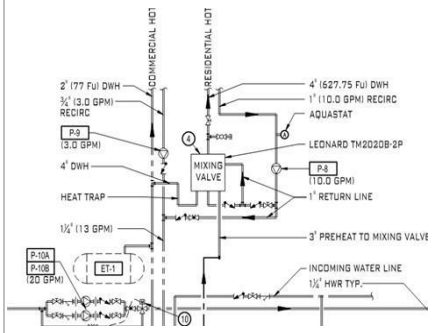
Description

Hydronic heating and cooling water supply and return system consisting of insulated carbon steel Sch 20/40 piping.

Information

Service Life:	30	Install Year:	2014
Chronological Age:	7	Next Event Year:	2044
Effective Age:	7		

Mech 24 - Valves - HVAC Flow Control and Directional



Location

Mechanical room.

Description

Various types and sizes of valves, including pressure reducing valves, isolation valves, two-way and three-way valves, circuit flow control valves, and check valves to regulate the flow of water through heating systems.

Information

Service Life:	20	Install Year:	2014
Chronological Age:	7	Next Event Year:	2034
Effective Age:	7		

Mech 25 - Pump - Hydronic Loop - Vertical Inline/Basemount

Location

Mechanical room.

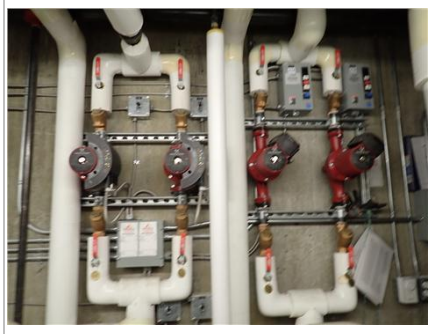
Description

Centrifugal vertical in-line and basemount pumps for heating water hydronic loop, fractional HP. (10A, 10B, 11A, 11B).

Information

Service Life:	15	Install Year:	2014
Chronological Age:	7	Next Event Year:	2029
Effective Age:	7		

Mech 26 - Pump - Hydronic Loop - Vertical Inline/Basemount VFD



Location

Mechanical room.

Description

Centrifugal vertical in-line and basemount variable frequency drive (VFD) pumps for heating water hydronic loop, 1-3HP. (P-5A, 5B, 6A, 6B, 7A, 7B). 6A pump was replaced in 2021.

Information

Service Life:	15	Install Year:	2014
Chronological Age:	7	Next Event Year:	2029
Effective Age:	7		

Mech 27 - Cartridge Filter - Hydronic

Location

Mechanical room.

Description

Axiom sidestream cartridge filter assembly to filter out debris in main heating loop.

Information

Service Life:	8	Install Year:	2018
Chronological Age:	3	Next Event Year:	2026
Effective Age:	3		

Mech 28 - Glycol/Chem Treatment Fill Station

Location

Mechanical room.

Description

Axiom chemical bypass feeder to provide glycol treatment to pipes within main heating loop.

Information

Service Life:	8	Install Year:	2014
Chronological Age:	7	Next Event Year:	2022
Effective Age:	7		

Mech 29 - Air Separator

Location

Mechanical room.

Description

Air separator to remove trapped air from fluids circulating in the closed hydronic system.

Information

Service Life:	20	Install Year:	2014
Chronological Age:	7	Next Event Year:	2034
Effective Age:	7		

Mech 30 - Tank - Expansion - Hydronic - Diaphragm

Location

Mechanical room.

Description

Amtrol diaphragm expansion tank for hydronic heating system.

Information

Service Life:	20	Install Year:	2014
Chronological Age:	7	Next Event Year:	2034
Effective Age:	7		

Mech 31 - Condensing Unit - Outdoor Section - AC Cooling only

Location

Commercial parkade, adjacent to stall C17.

Description

Condensing unit, 2.5 ton. Matched ceiling mounted indoor fan coil unit for air conditioning in the Amenity room.

Information

Service Life:	15	Install Year:	2014
Chronological Age:	7	Next Event Year:	2029
Effective Age:	7		

Mech 32 - Fan Coil Unit

Location

Ground level residential corridor, adjacent to Amenity room.

Description

Ceiling suspended fan coil units on a ducted system for air conditioning and heating; matched condensing unit in parkade.

Information

Service Life:	15	Install Year:	2014
Chronological Age:	7	Next Event Year:	2029
Effective Age:	7		

Mech 33 - Baseboard - Electric

Location

Service rooms, corridors, and locker rooms.

Description

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

Information

Service Life:	40	Install Year:	2014
Chronological Age:	7	Next Event Year:	2054
Effective Age:	7		

Mech 34 - Electric Cadet Heater

Location

Residential lobby.

Description

Wall-mounted electric fan heater with integral thermostat control for localized space heating.

Information

Service Life:	20	Install Year:	2014
Chronological Age:	7	Next Event Year:	2034
Effective Age:	7		

Mech 35 - Fireplace - Electric

Location

Residential lobby.

Description

Electric fireplace with hearth mantel and electric heating element.

Information

Service Life:	30	Install Year:	2014
Chronological Age:	7	Next Event Year:	2044
Effective Age:	7		

Ventilation and Air-conditioning

Mech 36 - Make Up Air Unit - Hydronic

Location

Main roof.

Description

Engineered Air, air handling units, 2,200 CFM, belt-driven, centrifugal fan with hot water heating coil to supply tempered make-up air to the interior spaces.

Information

Service Life:	25	Install Year:	2014
Chronological Age:	7	Next Event Year:	2039
Effective Age:	7		

Mech 37 - Exhaust Fan - Parkade

Location

Parkades.

Description

Belt driven propellors and cabinet exhaust fan mounted on ceilings and concrete walls.

Information

Service Life:	20	Install Year:	2014
Chronological Age:	7	Next Event Year:	2034
Effective Age:	7		

Mech 38 - Coil - Electric - Duct Heater

Location

Ground level, Storage room #6.

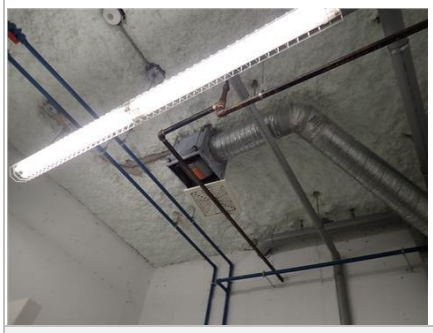
Description

Electric duct heaters, 3.5 KW, duct-mounted with elements and controller.

Information

Service Life:	17	Install Year:	2014
Chronological Age:	7	Next Event Year:	2031
Effective Age:	7		

Mech 39 - Fan - Small Service - Cabinet



Location

Service rooms and common changeroom.

Description

Direct drive, ceiling, and cabinet fans.

Information

Service Life:	12	Install Year:	2014
Chronological Age:	7	Next Event Year:	2026
Effective Age:	7		

Other

Mech 40 - Overhead Gate Motor

Location

Entrances to commercial and residential parking areas.

Description

Liftmaster, 1/2 HP AC motor and door operator mechanism. Door not included in this asset.

Information

Service Life:	7	Install Year:	2014
Chronological Age:	7	Next Event Year:	2022
Effective Age:	6		

Elevator

Hydraulic

Elev 01 - Hydraulic Elevator, Holeless Twin Post

Location

Elevator machine room at level P1.

Description

One (1) twin post roped hydraulic passenger elevator; PLC control system; ELMO/IMO submersed motor pump unit; EECO control valve; 2500 lbs capacity; 125 fpm rated speed.

Information

Service Life:	25	Install Year:	2014
Chronological Age:	7	Next Event Year:	2038
Effective Age:	8		

Car Interiors

Elev 02 - Elevator Cabs & Hoistway

Location

Elevator cab interior, fixture, and hoistway.

Description

Single speed side opening door; stainless steel car and hall pushbuttons; one (1) stainless steel car operating panel; Infrared door protection; GAL MOVFR door operator; plastic laminate door and walls, stainless steel door header, front return; stainless steel panel ceiling with LED lighting; tile flooring; tube bar stainless steel handrails on all non-access walls; Firefighters' emergency operation provided; No standby power; Hands-free voice communication; No seismic provision.

Information

Service Life:	25	Install Year:	2014
Chronological Age:	7	Next Event Year:	2038
Effective Age:	8		

Fire Safety

Controls

Fire 01 - Fire Alarm Panel - Addressable

Location

Residential lobby and electrical room.

Description

Mircom FX2000, microprocessor and supervised unit with annunciator and display.

Information

Service Life:	20	Install Year:	2014
Chronological Age:	7	Next Event Year:	2034
Effective Age:	7		

Detection

Fire 02 - Fire Detection & Alarm

Location

Throughout the 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:	10	Install Year:	2014
Chronological Age:	7	Next Event Year:	2024
Effective Age:	7		

Suppression

Fire 03 - Sprinkler & Standpipe - Wet

Location

Throughout tempered interior space of the building.

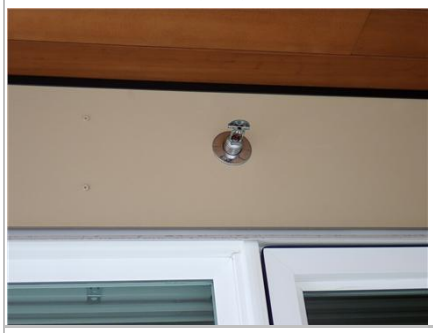
Description

Sprinkler heads, flow switches and indicating devices, gauges, steel distribution lines.

Information

Service Life:	100	Install Year:	2014
Chronological Age:	7	Next Event Year:	2114
Effective Age:	7		

Fire 04 - Dry Sprinklers - Wet System



Location

Balconies and decks.

Description

Dry sidewall sprinklers on a wet distribution system, extending from a heated space to unheated coverage area.

Information

Service Life:	30	Install Year:	2014
Chronological Age:	7	Next Event Year:	2044
Effective Age:	7		

Fire 05 - Sprinkler System - Dry

Location

Throughout the parkades.

Description

Exposed dry sprinklers, upright and sidewall sprinkler heads, steel piping.

Information

Service Life:	100	Install Year:	2014
Chronological Age:	7	Next Event Year:	2114
Effective Age:	7		

Fire 06 - Sprinkler Valve Assembly - Dry

Location

Mechanical room.

Description

FireLock NXT dry sprinkler valves, trim and gauges, steel piping.

Information

Service Life:	40	Install Year:	2014
Chronological Age:	7	Next Event Year:	2054
Effective Age:	7		

Fire 07 - Dry Sprinkler Compressor

Location

Mechanical room.

Description

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

Information

Service Life:	14	Install Year:	2014
Chronological Age:	7	Next Event Year:	2028
Effective Age:	7		

Fire 08 - Portable Fire Extinguisher

Location

Throughout the building.

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	Install Year:	2014
Chronological Age:	7	Next Event Year:	2026
Effective Age:	7		

Egress

Fire 09 - Emergency Egress Equipment

Location

Throughout the building.

Description

Unit battery packs and exit signs.

Information

Service Life:	20	Install Year:	2014
Chronological Age:	7	Next Event Year:	2034
Effective Age:	7		

Interior Finishes

Floors

Finish 01 - Floor Tile

Location

Residential lobby, elevator vestibule, and common changeroom.

Description

Floor tile on thin set mortar with grout.

Information

Service Life:	40	Install Year:	2014
Chronological Age:	7	Next Event Year:	2054
Effective Age:	7		

Finish 02 - Tile Carpet

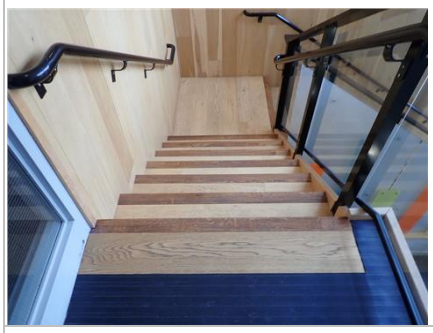
Location
Residential hallways.

Description
Synthetic, low level loop, textile floor carpet tile units glued over floor substrate.

Information

Service Life:	10	Install Year:	2014
Chronological Age:	7	Next Event Year:	2024
Effective Age:	7		

Finish 03 - Wood Flooring



Location
Stairs at residential lobby.

Description
Wood laminate flooring.

Information

Service Life:	20	Install Year:	2014
Chronological Age:	7	Next Event Year:	2034
Effective Age:	7		

Finish 04 - Gym Flooring

Location
Amenity room.

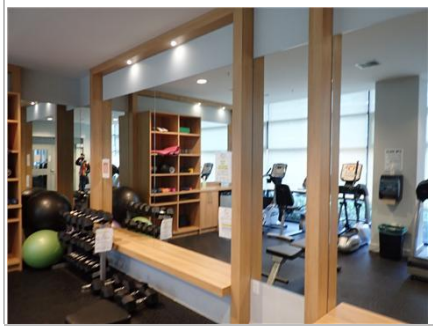
Description
Sheet gym flooring adhered to the substrate.

Information

Service Life:	20	Install Year:	2014
Chronological Age:	7	Next Event Year:	2034
Effective Age:	7		

Walls

Finish 05 - Mirror



Location
Amenity room.

Description
Mirrored glass with structural fasteners to the substrate.

Information

Service Life:	25	Install Year:	2014
Chronological Age:	7	Next Event Year:	2039
Effective Age:	7		

Finish 06 - Paint

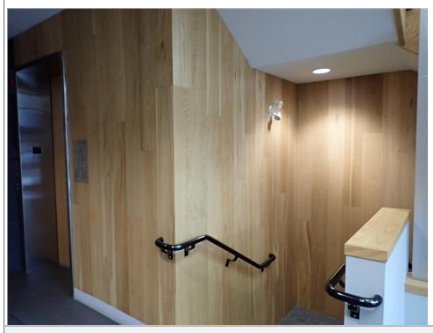
Location
Interior common areas.

Description
Primers and multiple pigmented coating finishes applied to interior gypsum wallboard.

Information

Service Life:	10	Install Year:	2014
Chronological Age:	7	Next Event Year:	2024
Effective Age:	7		

Finish 07 - Wood Paneling



Location
Residential lobby, amenity room, and residential suite doors.

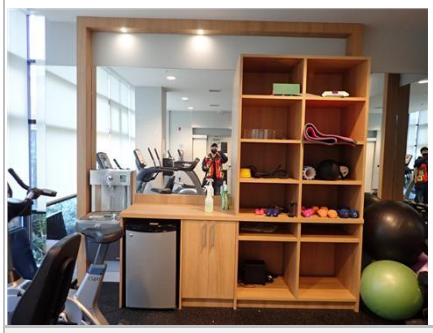
Description
Wood veneer on substrate sheathing and structural framing.

Information

Service Life:	25	Install Year:	2014
Chronological Age:	7	Next Event Year:	2039
Effective Age:	7		

Architectural Woodwork

Finish 08 - Carpentry and Millwork



Location
Amenity room and residential lobby.

Description
Shop fabricated custom casework, counters, and shelves.

Information

Service Life:	30	Install Year:	2014
Chronological Age:	7	Next Event Year:	2044
Effective Age:	7		

Doors

Finish 09 - Interior Swing Door - General

Location
Throughout the building.

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

Information

Service Life:	30	Install Year:	2014
Chronological Age:	7	Next Event Year:	2044
Effective Age:	7		

Amenities

Equipment

Amen 01 - Fitness Equipment

Location

Amenity room.

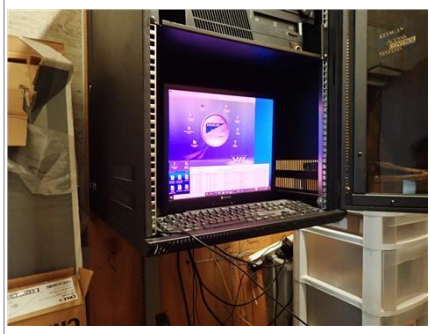
Description

Various fitness machines and equipment.

Information

Service Life:	10	Install Year:	2014
Chronological Age:	7	Next Event Year:	2024
Effective Age:	7		

Amen 02 - Computer Equipment



Location

Service room adjacent to residential lobby.

Description

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

Information

Service Life:	6	Install Year:	2019
Chronological Age:	2	Next Event Year:	2025
Effective Age:	2		

Furnishings

Amen 03 - Central Mailboxes

Location

Residential lobby and mounted to wall on the south elevation for commercial.

Description

Front loading, brushed aluminum finish, and extruded aluminum trim.

Information

Service Life:	30	Install Year:	2014
Chronological Age:	7	Next Event Year:	2044
Effective Age:	7		

Amen 04 - Public Signage

Location

Throughout the building.

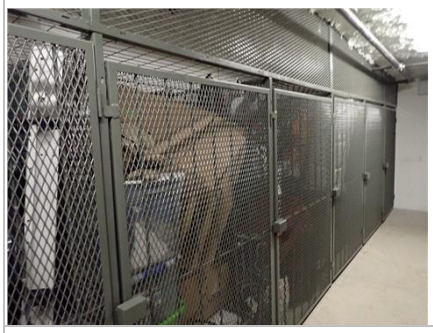
Description

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

Information

Service Life:	25	Install Year:	2014
Chronological Age:	7	Next Event Year:	2039
Effective Age:	7		

Amen 05 - Metal Storage Locker



Location

Storage rooms and common changeroom.

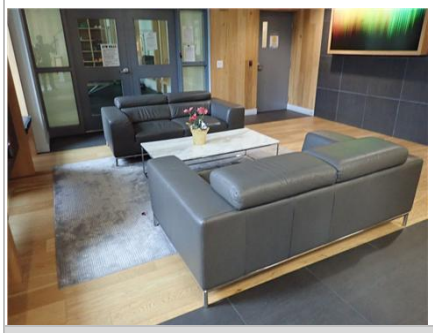
Description

Metal storage locker and ganged locker set with doors and hardware.

Information

Service Life:	25	Install Year:	2014
Chronological Age:	7	Next Event Year:	2039
Effective Age:	7		

Amen 06 - Lobby Furniture



Location

Residential lobby.

Description

Sofas, coffee table, rug, etc.

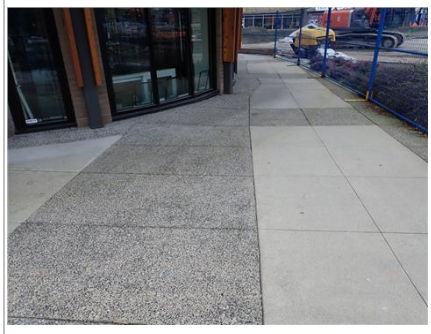
Information

Service Life:	15	Install Year:	2014
Chronological Age:	7	Next Event Year:	2029
Effective Age:	7		

Sitework

Hard Landscaping

Site 01 - Concrete Walkways



Location

Perimeter of the building.

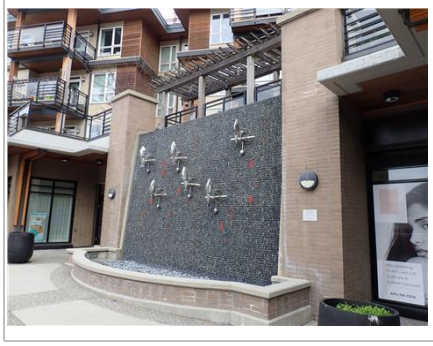
Description

Concrete walkways, cast with control and construction joints, onto compacted gravel base. Concrete finish consists of combination of exposed aggregate and broom finish.

Information

Service Life:	40	Install Year:	2014
Chronological Age:	7	Next Event Year:	2054
Effective Age:	7		

Site 02 - Water Feature



Location

Water feature on the south elevation.

Description

Water feature without membrane in basin and river rock adhered to shotcrete on wall. Circulation & filtration system as a separate asset.

Information

Service Life:	20	Install Year:	2014
Chronological Age:	7	Next Event Year:	2034
Effective Age:	7		

Site 03 - Water Feature Circulation & Filtration

Location

Water feature mechanical room.

Description

Recirculating pump, skimmer, PVC piping, valves, and UV filtration. Pump was last serviced in 2021.

Information

Service Life:	10	Install Year:	2014
Chronological Age:	7	Next Event Year:	2024
Effective Age:	7		

Site 04 - Wood Pergola

Location

Podium on Level 2.

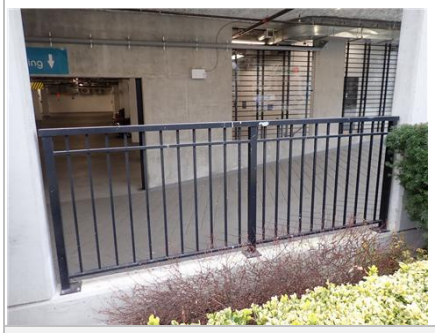
Description

Timber frame pergola with columns, beams, and rafters.

Information

Service Life:	15	Install Year:	2014
Chronological Age:	7	Next Event Year:	2029
Effective Age:	7		

Site 05 - Metal Fencing and Trellis



Location

Adjacent to parkade ramp, entrances to commercial parade and the podium on Level 2.

Description

Prefinished metal fencing and trellises.

Information

Service Life:	40	Install Year:	2014
Chronological Age:	7	Next Event Year:	2054
Effective Age:	7		

Soft Landscaping

Site 06 - Irrigation System

Location

Controller in water feature mechanical room.

Description

Rainbird controller with time clock, network of pipes, valves, and irrigation heads distributed around the soft landscaping.

Information

Service Life:	15	Install Year:	2014
Chronological Age:	7	Next Event Year:	2029
Effective Age:	7		

Site 07 - Soft Landscaping

Location

Perimeter of the building and podium on Level 2.

Description

Lawn, ground cover, shrubs, perennials, and small trees (up to 30').

Information

Service Life:	15	Install Year:	2014
Chronological Age:	7	Next Event Year:	2029
Effective Age:	7		

Site Services

Site 08 - Electrical Site Services [PLACEHOLDER]

Location

North elevation.

Description

Underground secondary distribution conduits and services from individual pad mounted transformers to building electrical rooms. Property of BCHydro.

Information

Service Life:	50	Install Year:	2014
Chronological Age:	7	Next Event Year:	2064
Effective Age:	7		

Site 09 - Underground Drainage Services - Storm

Location

Concealed asset, north elevation.

Description

Storm sewer from buildings and catch basins to property line.

Information

Service Life:	80	Install Year:	2014
Chronological Age:	7	Next Event Year:	2094
Effective Age:	7		

Site 10 - Underground Sewer Services - Sewer

Location

Concealed asset, north elevation.

Description

Sanitary sewer system from the buildings to the property line, including all appurtenances.

Information

Service Life:	80	Install Year:	2014
Chronological Age:	7	Next Event Year:	2094
Effective Age:	7		

Site 11 - Underground Natural Gas Service [PLACEHOLDER]

Location

North elevation.

Description

Natural gas pipe installed underground from the property line to the building. Property of gas provider.

Information

Service Life:	50	Install Year:	2014
Chronological Age:	7	Next Event Year:	2064
Effective Age:	7		

Site 12 - Underground Water Services with PVC/Copper and Ductile Piping

Location

Concealed asset, north elevation.

Description

Fire/domestic water supplies, from the property line to the building.

Information

Service Life:	50	Install Year:	2014
Chronological Age:	7	Next Event Year:	2064
Effective Age:	7		

Appendix C

Asset Service Life Summary

RDH BUILDING SCIENCE

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

Making Buildings Better™

Remix
Asset Service Life Summary

Report evaluated for 2021

Asset Ref	Asset Name	Chronological Age	Estimated Remaining SL
Structural			
Struct 01	CIP Concrete Foundation and Basement Construction	7	68
Struct 02	CIP Concrete Walls, Columns, and Slab	7	68
Struct 03	Wood Structure	7	68
Enclosure			
Encl 01	Exposed SBS Membrane Roof	7	13
Encl 02	Protected SBS Membrane Deck (Conventional Assembly)	7	23
Encl 03	Protected Liquid-Applied Membrane Podium	7	23
Encl 04	Protected Liquid-Applied Membrane At-Grade	7	23
Encl 05	Wood Soffit	7	33
Encl 06	Glazed Aluminum Frame Divider	7	23
Encl 07	Guardrail Glazed Aluminum	7	23
Encl 08	Coated Concrete Wall	7	68
Encl 09	Thin Brick Veneer Wall	7	33
Encl 10	Fibre Cement Wall - Drained	7	33
Encl 11	Wood Siding Wall - Drained	7	28
Encl 12	Wood Trim	7	23
Encl 13	Aluminum Storefront	7	33
Encl 14	Operable Skylight	7	18
Encl 15	Vinyl Framed Window	7	23
Encl 16	Steel Swing Door	7	18
Encl 17	Vinyl Frame Glazed Swing Door	7	18
Encl 18	Aluminum Frame Glazed Swing Door	7	18
Encl 19	Aluminum Frame Lobby Door	7	13
Encl 20	Aluminum Framed Double Sliding Entrance Door	7	13
Encl 21	Vinyl Framed Sliding Glass Door	7	23
Encl 22	Exposed Urethane Canopy Membrane - Concrete Substrate	7	18
Encl 23	Exposed Vinyl Balcony Membrane	7	8
Encl 24	Open-grid Overhead Parkade Gate	7	18
Encl 25	Parking Slab with Traffic-bearing Membrane	7	68

Encl 26	Slab-on-Grade	7	68
Encl 27	Sealant	7	3
Encl 28	General & Inspections	7	68
Electrical			
Elec 01	Electrical Distribution	7	33
Elec 02	Exterior Light Fixtures	7	13
Elec 03	Interior Light Fixtures	7	13
Elec 04	Enterphone System	7	18
Elec 05	Proximity Access Control	7	5
Elec 06	Security Surveillance	7	7
Mechanical			
Mech 01	Controls - Direct Digital	7	8
Mech 02	Controls - HVAC Instrumentation - Gym HVAC	7	13
Mech 03	Gas Detection - Parkade	7	3
Mech 04	Heat Tracing - Freeze Protection	7	8
Mech 05	Controls - Electronic Actuators	7	3
Mech 06	Drainage - Perimeter and Foundation	7	33
Mech 07	Drainage - Storm - Internal	7	33
Mech 08	Drainage - Sanitary	7	43
Mech 09	Interceptor - Oil	7	43
Mech 10	Interceptor - Sediment	7	43
Mech 11	Pumps - Sanitary Lift and Control Panel	7	8
Mech 12	Pumps - Storm Lift and Control Panel	7	8
Mech 13	Piping - Domestic Water Distribution	7	21
Mech 14	Valves - Cross Connection & Backflow Prevention	7	13
Mech 15	Valves - Plumbing Flow Control and Directional	7	5
Mech 16	Pump - DHW - Circulation and Recirculation	7	3
Mech 17	Tank - DHW - Storage	3	5
Mech 18	Tank - Expansion -DHW - Diaphragm	7	13
Mech 19	Piping - Gas Distribution	7	43
Mech 20	Fixtures - Plumbing	7	18
Mech 21	Heat Exchanger - LEC [PLACEHOLDER]	0	13
Mech 22	Heat Exchanger - Plate & Frame	3	17
Mech 23	Piping - Hydronic Distribution	7	23
Mech 24	Valves - HVAC Flow Control and Directional	7	13

Mech 25	Pump - Hydronic Loop - Vertical Inline/Basemount	7	8
Mech 26	Pump - Hydronic Loop - Vertical Inline/Basemount VFD	7	8
Mech 27	Cartridge Filter - Hydronic	3	5
Mech 28	Glycol/Chem Treatment Fill Station	7	1
Mech 29	Air Separator	7	13
Mech 30	Tank - Expansion - Hydronic - Diaphragm	7	13
Mech 31	Condensing Unit - Outdoor Section - AC Cooling only	7	8
Mech 32	Fan Coil Unit	7	8
Mech 33	Baseboard - Electric	7	33
Mech 34	Electric Cadet Heater	7	13
Mech 35	Fireplace - Electric	7	23
Mech 36	Make Up Air Unit - Hydronic	7	18
Mech 37	Exhaust Fan - Parkade	7	13
Mech 38	Coil - Electric - Duct Heater	7	10
Mech 39	Fan - Small Service - Cabinet	7	5
Mech 40	Overhead Gate Motor	7	1
Elevator			
Elev 01	Hydraulic Elevator, Holeless Twin Post	7	17
Elev 02	Elevator Cabs & Hoistway	7	17
Fire Safety			
Fire 01	Fire Alarm Panel - Addressable	7	13
Fire 02	Fire Detection & Alarm	7	3
Fire 03	Sprinkler & Standpipe - Wet	7	93
Fire 04	Dry Sprinklers - Wet System	7	23
Fire 05	Sprinkler System - Dry	7	93
Fire 06	Sprinkler Valve Assembly - Dry	7	33
Fire 07	Dry Sprinkler Compressor	7	7
Fire 08	Portable Fire Extinguisher	7	5
Fire 09	Emergency Egress Equipment	7	13
Interior Finishes			
Finish 01	Floor Tile	7	33
Finish 02	Tile Carpet	7	3
Finish 03	Wood Flooring	7	13
Finish 04	Gym Flooring	7	13

Finish 05	Mirror	7	18
Finish 06	Paint	7	3
Finish 07	Wood Paneling	7	18
Finish 08	Carpentry and Millwork	7	23
Finish 09	Interior Swing Door - General	7	23
Amenities			
Amen 01	Fitness Equipment	7	3
Amen 02	Computer Equipment	2	4
Amen 03	Central Mailboxes	7	23
Amen 04	Public Signage	7	18
Amen 05	Metal Storage Locker	7	18
Amen 06	Lobby Furniture	7	8
Sitework			
Site 01	Concrete Walkways	7	33
Site 02	Water Feature	7	13
Site 03	Water Feature Circulation & Filtration	7	3
Site 04	Wood Pergola	7	8
Site 05	Metal Fencing and Trellis	7	33
Site 06	Irrigation System	7	8
Site 07	Soft Landscaping	7	8
Site 08	Electrical Site Services [PLACEHOLDER]	7	43
Site 09	Underground Drainage Services - Storm	7	73
Site 10	Underground Sewer Services - Sewer	7	73
Site 11	Underground Natural Gas Service [PLACEHOLDER]	7	43
Site 12	Underground Water Services with PVC/Copper and Ductile Piping	7	43

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

- 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.

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

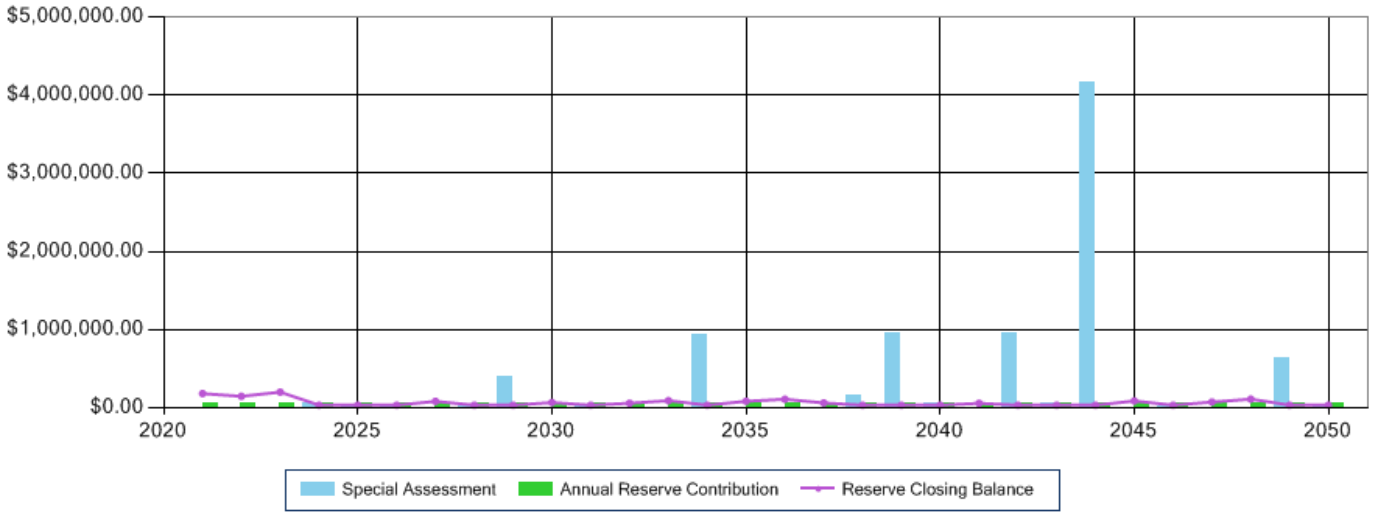
RDH
Making Buildings Better

Building - Funding Model
Remix

Name	2021 Fixed Annual Funding: $53,600 (Current)
Type	Basic
Regarding	Remix
Start Year	2021
Interest/Investment Rate	2.0%
Estimated Contingency Allowance	$1,000
Tax Rate	0.0%
Planning Horizon	30
Number Of Units	70

Init Catchup Cost	$0
Operating Budget	
Starting Reserve Balance	$161,706
Reserve Contribution Threshold	$500,000
Contribution Below Threshold	$53,600
Contribution Above Threshold	$53,600
Reserve Contribution Increase	0.00 %
Monthly Avg. Unit Contribution	$64

Year	Opening Balance	Reserve Contribution	Special Assessment	Reserve Income	Renewal Costs	Contingency Costs	Tax Liability	Closing Balance	Percent Funded
2021	$161,706	$53,600	$0	$3,234	$35,000	$1,000	$0	$182,540	12.77 %
2022	$182,540	$53,600	$0	$3,651	$90,900	$1,000	$0	$147,891	9.14 %
2023	$147,891	$53,600	$0	$2,958	$2,100	$1,000	$0	$201,349	10.55 %
2024	$201,349	$53,600	$60,044	$4,027	$283,020	$1,000	$0	$35,000	1.82 %
2025	$35,000	$53,600	$29,500	$700	$82,800	$1,000	$0	$35,000	1.62 %
2026	$35,000	$53,600	$23,530	$700	$76,830	$1,000	$0	$35,000	1.46 %
2027	$35,000	$53,600	$0	$700	$5,600	$1,000	$0	$82,700	3.03 %
2028	$82,700	$53,600	$13,546	$1,654	$115,500	$1,000	$0	$35,000	1.18 %
2029	$35,000	$53,600	$398,680	$700	$451,980	$1,000	$0	$35,000	1.22 %
2030	$35,000	$53,600	$0	$700	$20,500	$1,000	$0	$67,800	2.12 %
2031	$67,800	$53,600	$43,144	$1,356	$129,900	$1,000	$0	$35,000	1.01 %
2032	$35,000	$53,600	$0	$700	$28,720	$1,000	$0	$59,580	1.56 %
2033	$59,580	$53,600	$0	$1,192	$21,000	$1,000	$0	$92,372	2.20 %
2034	$92,372	$53,600	$943,601	$1,847	$1,055,420	$1,000	$0	$35,000	0.99 %
2035	$35,000	$53,600	$0	$700	$3,900	$1,000	$0	$84,400	2.16 %
2036	$84,400	$53,600	$0	$1,688	$28,700	$1,000	$0	$109,988	2.58 %
2037	$109,988	$53,600	$0	$2,200	$102,000	$1,000	$0	$62,788	1.37 %
2038	$62,788	$53,600	$149,856	$1,256	$231,500	$1,000	$0	$35,000	0.73 %
2039	$35,000	$53,600	$945,400	$700	$998,700	$1,000	$0	$35,000	0.84 %
2040	$35,000	$53,600	$59,200	$700	$112,500	$1,000	$0	$35,000	0.79 %
2041	$35,000	$53,600	$0	$700	$30,500	$1,000	$0	$57,800	1.21 %
2042	$57,800	$53,600	$959,044	$1,156	$1,035,600	$1,000	$0	$35,000	0.84 %
2043	$35,000	$53,600	$62,000	$700	$115,300	$1,000	$0	$35,000	0.80 %
2044	$35,000	$53,600	$4,156,040	$700	$4,209,340	$1,000	$0	$35,000	8.08 %
2045	$35,000	$53,600	$0	$700	$0	$1,000	$0	$88,300	15.93 %
2046	$88,300	$53,600	$23,134	$1,766	$130,800	$1,000	$0	$35,000	6.42 %
2047	$35,000	$53,600	$0	$700	$13,400	$1,000	$0	$74,900	11.75 %
2048	$74,900	$53,600	$0	$1,498	$17,300	$1,000	$0	$111,698	15.36 %
2049	$111,698	$53,600	$632,168	$2,234	$763,700	$1,000	$0	$35,000	56.45 %
2050	$35,000	$53,600	$19,290	$700	$72,590	$1,000	$0	$35,000	100.00 %
		$1,608,000	$8,518,178		$10,265,100				


$5,000,000.00
$4,000,000.00
$3,000,000.00
$2,000,000.00
$1,000,000.00
$0.00
2020
2025
2030
2035
2040
2045
2050
Special Assessment
Annual Reserve Contribution
Reserve Closing Balance

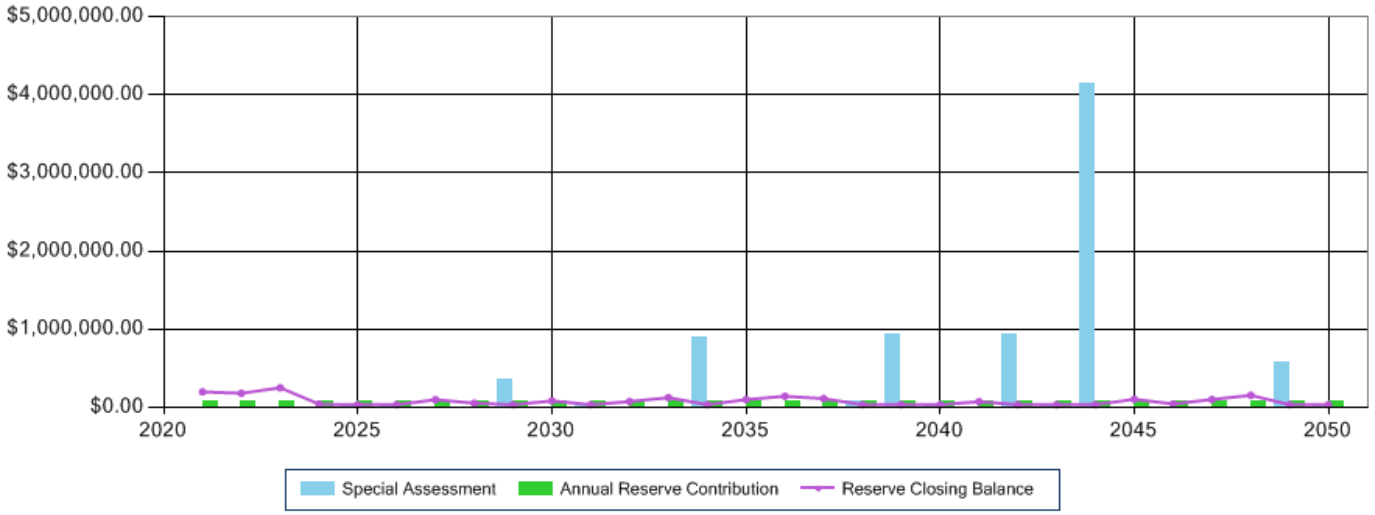
RDH
Making Buildings Better

Building - Funding Model
Remix

Name	2021 Fixed Annual Funding: $70,000 (Alternative 1)
Type	Basic
Regarding	Remix
Start Year	2021
Interest/Investment Rate	2.0%
Estimated Contingency Allowance	$1,000
Tax Rate	0.0%
Planning Horizon	30
Number Of Units	70

Init Catchup Cost	$0
Operating Budget	
Starting Reserve Balance	$161,706
Reserve Contribution Threshold	$500,000
Contribution Below Threshold	$70,000
Contribution Above Threshold	$70,000
Reserve Contribution Increase	0.00 %
Monthly Avg. Unit Contribution	$83

Year	Opening Balance	Reserve Contribution	Special Assessment	Reserve Income	Renewal Costs	Contingency Costs	Tax Liability	Closing Balance	Percent Funded
2021	$161,706	$70,000	$0	$3,234	$35,000	$1,000	$0	$198,940	13.92 %
2022	$198,940	$70,000	$0	$3,979	$90,900	$1,000	$0	$181,019	11.18 %
2023	$181,019	$70,000	$0	$3,620	$2,100	$1,000	$0	$251,539	13.19 %
2024	$251,539	$70,000	$0	$5,031	$283,020	$1,000	$0	$42,550	2.21 %
2025	$42,550	$70,000	$5,399	$851	$82,800	$1,000	$0	$35,000	1.62 %
2026	$35,000	$70,000	$7,130	$700	$76,830	$1,000	$0	$35,000	1.46 %
2027	$35,000	$70,000	$0	$700	$5,600	$1,000	$0	$99,100	3.63 %
2028	$99,100	$70,000	$0	$1,982	$115,500	$1,000	$0	$54,582	1.85 %
2029	$54,582	$70,000	$362,306	$1,092	$451,980	$1,000	$0	$35,000	1.22 %
2030	$35,000	$70,000	$0	$700	$20,500	$1,000	$0	$84,200	2.63 %
2031	$84,200	$70,000	$10,016	$1,684	$129,900	$1,000	$0	$35,000	1.01 %
2032	$35,000	$70,000	$0	$700	$28,720	$1,000	$0	$75,980	1.99 %
2033	$75,980	$70,000	$0	$1,520	$21,000	$1,000	$0	$125,500	3.00 %
2034	$125,500	$70,000	$893,410	$2,510	$1,055,420	$1,000	$0	$35,000	0.99 %
2035	$35,000	$70,000	$0	$700	$3,900	$1,000	$0	$100,800	2.58 %
2036	$100,800	$70,000	$0	$2,016	$28,700	$1,000	$0	$143,116	3.36 %
2037	$143,116	$70,000	$0	$2,862	$102,000	$1,000	$0	$112,978	2.47 %
2038	$112,978	$70,000	$82,262	$2,260	$231,500	$1,000	$0	$35,000	0.73 %
2039	$35,000	$70,000	$929,000	$700	$998,700	$1,000	$0	$35,000	0.84 %
2040	$35,000	$70,000	$42,800	$700	$112,500	$1,000	$0	$35,000	0.79 %
2041	$35,000	$70,000	$0	$700	$30,500	$1,000	$0	$74,200	1.55 %
2042	$74,200	$70,000	$925,916	$1,484	$1,035,600	$1,000	$0	$35,000	0.84 %
2043	$35,000	$70,000	$45,600	$700	$115,300	$1,000	$0	$35,000	0.80 %
2044	$35,000	$70,000	$4,139,640	$700	$4,209,340	$1,000	$0	$35,000	8.08 %
2045	$35,000	$70,000	$0	$700	$0	$1,000	$0	$104,700	18.89 %
2046	$104,700	$70,000	$0	$2,094	$130,800	$1,000	$0	$44,994	8.25 %
2047	$44,994	$70,000	$0	$900	$13,400	$1,000	$0	$101,494	15.93 %
2048	$101,494	$70,000	$0	$2,030	$17,300	$1,000	$0	$155,224	21.35 %
2049	$155,224	$70,000	$571,372	$3,104	$763,700	$1,000	$0	$35,000	56.45 %
2050	$35,000	$70,000	$2,890	$700	$72,590	$1,000	$0	$35,000	100.00 %
		$2,100,000	$8,017,742		$10,265,100				


$5,000,000.00
$4,000,000.00
$3,000,000.00
$2,000,000.00
$1,000,000.00
$0.00
2020
2025
2030
2035
2040
2045
2050
Special Assessment
Annual Reserve Contribution
Reserve Closing Balance

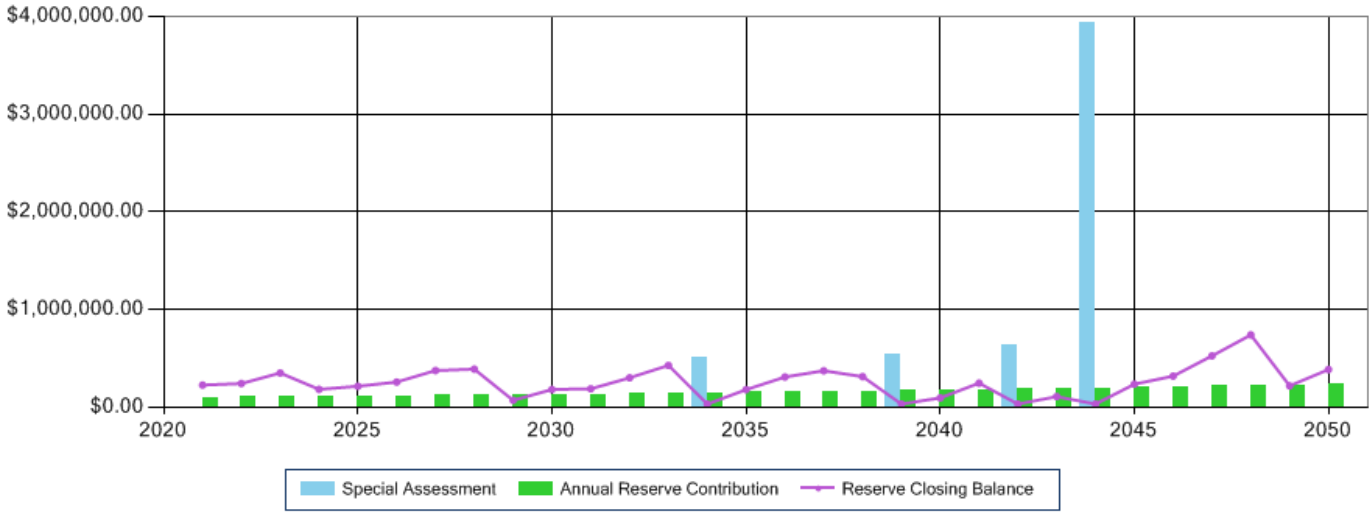
RDH
Making Buildings Better

Building - Funding Model
Remix

Name	2021 Incre. Annual Funding: $100,000 + 3% (Alternative 2)
Type	Basic
Regarding	Remix
Start Year	2021
Interest/Investment Rate	2.0%
Estimated Contingency Allowance	$1,000
Tax Rate	0.0%
Planning Horizon	30
Number Of Units	70

Init Catchup Cost	$0
Operating Budget	
Starting Reserve Balance	$161,706
Reserve Contribution Threshold	$500,000
Contribution Below Threshold	$100,000
Contribution Above Threshold	$100,000
Reserve Contribution Increase	3.00 %
Monthly Avg. Unit Contribution	$119

Year	Opening Balance	Reserve Contribution	Special Assessment	Reserve Income	Renewal Costs	Contingency Costs	Tax Liability	Closing Balance	Percent Funded
2021	$161,706	$100,000	$0	$3,234	$35,000	$1,000	$0	$228,940	16.02 %
2022	$228,940	$103,000	$0	$4,579	$90,900	$1,000	$0	$244,619	15.11 %
2023	$244,619	$106,090	$0	$4,892	$2,100	$1,000	$0	$352,501	18.48 %
2024	$352,501	$109,273	$0	$7,050	$283,020	$1,000	$0	$184,804	9.63 %
2025	$184,804	$112,551	$0	$3,696	$82,800	$1,000	$0	$217,251	10.10 %
2026	$217,251	$115,927	$0	$4,345	$76,830	$1,000	$0	$259,693	10.84 %
2027	$259,693	$119,405	$0	$5,194	$5,600	$1,000	$0	$377,693	13.87 %
2028	$377,693	$122,987	$0	$7,554	$115,500	$1,000	$0	$391,734	13.27 %
2029	$391,734	$126,677	$0	$7,835	$451,980	$1,000	$0	$73,265	2.57 %
2030	$73,265	$130,477	$0	$1,465	$20,500	$1,000	$0	$183,708	5.74 %
2031	$183,708	$134,392	$0	$3,674	$129,900	$1,000	$0	$190,874	5.54 %
2032	$190,874	$138,423	$0	$3,817	$28,720	$1,000	$0	$303,395	7.97 %
2033	$303,395	$142,576	$0	$6,068	$21,000	$1,000	$0	$430,038	10.28 %
2034	$430,038	$146,853	$505,928	$8,601	$1,055,420	$1,000	$0	$35,000	0.99 %
2035	$35,000	$151,259	$0	$700	$3,900	$1,000	$0	$182,059	4.67 %
2036	$182,059	$155,797	$0	$3,641	$28,700	$1,000	$0	$311,797	7.32 %
2037	$311,797	$160,471	$0	$6,236	$102,000	$1,000	$0	$375,503	8.23 %
2038	$375,503	$165,285	$0	$7,510	$231,500	$1,000	$0	$315,798	6.65 %
2039	$315,798	$170,243	$542,343	$6,316	$998,700	$1,000	$0	$35,000	0.84 %
2040	$35,000	$175,351	$0	$700	$112,500	$1,000	$0	$97,551	2.21 %
2041	$97,551	$180,611	$0	$1,951	$30,500	$1,000	$0	$248,613	5.20 %
2042	$248,613	$186,029	$631,986	$4,972	$1,035,600	$1,000	$0	$35,000	0.84 %
2043	$35,000	$191,610	$0	$700	$115,300	$1,000	$0	$111,010	2.54 %
2044	$111,010	$197,359	$3,934,751	$2,220	$4,209,340	$1,000	$0	$35,000	8.08 %
2045	$35,000	$203,279	$0	$700	$0	$1,000	$0	$237,979	42.95 %
2046	$237,979	$209,378	$0	$4,760	$130,800	$1,000	$0	$320,317	58.77 %
2047	$320,317	$215,659	$0	$6,406	$13,400	$1,000	$0	$527,982	82.88 %
2048	$527,982	$222,129	$0	$10,560	$17,300	$1,000	$0	$742,370	102.11 %
2049	$742,370	$228,793	$0	$14,847	$763,700	$1,000	$0	$221,310	356.95 %
2050	$221,310	$235,656	$0	$4,426	$72,590	$1,000	$0	$387,803	100.00 %
		$4,757,539	$5,615,007		$10,265,100				


$4,000,000.00
$3,000,000.00
$2,000,000.00
$1,000,000.00
$0.00
2020
2025
2030
2035
2040
2045
2050
Special Assessment
Annual Reserve Contribution
Reserve Closing Balance

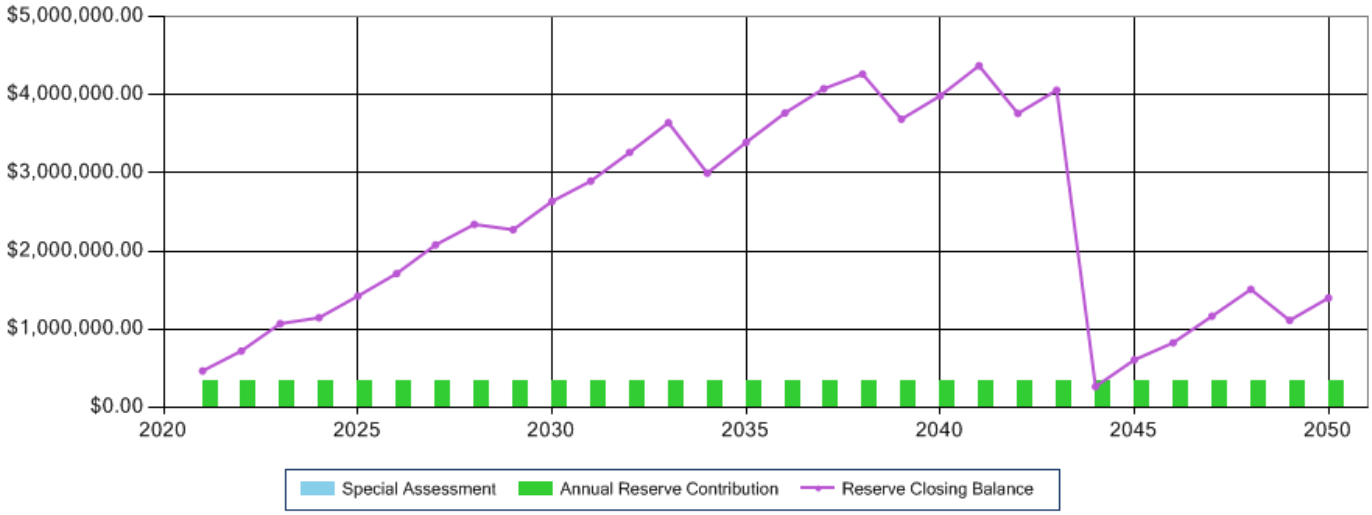
RDH
Making Buildings Better

Building - Funding Model
Remix

Name	2021 Fixed Annual Funding: $338,000 (Progressive)
Type	Basic
Regarding	Remix
Start Year	2021
Interest/Investment Rate	2.0%
Estimated Contingency Allowance	$1,000
Tax Rate	0.0%
Planning Horizon	30
Number Of Units	70

Init Catchup Cost	$0
Operating Budget	
Starting Reserve Balance	$161,706
Reserve Contribution Threshold	$500,000
Contribution Below Threshold	$338,000
Contribution Above Threshold	$338,000
Reserve Contribution Increase	0.00 %
Monthly Avg. Unit Contribution	$402

Year	Opening Balance	Reserve Contribution	Special Assessment	Reserve Income	Renewal Costs	Contingency Costs	Tax Liability	Closing Balance	Percent Funded
2021	$161,706	$338,000	$0	$3,234	$35,000	$1,000	$0	$466,940	32.67 %
2022	$466,940	$338,000	$0	$9,339	$90,900	$1,000	$0	$722,379	44.64 %
2023	$722,379	$338,000	$0	$14,448	$2,100	$1,000	$0	$1,071,727	56.19 %
2024	$1,071,727	$338,000	$0	$21,435	$283,020	$1,000	$0	$1,147,141	59.77 %
2025	$1,147,141	$338,000	$0	$22,943	$82,800	$1,000	$0	$1,424,284	66.27 %
2026	$1,424,284	$338,000	$0	$28,486	$76,830	$1,000	$0	$1,712,940	71.55 %
2027	$1,712,940	$338,000	$0	$34,259	$5,600	$1,000	$0	$2,078,598	76.33 %
2028	$2,078,598	$338,000	$0	$41,572	$115,500	$1,000	$0	$2,341,671	79.37 %
2029	$2,341,671	$338,000	$0	$46,833	$451,980	$1,000	$0	$2,273,524	79.80 %
2030	$2,273,524	$338,000	$0	$45,470	$20,500	$1,000	$0	$2,635,495	82.46 %
2031	$2,635,495	$338,000	$0	$52,710	$129,900	$1,000	$0	$2,895,305	84.04 %
2032	$2,895,305	$338,000	$0	$57,906	$28,720	$1,000	$0	$3,261,491	85.76 %
2033	$3,261,491	$338,000	$0	$65,230	$21,000	$1,000	$0	$3,642,720	87.10 %
2034	$3,642,720	$338,000	$0	$72,854	$1,055,420	$1,000	$0	$2,997,155	85.17 %
2035	$2,997,155	$338,000	$0	$59,943	$3,900	$1,000	$0	$3,390,198	87.03 %
2036	$3,390,198	$338,000	$0	$67,804	$28,700	$1,000	$0	$3,766,302	88.43 %
2037	$3,766,302	$338,000	$0	$75,326	$102,000	$1,000	$0	$4,076,628	89.38 %
2038	$4,076,628	$338,000	$0	$81,533	$231,500	$1,000	$0	$4,263,661	89.89 %
2039	$4,263,661	$338,000	$0	$85,273	$998,700	$1,000	$0	$3,687,234	89.08 %
2040	$3,687,234	$338,000	$0	$73,745	$112,500	$1,000	$0	$3,985,478	90.39 %
2041	$3,985,478	$338,000	$0	$79,710	$30,500	$1,000	$0	$4,371,688	91.57 %
2042	$4,371,688	$338,000	$0	$87,434	$1,035,600	$1,000	$0	$3,760,521	91.14 %
2043	$3,760,521	$338,000	$0	$75,210	$115,300	$1,000	$0	$4,057,432	92.95 %
2044	$4,057,432	$338,000	$0	$81,149	$4,209,340	$1,000	$0	$266,240	61.48 %
2045	$266,240	$338,000	$0	$5,325	$0	$1,000	$0	$608,565	109.84 %
2046	$608,565	$338,000	$0	$12,171	$130,800	$1,000	$0	$826,936	151.73 %
2047	$826,936	$338,000	$0	$16,539	$13,400	$1,000	$0	$1,167,075	183.21 %
2048	$1,167,075	$338,000	$0	$23,341	$17,300	$1,000	$0	$1,510,116	207.71 %
2049	$1,510,116	$338,000	$0	$30,202	$763,700	$1,000	$0	$1,113,619	1,796.15 %
2050	$1,113,619	$338,000	$0	$22,272	$72,590	$1,000	$0	$1,400,301	100.00 %
		$10,140,000	$0		$10,265,100				


$5,000,000.00
$4,000,000.00
$3,000,000.00
$2,000,000.00
$1,000,000.00
$0.00
2020
2025
2030
2035
2040
2045
2050
Special Assessment
Annual Reserve Contribution
Reserve Closing Balance

Appendix F

RDH Qualifications

Maintenance and Planning (MaP)

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.

RDH

RDH Qualifications

Principals

Mark Will | B.A. Econ.

Principal, Vancouver Regional Manager

- → B.A., Economics
- → 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)

Jason Dunn | B.Arch.Sc., CCCA

Principal, Senior Project Manager

- → B.Arch.Sc., Building Science Option
- → Certified Construction Contract Administrator, CSC
- → Has worked in building science consulting since 2004

Associates and Project Managers

Brandon Carreira | Dipl.T.

Project Manager

- → MaP Service Area Leader
- → Dipl.T., Architectural & Building Engineering Technology (Building Science Option)
- → 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 preperation 70+ depreciation reports
- → Has worked in maintenance and planning

David Taguchi | Eng.L., RRO

Associate, Building Science Specialist

- → Eng.L., Engineers & Geoscientists of British Columbia
- → RRO, Roofing Consultants Institute Inc.
- → Member of Applied Science Technologists and Techicians of British Columbia
- → Has 19 years of Building Science Experience

Heather Reid | P.Eng.

Associate, Building Science Engineer

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

RDH

RDH Qualifications

Michael Grummett | P.Eng.

Associate, Building Science Engineer

- → B.Eng., Structural Engineering
- → 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
- → Hold 10 years of Building Science experience
- → Registered Professional Engineer, Engineers and Geoscientists of BC

Len Sakurgi | P.Eng.

Associate, Building Science Engineer

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

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

Building Science Engineer

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

Talen Springer | EIT

Building Science Engineer (EIT)

- → B.A.Sc., Civil Engineering
- → Has worked in maintenance and planning consulting since 2016
- → 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
- → Has worked in maintenance and planning consulting since 2018
- → Engineer in Training, Engineers and Geoscientists of BC

RDH

RDH Qualifications

Josh Chambers | RSE, RRO

Project Manager

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

Technical Staff

Alex Seto | Dipl.T.

Building Science Technologist

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

Cameron Skoglund | GradTech.

Building Science Technologist

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

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

Building Science Technologist

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

RDH

RDH Qualifications

Yan Marineau-Brachmann | B.A.Sc.

Building Science Engineer (EIT)

- → B.A.Sc., Civil Engineering
- → 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)
- → Has worked in maintenance and planning consulting since 2020

Joshua Villanueva

Building Science Technologist

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

Administrators and Client Support

Vanessa Jumawan

Maintenance and Planning Coordinator

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

Anna Qiu

Maintenance and Planning Project Assistant

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

Software Support and Programmer

Matthew Branch | P.Eng.

Software Developer

- → B.Sc., Civil Engineering
- → Registered Professional Engineer, Engineers and Geoscientists of BC
- → 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

CERTIFICATE OF INSURANCE

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 Insurance 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 Underwriters	
Policy #	PSDEF2100249		
Effective	02-May-2021	**Expiry**	01-Jul-2022
	Subject to aggregate where 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,
THE POLICY CONTAINS A PARTIAL PAYMENT OF LOSS CLAUSE
THIS CERTIFICATE DOES NOT AMEND, EXTEND, OR ALTER THE COVERAGE AFFORDED BY THE POLICY

AON

Ref. No. 320008778690

CERTIFICATE OF INSURANCE

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

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

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

AON

Appendix H

Strategic Plan

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

Making Buildings Better™

Remix
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	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050
STRUCTURAL																																				
FOUNDATIONS																																				
Struct 01	R01	Provided maintenance and repairs are completed to adjacent assets, the concrete foundation is not likely to require renewal.	75 Yrs	$0	2089	$0																														
WALLS & COLUMNS																																				
Struct 02	J01	Review concrete walls and columns for signs of distress, such as cracking, spalling, and delamination.	3 Yrs	$0	2023	$0			•			•			•			•			•			•			•			•			•			•
Struct 02	R02	Provided maintenance and repairs are completed to adjacent assets, structural assets are not likely to require renewal	75 Yrs	$0	2089	$0																														
Struct 03	R01	Provided maintenance and repairs are completed to surrounding systems, structural assets are not likely to require renewal.	75 Yrs	$0	2089	$0																														

Asset Ref ID	Maint. Ref ID	Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050
ENCLOSURE																																				
ROOFS & DECKS																																				
Encl 01	R01	Complete localized roof, deck, and podium repairs per BC Roofing Roof Evaluation Report (2021), as required.	10 Yrs	$35,000	2021	$35,000	•										•													•							
Encl 01	R02	Replace SBS membrane roof assembly and associated component such as drains and flashing.	20 Yrs	$271,200	2034	$350,000														•																
Encl 02	J01	Review traffic surface for signs of distress. Replace damaged pavers as required.	2 Yrs	$0	2022	$0		•		•		•		•		•		•		•		•		•		•		•							•	
Encl 02	J02	Locally remove pavers to visually review the surface of the underlying membrane, paying close attention to all penetration locations for signs of distress, such as ridges, cracks, and delamination. Review to include sealants and flashings.	2 Yrs	$0	2022	$0		•		•		•		•		•		•		•		•		•		•		•							•	

Asset Ref ID	Maint. Ref ID	Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050
ENCLOSURE																																				
Encl 02	R01	Replace deck membrane assembly and associated components. Some of the pavers may be salvageable.	30 Yrs	$453,600	2044	$720,000																								•						
Encl 03	J01	Review traffic surface for signs of distress. Replace damaged pavers as required.	2 Yrs	$0	2022	$0		•		•		•		•		•		•		•		•		•		•		•							•	
Encl 03	J02	Locally remove pavers, landscaping and soil overburden to visually review the surface of the underlying membrane, paying close attention to all penetration locations for signs of distress, such as ridges, cracks, and delamination. Review to include sealants and flashings.	2 Yrs	$0	2022	$0		•		•		•		•		•		•		•		•		•		•		•							•	
Encl 03	R01	Replace the podium membrane assembly and associated components. Some of the pavers and overburden may be salvageable.	30 Yrs	$640,000	2044	$1,000,000																								•						
Encl 04	J01	Review traffic surface for signs of distress. Replace damaged pavers as required.	2 Yrs	$0	2022	$0		•		•		•		•		•		•		•		•		•		•		•							•	
Encl 04	J02	Locally remove pavers, landscaping and soil overburden to visually review the surface of the underlying membrane, paying close attention to all penetration locations for signs of distress, such as ridges, cracks, and delamination. Review to include sealants and flashings.	2 Yrs	$0	2022	$0		•		•		•		•		•		•		•		•		•		•		•							•	
Encl 04	J03	Perform condition assessment of the at-grade waterproofing assembly.	6 Yrs	$3,000	2022	$3,100		•						•						•						•									•	
Encl 04	R01	Replace at-grade membrane assembly and associated components. Some of the pavers and overburden may be salvageable.	30 Yrs	$230,000	2044	$360,000																								•						
Encl 05	J01	Clean exterior soffit surfaces to remove atmospheric dirt, vegetative growth, and other stains.	3 Yrs	$0	2023	$0			•			•			•			•			•			•			•			•			•			•
Encl 05	R01	Restain wood soffit as required.	9 Yrs	$16,200	2024	$17,000				•									•									•								
Encl 05	R02	Replace wood soffit and associated components.	40 Yrs	$108,000	2054	$210,000																														
FALL PROTECTION																																				
Encl 06	J01	Review all metal finishes. Touch up paint as required. Refer to guardrail paint finish warranty if applicable.	2 Yrs	$0	2022	$0		•		•		•		•		•		•		•		•		•		•		•				•		•		•
Encl 06	R01	Replace glazed aluminum frame dividers.	30 Yrs	$95,000	2044	$150,000																								•						
Encl 07	J01	Review all metal finishes. Touch up paint as required. Refer to guardrail paint finish warranty if applicable.	2 Yrs	$0	2022	$0		•		•		•		•		•		•		•		•		•		•		•				•		•		•
Encl 07	J02	Review guardrails for structural adequacy including attachments.	15 Yrs	$0	2029	$0									•																					
Encl 07	R03	Replace exterior guardrails.	30 Yrs	$117,000	2044	$180,000																								•						
WALLS																																				
Encl 08	J01	Clean exterior coated concrete wall surfaces.	3 Yrs	$0	2022	$0		•			•			•			•			•			•			•			•			•			•	
Encl 08	J02	Review exterior concrete walls for signs of distress, such as spalling, cracking, or delaminating of the concrete. Pay close attention to cracks and construction joints. Contact consultant to review large cracks and significant areas of spalling if required.	3 Yrs	$0	2022	$0		•			•			•			•			•			•			•			•			•			•	
Encl 08	J03	Repair of delaminated or spalled concrete should be carried out prior to recoating.	10 Yrs	$3,900	2024	$4,100				•										•										•						
Encl 08	R01	Reapplication of the protective coating as required, including preparation of the concrete substrate.	10 Yrs	$11,700	2024	$12,000				•										•										•						

Asset Ref ID	Maint. Ref ID	Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050
ENCLOSURE																																				
Encl 08	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	2089	$0																														
Encl 09	J01	Clean exterior surfaces of thin brick veneer cladding to remove vegetation growth and other atmospheric staining.	3 Yrs	$0	2022	$0		•			•			•			•			•			•			•			•			•			•	
Encl 09	J02	Repoint mortar joints in thin brick masonry veneer wall, as required.	5 Yrs	$2,840	2024	$3,000				•					•					•					•				•						•	
Encl 09	R01	Replace thin brick veneer cladding along with associated flashing and sealants as required.	40 Yrs	$340,800	2054	$660,000																														
Encl 10	J01	Clean exterior fiber cement board surfaces to remove atmospheric dirt, vegetative growth, and other stains.	3 Yrs	$0	2022	$0		•			•			•			•			•			•			•			•			•			•	
Encl 10	J02	Review fiber cement cladding for signs of distress, such as delamination and discolouration.	2 Yrs	$0	2022	$0		•		•		•		•		•		•		•		•		•		•		•		•		•		•		•
Encl 10	R01	Repaint fibre cement cladding.	10 Yrs	$142,000	2029	$170,000									•										•										•	
Encl 10	R02	Replace fibre cement 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.	40 Yrs	$1,065,000	2054	$2,000,000																														
Encl 11	J03	Review wood siding for signs of distress, such as delamination and discolouration.	2 Yrs	$0	2022	$0		•		•		•		•		•		•		•		•		•		•		•		•		•		•		
Encl 11	R01	Restain wood siding and associated wood trim.	3 Yrs	$36,600	2022	$37,000		•			•			•			•			•			•			•			•			•			•	
Encl 11	R02	Replace wood siding 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.	35 Yrs	$158,600	2049	$280,000																													•	
Encl 12	R01	Recoat roof fascia boards.	6 Yrs	$7,500	2024	$8,000				•					•							•						•						•		
Encl 12	R02	Restain wood trim on balcony columns and underside of Level 2 canopies.	3 Yrs	$30,000	2022	$31,000		•			•			•			•			•			•			•			•			•			•	
Encl 12	R03	Replace wood trim on balcony columns and underside of Level 2 canopies, as required.	30 Yrs	$50,000	2044	$79,000																								•						
GLAZING SYSTEMS																																				
Encl 13	J02	Replace or repair gasket and weatherstripping, as required.	2 Yrs	$0	2026	$0						•		•		•		•		•		•		•		•		•		•		•		•		•
Encl 13	R01	Replace insulating glazing units (IGUs) with condensation or misting between panes of glass. Refer to manufacturer's warranty if applicable. Cost included in vinyl frame windows.	2 Yrs	$0	2026	$0						•		•		•		•		•		•		•		•		•		•		•		•		•
Encl 13	R02	Replace storefront window system.	40 Yrs	$178,500	2054	$340,000																														
Encl 14	J03	Replace any failed insulating glazing units (IGUs) with condensation or misting between the panes of glass. Refer to manufacturer's warranty if applicable. Cost included in vinyl frame windows.	2 Yrs	$0	2026	$0						•		•		•		•		•		•		•			•		•		•		•		•	
Encl 14	R01	Replace unit skylights and associated components.	25 Yrs	$140,000	2039	$200,000																			•											
Encl 15	J02	Replace or repair gasket and weatherstripping, as required.	2 Yrs	$0	2026	$0						•		•		•		•		•		•		•		•		•								
Encl 15	J05	Replace insulating glazing units (IGUs) with condensation or misting between panes of glass. Refer to manufacturer's warranty if applicable.	2 Yrs	$6,100	2026	$6,700						•		•		•		•		•		•		•		•		•								
Encl 15	R01	Replace vinyl windows and associated components.	30 Yrs	$396,500	2044	$630,000																								•						

Asset Ref ID	Maint. Ref ID	Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050
ENCLOSURE																																				
DOORS																																				
Encl 16	J01	Replace or repair gasket and weatherstripping, as required.	2 Yrs	$0	2026	$0						•		•		•		•		•		•		•											•	
Encl 16	J03	Replace insulating glazing units (IGUs) with condensation or misting between panes of glass. Refer to manufacturer's warranty if applicable. Cost included in vinyl frame windows.	2 Yrs	$0	2026	$0						•		•		•		•		•		•		•											•	
Encl 16	R01	Repaint steel door finish.	10 Yrs	$1,350	2026	$1,500						•										•													•	
Encl 16	R04	Replace steel swing doors and frames.	25 Yrs	$14,400	2039	$21,000																			•											
Encl 17	J01	Replace or repair gasket and weatherstripping, as required.	2 Yrs	$0	2026	$0						•		•		•		•		•		•		•											•	
Encl 17	J02	Replace insulating glazing units (IGUs) with condensation or misting between panes of glass. Refer to manufacturer's warranty if applicable. Cost included in vinyl frame windows.	2 Yrs	$0	2026	$0						•		•		•		•		•		•		•											•	
Encl 17	R01	Replace vinyl frame swing doors.	25 Yrs	$19,500	2039	$28,000																			•											
Encl 18	J01	Replace or repair gasket and weatherstripping, as required.	2 Yrs	$0	2026	$0						•		•		•		•		•		•		•											•	
Encl 18	J02	Replace insulating glazing units (IGUs) with condensation or misting between panes of glass. Refer to manufacturer's warranty if applicable. Cost included in vinyl frame windows.	2 Yrs	$0	2026	$0						•		•		•		•		•		•		•											•	
Encl 18	R01	Replace aluminum frame swing doors.	25 Yrs	$33,600	2039	$48,000																			•											
Encl 19	J01	Replace insulating glazing units (IGUs) with condensation or misting between panes of glass. Refer to manufacturer's warranty if applicable. Cost included in vinyl frame windows.	2 Yrs	$0	2026	$0						•		•		•		•												•		•		•		•
Encl 19	R02	Replace aluminum frame lobby doors.	20 Yrs	$4,000	2034	$5,200														•																
Encl 20	J03	Replace insulating glazing units (IGUs) with condensation or misting between panes of glass. Refer to manufacturer's warranty if applicable. Cost included in vinyl frame windows.	2 Yrs	$0	2026	$0						•		•		•		•												•		•		•		•
Encl 20	R01	Replace sliding glass doors and associated components.	20 Yrs	$40,000	2034	$52,000														•																
Encl 21	J03	Check weatherstripping and gasket seals prior to the onset of the winter season. Repair as required.	2 Yrs	$0	2026	$0						•		•		•		•		•		•		•		•		•								
Encl 21	J04	Replace insulating glazing units (IGUs) with condensation or misting between panes of glass. Refer to manufacturer's warranty if applicable. Cost included in vinyl frame windows.	2 Yrs	$0	2026	$0						•		•		•		•		•		•		•		•		•								
Encl 21	R01	Replace sliding glass doors and associated components.	30 Yrs	$103,500	2044	$160,000																								•						
BALCONIES																																				
Encl 22	J01	Repair locally damaged and delaminated canopy membrane prior to re-application of top coat. Refer to membrane warranty if applicable.	5 Yrs	$2,600	2024	$2,800				•					•					•															•	
Encl 22	R01	Prepare and re-apply canopy membrane top coat.	10 Yrs	$20,800	2024	$22,000				•										•															•	
Encl 22	R02	Replace exposed urethane canopy membrane and associated components.	25 Yrs	$41,600	2039	$59,000																			•											
Encl 23	R01	Replace vinyl balcony membrane and associated components.	15 Yrs	$73,600	2029	$86,000									•																					
PARKING GARAGE																																				
Encl 24	J01	Locally touch up paint at overhead gate, as required.	2 Yrs	$1,500	2022	$1,500		•		•		•		•		•		•		•		•		•		•		•		•		•		•		•

Asset Ref ID	Maint. Ref ID	Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050
ENCLOSURE																																				
Encl 24	R03	Replacement of sectional overhead door and associated hardware.	25 Yrs	$8,000	2039	$11,000																			•											
Encl 25	J01	Re-apply traffic demarcation striping and directional signage as required. Frequency will depend on traffic volume and other factors.	5 Yrs	$0	2024	$0				•					•					•					•					•					•	
Encl 25	J02	Review traffic-bearing membrane for signs of distress, such tears, peeling, delamination, and discolouration, particularly at high traffic areas.	5 Yrs	$0	2024	$0				•					•					•					•					•					•	
Encl 25	J03	Repair damaged and delaminated membrane prior to re-application of top coat.	5 Yrs	$5,136	2024	$5,500				•					•					•					•					•					•	
Encl 25	R01	Re-apply membrane top coat in high traffic areas (e.g. drive aisles).	10 Yrs	$13,375	2024	$14,000				•										•										•						
Encl 25	R02	Prepare concrete surface and re-apply traffic-bearing membrane. Frequency will depend on traffic volume and other factors.	25 Yrs	$128,400	2039	$180,000																			•											
Encl 25	R03	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	2089	$0																														
Encl 26	J01	Re-apply traffic demarcation striping and directional signage. Frequency will depend on traffic volume and other factors.	5 Yrs	$2,000	2024	$2,100				•					•					•					•					•					•	
Encl 26	J02	Heavy duty cleaning on slab surface to remove oil stains, etc.	5 Yrs	$0	2024	$0				•					•					•					•					•					•	
Encl 26	R01	Prepare surface and re-apply concrete sealer as required.	5 Yrs	$0	2024	$0				•					•					•					•					•					•	
Encl 26	R02	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	2089	$0																														
GENERAL & INSPECTIONS																																				
Encl 27	J01	Review condition of sealant at all locations and undertake localized repairs or replacement as required.	2 Yrs	$0	2022	$0		•		•		•		•		•		•		•		•		•		•		•		•		•		•		•
Encl 27	J02	Assess current condition of various sealant and develop renewals plan. The plan should consider current condition, exposure conditions, types of sealant, other work that should be bundled with the sealant work like painting, and phasing of the work.	10 Yrs	$0	2024	$0				•										•										•						
Encl 27	R01	Replace sealants at interfaces between building enclosure assemblies, and at penetrations through assemblies in accordance with sealant renewals plan.	10 Yrs	$45,281	2024	$48,000				•										•										•						
Encl 28	J01	Review metal flashing at all location and touch-up paint as required.	3 Yrs	$0	2023	$0			•			•			•			•			•			•			•			•			•			•
Encl 28	J03	Update depreciation report.	3 Yrs	$0	2024	$0				•			•			•			•			•			•			•			•			•		
Encl 28	J07	Perform 10-year warranty review (structural review and roof warranty) in sufficient time prior to expiration of warranty period for certain portions of the work. Prepare list of any deficiencies for correction.	100 Yrs	$10,000	2024	$11,000				•																										
Encl 28	J08	Perform full condition assessment of all enclosure systems.	5 Yrs	$8,000	2024	$8,500				•					•					•					•					•					•	
Encl 28	R01	This is not a renewable asset.	75 Yrs	$0	2089	$0																														

Asset Ref ID	Maint. Ref ID	Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050

ELECTRICAL																																							
DISTRIBUTION																																						
Elec 01	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 01	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 01	R01	Clean and maintain all electrical distribution equipment (reference subsequent maintenance tasks). Vacuum to remove accumulated dust. Check oil levels of oil filled equipment.	5 Yrs	$2,000	2024	$2,100				•					•					•					•					•					•				
Elec 01	R02	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	2024	$3,200				•					•					•					•					•					•				
Elec 01	R03	Cyclical replacement of components of the electrical distribution equipment, as required.	40 Yrs	$30,000	2054	$58,000																																
LIGHT FIXTURES																																						
Elec 02	J01	Perform survey of actual lighting use and lighting levels to determine lighting needs. Consider updating fixtures or lighting controls to optimize light levels and energy costs.	3 Yrs	$0	2023	$0			•		•			•		•			•		•			•		•			•		•			•				•
Elec 02	R02	Cyclical replacement of lighting controls (timers, motion sensors, etc.) as required.	6 Yrs	$0	2026	$0					•					•					•					•					•								•
Elec 02	R05	Replace exterior light fixtures, as required, for aesthetic purposes, to match ballast replacement cycles, or technological obsolescence.	20 Yrs	$8,600	2034	$11,000															•																		
Elec 03	J01	Perform survey of actual lighting use and lighting levels to determine lighting needs. Consider updating fixtures, lighting controls or interior finishes (e.g. painting) to optimize light levels and energy costs.	3 Yrs	$0	2023	$0			•		•			•		•			•		•			•		•			•		•			•				•
Elec 03	R02	Cyclical replacement of lighting controls (timers, motion sensors, etc.) as required.	6 Yrs	$0	2026	$0					•					•					•					•					•								•
Elec 03	R05	Replace interior light fixtures, as required, for aesthetic purposes, to match ballast replacement cycles, or technological obsolescence.	20 Yrs	$35,100	2034	$45,000															•																		
SECURITY																																						
Elec 04	R01	Replace enterphone panels, excluding field wiring.	25 Yrs	$18,000	2039	$26,000																					•												
Elec 05	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	$500	2026	$550					•					•					•					•					•								•
Elec 05	R02	Install or modernize components of the proximity access control system, excluding field wiring, as required by technological obsolescence.	15 Yrs	$17,500	2026	$19,000					•																•												
Elec 06	R01	Service the multiplex unit, update software, and install additional cameras, as required.	5 Yrs	$5,000	2022	$5,100		•				•				•					•					•					•								

Asset Ref ID	Maint. Ref ID	Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050
ELECTRICAL																																				
Elec 06	R02	Modernize components of the security surveillance system, excluding field wiring, as required by technological obsolescence.	14 Yrs	$21,000	2028	$24,000								•														•								

Asset Ref ID	Maint. Ref ID	Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050
MECHANICAL																																				
CONTROLS AND END DEVICES																																				
Mech 01	R01	Cyclical replacement of sensors and other field devices, as required.	3 Yrs	$2,000	2023	$2,100			•			•			•			•			•			•			•			•			•			•
Mech 01	R02	Replace DDC controllers.	15 Yrs	$30,000	2029	$35,000									•															•						
Mech 02	R01	Cyclical replacement of miscellaneous HVAC instrumentation, as required.	5 Yrs	$2,000	2034	$2,600														•					•					•					•	
Mech 03	R01	Cyclical replacement of gas detection sensors.	5 Yrs	$5,400	2024	$5,700				•					•					•					•					•					•	
Mech 04	R01	Cyclical replacement of components of electric heat tracing cable, including control module and pipe insulation.	15 Yrs	$5,000	2029	$5,900									•															•						
Mech 05	R01	Cyclical replacement of electronic actuator controls, as required.	5 Yrs	$1,000	2024	$1,100				•					•					•					•					•					•	
PLUMBING & DRAINAGE																																				
Mech 06	J01	By means of pipe camera service, visually inspect underground piping runs. Look for build up of silts and dirt fines, tree roots, and other obstructions. Look for standing water indicating saturated soil conditions or impermeable conditions. Cost included in Sanitary Drainage asset.	5 Yrs	$0	2024	$0				•					•					•					•					•					•	
Mech 06	J02	Jetflush or auger drains to remove buildup and blockages. Cost included in Sanitary Drainage asset.	5 Yrs	$0	2024	$0				•					•					•					•					•					•	
Mech 06	R01	Repair and/replace components of perimeter drainage system, as required.	40 Yrs	$60,000	2054	$120,000																														
Mech 07	J01	By means of pipe camera service, visually inspect underground piping runs. Look for build up of silts and dirt fines, tree roots, and other obstructions. Look for standing water indicating saturated soil conditions or impermeable conditions. Jet flush or auger to suit. Cost included in Sanitary Drainage asset.	5 Yrs	$0	2024	$0				•					•					•					•					•					•	
Mech 07	R01	Repair and/or replace components of storm water drainage collection system, as required.	40 Yrs	$40,000	2054	$77,000																														
Mech 08	J01	Insert video cameras into main lines to conduct pipe inspection.	5 Yrs	$3,000	2024	$3,200				•					•					•					•					•					•	
Mech 08	J02	Jetflush/auger lateral drain lines.	10 Yrs	$4,000	2024	$4,200				•										•										•						
Mech 08	R01	Repair components of sanitary drainage collection system, as required.	50 Yrs	$30,000	2064	$70,000																														
Mech 09	R01	Cyclic replacement of oil interceptor, as required.	50 Yrs	$8,000	2064	$19,000																														
Mech 10	R01	Replace backwater valve and trim	50 Yrs	$500	2064	$1,200																														
Mech 11	J01	Coat exposed shaft of impeller with anti-seize compound.	2 Yrs	$0	2022	$0		•		•		•		•			•		•		•			•		•		•			•		•			•
Mech 11	R01	Overhaul sanitary sump pumps.	5 Yrs	$3,000	2024	$3,200				•										•					•										•	

Asset Ref ID	Maint. Ref ID	Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050
MECHANICAL																																				
Mech 11	R02	Cyclical replacement of sanitary sump pumps.	15 Yrs	$4,000	2029	$4,700									•															•							
Mech 12	J01	Coat exposed shaft of impeller with anti-seize compound.	2 Yrs	$0	2022	$0		•		•		•		•			•		•		•		•		•		•		•			•		•		•
Mech 12	R01	Overhaul storm sump pumps.	5 Yrs	$6,000	2025	$6,500					•									•					•										•	
Mech 12	R02	Cyclic replacement of sump pump storm lift and control panels.	15 Yrs	$8,000	2029	$9,400									•														•							
Mech 13	J01	Check that pipe hangars are properly fastened and dissimilar metals are isolated from one another.	5 Yrs	$0	2024	$0				•					•					•					•								•			
Mech 13	J02	Check piping and supports for mechanical damage, proper clearance, adequate insulation, and labeling.	5 Yrs	$0	2024	$0				•					•					•					•								•			
Mech 13	J03	Check integrity of all soldered pipe connections and couplings.	5 Yrs	$0	2024	$0				•					•					•					•								•			
Mech 13	J04	Comprehensive third party testing and inspection of the copper domestic water distribution system.	20 Yrs	$10,000	2038	$14,000																		•												
Mech 13	R01	Replace components of domestic plumbing distribution system, including domestic valves. Extent and timing of renewal will be dependent on the third-party testing of the domestic water distribution piping recommended in tactical plan.	28 Yrs	$600,000	2042	$910,000																						•								
Mech 14	R01	Cyclical replacement of cross connection & back flow prevention valves, as required.	20 Yrs	$10,000	2034	$13,000														•																
Mech 15	R01	Cyclical replacement of valves, as required.	20 Yrs	$10,000	2026	$11,000						•																				•				
Mech 16	J01	Inspect brushes and remove brush dust from motor.	2 Yrs	$0	2022	$0		•		•		•		•		•		•		•		•		•		•		•		•		•		•		•
Mech 16	R01	Cyclical replacement of recirculating pumps, as required.	5 Yrs	$1,500	2024	$1,600				•					•					•					•					•					•	
Mech 17	J01	Dismantle, inspect, and clean tube bundle on immersion heating tanks.	5 Yrs	$0	2024	$0				•					•					•					•					•					•	
Mech 17	R01	Cyclical replacement of domestic hot water storage tanks.	8 Yrs	$22,500	2026	$25,000						•								•								•								•
Mech 18	R01	Cyclical replacement of buffer tanks, as required.	20 Yrs	$3,000	2034	$3,900														•																
Mech 19	R01	Cyclical replacement of fittings and valves, as required.	20 Yrs	$51,750	2064	$120,000																														
Mech 20	R01	Cyclical replacement of plumbing fixtures and trim, as required.	25 Yrs	$3,000	2039	$4,300																			•											
HEATING & COOLING																																				
Mech 21	R01	Replace LEC heat exchanger. Equipment belongs to LEC. [PLACEHOLDER]	20 Yrs	$0	2034	$0																														
Mech 22	J01	Dissemble plate and frame assembly and remove scale and fouling from plates. Check and service gaskets.	5 Yrs	$0	2024	$0				•					•					•					•					•					•	
Mech 22	R01	Replace heat exchangers.	20 Yrs	$20,000	2038	$28,000																		•												
Mech 23	J01	Check fitting for leakage and condensation. Tighten fittings.	2 Yrs	$0	2022	$0		•		•		•		•		•		•		•		•		•		•		•		•		•		•		•
Mech 23	R01	Cyclical replacement of valves and localized hydronic piping, as required.	20 Yrs	$39,000	2044	$61,000																								•						
Mech 24	R01	Cyclical replacement of hydronic control valves at suite manifolds, as required.	5 Yrs	$7,000	2034	$9,100														•					•					•					•	
Mech 24	R02	Cyclical replacement of hydronic valves, as required.	5 Yrs	$3,000	2034	$3,900														•					•					•					•	
Mech 25	R01	Replace circulating pumps for hydronic loop - heating and condenser water.	15 Yrs	$6,000	2029	$7,000									•															•						

Asset Ref ID	Maint. Ref ID	Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050
MECHANICAL																																				
Mech 26	R01	Replace VFD circulating pumps for hydronic heating loop.	15 Yrs	$30,000	2029	$35,000									•															•						
Mech 27	R01	Replacement of components of filter assembly.	8 Yrs	$1,000	2026	$1,100						•								•								•								•
Mech 28	R01	Cyclical replacement of components of water treatment equipment.	8 Yrs	$2,000	2022	$2,000		•								•								•							•					
Mech 29	R01	Cyclic replacement of air separator, as required.	20 Yrs	$2,000	2034	$2,600														•																
Mech 30	R01	Cyclic replacement of diaphragm heating expansion tanks, as required.	20 Yrs	$3,000	2034	$3,900														•																
Mech 31	R01	Replacement of condensing unit for amenity room fan coil unit.	15 Yrs	$4,000	2029	$4,700									•															•						
Mech 32	R01	Replacement of amenity room fan coil unit.	15 Yrs	$5,500	2029	$6,400									•															•						
Mech 33	J01	Check that circuit breakers for electric baseboard heaters are properly labeled for maintenance and servicing.	3 Yrs	$0	2023	$0			•			•			•			•			•			•			•			•			•			•
Mech 33	J02	Inspect baseboard heaters for signs of distress, such as detachment from the wall substrate, impact damage, loose connections, and potential hazards.	2 Yrs	$0	2022	$0		•		•		•		•		•		•		•		•		•		•		•		•		•		•		•
Mech 33	R01	Cyclical replacement of electric baseboard heaters, as required.	40 Yrs	$2,250	2054	$4,300																														
Mech 34	R01	Cyclic replacement of cadet heaters, as required.	20 Yrs	$1,200	2034	$1,600														•																
Mech 35	R01	Replace electric fireplace.	30 Yrs	$1,000	2044	$1,600																								•						
VENTILATION AND AIR-CONDITIONING																																				
Mech 36	J01	Motor mount - Inspect for damage, cracks, or corrosion.	2 Yrs	$0	2022	$0		•		•		•		•		•		•		•		•		•		•		•		•		•		•		•
Mech 36	J02	Conduct measurements and assessment of indoor air quality (IAQ) to ensure that desirable levels are being attained.	5 Yrs	$0	2024	$0				•					•					•					•					•				•		
Mech 36	R01	Cyclical replacement of pulleys and motors and vibration isolation, as required.	8 Yrs	$0	2022	$0		•								•								•							•					
Mech 36	R02	Cyclical rebuild or replacement of make-up air units.	15 Yrs	$40,000	2039	$57,000																			•											
Mech 37	R01	Cyclical replacement of motors, fan blades and bearings on supply and exhaust fans, as required.	3 Yrs	$0	2023	$0			•			•			•			•			•			•			•			•			•			•
Mech 37	R02	Rebuild of fans, as required.	20 Yrs	$4,000	2034	$5,200														•																
Mech 38	R01	Replacement of electric duct heater.	17 Yrs	$1,000	2031	$1,200											•																	•		
Mech 39	R01	Cyclical replacement of failed or damaged general purpose fans, as required.	12 Yrs	$2,500	2026	$2,800						•												•												•
OTHER																																				
Mech 40	R01	Replace motor and drive unit.	7 Yrs	$5,000	2022	$5,100		•							•							•							•							•

Asset Ref ID	Maint. Ref ID	Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050
ELEVATOR																																				
HYDRAULIC																																				
Elev 01	J01	Check and test overload device.	2 Yrs	$0	2022	$0		•		•		•		•		•		•		•		•		•		•		•		•		•		•		•

Asset Ref ID	Maint. Ref ID	Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050
ELEVATOR																																				
Elev 01	J02	Conduct full load performance test.	2 Yrs	$0	2022	$0		•		•		•		•		•		•		•		•		•		•		•		•		•		•		•
Elev 01	R01	Replace elevator controls, tank/pump unit and control valve. Note: Fire alarm upgrades may be required if this asset is implemented. The budget for fire alarm upgrade is not included in the estimate.	25 Yrs	$60,000	2038	$84,000																		•												
CAR INTERIORS																																				
Elev 02	R01	Replace elevator operating and signal fixtures, replace door operator, upgrade cab interior (to be completed in conjunction with asset 1).	25 Yrs	$55,000	2038	$77,000																		•												

Asset Ref ID	Maint. Ref ID	Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050
FIRE SAFETY																																				
CONTROLS																																				
Fire 01	J01	Replace battery packs for fire alarm control panels.	5 Yrs	$0	2024	$0				•					•					•					•					•						•	
Fire 01	R02	Replace fire alarm annunciator panels and control panel, excluding field wiring and field devices.	30 Yrs	$20,000	2034	$26,000														•																
DETECTION																																				
Fire 02	R01	Cyclical replacement of speakers, heat detectors, smoke detectors and related modules, excluding field wiring.	10 Yrs	$14,400	2024	$15,000				•										•										•						
SUPPRESSION																																				
Fire 03	J01	Conduct flow test and pipe line condition (flushing) test to NFPA25.	5 Yrs	$500	2024	$530				•					•					•					•					•					•		
Fire 03	J02	Sprinkler Heads - Test extra high temperature on sprinkler heads.	5 Yrs	$500	2024	$530				•					•					•					•					•					•		
Fire 03	R01	Phased replacement of sprinkler zone control valves, as required.	20 Yrs	$2,500	2034	$3,200														•																
Fire 03	R02	Renew compromised portions of piping, gaskets, connections, valves, devices and trim to maintain required function.	5 Yrs	$6,700	2034	$8,700														•					•					•					•		
Fire 03	R03	Replace all heads, or submit representative sample of heads for testing by a recognized testing agency at the 50th anniversary, to the satisfaction of the authority having jurisdiction, in accordance with NFPA 25.	10 Yrs	$20,100	2064	$47,000																														
Fire 03	R04	Replace entire system including risers, branch piping, valves, heads, swaybracing, and all related trim, back to Sprinkler Room.	100 Yrs	$67,000	2114	$0																														
Fire 04	R01	Replace all heads, or submit a representative sample of heads for testing by a recognized testing agency, to the satisfaction of the authority having jurisdiction, in accordance with NFPA 25.	10 Yrs	$1,500	2034	$1,900														•																
Fire 04	R02	Replace all heads, or submit a representative sample of heads for testing by a recognized testing agency, to the satisfaction of the authority having jurisdiction, in accordance with NFPA 25.	30 Yrs	$9,000	2044	$14,000																								•						

Asset Ref ID	Maint. Ref ID	Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050
FIRE SAFETY																																				
Fire 05	J01	Sprinkler Piping - Conduct flow test and pipe line condition (flushing) test to NFPA25.	5 Yrs	$500	2024	$530				•					•					•					•					•					•	
Fire 05	J02	Sprinkler Heads - Test extra high temperature on sprinkler heads.	5 Yrs	$500	2024	$530				•					•					•					•					•					•	
Fire 05	R01	Replace all heads, or submit representative sample of heads for testing by recognized testing agency at the 50th anniversary, to the satisfaction of the authority having jurisdiction, in accordance with NFPA 25.	10 Yrs	$11,100	2064	$26,000																														
Fire 05	R02	Replace damaged sprinkler heads, hangers and leaking gaskets, cages, sway-braces, drains, etc. as required.	5 Yrs	$185	2024	$200				•					•					•					•					•					•	
Fire 05	R03	Replace entire system including risers, branch piping, valves, heads, swaybracing, and all related trim, back to Sprinkler Room.	100 Yrs	$37,000	2114	$0																														
Fire 06	R01	Phased replacement of sprinkler zone control valves, as required.	20 Yrs	$2,500	2034	$3,200														•																
Fire 06	R02	Replace gaskets in dry sprinkler valves.	20 Yrs	$600	2034	$780														•																
Fire 06	R03	Rebuild dry sprinkler valves.	20 Yrs	$4,000	2034	$5,200														•																
Fire 06	R04	Replace sprinkler valves, as required.	40 Yrs	$8,000	2054	$15,000																														
Fire 07	R01	Replace fire sprinkler compressor.	14 Yrs	$2,000	2028	$2,300								•														•								
Fire 08	J01	Conduct hydrotest on fire extinguishers.	12 Yrs	$2,000	2032	$2,500												•												•						
Fire 08	R01	Cyclical replacement of fire extinguishers.	12 Yrs	$4,000	2026	$4,400						•												•												•
EGRESS																																				
Fire 09	R01	Cyclical replacement of batteries and lamps in DC battery packs.	5 Yrs	$0	2024	$0				•					•					•					•					•					•	
Fire 09	R02	Cyclical replacement of LED exit signs.	15 Yrs	$4,500	2034	$5,800														•															•	

Asset Ref ID	Maint. Ref ID	Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050
INTERIOR FINISHES																																				
FLOORS																																				
Finish 01	J01	Recolour or replace tile grout as required.	12 Yrs	$800	2026	$880						•												•												•
Finish 01	R01	Renew porcelain tile floor.	40 Yrs	$17,600	2054	$34,000																														
Finish 02	R01	Renew carpet tiles.	10 Yrs	$40,810	2024	$43,000				•										•										•						
Finish 03	R01	Replace wood flooring, as required.	20 Yrs	$7,800	2034	$10,000														•																
Finish 04	R01	Replace gym flooring.	20 Yrs	$5,000	2034	$6,500														•																
WALLS																																				
Finish 05	R01	Replace mirrored wall, as required.	25 Yrs	$7,500	2039	$11,000																			•											
Finish 06	R01	Repaint interior wall in high traffic area, as required.	10 Yrs	$3,875	2034	$0																														

Asset Ref ID	Maint. Ref ID	Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050
INTERIOR FINISHES																																				
Finish 06	R02	Repaint wall surface including preparation of substrate.	10 Yrs	$23,250	2024	$25,000				•										•										•						
Finish 07	R01	Replace wood paneling.	25 Yrs	$28,000	2039	$40,000																			•											
ARCHITECTURAL WOODWORK																																				
Finish 08	R01	Replace damaged components of carpentry and millwork, as required.	30 Yrs	$3,000	2044	$4,700																								•						
DOORS																																				
Finish 09	J01	Lubricate and adjust doors and moving parts. Tighten mechanical parts and screws. Adjust door swing arms and hardware as required. Replace broken hardware.	3 Yrs	$0	2023	$0			•			•			•			•			•			•			•					•			•
Finish 09	J02	On wood doors, apply a thin coat of sanding sealer to promote uniform appearance and to avoid sharp contrasts in color or a blotchy appearance.	5 Yrs	$0	2024	$0				•					•					•					•										•	
Finish 09	J03	Repaint door and frame in high-traffic locations as required.	8 Yrs	$0	2024	$0				•								•								•										
Finish 09	J04	Rekey master door cylinders and issue new master keys to facility staff.	10 Yrs	$0	2024	$0				•										•																
Finish 09	R01	Replace interior swing door as required.	30 Yrs	$7,500	2044	$12,000																								•						

Asset Ref ID	Maint. Ref ID	Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050
AMENITIES																																				
EQUIPMENT																																				
Amen 01	R01	Replace components of fitness equipment, as required.	10 Yrs	$3,000	2024	$3,200				•										•										•						
Amen 02	R01	Replace components of electronic equipment.	6 Yrs	$3,000	2025	$3,200					•						•						•						•						•	
FURNISHINGS																																				
Amen 03	J01	Lubricate locks and hinges.	2 Yrs	$0	2022	$0		•		•		•		•		•		•		•		•		•		•		•				•		•		•
Amen 03	J02	Rekey cylinder on master lock.	5 Yrs	$0	2024	$0				•					•					•					•										•	
Amen 03	R01	Replace central mail boxes as required.	30 Yrs	$5,000	2044	$7,900																								•						
Amen 04	R01	Replace damaged and outdated signage, as required.	25 Yrs	$3,000	2039	$4,300																			•											
Amen 05	R01	Replace metal storage lockers, as required.	25 Yrs	$6,800	2039	$9,700																			•											
Amen 06	R01	Replace lobby furniture and associated component.	15 Yrs	$5,000	2029	$5,900									•															•						

Asset Ref ID	Maint. Ref ID	Maintenance Description	Frequency	Current Cost	Next Event	Future Cost	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050

SITEWORK																																									
HARD LANDSCAPING																																								
Site 01	R01	Replace sections of concrete walkway, as required.	10 Yrs	$6,000	2029	$7,000								•									•										•						
Site 01	R02	Replace sections of concrete walkway, as required.	40 Yrs	$60,000	2044	$95,000																										•						
Site 01	R04	Replace sections of concrete walkway, as required. See renew components.	40 Yrs	$0	2054	$0																																
Site 02	J01	Drain water feature 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	2024	$0				•				•									•										•						
Site 02	R01	Localized repairs to water feature rock wall and install membrane at basin, as required.	10 Yrs	$5,000	2022	$5,100		•									•															•						
Site 02	R02	Replacement of water feature membrane and rebuild rock wall.	20 Yrs	$28,500	2034	$37,000													•																			
Site 03	R01	Replacement of components of circulation & filtration system.	10 Yrs	$8,000	2024	$8,500				•									•														•						
Site 04	R01	Restain wood pergola.	3 Yrs	$1,000	2022	$1,000		•			•			•			•			•			•			•			•					•					•
Site 04	R03	Replace components of the wood pergola.	15 Yrs	$8,000	2029	$9,400								•																		•						
Site 05	J02	Repaint metal fencing as required.	10 Yrs	$2,000	2024	$2,100				•									•														•						
Site 05	R02	Replace metal fencing and trellises.	40 Yrs	$5,500	2054	$11,000																																
SOFT LANDSCAPING																																								
Site 06	J01	Replace the back-up battery in the timer/controller.	2 Yrs	$0	2022	$0		•		•		•		•		•		•		•		•		•		•		•		•		•		•				•
Site 06	R01	Cyclical replacement of components of irrigation sprinkler system, as required.	15 Yrs	$5,000	2029	$5,900								•																		•						
Site 07	R01	Renovate sections of the soft landscaping, as required.	15 Yrs	$5,400	2029	$6,300								•																		•						
SITE SERVICES																																								
Site 08	R01	Replace underground electrical services. [PLACEHOLDER]	50 Yrs	$0	2064	$0																																
Site 09	R02	Replace components of underground drainage services.	80 Yrs	$10,000	2094	$0																																
Site 10	R02	Replace portions of underground sewer services, including all appurtenances. Includes temporary services during construction (assumes no room to abandon old services in place), trench backfill, and asphalt patching.	80 Yrs	$10,000	2094	$0																																
Site 11	R01	Replace gas services where not owned by Utility [PLACEHOLDER]	50 Yrs	$0	2064	$0																																
Site 12	R02	Replace underground water services with PVC/copper piping, valves, and connections.	50 Yrs	$10,000	2064	$23,000																																