



To The Owners, Strata Plan BCS528  
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Site Visit: June 20, 2017  
Submitted: April 11, 2018 by  
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# 1 Introduction

RDH Building Science Inc. (RDH) was retained by The Owners, Strata Plan BCS528 (the Owners) to prepare a Depreciation Report Update (the Report) for the building known as Domus, which is located at 1055 Homer Street, Vancouver, BC. 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 management team make informed decisions about the allocation of resources to the common property Assets (such as roofs, windows, boilers and interior finishes).

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

This Report is an update to the original Depreciation Report issued in 2014. A site visit for this Report was completed on June 20 2017, and the financial data is based on the 2017/2018 fiscal year. A draft report was distributed to the strata council and strata management on January 19, 2018, and subsequently finalized on April 11, 2018.

The original Depreciation Report and Update Reports are 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 Update. 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.

In addition to the Report, the supporting data are available to authorized users through RDH's interactive Building Asset Management Services (BAMS) software, posted on a secure website. The data is owned by the Strata Corporation and can be printed and/or exported on request. RDH has developed the interactive software tool to enable Owners to proactively manage their funding requirements and maintenance obligations, and a variety of other services in addition to the Depreciation Report are available.

As the physical and financial status of the Assets changes, 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 to reflect changes to their financial status and completed work more frequently at their discretion.

## 2 Domus

Domus is a 15-year-old strata complex that consists of a 27-storey high-rise with eight attached townhouse units. The complex is typically of cast-in-place concrete construction with steel stud infill walls, and is situated above a three level below grade parkade.

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

Key physical parameters of Domus are summarized in Table 2.1 below.


TABLE 2.1 KEY PHYSICAL PARAMETERS		
	Date of first occupancy (approximate)	2003
	Approximate gross floor area, including the parkade (ft <sup>2</sup> )	208,000
	Total area of Unit Entitlement	12,020
	Stories above grade	27
	Total number of strata lots	135

Figure 2.1 Elevation photograph of Domus



Figure 2.2 Aerial photograph of Domus (© 2018 Google Maps).

# 3 Assessments

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

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

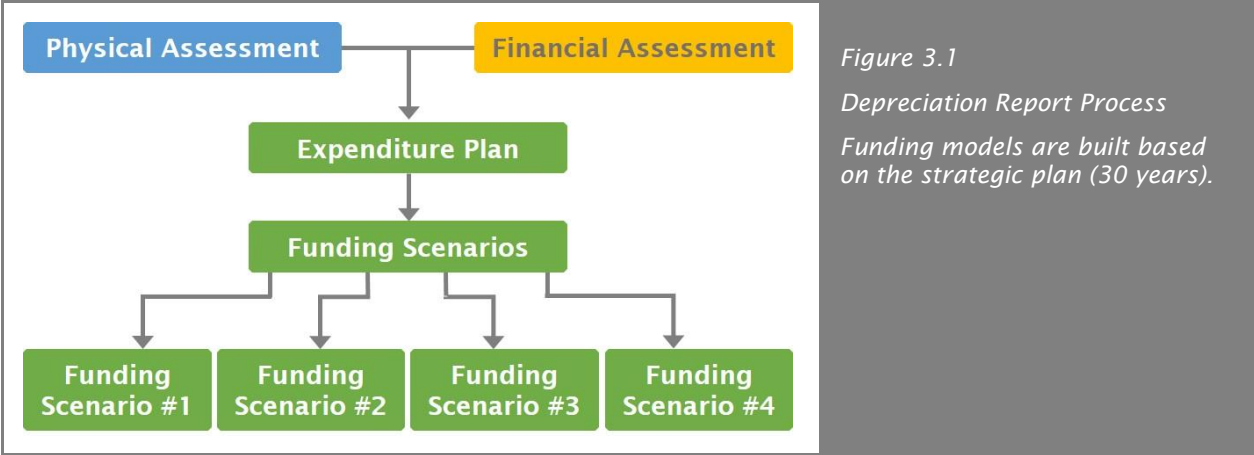


Figure 3.1  
 Depreciation Report Process  
 Funding models are built based on the strategic plan (30 years).

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 purpose, 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 20 - 1 ClearWater Domestic Water Treatment Equipment	→ Wateryte Global Water Treatment Services

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 and invoices,
- 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](http://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 establishes the chronological age of the Assets.

TABLE 3.2 MAINTENANCE AND RENEWALS HISTORY	
<p><b>Building Enclosure</b></p> <ul style="list-style-type: none"> <li>→ 2017 - Repainting of metal canopies</li> <li>→ 2013 - Commissioning of 10-year structural warranty review</li> <li>→ 2010 - Repainting of exterior concrete walls</li> <li>→ 2010 - Localized replacement of exterior sealant</li> <li>→ 2010 - Exterior cleaning of masonry veneer walls</li> <li>→ 2009 - 2010 - Localized concrete wall crack repairs</li> <li>→ 2005/2008 - Commissioning of 2 and 5-year warranty reviews</li> <li>→ As required - Cleaning of dryer vents and windows</li> </ul>	<p><b>Mechanical</b></p> <ul style="list-style-type: none"> <li>→ 2016 - Replacement of expansion tanks</li> <li>→ 2015 - Installation of water treatment system by 1Clear Water</li> <li>→ 2015 - Repairs to the booster pumps</li> <li>→ 2014/2013 - Replacement of sump pump floats and pumps</li> <li>→ 2013 - Rebuilding of water booster pump</li> <li>→ 2011/2013 - Rebuilding of pressure reducing valves</li> <li>→ 2011 - Replacement of heat tracing equipment</li> <li>→ 2011 - Rebuilding of instantaneous water heaters</li> <li>→ 2009 - Retrofit from water heaters to more efficient boiler and storage tank system</li> </ul>

<p>Electrical</p> <ul style="list-style-type: none"> <li>→ 2008 - Retrofit of parkade light ballasts to more efficient T8 fixtures.</li> <li>→ As required - Cleaning of main electrical substation.</li> </ul>	<p>Elevator</p> <ul style="list-style-type: none"> <li>→ 2017 - Removal of TVs within the elevator cabs</li> </ul>
<p>Fire Safety</p> <ul style="list-style-type: none"> <li>→ 2017 - Replacement of fire detection devices throughout all common areas</li> <li>→ Hydrostatic testing of fire extinguishers</li> <li>→ Replacement of battery packs in fire safety equipment</li> </ul>	<p>Interior Finishes</p> <ul style="list-style-type: none"> <li>→ 2014 - Replacement of carpet flooring</li> <li>→ 2014 - Repainting of hallways</li> <li>→ 2014 - Installation of rubber sports flooring in fitness room</li> <li>→ 2012 - Partial refurbishment of interior common areas (repainting of lobby walls and replacement of hallway wallpaper)</li> <li>→ As required - Cleaning and polishing of interior finishes</li> </ul>
<p>Amenities</p> <ul style="list-style-type: none"> <li>→ 2016 - Security upgrades to the central mailboxes</li> <li>→ 2015 - Refurbishment of the guest suite</li> <li>→ As required - Updating of amenity room and guest suite equipment such as TV</li> </ul>	<p>Sitework</p> <ul style="list-style-type: none"> <li>→ 2015 - Upgrades to the courtyard drainage</li> <li>→ As required - Upgrades to soft landscaping throughout the site</li> </ul>



On June 20, 2017, a representative of RDH Building Science Inc. visited the site to visually review the Assets. In addition, a sub consultant (Gunn Consultants Inc.) reviewed the elevators. While the Depreciation Report Update 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	<ul style="list-style-type: none"> <li>→ Localized deterioration of the existing paint coatings at various concrete planters.</li> <li>→ Localized staining of concrete walls in close proximity to trees in the east and west courtyards.</li> <li>→ High level of bird activity at the main roof; seagull nest found.</li> </ul>
Electrical	→ Maintenance records indicate regular inspections of equipment.
Mechanical	→ 1 Clearwater water treatment system was recently installed to prevent corrosion and extend the service life of the domestic water distribution system.
Interior Finishes	→ Evidence of regular repairs and touch ups to the surface of the paint.



## 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.

TABLE 3.4 KEY FINANCIAL PARAMETERS		
PARAMETER	INITIAL STUDY (2013/2014)	UPDATE STUDY (2017/2018)
Fiscal year end	October 31	October 31
Building reproduction cost	\$46,684,000	\$52,300,000
Operating budget (excluding CRF contribution)	\$531,391	\$624,510
Annual CRF contribution	\$100,000	\$125,000
Opening Balance of the CRF	\$310,634	\$578,070

*\*The balance in the CRF varies each month as contributions are made and funds are withdrawn for capital renewal projects and major maintenance activities. The accumulated CRF balance is reconciled as of the beginning of the 2017/2018 fiscal year.*

Depreciation Reports and Updates include capital costs only: the costs for activities that occur at intervals greater than one year. Activities that occur annually or more frequently than once a year are considered operating expenses and are not included in the 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 Update is based on keep-up costs. Get-ahead costs (improvements) may also be included, but only if they are required to meet changing codes or standards.

Costs are considered Class D estimates ( $\pm 50\%$ ), as defined by the Association of Professional Engineers and Geoscientists of BC (APEG BC). 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.

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 through the online BAMS software. Please contact the strata council or strata agent for additional information on how to access and view this information.

### *Costing Caveats*

The capital costs given in Depreciation Reports and Updates 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, tipping/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.



# 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. Costs associated with minor maintenance are included in the Strata Corporation’s operating budget.

## 4.1 Major Maintenance and Renewal Expenditures

Domus is now approximately 15 years old, and has undertaken various repairs and renewals (please see Table 3.2 Maintenance and Renewals History for a detailed list of projects). However, as the complex continues to age, additional renewal expenditures can be anticipated, some of which may occur in the next 10 years.

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)
Building Enclosure	\$520,000	\$540,000	\$5,800,000	\$8,600,000
Electrical	\$210,000	\$230,000	\$830,000	\$1,200,000
Mechanical	\$200,000	\$220,000	\$1,800,000	\$2,600,000
Elevator	\$34,000	\$38,000	\$570,000	\$780,000
Fire Safety	\$130,000	\$160,000	\$370,000	\$530,000
Interior Finishes	\$100,000	\$130,000	\$450,000	\$660,000
Amenities	\$37,000	\$41,000	\$100,000	\$140,000
Sitework	\$6,000	\$6,100	\$110,000	\$170,000
<b>Building Total</b>	<b>\$1,237,000</b>	<b>\$1,365,100</b>	<b>\$10,030,000</b>	<b>\$14,680,000</b>

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

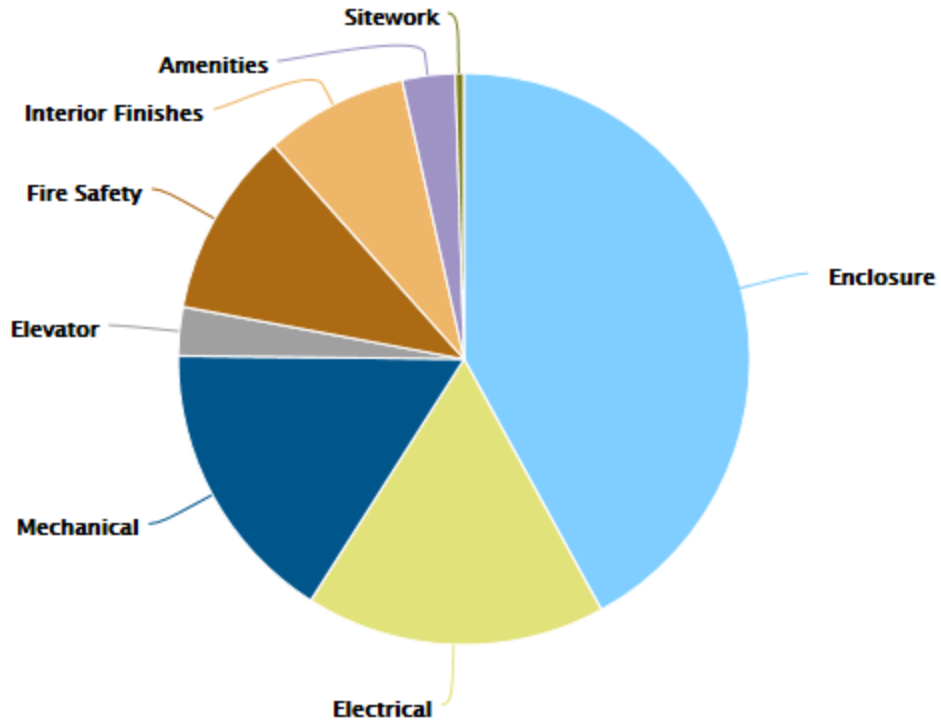


Figure 4.1 Distribution of estimated capital expenditures over 10 years by system.

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



# 5 Major Maintenance and Renewals Planning Horizons

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

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

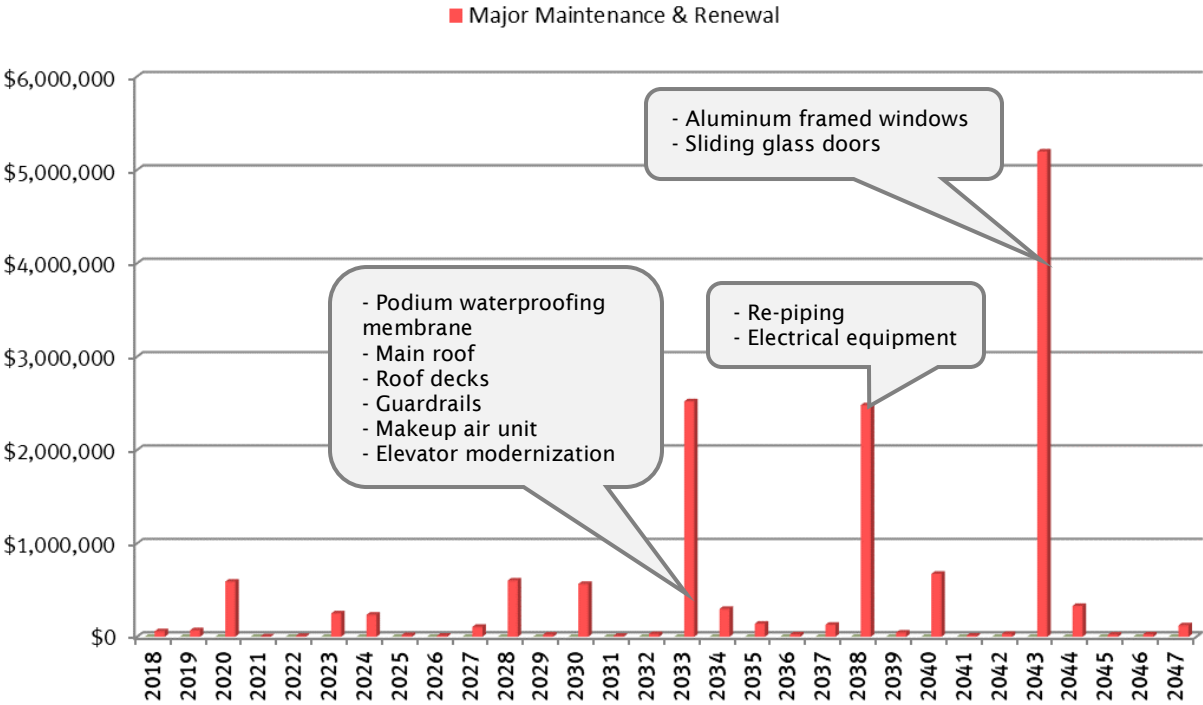


Figure 5.1 Strategic Forecast (30 Years), showing the approximate timing and value of some key capital expenditures.

Each bar on the graph represents a collection of different major maintenance and renewal activities, each with different values. The labels on the graph summarize significant renewal expenditures forecast for

that year. Detailed information about each year, including a description of the maintenance and renewal activities and estimated costs, is also available through the online version of the Depreciation Report, available through BAMS (please contact the strata council for additional information).

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 ten years (Figure 5.2). Commonly, building managers refer to a five-year tactical plan; however, a ten-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. Labels summarize renewals and major maintenance activities forecast for that year. The soft costs associated with project implementation, such as site access, design, contract administration, are not included.

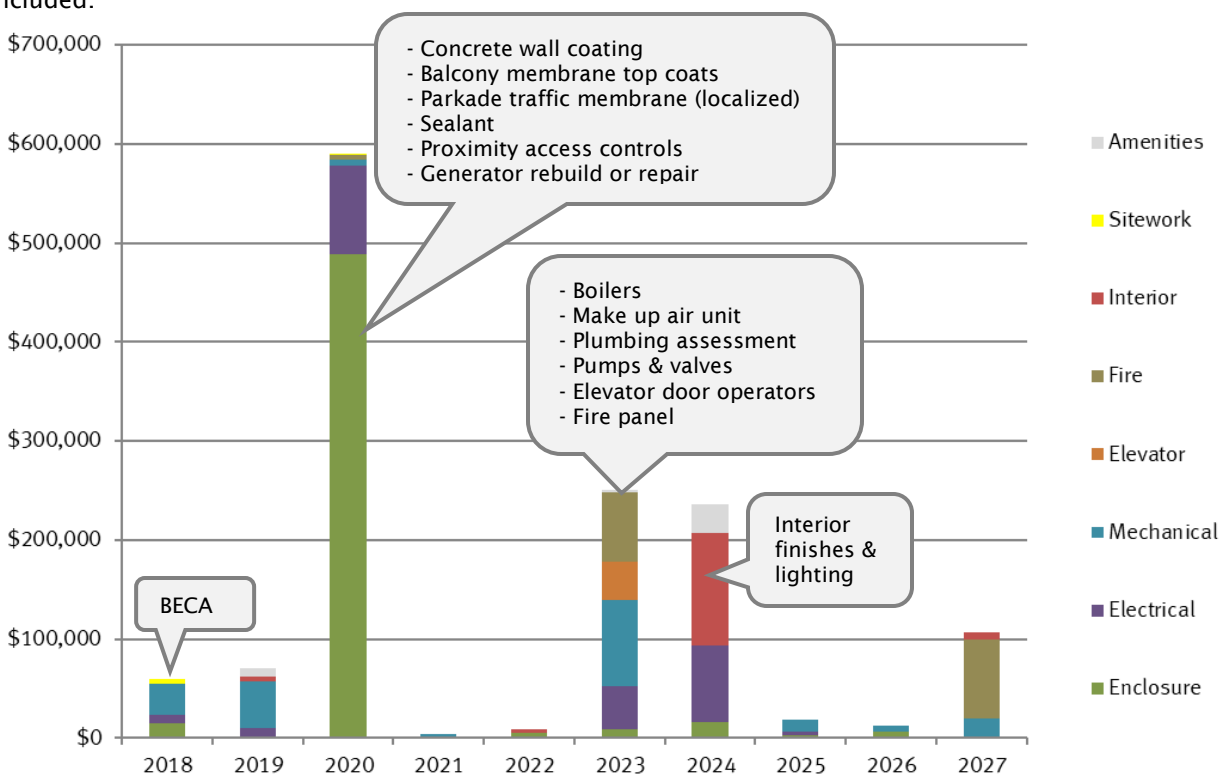


Figure 5.2 Tactical Forecast (10 years), showing the approximate timing and value of some key capital expenditures.

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; renewals and major maintenance activities likely to cost less than \$10,000 in current year dollars are included in the appendices.

## *2018 to 2020*

### Building Enclosure

- Encl 19 General & Inspections – Commission a building enclosure condition assessment (BECA) to confirm the remaining service life of assets such as the at-grade (podium) waterproofing membranes, concrete coatings, sealant, and balconies. The assessment should be completed in advance of recoating, balcony and sealant renewals to assist with the planning process.
- Encl 06 Coating on Exterior Concrete – Plan to reapply the protective coating of the exterior concrete walls, including preparation of the concrete substrate and localized repairs of delaminated or spalled concrete.
- Encl 08 Aluminum Framed Window – Allowance to replace failed insulated glazing units (IGUs) with condensation or misting between the panes of glass, as required. An allowance is shown every two years; however, the exact number will vary from year to year.
- Encl 14 Balcony Urethane Membranes – Plan for localized repairs and re-application of the balcony membrane top coats, as required.
- Encl 17 Parkade Traffic Membrane – Prepare parkade suspended slab surfaces and locally repair and reapply traffic-bearing membrane in high-traffic areas, as required.
- Encl 20 Sealant – Plan to replace sealants at interfaces between building enclosure assemblies, and at penetrations through assemblies. The sealant renewals should be coordinated with the concrete coating renewals.

### Electrical

- Elec 01, 02, and 04 Electrical Distribution Equipment – Conduct infrared thermography, ultrasonic scanning, and cleaning of the main components of the electrical distribution equipment to detect hidden hazards (every 3 to 5 years).
- Elec 03 Emergency Generator – Consider a rebuild of the emergency generator, as required.
- Elec 08 Proximity Access Controls – Anticipate the modernization of components of the door access control system, excluding field wiring, as may be required by technological obsolescence.

### Mechanical

- Mech 13 Hot Water Storage Tanks – Anticipate the cyclical renewal of domestic hot water storage tanks, as required.
- Mech 17 Domestic Booster Pumps – Plan for the replacement of the domestic booster pumps and motor control panel, as required.
- Mech 22 & 26 Fan Coil & Condensing Units – Anticipate the cyclical replacement of split system air conditioning unit fan coils and components of the condensing units, as required.

## *2021 to 2023*

### Building Enclosure

- Encl 11 Lobby Doors - Anticipate the renewal of the lobby doors, as required.

### Electrical

- Elec 05 & 06 Interior and Exterior Lighting - Consider the replacement of interior and exterior light fixtures, as required.

### Mechanical

- Mech 28 Air Handling Units - Anticipate the replacement or rebuild of heating coils, motors, fans, blowers, and other associated components of the air handling unit.
- Mech 05 Boilers - Plan for the replacement or rebuild of the domestic hot water boilers, as required.
- Mech 15 Piping - Domestic Water Distribution - Conduct comprehensive third-party testing and inspection of the domestic water distribution system to confirm the existing conditions and estimate remaining service life.

### Elevator

- Elev 02 Elevator Cabs & Hoistway - Plan for the replacement of the elevator door operators, as per the recommendations of the elevator review.

### Fire Safety

- Fire 01 & 09 Fire Alarm Panel and Emergency Egress Equipment - Anticipate replacing or modernizing the fire alarm panel and emergency egress equipment, as required due to technological obsolescence. The strata corporation could contact their fire safety maintenance contractor to confirm the age and dependability of the equipment, and confirm upcoming renewal requirements.

## *2024 to 2027*

### Interior Finishes

- Finish 03 Carpet - Plan for the replacement of carpet flooring throughout all common areas.
- Finish 04 Wood Laminate Flooring - Plan for the renewal of the wood laminate flooring.
- Finish 07 Paint - Plan to repaint interior common areas in coordination with other interior finish renewals. Interior finish renewals are considered aesthetic in nature and will be scheduled at the discretion of the strata corporation.

## 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 ( $\pm 50\%$ ) due to the lack of information regarding specific projects and are based on a number of general assumptions regarding scopes of work.

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

- *Targeted Projects*. These projects are localized to particular portions of the 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
2017/2018 Operating Budget	\$ 624,510
→ 25% of the operating budget	\$ 156,128
→ 10% of the operating budget	\$ 62,451
2017/2018 CRF Opening Balance	\$ 578,070
2017/2018 CRF Contribution	\$ 125,000
Will the CRF closing balance exceed 25% of the operating budget at the end of the fiscal year?	Yes
Does the CRF contribution exceed 10% of the operating budget?	Yes

Although the Strata Corporation exceeds 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:

- **Previous (2013/2014).** The CRF allocation that was approved by the Owners at the time of the previous Depreciation Report/Reserve Fund Study.
- **Current (2017/2018).** The CRF allocation that was approved by the Owners at the last Annual General Meeting. The current allocation is also known as the status quo.
- **Alternative.** A non-linear funding scenario that begins with the current contribution of \$125,000 and continues with a 4% annual increase. This is just one of many possible scenarios for a new funding level in the next fiscal year.
- **Progressive.** This is the annual allocation that would have been set aside since the first year of operations to ensure that the reserve balance would have been sufficient to avoid any special assessments over a 30-year period. The progressive reserve allocation is an idealistic target which typically represents an upper bound for the amount allocated to the CRF.

TABLE 6.2 COMPARISON OF DIFFERENT FUNDING SCENARIOS				
	PREVIOUS (2013/2014)	CURRENT (2017/2018)	ALTERNATIVE	PROGRESSIVE RESERVE
Annual CRF allocation	\$100,000	\$125,000	\$125,000 +	\$417,000
Annual CRF increase	0 %	0 %	4 %	0 %
Percent of progressive reserve	24 %	30 %	30 %	100 %
CRF contribution per unit of unit entitlement			Starting at	
Per month	\$0.69	\$0.87	\$0.87 +	\$2.89
Per year	\$8.32	\$10.40	\$10.40 +	\$34.69
CRF contribution per average strata lot			Starting at	
Per month	\$61.73	\$77.16	\$77.16 +	\$257.41
Per year	\$740.74	\$925.93	\$925.93 +	\$3,088.89
Minimum CRF closing balance	\$25,000	\$25,000	\$25,000	\$25,000
Approximate number of special levies (over 30 years)	9	8	5	1
Approximate value of special levies (over 30 years)	\$11.2 M	\$10.5 M	\$7.9 M	\$1.3 M
Assumed Inflation Rate	2 %	2 %	2 %	2 %
Assumed Interest Rate	2 %	2 %	2 %	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 ten years of cash flow data are also provided.

The appendices to the report include 30 years of cash flow data for each funding scenario.

### 6.3 Previous Funding Scenario

The first scenario shows how reverting to the funding level approved for 2013/2014 would impact the 30-year planning horizon.

TABLE 6.3 PREVIOUS FUNDING SCENARIO: CASH FLOW TABLE							
FISCAL YEAR	OPENING BALANCE	RESERVE CONTRIBUTION	SPECIAL LEVY	RESERVE INCOME	RENEWAL COSTS	CONTINGENCY COSTS	CLOSING BALANCE
2018	\$578,070	\$100,000	\$0	\$11,561	\$59,400	\$2,000	\$628,231
2019	\$628,231	\$100,000	\$0	\$12,565	\$70,000	\$2,000	\$668,796
2020	\$668,796	\$100,000	\$0	\$13,376	\$590,430	\$2,000	\$189,742
2021	\$189,742	\$100,000	\$0	\$3,795	\$4,300	\$2,000	\$287,237
2022	\$287,237	\$100,000	\$0	\$5,745	\$8,500	\$2,000	\$382,482
2023	\$382,482	\$100,000	\$0	\$7,650	\$250,700	\$2,000	\$237,431
2024	\$237,431	\$100,000	\$0	\$4,749	\$236,500	\$2,000	\$103,680
2025	\$103,680	\$100,000	\$0	\$2,074	\$18,820	\$2,000	\$184,933
2026	\$184,933	\$100,000	\$0	\$3,699	\$11,900	\$2,000	\$274,732
2027	\$274,732	\$100,000	\$0	\$5,495	\$106,400	\$2,000	\$271,827

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.

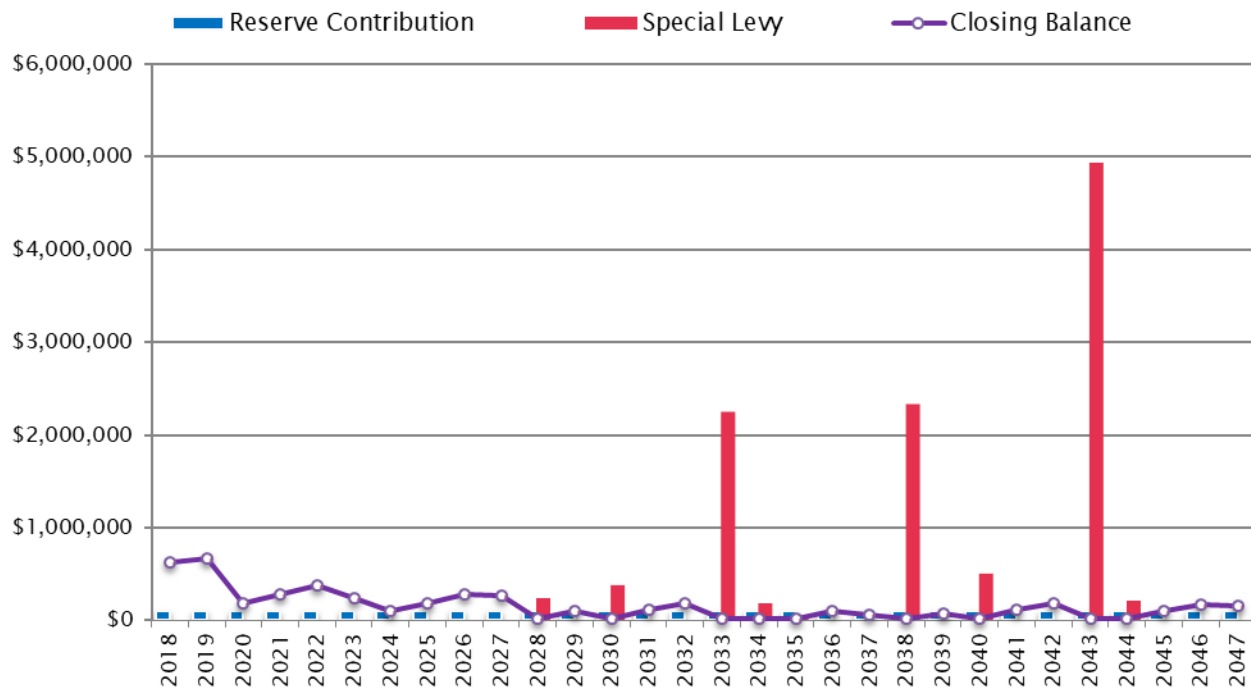


Figure 6.1 CRF balance, contribution and special levies based on the previous funding.

## 6.4 Current Funding Scenario

The current funding scenario is based on the CRF contribution approved for the 2017/2018 fiscal year by the Owners at the last annual general meeting. The scenario is based on a fixed annual CRF contribution (no increases).

TABLE 6.4 CURRENT FUNDING SCENARIO: CASH FLOW TABLE							
FISCAL YEAR	OPENING BALANCE	RESERVE CONTRIBUTION	SPECIAL LEVY	RESERVE INCOME	RENEWAL COSTS	CONTINGENCY COSTS	CLOSING BALANCE
2018	\$578,070	\$125,000	\$0	\$11,561	\$59,400	\$2,000	\$653,231
2019	\$653,231	\$125,000	\$0	\$13,065	\$70,000	\$2,000	\$719,296
2020	\$719,296	\$125,000	\$0	\$14,386	\$590,430	\$2,000	\$266,252
2021	\$266,252	\$125,000	\$0	\$5,325	\$4,300	\$2,000	\$390,277
2022	\$390,277	\$125,000	\$0	\$7,806	\$8,500	\$2,000	\$512,583
2023	\$512,583	\$125,000	\$0	\$10,252	\$250,700	\$2,000	\$395,134
2024	\$395,134	\$125,000	\$0	\$7,903	\$236,500	\$2,000	\$289,537
2025	\$289,537	\$125,000	\$0	\$5,791	\$18,820	\$2,000	\$399,508
2026	\$399,508	\$125,000	\$0	\$7,990	\$11,900	\$2,000	\$518,598
2027	\$518,598	\$125,000	\$0	\$10,372	\$106,400	\$2,000	\$545,570

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.

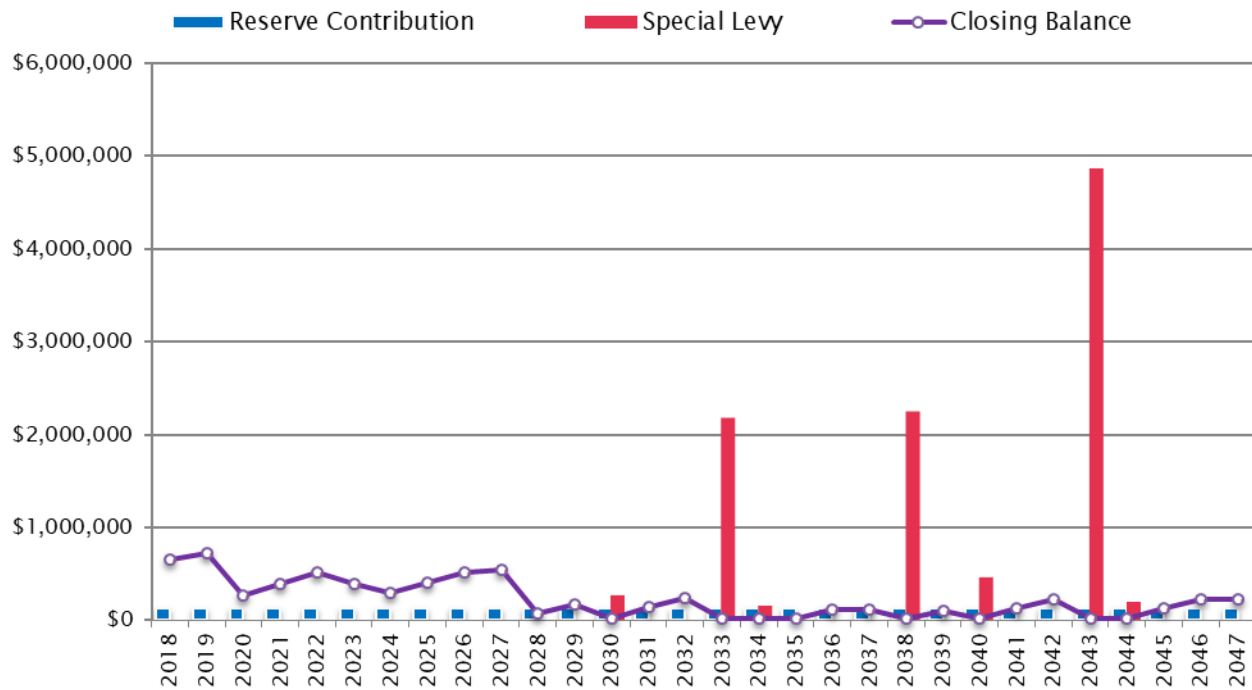


Figure 6.2 CRF balance, contribution and special levies based on the current funding.

## 6.5 Alternative Funding Scenario

The alternative funding scenario is based on the current CRF contribution of \$125,000, with a 4% annual increase.

TABLE 6.5 ALTERNATIVE FUNDING SCENARIO: CASH FLOW TABLE							
FISCAL YEAR	OPENING BALANCE	RESERVE CONTRIBUTION	SPECIAL LEVY	RESERVE INCOME	RENEWAL COSTS	CONTINGENCY COSTS	CLOSING BALANCE
2018	\$578,070	\$125,000	\$0	\$11,561	\$59,400	\$2,000	\$653,231
2019	\$653,231	\$130,000	\$0	\$13,065	\$70,000	\$2,000	\$724,296
2020	\$724,296	\$135,200	\$0	\$14,486	\$590,430	\$2,000	\$281,552
2021	\$281,552	\$140,608	\$0	\$5,631	\$4,300	\$2,000	\$421,491
2022	\$421,491	\$146,232	\$0	\$8,430	\$8,500	\$2,000	\$565,653
2023	\$565,653	\$152,082	\$0	\$11,313	\$250,700	\$2,000	\$476,348
2024	\$476,348	\$158,165	\$0	\$9,527	\$236,500	\$2,000	\$405,539
2025	\$405,539	\$164,491	\$0	\$8,111	\$18,820	\$2,000	\$557,322
2026	\$557,322	\$171,071	\$0	\$11,146	\$11,900	\$2,000	\$725,639
2027	\$725,639	\$177,914	\$0	\$14,513	\$106,400	\$2,000	\$809,666

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

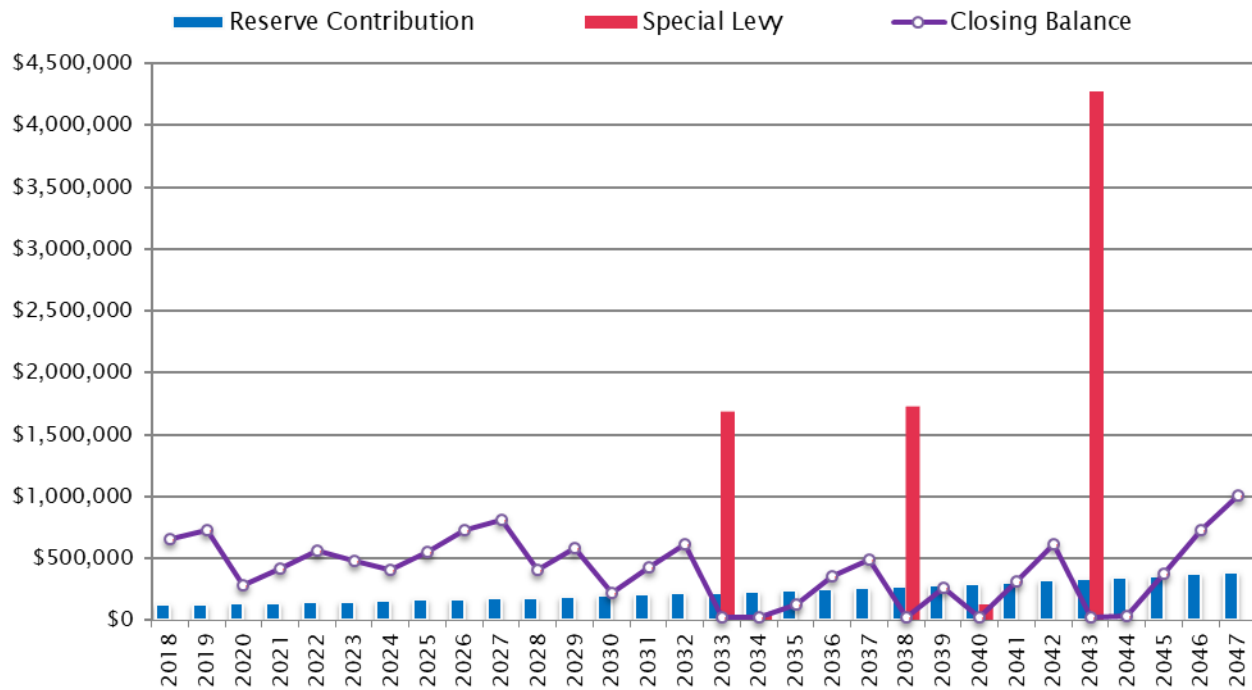


Figure 6.3 CRF balance, contribution and special levies based on the alternative funding scenario.

## 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
2018	\$578,070	\$417,000	\$0	\$11,561	\$59,400	\$2,000	\$945,231
2019	\$945,231	\$417,000	\$0	\$18,905	\$70,000	\$2,000	\$1,309,136
2020	\$1,309,136	\$417,000	\$0	\$26,183	\$590,430	\$2,000	\$1,159,889
2021	\$1,159,889	\$417,000	\$0	\$23,198	\$4,300	\$2,000	\$1,593,787
2022	\$1,593,787	\$417,000	\$0	\$31,876	\$8,500	\$2,000	\$2,032,162
2023	\$2,032,162	\$417,000	\$0	\$40,643	\$250,700	\$2,000	\$2,237,106
2024	\$2,237,106	\$417,000	\$0	\$44,742	\$236,500	\$2,000	\$2,460,348
2025	\$2,460,348	\$417,000	\$0	\$49,207	\$18,820	\$2,000	\$2,905,735
2026	\$2,905,735	\$417,000	\$0	\$58,115	\$11,900	\$2,000	\$3,366,949
2027	\$3,366,949	\$417,000	\$0	\$67,339	\$106,400	\$2,000	\$3,742,888

The Progressive Reserve would offset all but one special levy over the 30-year planning horizon. The graph below shows the annual contribution to the CRF, the closing balance of the CRF, and the size of the special levies forecast for the next 30 years.

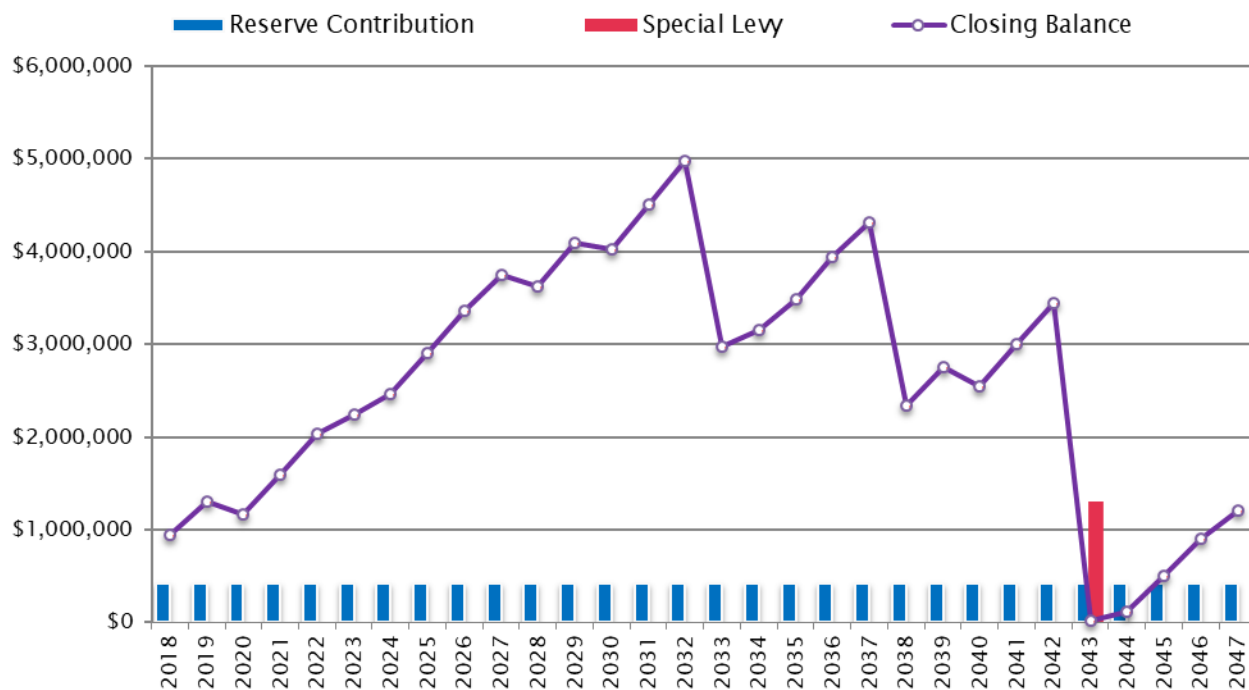


Figure 6.4 CRF balance, contribution and special levies based on a Progressive Reserve calculation.

# 7 Next Steps

The Depreciation Report Update identifies the possible major maintenance and renewal expenditures Domus may encounter over the next 30 years. Estimated timelines have been provided to assist the Strata Corporation with the planning process; however, the 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.

Domus is a 15 year old complex, and some major maintenance and renewal events such as recoating of the exterior concrete walls, renewal of balcony membranes and sealant, and replacement of various mechanical and electrical assets may be required over the next five years. The Strata should continue to be diligent in performing maintenance tasks to assist with assets reaching their full-service life.

Over the past three years since the original Depreciation Report was issued, Domus has improved their contingency reserve funding. This has allowed the Strata Corporation to build up a stronger contingency reserve fund when compared to their 2014 funding levels. By continuing to save early for anticipated large expenditures, the Owners will benefit from accrued interest and financial preparedness, while minimizing the amount of special levies.

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

## *Recommendations*

- **Asset Replacement Policy.** Using the Asset Inventory, develop an asset replacement policy. The policy would assign replacement strategies (run-to-failure, condition based, or time-based) to assets.
- **Maintenance Plan.** Using the Asset Inventory, develop a maintenance plan, or commission a maintenance plan through RDH. The maintenance plan should provide the Strata Corporation with information on how and when to implement different maintenance activities.
- **Building Enclosure Condition Assessment.** Conduct a Condition Assessment of the building enclosure prior to or in conjunction with the update to the Depreciation Report in three years' time. The condition assessment will confirm the estimated remaining service lives of enclosure assets. Update the Report with these findings and recommendations as may be required.
- **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 Strata Corporation should review and update their CRF funding strategy based on the estimated forecasts presented in the Report.

Yours truly,



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# **Appendix A**

## **Glossary of Terms**

## Glossary

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

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

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

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

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

- **Class A Estimate** ( $\pm 10-15\%$ ): 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** ( $\pm 15-25\%$ ): 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** ( $\pm 25-40\%$ ): 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** ( $\pm 50\%$ ): 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**

**Domus**  
Asset Inventory

**Enclosure**

**Roofs & Decks**

**Encl 01 - Protected SBS Membrane Roof with Ballast**



**Location**

Main low-sloped roof.

**Description**

Protected 2-ply SBS membrane overlaid with insulation, protection board, and stone ballast.

**Information**

Service Life: 30  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2033

**Encl 02 - Protected SBS Membrane Deck with Traffic-Bearing Surface**



**Location**

Decks from level 4 to the penthouse.

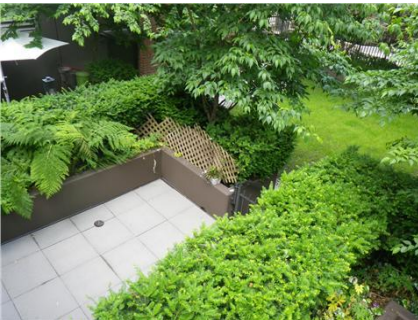
**Description**

SBS membrane overlaid with insulation, protection board, and concrete pavers or landscaping as a traffic-bearing surface. The term 'deck' refers to an exterior horizontal surface that is intended for pedestrian use, and is located over occupied space.

**Information**

Service Life: 30  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2033

**Encl 03 - Protected Membrane Deck/Podium with Landscaping and Paving**



**Location**

Patios and decks up to the third floor.

**Description**

Waterproof membrane overlaid with combination of insulation, protection board, and pavers and landscaping overburden. The term 'deck' refers to an exterior horizontal surface that is intended for pedestrian use, and is located over occupied space.

**Information**

Service Life: 30  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2033

**Domus**  
**Asset Inventory**

**Fall Protection**

**Encl 04 - Guardrail Glazed Aluminum**



**Location**

Deck and balcony perimeters.

**Description**

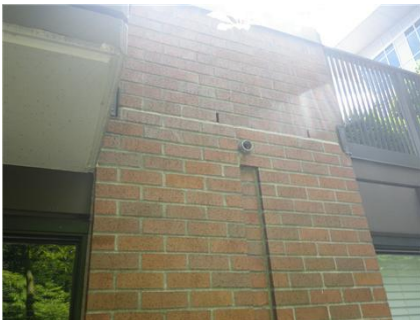
Aluminum posts and glass infill panels functioning as a protective barrier at the open sides of balconies, and decks to prevent accidental falls from one level to another.

**Information**

Service Life: 30  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2033

**Walls**

**Encl 05 - Masonry Veneer Wall**



**Location**

All elevations of levels 1 to 3, and at the townhouse units.

**Description**

Masonry units applied as a veneer with a drained and vented cavity over exterior sheathing paper. Localized renewal of this asset has been accounted for.

**Information**

Service Life: 50  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2053

**Encl 06 - Coated Concrete Wall**



**Location**

All levels and elevations.

**Description**

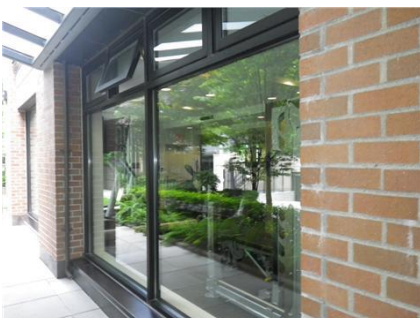
Poured-in-place concrete wall with protective coating. It is our understanding that this asset was last re-coated in 2010.

**Information**

Service Life: 75  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2078

**Glazing Systems**

**Encl 07 - Aluminum Storefront**



**Location**

Lobby level of east and west elevations.

**Description**

Aluminum framed, storefront system with insulating glazing units.

**Information**

Service Life: 40  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2043

**Domus**  
**Asset Inventory**

**Encl 08 - Aluminum Framed Window**



**Location**

All levels and elevations.

**Description**

Aluminum framed windows with double insulating glazing units, and awning operators.

**Information**

Service Life: 40  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2043

**Doors**

**Encl 09 - Aluminum Frame Glazed Swing Door**



**Location**

Various decks.

**Description**

Aluminum frame swing door with insulating glazing units.

**Information**

Service Life: 25  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2028

**Encl 10 - Wood Swing Door**



**Location**

Townhouse entry doors.

**Description**

Solid wood swing door with insulating glazing units.

**Information**

Service Life: 25  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2028

**Encl 11 - Aluminum Frame Lobby Door**



**Location**

West and east lobby entrances.

**Description**

Outswing aluminum-framed doors with fixed IGU's and low-profile thresholds with electric strike and hardware.

**Information**

Service Life: 20  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2023

**Domus**  
**Asset Inventory**

**Encl 12 - Aluminum Framed Sliding Glass Door**



**Location**

Various balconies and decks.

**Description**

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

**Information**

Service Life: 40  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2043

**Encl 13 - Steel Swing Door**



**Location**

Emergency exit doors.

**Description**

Hollow steel slab swing door. Localized renewal of this asset has been accounted for.

**Information**

Service Life: 25  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2028

**Balconies**

**Encl 14 - Exposed Urethane Balcony Membrane**



**Location**

Balcony surfaces.

**Description**

Liquid polyurethane membrane applied over concrete slab.

**Information**

Service Life: 25  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2028

**Canopies**

**Encl 15 - Metal Frame and Glass Canopy**



**Location**

Adjacent to west and east lobby entrances.

**Description**

Canopy constructed with metal framing and single glazing. Canopies were last repainted in 2010.

**Information**

Service Life: 40  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2043

**Domus**  
Asset Inventory

**Parking Garage**

**Encl 16 - Open-grid Overhead Parkade Gate**



**Location**

Parkade entrances.

**Description**

Pre-finished metal grid overhead gate for underground parkade.

**Information**

Service Life: 25  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2028

**Encl 17 - Parking Slab with Traffic-bearing Membrane**



**Location**

Parkade levels P0 to P1.

**Description**

Traffic-bearing membrane on concrete parkade floor slab. It is our understanding that the membrane located in the garbage room was replaced in 2013.

**Information**

Service Life: 75  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2078

**Encl 18 - Slab-on-Grade**



**Location**

Parkade level P2.

**Description**

Concrete slab on grade.

**Information**

Service Life: 75  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2078

**General & Inspections**

**Encl 19 - General & Inspections**



**Location**

All levels and elevations.

**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  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2078

**Domus**  
**Asset Inventory**

**Encl 20 - Sealant**



**Location**

Around building enclosure details and penetrations.

**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  
Installed Year: 2010  
Chronological Age: 8  
Effective Age: 8  
Next Renewal Year: 2020

**Electrical**

**Power Supply**

**Elec 01 - Unit Substation**



**Location**

Main electrical room in parkade level P1 by stall #112.

**Description**

Federal Pioneer 95KV, 3 phase, dry type transformer; main breaker, load break switches and metering compartments contained within unit substation to provide primary electrical service. 2x load arms have been replaced as needed.

**Information**

Service Life: 35  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2038

**Elec 02 - Distribution Transformer - Interior**



**Location**

Electrical room in parkade level P1 by stall #89 and emergency distribution room by stall #130.

**Description**

Square D, 30-112.5 KVA, 3 phase, dry-type, with Nema enclosure, coil and vibration isolators that provide power to receptacles and low voltage loads.

**Information**

Service Life: 40  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2043

**Elec 03 - Emergency Generator**



**Location**

Emergency generator room in parkade level P1 by stall #60.

**Description**

Generac Power Systems, 300 KW, 375 KVA, 3 phase, 600 V, 1800 RPM, generator with fuel tank to provide standby/emergency power.

**Information**

Service Life: 35  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2038

**Domus**  
**Asset Inventory**

**Distribution**

**Elec 04 - Electrical Distribution**



**Location**

Electrical rooms throughout.

**Description**

Square D, 3 phase switchgear units; 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
Installed Year:	2003
Chronological Age:	15
Effective Age:	15
Next Renewal Year:	2043

**Light Fixtures**

**Elec 05 - Exterior Light Fixtures**



**Location**

Mounted to exterior walls, soffits, and posts.

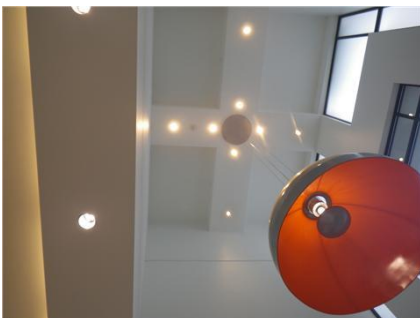
**Description**

A variety of fixture types, including wall, pole and post mounted, street, pathway and recessed soffit pot lighting. A variety of lamp types 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
Installed Year:	2003
Chronological Age:	15
Effective Age:	15
Next Renewal Year:	2023

**Elec 06 - Interior Light Fixtures**



**Location**

Hallways, amenity rooms, service rooms, and throughout the parkade.

**Description**

A variety of fixture types, including fixed surface (pendant, track and sconce) and recessed (pot, troffer and cove). A variety of lamp types for interior direct, indirect and accent lighting applications. A variety of light fixture controls, including switches, motion sensors, timers, dimmers and photocells. Parkade light ballasts retrofitted in 2008.

**Information**

Service Life:	20
Installed Year:	2003
Chronological Age:	15
Effective Age:	14
Next Renewal Year:	2024

**Domus**  
**Asset Inventory**

**Security**

**Elec 07 - Enterphone System**



**Location**

Lobby and parkade entrances.

**Description**

Flush mounted, enterphone panels with associated key pads and display panels.

**Information**

Service Life: 25  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2028

**Elec 08 - Proximity Access Control**



**Location**

Access to common areas.

**Description**

Local proximity access control system components include fob/card devices for building occupants, fob/card 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  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 10  
Next Renewal Year: 2020

**Elec 09 - Security Surveillance**



**Location**

Throughout the building.

**Description**

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

**Information**

Service Life: 14  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 13  
Next Renewal Year: 2019

**Domus**  
**Asset Inventory**

**Mechanical**

**Controls and End Devices**

**Mech 01 - Heat Tracing - Freeze Protection**



**Location**

Throughout the parkade.

**Description**

Digitrace heat trace controller for piping systems exposed to freezing; UL listed for pipe freeze protection on fire sprinkler system.

**Information**

Service Life:	15
Installed Year:	2011
Chronological Age:	7
Effective Age:	7
Next Renewal Year:	2026

**Mech 02 - Gas Detection - Parking Garage**



**Location**

Throughout the parkade.

**Description**

Armstrong 1032, electronic sensing devices for detection of dangerous gases, carbon monoxide (CO), produced by vehicles and to activate the exhaust fans accordingly.

**Information**

Service Life:	10
Installed Year:	2003
Chronological Age:	15
Effective Age:	9
Next Renewal Year:	2019

**Plumbing & Drainage**

**Mech 03 - Tankless Instantaneous Heater - DHW - Electric**



**Location**

Storage locker room, level 2.

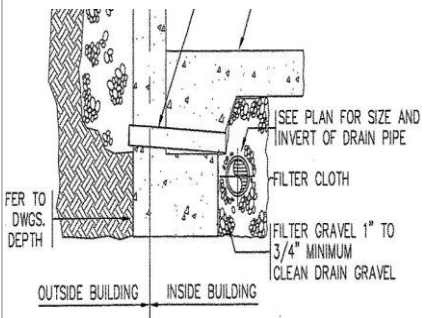
**Description**

Rheem Ruud wall mounted, electric tankless DHW heater, for point-of-use or recirculation water heating. Mostly rebuilt in 2011.

**Information**

Service Life:	10
Installed Year:	2011
Chronological Age:	7
Effective Age:	7
Next Renewal Year:	2021

**Mech 04 - Drainage - Perimeter and Foundation**



**Location**

Buried around perimeter of building.

**Description**

Perforated piping forming part of a sub-surface footing drainage system around perimeter of building and underground structures.

**Information**

Service Life:	40
Installed Year:	2003
Chronological Age:	15
Effective Age:	15
Next Renewal Year:	2043

**Domus**  
**Asset Inventory**

**Mech 05 - Boiler - DHW - Heating - Gas Fired**



**Location**

Rooftop mechanical room.

**Description**

Laars copper tube natural gas fired, domestic service hot water heater, 1,430,000 BTU input, 1,158,300 BTU output. Atmospheric vent with draft inducer. Water heater is connected to glass-lined storage tanks.

**Information**

Service Life: 14  
Installed Year: 2009  
Chronological Age: 9  
Effective Age: 9  
Next Renewal Year: 2023

**Mech 06 - Drainage - Sanitary**



**Location**

Connected to waste fixtures throughout.

**Description**

Cast iron DWV piping, with joints, p-traps, and fittings.

**Information**

Service Life: 50  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2053

**Mech 07 - Fixtures - Showers**



**Location**

Amenity change rooms.

**Description**

Shower bases and enclosures, including faucets and trim.

**Information**

Service Life: 25  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2028

**Mech 08 - Fixtures - Taps & Sinks**



**Location**

Amenity changerooms.

**Description**

Sinks and other plumbing supply fixtures.

**Information**

Service Life: 25  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2028

**Domus**  
**Asset Inventory**

**Mech 09 - Fixtures - Toilets**



**Location**

Amenity changerooms.

**Description**

Floor mounted toilets.

**Information**

Service Life: 20  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2023

**Mech 10 - Pump - DHW - Circulation and Recirculation**



**Location**

Rooftop mechanical room.

**Description**

Bell & Gossett, 2/5 HP, pipe-mounted bronze body domestic hot water circulation pumps. Circulating hot water from boilers to tanks and recirculating hot water from system.

**Information**

Service Life: 10  
Installed Year: 2009  
Chronological Age: 9  
Effective Age: 9  
Next Renewal Year: 2019

**Mech 11 - Pumps - Sanitary Lift and Control Panel**



**Location**

Parkade level P2.

**Description**

Northwest Tech-con, duplex, 1.5 HP, sanitary sump pumps and control panels for sanitary lift/drainage.

**Information**

Service Life: 15  
Installed Year: 2013  
Chronological Age: 5  
Effective Age: 5  
Next Renewal Year: 2028

**Mech 12 - Pumps - Storm Lift and Control Panel**



**Location**

Parkade level P2.

**Description**

Northwest Tech-con, duplex, 1.5 HP, storm sump pumps and control panels for storm water runoff and sub-surface drainage.

**Information**

Service Life: 15  
Installed Year: 2013  
Chronological Age: 5  
Effective Age: 5  
Next Renewal Year: 2028

**Domus**  
**Asset Inventory**

**Mech 13 - Tank - DHW - Storage**



**Location**

Rooftop mechanical room.

**Description**

Bradford White, 119 gallon tanks, glass-lined hot water storage tanks connected to domestic boiler system.

**Information**

Service Life: 8  
Installed Year: 2009  
Chronological Age: 9  
Effective Age: 7  
Next Renewal Year: 2019

**Mech 14 - Tank - Expansion -DHW - Diaphragm**



**Location**

Rooftop mechanical room.

**Description**

Amtrol floor mounted diaphragm expansion tank for domestic water system.

**Information**

Service Life: 20  
Installed Year: 2009  
Chronological Age: 9  
Effective Age: 9  
Next Renewal Year: 2029

**Mech 15 - Piping - Domestic Water Distribution**



**Location**

Connected to supply fixtures throughout.

**Description**

Type L copper for vertical/horizontal mains system, and in-slab PEX distribution piping within the suites. Gasketed clamp, soldered, and crimp connections.

**Information**

Service Life: 28  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 8  
Next Renewal Year: 2038

**Mech 16 - Piping - Gas Distribution**



**Location**

Connected to gas fixtures throughout.

**Description**

Gas distribution system consisting of piping from meter to appliance.

**Information**

Service Life: 50  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2053

**Domus**  
**Asset Inventory**

**Mech 17 - Pump - Domestic Water Booster**



**Location**

Water entry room in parkade level P1 by stall #50.

**Description**

Tornatech triplex system with lead pump, lag pumps, packaged motor control system, to supply constant boosted pressure to fixtures and equipment on all levels. Note: the service life of this assembly can be extended by the cyclical renewal of components within the assembly, such as pump rebuilds and control panel upgrades. This system would benefit from the retrofit of VSD control to provide energy savings. One pump rebuilt in 2013.

**Information**

Service Life: 14  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 14  
Next Renewal Year: 2018

**Mech 18 - Valves - Cross Connection & Backflow Prevention**



**Location**

Water entry room in parkade level P1 by stall #50 and sprinkler room, level P2, by stall #122.

**Description**

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

**Information**

Service Life: 20  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2023

**Mech 19 - Valves - Plumbing Flow Control and Directional**



**Location**

Water entry room in parkade level P1 by stall #50 and sprinkler room, level P2, by stall #122.

**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. Pressure reducing valves rebuilt in last 1-3 years.

**Information**

Service Life: 10  
Installed Year: 2011  
Chronological Age: 7  
Effective Age: 8  
Next Renewal Year: 2020

**Domus**  
**Asset Inventory**

**Mech 20 - 1ClearWater Domestic Water Treatment Equipment [PLACEHOLDER]**



**Location**

Parkade water entry room.

**Description**

1ClearWater pH control system including treatment tanks, filters, chemical dosers, metering pumps and other associated equipment to provide treatment for potable water system.

**Information**

Service Life: 3  
Installed Year: 2015  
Chronological Age: 3  
Effective Age: 3  
Next Renewal Year: 2018

**Heating & Cooling**

**Mech 21 - Fireplace - Electric**



**Location**

Amenity lounge.

**Description**

Electric fireplace with hearth mantel and electric heating element.

**Information**

Service Life: 30  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2033

**Mech 22 - Condensing Unit - Outdoor Section - Split System**



**Location**

Parkade and penthouse suites.

**Description**

Lennox heat pump outdoor units, 5 tons cooling capacity and associated indoor fan coil units for forced air conditioning and heating.

**Information**

Service Life: 15  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 14  
Next Renewal Year: 2019

**Mech 23 - Baseboard - Electric**



**Location**

Service and amenity 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  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2043

**Domus**  
**Asset Inventory**

**Ventilation and Air-conditioning**

**Mech 24 - Outdoor Air Handler - Makeup Air - Gas**



**Location**

Roof.

**Description**

Engineered Air, DJ-100-0, outdoor rooftop unit, belt-driven, centrifugal fan with natural gas fired heating to supply tempered make-up air to the interior spaces. Capacity 800,000 max BTU input, 640,000 max BTU output; 10,550 CFM.

**Information**

Service Life: 30  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2033

**Mech 25 - Exhaust Fan - Parkade - Propellor**



**Location**

Parkade.

**Description**

Cook, 1/2 HP belt driven propellor exhaust fan mounted in exterior wall

**Information**

Service Life: 20  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2023

**Mech 26 - Indoor Air handler - Fan Coil Unit - AC**



**Location**

Parkade.

**Description**

Lennox direct expansion air-conditioning, ceiling suspended fan coil unit with ducted system for air conditioning.

**Information**

Service Life: 15  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 14  
Next Renewal Year: 2019

**Mech 27 - Exhaust Fan Parkade - Inline**



**Location**

Parkade.

**Description**

Cook, 1/2 HP belt driven axial fan suspended from structure.

**Information**

Service Life: 20  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2023

**Domus**  
**Asset Inventory**

**Mech 28 - Exhaust Fan - Small Service - Cabinet**



**Location**

Service and storage rooms.

**Description**

Cook, direct drive fans, ceiling and cabinet fans, and centrifugal inline blower fans.

**Information**

Service Life: 12  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 12  
Next Renewal Year: 2018

**Mech 29 - Gas Appliance Powerventer Draft Fan**



**Location**

Rooftop mechanical rooms.

**Description**

Direct drive exhaust fan mounted in gas appliance vent assembly.

**Information**

Service Life: 15  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 14  
Next Renewal Year: 2019

**Other**

**Mech 30 - Overhead Gate Motor**



**Location**

Parkade entrance gates.

**Description**

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

**Information**

Service Life: 7  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 7  
Next Renewal Year: 2018

**Elevator**

**Traction**

**Elev 01 - Traction Elevators, Overhead Geared**



**Location**

Elevator machine room at roof level.

**Description**

Two (2) Northern Elevator Ltd. geared overhead traction elevators; Northern TC-3200 solid state controls; Quantum Quiet variable voltage variable frequency drive systems; Northern Elevator 340 geared machines; 2500 lbs. capacity; 500 fpm

**Information**

Service Life: 30  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2033

**Domus**  
**Asset Inventory**

rated speed.

**Car Interiors**

**Elev 02 - Elevator Cabs & Hoistway**



**Location**

Elevator cab interior, fixture, and hoistway.

**Description**

Single speed side opening doors, round plastic car and hall pushbuttons, one (1) stainless steel car operating panel per car, ECI 1000 door operators, infrared light curtain door protection, stainless steel doors and front return, plastic laminate walls with mirror on rear walls, stainless steel ceiling, tile flooring, tubular stainless steel handrails on all non-access walls, firefighter's emergency operation, standby power provisions, hands-free voice communication device, no seismic provisions.

**Information**

Service Life: 30  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2033

**Fire Safety**

**Controls**

**Fire 01 - Fire Alarm Panel**



**Location**

Lobbies.

**Description**

Mircom FX-2000 microprocessor and supervised unit with annunciator and display.

**Information**

Service Life: 20  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2023

**Detection**

**Fire 02 - Fire Detection & Alarm**



**Location**

Throughout all common areas.

**Description**

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

**Information**

Service Life: 20  
Installed Year: 2017  
Chronological Age: 1  
Effective Age: 11  
Next Renewal Year: 2027

**Domus**  
**Asset Inventory**

**Suppression**

**Fire 03 - Fire & Jockey Pump**



**Location**

Sprinkler room in parkade level P2, by stall #122.

**Description**

Motor control centre connected to 75 HP fire pump and jockey pump, which work in tandem to supply water flow and pressure to the sprinkler system and standpipe system.

**Information**

Service Life: 30  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2033

**Fire 04 - Dry Sprinkler Compressor**



**Location**

Sprinkler room in parkade level P2, by stall #122.

**Description**

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

**Information**

Service Life: 14  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 1  
Next Renewal Year: 2031

**Fire 05 - Portable Fire Extinguisher**



**Location**

Throughout all common areas.

**Description**

Wall mounted, manually operated, 5lbs and 10lbs ABC type, pressurized vessels for controlled discharge of chemicals to extinguish small fires.

**Information**

Service Life: 24  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2027

**Fire 06 - Sprinkler & Standpipe - Wet**



**Location**

Throughout interior common areas.

**Description**

Standard upright, pendant and sidewall sprinkler heads, flow switches and indicating devices, gauges, steel and PVC distribution lines.

**Information**

Service Life: 100  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2103

**Domus**

**Asset Inventory**

**Fire 07 - Sprinkler System - Dry**



**Location**

Throughout the parkade.

**Description**

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

**Information**

Service Life: 100  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2103

**Fire 08 - Sprinkler Valve Assembly - Dry**



**Location**

Sprinkler room in parkade level P2, by stall #122.

**Description**

Victaulic, Tyco dry sprinkler valves, trim and gauges, steel piping.

**Information**

Service Life: 40  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2043

**Egress**

**Fire 09 - Emergency Egress Equipment**



**Location**

Throughout all common areas.

**Description**

Unit battery packs; LED exit signs.

**Information**

Service Life: 20  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2023

**Interior Finishes**

**Floors**

**Finish 01 - Rubber Sports Flooring**



**Location**

Fitness room.

**Description**

High density, impact resistant rubber sports flooring tiles.

**Information**

Service Life: 20  
Installed Year: 2014  
Chronological Age: 4  
Effective Age: 4  
Next Renewal Year: 2034

**Domus**  
Asset Inventory

**Finish 02 - Floor Tile**



**Location**

Lobbies and amenity changerooms.

**Description**

Floor tile on thin set mortar with grout.

**Information**

Service Life: 40  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2043

**Finish 03 - Sheet Carpet**



**Location**

Hallways.

**Description**

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

**Information**

Service Life: 10  
Installed Year: 2014  
Chronological Age: 4  
Effective Age: 4  
Next Renewal Year: 2024

**Finish 04 - Wood Laminate Flooring**



**Location**

Amenity lounge and portion of fitness room.

**Description**

Wood laminate flooring. Wood flooring in fitness room installed in 2014.

**Information**

Service Life: 20  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 14  
Next Renewal Year: 2024

**Walls**

**Finish 05 - Ceramic Tile**



**Location**

Amenity changerooms.

**Description**

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

**Information**

Service Life: 25  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2028

**Domus**  
**Asset Inventory**

**Finish 06 - Mirror**



**Location**

Fitness room wall.

**Description**

Mirrored glass fastened to the gypsum substrate.

**Information**

Service Life: 25  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2028

**Finish 07 - Paint**



**Location**

Lobbies, amenity rooms, and a portion of hallways.

**Description**

Primers and multiple pigmented coating finishes applied to interior gypsum wallboard. Lobbies painted in 2013. Hallways scheduled to be painted in 2014.

**Information**

Service Life: 10  
Installed Year: 2014  
Chronological Age: 4  
Effective Age: 4  
Next Renewal Year: 2024

**Finish 08 - Wallpaper Covering**



**Location**

Hallways.

**Description**

Decorative wallpaper sheet covering adhered to substrate sheathing. Wallpaper scheduled to be replaced in 2014.

**Information**

Service Life: 20  
Installed Year: 2014  
Chronological Age: 4  
Effective Age: 4  
Next Renewal Year: 2034

**Architectural Woodwork**

**Finish 09 - Carpentry and Millwork**



**Location**

Amenity lounge.

**Description**

Shop fabricated custom casework, built-in counter-tops with composite or stone surface, wood veneer cabinets.

**Information**

Service Life: 30  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 14  
Next Renewal Year: 2034

**Domus**  
Asset Inventory

**Doors**

**Finish 10 - Interior Swing Door - General**



**Location**

Throughout the building.

**Description**

Solid, hollow core wood and hollow metal swing door hung in framed opening including hardware. Localized renewal of this asset has been accounted for.

**Information**

Service Life: 30  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 14  
Next Renewal Year: 2034

**Amenities**

**Equipment**

**Amen 01 - Domestic Appliances**



**Location**

Amenity lounge.

**Description**

Refrigerator, oven, range, and dishwasher of miscellaneous brands.

**Information**

Service Life: 15  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 9  
Next Renewal Year: 2024

**Specialties**

**Amen 02 - Wood Storage Locker**



**Location**

Storage rooms.

**Description**

Wood framed general purpose storage locker with swing door and hardware. Localized renewal of this asset has been accounted for.

**Information**

Service Life: 20  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2023

**Domus**  
**Asset Inventory**

**Furnishings**

**Amen 03 - Bicycle Rack**



**Location**

Bike rooms within the parkade.

**Description**

Wall mounted, steel frame bicycle rack. Localized renewal of this asset has been accounted for.

**Information**

Service Life: 30  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2033

**Amen 04 - Metal Storage Locker**



**Location**

Amenity changerooms.

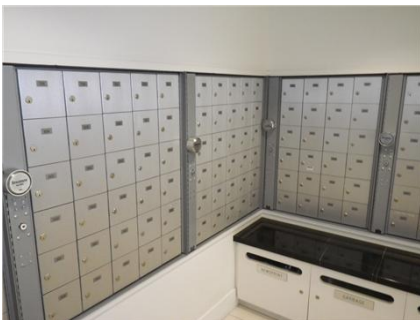
**Description**

Pre-finished metal storage locker or ganged locker set with doors and hardware.

**Information**

Service Life: 25  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2028

**Amen 05 - Central Mailboxes**



**Location**

Main lobby.

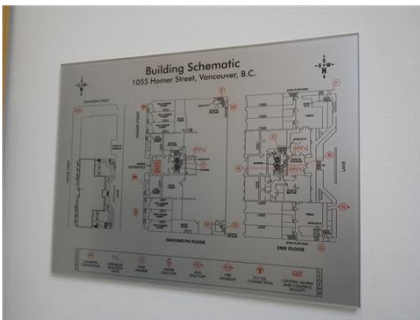
**Description**

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

**Information**

Service Life: 30  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2033

**Amen 06 - Public Signage**



**Location**

Throughout the building.

**Description**

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

**Information**

Service Life: 25  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2028

**Domus**  
**Asset Inventory**

**Suite**

**Amen 07 - Guest Suite**



**Location**

Level four.

**Description**

Bed, sofa, carpet floor coverings, paintwork, interior doors, small washroom fixtures, and other miscellaneous items. Painting is scheduled to be done in 2014.

**Information**

Service Life: 10  
Installed Year: 2014  
Chronological Age: 4  
Effective Age: 4  
Next Renewal Year: 2024

**Amen 08 - Audio Visual Equipment**



**Location**

Fitness room.

**Description**

Tv, speakers and other miscellaneous equipment.

**Information**

Service Life: 10  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 9  
Next Renewal Year: 2019

**Pool, Spa & Sauna**

**Amen 09 - Dry Sauna**



**Location**

Fitness room.

**Description**

Wood paneling, wood benches, wood door, electric heater and timer control.

**Information**

Service Life: 20  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 14  
Next Renewal Year: 2024

**Amen 10 - Steam Generator**



**Location**

Mechanical closet in fitness room.

**Description**

Electric steam generator for the steam room, complete with thermostats, timeclock, drain and flush valves, water level sensor, and scent pump dispenser.

**Information**

Service Life: 10  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 9  
Next Renewal Year: 2019

**Domus**  
**Asset Inventory**

**Amen 11 - Steam Room**



**Location**

Fitness room.

**Description**

Ceramic tile finish at walls, floors, ceiling and seating; interior lighting, timer. Steam generator is included in a separate asset.

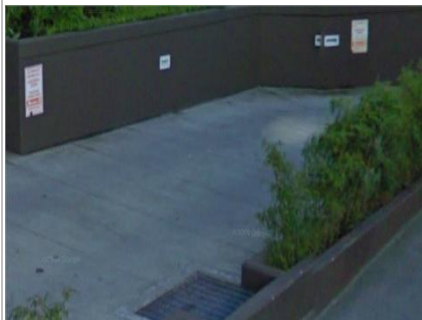
**Information**

Service Life: 20  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 14  
Next Renewal Year: 2024

**Sitework**

**Hard Landscaping**

**Site 01 - Concrete Paving**



**Location**

Driveway adjacent to north lobby entrance.

**Description**

Concrete pavement, cast with control and construction joints, onto compacted gravel base. Localized renewal of this asset has been accounted for.

**Information**

Service Life: 40  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2043

**Site 02 - Concrete Unit Paving**



**Location**

Decks, terraces and breeze ways.

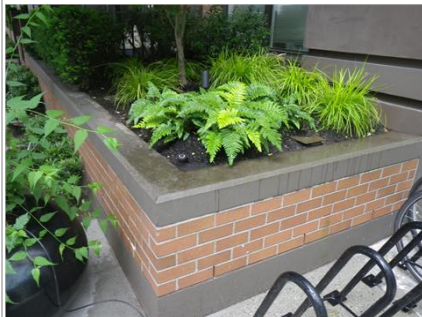
**Description**

Precast concrete unit pavers, combination of chip seal joint filler and jointing sand, bedding sand, and onto compacted gravel base.

**Information**

Service Life: 40  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2043

**Site 03 - Masonry Planter Wall**



**Location**

Adjacent to townhouse units.

**Description**

Masonry with mortared joints and precast concrete cap.

**Information**

Service Life: 45  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2048

**Domus**  
**Asset Inventory**

**Soft Landscaping**

**Site 04 - Irrigation System**



**Location**

Throughout landscaped areas. Controller in water entry room in parkade level P1 bystall #150.

**Description**

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

**Information**

Service Life: 15  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 15  
Next Renewal Year: 2018

**Site 05 - Soft Landscaping**



**Location**

Various locations throughout the site.

**Description**

Lawn, ground cover, shrubs, perennials and small trees (up to 30'). Landscaping improvements are completed regularly.

**Information**

Service Life: 15  
Installed Year: 2003  
Chronological Age: 15  
Effective Age: 0  
Next Renewal Year: 2033

# **Appendix C**

## **Asset Service Life Summary**

## Domus Asset Service Life Summary

ASSET ID	ASSET NAME	CHRONOLOGICAL AGE	ESTIMATED REMAINING SERVICE LIFE
<b>ENCLOSURE</b>			
Encl 01	Protected SBS Membrane Roof with Ballast	15	15
Encl 02	Protected SBS Membrane Deck with Traffic-Bearing Surface	15	15
Encl 03	Protected Membrane Deck/Podium with Landscaping and Paving	15	15
Encl 04	Guardrail Glazed Aluminum	15	15
Encl 05	Masonry Veneer Wall	15	35
Encl 06	Coated Concrete Wall	15	60
Encl 07	Aluminum Storefront	15	25
Encl 08	Aluminum Framed Window	15	25
Encl 09	Aluminum Frame Glazed Swing Door	15	10
Encl 10	Wood Swing Door	15	10
Encl 11	Aluminum Frame Lobby Door	15	5
Encl 12	Aluminum Framed Sliding Glass Door	15	25
Encl 13	Steel Swing Door	15	10
Encl 14	Exposed Urethane Balcony Membrane	15	10
Encl 15	Metal Frame and Glass Canopy	15	25
Encl 16	Open-grid Overhead Parkade Gate	15	10
Encl 17	Parking Slab with Traffic-bearing Membrane	15	60
Encl 18	Slab-on-Grade	15	60
Encl 19	General & Inspections	15	60
Encl 20	Sealant	8	2
<b>ELECTRICAL</b>			
Elec 01	Unit Substation	15	20
Elec 02	Distribution Transformer - Interior	15	25
Elec 03	Emergency Generator	15	20
Elec 04	Electrical Distribution	15	25
Elec 05	Exterior Light Fixtures	15	5
Elec 06	Interior Light Fixtures	15	6
Elec 07	Enterphone System	15	10
Elec 08	Proximity Access Control	15	2
Elec 09	Security Surveillance	15	1
<b>MECHANICAL</b>			
Mech 01	Heat Tracing - Freeze Protection	7	8
Mech 02	Gas Detection - Parking Garage	15	1

## Domus Asset Service Life Summary

ASSET ID	ASSET NAME	CHRONOLOGICAL AGE	ESTIMATED REMAINING SERVICE LIFE
Mech 03	Tankless Instantaneous Heater - DHW - Electric	7 <input type="text"/>	3 <input type="text"/>
Mech 04	Drainage - Perimeter and Foundation	15 <input type="text"/>	25 <input type="text"/>
Mech 05	Boiler - DHW - Heating - Gas Fired	9 <input type="text"/>	5 <input type="text"/>
Mech 06	Drainage - Sanitary	15 <input type="text"/>	35 <input type="text"/>
Mech 07	Fixtures - Showers	15 <input type="text"/>	10 <input type="text"/>
Mech 08	Fixtures - Taps & Sinks	15 <input type="text"/>	10 <input type="text"/>
Mech 09	Fixtures - Toilets	15 <input type="text"/>	5 <input type="text"/>
Mech 10	Pump - DHW - Circulation and Recirculation	9 <input type="text"/>	1 <input type="text"/>
Mech 11	Pumps - Sanitary Lift and Control Panel	5 <input type="text"/>	10 <input type="text"/>
Mech 12	Pumps - Storm Lift and Control Panel	5 <input type="text"/>	10 <input type="text"/>
Mech 13	Tank - DHW - Storage	9 <input type="text"/>	1 <input type="text"/>
Mech 14	Tank - Expansion -DHW - Diaphragm	9 <input type="text"/>	11 <input type="text"/>
Mech 15	Piping - Domestic Water Distribution	15 <input type="text"/>	20 <input type="text"/>
Mech 16	Piping - Gas Distribution	15 <input type="text"/>	35 <input type="text"/>
Mech 17	Pump - Domestic Water Booster	15 <input type="text"/>	0 <input type="text"/>
Mech 18	Valves - Cross Connection & Backflow Prevention	15 <input type="text"/>	5 <input type="text"/>
Mech 19	Valves - Plumbing Flow Control and Directional	7 <input type="text"/>	2 <input type="text"/>
Mech 20	1 ClearWater Domestic Water Treatment Equipment [PLACEHOLDER]	3 <input type="text"/>	0 <input type="text"/>
Mech 21	Fireplace - Electric	15 <input type="text"/>	15 <input type="text"/>
Mech 22	Condensing Unit - Outdoor Section - Split System	15 <input type="text"/>	1 <input type="text"/>
Mech 23	Baseboard - Electric	15 <input type="text"/>	25 <input type="text"/>
Mech 24	Outdoor Air Handler - Makeup Air - Gas	15 <input type="text"/>	15 <input type="text"/>
Mech 25	Exhaust Fan - Parkade - Propellor	15 <input type="text"/>	5 <input type="text"/>
Mech 26	Indoor Air handler - Fan Coil Unit - AC	15 <input type="text"/>	1 <input type="text"/>
Mech 27	Exhaust Fan Parkade - Inline	15 <input type="text"/>	5 <input type="text"/>
Mech 28	Exhaust Fan - Small Service - Cabinet	15 <input type="text"/>	0 <input type="text"/>
Mech 29	Gas Appliance Powerventer Draft Fan	15 <input type="text"/>	1 <input type="text"/>
Mech 30	Overhead Gate Motor	15 <input type="text"/>	0 <input type="text"/>
<b>ELEVATOR</b>			
Elev 01	Traction Elevators, Overhead Geared	15 <input type="text"/>	15 <input type="text"/>
Elev 02	Elevator Cabs & Hoistway	15 <input type="text"/>	15 <input type="text"/>
<b>FIRE SAFETY</b>			
Fire 01	Fire Alarm Panel	15 <input type="text"/>	5 <input type="text"/>
Fire 02	Fire Detection & Alarm	1 <input type="text"/>	9 <input type="text"/>

## Domus Asset Service Life Summary

ASSET ID	ASSET NAME	CHRONOLOGICAL AGE	ESTIMATED REMAINING SERVICE LIFE
Fire 03	Fire & Jockey Pump	15	15
Fire 04	Dry Sprinkler Compressor	15	13
Fire 05	Portable Fire Extinguisher	15	9
Fire 06	Sprinkler & Standpipe - Wet	15	85
Fire 07	Sprinkler System - Dry	15	85
Fire 08	Sprinkler Valve Assembly - Dry	15	25
Fire 09	Emergency Egress Equipment	15	5

### INTERIOR FINISHES

Finish 01	Rubber Sports Flooring	4	16
Finish 02	Floor Tile	15	25
Finish 03	Sheet Carpet	4	6
Finish 04	Wood Laminate Flooring	15	6
Finish 05	Ceramic Tile	15	10
Finish 06	Mirror	15	10
Finish 07	Paint	4	6
Finish 08	Wallpaper Covering	4	16
Finish 09	Carpentry and Millwork	15	16
Finish 10	Interior Swing Door - General	15	16

### AMENITIES

Amen 01	Domestic Appliances	15	6
Amen 02	Wood Storage Locker	15	5
Amen 03	Bicycle Rack	15	15
Amen 04	Metal Storage Locker	15	10
Amen 05	Central Mailboxes	15	15
Amen 06	Public Signage	15	10
Amen 07	Guest Suite	4	6
Amen 08	Audio Visual Equipment	15	1
Amen 09	Dry Sauna	15	6
Amen 10	Steam Generator	15	1
Amen 11	Steam Room	15	6

### SITWORK

Site 01	Concrete Paving	15	25
Site 02	Concrete Unit Paving	15	25
Site 03	Masonry Planter Wall	15	30

**Domus**  
Asset Service Life Summary

ASSET ID	ASSET NAME	CHRONOLOGICAL AGE	ESTIMATED REMAINING SERVICE LIFE
Site 04	Irrigation System	15 <input type="text"/>	0 <input type="text"/>
Site 05	Soft Landscaping	15 <input type="text"/>	15 <input type="text"/>

# **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 regarded 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**

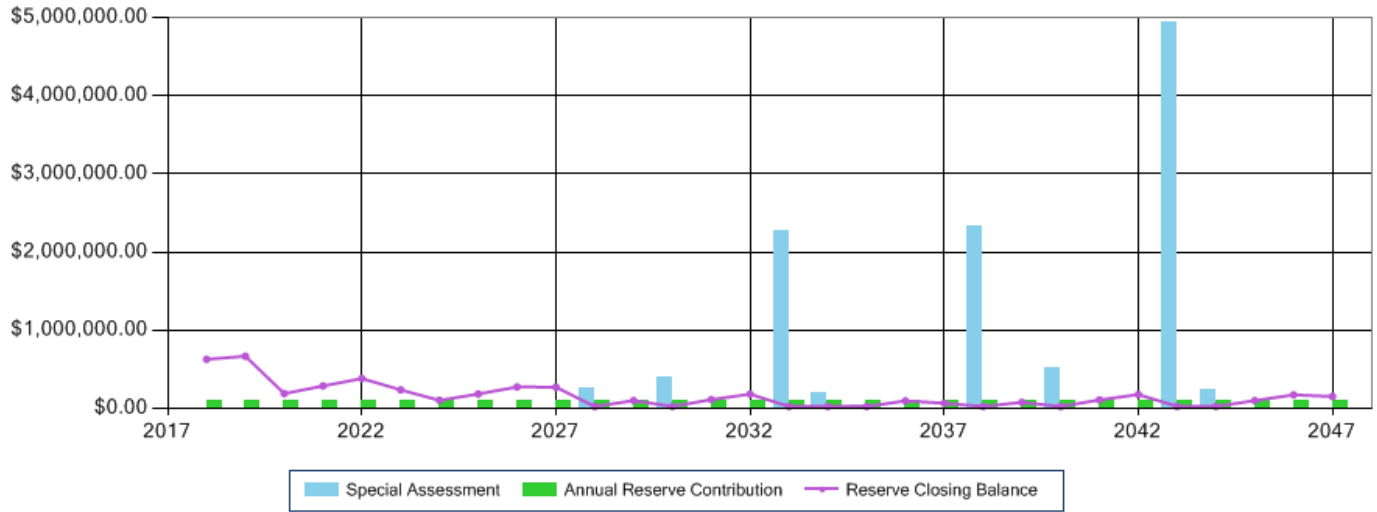
## **Funding Scenario Cash Flow Tables**



Name	2018 - Fixed annual funding of \$100,000 (Previous)
Type	Basic
Regarding	Domus
Start Year	2018
Interest/Investment Rate	2.0%
Estimated Contingency Allowance	\$2,000
Tax Rate	0.0%
Planning Horizon	30
Number Of Units	135

Init Catchup Cost	
Operating Budget	\$624,510
Starting Reserve Balance	\$578,070
Reserve Contribution Threshold	\$500,000
Contribution Below Threshold	\$100,000
Contribution Above Threshold	\$100,000
Reserve Contribution Increase	0.00 %
Monthly Avg. Unit Contribution	\$62

Year	Opening Balance	Reserve Contribution	Special Levy	Reserve Income	Renewal Costs	Contingency Costs	Tax Liability	Closing Balance	Percent Funded
2018	\$578,070	\$100,000	\$0	\$11,561	\$59,400	\$2,000	\$0	\$628,231	20.71 %
2019	\$628,231	\$100,000	\$0	\$12,565	\$70,000	\$2,000	\$0	\$668,796	19.86 %
2020	\$668,796	\$100,000	\$0	\$13,376	\$590,430	\$2,000	\$0	\$189,742	5.95 %
2021	\$189,742	\$100,000	\$0	\$3,795	\$4,300	\$2,000	\$0	\$287,237	7.96 %
2022	\$287,237	\$100,000	\$0	\$5,745	\$8,500	\$2,000	\$0	\$382,482	9.48 %
2023	\$382,482	\$100,000	\$0	\$7,650	\$250,700	\$2,000	\$0	\$237,431	5.60 %
2024	\$237,431	\$100,000	\$0	\$4,749	\$236,500	\$2,000	\$0	\$103,680	2.31 %
2025	\$103,680	\$100,000	\$0	\$2,074	\$18,820	\$2,000	\$0	\$184,933	3.75 %
2026	\$184,933	\$100,000	\$0	\$3,699	\$11,900	\$2,000	\$0	\$274,732	5.07 %
2027	\$274,732	\$100,000	\$0	\$5,495	\$106,400	\$2,000	\$0	\$271,827	4.66 %
2028	\$271,827	\$100,000	\$253,167	\$5,437	\$603,430	\$2,000	\$0	\$25,000	0.43 %
2029	\$25,000	\$100,000	\$0	\$500	\$23,100	\$2,000	\$0	\$100,400	1.60 %
2030	\$100,400	\$100,000	\$390,792	\$2,008	\$566,200	\$2,000	\$0	\$25,000	0.40 %
2031	\$25,000	\$100,000	\$0	\$500	\$10,500	\$2,000	\$0	\$113,000	1.67 %
2032	\$113,000	\$100,000	\$0	\$2,260	\$30,000	\$2,000	\$0	\$183,260	2.51 %
2033	\$183,260	\$100,000	\$2,261,835	\$3,665	\$2,521,760	\$2,000	\$0	\$25,000	0.47 %
2034	\$25,000	\$100,000	\$199,800	\$500	\$298,300	\$2,000	\$0	\$25,000	0.45 %
2035	\$25,000	\$100,000	\$42,600	\$500	\$141,100	\$2,000	\$0	\$25,000	0.42 %
2036	\$25,000	\$100,000	\$0	\$500	\$26,700	\$2,000	\$0	\$96,800	1.54 %
2037	\$96,800	\$100,000	\$0	\$1,936	\$130,000	\$2,000	\$0	\$66,736	1.00 %
2038	\$66,736	\$100,000	\$2,338,639	\$1,335	\$2,479,710	\$2,000	\$0	\$25,000	0.54 %
2039	\$25,000	\$100,000	\$0	\$500	\$45,700	\$2,000	\$0	\$77,800	1.57 %
2040	\$77,800	\$100,000	\$522,444	\$1,556	\$674,800	\$2,000	\$0	\$25,000	0.53 %
2041	\$25,000	\$100,000	\$0	\$500	\$14,400	\$2,000	\$0	\$109,100	2.20 %
2042	\$109,100	\$100,000	\$0	\$2,182	\$31,000	\$2,000	\$0	\$178,282	3.39 %
2043	\$178,282	\$100,000	\$4,942,403	\$3,566	\$5,197,250	\$2,000	\$0	\$25,000	6.37 %
2044	\$25,000	\$100,000	\$231,900	\$500	\$330,400	\$2,000	\$0	\$25,000	20.32 %
2045	\$25,000	\$100,000	\$0	\$500	\$22,600	\$2,000	\$0	\$100,900	83.38 %
2046	\$100,900	\$100,000	\$0	\$2,018	\$26,900	\$2,000	\$0	\$174,018	155.37 %
2047	\$174,018	\$100,000	\$0	\$3,480	\$123,000	\$2,000	\$0	\$152,498	100.00 %
		\$3,000,000	\$11,183,579		\$14,653,800				

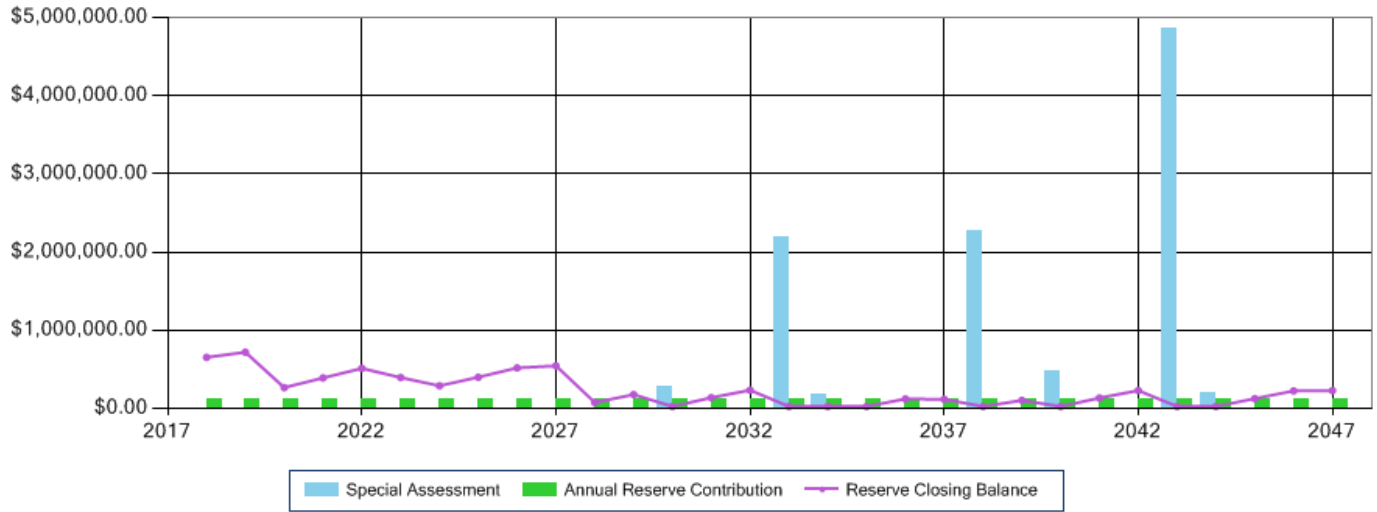




Name	2018 - Fixed annual funding of \$125,000 (Current)
Type	Basic
Regarding	Domus
Start Year	2018
Interest/Investment Rate	2.0%
Estimated Contingency Allowance	\$2,000
Tax Rate	0.0%
Planning Horizon	30
Number Of Units	135

Init Catchup Cost	
Operating Budget	\$624,510
Starting Reserve Balance	\$578,070
Reserve Contribution Threshold	\$500,000
Contribution Below Threshold	\$125,000
Contribution Above Threshold	\$125,000
Reserve Contribution Increase	0.00 %
Monthly Avg. Unit Contribution	\$77

Year	Opening Balance	Reserve Contribution	Special Levy	Reserve Income	Renewal Costs	Contingency Costs	Tax Liability	Closing Balance	Percent Funded
2018	\$578,070	\$125,000	\$0	\$11,561	\$59,400	\$2,000	\$0	\$653,231	21.53 %
2019	\$653,231	\$125,000	\$0	\$13,065	\$70,000	\$2,000	\$0	\$719,296	21.36 %
2020	\$719,296	\$125,000	\$0	\$14,386	\$590,430	\$2,000	\$0	\$266,252	8.35 %
2021	\$266,252	\$125,000	\$0	\$5,325	\$4,300	\$2,000	\$0	\$390,277	10.82 %
2022	\$390,277	\$125,000	\$0	\$7,806	\$8,500	\$2,000	\$0	\$512,583	12.71 %
2023	\$512,583	\$125,000	\$0	\$10,252	\$250,700	\$2,000	\$0	\$395,134	9.33 %
2024	\$395,134	\$125,000	\$0	\$7,903	\$236,500	\$2,000	\$0	\$289,537	6.47 %
2025	\$289,537	\$125,000	\$0	\$5,791	\$18,820	\$2,000	\$0	\$399,508	8.10 %
2026	\$399,508	\$125,000	\$0	\$7,990	\$11,900	\$2,000	\$0	\$518,598	9.57 %
2027	\$518,598	\$125,000	\$0	\$10,372	\$106,400	\$2,000	\$0	\$545,570	9.36 %
2028	\$545,570	\$125,000	\$0	\$10,911	\$603,430	\$2,000	\$0	\$76,051	1.32 %
2029	\$76,051	\$125,000	\$0	\$1,521	\$23,100	\$2,000	\$0	\$177,472	2.84 %
2030	\$177,472	\$125,000	\$287,179	\$3,549	\$566,200	\$2,000	\$0	\$25,000	0.40 %
2031	\$25,000	\$125,000	\$0	\$500	\$10,500	\$2,000	\$0	\$138,000	2.04 %
2032	\$138,000	\$125,000	\$0	\$2,760	\$30,000	\$2,000	\$0	\$233,760	3.21 %
2033	\$233,760	\$125,000	\$2,185,325	\$4,675	\$2,521,760	\$2,000	\$0	\$25,000	0.47 %
2034	\$25,000	\$125,000	\$174,800	\$500	\$298,300	\$2,000	\$0	\$25,000	0.45 %
2035	\$25,000	\$125,000	\$17,600	\$500	\$141,100	\$2,000	\$0	\$25,000	0.42 %
2036	\$25,000	\$125,000	\$0	\$500	\$26,700	\$2,000	\$0	\$121,800	1.94 %
2037	\$121,800	\$125,000	\$0	\$2,436	\$130,000	\$2,000	\$0	\$117,236	1.76 %
2038	\$117,236	\$125,000	\$2,262,129	\$2,345	\$2,479,710	\$2,000	\$0	\$25,000	0.54 %
2039	\$25,000	\$125,000	\$0	\$500	\$45,700	\$2,000	\$0	\$102,800	2.07 %
2040	\$102,800	\$125,000	\$471,944	\$2,056	\$674,800	\$2,000	\$0	\$25,000	0.53 %
2041	\$25,000	\$125,000	\$0	\$500	\$14,400	\$2,000	\$0	\$134,100	2.70 %
2042	\$134,100	\$125,000	\$0	\$2,682	\$31,000	\$2,000	\$0	\$228,782	4.35 %
2043	\$228,782	\$125,000	\$4,865,893	\$4,576	\$5,197,250	\$2,000	\$0	\$25,000	6.37 %
2044	\$25,000	\$125,000	\$206,900	\$500	\$330,400	\$2,000	\$0	\$25,000	20.32 %
2045	\$25,000	\$125,000	\$0	\$500	\$22,600	\$2,000	\$0	\$125,900	104.04 %
2046	\$125,900	\$125,000	\$0	\$2,518	\$26,900	\$2,000	\$0	\$224,518	200.46 %
2047	\$224,518	\$125,000	\$0	\$4,490	\$123,000	\$2,000	\$0	\$229,008	100.00 %
		\$3,750,000	\$10,471,769		\$14,653,800				





Name	2018 - \$125,000 with 4% Annual Increase (Alternative)
Type	Basic
Regarding	Domus
Start Year	2018
Interest/Investment Rate	2.0%
Estimated Contingency Allowance	\$2,000
Tax Rate	0.0%
Planning Horizon	30
Number Of Units	135

Init Catchup Cost	\$0
Operating Budget	\$624,510
Starting Reserve Balance	\$578,070
Reserve Contribution Threshold	\$500,000
Contribution Below Threshold	\$125,000
Contribution Above Threshold	\$125,000
Reserve Contribution Increase	4.00 %
Monthly Avg. Unit Contribution	\$77

Year	Opening Balance	Reserve Contribution	Special Levy	Reserve Income	Renewal Costs	Contingency Costs	Tax Liability	Closing Balance	Percent Funded
2018	\$578,070	\$125,000	\$0	\$11,561	\$59,400	\$2,000	\$0	\$653,231	21.53 %
2019	\$653,231	\$130,000	\$0	\$13,065	\$70,000	\$2,000	\$0	\$724,296	21.51 %
2020	\$724,296	\$135,200	\$0	\$14,486	\$590,430	\$2,000	\$0	\$281,552	8.83 %
2021	\$281,552	\$140,608	\$0	\$5,631	\$4,300	\$2,000	\$0	\$421,491	11.69 %
2022	\$421,491	\$146,232	\$0	\$8,430	\$8,500	\$2,000	\$0	\$565,653	14.02 %
2023	\$565,653	\$152,082	\$0	\$11,313	\$250,700	\$2,000	\$0	\$476,348	11.25 %
2024	\$476,348	\$158,165	\$0	\$9,527	\$236,500	\$2,000	\$0	\$405,539	9.07 %
2025	\$405,539	\$164,491	\$0	\$8,111	\$18,820	\$2,000	\$0	\$557,322	11.30 %
2026	\$557,322	\$171,071	\$0	\$11,146	\$11,900	\$2,000	\$0	\$725,639	13.39 %
2027	\$725,639	\$177,914	\$0	\$14,513	\$106,400	\$2,000	\$0	\$809,666	13.89 %
2028	\$809,666	\$185,030	\$0	\$16,193	\$603,430	\$2,000	\$0	\$405,460	7.06 %
2029	\$405,460	\$192,432	\$0	\$8,109	\$23,100	\$2,000	\$0	\$580,901	9.30 %
2030	\$580,901	\$200,129	\$0	\$11,618	\$566,200	\$2,000	\$0	\$224,448	3.61 %
2031	\$224,448	\$208,134	\$0	\$4,489	\$10,500	\$2,000	\$0	\$424,571	6.29 %
2032	\$424,571	\$216,459	\$0	\$8,491	\$30,000	\$2,000	\$0	\$617,521	8.48 %
2033	\$617,521	\$225,118	\$1,693,770	\$12,350	\$2,521,760	\$2,000	\$0	\$25,000	0.47 %
2034	\$25,000	\$234,123	\$65,677	\$500	\$298,300	\$2,000	\$0	\$25,000	0.45 %
2035	\$25,000	\$243,487	\$0	\$500	\$141,100	\$2,000	\$0	\$125,887	2.16 %
2036	\$125,887	\$253,227	\$0	\$2,518	\$26,700	\$2,000	\$0	\$352,932	5.62 %
2037	\$352,932	\$263,356	\$0	\$7,059	\$130,000	\$2,000	\$0	\$491,347	7.40 %
2038	\$491,347	\$273,890	\$1,731,646	\$9,827	\$2,479,710	\$2,000	\$0	\$25,000	0.54 %
2039	\$25,000	\$284,846	\$0	\$500	\$45,700	\$2,000	\$0	\$262,646	5.31 %
2040	\$262,646	\$296,240	\$137,662	\$5,253	\$674,800	\$2,000	\$0	\$25,000	0.53 %
2041	\$25,000	\$308,089	\$0	\$500	\$14,400	\$2,000	\$0	\$317,189	6.39 %
2042	\$317,189	\$320,413	\$0	\$6,344	\$31,000	\$2,000	\$0	\$610,946	11.61 %
2043	\$610,946	\$333,229	\$4,267,856	\$12,219	\$5,197,250	\$2,000	\$0	\$25,000	6.37 %
2044	\$25,000	\$346,558	\$0	\$500	\$330,400	\$2,000	\$0	\$39,658	32.24 %
2045	\$39,658	\$360,421	\$0	\$793	\$22,600	\$2,000	\$0	\$376,272	310.96 %
2046	\$376,272	\$374,838	\$0	\$7,525	\$26,900	\$2,000	\$0	\$729,735	651.54 %
2047	\$729,735	\$389,831	\$0	\$14,595	\$123,000	\$2,000	\$0	\$1,009,161	100.00 %
		\$7,010,613	\$7,896,612		\$14,653,800				

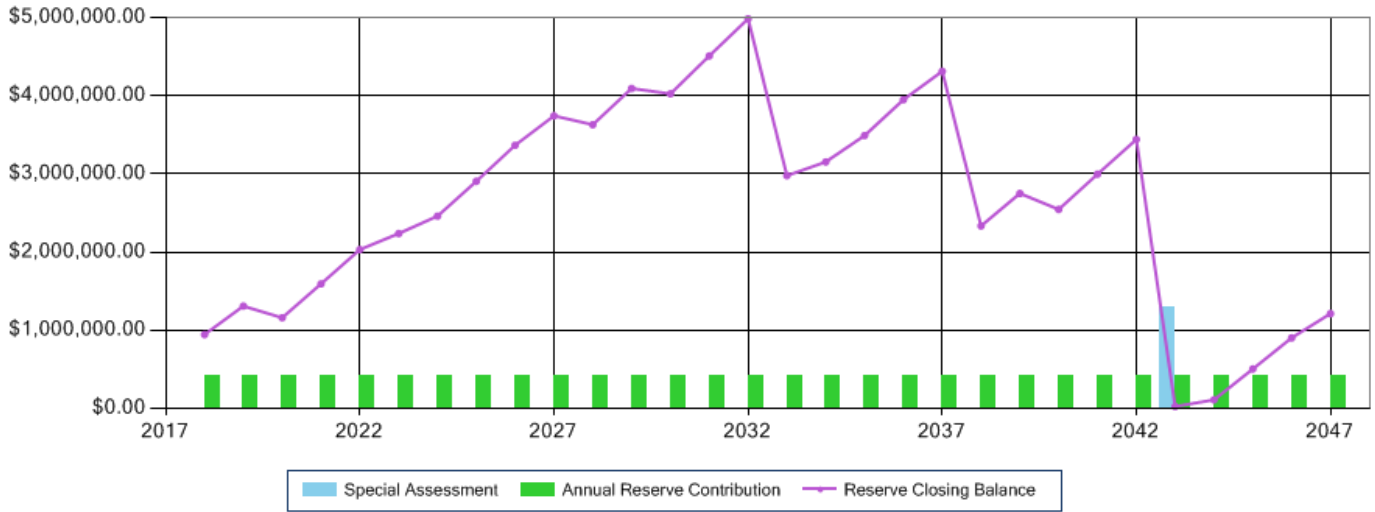




Name	2018 - Fixed annual funding of \$417,000 (Progressive)
Type	Basic
Regarding	Domus
Start Year	2018
Interest/Investment Rate	2.0%
Estimated Contingency Allowance	\$2,000
Tax Rate	0.0%
Planning Horizon	30
Number Of Units	135

Init Catchup Cost	\$0
Operating Budget	\$624,510
Starting Reserve Balance	\$578,070
Reserve Contribution Threshold	\$500,000
Contribution Below Threshold	\$417,000
Contribution Above Threshold	\$417,000
Reserve Contribution Increase	0.00 %
Monthly Avg. Unit Contribution	\$257

Year	Opening Balance	Reserve Contribution	Special Levy	Reserve Income	Renewal Costs	Contingency Costs	Tax Liability	Closing Balance	Percent Funded
2018	\$578,070	\$417,000	\$0	\$11,561	\$59,400	\$2,000	\$0	\$945,231	31.16 %
2019	\$945,231	\$417,000	\$0	\$18,905	\$70,000	\$2,000	\$0	\$1,309,136	38.89 %
2020	\$1,309,136	\$417,000	\$0	\$26,183	\$590,430	\$2,000	\$0	\$1,159,889	36.39 %
2021	\$1,159,889	\$417,000	\$0	\$23,198	\$4,300	\$2,000	\$0	\$1,593,787	44.22 %
2022	\$1,593,787	\$417,000	\$0	\$31,876	\$8,500	\$2,000	\$0	\$2,032,162	50.40 %
2023	\$2,032,162	\$417,000	\$0	\$40,643	\$250,700	\$2,000	\$0	\$2,237,106	52.84 %
2024	\$2,237,106	\$417,000	\$0	\$44,742	\$236,500	\$2,000	\$0	\$2,460,348	55.04 %
2025	\$2,460,348	\$417,000	\$0	\$49,207	\$18,820	\$2,000	\$0	\$2,905,735	58.92 %
2026	\$2,905,735	\$417,000	\$0	\$58,115	\$11,900	\$2,000	\$0	\$3,366,949	62.15 %
2027	\$3,366,949	\$417,000	\$0	\$67,339	\$106,400	\$2,000	\$0	\$3,742,888	64.25 %
2028	\$3,742,888	\$417,000	\$0	\$74,858	\$603,430	\$2,000	\$0	\$3,629,316	63.19 %
2029	\$3,629,316	\$417,000	\$0	\$72,586	\$23,100	\$2,000	\$0	\$4,093,802	65.57 %
2030	\$4,093,802	\$417,000	\$0	\$81,876	\$566,200	\$2,000	\$0	\$4,024,478	64.83 %
2031	\$4,024,478	\$417,000	\$0	\$80,490	\$10,500	\$2,000	\$0	\$4,509,468	66.85 %
2032	\$4,509,468	\$417,000	\$0	\$90,189	\$30,000	\$2,000	\$0	\$4,984,657	68.45 %
2033	\$4,984,657	\$417,000	\$0	\$99,693	\$2,521,760	\$2,000	\$0	\$2,977,590	55.99 %
2034	\$2,977,590	\$417,000	\$0	\$59,552	\$298,300	\$2,000	\$0	\$3,153,842	57.40 %
2035	\$3,153,842	\$417,000	\$0	\$63,077	\$141,100	\$2,000	\$0	\$3,490,819	59.94 %
2036	\$3,490,819	\$417,000	\$0	\$69,816	\$26,700	\$2,000	\$0	\$3,948,935	62.94 %
2037	\$3,948,935	\$417,000	\$0	\$78,979	\$130,000	\$2,000	\$0	\$4,312,914	64.96 %
2038	\$4,312,914	\$417,000	\$0	\$86,258	\$2,479,710	\$2,000	\$0	\$2,334,462	50.65 %
2039	\$2,334,462	\$417,000	\$0	\$46,689	\$45,700	\$2,000	\$0	\$2,750,451	55.64 %
2040	\$2,750,451	\$417,000	\$0	\$55,009	\$674,800	\$2,000	\$0	\$2,545,660	54.75 %
2041	\$2,545,660	\$417,000	\$0	\$50,913	\$14,400	\$2,000	\$0	\$2,997,174	60.45 %
2042	\$2,997,174	\$417,000	\$0	\$59,943	\$31,000	\$2,000	\$0	\$3,441,117	65.43 %
2043	\$3,441,117	\$417,000	\$1,297,311	\$68,822	\$5,197,250	\$2,000	\$0	\$25,000	6.37 %
2044	\$25,000	\$417,000	\$0	\$500	\$330,400	\$2,000	\$0	\$110,100	89.51 %
2045	\$110,100	\$417,000	\$0	\$2,202	\$22,600	\$2,000	\$0	\$504,702	417.10 %
2046	\$504,702	\$417,000	\$0	\$10,094	\$26,900	\$2,000	\$0	\$902,896	806.15 %
2047	\$902,896	\$417,000	\$0	\$18,058	\$123,000	\$2,000	\$0	\$1,212,954	100.00 %
		\$12,510,000	\$1,297,311		\$14,653,800				



# **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.





**Mark Will** | B.A. Econ.  
**Managing Principal, Vancouver Regional Manager**

Mark is the Regional Manager of the Vancouver office and has worked at RDH since 1998. He has a wealth of project management experience and holds a Bachelor's Degree in Economics. Mark is currently a member on the Board of Directors at the Condominium Home Owner's Association (CHOA) and a member of the Professional Association of Managing Agents (PAMA).



**Lauren Stokes** | Dipl.T.  
**Associate, Senior Project Manager**

As the Maintenance + Planning Service Area Leader in Vancouver as well as a Senior Project Manager, Lauren provides technical review and support particularly for building enclosure projects in both Vancouver and Victoria on wood-framed buildings. She also leads internal training and mentorship on how to apply bylaws and cost sharing agreements to Depreciation Report forecasts and funding models in the Vancouver Office. After completing the Architectural and Building Engineering Technology Diploma program in 2008 at BCIT, Lauren joined RDH as a Building Science Technologist, providing field review services on rehabilitation projects as well as building enclosure condition assessments. In 2012, she joined the Maintenance and Planning team and has been involved on over 200 Depreciation Reports.



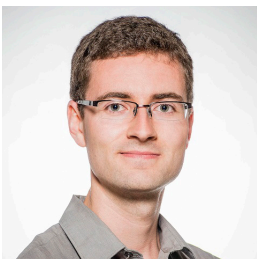
**Jason Dunn** | B.Arch.Sc., CCCA  
**Associate, Senior Project Manager**

Jason is a Senior Project Manager on the MaP team primarily responsible for leading technical review, client liaison, and budget tracking. He first joined RDH in 2006, bringing 4 years of experience with him and a Bachelor's Degree in Architecture, then joined the MaP team in 2011. As an expert in the area of project management, Jason is closely involved with project and contract administration.



**David Taguchi** | ASCT, P.Tech.(Eng.), RRO  
**Building Science Specialist**

David has over 15 years of experience working on MaP projects in British Columbia, Alberta, Saskatchewan, Manitoba, and Colorado in the US. As a Building Science Specialist on the MaP team, David's expertise lies in roofing, below-grade waterproofing, and above-grade enclosure assemblies. His primary responsibilities include conducting assessments and investigations of all building enclosure aspects as well as ensuring project deliverable commitments are met. He also mentors junior staff members and manages their field review schedules to ensure efficiency. David joined RDH in 2016 and the MaP team in 2017.



**Jesse Listoen** | Dipl.T.  
**Project Manager**

As a Project Manager on the MaP team, Jesse's primary responsibilities include managing and overseeing the preparation of Depreciation Reports, Reserve Fund Studies, and 2-5-10 Warranty Reviews. Since joining RDH and the MaP team in 2013, he has also been involved on building enclosure condition assessments and localized investigations, field review, and the development of construction documents and specifications.



**Brandon Carreira | Dipl.T.**  
**Maintenance and Planning Technologist**

Brandon is a Maintenance and Planning Technologist primarily responsible for preparing depreciation reports, capital needs assessments, and facility condition assessments. He also assists with leak investigations, water testing and warranty claims. Since joining the MaP team in 2011, Brandon has completed nearly 200 projects and gained expertise in asset management, maintenance management, reserve analysis as well as tactical and strategic planning.



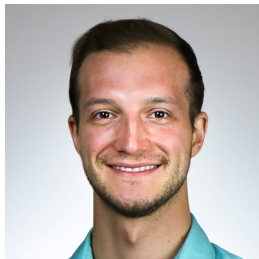
**Alex Seto | Dipl.T.**  
**Building Science Technologist**

As a technologist on RDH's Maintenance and Planning (MaP) Team, Alex's role is focused on long term financial forecasting based on the expected life cycle of building components as well as the preparation of Depreciation Reports and maintenance plans. Alex joined RDH in 2012 after completing his Architectural and Building Engineering Technology Diploma from BCIT.



**Roya Kiani Amin | B.Sc., ASCT**  
**Maintenance and Planning Technologist**

With over 10 years of experience in the industry, Roya holds a Bachelor's Degree in Civil Engineering and is a Certified Applied Science Technologist. She joined the RDH MaP team in 2012 as a quantity estimator providing quantity estimating for Depreciation Reports + QTO quality assurance and quality control. In 2015, Roya transitioned into her present role as a MaP Technologist. Her primary responsibilities include developing Depreciation Reports, maintenance and renewal plans, as well as conducting visual assessments in the field.



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

Talen is a Building Science Engineer (EIT) with a multi-faceted role at RDH working on warranty reviews, warranty claims, and rehabilitation projects. He joined the MaP team in 2017 and particularly experienced with working on building enclosures of all types. Talen's primary responsibilities include field review and the preparation of Depreciation Reports, facility condition assessments, and capital needs assessments. He first joined RDH as a co-op student in 2015 and joined full time after completing his Bachelor's Degree in Applied Science in Civil Engineering in 2016.



**Padraig Sweeney | B.Sc. Arch. Tech.**  
**Maintenance and Planning Technologist**

With expertise in design, drafting, and the building enclosure, Padraig's responsibilities as a technologist includes the preparation of Depreciation Reports, field review, leak investigations, and SketchUp drawings. Prior to joining RDH in March 2017, Padraig worked as a Façade Designer, Project Designer/Co-ordinator and Architectural Technologist in Ireland and the UK for 4 years.

## Administrators and Client Support



### **Vanessa Jumawan**

#### **Maintenance and Planning Coordinator**

As the MaP Coordinator, Vanessa manages documents, responds to clients' Requests for Proposals related to Depreciation Reports, issues proposals, and coordinates meetings with clients and within the MaP team. Vanessa joined RDH in 2008 and has been a part of the MaP team since 2011. She is also the Coordinator on Warranty Claims projects.



### **Anna Qiu**

#### **Maintenance and Planning Project Assistant**

Certificate, Business Administration

Anna has over 10 years' experience in administration within engineering/architecture firms and has been a part of RDH's MaP team since 2010. Her responsibilities include setting up user accounts and buildings on BAMS, as well as compiling documents including drawings and strata plans.

## Software Support and Programmer



### **Matthew Branch | P.Eng.**

#### **Software Developer**

Matthew Branch is a BAMS Software Developer on the MaP team, with expertise in software development and implementation. His primary responsibilities also include services life analysis and statistical modeling and data evaluation. Matthew has a Bachelor's Degree in Applied Science in Civil Engineering, joining RDH in 2000 and the MaP team in 2005. He is also the co-author on several asset management papers.

## 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.

RDH 2004 - 2017

# **Appendix G**

## **Insurance Certificate**

Ref. No. 320007644906

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**

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.  
224 West 8th Avenue  
Vancouver, BC V5Y 1N5

**Coverage**

<b>Commercial General Liability</b>	<b>Insurer</b>	Zurich Insurance Company Ltd	
<b>Policy #</b>	8611292		
<b>Effective</b>	02-May-2017	<b>Expiry</b>	02-May-2018
<b>Limits of Liability</b>	Bodily Injury & Property Damage, Each Occurrence \$1,000,000 Products and Completed Operations, Aggregate \$1,000,000 Non-Owned Automobile Liability \$1,000,000 Policy may be subject to a general aggregate and other aggregates where applicable		

<b>Architects &amp; Engineers Professional Liability</b>	<b>Insurer</b>	Lloyd's Underwriters	
<b>Policy #</b>	PSDEF1700249		
<b>Effective</b>	02-May-2017	<b>Expiry</b>	02-May-2018
<b>Limits of Liability</b>	Subject to aggregate where applicable		

**Terms and / or Additional Coverage**

Professional Liability  
Limit: \$2,000,000 Per Claim Limit / \$4,000,000 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**



Ref. No. 320007644906

CERTIFICATE OF INSURANCE

**Commercial General Liability**

Products and Completed Operations  
Broad Form Property Damage  
Cross Liability  
Contractual Liability  
Owners and Contractors Protective  
Contractual Liability included

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.

**Aon Reed Stenhouse Inc.**



Dated : 04-May-2017  
Issued By : McLean,Chris J.  
Tel : 1-604-688-4442

**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**