



**JRS ENGINEERING**  
BUILDING ENVELOPE CONSULTANTS

## DEPRECIATION REPORT

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### **COSMO**

161 WEST GEORGIA STREET  
VANCOUVER, BC



**PREPARED FOR:** The Owners, Strata Plan BCS 4387  
c/o Rancho Management Services Ltd.  
6<sup>th</sup> Floor – 1190 Hornby Street  
Vancouver, BC

**DATE:** **MARCH 7, 2017**

**JRS PROJECT:** VR08744A

**PREPARED BY:** Justin Unger, B.A.Sc., EIT  
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Senior Project Engineer and Division Manager



**BUILDING EXCELLENCE**

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## PREFACE

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The purpose of this Depreciation Report is to assist the Owners in the asset management of their property with respect to the major building systems and components. JRS has reviewed pertinent building documents, communicated with building representatives, and performed a visual site review, all of which is summarized in this report.

The provisions of this Depreciation Report, including Reserve Planner qualifications, insurance requirements and site review and reporting methods, address all the requirements of the current Strata Property Act (Section 94) and its associated Regulation – BC Reg43/2000 (Part 6). These methods are also consistent with nationwide standards and guidelines provided by the Real Estate Institute of Canada (REIC).

In accordance with Strata Property Regulation requirements, JRS Engineering Ltd. confirms that it and its employees, directors and affiliates are unaware of any conflicting relationship with the Strata Corporation. This Depreciation Report is being provided independently, with no other purpose than to provide the Strata Corporation with an objective report in accordance with the Engineering Services Agreement executed on February 16, 2016.





## 1.0 EXECUTIVE SUMMARY

JRS Engineering Ltd. (JRS) was retained by The Owners, Strata Plan BCS 4387 to complete a Depreciation Report on Cosmo, located at 161 West Georgia Street, Vancouver, BC. The purpose of this report is to assist in allocating the anticipated reserve fund expenditures associated with the major systems and components of the building. This executive summary should be read with the rest of the report in its entirety to recognize the full context.

JRS was the building envelope consultant during original construction. JRS also performed a leak investigation (dated December 19, 2016); and a 5 year warranty expiration review (dated December 28, 2016).

Based on the Contingency Reserve Fund (CRF) balance, contributions, and requirements, the finances are in sound financial condition. The Strata Corporation's current annual CRF contribution is approximately \$90,332. We recommend you increase your CRF contributions per the Graduated Hybrid model presented in Appendix D.

While JRS recommends prudent and practical increases in the Strata Corporation's annual CRF contributions, we understand that ideal contribution increases may not occur. At the very least, this report should be used as supplemental information and an education tool for current owners and potential buyers to save for possible upcoming special levies.

In the short term, the Strata Council should perform the following:

- ♦ Repair domestic water pipe leak affecting unit 1216.
- ♦ Clean service distribution components.
- ♦ Clean and flush existing sanitary sewer, storm, and perimeter drain tile.

The following is a summary of the most pertinent financial values within a 30-year outlook:

ITEM	COST
Current Replacement Costs	\$ 7,277,100
Future Replacement Costs	\$ 18,181,340
Current Reserve Fund Requirements	\$ 988,981
Future Reserve Fund Requirements	\$ 1,046,099
Current Annual Reserve Fund Contributions	\$ 90,332
Theoretical Fully Funded Annual Reserve Fund Contributions	\$ 576,848
Target Annual Reserve Fund Contributions (50%)	\$ 288,424

Our financial analysis includes three funding models: Baseline, Theoretical Fully Funded, and a Graduated Hybrid.

The Baseline model consists of current contribution levels or the statutory minimum, whichever is higher. In this case, it is the former.

The Theoretical Fully Funded model creates a fully funded CRF that theoretically should not require any special levies (physical asset based)

within a 30-year outlook. However, this theoretical model would require the Owners to increase their current contributions significantly, which would be financially challenging for many and impractical to try to pass at a general meeting.

The Graduated Hybrid model is a funding strategy that JRS recommends, which will allow the Strata Corporation to gradually increase their contributions to 50% of a fully funded contribution level by 2028, then implementing inflationary increases – minimizing the frequency and amount of potential special levies.

It is incumbent on the Owners to decide what funding strategy works best for them and to tailor their own, customized financial plan. The Cash Flow Table for the recommended Graduated Hybrid Funding model is included in Appendix D for your review.

## **2.0 TERMS OF REFERENCE**

As the information of all Depreciation Reports is comprehensive and subjective, a draft report was issued on January 13, 2017 in order to obtain feedback and commentary on any chronological mistakes and reporting errors. We have acknowledged all comments and made all appropriate revisions that we feel prudent and technically justifiable. It is important to understand that these reports are intended to be dynamic, “work-in-progress documents”, which should be continually updated to be practical documents.

### **2.1 GENERAL LIMITATIONS**

JRS assumes that this is the first Depreciation Report for this property (requiring a site visit and a full compilation of asset inventory). We also assume that the building systems were built and completed with no known deficiencies in design and that construction procedures performed were in general conformance with the documents provided by the Owners and Property Manager, unless otherwise noted.

The drawings, diagrams and photographs presented in this report are included for illustration purposes. No legal survey, soil analysis, detailed investigations, quantity survey compilations, nor exhaustive physical examinations, representative sampling or intrusive tests were performed, which would be required to discover any hidden conditions within the property.

JRS’ technical area of expertise is within the building envelope. Items such as mechanical, electrical, conveyance and site service systems have been reviewed in a general nature for the purposes of budgeting and can be reviewed in a more detailed fashion should the Owners wish to do so. Accordingly, we have identified any items that require a more comprehensive review by appropriate professionals.

Replacement costs are subjective. They are based on a combination of company experience, building documents and historical construction data. It

must be appreciated that reserve fund budgeting and projections are not an exact science. At best, they are prudent provisions for typical life cycle renewal costs, if and when they arise. Reserve fund requirements are subject to change and must be reviewed and revised periodically.

## 2.2 REPORT ORGANIZATION

**Section 1.0** presents an executive summary of the depreciation report.

**Section 2.0** presents our terms of reference outlining general limitations of the report, how this report is organized, a general building description, all relevant building documents reviewed, and when the site visit(s) were performed.

**Section 3.0** presents an introduction to the report. This includes a brief background to Depreciation Reports, methodology used to create one, a general description of all reserve systems and components, as well as a short note on updating the report.

**Section 4.0** presents a technical inventory of each building system consisting of a general description and history relating specifically to this property.

**Section 5.0** presents a financial analysis of each building system consisting of historical data, life cycle renewal costs, and at least three funding models with 30-year cost projections (as required by the Strata Property Regulation). A summary and opinion of adequacy of the CRF, with considerations is also included.

**Section 6.0** presents our recommendations to the Owners.

**Section 7.0** presents our report closure and limitations.

Included as part of this report are the following appendices:

**Appendix A** – Technical Inventory - Component Descriptions

**Appendix B** – Replacement Costs (Benchmark Analysis)

**Appendix C** – Funding Models and Cost Projections

**Appendix D** – Cash Flow Table

## 2.3 BUILDING DESCRIPTION

Cosmo is a residential complex that was constructed circa 2012 and consists of a 23 storey tower rising from an 11 storey main building. There are five levels of underground parking and the complex contains a total of 253 units.

The property grounds consist of hardscaping and softscaping features. Many small trees border the property. The tower is on the south side of the property. The majority of the hardscaping consists of concrete walkways. Water features exist at the east elevation at units 112,115,116.

Cosmo is situated on West Georgia Street, between Beatty Street and Citadel Parade. There are many large buildings to the east of Cosmo, and the area is considered open terrain. There is a parking area to the west and

smaller buildings at the north and south. BC Place is located southeast of Cosmo.

JRS was not informed of any major renovations, building envelope or structural remediation.

Cosmo's shared amenities include a common area roof deck with a bathroom and a hot tub, and bowling alley with lounge area.

A general description and site plan of the property are summarized below:

DESCRIPTION	
<b>Construction Date</b>	Circa 2012
<b>Applicable Building Code</b>	BCBC 2010
<b>Number of Buildings</b>	1
<b>Number of Storeys</b>	23 – Tower 11 – Main Building
<b>Number of Units</b>	253
<b>Number of Parking Stalls</b>	266
<b>Site Area</b>	22,749 ft <sup>2</sup>
<b>Gross Floor Area</b>	190,200 ft <sup>2</sup>
<b>Landscaping Area</b>	11,674 ft <sup>2</sup>

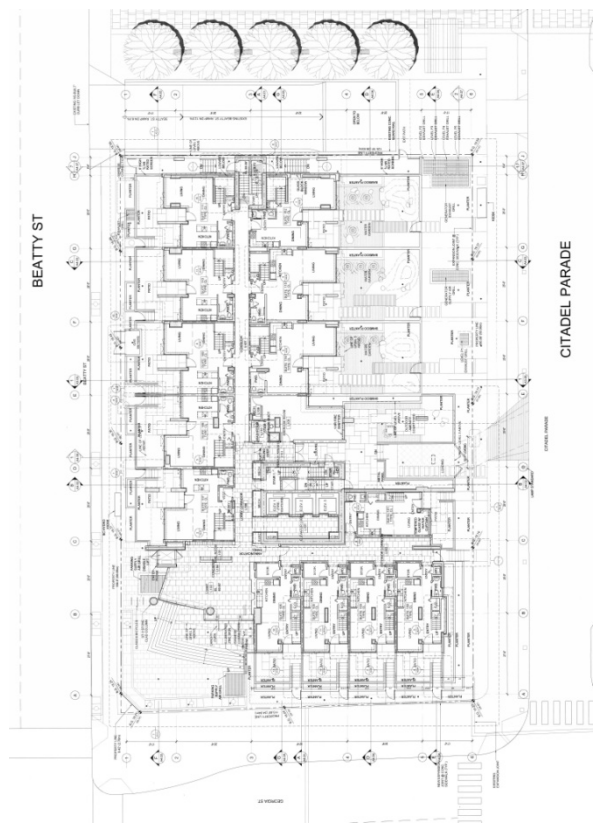


Figure 1 – Site Plan of Cosmo taken from architectural drawings.

## 2.4 DOCUMENTS REVIEWED

The following documents were provided for our review as resources for this Depreciation Report:

### Plans/Drawings and Technical Documents

- ♦ Architectural Drawings – IBI/HB Architects; September 2010
- ♦ Code Consultant Drawings – B.R. Thorson Consulting; September 2010
- ♦ Electrical Drawings – Nemetz (S/A) & Associates; September 2010
- ♦ Fire Protection Drawings – Martex Sprinkler Installations; February 2012
- ♦ Landscaping Drawings – Phillips Farevaag Smallenberg; August 2010
- ♦ Mechanical Drawings – Yoneda & Associates; June 2012
- ♦ Structural Drawings – Jones Kwong Kishi; September 2010
- ♦ Report on Water Leak in Suite 1216 – Pacificwest Mechanical; October 28, 2016
- ♦ Certificate of Registration – Measurement Canada; February 7, 2013
- ♦ Annual Inspection Report of roof safety anchors – Suspended Stages; July 11, 2016

### Non-Technical and Financial Documents

- ♦ Approved Budgets (2012/2013, 2013/2014, 2014/2015)
- ♦ AGM Minutes from 2012, 2013, 2014, 2015
- ♦ SGM Minutes from 2013
- ♦ Disclosure Statement, Rental Disclosure Statement, Amendment to Disclosure Statement, Parking/Storage Area Lease
- ♦ Audit Engagement Letters; May 2014, May 2015
- ♦ Monthly Financial Statements (June 2013; January-December 2014; September 2016)
- ♦ Audited Financials (June 30, 2013)
- ♦ Strata Bylaws & Rules
- ♦ Blank Parking Stall / Storage Area Assignment
- ♦ Miscellaneous maintenance contracts (e.g. pest control, elevator, HVAC, landscaping, fire monitoring).
- ♦ Quote for installation of surge suppressor – Mott Electric; September 30, 2015
- ♦ Annual Inspection Report – Chubb Edwards; October 28, 2014
- ♦ General Ledger for July 2012 to December 2015
- ♦ Home Warranty Certificate
- ♦ Fitness Equipment Rental Agreement; May 2012
- ♦ Treadmill Lease; March 2014
- ♦ Notice from Vancouver Coastal Health re: roof deck whirlpool

- ♦ Report on the water leak in suite 1216; Pacific West Mechanical Ltd., October 28, 2016

In addition, we interviewed Ted Galvin (resident caretaker) and communicated with Joe Chan (Property Manager) as supplementation to the building history and supporting documents.

## 2.5 SITE VISITS

Justin Unger, B.A.Sc, EIT, and Jeffery Sevoid, EIT, BS, BA, of JRS visited Cosmo on October 25, 2016 and October 28, 2016 respectively.

Justin Unger was provided access by Ted Galvin to the following units and their respective balconies: 115, 309, 610, 809, 1216, 1218, 2002, 2302, 2501, and 2707. Access was also provided to the parkade, utility rooms (mechanical, electrical, elevator), bowling alley, roof decks, exercise room, and common areas. The weather on October 25, 2016 was mixed showers with an average daytime temperature of 10°C.

Jeffrey Sevoid performed five bosun chair drops (one drop per elevation of the tower, and one at the west elevation of the main building). Access was provided by the concierge. The weather on October 28, 2016 was mixed sun and cloud with an average daytime temperature of 13°C.

## 3.0 INTRODUCTION

### 3.1 BACKGROUND

The terms *Contingency Reserve Fund Study* and *Depreciation Report* have been used interchangeably. The former is typically used across Canada and the latter is the terminology used in the Strata Property Act of BC. Therefore, *Depreciation Report* will be used for reporting purposes. It should be noted that a *Depreciation Report* is not a technical report, but more of a financial report that contains technical descriptions and predictions intended to assist the Owners with the prudent fiscal management of their CRF.

A *Depreciation Report* is a financial plan that consists of the identification, description, quantification and analysis of reserve components, and then provides cost estimate and life cycle analysis, projecting future repair or replacement costs and estimating the necessary reserve fund requirements. It also takes into consideration inflationary trends, interest assumptions, and appropriate funding models.

*Depreciation Reports* are a basis for prudent financial planning for capital expenditures, intended to assist Owners and property managers with informed decision making on CRF matters such as investment, management, and budgeting. In essence, it provides a guide for the Owners to save sufficient funds to cover the costs of future repairs and replacements of major building systems and components, as well as to help ensure that current and future Owners are assessed for CRF contributions fairly and equitably.

## 3.2 METHODOLOGY

There are generally four main components in the Depreciation Report production process:

### 1) Background Review

JRS reviews the pertinent technical, financial and legal records related to the building for the purposes of writing a Depreciation Report. We also communicate with building representatives in order to confirm CRF financial information, previous capital expenditures, system replacements, maintenance strategies, and upcoming renewals. This gives us a deeper understanding of the financial situation, building maintenance and the overall context of the asset management history.

### 2) Site Visit

JRS visits the property to visually review all the major building systems and components, which can include making notes and sketches, as well as taking site measurements and photographs. Intrusive/destructive investigation or inspection by specialized professionals does not typically take place, as Depreciation Reports are meant to provide a general overview of component conditions.

### 3) Technical Inventory

JRS compiles an inventory of items that summarizes descriptions of all the major systems and components into a practical list of reserve items. To keep the list simple and easy to use, in some cases we have grouped together items that have minor renewal costs as well as similar maintenance and replacement dates. For example, roof components such as insulation, rock ballast, vents, and eave flashings are not reserved separately; instead, they are grouped together, as they will likely be replaced at the same time. Replacement dates are estimated based on typical service life and effective ages.

### 4) Financial Analysis

JRS' financial analysis is consistent with those outlined and recommended by the REIC. It uses the Cash Flow Funding method, which presents estimated current and future replacement costs for the CRF as a whole, as well as an accumulated CRF balance, using assumed inflation and interest rates. Units and dimensions are taken either directly from site, drawings, archived data on various governmental websites, or a combination of all of these sources. We provide at least three funding models to assist the Owners with their CRF contribution strategy. Unit rates and allowances are based on similar completed projects, contractor quotes and other costing manuals/data.

## 3.3 UPDATING

Per the Strata Property Regulation - Part 6.2(7)(a), unless a 3/4 exemption vote is passed, Strata Corporations require a new or updated Depreciation Report every 3 years.

Furthermore, it is important that the Strata Council review the Depreciation Report annually to confirm accumulated CRF balance and contributions, document all expenditures and ensure that deterioration of certain building systems/components has not accelerated.

Continually updating your Depreciation Report will not only mitigate insufficient reserve funds for major repairs/renewals, but it will also enhance the value and durability of the property.

#### **4.0 TECHNICAL INVENTORY**

The technical inventory and reserve component descriptions below are property specific and based on building documents, visual review and communication with building representatives.

This technical inventory is categorized in the Uniformat sections listed below and summarized in component description boxes consisting of location, installation date, typical service life, effective age, remaining service life, planned renewal date, general description and condition as well as short term action. These reserve component description boxes are located in Appendix A. These generally provide information on what is included in the cost estimation of the physical assets.

An overall general description and system history are presented for each of the major building systems below.

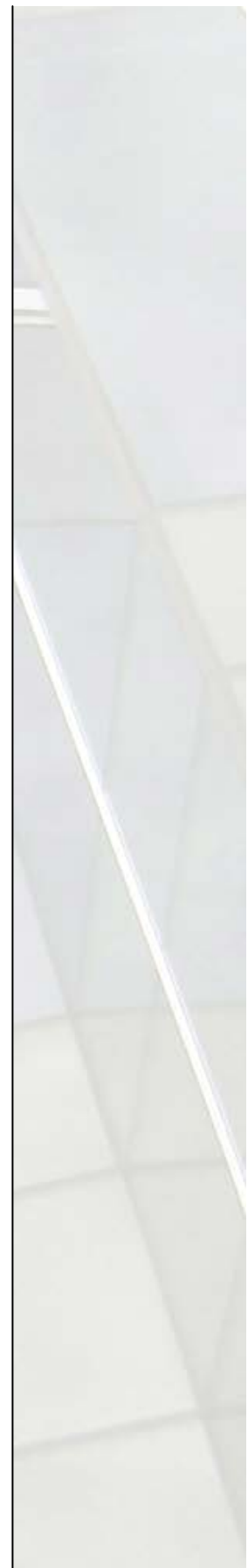
#### **4.1 BUILDING ENVELOPE AND STRUCTURE**

Major building envelope components consist of roofs, windows/skylights, doors, wall cladding, balconies and parkade, as well as associated waterproofing, membranes, metal flashings, sealants and paint coatings.

The main roof consists of an inverted roof system consisting of gravel ballast, filter fabric, rigid insulation, drainmat, waterproofing membrane, and the underlying concrete slab. This type of roof assembly is generally durable as there is little pedestrian traffic and the design limits the membrane from exposure to UV radiation and climatic conditions.

Unit roof decks and the majority of the level 15 roof is composed of precast concrete pavers, filter fabric, rigid insulation, drainmat, waterproofing membrane, and underlying concrete substrate. This roof is generally durable; however, accelerated wear may occur from increased pedestrian usage. The hot tub area contains the same assembly and utilizes a sloped topping for a continuous finish. An allowance for a roof review has been included three years prior to the anticipated renewal date.

The aluminum framed window walls are manufactured by Allan Window Technologies. These windows are set between the floor slabs and bypass the edge of the slab with a metal or glass panel furred out to create a rainscreen assembly. The windows consist of a thermally improved aluminum frame and double-glazed insulated IGUs, set within the frames with glazing tape.



Renewals costs associated with this item include sealant at the glazing units and frame integration.

The main entrance assembly is manufactured by Columbia Glazing Systems Inc and the sliding and swing balcony/deck doors are manufactured by Allan Window technologies. These assemblies include aluminum frames and sills, and double-glazed insulating glazing units (IGUs). The doors are set in a bed of sealant, applied to the self-adhesive sill membrane. An allowance for a portion of the swing doors at balconies and roof decks has been included, as comprehensive renewal is unlikely in the 30 year projection.

The glass canopies are manufactured by Columbia Glazing Systems Inc. The canopy includes laminated glass, connected to steel beams by the use of stainless steel “buttons”. These assemblies drain towards the building into gutters that are coated with a urethane coating.

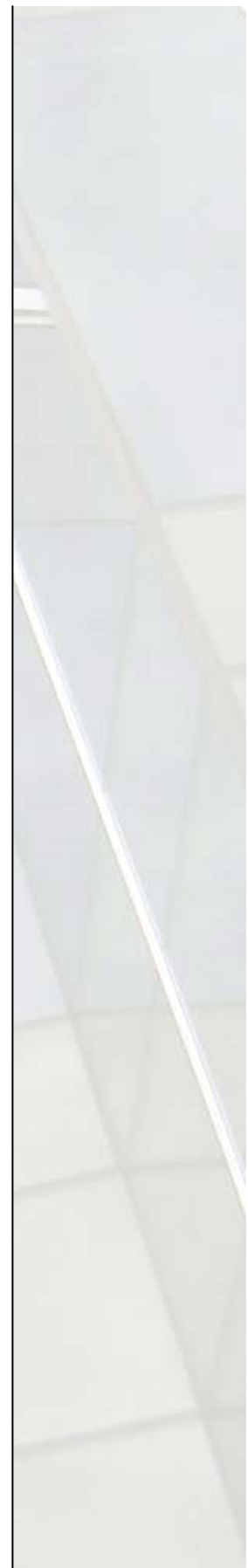
Balcony assemblies consist of aluminum railings with glass infill panels, mounted to the top of the concrete slab along the balcony perimeters. Concrete eyebrows extend beyond the exterior window and wall assemblies at most floors. The balconies and eyebrows limit the exposure to wind-driven rain at windows and doors. The balconies and eyebrows are waterproofed with a fluid-applied polyurethane membrane system with fabric reinforcement at transitions.

The metal panel cladding system contains metal panels, exterior insulation, and a moisture barrier. It is installed on a furring system that creates a drainage plane behind the cladding. The furring system is attached through the insulation to the steel stud infill wall or concrete wall. Metal panel cladding exists primarily at balcony return walls.

The exterior concrete wall assembly consists of an elastomeric coating and the mass concrete wall itself. The coating is applied directly to the exterior surface of the concrete wall and is intended to be the first line of water penetration resistance for the wall. Redundancy in the assembly is created through the mass concrete itself.

A polyurethane membrane is applied to the upper four levels of the parkade. This membrane reduces the amount of incident moisture in the concrete structure. An allowance has been included for the renewal of a portion of the membrane at high-wear areas.

Sealant and paint renewals are subjective and can vary from property to property. As a standard approach, we typically recommend significant sealant renewal and painting projects to occur concurrently within 7 to 10 year cycles. However, sections of sealant should be replaced upon failure (e.g. cracks, crazing, de-bonding, etc.), especially in critical locations. Some properties may have to perform annual maintenance or pursue a targeted sealant renewals program more frequently (every 2 to 5 years) than shown in our cost projections.



## 4.2 INTERIOR

The interior finishes include entry doors, wall, ceiling, and floor finishes. These finishes are limited to the common areas of the building.

Entry doors included in this section provide occupants access to units from the building interior. An allowance has been included for a portion of the entry doors as comprehensive renewals are unlikely.

Hallway, stairwell, and common areas include wall and ceiling paint at hallways, common areas, and exercise room, as well as wall finishes in the lobby. This reserve item also includes carpet and tile flooring at the lobby and common areas.

## 4.3 CONVEYANCE

The conveyance systems on this property include three gear traction elevators located at the tower core.

The elevators were installed during original construction. We understand that routine inspections and maintenance have been performed by Richmond elevator on the elevators. JRS was not informed of any issues or repairs made to these devices.

For a more detailed review and estimate of the conveyance systems, especially nearing the end of the service life, an elevator consultant should be engaged.

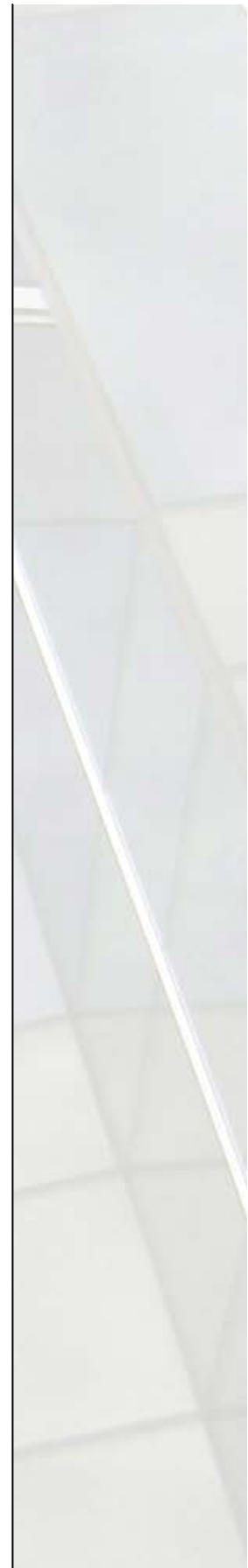
## 4.4 MECHANICAL

The mechanical systems for this building generally consist of heating (e.g. make-up air units, parkade exhaust fans and carbon monoxide detectors), plumbing (i.e. water pipe distribution, electric boiler, hot water tanks, and pumps), fire protection components, and an industrial-sized garbage compactor. The smaller exhaust fans found in utility and storage rooms are not included in this report (e.g. elevator mechanical room, bicycle room, or recycling room).

JRS understands that Cosmo receives steam from the district heating from Central Heat Distribution Ltd for a monthly fee. Therefore, no reserve components have been associated with this item. Renewals pertaining to piping are included in the domestic water pipes item.

An allowance has been included for parkade gates at the anticipated renewal date. A motor allowance has also been included at 10 year increments.

Costs to renew domestic water piping should be viewed with caution. Numerous factors such as hazardous materials, BC Building Code changes, material costs/upgrades as well as complicated plumbing designs and high end interior furnishings can significantly affect the estimated cost of this asset. It should also be noted that while pipe replacement is common, there are other types of options available to the owners (e.g. internal coatings, altering water chemistry). JRS does not officially endorse any particular approach, as



every property consists of varying factors that need to be considered (e.g. age of pipes, location of building, type of material, thickness of pipe, frequency of failures, type of failures). Regardless, we would be happy to discuss either of these options and provide general direction as needed.

Property wide renewals on sprinkler heads, standpipes, cabinet hoses are not typically included in these reports (as recommended by the REIC) due to the unpredictability of hidden conditions, soft costs and BC Fire Code changes/updates. Any safety deficiencies would also be caught during periodic inspections and corrected accordingly. Furthermore, complete and comprehensive fire detection system replacement has not been included in this report as this varies widely with different brands, models and parts and some manufacturers discontinue production of certain parts that support the current system. As the fire panels/detection systems become obsolete, a certified fire protection professional should be engaged to assess the system and make more detailed recommendations.

#### **4.5 ELECTRICAL**

The electrical reserve components include electrical distribution devices (i.e. incoming services, transformers, various distribution panels, wiring etc.), emergency generator, access control, security, fire panels and emergency lighting.

Service distribution components include transformers, disconnect switches, and transfer switches. An allowance has been included for a portion of these items. Proper maintenance and cleaning can be implemented to prolong the serviceable life of these components. An allowance has been included every three years to have the service rooms scanned and cleaned.

Power distribution components include the wiring within walls, parkade light fixtures, exit lights, hallway and other common area light fixtures. An allowance for a portion of the wiring is included. JRS was unable to visually review the wiring within the walls; however, non-destructive scanning can be performed to confirm proper operation of the wiring.

The electrical section of any Depreciation Report should be viewed with caution. Many electrical systems and components generally serve the life of the building without having to be replaced (e.g. electrical panels, transformers, incoming underground service lines, etc). Renewal dates are difficult to predict and can vary, depending on use, maintenance and review. Major electrical system renewals are rare but can be expensive. Furthermore, it is not always clear whose responsibility certain electrical items belong to (e.g. distribution transformer, electrical wiring).

Electrical room/vault maintenance and review should be performed on a periodic basis. As a point of reference, infrared review and dust/debris removal should be performed every 3 years on high rise buildings in Vancouver - this is specifically required for "dual radial" vaults.

#### 4.6 SPECIALTY

Specialty items include mailboxes, hot tub, common washrooms, bowling alley, accessibility lifts, and exercise equipment.

The hot tub item includes the physical tub and associated mechanical components. Proper maintenance and upkeep can prolong the serviceable life of this item.

JRS understands the exercise equipment is leased from National Leasing, and is not included in this report.

Common bathroom renewal costs and renewal dates can vary greatly and can be performed on an as needed basis or at the discretion of the strata council.

The bowling alley line item consists of flooring, string pinsetters, bowling balls, bowling shoes, and other common areas finishes including carpet, and wall and ceiling paint. Renewal costs and renewal dates can vary greatly and can be performed on an as needed basis or at the discretion of the strata council.

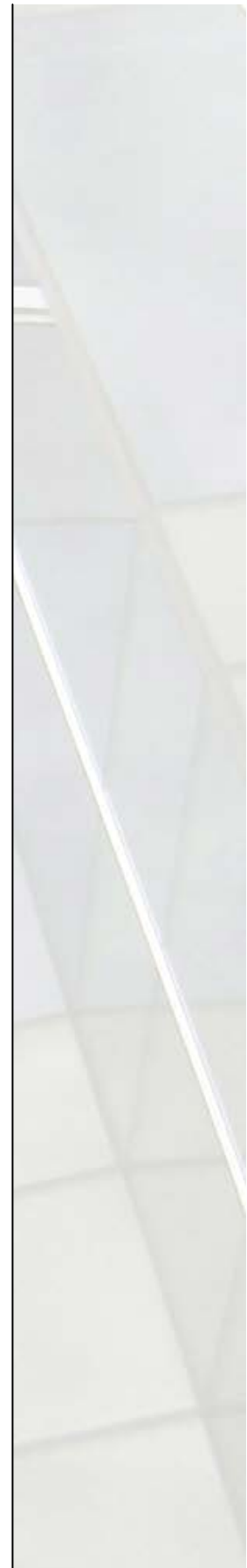
Costs associated with the accessibility lifts were provided by Garaventa Lift, who is the manufacturer of the lifts installed at the main entrance and hot tub on the level 15 roof deck.

#### 4.7 SITE SERVICES

The site services include walkways, patios, water features, utilities lines, exterior lighting, parkade fencing, irrigation and landscaping.

An allowance is included for a portion of the softscaping and hardscaping. These renewal dates line up with renewal dates of the below grade membrane, as a portion of hardscaping and softscaping will have to be removed to access the underlying membrane. An allowance has also been included for the cleaning of perimeter drain tile and periodic renewals to the hard and softscaping.

An allowance has been included for the renewal of the waterproof membrane for the water feature. UV deterioration can be hastened from the magnification produce by bodies of water. An additional allowance is included for pump renewals at 10 year increments.



## 5.0 FINANCIAL ANALYSIS

### 5.1 RESERVE FUND: HISTORICAL DATA

Based on the documents reviewed (past three years) and our communications with building representatives, we have summarized pertinent CRF transactions and balances in the table below:

DESCRIPTION	2014	2015	2016
<b>Annual Operating Budget</b>	<b>\$964,965</b>	<b>\$982,811</b>	<b>-</b>
<b>CRF Balance</b>	<b>\$134,749</b>	<b>-</b>	<b>\$410,217</b>
Approved CRF contributions	\$99,463	\$98,281	\$90,332
Past interest accrued on CRF	\$2,311	-	\$3,844

### 5.2 RESERVE FUND: LIFE CYCLE RENEWAL COSTS

The Life Cycle Renewal Cost table (Benchmark Analysis), included in Appendix B, is a tabulated summary of expected renewal years, costs and reserve fund parameters. Per the visual condition assessment of all the major building systems and components, future replacement dates are predicted (assuming reasonable and ongoing maintenance). This assumes that ongoing and reasonable maintenance is being performed unless otherwise noted or reported by property representatives. Based on these dates, as well as the assumed interest and inflation rates, the current and future CRF requirements are determined and allocated.

The order-of-magnitude renewal costs are developed based on general designs, makes and models, as well as estimated areas, assumed quantities and unit rates. While these costs may not be required on the specified dates, some or all of these allowances can be spent before or after these dates as needed. This is especially true for aggregate subjective assets like electrical, landscaping and miscellaneous mechanical equipment.

These costs may not consist of all contractor mobilization and front end costs, overhead and profit, as well as a detailed schedule of values, which would require the review of drawings, details, specifications and material schedules. Contingencies, consulting, project management and general contractor fees have also not been included. JRS does not guarantee the accuracy of these costs, and shall incur no liability where actual construction costs are exceeded.

The following pie chart illustrates the percentage that each of the major building systems represent relative to each other. The entire pie represents the reproduction value of the building reserve components and the wedges refer to the respective building systems, based on the "Reserve Fund Assessment Allocation" column in the benchmark analysis of Appendix B.

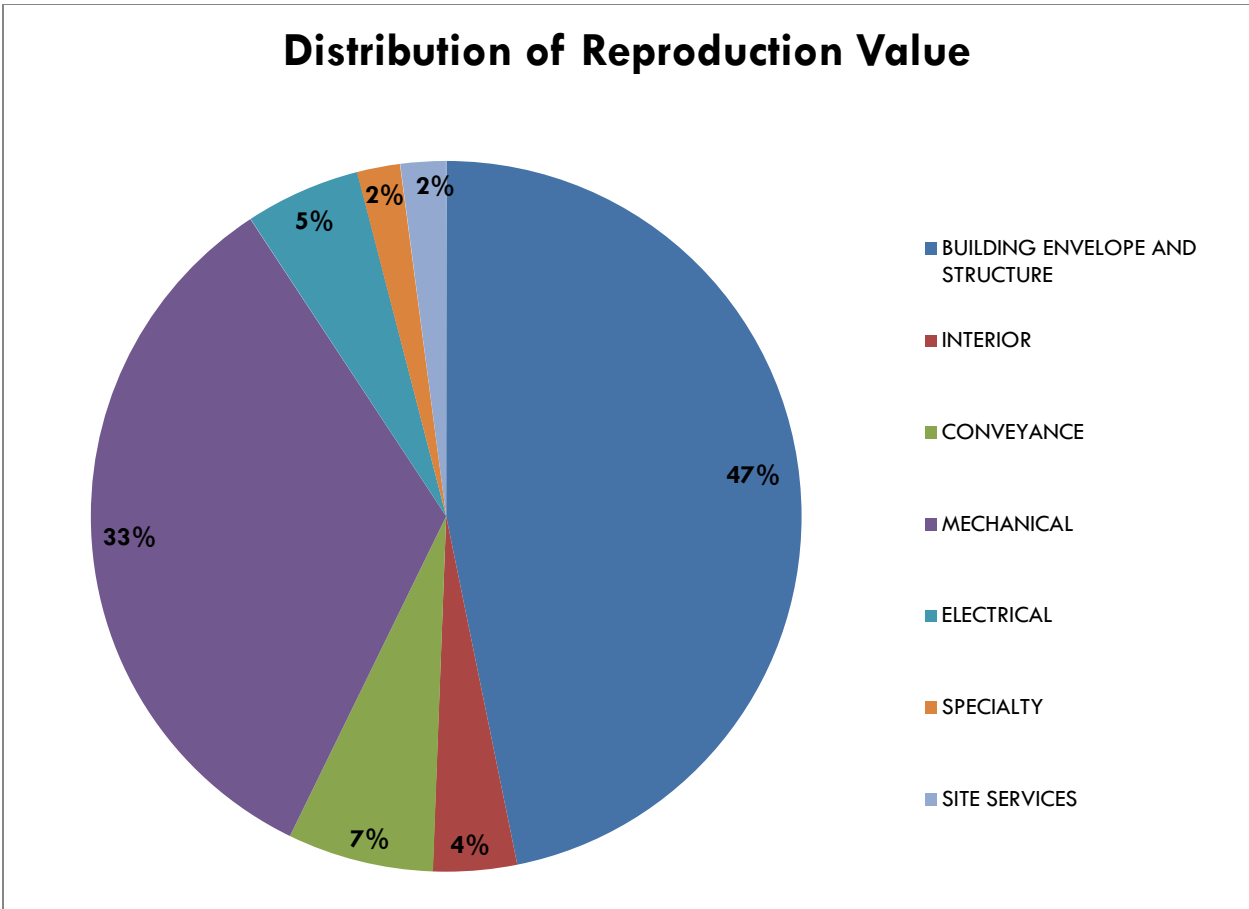


Figure 2 – Pie Distribution of Assets

It should also be noted that a *Power Smart Product Incentive Program* exists with BC Hydro. The program is intended to provide incentives for simple retrofits with energy efficient products to certain BC Hydro business customers. Refer to the *BC Hydro Product Acceptance Criteria* catalogue to determine acceptable technical and product requirements (i.e. lighting, HVAC and refrigeration) for the shared common assets of your property in order to potentially offset required renewal costs.

**5.3 RESERVE FUND: 30-YEAR COST PROJECTION**

The Cost Projection Sheets located in Appendix C consist of the estimated replacement costs of all the reserve fund components at anticipated renewal dates for the next 30 years (per the Strata Property Regulation). It should be noted that JRS does not purport that the actions/expenditures at the listed renewal dates must or will occur, but that we recommend the Strata Corporation strive to have sufficient funds for these actions/renewals that should or are highly likely to take place at or around these dates.

**Interest Rate**

Although the Regulation requires a reserve fund plan to be projected over 30 years, the interest rate is weighted more towards recent and short-term



economic conditions because of their volatility over time. This is the rate of return applied to your CRF investment. We have assumed an annual interest rate of **0.22%**, taken from historical data of interest earned on your CRF in 2016. This should be revised at the next Depreciation Report update. Significant consideration should be made towards an investment strategy that allows all or some of your CRF funds to grow at higher rates of return. Refer to Part 6.11 in the Strata Property Regulation to confirm what types of investment vehicles are permitted.

### **Inflation Rate**

This is the growth rate applied to all future renewal costs. A common fallacy is that this rate should be tied to the CPI (Consumer Price Index). The CPI is based on a fixed basket of commodities - consumer goods and services such as milk and eggs, which are largely unrelated to construction costs. Since this fixed basket contains goods and services of unchanging or equivalent quantity and quality, the CPI reflects only price fluctuations and excludes labour costs, which is a significant portion of remediation/renewal projects. The CPI includes approximately 600 commodities categorized in 168 basic commodity classes, which is simply too broad to use for future construction/renewal cost estimating. Furthermore, volatile items such as oil and gas are also excluded from CPI, which can greatly affect construction costs.

We have derived an inflation rate from changes in actual construction price indices obtained from Statistics Canada relating to all trades in the Vancouver-area construction market. The estimated inflation rate takes into consideration construction indices going back to 1981 (as far back as Statistics Canada has records).

The inflation rate used in this Depreciation Report is **3.0%**. Although this is somewhat similar to the current CPI, a distinction in the process of reaching this value must be understood.

Interest and inflation rates are significant factors when projecting future replacement costs and CRF requirements. Slight variations in either parameter can have dramatic effects on future values, including the annual CRF contributions or any special levies, which are usually the most relevant concerns for the majority of Owners.

## **5.4 FUNDING MODELS**

To assist the Owners with funding strategies, the Strata Property Regulation (Part 6.2.4) requires that at least 3 funding models be provided. Essentially, these are possible funding strategies for the Owners to contribute to their CRF. Our funding models are “cash flow” and “cash funded” to allow pragmatic and user friendly recommendations.

It is important to note that there are many possible funding strategies that a Reserve Planner can recommend. JRS has included the following three different cash flow funding models, which essentially consists of a low end, high end and a combination of the two:

### **Baseline**

This model maintains the status quo (how the CRF is currently being funded) or the statutory minimum (10% of operating budget), whichever is higher. Annual increases are only governed by inflation and therefore future loans or special levies are likely to occur. This is the most “hands off” funding strategy, consisting of a more reactive approach.

### **Theoretical Fully Funded**

This model immediately implements a contribution level that will eventually achieve a 100% fully funded accumulated reserve fund balance. This contribution strategy should theoretically never require loans or special levies and can be perceived as a hypothetical model, which is typically not practical for the Strata Corporation to execute.

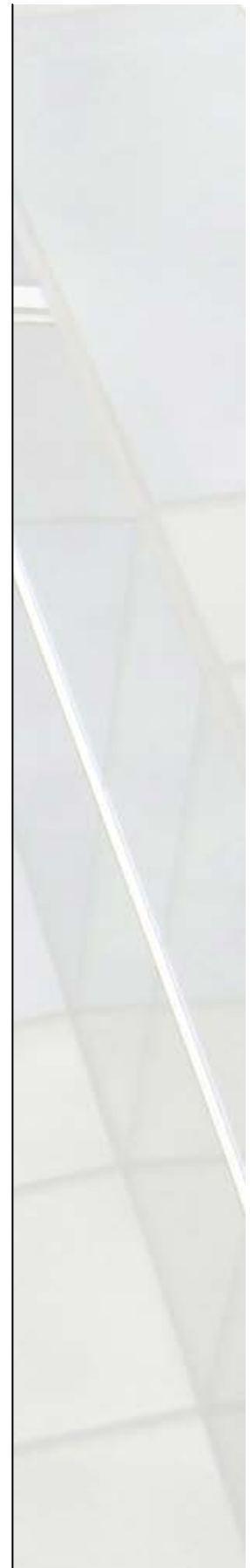
### **Graduated Hybrid**

This model is a combination of the Baseline and Fully Funded models, starting at current contribution levels and ramping up to a 50% fully funded contribution level. Special levies may still occur but at smaller and less frequent amounts. This funding strategy allows a more targeted funding plan, allowing for a more balanced and pro-active approach.

It is widely accepted that strata fees in BC are generally low and that most CRFs are under-funded. This is likely the driving force for Depreciation Report legislation, which has been mandated in many other provinces some time ago. Therefore, your Baseline model, as well as the statutory minimum, is not sufficient in most cases. The Fully Funded model is ideal, but impractical for most strata corporations—at least when trying to attain a fully funded level within a short period of time. Achieving at least a 50% fully funded CRF contribution level as soon as practical, should be the goal of every strata corporation. History in other provinces and with Strata Corporations who have already updated their Depreciation Reports, have shown that this is feasible.

JRS has provided a Graduated Hybrid funding model that we believe is achievable and pragmatic. These models allow the Owners to ramp up towards a 50% fully funded CRF contribution level within twelve years.

The Baseline, Theoretical Fully Funded and Graduated Hybrid funding models are presented in Appendix C. A graph is included with each funding model cost projection sheet to summarize and visually aid the reader in comprehending the CRF contributions, balance, and requirements. The varying input parameter in each funding model is the annual contribution amount to the CRF.



## 5.5 SUMMARY OF RESULTS AND ADEQUACY OF RESERVE FUND

The Baseline and Fully Funded models indicate an unacceptable frequency of special levies and an immediately onerous level of annual CRF contributions, respectively.

The Graduated Hybrid model allows the Owners to gradually increase their contributions to a 50% fully funded level in twelve years. The first projected major special levy does not occur until 2042, which allows the owners time to ramp up contributions. It is important to recognize the significance of saving the funds over time as renewal dates can vary from the projections in this report. This model is a prudent strategy to save contingency reserve funds.

The Owners do not have to decide on either of the models – they should choose what financial plan or contribution level works for them.

It is essential to remember that our financial models and recommended funding strategies are for the strata corporation's contributions to their CRF, not strata fees. CRF contributions are only a fraction of the overall budget, which is funded almost entirely by the strata fees. For example, if an owner is paying \$300/month in strata fees and 10% of their strata fees go to the CRF, a recommended CRF contribution increase of 50% a year, results in an extra \$15 a month. Moreover, increasing CRF contributions does not need to be entirely borne out of raising strata fees. Other methods of offsetting increased strata fees include cutting costs and increasing revenue generating activities (e.g. laundry services, vending machines, etc.).

It is important to note that this Depreciation Report, nor should any Depreciation Report, purport to be used verbatim or used to pressure the Strata Corporation into mandating higher CRF contributions or Strata fees. Our financial analysis and funding strategies are meant to simply provide information and encourage a balanced approach in saving for eventual renewals that may occur at or around the time stated in the funding models, which should be continually reviewed and updated. Therefore, this report should not be perceived as having to spend exactly the amounts at the specified times. It should be used as guidance for the Strata Council to manage its CRF and create its own detailed, customized financial plan.

Each model safeguards against negative CRF balances. However, it is incumbent on the Owners to ensure that at least the statutory minimum outlined in Part 6.1 of the Strata Property Regulation are maintained, which is widely known to be a bare minimum that almost never achieves a reasonably long term funded CRF.

## 5.6 CONSIDERATIONS

It is often practical and economical to undertake the repair or replacement of property assets at the same time or immediately consecutive to one another. Although resulting in higher immediate capital costs, there will be potentially less disturbance to unit occupants than performing work at separate times, which may be a significant consideration. The Owners should evaluate the relative weight they ascribe to some of the issues noted above prior to

undertaking any major capital expenditures or updating the Depreciation Report, so that this information can be incorporated accordingly.

The intent of this Depreciation Report is to mitigate unfair levels of contribution and encourage the Strata Corporation as a whole or as individuals to save for eventual renewals/replacements to the property, starting at the soonest applicable fiscal year.

Costs and input data should also be reviewed and updated regularly to ensure a higher level of accuracy. Review of the financial parameters should be performed by the Strata Council annually and through Depreciation Report updates, which include site visits by a Reserve Planner every 3 years, per the Strata Property Regulation.

## 6.0 RECOMMENDATIONS

JRS recommends the Strata Council implement the Graduated Hybrid model or something similar to eventually reach a 50% fully funded contribution level to the CRF by 2028 or sooner. The Strata Council should compare it with the other funding strategies, tailor it to the ownership demographics and decide which would be the most appropriate and acceptable for the general ownership to include in the annual budget.

In the short term, the Strata Council should perform the following:

- ♦ Repair domestic water pipe leak affecting unit 1216.
- ♦ Clean service distribution components.
- ♦ Clean and flush existing sanitary sewer, storm, and perimeter drain tile.

JRS further submits the following general recommendations:

1. Prior to any major renewals, the Strata Council should hire a consultant to prepare drawings and specifications and tender out the work to multiple contractors before raising funds or requesting any special levies.
2. Major repairs and replacements should be recorded in, and funded from, a separate contingency reserve fund account. Keep in mind that multiple “sub-CRF-accounts” for specific assets (e.g. roofing, windows, piping, etc.) are not required and should be used with caution.
3. The Strata Council should create a committee or appoint a strata council member to oversee the overall management and documentation of the CRF.
4. The CRF should be invested with a strategy that will allow for multiple transactions and achieve a higher rate of return than the current interest rate.

## 7.0 CLOSURE

This report was prepared by JRS for The Owners, Strata Plan BCS 4387. Any use that a third party makes of this report, or any reliance or decisions made based on it, are the sole responsibility of such third parties.

The findings herein are based on a visual review of surface conditions. Deficiencies that may exist, but were not recorded in this report, were not apparent given the level of study undertaken.

This assessment is in part based on information provided by others. Unless specifically noted, we have assumed this information to be correct and have relied upon it in reaching our conclusions and recommendations.

Component conditions and renewal costs identified are for the purpose of general financial planning. This report is not intended to substitute the need for in-depth condition assessment of components by professionals using testing and other means.

The replacement costs in this report apply only within the confines and objectives of this review. The costs herein must not be used in conjunction with any other appraisal or Depreciation Report and may be invalid if so used.

The Strata Corporation may use this report in deliberations affecting the subject property only, and in so doing, the report must not be abstracted; it must be used in its entirety.

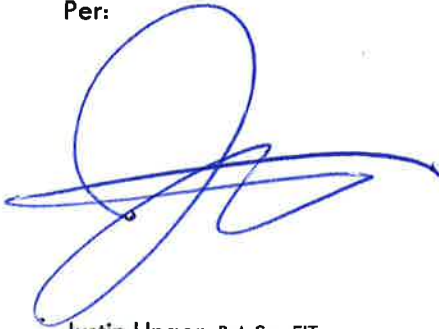
The material in this report reflects the best judgement of JRS in light of the information available at the time of preparation.

Please contact the undersigned if you should require any additional information.

Prepared by:

JRS ENGINEERING LTD.

Per:



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MAR 07 2017



**JRS ENGINEERING**  
BUILDING ENVELOPE CONSULTANTS

## Appendix A

### Technical Inventory – Component Descriptions

## BUILDING ENVELOPE AND STRUCTURE

1

### Concrete Structure

<b>Location:</b>	Building exteriors
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	50
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	46
<b>Planned Renewal Date:</b>	2062



**Description:** This item includes exterior concrete that comprises the residential units, cantilevered balconies, as well as parkade slabs and walls.

**Condition:** This item appears to be in reasonable condition.

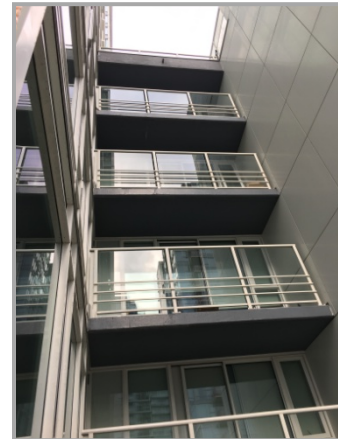
**Comments:** The structural capacity of the foundation walls and slabs are expected to last the lifetime of the building. The 50 years is an estimate as to when the Owners can expect the need for concrete repairs to address issues such as delamination, spalling, water intrusion and physical damage. Reserve costs for this component consist of an allowance for targeted repairs to a small percentage of the exposed concrete areas. An allowance has been included in 2042 for a structural review and targeted repairs.

Building Envelope and Structure

2

### Guardrails

<b>Location:</b>	Unit Balconies, roof decks, and stairwells
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	30
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	26
<b>Planned Renewal Date:</b>	2042



**Description:** This item includes guardrails at unit balconies, roof decks, stairwells and site grounds.

**Condition:** This asset appears to be in reasonable condition.

**Comments:** Guardrails are top mounted at roof deck assemblies and balconies. Metal guardrails contain glass infill panels and horizontal crossbars on the lower half of the railing. This item can be renewed in tandem with balcony membrane assemblies to save on mobilization costs.

Building Envelope and Structure

## 3

## Balcony/Eyebrow Membrane Assemblies

Building Envelope and Structure

<b>Location:</b>	Balcony and eyebrow surfaces
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	15
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	11
<b>Planned Renewal Date:</b>	2027



**Description:** This item includes liquid applied membrane at unit balconies and architectural concrete eyebrow features.

**Condition:** This asset appears to be in reasonable condition.

**Comments:** This item is a liquid applied membrane. Replacement of this item in tandem with paint renewals and/or guardrails can save on contractor mobilization costs.

## 4

## Window Wall Assemblies

Building Envelope and Structure

<b>Location:</b>	Building exteriors
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	30
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	26
<b>Planned Renewal Date:</b>	2042



**Description:** This item includes the window wall assemblies at building exteriors.

**Condition:** This asset appears to be in reasonable condition.

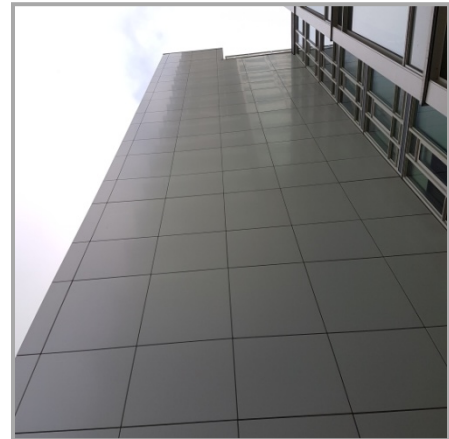
**Comments:** The renewal cost associated with this item includes 'fishtanking' (application of sealant at the glazing units and frame integration). An allowance has been included for a building envelope condition assessment (BECA) three years before a planned renewal.

## 5

## Metal Panel Cladding

Building Envelope and Structure

<b>Location:</b>	Building exteriors
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	50
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	46
<b>Planned Renewal Date:</b>	2062



**Description:** This item includes the exterior metal cladding elements.

**Condition:** This asset appears to be in reasonable condition.

**Comments:** Metal panel cladding is generally a robust system. Underlying insulation improves thermal performance. An allowance has been included for targeted repairs.

## 6

## Sliding Doors

Building Envelope and Structure

<b>Location:</b>	Unit balconies
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	30
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	26
<b>Planned Renewal Date:</b>	2042



**Description:** This item includes sliding doors at unit balconies.

**Condition:** This asset appears to be in reasonable condition.

**Comments:** Sliding doors can be renewed with window wall assemblies, which may save on mobilization costs.

## 7

## Swing Doors

Building Envelope and Structure

<b>Location:</b>	Unit balconies
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	30
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	26
<b>Planned Renewal Date:</b>	2042



**Description:** This item includes exterior swing doors at unit balconies, and unit entrances.

**Condition:** This asset appears to be in reasonable condition.

**Comments:** Swing doors are generally quite durable. We recommend continually maintaining these doors to maintain life expectancy. Renewal dates for this item may be delayed depending on factors such as aesthetics, operation, exposure, and functionality.

## 8

## Service Doors

Building Envelope and Structure

<b>Location:</b>	Throughout building
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	50
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	46
<b>Planned Renewal Date:</b>	2062



**Description:** This item includes services doors in the parkade, common areas, utility rooms, and stairwells.

**Condition:** This asset appears to be in reasonable condition.

**Comments:** Service doors provide access to the parkade, mechanical, electrical, and elevator rooms. These doors also act as a fire break. Generally this item is robust and does not deteriorate quickly depending on location and usage. An allowance has been included for the renewal of a portion of the service doors as a comprehensive renewal is unlikely.

## 9

## Main Entrance Door Assembly

Building Envelope and Structure

<b>Location:</b>	Exterior of front entrances
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	40
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	36
<b>Planned Renewal Date:</b>	2052



**Description:** This item includes the door assembly at the main entrance.

**Condition:** This asset appears to be in reasonable condition.

**Comments:** The renewal date for this asset may vary from the planned renewal dates. An allowance has been included for targeted repairs at the same time as lobby renewals.

## 10

## Sealant

Building Envelope and Structure

<b>Location:</b>	At building envelope component transitions
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	10
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	6
<b>Planned Renewal Date:</b>	2022



**Description:** This item includes sealant at transitions between dissimilar building envelope components at building exteriors.

**Condition:** This asset appears to be in reasonable condition.

**Comments:** Sealant should be continually maintained at building envelope transitions. We recommend renewing sealant at building exteriors on a regular basis as it often provides the first line of defence against water ingress at fenestration assemblies.

## 11

## Paint Coating

Building Envelope and Structure

<b>Location:</b>	Exterior concrete elements
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	10
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	6
<b>Planned Renewal Date:</b>	2022



**Description:** This item includes a paint coating / sealer at exterior concrete surfaces.

**Condition:** This asset appears to be in reasonable condition.

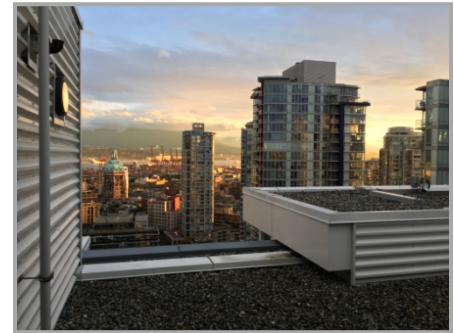
**Comments:** An allowance has been included for the renewal of this item.

## 12

## Inverted Roof Assembly

Building Envelope and Structure

<b>Location:</b>	Main roof and level 15 roof
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	40
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	36
<b>Planned Renewal Date:</b>	2052



**Description:** This item includes the inverted roof assembly with gravel ballast at the main roof and architectural cantilevered roof features at the level 15 roof deck.

**Condition:** This asset appears to be in reasonable condition.

**Comments:** This type of roof deck assembly is generally durable. An allowance has been included for a roof review and targeted repairs three years before the planned renewal date.

## 13

## Roof Deck (City Loft)

Building Envelope and Structure

<b>Location:</b>	Level 15 Roof
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	30
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	26
<b>Planned Renewal Date:</b>	2042



**Description:** This item includes the inverted roof assembly at the level 15 roof deck.

**Condition:** This asset appears to be in reasonable condition.

**Comments:** This type of roof deck assembly is generally durable. Renewal dates may be accelerated due increased wear from pedestrian traffic. An allowance has been included for a roof review and targeted repairs three years before the planned renewal date.

## 14

## Roof Deck (Units)

Building Envelope and Structure

<b>Location:</b>	Building exteriors
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	30
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	26
<b>Planned Renewal Date:</b>	2042



**Description:** This item includes the inverted roof assemblies at unit roof decks.

**Condition:** This asset appears to be in reasonable condition.

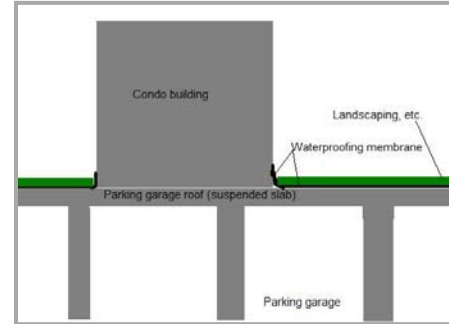
**Comments:** This type of roof deck assembly is generally durable. An allowance has been included for a roof review and targeted repairs three years before the planned renewal date.

15

**Below-Grade Membrane**

Building Envelope and Structure

<b>Location:</b>	Below-grade and planters
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	50
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	46
<b>Planned Renewal Date:</b>	2062



**Description:** This item includes the waterproofing membrane below softscaping and hardscaping.

**Condition:** This asset appears to be in reasonable condition.

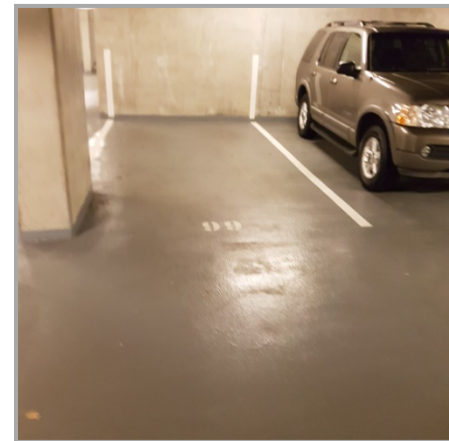
**Comments:** Replacement costs are assumed to include a 2-ply torch-on SBS membrane or equivalent moisture barrier system. Costs associated with at-grade work are found in the landscaping reserve item, as both are usually deliberately planned to occur at the same time. Concrete repair, drain mat, filter fabrics or other waterproofing accessories are not included and would not be known until the design development phase of a rehabilitation project. An allowance has been included for targeted repairs.

16

**Traffic Membrane**

Building Envelope and Structure

<b>Location:</b>	Parkade
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	20
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	16
<b>Planned Renewal Date:</b>	2032



**Description:** This item includes the liquid applied traffic membrane at parkade drive aisles and parking stalls.

**Condition:** This asset appears to be in reasonable condition.

**Comments:** This item reduces the amount of water penetrating the parkade structure from wet vehicles. An allowance has been included for the renewal of high traffic areas of this item.

## 17

## Canopy

Building Envelope and Structure

<b>Location:</b>	Above front entrance
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	30
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	26
<b>Planned Renewal Date:</b>	2042



**Description:** This item includes the metal and glass canopy above the main entrance.

**Condition:** This asset appears to be in reasonable condition.

**Comments:** An allowance has been included for the replacement of the canopy lites as the canopy's structure should last the life of the building.

## 18

## Partition Walls

Building Envelope and Structure

<b>Location:</b>	Building exterior
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	30
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	26
<b>Planned Renewal Date:</b>	2042



**Description:** This item includes the partition walls between units at unit roof decks.

**Condition:** This asset appears to be in reasonable condition.

**Comments:** An allowance has been included for the renewal of this item.

## INTERIOR

### 19

#### Entry Doors

<b>Location:</b>	At unit entrances
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	50
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	46
<b>Planned Renewal Date:</b>	2062



**Description:** This item includes the interior unit entry doors.

**Condition:** This asset appears to be in reasonable condition.

**Comments:** An allowance for a portion of this item has been included as a comprehensive renewal is unlikely.

Interior

### 20

#### Lobby

<b>Location:</b>	South-west corner of building
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	25
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	21
<b>Planned Renewal Date:</b>	2037



**Description:** This item includes the flooring, wall and ceiling finishes, and furniture within the lobby area.

**Condition:** This asset appears to be in reasonable condition.

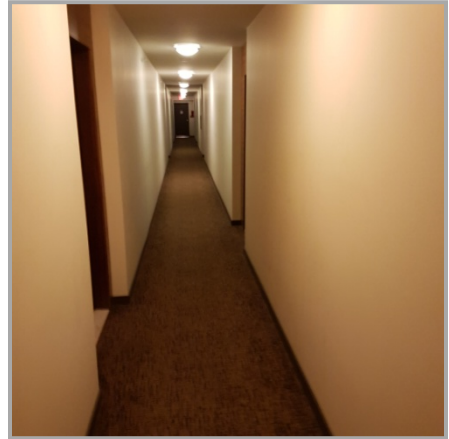
**Comments:** The renewal date for this asset is highly subjective and can vary from the planned renewal dates at the strata council's discretion.

Interior

## 21

## Hallway, Stairwell and Common Areas

<b>Location:</b>	Building interior
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	25
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	21
<b>Planned Renewal Date:</b>	2037



Interior

**Description:** This item includes the flooring, wall, and ceiling finishes in hallways, stairwells and common areas.

**Condition:** This asset appears to be in reasonable condition.

**Comments:** The renewal date for this asset is highly subjective and can vary from the planned renewal dates at the strata council's discretion.

## CONVEYANCE

**22****Elevator**

<b>Location:</b>	Tower core
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	30
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	26
<b>Planned Renewal Date:</b>	2042



Conveyance

**Description:** This item includes the three gear traction elevators.

**Condition:** This asset appears to be in reasonable condition.

**Comments:** This item includes three gear traction elevators that service the tower and parkade. We understand that Richmond Elevator is performing regular inspections and maintenance. An allowance has been included for an engineering review and targeted repairs 3 years before the planned renewal date.

**23****Elevator Cab Finishes**

<b>Location:</b>	Elevator interior
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	30
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	26
<b>Planned Renewal Date:</b>	2042



Conveyance

**Description:** This item includes the primarily aesthetic components of elevator interiors.

**Condition:** This asset appears to be in reasonable condition.

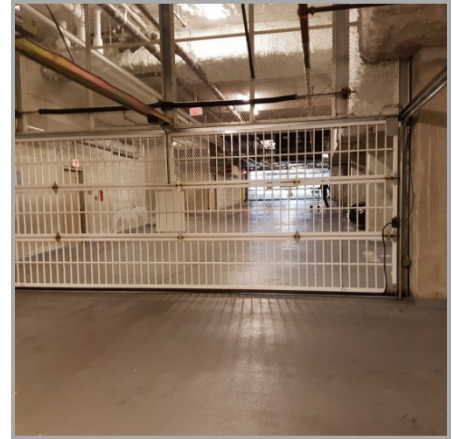
**Comments:** Due to the primarily aesthetic nature of this asset, renewal is highly subjective and at the discretion of the strata council.

## MECHANICAL

**24**

### Parkade Gates

<b>Location:</b>	Parkade entrance
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	30
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	26
<b>Planned Renewal Date:</b>	2042



Mechanical

**Description:** This item includes the parkade gates and associated hardware.

**Condition:** This asset appears to be in reasonable condition.

**Comments:** This item is generally robust. An allowance has been included for motor renewals every 10 years.

**25**

### Domestic Water Pipes

<b>Location:</b>	Building interior
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	30
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	26
<b>Planned Renewal Date:</b>	2042



Mechanical

**Description:** This item includes the copper domestic water pipes that service the building.

**Condition:** This asset appears to be in reasonable condition; however, a leak was observed in the ceiling of unit 1216.

**Short-term Action:** JRS recommends the leak be repaired immediately to mitigate against further damages.

**Comments:** Pitting corrosion is expected near the end of a copper pipe's service life. An allowance has been included three years prior to the expected replacement in order to allow for an assessment and repairs that typically need to be performed before a full scale re-piping. Based on a leak investigation performed by JRS, a repair allowance has been included for the leak observed at the water supply line of the water fountain on the level 15 roof deck.

## 26

## Gas Pipes

Mechanical

<b>Location:</b>	Below-grade
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	50
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	46
<b>Planned Renewal Date:</b>	2062



**Description:** This item includes the below-grade gas lines.

**Condition:** This asset appears to be in reasonable condition; however, could not be visually reviewed.

**Comments:** An allowance has been included for the renewal of this item.

## 27

## Sprinkler Pipes and Fire Components

Mechanical

<b>Location:</b>	Parkade
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	50
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	46
<b>Planned Renewal Date:</b>	2062



**Description:** This item includes the sprinkler pipes for the parkade and fire pump components.

**Condition:** This asset appears to be in reasonable condition.

**Comments:** A detailed review by a fire protection specialist should be performed three years before the expected replacement date.

## 28

## Steam Plant Components

Mechanical

<b>Location:</b>	Roof top mechanical room/ throughout the building
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	N/A
<b>Effective Age (yrs):</b>	N/A
<b>Remaining Service Life (yrs):</b>	N/A
<b>Planned Renewal Date:</b>	N/A



**Description:** This item includes the piping and associated components for the steam plant system.

**Comments:** Steam heating services are provided by Central Heat Distribution. Cost to renew a portion of the piping is captured in the domestic water pipes item.

## 29

## Hot Water Storage Tanks

Mechanical

<b>Location:</b>	Roof top mechanical room
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	10
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	6
<b>Planned Renewal Date:</b>	2022



**Description:** This item includes the three hot water storage tanks.

**Condition:** This asset appears to be in reasonable condition.

**Comments:** An allowance has been included for the complete replacement of this item.

## 30

## Hot Water Heater

Mechanical

<b>Location:</b>	Mechanical/water entry room
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	10
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	6
<b>Planned Renewal Date:</b>	2022



**Description:** This item includes the electric hot water heater.

**Condition:** This asset appears to be in reasonable condition.

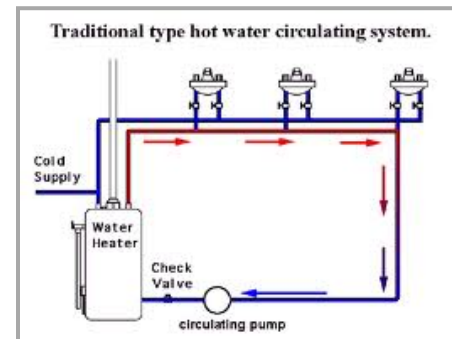
**Comments:** An allowance has been included for the replacement of this item.

## 31

## Miscellaneous Pumps

Mechanical

<b>Location:</b>	Mechanical rooms/ building interiors
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	20
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	16
<b>Planned Renewal Date:</b>	2032



**Description:** This item includes circulation and recirculation pumps distributed throughout the building.

**Condition:** This asset appears to be in reasonable condition.

**Comments:** An allowance has been included for the replacement of this item.

## 32

## Miscellaneous Mechanical Components

Mechanical

<b>Location:</b>	Mechanical rooms/ building interiors
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	20
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	16
<b>Planned Renewal Date:</b>	2032



**Description:** This item includes backflow preventers, pressure reducing valves, and other miscellaneous components that contribute to the building's mechanical system.

**Condition:** These assets appear to be in reasonable condition.

**Comments:** An allowance has been included for the renewal of these items.

## 33

## CO Detectors

Mechanical

<b>Location:</b>	Parkade
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	20
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	16
<b>Planned Renewal Date:</b>	2032



Retrieved from: [http://www.honeywellanalytics.com/~media/honeywell-analytics/products/e3point/images/e3point\\_web\\_main.jpg](http://www.honeywellanalytics.com/~media/honeywell-analytics/products/e3point/images/e3point_web_main.jpg)

**Description:** This item includes the CO detectors located in the parkade.

**Condition:** This asset appears to be in reasonable condition.

**Comments:** CO detectors monitor the level of carbon monoxide in a specific area. This item is an integral component to occupants' safety.

## 34

## Booster Pumps

Mechanical

<b>Location:</b>	Mechanical/water room
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	15
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	11
<b>Planned Renewal Date:</b>	2027



**Description:** This item includes 3 booster pumps and the booster pump panel.

**Condition:** This asset appears to be in reasonable condition.

**Comments:** An allowance has been included for targeted repairs and replacement of system components.

## 35

## Draw Down Tanks

Mechanical

<b>Location:</b>	Rooftop mechanical room
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	15
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	11
<b>Planned Renewal Date:</b>	2027



**Description:** This item includes the 3 draw down tanks located in the roof top mechanical room.

**Condition:** This asset appears to be in reasonable condition.

**Comments:** An allowance has been included for the replacement of this item.

## 36

## Sump Pumps

Mechanical

<b>Location:</b>	Parkade
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	10
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	6
<b>Planned Renewal Date:</b>	2022



**Description:** This item includes the storm, sanitary sewer and elevator pit sump pumps.

**Condition:** This asset appears to be in reasonable condition.

**Comments:** An allowance has been included for the replacement of the sump pumps.

## 37

## HVAC System

Mechanical

<b>Location:</b>	Parkade
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	20
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	16
<b>Planned Renewal Date:</b>	2032



**Description:** This item includes the United CoolAir unit and associated components.

**Condition:** This asset appears to be in reasonable condition.

**Comments:** An allowance has been included for the replacement of this item. Proper maintenance can help to extend the serviceable life of this item.

## 38

## Parkade Fans

Mechanical

<b>Location:</b>	Throughout parkade
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	15
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	11
<b>Planned Renewal Date:</b>	2027



**Description:** This item includes the parkade exhaust fans located throughout the parkade.

**Condition:** This asset appears to be in reasonable condition.

**Comments:** An allowance has been included for the replacement of this item. Proper maintenance can help to extend the serviceable life of this item.

## 39

## Garbage Compactor

Mechanical

<b>Location:</b>	Garbage and recycling room
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	15
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	11
<b>Planned Renewal Date:</b>	2027



**Description:** This item includes the trash compactor in the garbage and recycling room.

**Condition:** This asset appears to be in reasonable condition.

**Comments:** An allowance has been included for the replacement of this item. Proper maintenance can help to extend the serviceable life of this item.

## ELECTRICAL

**40**

### Service Distribution

<b>Location:</b>	Building interior/ main electrical room
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	50
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	46
<b>Planned Renewal Date:</b>	2062



Electrical

**Description:** This item includes various transformers, distribution disconnects, and transfer switches.

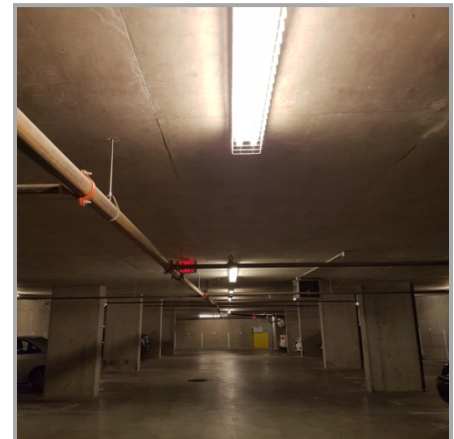
**Condition:** This asset appears to be in reasonable condition.

**Comments:** Dirt and dust can hasten deterioration and should be kept away from these components. An allowance has been included for scanning and cleaning of service distribution components every three years.

**41**

### Power Distribution

<b>Location:</b>	Building Interiors
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	40
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	36
<b>Planned Renewal Date:</b>	2052



Electrical

**Description:** This item includes interior wiring, parkade fixtures, and hallway and common area lighting.

**Condition:** The wiring was not reviewed; however, JRS assumes it is in reasonable condition due to its age, and there were no reported issues with it.

**Comments:** An allowance has been included for the fixtures and a portion of the wiring.

## 42

## Enterphone System

<b>Location:</b>	Front entrance and parkade
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	30
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	26
<b>Planned Renewal Date:</b>	2042



Electrical

**Description:** This item includes the three enterphone systems.

**Condition:** This asset appears to be in reasonable condition.

**Comments:** This item can be replaced on an as needed basis.

## 43

## Security Access System and Cameras

<b>Location:</b>	Building interiors
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	30
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	26
<b>Planned Renewal Date:</b>	2042



Electrical

**Description:** This item includes the security system and FOB access.

**Condition:** This asset appears to be in reasonable condition.

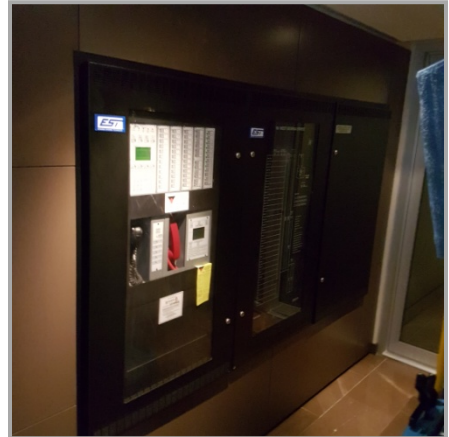
**Comments:** This item can be replaced on an as needed basis.

## 44

## Fire Alarm Panel

Electrical

<b>Location:</b>	Lobby/building interiors
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	20
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	16
<b>Planned Renewal Date:</b>	2032



**Description:** This item includes the fire alarm panel and emergency lighting.

**Condition:** This asset appears to be in reasonable condition.

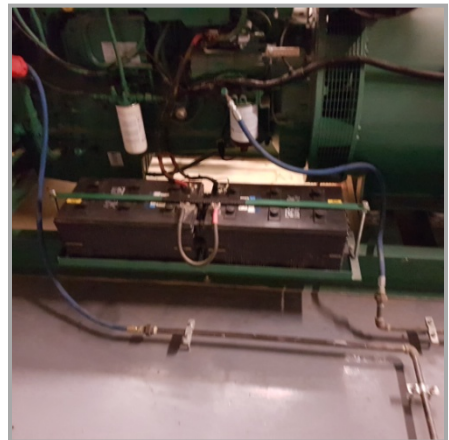
**Comments:** An allowance has been included for the renewal of the fire alarm control panel.

## 45

## Emergency Generator

Electrical

<b>Location:</b>	Emergency generator room (P1)
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	50
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	46
<b>Planned Renewal Date:</b>	2062



**Description:** This item includes the emergency generator located in the parkade

**Condition:** This asset appears to be in reasonable condition.

**Comments:** An allowance has been included for the renewal of this item.

## SPECIALTY

**46****Mailboxes**

<b>Location:</b>	Lobby
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	35
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	31
<b>Planned Renewal Date:</b>	2047



**Description:** This item includes the metal mailboxes located in the lobby.

**Condition:** This asset appears to be in reasonable condition.

**Comments:** This item can be replaced on an as needed basis, or at the discretion of the strata council.

**47****Hot Tub Area**

<b>Location:</b>	Level 15 Roof
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	15
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	11
<b>Planned Renewal Date:</b>	2027



**Description:** This item includes the hot tub and associated components at the level 15 roof.

**Condition:** This asset appears to be in reasonable condition.

**Comments:** An allowance has been included for the associated mechanical components.

## 48

## Common Washrooms

Specialty

<b>Location:</b>	Building interiors
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	25
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	21
<b>Planned Renewal Date:</b>	2037



**Description:** This item includes four washrooms, complete with toilet and sink.

**Condition:** This asset appears to be in reasonable condition.

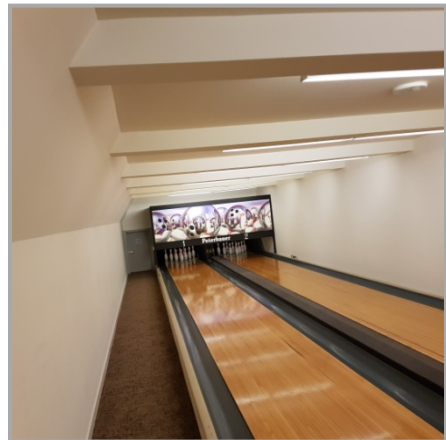
**Comments:** Renewals of this item varies greatly and can be performed at the discretion of the strata council.

## 49

## Bowling Alley

Specialty

<b>Location:</b>	Level P1
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	20
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	16
<b>Planned Renewal Date:</b>	2032



**Description:** This item includes the bowling alley lanes, pinsetter, balls, shoes, and wall, ceiling and flooring finishes.

**Condition:** This asset appears to be in reasonable condition.

**Comments:** An allowance has been included for the renewal of the bowling alley components.

50

## Exercise Equipment



<b>Location:</b>	Exercise room
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	N/A
<b>Effective Age (yrs):</b>	N/A
<b>Remaining Service Life (yrs):</b>	N/A
<b>Planned Renewal Date:</b>	N/A

**Description:** This item includes the exercise equipment located in the exercise room.

**Comments:** Exercise equipment is leased from National Leasing.

Specialty

51

## Accessibility Lifts



<b>Location:</b>	Front entrance and level 15 roof
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	20
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	16
<b>Planned Renewal Date:</b>	2032

**Description:** This item includes two accessibility lifts at the main entrances and hot tub area.

**Condition:** This asset appears to be in reasonable condition.

**Comments:** An allowance has been included for the renewal of this item. Renewal costs associated with this item are based on information provided by the manufacturer.

Specialty

## SITE SERVICES

# 52

### Softscaping

<b>Location:</b>	Site grounds and planters
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	50
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	46
<b>Planned Renewal Date:</b>	2062



**Description:** This item includes the vegetation at ground floor and planters on the level 15 roof deck.

**Condition:** This asset appears to be in reasonable condition.

**Comments:** This reserve cost is based on the overall complexity of vegetation, frequency of trees and total area. Allowances have been made for targeted repairs and periodic removal of trees.

Site Services

# 53

### Hardscaping

<b>Location:</b>	Site grounds
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	50
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	46
<b>Planned Renewal Date:</b>	2062



**Description:** This item includes the concrete curbs, walls and walkways at the exterior of the building.

**Condition:** This asset appears to be in reasonable condition.

**Comments:** The cost of this component is based on overall complexity and size. Hardscaping is generally considered to last the life of the property and may only see partial renewals. An allowance has been included for targeted repairs.

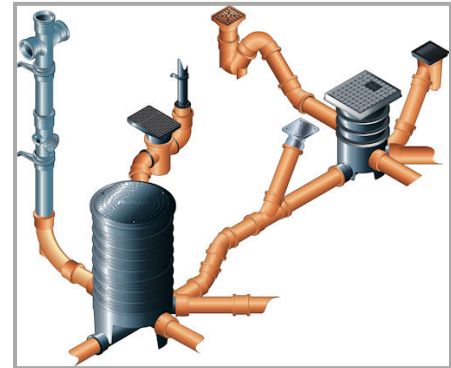
Site Services

## 54

## Underground Water Supply and Drainage

Site Services

<b>Location:</b>	Below-grade
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	50
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	46
<b>Planned Renewal Date:</b>	2062



**Description:** This item includes the below grade water supply, sanitary sewer, and perimeter drains.

**Condition:** This asset appears to be in reasonable condition.

**Comments:** Below-grade work can be costly, but life can be prolonged by proper maintenance. Allowances include cleaning and removal of debris from perimeter drains.

## 55

## Outdoor Lighting and Electrical

Site Services

<b>Location:</b>	Side grounds and balconies
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	40
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	36
<b>Planned Renewal Date:</b>	2052



**Description:** This item includes the exterior lighting fixtures and outlets at the building exterior and site grounds.

**Condition:** This asset appears to be in reasonable condition.

**Comments:** An allowance has been included for the renewal of this item.

## 56

## Water Features

Site Services

<b>Location:</b>	Site grounds
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	30
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	26
<b>Planned Renewal Date:</b>	2042



**Description:** This item includes the waterproof membrane at units 112, 115, and 116.

**Condition:** This asset appears to be in reasonable condition.

**Comments:** The reserve cost for this item includes the renewal of the waterproof membrane. An allowance has been included for renewals of the fountain pump motors.

## 57

## Fencing

Site Services

<b>Location:</b>	Building/parkade interiors
<b>Year Installed:</b>	2012
<b>Typical Service Life (yrs):</b>	30
<b>Effective Age (yrs):</b>	4
<b>Remaining Service Life (yrs):</b>	26
<b>Planned Renewal Date:</b>	2042



**Description:** This item includes the metal mesh fencing at parkade fans, bicycle storage areas, and common storage areas.

**Condition:** This asset appears to be in reasonable condition.

**Comments:** This item is typically robust. An allowance has been included for targeted repairs.



**Cosmo**  
**LIFE CYCLE RENEWAL COSTS**

Inflation Factor 3.0%  
Interest Rate 0.22%

RESERVE COMPONENTS BENCHMARK ANALYSIS	YEAR INSTALLED	TYPICAL LIFE (Yrs)	EFFECTIVE AGE (Yrs)	REMAINING LIFE (Yrs)	RENEWAL YEAR	CURRENT REPLACEMENT COST	FUTURE REPLACEMENT COST	CURRENT RESERVE FUND REQUIREMENT	FUTURE RESERVE FUND ACCUMULATION	FUTURE RESERVE FUND REQUIREMENT	ANNUAL RESERVE FUND ASSESSMENT	RESERVE FUND ASSESSMENT ALLOCATION
<b>BUILDING ENVELOPE AND STRUCTURE</b>												
1 Concrete Structure	2012	50	4	46	2062	292,700	1,140,079	23,416	25,907	1,114,172	23,043	3.99%
2 Guardrails	2012	30	4	26	2042	330,400	712,538	44,053	46,644	665,894	24,914	4.32%
3 Balcony/Eyebrow Membrane Assemblies	2012	15	4	11	2027	228,700	316,574	60,987	62,479	254,095	22,847	3.96%
4 Window Wall Assemblies	2012	30	4	26	2042	447,400	964,859	59,653	63,161	901,698	33,736	5.85%
5 Metal Panel Cladding	2012	50	4	46	2062	778,600	3,032,681	62,288	68,914	2,963,767	61,295	10.63%
6 Sliding Doors	2012	30	4	26	2042	198,500	428,083	26,467	28,023	400,060	14,968	2.59%
7 Swing Doors	2012	30	4	26	2042	213,900	461,295	28,520	30,197	431,098	16,129	2.80%
8 Service Doors	2012	50	4	46	2062	105,000	408,980	8,400	9,294	399,686	8,266	1.43%
9 Main Entrance Door Assembly	2012	40	4	36	2052	10,500	30,432	1,050	1,136	29,295	783	0.14%
10 Sealant	2012	10	4	6	2022	86,000	102,688	34,400	34,857	67,832	11,243	1.95%
11 Paint Coating	2012	10	4	6	2022	21,300	25,433	8,520	8,633	16,800	2,785	0.48%
12 Inverted Roof Assembly	2012	40	4	36	2052	190,600	552,412	19,060	20,629	531,783	14,211	2.46%
13 Roof Deck (City Loft)	2012	30	4	26	2042	86,800	187,192	11,573	12,254	174,938	6,545	1.13%
14 Roof Deck (Units)	2012	30	4	26	2042	42,600	91,871	5,680	6,014	85,857	3,212	0.56%
15 Below-grade Membrane	2012	50	4	46	2062	46,000	179,172	3,680	4,071	175,101	3,621	0.63%
16 Traffic Membrane	2012	20	4	16	2032	113,600	182,295	22,720	23,533	158,762	9,760	1.69%
17 Canopy	2012	30	4	26	2042	9,900	21,350	1,320	1,398	19,953	747	0.13%
18 Partition Walls	2012	30	4	26	2042	9,500	20,488	1,267	1,341	19,146	716	0.12%
<b>INTERIOR</b>												
19 Entry Doors	2012	50	4	46	2062	86,300	336,142	6,904	7,638	328,504	6,794	1.18%
20 Lobby	2012	25	4	21	2037	40,600	75,528	6,496	6,803	68,725	3,201	0.55%
21 Hallway, Stairwell, and Common Areas	2012	25	4	21	2037	152,000	282,765	24,320	25,469	257,296	11,985	2.08%
<b>CONVEYANCE</b>												
22 Elevator	2012	30	4	26	2042	472,500	1,018,989	63,000	66,704	952,285	35,629	6.18%
23 Elevator Cab Finishes	2012	30	4	26	2042	37,800	81,519	5,040	5,336	76,183	2,850	0.49%
<b>MECHANICAL</b>												
24 Parkade Gates	2012	30	4	26	2042	13,700	29,545	1,827	1,934	27,611	1,033	0.18%
25 Domestic Water Pipes	2012	30	4	26	2042	2,125,200	4,583,188	283,360	300,022	4,283,166	160,252	27.78%
26 Gas Pipes	2012	50	4	46	2062	3,200	12,464	256	283	12,181	252	0.04%
27 Sprinkler Pipes and Fire Components	2012	50	4	46	2062	68,900	268,369	5,512	6,098	262,270	5,424	0.94%
28 Steam Plant Components	2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
29 Hot Water Storage Tanks	2012	10	4	6	2022	18,900	22,568	7,560	7,660	14,907	2,471	0.43%
30 Hot Water Heater	2012	10	4	6	2022	10,500	12,538	4,200	4,256	8,282	1,373	0.24%
31 Miscellaneous Pumps	2012	10	4	6	2022	10,400	12,418	4,160	4,215	8,203	1,360	0.24%
32 Miscellaneous Mechanical Components	2012	20	4	16	2032	15,800	25,354	3,160	3,273	22,081	1,357	0.24%
33 CO Detectors	2012	20	4	16	2032	47,300	75,903	9,460	9,799	66,104	4,064	0.70%
34 Booster Pumps	2012	15	4	11	2027	15,200	21,040	4,053	4,153	16,888	1,518	0.26%
35 Draw Down Tanks	2012	15	4	11	2027	18,900	26,162	5,040	5,163	20,999	1,888	0.33%
36 Sump Pumps	2012	10	4	6	2022	22,100	26,389	8,840	8,957	17,431	2,889	0.50%
37 HVAC System	2012	20	4	16	2032	49,900	80,075	9,980	10,337	69,738	4,287	0.74%
38 Parkade Fans	2012	15	4	11	2027	26,300	36,405	7,013	7,185	29,220	2,627	0.46%
39 Garbage Compactor	2012	15	4	11	2027	23,600	32,668	6,293	6,447	26,221	2,358	0.41%
<b>ELECTRICAL</b>												
40 Service Distribution	2012	50	4	46	2062	93,700	364,966	7,496	8,293	356,672	7,377	1.28%
41 Power Distribution	2012	40	4	36	2052	173,800	503,721	17,380	18,811	484,910	12,958	2.25%
42 Enterphone System	2012	30	4	26	2042	31,500	67,933	4,200	4,447	63,486	2,375	0.41%
43 Security Access System and Cameras	2012	30	4	26	2042	31,500	67,933	4,200	4,447	63,486	2,375	0.41%
44 Fire Alarm Panel and Emergency Lighting	2012	20	4	16	2032	47,300	75,903	9,460	9,799	66,104	4,064	0.70%
45 Emergency Generator	2012	50	4	46	2062	63,000	245,388	5,040	5,576	239,812	4,960	0.86%
<b>SPECIALTY</b>												
46 Mailboxes	2012	35	4	31	2047	16,800	42,001	1,920	2,055	39,946	1,247	0.22%
47 Hot Tub	2012	15	4	11	2027	20,000	27,685	5,333	5,464	22,221	1,998	0.35%
48 Common Washrooms	2012	25	4	21	2037	21,000	39,066	3,360	3,519	35,547	1,656	0.29%
49 Bowling Alley	2012	20	4	16	2032	26,500	42,525	5,300	5,490	37,035	2,277	0.39%
50 Exercise Equipment	2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
51 Accessibility Lifts	2012	20	4	16	2032	75,900	121,797	15,180	15,723	106,074	6,521	1.13%
<b>SITE SERVICES</b>												
52 Softscaping	2012	50	4	46	2062	28,600	111,398	2,288	2,531	108,867	2,252	0.39%
53 Hardscaping	2012	50	4	46	2062	45,100	175,666	3,608	3,992	171,675	3,551	0.62%
54 Underground Water Supply and Drainage	2012	50	4	46	2062	25,500	99,324	2,040	2,257	97,067	2,007	0.35%
55 Outdoor Lighting and Electrical	2012	40	4	36	2052	65,700	190,417	6,570	7,111	183,306	4,898	0.85%
56 Water Features	2012	30	4	26	2042	27,000	58,228	3,600	3,812	54,416	2,036	0.35%
57 Fencing	2012	40	4	36	2052	8,100	23,476	810	877	22,599	604	0.10%
<b>RESERVE FUND PLANNING</b>												
Certified Reserve Fund Consultant	2016	3	1	3	2019	5,000	5,464	1,667	1,678	3,786	1,259	0.22%
<b>TOTAL RESERVES</b>						<b>7,277,100</b>	<b>18,181,340</b>	<b>988,981</b>	<b>1,046,099</b>	<b>17,135,241</b>	<b>576,848</b>	<b>100%</b>

**DEFINITIONS**

**RESERVE COMPONENTS:** Individual components within the major building systems. Note that some of these components were separated due to differences in installation dates. There may also be multiple renewals and smaller repairs included in the 30-year outlook. Minor components with insignificant renewal costs have either been combined with an allowance or not included in order to simplify financial analysis.

**YEAR INSTALLED:** Year the component was installed, which includes original construction or replacement. JRS assumes that all previously replaced components were new when installed, unless stated otherwise.

**EXPECTED LIFE:** Expected service life based on historical data and industry standards.

**EFFECTIVE AGE:** Assessed age of component. The default is the chronological age, but may be adjusted based on condition, location (exposure to weather and traffic), installation, maintenance, brand, model, etc.

**REMAINING LIFE:** Effective Age subtracted from Expected Life.

**RENEWAL YEAR:** Sum of current year and Remaining Life.

**CURRENT REPLACEMENT COST:** Cost to replace now, calculated as a product of Unit Measure and Unit Cost.

**FUTURE REPLACEMENT COST:** Cost to replace at expected date (including compounded inflation).

**CURRENT RESERVE FUND REQUIREMENT:** Amount needed in CRF now. What PRAs refer to as the FFB (Fully Funded Balance).

**FUTURE RESERVE FUND ACCUMULATION:** Amount of funds the Strata should have for this item if it met the current CRF requirements, given the CRF account's interest rate.

**FUTURE RESERVE FUND REQUIREMENT:** What the Strata's deficit or surplus will be when it is time to replace.

**ANNUAL RESERVE FUND ASSESSMENT:** This is derived from the standard "Future Value of an Annuity" formula. Essentially, this tells the Strata how much it needs to contribute each year to make sure this item is fully funded (i.e. no special levies, assessments or loans).

**RESERVE FUND ASSESSMENT ALLOCATION:** Allocated percentage of entire CRF.



## CONSIDERATIONS & LIMITATIONS

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The service life and estimated age of a specific reserve component is highly subjective. It should not be used for the exact timing of replacements, but as a relative timing to be used to assist in developing a financial plan. The exact timing of replacements will be influenced by several factors that are difficult to quantify. These factors include but are not limited to the following:

- ♦ Design appropriateness of reserve component
- ♦ Installation of reserve component
- ♦ Frequency and intensity of maintenance
- ♦ Frequency of use and misuse
- ♦ Exposure to traffic and weather
- ♦ Brand, quality, and model of reserve components
- ♦ Unplanned events such as earthquakes, floods and fires

It should be noted that economies of scale may be achieved if multiple projects are bundled together into larger projects, thus sharing front-end and mobilization costs.

The estimated costs should be considered as “order-of-magnitude” and used to allocate funds to undertake the work, not for accounting purposes. Actual costs will vary based on a variety of factors, which include but are not limited to the following:

- ♦ labour and materials market conditions
- ♦ time of the year
- ♦ contractor availability
- ♦ site-specific conditions
- ♦ environment concerns
- ♦ design specifications
- ♦ functional obsolescence
- ♦ project delivery method
- ♦ tendering process
- ♦ code upgrades
- ♦ required emergency repairs discovered during construction
- ♦ occupancy use and facility operations

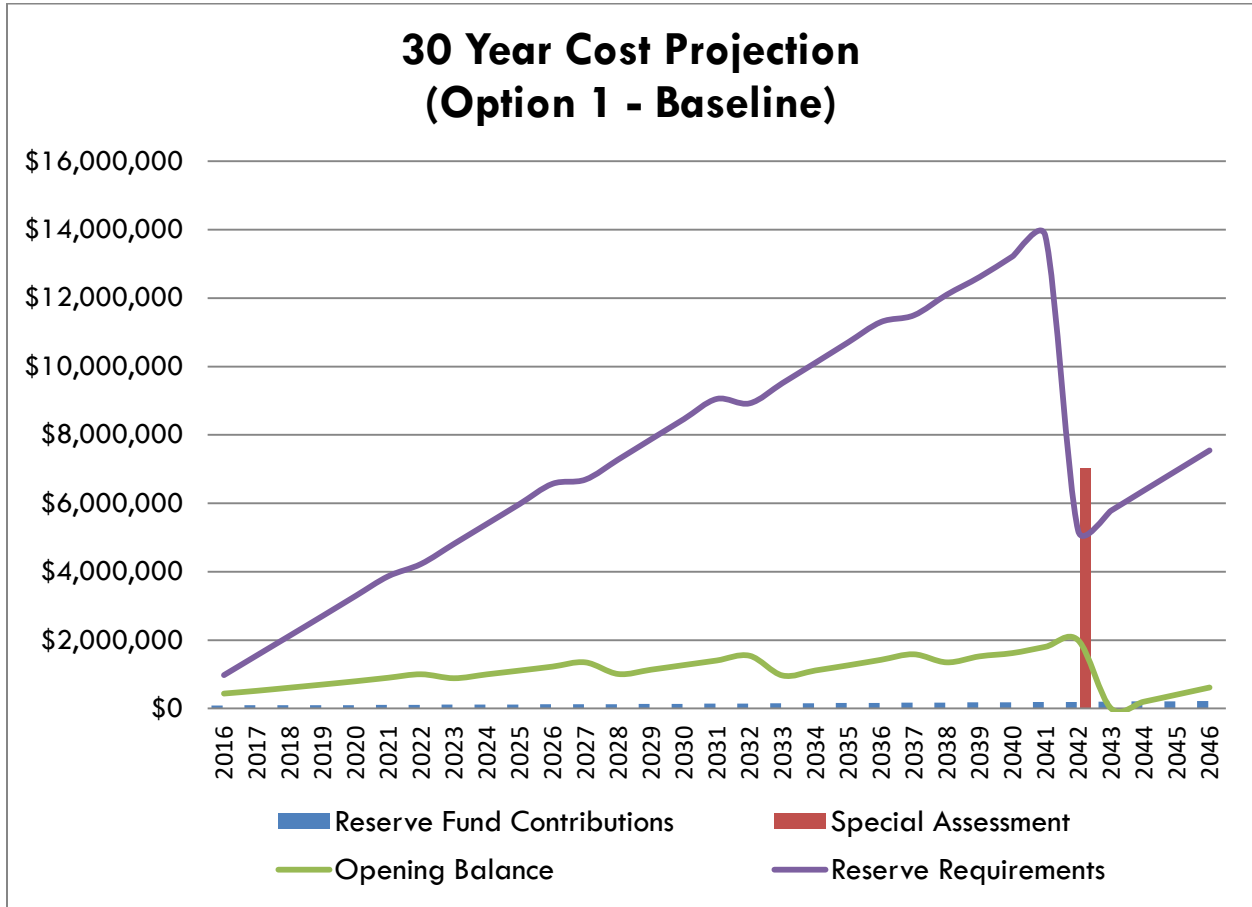
More accurate estimates can only be determined once the project objectives are specified and the work tendered. Project-related costs, such as consulting services, contingency allowances, front-end costs, all overhead and profit, have not been included.





### OPTION 1 (BASELINE)

This model shows annual contributions (increasing with inflation) consistent with status quo (current contributions) or the statutory requirement of 10% of operating budget, whichever is higher. In this case the former. As seen below, multiple special levies will be required. From 2016 to 2046 (the end of the 30-year outlook), special levies will theoretically be required in 1 out of 30 years.



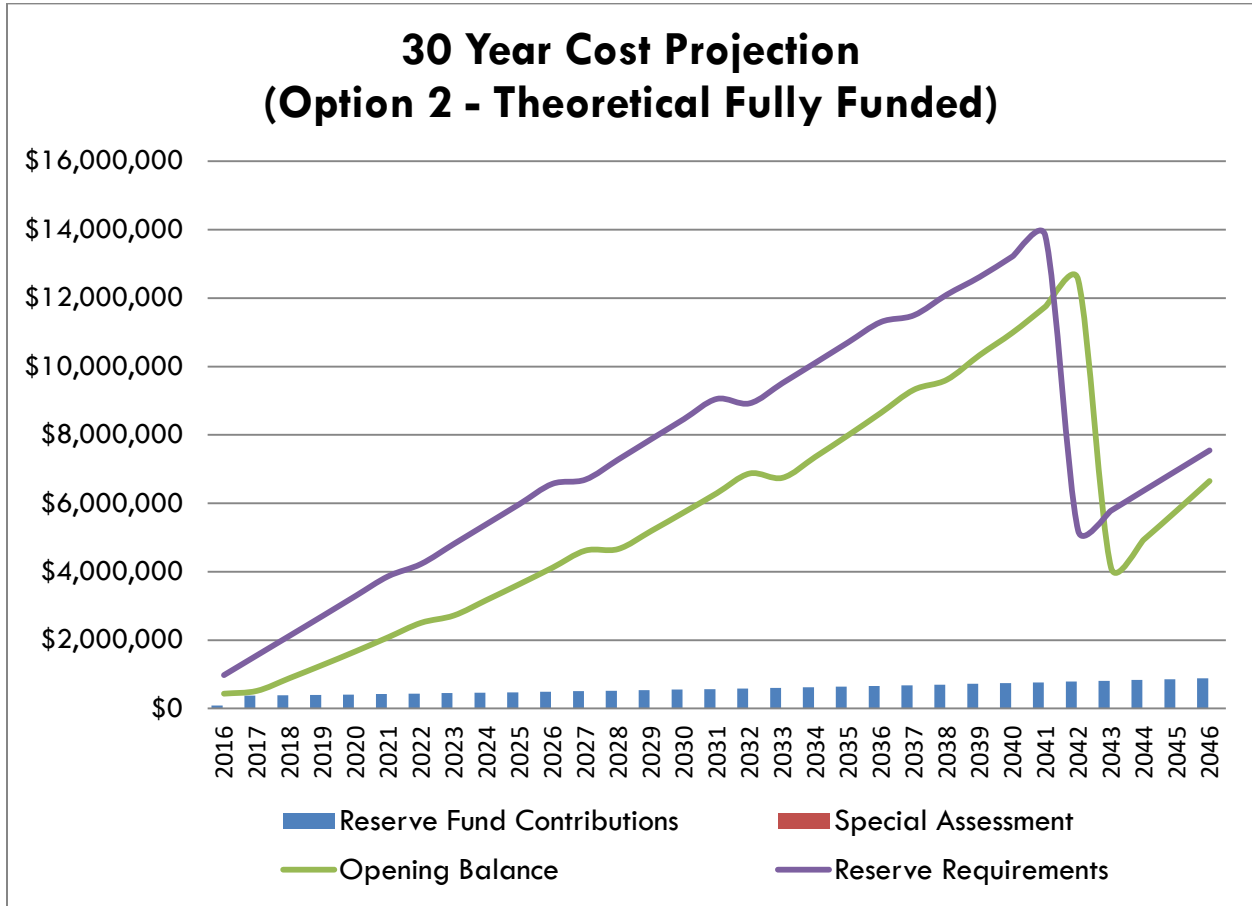




## OPTION 2 (THEORETICAL FULLY FUNDED)

This model shows annual contributions (increasing with inflation) that would allow for a sufficient and fully funded CRF that should theoretically not require special levies during the 30-year outlook. This contribution level is immediate and based on the objective of achieving a positive value in the accumulated CRF balance after 30 years.

Fully funded contributions are usually much higher than the amount the Owners are actually contributing to the CRF. Therefore, it is usually impractical and difficult to achieve this immediately.

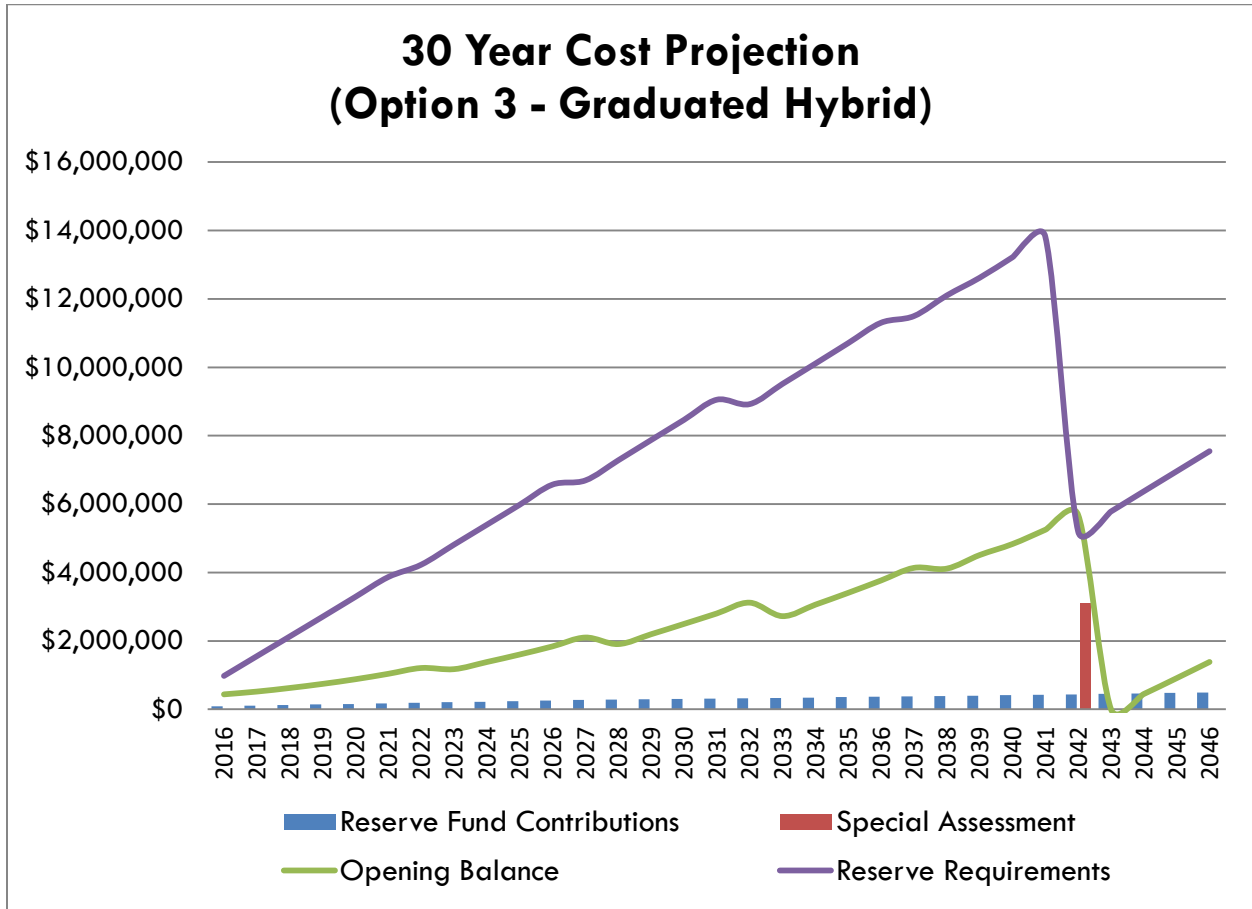






### OPTION 3 (GRADUATED HYBRID)

This model shows annual contributions that increase for twelve years until 2028. These increases can be revised during the 3 year updates based on a number of factors: actual CRF contributions, recent upgrades, anticipated short term expenditures, as well as current interest and inflation factors. This model generally indicates that eventually (12 years) the CRF contribution level achieves 50% of the fully funded contribution level (\$288,424) and is likely the most prudent option that the general Ownership would be willing to accept. The owners can ultimately revise the percent of annual increases and time it takes to get to this value.







**RESERVE FUND – CASH FLOW TABLE**

The Cash Flow Table presented below is for JRS' recommended Graduated Hybrid Funding Model. It demonstrates estimated cash flow over a 30-year period as the funding model is applied, including opening balance, of reserve fund contributions and expenditures as major components are expected to be replaced.

YEAR	OPENING BALANCE	RECOMMENDED ANNUAL CONTRIBUTION	SPECIAL ASSESSMENT	ESTIMATED INFLATION-ADJUSTED EXPENDITURES	ESTIMATED INTEREST EARNED 0.22%	% INCREASE IN RECOMMENDED ANNUAL CONTRIBUTIONS	CLOSING BALANCE
2016	433,762	90,332	-	10,000	954	--	515,048
2017	515,048	106,840	-	3,000	1,133	18.27%	620,021
2018	620,021	123,347	-	5,000	1,364	15.45%	739,732
2019	739,732	139,855	-	5,000	1,627	13.38%	876,215
2020	876,215	156,363	-	-	1,928	11.80%	1,034,505
2021	1,034,505	172,870	-	5,000	2,276	10.56%	1,204,651
2022	1,204,651	189,378	-	225,835	2,650	9.55%	1,170,845
2023	1,170,845	205,886	-	-	2,576	8.72%	1,379,307
2024	1,379,307	222,393	-	5,000	3,034	8.02%	1,599,734
2025	1,599,734	238,901	-	5,000	3,519	7.42%	1,837,155
2026	1,837,155	255,409	-	-	4,042	6.91%	2,096,605
2027	2,096,605	271,916	-	468,535	4,613	6.46%	1,904,599
2028	1,904,599	288,424	-	5,000	4,190	6.07%	2,192,214
2029	2,192,214	297,077	-	-	4,823	3.00%	2,494,113
2030	2,494,113	305,989	-	5,000	5,487	3.00%	2,800,589
2031	2,800,589	315,169	-	5,000	6,161	3.00%	3,116,919
2032	3,116,919	324,624	-	726,042	6,857	3.00%	2,722,358
2033	2,722,358	334,362	-	5,000	5,989	3.00%	3,057,709
2034	3,057,709	344,393	-	5,000	6,727	3.00%	3,403,830
2035	3,403,830	354,725	-	-	7,488	3.00%	3,766,043
2036	3,766,043	365,367	-	5,000	8,285	3.00%	4,134,696
2037	4,134,696	376,328	-	407,359	9,096	3.00%	4,112,761
2038	4,112,761	387,618	-	-	9,048	3.00%	4,509,427
2039	4,509,427	399,246	-	86,000	9,921	3.00%	4,832,594
2040	4,832,594	411,224	-	5,000	10,632	3.00%	5,249,449
2041	5,249,449	423,560	-	-	11,549	3.00%	5,684,558
2042	5,684,558	436,267	3,093,772	9,227,103	12,506	3.00%	0
2043	0	449,355	-	5,000	0	3.00%	444,355
2044	444,355	462,836	-	-	978	3.00%	908,169
2045	908,169	476,721	-	5,000	1,998	3.00%	1,381,888
2046	1,381,888	491,023	-	5,000	3,040	3.00%	1,870,950

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