



Depreciation Report

NW1803 – Blue Mountain Place

Absolute Building Science Strata Engineering Inc.



Cover Letter

Absolute Building Science
Strata Engineering Inc.
#234 - 5589 Byrne Road
Burnaby, BC V3J 3J4

November 15, 2016

Strata Plan NW1803
1177 Howie Avenue
Coquitlam, BC V3J 1T9

RE: Depreciation Report for Strata Plan NW1803
File No. 20160215-DR-NW1803

Dear Sirs or Mesdames,

The subject of this depreciation report consists of “Blue Mountain Place”, a 47-unit apartment complex constructed in 1982 and located at 1177 Howie Avenue in Coquitlam, BC. We are pleased to present you with the enclosed depreciation report, which we believe will serve as the basis of your reserve planning to help better equip your members for future expenditures.

The depreciation report describes the common property condition, and provides immediate and future replacement cost estimates. The replacement cost estimates serve as a basis for financial modeling and contingency reserve fund management. The depreciation report is a document prepared based on on-site inspections and financial analyses. The replacement cost estimates herein apply solely to property defined as common property, unless otherwise noted. This depreciation report is subject to the Assumptions and Limiting Conditions in Section 2.1. and to the Assumptions and Qualifications in Appendix C.

We have inspected the subject property and reviewed all documentations made available by the Strata Corporation. With extensive analyses performed in conjunction with all pertinent data, our cash flow models predict that the optimal reserve fund management includes the following:

- 1) Contributions of \$82,319 to the CRF in the upcoming fiscal year; and
- 2) An increase of monthly fee allocations to the Contingency Reserve Fund by \$119.42 per unit. (Note that this does not necessarily entail an increase in strata fees, but rather an increase in the allocations to the CRF within the annual budget.)

We are hereby delivering to you a report describing our study objectives, methods of research, results, and recommendations.



We appreciate the opportunity of compiling this depreciation report for you and would be honoured to provide you with reviews and updating services as required in future. If you have any questions, please do not hesitate to contact the undersigned.

Respectfully yours,

Absolute Building Science
Strata Engineering Inc.

Disclaimer: The work underlying this report was, by agreement with your strata council and in compliance with the provisions of the Act and Regulation, of limited scope. Given the constraints of the study, nature of building structures, future economic trends and a multitude of factors, there will always be uncertainty with respect to the assumptions underlying the remaining useful life of common property components, projected future expenditures, inflation and return on investments. This report cannot, and does not eliminate uncertainty regarding existing, or future defects in the common property, cost variations, unpredictable hazards, or losses in connection with the property. Neither physical testing nor verification of conformance with design parameters or building codes were performed, unless specifically noted. Given the limitations of the physical study undertaken, only conditions visibly apparent during examination of a representative sample of components have been considered in this report.



*NW1803 – Blue Mountain Place
1177 Howie Avenue
Coquitlam, BC*



Executive Summary

Property Statistics			
Municipal Address	1177 Howie Avenue, Coquitlam, BC		
Legal Description	Strata Plan NW1803		
Real Property Type	wood -frame apartment complex		
Units	47		
Year of Construction	1982		
Designated Land Use	Multi-family residential		
Reserve Fund Components	55 Components: Substructure – 2; Shell – 16; Interiors – 5; Services – 18; Equipment and Furnishings – 4; Special Construction and Demolition – 1; Site Improvements – 9		
Financial Statistics			
Date of Study	10/21/2016		
Critical Assumptions	The review is limited to readily accessible and visible building components and documents. Certain inaccessible, hidden problems may not be detected.		
Current Contingency Reserve Fund Balance	\$99,795		
Future Replacement Costs	First 10 years: \$992,801 Final 20 years: \$2,744,013		
CRF Contributions and Financial Strength Over 30-year Projection		Contributions	Financial Strength
	Current investment schedule:	\$463,977	14%
	Early investment schedule:	\$4,879,990	100%
	Delayed investment schedule:	\$4,554,888	91%
	Capped increase schedule:	\$2,351,792	59%
	Capped special levies schedule:	\$3,331,821	74%



Table of Contents

COVER LETTER.....	II
EXECUTIVE SUMMARY	V
TABLE OF CONTENTS	VI
1. INTRODUCTION.....	8
1.1 STRATA DEVELOPMENT	8
1.2 FINANCES.....	9
1.2.1 <i>Operating Fund</i>	9
1.2.2 <i>Contingency Reserve Fund</i>	9
1.2.3 <i>Special Levy</i>	10
1.2.4 <i>Legislation Governing the CRF</i>	10
1.2.4.1 Contributions	10
1.2.4.2 Expenditures	11
1.2.4.3 Investing the CRF	11
1.3 DEPRECIATION REPORTS.....	12
1.3.1 <i>Benefits of a Depreciation Report</i>	12
1.3.2 <i>Legislation Regarding the Depreciation Report</i>	13
1.4 OBJECTIVES	14
1.5 INTENDED USE.....	14
2. METHODS	15
2.1 ASSUMPTIONS AND LIMITATIONS.....	15
2.2 PHYSICAL ASSESSMENT	16
2.2.1 <i>Physical Inspection</i>	16
2.2.2 <i>Documentation Review</i>	16
2.2.3 <i>Inspection of Common Properties</i>	17
2.2.3.1 Common Property Classification.....	17
2.2.3.2 Reserve Component Inventory	17
2.2.4 <i>Remaining Useful Life Estimation</i>	17
2.3 FINANCIAL ASSESSMENT	19
2.3.1 <i>Future Replacement Cost Estimation</i>	19
2.3.2 <i>Projected Cash Flow</i>	19
2.3.2.1 Current CRF Levels.....	20
2.3.2.2 Special Levies.....	20



2.3.2.3	Investment Returns	20
2.3.2.4	CRF Contributions.....	20
2.3.2.5	Calculations	21
2.3.3	<i>Financial Strength</i>	21
2.3.3.1	Reserve Requirements	21
3.	RESULTS	22
3.1	BUILDING INFORMATION	22
3.2	RESERVE COMPONENTS INVENTORY	22
3.3	THIRTY-YEAR CASH FLOW MODELS	25
3.3.1	<i>Model 1: Current Investment Schedule</i>	25
3.3.2	<i>Model 2: Early Investment Schedule (Recommended)</i>	27
3.3.3	<i>Model 3: Delayed Investment Schedule</i>	29
3.3.4	<i>Model 4: Partially Funded Investment Schedule (Capped Increase)</i>	31
3.3.5	<i>Model 5: Partially Funded Investment Schedule (Capped Special Levies)</i>	33
4.	ANALYSIS	35
4.1	INVESTMENT SCHEDULE COMPARISON	35
5.	RECOMMENDATIONS.....	38
APPENDIX A – STRATA PROPERTY ACT		39
APPENDIX B – COMPONENT DATA SHEETS.....		44
APPENDIX C – ASSUMPTIONS AND QUALIFICATIONS		101
APPENDIX D – REPLACEMENT SCHEDULE.....		105



1. Introduction

1.1 Strata Development

A strata development divides land and buildings into parts for separate ownership with common features. The part of the property that an individual owns is known as the “strata lot”, whereas the remainder of the property is known as “common property”. Strata-titled properties, commonly known as condominiums, provide freehold ownership of a strata lot, together with the use of common property and facilities jointly owned with all strata units.

The strata development is administered by a Strata Corporation comprising of all owners within the strata development. The Strata Corporation is the decision-making body responsible for maintaining, managing, repairing, and insuring the common property and common assets. The Strata Corporation is also tasked with record-keeping responsibilities and must enforce its bylaws or rules.

The Strata Property Act¹ (the “Act”), bylaws, and Strata Plan of the corporation are the typical documents governing the operation of the Strata Corporation. They form the legal basis of the Strata Corporation and are generally enforceable in a court of law should the need arise.

As legislated within the Act, an executive body, known as a strata council, is elected annually by the strata owners to oversee the Strata Corporation during intervals between general meetings of all members. The strata council meets at regular intervals and makes decisions on behalf of and binding upon all owners for matters concerning the administration of the strata development that do not require the vote of the strata owners.

The strata council usually hires a strata manager or property manager for the management and maintenance of all common areas and facilities including the exterior of the buildings. The strata manager implements the decisions of the strata council, approves expenses, pays accounts according to the budget, administers the collection of monthly maintenance fees, and performs other like duties. In cases of self-managed stratas, the strata council directly oversees the management and maintenance of all common areas and facilities, assuming the duties of a strata manager.

¹ *Strata Property Act*, SBC 1998, c 43, as amended

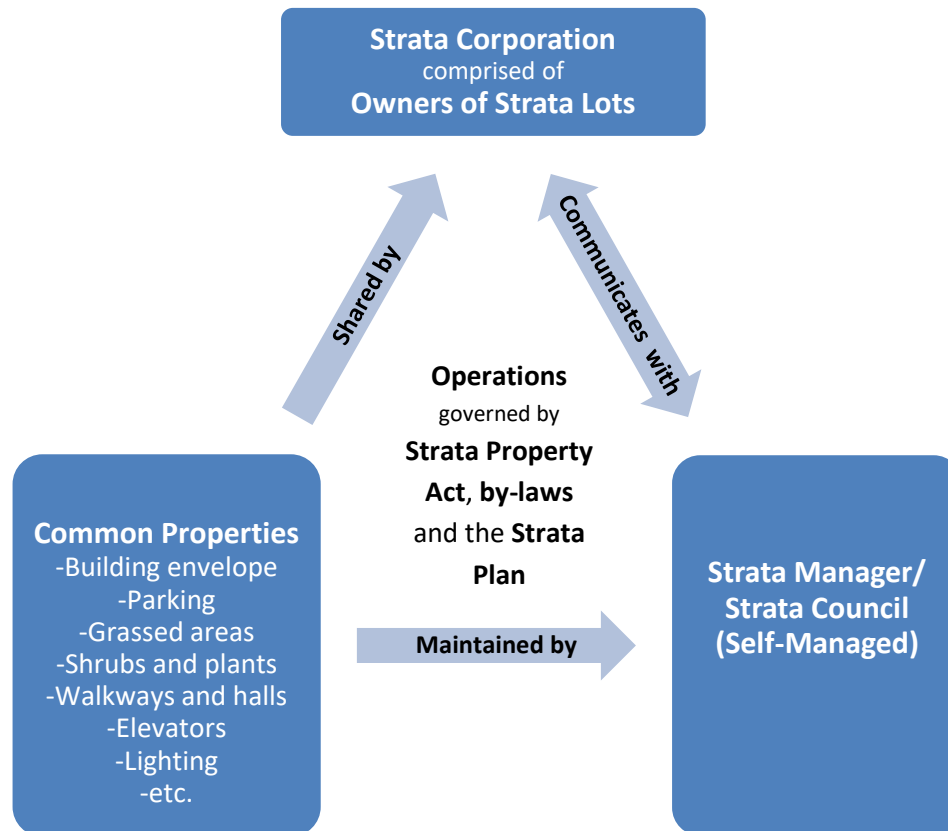


Figure 1: The strata community

1.2 Finances

In order to cover the costs of operating the strata, owners are assessed dues (termed maintenance fees or strata fees) for their proportionate share of the Strata Corporation's expenses based on their unit entitlement (a measure of the owner's allocated interest within the development). The strata fees are used to establish: 1) the operating fund, and 2) the contingency reserve fund.

1.2.1 Operating Fund

The operating fund is set up for expenses that relate to the common properties and common assets of the Strata Corporation that occurs at least once per year². These are normally recurring administrative expenses or costs that relate to the routine maintenance of the common properties. Operating expenses are not taken into consideration for the purposes of this report.

1.2.2 Contingency Reserve Fund

² Ibid



The contingency reserve fund (“**CRF**”) is a separate fund required by the Act to cover expenditures that occur less than once per year or do not usually occur³ (e.g. major repairs like roof repairs, machinery repairs, etc.). Budgeting for CRF expenditures and planning for adequate funding of the CRF is an important responsibility of the Strata Council. The CRF is required to be maintained in a separate account from the Operating Fund.

1.2.3 Special Levy

The Strata Corporation may raise money from the owners by means of a special levy for various reasons, the primary reason being that the CRF is insufficient to cover the Strata Corporation's existing or anticipated expenditures. A special levy must be approved by a resolution passed by a minimum 3/4 vote at an annual or special general meeting.

1.2.4 Legislation Governing the CRF

1.2.4.1 Contributions

Contributions to the CRF are approved in the annual budget by a majority vote of the owners and collected as a proportion of strata fees. Contributions to the CRF are not refundable to owners. Typically, the CRF may have contributions from current and previous strata lot owners. CRF contributions are based on the unit entitlement of each strata lot in the Strata Corporation.

Section 6.1 of the Strata Property Regulation (the "**Regulation**") sets out a formula for the purposes of determining the amount of the annual contribution to the CRF, as follows⁴:

6.1 ... the amount of the annual contribution to the CRF for a fiscal year, other than the fiscal year following the first annual general meeting, must be determined as follows:

(a) if the amount of money in the CRF at the end of any fiscal year after the first annual general meeting is less than 25% of the total amount budgeted for the contribution to the operating fund for the fiscal year that has just ended, the annual contribution to the CRF for the current fiscal year must be at least the lesser of

(i) 10% of the total amount budgeted for the contribution to the operating fund for the current fiscal year, and

(ii) the amount required to bring the CRF to at least 25% of the total amount budgeted for the contribution to the operating fund for the current fiscal year;

³ *Ibid*

⁴ *Strata Property Regulation*, BC Reg. 238/2011, s 6.1, as amended



(b) if the amount of money in the CRF at the end of any fiscal year after the first annual general meeting is equal to or greater than 25% of the total amount budgeted for the contribution to the operating fund for the fiscal year that has just ended, additional contributions to the CRF may be made as part of the annual budget approval process after consideration of the depreciation report, if any, obtained under section 94 of the Act.

1.2.4.2 Expenditures

Expenditures from the CRF must be consistent with the purpose of the CRF. The expenditure can be approved by a majority vote if it is necessary to obtain a depreciation report or is related to the repair, maintenance or replacement, as recommended by a depreciation report, of common property, common assets or portions of a strata lot for which the Strata Corporation has taken responsibility by bylaw. In almost all other expenditures, a $\frac{3}{4}$ vote is required for approval.

1.2.4.3 Investing the CRF

The CRF can be invested or held in insured accounts with savings institutions in British Columbia and in those investments permitted by Strata Property Regulation 6.11. The CRF must be accounted for separately from other monies held by the Strata Corporation or separate section and must include any interest or income earned on the CRF.

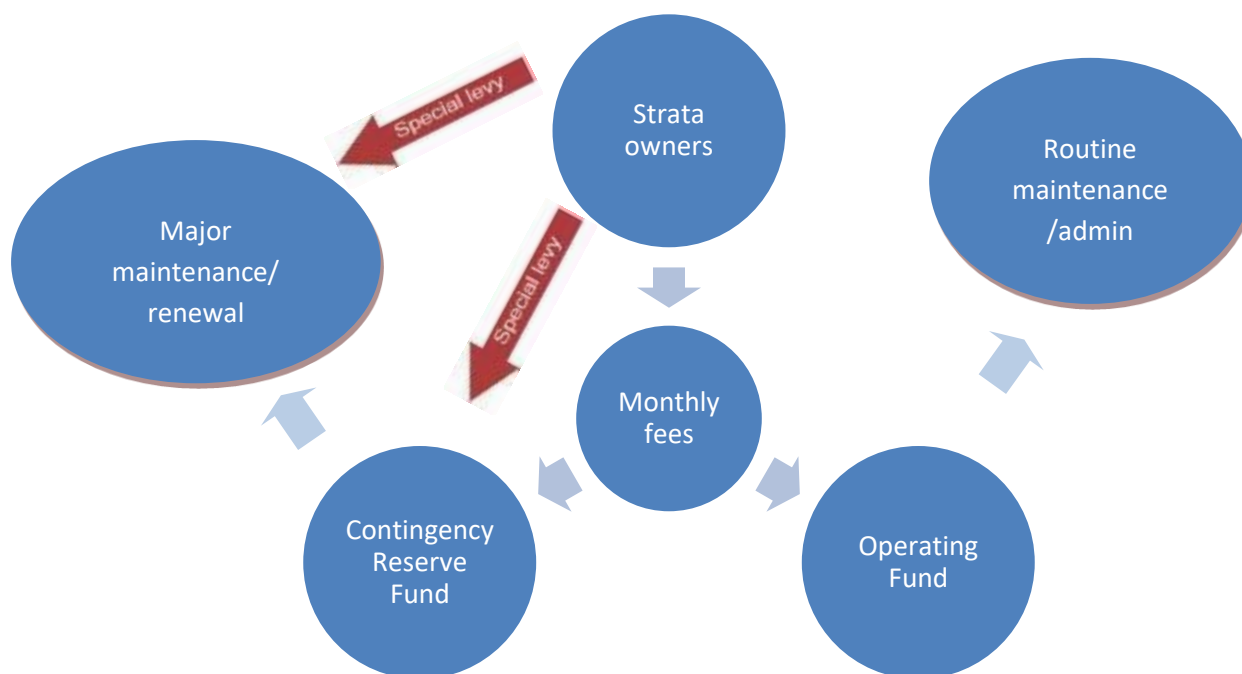


Figure 2: Financial structure of the strata community



1.3 Depreciation Reports

The depreciation report, also known as a reserve fund study, is a legislated planning requirement for Strata Corporations in British Columbia. Depreciation reports serve to guide and assist with long-term planning for CRF management. They are prepared after a thorough assessment of common properties and finances of the Strata Corporation, taking into account projected expenditures, replacement costs, and other factors.

Common properties for the purposes of a depreciation report include those items that comprise the common property, the common assets, the parts of a strata lot and/or limited common property that the Strata Corporation is responsible to maintain or repair under the Act⁵, and the Strata Corporation's bylaws or an agreement with an owner, including, but not limited to, the following items:

- the building's structure;
- the building's exterior, including roofs, roof decks, doors, windows and skylights;
- the building's systems, including the electrical, heating, plumbing, fire protection and security systems;
- common amenities and facilities;
- parking facilities and roadways;
- utilities, including water and sewage;
- landscaping, including paths, sidewalks, fencing and irrigation;
- interior finishes, including floor covering and furnishings;
- green building components; and
- balconies and patios.

1.3.1 Benefits of a Depreciation Report

Some important benefits to a well-prepared depreciation report are listed as follows:

- A. A depreciation report may assist the Strata Corporation in ensuring that the Strata Corporation complies with the Act. As discussed earlier, the Regulation⁶ set out certain thresholds for the management of the CRF. The depreciation report recommends different cash-flow models that will balance expenditures and corresponding special levies to assist the Strata Corporation with maintaining such compliance.

⁵ *Strata Property Act*, *supra* note 1

⁶ *Strata Property Regulation*, *supra* note 3



- B. A depreciation report presents various analysis and models illustrating the concept of reserve fund planning. It aids the strata in prioritizing capital replacement and maintenance expenditures, which may in turn optimize strata investments over time. The models underlying the analyses reflected in the depreciation report incorporate assumptions on return on investments, inflation, the accumulation of strata fee contributions, the timing and amount of special levies relative to the projected timing and future costs of major repairs and replacements.
- C. A depreciation report provides a measure of a strata's "financial strength" in the form of a ratio of the CRF to projected expenditures. Lending institutions, owners and prospective buyers, may look to the depreciation report to evaluate the likelihood, over time, of strata fee increases and special levies. Therefore, a depreciation report may assist in establishing credit, in personal financial planning, in appraising the value of a Strata Lot and in the negotiation of the purchase price of a Strata Lot.
- D. A depreciation report may assist the Strata Corporation with the preservation of the common property value through establishing a timely major maintenance and replacement schedule. It identifies the condition of major items of the common property of a Strata Corporation and their estimated future maintenance/replacement costs. It also provides preventative maintenance recommendations, which can guide the strata council with respect to maintenance and repair which may extend the component's useful life.
- E. A depreciation report may also identify risks to Strata Corporations, and potential expenditures not previously recognized, allowing for better planning. Many Strata Councils and Owners assume that their budgeted CRF contributions will adequately cover future expenditures. However, original estimates may be outdated, or may not account for modifications made since the complex was new.

1.3.2 Legislation Regarding the Depreciation Report

The depreciation report must be completed by a "qualified person" as defined in the Act⁷. It must be based upon on-site visual inspection, physical component inventory, summary of repairs and maintenance work on common property (for items that usually occur less than once per year or that do not usually occur), a financial forecasting section, and other information specified in the Regulation⁸. Beginning on December 13, 2012, a depreciation report is required to be obtained every 3 years by Strata Corporations consisting of more than 5 owners unless this requirement is waived by a $\frac{3}{4}$ vote at an annual or special general meeting. These details outlined within the Act⁹ can be found in Appendix A.

⁷ *Strata Property Act*, SBC 1998, c 43, s 94.1

⁸ *Strata Property Regulation*, BC Reg. 238/2011, s 6.2

⁹ *Strata Property Act*, SBC 1998, c 43, s 94



1.4 Objectives

This depreciation report can be used as a guide for establishing long term planning for management of common assets or properties listed in detail in Section 1.3. In this report we describe the following:

- Common properties the Strata Corporation owns;
- Condition of common properties in the Strata Corporation;
- Projected timeline for replacement or major maintenance and repairs of components of the common property of the Strata Corporation.
- Opening balance and projected balances of the CRF at year ends on various assumptions as set out in the report.
- Estimated current cost and inflation adjusted future cost of replacement or major maintenance and repairs of common property components.
- Five cash flow models projecting year by year for 30 years the funds available in the CRF relative to the projected future costs on various assumptions with respect to strata fee contributions to the CRF and special levies.

1.5 Intended Use

This depreciation report has been completed for the exclusive use of the council of the Strata Corporation, Strata Plan NW1803. No other party may rely on the report without explicit written approval of Strata Engineering. This depreciation report is subject to the assumptions and limiting conditions set out in Appendix C attached hereto.



2. Methods

A physical assessment and a financial assessment were first performed, providing information regarding the current status of the building. After determining the common properties, the data were used to generate different strategic plans.

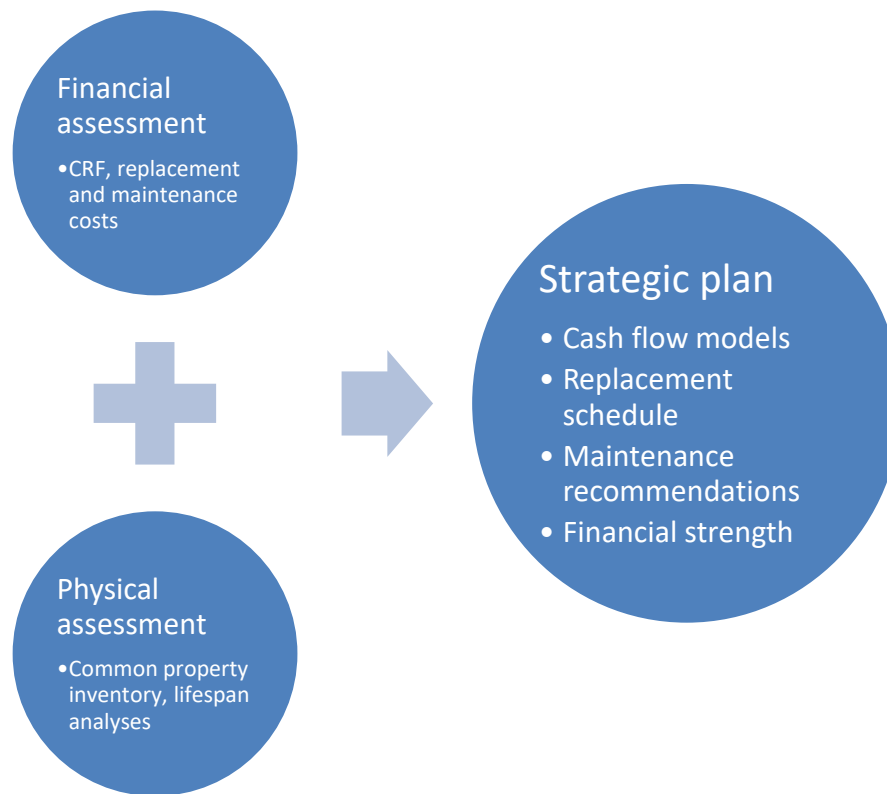


Figure 3: Formulation of the strategic plan

2.1 Assumptions and Limitations

This report contains recommendations based on information available for our review at the time of preparation. This is not a certification of compliance with past or present regulations. This depreciation report is to be read in its entirety and as a whole. No portion of this report can be severed or read independently of the other portions.

The work underlying this report was, by agreement with your strata council and in compliance with the provisions of the Act and Regulation, of limited scope. Given the constraints of the study, nature of building structures, future economic trends and a multitude of factors, there will always be uncertainty with respect to the assumptions underlying the remaining useful life of common property components, projected future expenditures, inflation and return on investments. This report cannot, and does not eliminate uncertainty regarding existing, or future defects in the common property, cost variations, unpredictable hazards, or losses in connection with the property.



Neither physical testing nor verification of conformance with design parameters or building codes were performed, unless specifically noted. Given the limitations of the physical study undertaken, only conditions visibly apparent during examination of a representative sample of components have been considered in this report.

Only specific information identified below has been reviewed. Absolute Building Science Strata Engineering (ABSSEI) is not obligated to identify mistakes, or insufficiencies in the information obtained from the various sources or to verify the accuracy of the information.

The depreciation report estimates are subjective and are provided for approximate budgeting purposes only. The report should only be relied upon for general guidance and planning of the Strata Corporation. The figures are calculated based on our educated understanding of life cycle of building components and comparative analyses of similar properties over time. Accurate replacement costs for building components can only be obtained after proper design and tendering processes, with scopes of work established and contractors' obligations identified. The estimated time frame for undertaking replacement or maintenance work represents our opinion at the time of report preparation and may vary based on real-time conditions. Failure of an item, or an optimum repair or replacement process, may vary from our estimates. Additional engineering investigations are required for more certainty in establishing the scope of work and replacement requirements.

In issuing this report, Strata Engineering does not assume any of the duties, or liabilities of the original designers, builders or owners of the subject property. Owners, prospective purchasers, tenants, or others who use, or rely on the contents of this report, do so with the understanding that Strata Engineering cannot be held liable for damages which may be suffered with respect to the purchase, ownership, or use of the subject property.

2.2 Physical Assessment

2.2.1 Physical Inspection

A site visit was performed by Gheorghe Piscociu, P. Eng. on 10/21/2016 at 1177 Howie Avenue in Coquitlam, BC.

2.2.2 Documentation Review

The following documents were reviewed upon availability from the Strata Corporation:

- Architectural plans
- Balance sheet (April 2016)
- Maintenance/Renovation history
- Council Meeting minutes (2013-2016)



2.2.3 Inspection of Common Properties

2.2.3.1 Common Property Classification

Within this report, we classified the common properties assets according to the Uniformat II¹⁰ system, specified by the National Institute of Standards and Technology. The Uniformat II system is organized into seven major building component divisions, with a letter assigned to each specific division. The building components inspected are classified into the following divisions¹¹ (examples of such components are indicated below):

1. **Substructure:** Slab on grade, underground garage and basement structures
2. **Shell:** Roof construction, exterior walls, exterior windows, balconies etc.
3. **Interiors:** Wall finishes, floor finishes, stairs, partitions etc.
4. **Services:** Elevators and lifts, HVAC, fire protection etc.
5. **Equipment and furnishings:** Commercial, institutional equipment, furniture etc.
6. **Special construction and demolition:** Special structures, integrated construction, special facilities etc.
7. **Site improvements:** Paving, landscaping, sewers etc.

2.2.3.2 Reserve Component Inventory

The reserve component inventory was compiled following the inspection and included in Section 3.2. It lists all common properties inspected, along with their quantities and life cycle indices.

2.2.4 Remaining Useful Life Estimation

The method of estimating the remaining useful life of common properties first necessitates the determination of their physical condition. The chronological age of any asset may not equate to its effective age. Some assets' lifetimes may have been prolonged by continued maintenance whereas others might have undergone rapid deterioration due to unforeseen circumstances or neglect.

In this depreciation report, the effective age of a common property is estimated via documentation review, discussion with facility representatives, and visual inspection. The total useful life is estimated based on industry standards of comparative improvements. The remaining useful life is thus represented by the following equation:

$$\text{Remaining useful life} = \text{Estimated useful life} - \text{Effective age}$$

¹⁰ ASTM Uniformat II for Building Elements (E1557-97)

¹¹ Components belonging to certain divisions may not be inspected due to accessibility issues.



No destructive testing was carried out on any of the common properties, nor were the common properties disassembled or subjected to confirmation of functionality.



2.3 Financial Assessment

Over the life of every building, owners contribute towards operating, maintenance, and renewal costs of capital assets. Occasionally, more comprehensive rehabilitation costs are also incurred.

The financial assessment identifies the following:

- The current replacement costs of the common properties and their future replacement costs;
- The status of the current CRF balance and how it is impacted by ongoing CRF requirements; and
- The ability of the current budget to meet major maintenance renewal needs.

This depreciation report is primarily concerned with costs of building upkeep. Expenditures such as legal consultation fees and unforeseen emergency expenses are not included.

2.3.1 Future Replacement Cost Estimation

The future replacement cost estimation is performed using the current replacement cost compounded by an average inflation rate across the remaining useful life of the components. Replacement costs were estimated based on the cost data service provided by RSMeans Online¹² and our database collected over time. Inflation measurement in this depreciation report is based on construction indices rather than the widely quoted Consumer Price Index (CPI), which measures consumer goods. An average inflation rate was calculated based on changes in construction price index over a period of 25 years from 1990 to 2015. From the analysis, the inflation rate was found to be 2.6%.

2.3.2 Projected Cash Flow

The projected cash flow predicts how well the CRF would be able to cover necessary replacement costs over the next 30 years. There are five cash flow models presented here for your reference.

Model 1 (Current investment schedule): This model maintains the current method of funding the CRF and estimates future special levies based on current CRF contributions. This method has the effect of deferring the funding of replacement costs for your common properties to the date when such replacement is required, resulting in larger special levies and greater future financial burden.

¹² www.rsmeansonline.com



Model 2 (Early investment schedule): This model increases current CRF contributions rapidly over the next three years, such that no special levies will be required over the 30-year projection. Depending on interest rates, this method potentially allows for the greatest investment returns, maximizing financial strength.

Model 3 (Delayed investment schedule): This model increases current CRF contributions over a period of five years, such that the sum of all special levies required over the 30-year projection will be kept at \$350,000 or less. This method still allows for a reasonable return on investment while maintaining financial strength.

Model 4 (Partially funded investment schedule – capped increase): This model increases current CRF contributions by a maximum of 250% in the next year. For the remaining 30-year projection, CRF contributions are increased annually by the current inflation rate.

Model 5 (Partially funded investment schedule – capped special levies): This model increases current CRF contributions over the next three years, such that the sum of all special levies for the 30-year projection is kept at \$1,00,000 or less. For the remaining 30-year projection, CRF contributions are increased annually by the current inflation rate.

2.3.2.1 Current CRF Levels

Current CRF level is defined as the opening balance of the reserve account beginning the year in which the study took place. In this case, it is \$99,795 beginning in April 2016. In cases where reserve accounts are unavailable, the current CRF level is calculated by summing the total amount of funds set aside for major replacement or repairs beginning the year during which the inspection is performed.

2.3.2.2 Special Levies

The Strata Corporation may raise money from the owners by means of a special levy for various reasons, the primary reason being that the CRF is insufficient to cover the Strata Corporation's existing or anticipated expenditures. A special levy must be approved by a resolution passed by a minimum 3/4 vote at an annual or special general meeting.

Within this report, special levies are calculated as the amount of money required to cover the shortfalls in the CRF after anticipated expenditures.

2.3.2.3 Investment Returns

For this report, the Strata Corporation's funds are placed with a savings account. Hence, investment returns are estimated to be 1.00% based on historical rates and current rates.

2.3.2.4 CRF Contributions



CRF contributions with all our cash flow models except the current model are set based on different calculations tailored to different scenarios.

2.3.2.5 Calculations

The closing balance for a given year was calculated as follows:

Closing balance

$$= (CRF \text{ opening balance} + CRF \text{ contributions} + \text{investment returns} + \text{Special levies}) - \text{Replacement expenses}$$

2.3.3 Financial Strength

For this depreciation report, the analysis is performed primarily based upon the CRF of the Strata Corporation, and not accounting for operating expenses that are paid through the operating fund. Thus, the financial strength of the Strata Corporation is the proportion of replacement or maintenance expenses that can be covered by the CRF contributions and investment returns. The optimal CRF with maximized financial strength would be able to cover all expenses at any given time, resulting in no special levies over a specified period.

2.3.3.1 Reserve Requirements

Insufficiency in this depreciation report is determined by the percent of replacement expenses covered by special levies, given by the following formula:

$$\% \text{ Insufficiency} = \frac{\text{Special levies}}{\text{Replacement expenses}} \times 100\%$$

Financial strength in this depreciation report is expressed in the following formula:

$$\% \text{ Financial strength} = 100\% - \frac{\text{Total special levies}}{\text{Total replacement expenses}}$$

Hence, 100% strength means that no special levies are needed (insufficiency is 0%).



3. Results

3.1 Building Information

The building investigated was a 47-unit apartment complex built in 1982 for residential purposes. The key statistics of the building are presented in Table 1 below.

Table 1: Property statistics

Blue Mountain Place	
Municipal Address: Legal description	1177 Howie Avenue, Coquitlam, BC Strata Plan NW1803
Real property type	wood -frame apartment complex
Units	47
Year of Construction	1982
Designated land use	Multi-family residential
Reserve fund components	55 Components: Substructure – 2; Shell – 16; Interiors – 5; Services – 18; Equipment and Furnishings – 4; Special Construction and Demolition – 1; Site Improvements – 9

3.2 Reserve Components Inventory

The identified components were grouped into major categories according to the Unifomat II system. The schedule of common property components can be found on the next page. Detailed descriptions can be found in Appendix B (reserve component data sheets) and the major replacement schedule regarding the components can be found in Appendix D. The reserve components included within this budget is listed in the following table.



Table 2: Reserve Components

Components	Estimated Useful Life (years)	Effective Age (years)	Remaining Useful Life (years)
Underground structure	Building life	34	Building life
Waterproofing membrane	35	34	1
Balcony flooring	25	7	18
Patio flooring	Building life	34	Building life
Cladding	30	20	10
Cladding	45	35	10
Balcony railings	25	7	18
Balcony soffits	50	7	43
Exterior painting	10	5	5
Exterior windows	35	30	5
Caulking	10	5	5
Main entrance doors	30	4	26
Egress doors	30	18	12
Garage doors	50	33	17
Patio and balcony doors	30	18	12
Roofing	20	10	10
Roofing	25	6	19
Gutters and downspouts	30	25	5
Service doors	50	34	16
Unit entry doors	50	34	16
Interior stairs	35	32	3
Flooring finishes	15	12	3
Wall and ceiling finishes	10	3	7
Elevator cab	25	4	21
Elevator machinery	30	23	7
Domestic cold and hot water distribution system	Building life	4	Building life
Domestic water storage	20	3	17
Sanitary waste drainage	Building life	34	Building life
Rain water drainage	Building life	34	Building life
Boilers	35	27	8
Boilers	35	14	21
Pool water circulation system	Contingency	12	Contingency
Hot water heating distribution system	Building life	34	Building life
Exhaust and ventilating system	20	18	2
Exhaust and ventilating system	30	28	2
Exhaust and ventilating system	20	18	2
Sprinkler system	Building life	34	Building life



Components	Estimated Useful Life (years)	Effective Age (years)	Remaining Useful Life (years)
Fire alarm system	Contingency	N/A	Contingency
Electrical power distribution	Building life	34	Building life
Intercom system	25	23	2
Exit and emergency lights	Contingency	N/A	Contingency
Laundry room	Contingency	0	Contingency
Interior light fixtures	Contingency	N/A	Contingency
Lobby area	Contingency	N/A	Contingency
Interior lighting fixtures	Contingency	N/A	Contingency
Exterior lighting fixtures	Contingency	N/A	Contingency
Pool building	Contingency	N/A	Contingency
Exterior pedestrian walkway	Building life	34	Building life
Site wood works	23	20	3
Site wood works - painting	8	5	3
Retaining wall	Building life	34	Building life
Pool lining	25	23	2
Pool decking	Contingency	24	Contingency
Property signage, appurtenances	Contingency	N/A	Contingency
Landscaping	Building life	34	Building life
Site lighting	Contingency	N/A	Contingency



3.3 Thirty-Year Cash Flow Models

Cash flow models allow you to tailor your budget to suit your own needs or financial abilities. We have provided five distinct cash flow models for the estimation of CRF contributions and special levies not accounting for preventive maintenance. In each of these models, calculations are based on the 2013 CRF opening balance of \$99,795. In order to satisfy legal requirements, special levies are assessed to ensure the minimum closing balance of the CRF is 25% of the operating budget, or where there is a shortfall in covering replacement or repair expenses. In this case, the operating budget is \$157,995 for 2016/2017 and in each subsequent year, the operating budget is estimated to increase 2.0% to account for inflation.

3.3.1 Model 1: Current Investment Schedule

In the current investment schedule, an annual CRF contribution \$14,967 (as noted in the annual budget for 2016) is kept constant over the 30-year projection. Over the 30-year projection, twenty-eight special levies, ranging from \$966 to \$636,897 are expected to be required to cover all replacement expenses. An investment return of \$17,956 is obtained.

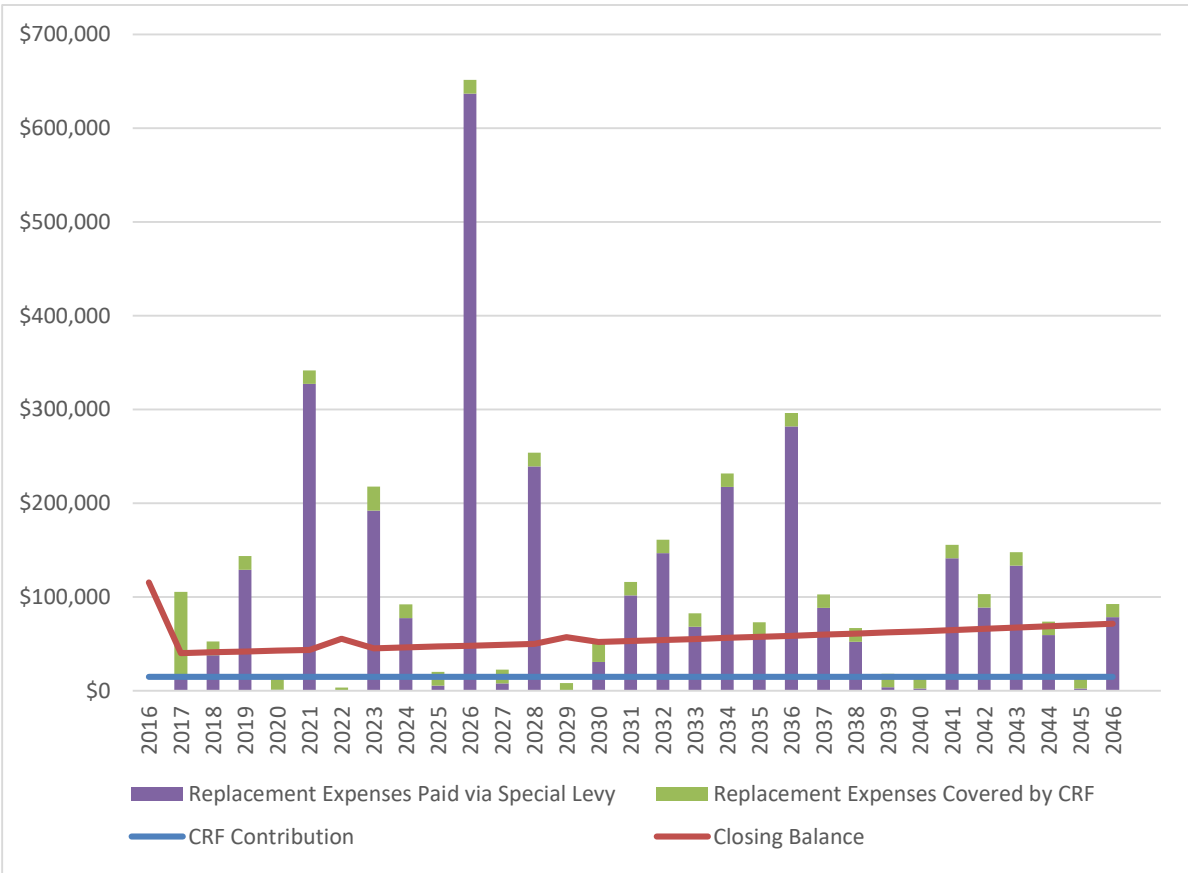


Figure 4: 30-year projection of CRF cash flow using current investment schedule



Table 3: Cash flow table for CRF with current investment schedule

Year	Opening balance	CRF contributions	Contribution changes	Investment returns	Replacement expenses	Special levies	Closing balance
2016	\$99,795	\$14,967		\$997.95	\$0	\$0	\$115,760
2017	\$115,760	\$14,967	0%	\$1,158	\$105,678	\$14,082	\$40,289
2018	\$40,289	\$14,967	0%	\$403	\$52,634	\$38,070	\$41,094
2019	\$41,094	\$14,967	0%	\$411	\$143,646	\$129,090	\$41,916
2020	\$41,916	\$14,967	0%	\$419	\$15,514	\$966	\$42,755
2021	\$42,755	\$14,967	0%	\$428	\$341,753	\$327,214	\$43,610
2022	\$43,610	\$14,967	0%	\$436	\$3,499	\$0	\$55,513
2023	\$55,513	\$14,967	0%	\$555	\$217,823	\$192,159	\$45,372
2024	\$45,372	\$14,967	0%	\$454	\$92,096	\$77,583	\$46,279
2025	\$46,279	\$14,967	0%	\$463	\$20,158	\$5,654	\$47,205
2026	\$47,205	\$14,967	0%	\$472	\$651,392	\$636,897	\$48,149
2027	\$48,149	\$14,967	0%	\$481	\$22,546	\$8,061	\$49,112
2028	\$49,112	\$14,967	0%	\$491	\$253,910	\$239,434	\$50,094
2029	\$50,094	\$14,967	0%	\$501	\$8,377	\$0	\$57,185
2030	\$57,185	\$14,967	0%	\$572	\$51,566	\$30,960	\$52,118
2031	\$52,118	\$14,967	0%	\$521	\$116,101	\$101,656	\$53,160
2032	\$53,160	\$14,967	0%	\$532	\$161,189	\$146,754	\$54,223
2033	\$54,223	\$14,967	0%	\$542	\$82,767	\$68,343	\$55,308
2034	\$55,308	\$14,967	0%	\$553	\$231,742	\$217,328	\$56,414
2035	\$56,414	\$14,967	0%	\$564	\$73,285	\$58,882	\$57,542
2036	\$57,542	\$14,967	0%	\$575	\$296,248	\$281,857	\$58,693
2037	\$58,693	\$14,967	0%	\$587	\$102,860	\$88,480	\$59,867
2038	\$59,867	\$14,967	0%	\$599	\$66,838	\$52,470	\$61,064
2039	\$61,064	\$14,967	0%	\$611	\$18,046	\$3,690	\$62,286
2040	\$62,286	\$14,967	0%	\$623	\$16,664	\$2,320	\$63,531
2041	\$63,531	\$14,967	0%	\$635	\$155,775	\$141,443	\$64,802
2042	\$64,802	\$14,967	0%	\$648	\$103,302	\$88,983	\$66,098
2043	\$66,098	\$14,967	0%	\$661	\$147,983	\$133,677	\$67,420
2044	\$67,420	\$14,967	0%	\$674	\$73,863	\$59,570	\$68,768
2045	\$68,768	\$14,967	0%	\$688	\$16,841	\$2,562	\$70,144
2046	\$70,144	\$14,967	0%	\$701	\$92,717	\$78,452	\$71,547



3.3.2 Model 2: Early Investment Schedule (Recommended)

In the early investment schedule, contributions to the initial opening balance in the CRF increase 450%, 75%, and 15% respectively over the next three years. Over the 30-year projection, no special levies are expected to be required. An investment return of \$150,097 is obtained.

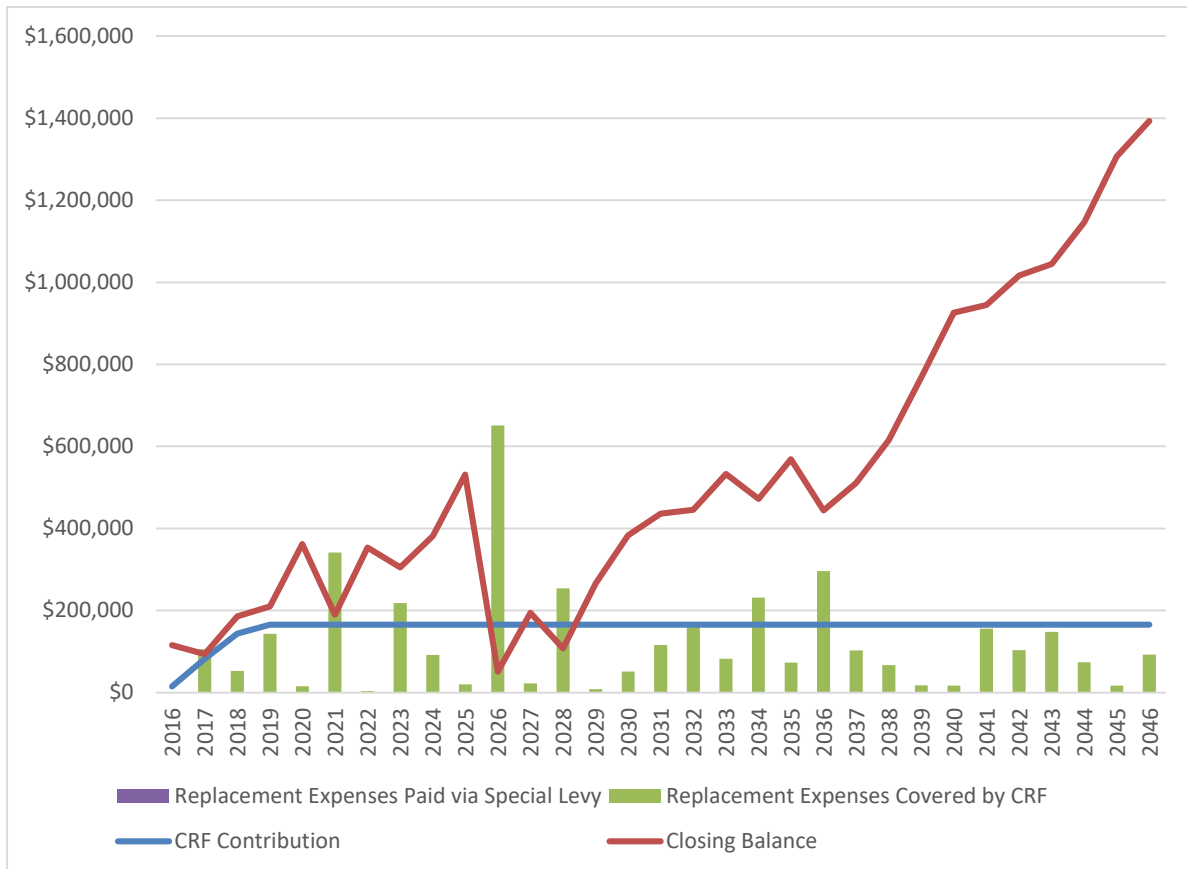


Figure 5: 30-year projection of CRF cash flow using early investment schedule



Table 4: Cash flow table for CRF with early investment schedule

Year	Opening balance	CRF contributions	Contribution changes	Investment returns	Replacement expenses	Special levies	Closing balance
2016	\$99,795	\$14,967		\$998	\$0	\$0	\$115,760
2017	\$115,760	\$82,319	450%	\$1,158	\$105,678	\$0	\$93,558
2018	\$93,558	\$144,057	75%	\$936	\$52,634	\$0	\$185,917
2019	\$185,917	\$165,666	15%	\$1,859	\$143,646	\$0	\$209,796
2020	\$209,796	\$165,666	0%	\$2,098	\$15,514	\$0	\$362,046
2021	\$362,046	\$165,666	0%	\$3,620	\$341,753	\$0	\$189,579
2022	\$189,579	\$165,666	0%	\$1,896	\$3,499	\$0	\$353,642
2023	\$353,642	\$165,666	0%	\$3,536	\$217,823	\$0	\$305,022
2024	\$305,022	\$165,666	0%	\$3,050	\$92,096	\$0	\$381,642
2025	\$381,642	\$165,666	0%	\$3,816	\$20,158	\$0	\$530,966
2026	\$530,966	\$165,666	0%	\$5,310	\$651,392	\$0	\$50,550
2027	\$50,550	\$165,666	0%	\$506	\$22,546	\$0	\$194,176
2028	\$194,176	\$165,666	0%	\$1,942	\$253,910	\$0	\$107,874
2029	\$107,874	\$165,666	0%	\$1,079	\$8,377	\$0	\$266,242
2030	\$266,242	\$165,666	0%	\$2,662	\$51,566	\$0	\$383,004
2031	\$383,004	\$165,666	0%	\$3,830	\$116,101	\$0	\$436,398
2032	\$436,398	\$165,666	0%	\$4,364	\$161,189	\$0	\$445,239
2033	\$445,239	\$165,666	0%	\$4,452	\$82,767	\$0	\$532,590
2034	\$532,590	\$165,666	0%	\$5,326	\$231,742	\$0	\$471,840
2035	\$471,840	\$165,666	0%	\$4,718	\$73,285	\$0	\$568,940
2036	\$568,940	\$165,666	0%	\$5,689	\$296,248	\$0	\$444,047
2037	\$444,047	\$165,666	0%	\$4,440	\$102,860	\$0	\$511,293
2038	\$511,293	\$165,666	0%	\$5,113	\$66,838	\$0	\$615,234
2039	\$615,234	\$165,666	0%	\$6,152	\$18,046	\$0	\$769,006
2040	\$769,006	\$165,666	0%	\$7,690	\$16,664	\$0	\$925,698
2041	\$925,698	\$165,666	0%	\$9,257	\$155,775	\$0	\$944,846
2042	\$944,846	\$165,666	0%	\$9,448	\$103,302	\$0	\$1,016,659
2043	\$1,016,659	\$165,666	0%	\$10,167	\$147,983	\$0	\$1,044,509
2044	\$1,044,509	\$165,666	0%	\$10,445	\$73,863	\$0	\$1,146,757
2045	\$1,146,757	\$165,666	0%	\$11,468	\$16,841	\$0	\$1,307,049
2046	\$1,307,049	\$165,666	0%	\$13,070	\$92,717	\$0	\$1,393,068



3.3.3 Model 3: Delayed Investment Schedule

In the delayed investment schedule, the CRF contributions to an initial opening balance of \$99,795 are phased in over a period of five years at increases of 62% per year. Over the 30-year projection, five special levies are expected to be required, ranging from \$4,838 to \$150,351. An investment return of \$136,411 is obtained.

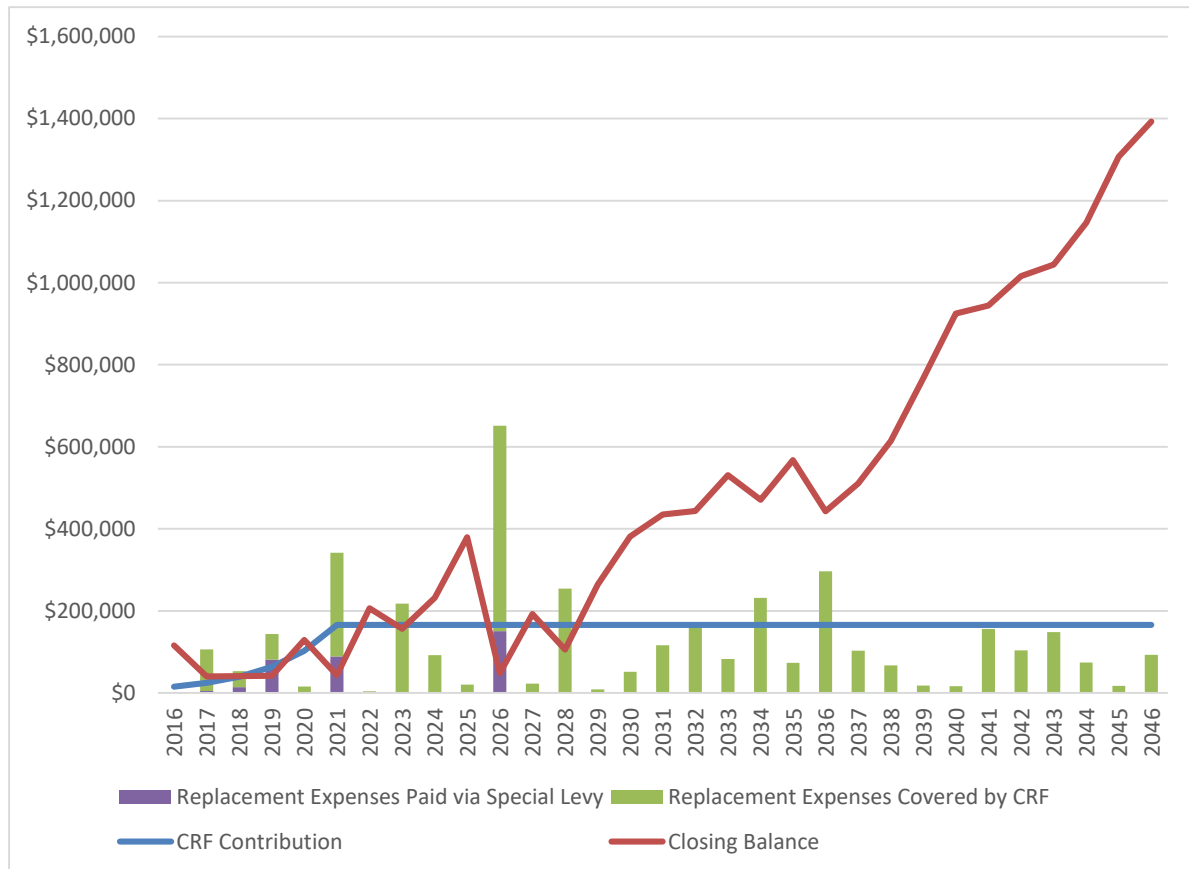


Figure 6: 30-year projection of CRF cash flow using delayed investment schedule



Table 5: Cash flow table for CRF with delayed investment schedule

Year	Opening balance	CRF contributions	Contribution changes	Investment returns	Replacement expenses	Special levies	Closing balance
2016	\$99,795	\$14,967		\$998	\$0	\$0	\$115,760
2017	\$115,760	\$24,212	62%	\$1,158	\$105,678	\$4,838	\$40,289
2018	\$40,289	\$39,166	62%	\$403	\$52,634	\$13,871	\$41,094
2019	\$41,094	\$63,358	62%	\$411	\$143,646	\$80,699	\$41,916
2020	\$41,916	\$102,491	62%	\$419	\$15,514	\$0	\$129,313
2021	\$129,313	\$165,796	62%	\$1,293	\$341,753	\$88,961	\$43,610
2022	\$43,610	\$165,796	0%	\$436	\$3,499	\$0	\$206,342
2023	\$206,342	\$165,796	0%	\$2,063	\$217,823	\$0	\$156,379
2024	\$156,379	\$165,796	0%	\$1,564	\$92,096	\$0	\$231,643
2025	\$231,643	\$165,796	0%	\$2,316	\$20,158	\$0	\$379,598
2026	\$379,598	\$165,796	0%	\$3,796	\$651,392	\$150,351	\$48,149
2027	\$48,149	\$165,796	0%	\$481	\$22,546	\$0	\$191,880
2028	\$191,880	\$165,796	0%	\$1,919	\$253,910	\$0	\$105,685
2029	\$105,685	\$165,796	0%	\$1,057	\$8,377	\$0	\$264,161
2030	\$264,161	\$165,796	0%	\$2,642	\$51,566	\$0	\$381,032
2031	\$381,032	\$165,796	0%	\$3,810	\$116,101	\$0	\$434,537
2032	\$434,537	\$165,796	0%	\$4,345	\$161,189	\$0	\$443,490
2033	\$443,490	\$165,796	0%	\$4,435	\$82,767	\$0	\$530,953
2034	\$530,953	\$165,796	0%	\$5,310	\$231,742	\$0	\$470,316
2035	\$470,316	\$165,796	0%	\$4,703	\$73,285	\$0	\$567,531
2036	\$567,531	\$165,796	0%	\$5,675	\$296,248	\$0	\$442,754
2037	\$442,754	\$165,796	0%	\$4,428	\$102,860	\$0	\$510,118
2038	\$510,118	\$165,796	0%	\$5,101	\$66,838	\$0	\$614,176
2039	\$614,176	\$165,796	0%	\$6,142	\$18,046	\$0	\$768,068
2040	\$768,068	\$165,796	0%	\$7,681	\$16,664	\$0	\$924,880
2041	\$924,880	\$165,796	0%	\$9,249	\$155,775	\$0	\$944,150
2042	\$944,150	\$165,796	0%	\$9,442	\$103,302	\$0	\$1,016,086
2043	\$1,016,086	\$165,796	0%	\$10,161	\$147,983	\$0	\$1,044,060
2044	\$1,044,060	\$165,796	0%	\$10,441	\$73,863	\$0	\$1,146,433
2045	\$1,146,433	\$165,796	0%	\$11,464	\$16,841	\$0	\$1,306,853
2046	\$1,306,853	\$165,796	0%	\$13,069	\$92,717	\$0	\$1,393,000



3.3.4 Model 4: Partially Funded Investment Schedule (Capped Increase)

In the capped increase investment schedule, contributions to the initial CRF opening balance are kept at a maximum increase of 250% over the next year, then increased by the current inflation rate for the remaining years. Over the 30-year projection, eleven special levies, ranging from \$4,322 to \$541,724, are expected to be required. An investment return of \$30,890 is obtained.

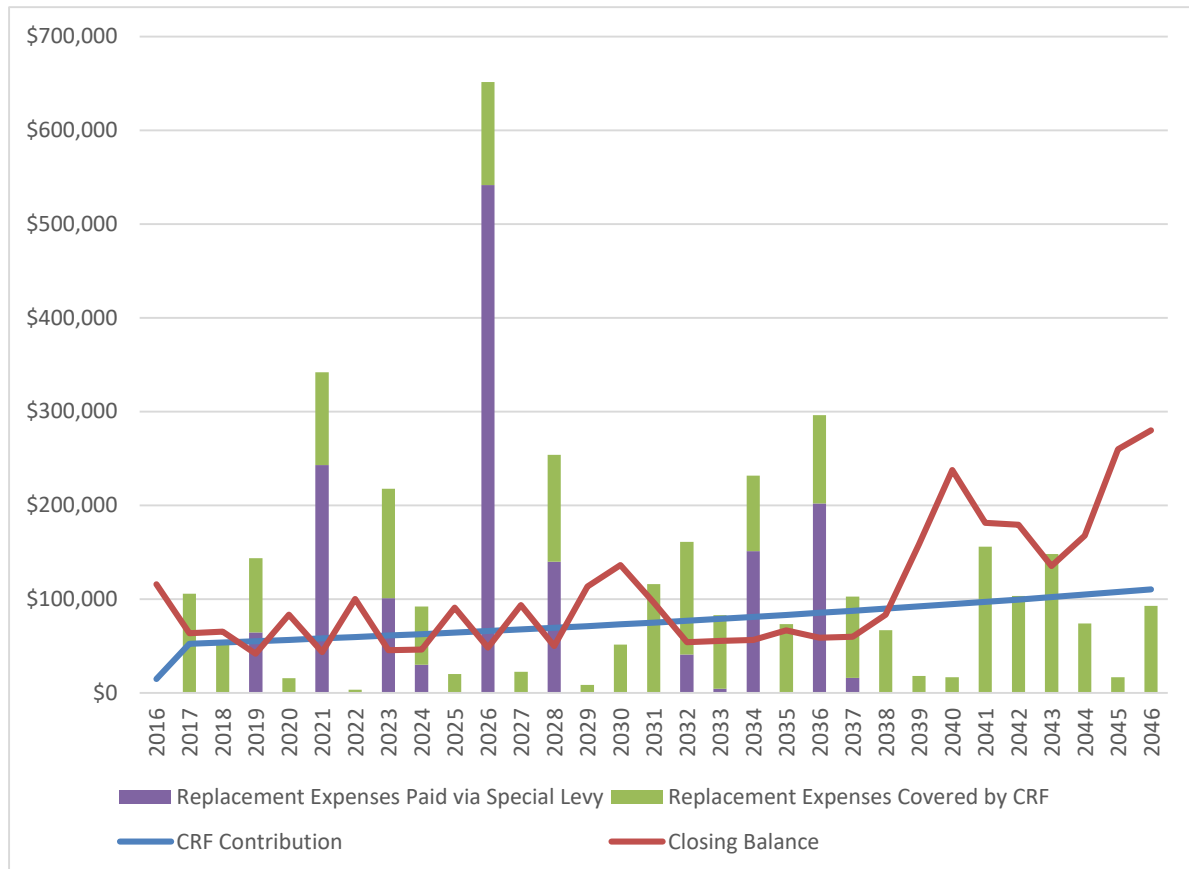


Figure 7: 30-year projection of CRF cash flow using capped increase investment schedule



Table 6: Cash flow table for CRF with capped increase investment schedule

Year	Opening balance	CRF contributions	Contribution changes	Investment returns	Replacement expenses	Special levies	Closing balance
2016	\$99,795	\$14,967		\$998	\$0	\$0	\$115,760
2017	\$115,760	\$52,385	250%	\$1,158	\$105,678	\$0	\$63,624
2018	\$63,624	\$53,746	2.6%	\$636	\$52,634	\$0	\$65,373
2019	\$65,373	\$55,144	2.6%	\$654	\$143,646	\$64,392	\$41,916
2020	\$41,916	\$56,578	2.6%	\$419	\$15,514	\$0	\$83,399
2021	\$83,399	\$58,049	2.6%	\$834	\$341,753	\$243,081	\$43,610
2022	\$43,610	\$59,558	2.6%	\$436	\$3,499	\$0	\$100,104
2023	\$100,104	\$61,106	2.6%	\$1,001	\$217,823	\$100,982	\$45,372
2024	\$45,372	\$62,695	2.6%	\$454	\$92,096	\$29,854	\$46,279
2025	\$46,279	\$64,325	2.6%	\$463	\$20,158	\$0	\$90,909
2026	\$90,909	\$65,998	2.6%	\$909	\$651,392	\$541,724	\$48,149
2027	\$48,149	\$67,714	2.6%	\$481	\$22,546	\$0	\$93,798
2028	\$93,798	\$69,474	2.6%	\$938	\$253,910	\$139,794	\$50,094
2029	\$50,094	\$71,281	2.6%	\$501	\$8,377	\$0	\$113,499
2030	\$113,499	\$73,134	2.6%	\$1,135	\$51,566	\$0	\$136,201
2031	\$136,201	\$75,035	2.6%	\$1,362	\$116,101	\$0	\$96,497
2032	\$96,497	\$76,986	2.6%	\$965	\$161,189	\$40,964	\$54,223
2033	\$54,223	\$78,988	2.6%	\$542	\$82,767	\$4,322	\$55,308
2034	\$55,308	\$81,042	2.6%	\$553	\$231,742	\$151,254	\$56,414
2035	\$56,414	\$83,149	2.6%	\$564	\$73,285	\$0	\$66,842
2036	\$66,842	\$85,311	2.6%	\$668	\$296,248	\$202,120	\$58,693
2037	\$58,693	\$87,529	2.6%	\$587	\$102,860	\$15,918	\$59,867
2038	\$59,867	\$89,804	2.6%	\$599	\$66,838	\$0	\$83,432
2039	\$83,432	\$92,139	2.6%	\$834	\$18,046	\$0	\$158,359
2040	\$158,359	\$94,535	2.6%	\$1,584	\$16,664	\$0	\$237,813
2041	\$237,813	\$96,993	2.6%	\$2,378	\$155,775	\$0	\$181,409
2042	\$181,409	\$99,515	2.6%	\$1,814	\$103,302	\$0	\$179,436
2043	\$179,436	\$102,102	2.6%	\$1,794	\$147,983	\$0	\$135,350
2044	\$135,350	\$104,757	2.6%	\$1,354	\$73,863	\$0	\$167,597
2045	\$167,597	\$107,480	2.6%	\$1,676	\$16,841	\$0	\$259,912
2046	\$259,912	\$110,275	2.6%	\$2,599	\$92,717	\$0	\$280,069



3.3.5 Model 5: Partially Funded Investment Schedule (Capped Special Levies)

In the capped special levies investment schedule, contributions to the initial CRF opening balance are increased 75% over the next three years such that the sum of all special levies over the 30-year projection is kept at \$1,00,000 or less. For the remaining years, the annual CRF contributions are increased at the current inflation rate. Over the 30-year projection, nine special levies, ranging from \$1,352 to \$482,184 are expected to be required. An investment return of \$54,683 is obtained.

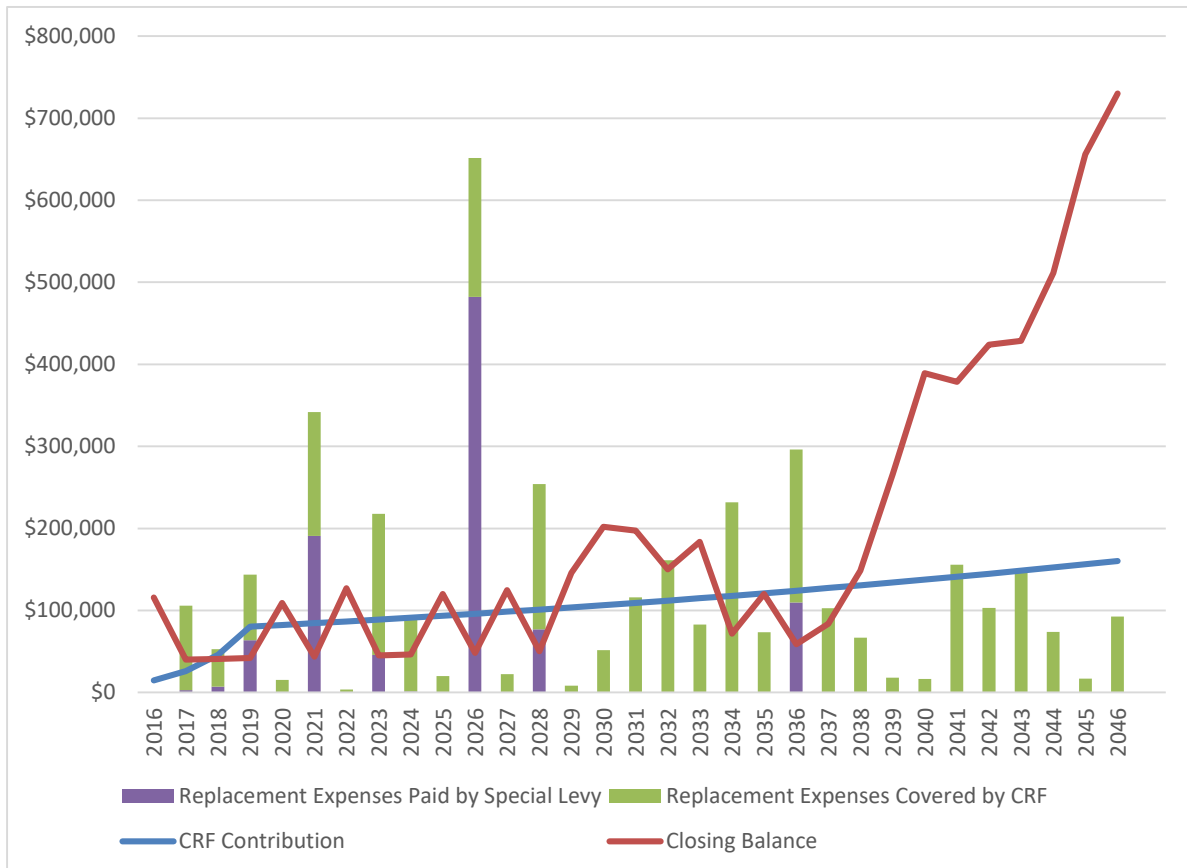


Figure 8: 30-year projection of CRF cash flow using capped special levies investment schedule



Table 7: Cash flow table for CRF with partially funded investment schedule

Year	Opening balance	CRF contributions	Contribution changes	Investment returns	Replacement expenses	Special levies	Closing balance
2016	\$99,795	\$14,967		\$997.95	\$0	\$0	\$115,760
2017	\$115,760	\$26,192	75%	\$1,158	\$105,678	\$2,857	\$40,289
2018	\$40,289	\$45,836	75%	\$403	\$52,634	\$7,200	\$41,094
2019	\$41,094	\$80,214	75%	\$411	\$143,646	\$63,843	\$41,916
2020	\$41,916	\$82,299	2.6%	\$419	\$15,514	\$0	\$109,121
2021	\$109,121	\$84,439	2.6%	\$1,091	\$341,753	\$190,712	\$43,610
2022	\$43,610	\$86,635	2.6%	\$436	\$3,499	\$0	\$127,181
2023	\$127,181	\$88,887	2.6%	\$1,272	\$217,823	\$45,854	\$45,372
2024	\$45,372	\$91,198	2.6%	\$454	\$92,096	\$1,352	\$46,279
2025	\$46,279	\$93,569	2.6%	\$463	\$20,158	\$0	\$120,153
2026	\$120,153	\$96,002	2.6%	\$1,202	\$651,392	\$482,184	\$48,149
2027	\$48,149	\$98,498	2.6%	\$481	\$22,546	\$0	\$124,582
2028	\$124,582	\$101,059	2.6%	\$1,246	\$253,910	\$77,117	\$50,094
2029	\$50,094	\$103,687	2.6%	\$501	\$8,377	\$0	\$145,905
2030	\$145,905	\$106,382	2.6%	\$1,459	\$51,566	\$0	\$202,180
2031	\$202,180	\$109,148	2.6%	\$2,022	\$116,101	\$0	\$197,249
2032	\$197,249	\$111,986	2.6%	\$1,972	\$161,189	\$0	\$150,019
2033	\$150,019	\$114,898	2.6%	\$1,500	\$82,767	\$0	\$183,649
2034	\$183,649	\$117,885	2.6%	\$1,836	\$231,742	\$0	\$71,629
2035	\$71,629	\$120,950	2.6%	\$716	\$73,285	\$0	\$120,011
2036	\$120,011	\$124,095	2.6%	\$1,200	\$296,248	\$109,636	\$58,693
2037	\$58,693	\$127,321	2.6%	\$587	\$102,860	\$0	\$83,742
2038	\$83,742	\$130,632	2.6%	\$837	\$66,838	\$0	\$148,372
2039	\$148,372	\$134,028	2.6%	\$1,484	\$18,046	\$0	\$265,838
2040	\$265,838	\$137,513	2.6%	\$2,658	\$16,664	\$0	\$389,345
2041	\$389,345	\$141,088	2.6%	\$3,893	\$155,775	\$0	\$378,552
2042	\$378,552	\$144,757	2.6%	\$3,786	\$103,302	\$0	\$423,792
2043	\$423,792	\$148,520	2.6%	\$4,238	\$147,983	\$0	\$428,568
2044	\$428,568	\$152,382	2.6%	\$4,286	\$73,863	\$0	\$511,372
2045	\$511,372	\$156,344	2.6%	\$5,114	\$16,841	\$0	\$655,989
2046	\$655,989	\$160,409	2.6%	\$6,560	\$92,717	\$0	\$730,240



4. Analysis

4.1 Investment Schedule Comparison

Apart from the current investment schedule, all other cash flow models propose increases to the CRF contributions in the next few years (in addition to matching inflation), eliminating or reducing special levies. Model 2 (the early investment schedule) distinguishes itself in that no special levies will be required over the 30-year projection due to larger increases in CRF contributions. The figure below illustrates the outcome of each investment schedule (without preventive maintenance), along with the changes in CRF contributions.

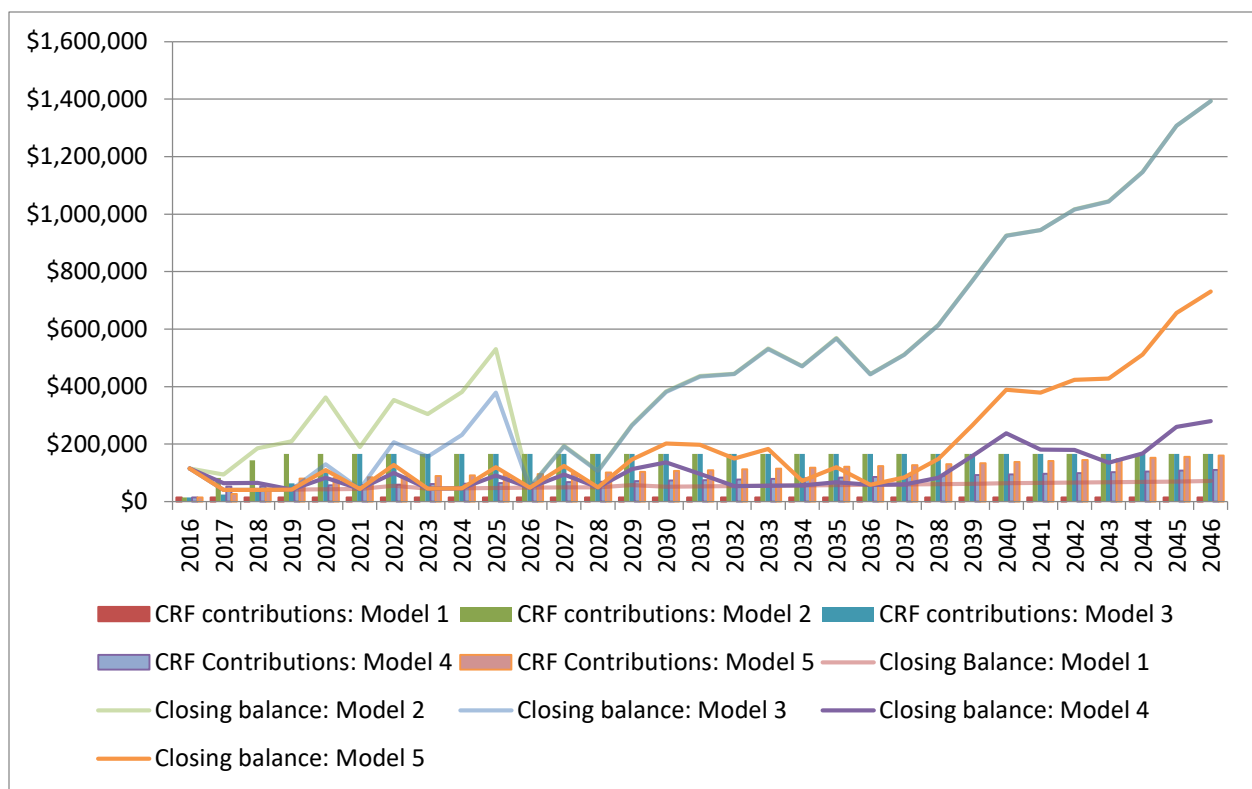


Figure 9: Comparison of CRF contributions and closing balances



Table 8: Summary of investment schedules

	Model 1: Current Model	Model 2: Early investment	Model 3: Delayed investment	Model 4: Capped Increase	Model 5: Capped Special Levies
Analysis for first 10 years					
Current CRF balance	\$99,795	\$99,795	\$99,795	\$99,795	\$99,795
CRF contributions	\$149,670	\$1,401,005	\$1,073,173	\$538,553	\$694,237
Investment returns	\$5,724	\$22,968	\$11,061	\$7,052	\$7,104
Special levies	\$784,817	\$0	\$188,369	\$438,310	\$311,818
Replacement expenses	\$992,801	\$992,801	\$992,801	\$992,801	\$992,801
Financial strength	21%	100%	81%	56%	69%
Insufficiency	79%	0%	19%	44%	31%
Analysis for final 20 years					
Opening balance in year 11	\$47,205	\$530,966	\$379,598	\$90,909	\$120,153
CRF contributions	\$314,307	\$3,478,986	\$3,481,715	\$1,813,239	\$2,637,584
Investment returns	\$12,232	\$127,129	\$125,349	\$23,838	\$47,579
Special levies	\$2,441,816	\$0	\$150,351	\$1,096,096	\$668,936
Replacement expenses	\$2,744,013	\$2,744,013	\$2,744,013	\$2,744,013	\$2,744,013
Financial strength	11%	100%	95%	60%	76%
Insufficiency	89%	0%	5%	40%	24%
Overall analysis (30-yr course)					
Opening balance in year 1	\$99,795	\$99,795	\$99,795	\$99,795	\$99,795
CRF contributions	\$463,977	\$4,879,990	\$4,554,888	\$2,351,792	\$3,331,821
Investment returns	\$17,956	\$150,097	\$136,411	\$30,890	\$54,683
Special levies	\$3,226,633	\$0	\$338,720	\$1,534,406	\$980,754
Replacement expenses	\$3,736,814	\$3,736,814	\$3,736,814	\$3,736,814	\$3,736,814
Financial strength	14%	100%	91%	59%	74%
Insufficiency	86%	0%	9%	41%	26%
Closing balance in year 30	\$71,547	\$1,393,068	\$1,393,000	\$280,069	\$730,240

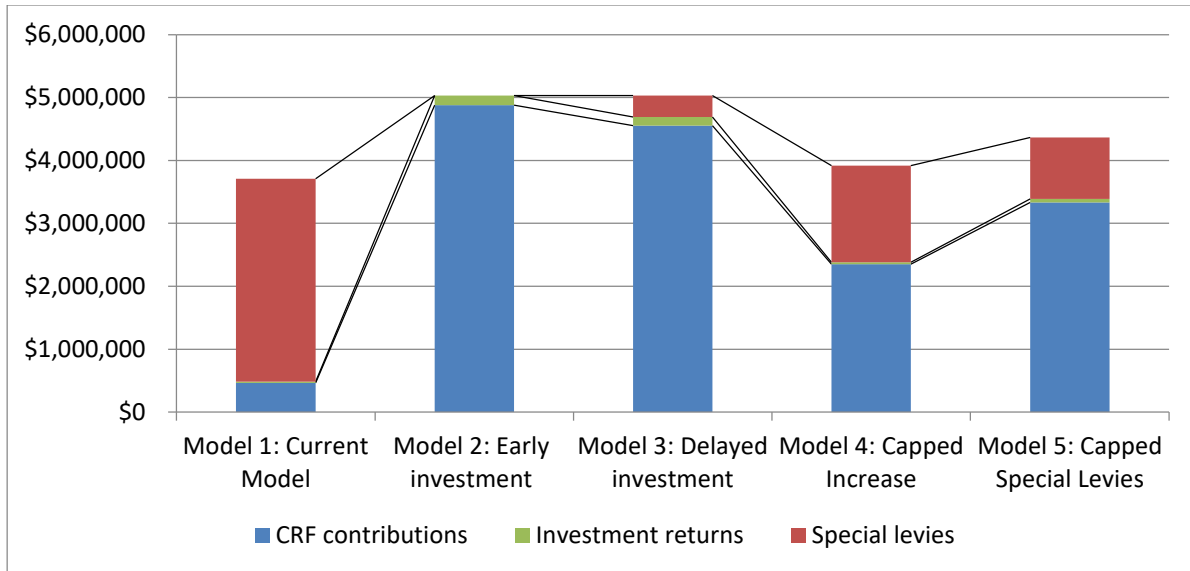


Figure 10: Comparison of financial models over 30-year projection

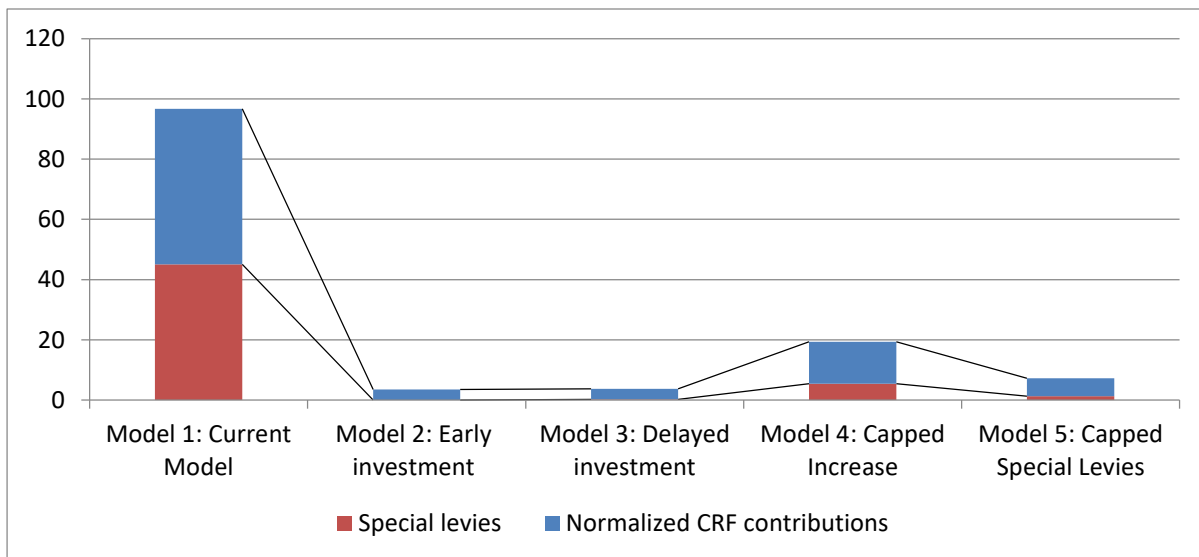


Figure 11: Normalized contributions

From Table 8 and Figures 9, 10, and 11 above, it is apparent that Model 2, the early investment schedule, has the highest rate of investment returns after the 30-year projection, at \$150,097. Though Model 2 requires a surge in CRF contributions over the next three years, the normalized contribution amount is still the lowest of all investment schedules (Figure 11). The normalized contribution expresses both CRF contributions and Special levies standardized with respect to their closing balance in 30 years.



5. Recommendations

Given the aforementioned scenarios, the adoption of Cash Flow Model 2, the early investment schedule, is recommended because it has the potential to lead to the greatest amount of investment returns. Investing in the CRF at the earliest possible time is recommended because a greater delay in investment may lead to lower potential income from investment returns.

However, depending on various characteristics of the Strata Corporation, the consideration of Cash Flow Model 2 may not be adequate. The inclusion of additional models allows for flexibility in planning, even as some may appear to forecast larger special levies with less drastic increases to CRF contributions. Although these investment models will potentially lead to lower investment returns compared to Model 2, they may be more viable in the near term.

All of the aforementioned models together illustrate the concept of reserve fund planning. Earlier investments in the CRF leads to greater offsets in replacement expenses due to the return on investment. Ultimately, CRF increases may need to be balanced against prospects of future levies due to practical considerations.

The analysis presented within a depreciation report accounts for the financial position of the Strata Corporation in isolation. The models are not intended to guide personal investment decisions and do not account for the financial circumstances of the owners. The models aim to bring greater predictability to the timing and cost for replacements such that the Strata Corporation may prioritize and prepare for the expenditures at that time.

If your Strata Corporation has any additional concerns about the investment schedule, please do not hesitate to contact ABSSEI so that a more feasible and reasonable solution may be determined to suit your specific needs.

.



Appendix A – Strata Property Act

[SBC 1998] CHAPTER 43

Part 6 — Finances

Division 1 — Operating Fund and Contingency Reserve Fund

Depreciation report

- 94** (1) In this section, "**qualified person**" has the meaning set out in the regulation.
- (2) Subject to subsection (3), a Strata Corporation must obtain from a qualified person, on or before the following dates, a depreciation report estimating the repair and replacement cost for major items in the Strata Corporation and the expected life of those items:
- (a) for the first time,
 - (i) December 14, 2013, in the case of a Strata Corporation that existed on December 14, 2011, or
 - (ii) the prescribed date, in all other cases;
 - (b) if the Strata Corporation has, before or after the coming into force of this section, obtained a depreciation report that complies with the requirements of this section, the date that is the prescribed period after the date on which that report was obtained;
 - (c) if the Strata Corporation has, under subsection (3) (a), waived the requirement under this subsection to obtain a depreciation report, the date that is the prescribed period after the date on which the resolution waiving the requirement was passed.
- (3) A Strata Corporation need not comply with the requirement under subsection (2) to obtain a depreciation report on or before a certain date if
- (a) the Strata Corporation, by a resolution passed by a 3/4 vote at an annual or special general meeting within the prescribed period, waives that requirement, or
 - (b) the Strata Corporation is a member of a prescribed class of Strata Corporations.
- (4) A depreciation report referred to in subsection (2) must contain the information set out in the regulation.



Strata Property Act

STRATA PROPERTY REGULATION

Part 6 — Finances

Contributions to contingency reserve fund

6.1 For the purposes of section 93 of the **Act**, the amount of the annual contribution to the contingency reserve fund for a fiscal year, other than the fiscal year following the first annual general meeting, must be determined as follows:

(a) if the amount of money in the contingency reserve fund at the end of any fiscal year after the first annual general meeting is less than 25% of the total amount budgeted for the contribution to the operating fund for the fiscal year that has just ended, the annual contribution to the contingency reserve fund for the current fiscal year must be at least the lesser of

- (i) 10% of the total amount budgeted for the contribution to the operating fund for the current fiscal year, and
- (ii) the amount required to bring the contingency reserve fund to at least 25% of the total amount budgeted for the contribution to the operating fund for the current fiscal year;

(b) if the amount of money in the contingency reserve fund at the end of any fiscal year after the first annual general meeting is equal to or greater than 25% of the total amount budgeted for the contribution to the operating fund for the fiscal year that has just ended, additional contributions to the contingency reserve fund may be made as part of the annual budget approval process after consideration of the depreciation report, if any, obtained under section 94 of the **Act**.

[en. B.C. Reg. 238/2011, Sch. 1, s. 2.]

Depreciation report

6.2 (1) For the purposes of section 94 of the **Act**, a depreciation report must include all of the following:

- (a) a physical component inventory and evaluation that complies with subsection (2);
- (b) a summary of repairs and maintenance work for common expenses respecting the items listed in subsection (2) (b) that usually occur less often than once a year or that do not usually occur;



- (c) a financial forecasting section that complies with subsection (3);
 - (d) the name of the person from whom the depreciation report was obtained and a description of
 - (i) that person's qualifications,
 - (ii) the error and omission insurance, if any, carried by that person, and
 - (iii) the relationship between that person and the Strata Corporation;
 - (e) the date of the report;
 - (f) any other information or analysis that the Strata Corporation or the person providing the depreciation report considers appropriate.
- (2) For the purposes of subsection (1) (a) and (b) of this section, the physical component inventory and evaluation must
- (a) be based on an on-site visual inspection of the site and, where practicable, of the items listed in paragraph (b) conducted by the person preparing the depreciation report,
 - (b) include a description and estimated service life over 30 years of those items that comprise the common property, the common assets and those parts of a strata lot or limited common property, or both, that the Strata Corporation is responsible to maintain or repair under the **Act**, the Strata Corporation's bylaws or an agreement with an owner, including, but not limited to, the following items:
 - (i) the building's structure;
 - (ii) the building's exterior, including roofs, roof decks, doors, windows and skylights;
 - (iii) the building's systems, including the electrical, heating, plumbing, fire protection and security systems;
 - (iv) common amenities and facilities;
 - (v) parking facilities and roadways;
 - (vi) utilities, including water and sewage;
 - (vii) landscaping, including paths, sidewalks, fencing and irrigation;
 - (viii) interior finishes, including floor covering and furnishings;
 - (ix) green building components;
 - (x) balconies and patios, and
 - (c) identify common property and limited common property that the strata lot owner, and not the Strata Corporation, is responsible to maintain and repair.
- (3) For the purposes of subsection (1) (c), the financial forecasting section must include



- (a) the anticipated maintenance, repair and replacement costs for common expenses that usually occur less often than once a year or that do not usually occur, projected over 30 years, beginning with the current or previous fiscal year of the Strata Corporation, of the items listed in subsection (2) (b),
 - (b) a description of the factors and assumptions, including interest rates and rates of inflation, used to calculate the costs referred to in paragraph (a),
 - (c) a description of how the contingency reserve fund is currently being funded,
 - (d) the current balance of the contingency reserve fund minus any expenditures that have been approved but not yet taken from the fund, and
 - (e) at least 3 cash-flow funding models for the contingency reserve fund relating to the maintenance, repair and replacement over 30 years, beginning with the current or previous fiscal year of the Strata Corporation, of the items listed in subsection (2) (b).
- (4) For the purposes of subsection (3) (e), the cash-flow funding models may include any one or more of the following:
- (a) balances of, contributions to and withdrawals from the contingency reserve fund;
 - (b) special levies;
 - (c) borrowings.
- (5) If a Strata Corporation contributes to the contingency reserve fund based on a depreciation report, the contributions in respect of an item become part of the contingency reserve fund and may be spent for any purpose permitted under section 96 of the **Act**.
- (6) For the purposes of section 94 (1) of the **Act**, "**qualified person**" means any person who has the knowledge and expertise to understand the individual components, scope and complexity of the Strata Corporation's common property, common assets and those parts of a strata lot or limited common property, or both, that the Strata Corporation is responsible to maintain or repair under the **Act**, the Strata Corporation's bylaws or an agreement with an owner and to prepare a depreciation report that complies with subsections (1) to (4).
- (7) The following periods are prescribed:
- (a) for the purposes of section 94 (2) (b) of the **Act**, 3 years;
 - (b) for the purposes of section 94 (2) (c) of the **Act**, 18 months;
 - (c) for the purposes of section 94 (3) (a) of the **Act**, the one year period immediately preceding the date on or before which the depreciation report is required to be obtained.



(8) A Strata Corporation is prescribed for the purposes of section 94 (3) (b) of the **Act** if and for so long as there are fewer than 5 strata lots in the strata plan.

[en. B.C. Reg. 238/2011, Sch. 1, s. 2.]

Appendix B – Component Data Sheets

List of Abbreviations	
DOI	Date of Installation
CA	Chronological Age
EUL	Estimated Useful Life
EA	Effective Age
RUL	Remaining Useful Life
Var	Various



Reserve Component A10100102	Underground structure				
Properties	Walls, suspended slab, slab-on-grade, columns, entrance ramp and				
Potential Deterioration	Settlement and seismic movement induce cracks into the concrete foundation. Water may infiltrate and its flow through the concrete leads to the corrosion of the reinforcing steel. The corrosion expands and causes concrete delamination, spalling, and dislodging.				
Condition Analysis	Deterioration	Cracks were observed, on ceiling, walls, and floor. Some of the cracks were repaired. Active water leaking from cracks was observed in various locations.			
	Overall Condition	Poor.			
Repair History	Not available.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	1982	34 years	Building life	34 years	Building life
Cost Estimates	Starting Year	Current Cost		Future Cost	
Funding Method					
Preventative Maintenance	Annual reviews for water ingress. Manage water ingress locally by sealing the leaking cracks. Drains for at-grade and below grade assemblies should be reviewed, cleaned, or eventually repaired.				
Remarks	Localized repairs of the cracking may not be feasible anymore, given condition/age. An intrusive investigation is recommended to establish condition and provide optimal remedial solutions/costs. Deferral to address the issue may lead to remedial costs increasing exponentially. A presumptive cost for assessment was provided within the next year.				

Pictures



Leaking crack on suspended slab



Leaking crack on wall



Reserve Component	Waterproofing membrane				
A10100501					
Properties	Waterproofing membrane on top of suspended slab				
Potential Deterioration	Over the life of a building, settlement, seismic movement, and corrosion will act to induce cracks in the concrete structure. These cracks may sometimes extend up to through the membrane and allow water ingress. In addition, aging and action of the overburden materials may cause the waterproofing properties to be compromised.				
Condition Analysis	Deterioration	Water leaking in the underground parkade in various locations may denotes extensive failures of the waterproofing membrane.			
	Overall Condition	Poor			
Repair History	Not available.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	1982	34 years	35 years	34 years	1 year
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2017	\$98,000		\$101,332	
Funding Method	Budget for 15% partial replacement.				
Preventative Maintenance	Sometimes discontinuities within the waterproofing membrane can be economically repaired from the exterior. If not, the water ingress can be managed by sealing the leaking cracks in the concrete from the interior.				
Remarks	An intrusive investigation is recommended in order to establish condition and provide optimal remedial solutions/costs. Deferral to address the issue may lead to remedial costs increasing exponentially. A presumptive cost for the assessment was included in the cost for partial replacement of the waterproofing membrane.				

Pictures



Landscaping on top of the waterproofing membrane over concrete suspended slab



Repaired crack on the suspended slab but still leaking



Reserve Component	Balcony flooring				
B10100305					
Properties	Vinyl membrane flooring				
Potential Deterioration	The wooden balcony frame may shrink as moisture evaporates, which can cause the waterproofing membrane to shift, resulting in the failure of the seams at the edges or ponding. Wear and tear can also cause punctures or cracks in the membrane. Failure of the membrane can lead to water ingress, which can deteriorate the wooden frame.				
Condition Analysis	Deterioration	None apparent.			
	Overall Condition	Good			
Repair History	New waterproofing membranes were installed in 2009.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	2009	7 years	25 years	7 years	18 years
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2034	\$45,000		\$82,145	
Funding Method	Budget for full replacement.				
Preventative Maintenance	Periodic wash to remove surface dirt. In areas of environmental pollution or heavy service use, membranes may require washing with a scrub brush and mild detergent or pressure washing. Immediate attention to any lose seaming will ensure that the vinyl membrane lasts for years to come.				
Remarks	None.				

Pictures



Vinyl flooring



Vinyl flooring



Reserve Component B10100707	Patio flooring				
Properties	Exposed aggregate concrete				
Potential Deterioration	Failure of the concrete pavement such as: cracking, faulting, mud pumping polished aggregate, etc. may occur over time due to moisture (with its associated freeze/thaw cycles), as well as settlement of the underlayment. In addition, salt or other de-icing products used for ice control in the winter may adversely affect the surface of the concrete.				
Condition Analysis	Deterioration	None apparent.			
	Overall Condition	Acceptable.			
Repair History	Wood retaining walls around the patios were replaced in 2012.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	1982	34 years	Building life	34 years	Building life
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2023	\$5,000		\$6,318	
Funding Method	Budget for contingency allowance every 5 years.				
Preventative Maintenance	Stresses producing minor defects are constantly at work. Early detection and repair (patching, crack sealing, etc.) of minor defects is essential before they deteriorate into pavement failures requiring major repair expenditures.				
Remarks	None.				

Pictures



Patio flooring



Patio flooring



Reserve Component	Cladding				
B20100106					
Properties	Face-sealed stucco				
Potential Deterioration	Conventional stucco applications, including those with an acrylic finish coat, are not waterproof. The protection from water penetration comes from the installed building paper and flashing. The stucco does help in shedding water, but will become saturated after a prolonged period of rain. Conventional stucco cracks due to drying shrinkage or hydric stresses, embrittlement due to aging, and building movement. Stucco cracks may allow water penetration that can result in loosening of large areas and possible deterioration of the structure.				
Condition Analysis	Deterioration	None apparent.			
	Overall Condition	Acceptable.			
Repair History	Repairs were performed at units 103, 112, and 205 due to water ingress. Partial replacement was performed on the east façade, on north side in				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	1982	34 years	30 years	20 years	10 years
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2026	\$153,000		\$213,745	
Funding Method	Budget for full replacement.				
Preventative Maintenance	Cracks less than 3mm (1/8”) in width do not require repair. Larger cracks should be sealed to prevent entry of bulk amounts of water and to reduce damage from freeze/thaw cycles. Most surface dirt on stucco can be cleaned with non-pressurized soapy water.				
Remarks	An intrusive investigation is recommended in order to confirm if inner wood sheathing and structural members were not affected by the moisture trapped beneath the stucco finish. A building envelope condition assessment is budgeted for 2017 - see "Waterproofing Membrane" section.				

Pictures



Stucco finishes

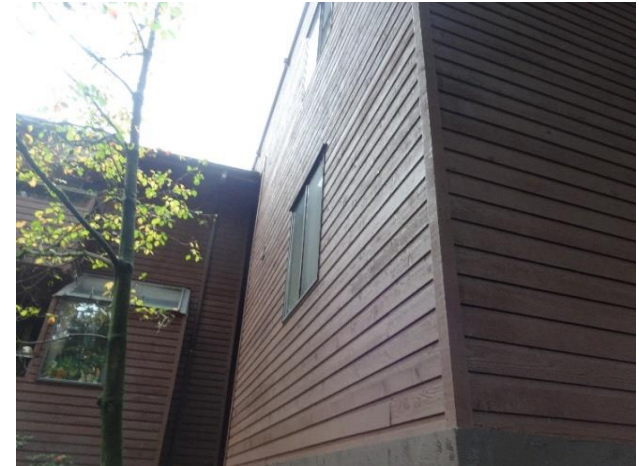


Stucco finishes



Reserve Component B20100111	Cladding				
Properties	Wood siding				
Potential Deterioration	Generally, exposed wood products are vulnerable to weathering, cracking and warping.				
Condition Analysis	Deterioration	None apparent.			
	Overall Condition	Acceptable.			
Repair History	Some local replacements have been performed over the years.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	1982	34 years	45 years	35 years	10 years
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2026	\$315,000		\$440,064	
Funding Method	Budget for full replacement.				
Preventative Maintenance	Every 3 years review for warping, damage, loose panels and discoloration. Touch up painting or staining. Clean with non-pressurized soapy water.				
Remarks	For a more accurate condition and remaining useful life, a building envelope assessment has been budgeted in section "Waterproofing Membrane".				

Pictures



Replaced section of wood cladding



Rotten wood cladding/trim



Reserve Component	Balcony railings				
B20100503					
Properties	Wood railings with plastic inserts				
Potential Deterioration	Wooden railings may rot after prolonged exposure to moisture.				
Condition Analysis	Deterioration	None apparent.			
	Overall Condition	Good			
Repair History	New railings were installed in 2009.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	2009	7 years	25 years	7 years	18 years
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2034	\$30,000		\$54,763	
Funding Method	Budget for full replacement.				
Preventative Maintenance	Repaint/restain every 3-5 years.				
Remarks	None.				

Pictures



Balcony railing



Balcony railing



Reserve Component B20100603	Balcony soffits				
Properties	Wooden soffits				
Potential Deterioration	Generally, exposed wood products are vulnerable to weathering, cracking and warping.				
Condition Analysis	Deterioration	None apparent.			
	Overall Condition	Good			
Repair History	New soffits were installed in 2009.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	2009	7 years	50 years	7 years	43 years
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2059	\$10,000		\$42,110	
Funding Method	Budget for full replacement.				
Preventative Maintenance	Every 3 years review for warping, damage, loose boards and discoloration. Touch up painting or staining. Clean with non-pressurized soapy water.				
Remarks	None.				

Pictures



Balcony soffit



Balcony soffit



Reserve Component B20100801	Exterior painting				
Properties	Acrylic paint				
Potential Deterioration	Over prolonged exposure to the elements, fading, yellowing, blistering, or peeling typically occur. Rusting of metal components on surface may lead to stains.				
Condition Analysis	Deterioration	None apparent.			
	Overall Condition	Acceptable.			
Repair History	Not available.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	1982	34 years	10 years	5 years	5 years
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2021	\$41,000		\$48,460	
Funding Method	Budget for full replacement.				
Preventative Maintenance	Clean annually. Remove the deteriorated paint and re-paint locally.				
Remarks	None.				

Pictures



Paint application on facades



Reserve Component B20200111	Exterior windows				
Properties	Aluminum framed windows				
Potential Deterioration	All windows suffer a decline in water resistance over the years through normal use due to the deterioration of seals and weatherstripping. Aluminum windows typically have sealed joints that can fail. Failure of window hardware, such as hinges or hinge connections to frame may occur over time, leading to difficulty in opening and closing.				
Condition Analysis	Deterioration	None apparent.			
	Overall Condition	Acceptable.			
Repair History	Not available.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	1982	34 years	35 years	30 years	5 years
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2021	\$170,000		\$200,933	
Funding Method	Budget for full replacement.				
Preventative Maintenance	Typical windows require minimal maintenance. Window hardware should be cleaned and lubricated annually. Mitre joint connections must be inspected regularly and joint sealer should be applied where necessary. Replace the units with failed frame gaskets.				
Remarks	None.				

Pictures



Aluminum framed window



Aluminum framed window



Reserve Component B20200402	Caulking				
Properties	Caulking				
Potential Deterioration	Common causes of sealant failures are loss of adhesion and cohesion, mostly due to imperfections of the material and application methods. Over time the sealants suffer degradation due to the loss of solvents and plasticizers, due to ultraviolet radiation and also due to ozone action. The sealants typically harden, exhibiting cracks and crazing.				
Condition Analysis	Deterioration	None apparent.			
	Overall Condition	Acceptable.			
Repair History	Not available.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	1982	34 years	10 years	5 years	5 years
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2021	\$30,000		\$35,459	
Funding Method	Budget for full replacement.				
Preventative Maintenance	Inspect, clean and properly replace deteriorated sealant based on manufacturer's instructions.				
Remarks	None.				

Pictures



Caulking application



Reserve Component B20300101	Main entrance doors				
Properties	Aluminum glass swinging entrance doors				
Potential Deterioration	Drafts may occur due to loose or worn weatherstripping around doors. Hardware failure and poor latching may result from distortions in the door frame or loosening of the striker plate. Common deterioration for frames may include: bent or damaged sections, staining, oxidation/rusting or pitting, or loose anchorage system. Doors may exhibit rust on metal. Hinges may become broken or bent, the panic bar, latch, lock and bolt may be damaged and no longer functional.				
Condition Analysis	Deterioration	None apparent.			
	Overall Condition	Acceptable.			
Repair History	Main entrance doors were replaced in 2012.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	2012	4 years	30 years	4 years	26 years
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2042	\$4,000		\$9,541	
Funding Method	Budget for full replacement.				
Preventative Maintenance	Lubricate the weatherstrip every three months (more frequently for high usage doors). A general visual inspection of the door and frame finish should be periodically conducted. Check all closing devices for loose attaching screws, hinge pin wear, locksets, latch wear, or other notable defects.				
Remarks	None.				

Pictures



Main entrance doors



Reserve Component B20300103	Egress doors				
Properties	Exterior metal doors				
Potential Deterioration	Common deterioration for frames may include: bent or damaged sections, staining, oxidation/rusting or pitting, or loose anchorage system. Doors may become racked, warped or bent, and may exhibit rust on metal. Hinges may become broken or bent, the panic bar, latch, lock and bolt may be damaged and no longer functional.				
Condition Analysis	Deterioration	None apparent.			
	Overall Condition	Acceptable.			
Repair History	Not available.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	1982	34 years	30 years	18 years	12 years
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2028	\$6,000		\$8,962	
Funding Method	Budget for full replacement.				
Preventative Maintenance	A general visual inspection of the door and frame finish should be periodically conducted. Check all closing devices for loose attaching screws, hinge pin wear, locksets, latch wear, or other notable defects.				
Remarks	None.				

Pictures



Egress door

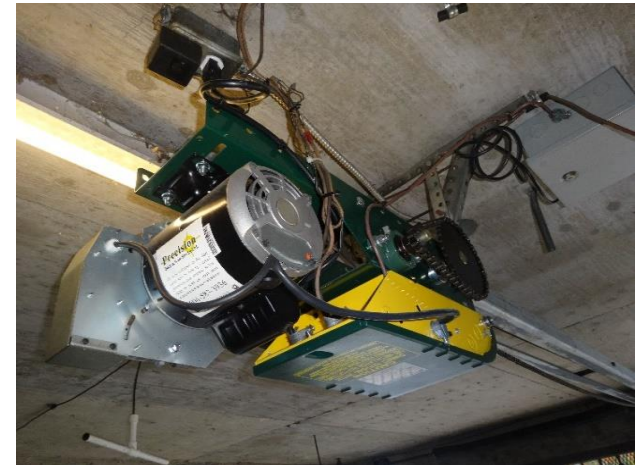


Reserve Component	Garage doors				
B20300406					
Properties	Metal grill overhead garage door				
Potential Deterioration	Mechanical and electrical components of the garage door may fail, leading to difficulty opening. Metallic components of garage door may also be prone to corrosion.				
Condition Analysis	Deterioration	None apparent.			
	Overall Condition	Acceptable.			
Repair History	Traction motor was replaced in 2014.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	1982	34 years	50 years	33 years	17 years
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2033	\$4,500		\$7,944	
Funding Method	Budget for full replacement.				
Preventative Maintenance	Annual review should include: checking the operation from open to closed, lubrication of all moving parts, checking operating chain for excessive wear. Rust spots that need to be sanded, primed and painted.				
Remarks	None.				

Pictures



Parkade overhead door



Traction mechanism



Reserve Component B20300501	Patio and balcony doors				
Properties	Aluminum slider doors with tempered glass				
Potential Deterioration	Door hardware such as rollers and locks may fail over time. Depending on the material, rollers may be subject to deterioration such as corrosion or breakage. Tracks may become misaligned, bent or worn. Roller and track deterioration are the most common factors leading to difficulties in operating the sliding doors.				
Condition Analysis	Deterioration	None apparent.			
	Overall Condition	Acceptable.			
Repair History	Not available.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	2010	6 years	30 years	18 years	12 years
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2028	\$131,600		\$196,563	
Funding Method	Budget for full replacement.				
Preventative Maintenance	A general visual inspection of the door and frame finish should be periodically conducted. If the door doesn't slide smoothly, the rollers under the door either need adjusting or are shot. Scrub caked dirt and grime out of the track.				
Remarks	None.				

Pictures



Balcony door



Patio door



Reserve Component	Roofing				
B30100101					
Properties	Asphalt shingles				
Potential Deterioration	The mineral surface may be wearing off causing cracking in shingles, allowing water intrusion. Lack of ventilation will overheats the shingles, causing the oils to deplete in the asphalt. Strong winds may break or uplift or even remove shingles. Over time, nails may come loose or pop up, leading to shingles and/or flashing to uplift.				
Condition Analysis	Deterioration	None apparent.			
	Overall Condition	Good.			
Repair History	Not available.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	2005	11 years	20 years	10 years	10 years
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2026	\$29,928		\$41,810	
Funding Method	Budget for full replacement.				
Preventative Maintenance	Inspect twice a year (spring and fall) and repair/replace any damage. Moss on the sloped roofs can be prevented by installing a zinc strip at its peak.				
Remarks	None.				

Pictures



Asphalt shingle roofing system



Asphalt shingle roofing system



Reserve Component	Roofing				
B30100108					
Properties	SBS membrane				
Potential Deterioration	The key culprits in aging are heat, ultraviolet (UV) exposure, freeze-thaw cycling, and time. The compound in the modified bitumen sheet becomes exposed through mineral loss or, in cases where mineral was not part of the original design, the degradation of the installed coating. Aging results in compound cracking and, if left unattended, compound failure and potential systems leaks. A majority of leaks happen at the edge details or at flashings around mechanical units, drains, and roof penetrations. Splitting, ridging and blistering can occur due to water ingress under the roofing membrane due to inadequate head laps and backwater laps.				
Condition Analysis	Deterioration	None apparent.			
	Overall Condition	Good.			
Repair History	Not available.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	2010	6 years	25 years	6 years	19 years
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2036	\$174,300		\$340,180	
Funding Method	Budget for full replacement.				
Preventative Maintenance	Inspect twice a year (spring and fall) and repair/replace any damage. Clear away any debris or dirt, ensuring that drainage is clear. Addressing any splits or tears in flashing or penetrations helps keep leaks from entering the building or soaking the insulation and destroying the system and the roof deck from within.				
Remarks	None.				

Pictures



SBS membrane roofing system



Clogged roof drain



Reserve Component	Gutters and downspouts				
B30100601					
Properties	Prefinished aluminum gutters and downspouts				
Potential Deterioration	Gutters and downspouts may be clogged by organic debris over time, leading to poor drainage. Expansion and contraction of gutters may cause caulked seams to separate, leading to leaks.				
Condition Analysis	Deterioration	None apparent.			
	Overall Condition	Acceptable.			
Repair History	Not available.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	1982	34 years	30 years	25 years	5 years
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2021	\$15,000		\$17,729	
Funding Method	Budget for full replacement.				
Preventative Maintenance	Clean and remove debris once or twice a year. Test drains/downspouts by flushing with water.				
Remarks	None.				

Pictures



Downspout connection to the underground drain pipe



Gutter and downspout



Reserve Component C10200101	Service doors				
Properties	Interior doors serving storage/service rooms, corridors				
Potential Deterioration	Hardware failure and poor latching may result from distortions in the door frame or loosening of the striker plate. Common deterioration for frames may include: bent or damaged sections, staining, oxidation/rusting or pitting, or loose anchorage system. Doors may become racked, warped or bent, and may exhibit rust on metal. Hinges may become broken or bent, the panic bar, latch, lock and bolt may be damaged and no longer functional.				
Condition Analysis	Deterioration	None apparent.			
	Overall Condition	Acceptable.			
Repair History	Not available.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	1982	34 years	50 years	34 years	16 years
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2032	\$26,400		\$45,075	
Funding Method	Budget for full replacement.				
Preventative Maintenance	A general visual inspection of the door and frame finish should be periodically conducted. Check all closing devices for loose attaching screws, hinge pin wear, locksets, latch wear, or other notable defects.				
Remarks	None.				

Pictures



Service door in parkade area



Fire doors on corridor



Reserve Component C10200103	Unit entry doors				
Properties	Unit entry doors				
Potential Deterioration	Common deterioration for frames may include: bent or damaged sections staining, oxidation/rusting or pitting, or loose anchorage system. Doors may become warped or bent, and may exhibit rust on metal. Hinges may become broken or bent, latch, lock and bolt may be damaged and no longer functional.				
Condition Analysis	Deterioration	None apparent.			
	Overall Condition	Acceptable.			
Repair History	Not available.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	1982	34 years	50 years	34 years	16 years
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2032	\$70,500		\$120,370	
Funding Method	Budget for full replacement.				
Preventative Maintenance	A general visual inspection of the door and frame finish should be periodically conducted. Check all closing devices for loose attaching screws, hinge pin wear, locksets, latch wear, or other notable defects..				
Remarks	None.				

Pictures



Unit entry doors



Unit entry door



Reserve Component	Interior stairs				
C20200101					
Properties	Carpet finishes, paint application on walls and ceilings				
Potential Deterioration	Partial replacement and renovations in the stairwells are generally subject to aesthetic consideration. Wear and tear due to aging are natural, and some components may last up to 30-35 years before the first signs of deterioration are evident.				
Condition Analysis	Deterioration	None apparent.			
	Overall Condition	Acceptable.			
Repair History	Not available.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	1982	34 years	35 years	32 years	3 years
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2019	\$30,000		\$33,165	
Funding Method	Budget for full replacement.				
Preventative Maintenance	Periodic inspections local repair and renovations as needed.				
Remarks	None.				

Pictures



Paint application on walls and ceiling



Carpet flooring on stairs



Reserve Component C30200501	Flooring finishes				
Properties	Carpet flooring on corridors				
Potential Deterioration	Ripples and worn areas may appear in carpet due to wear on high traffic areas. Poor maintenance will also lead to other deterioration such as staining.				
Condition Analysis	Deterioration	None apparent.			
	Overall Condition	Acceptable.			
Repair History	Carpet flooring replaced on corridors for 2nd and 3rd floor in 2012-2014.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	1982	34 years	15 years	12 years	3 years
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2019	\$35,000		\$38,693	
Funding Method	Budget for 25% partial replacement.				
Preventative Maintenance	Restorative cleaning annually or once every two years.				
Remarks	None.				

Pictures



Carpet flooring at ground floor corridor



Carpet flooring on second floor corridor



Reserve Component C30300101	Wall and ceiling finishes				
Properties	Paint application on walls and ceilings on corridors				
Potential Deterioration	Paint may fade or peel over long periods of time. Cracks may develop in the ceiling over time.				
Condition Analysis	Deterioration	None apparent.			
	Overall Condition	Good.			
Repair History	New painting was applied in 2012-2014				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	2013	3 years	10 years	3 years	7 years
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2023	\$17,000		\$21,483	
Funding Method	Budget for full replacement.				
Preventative Maintenance	Inspect every 3 years and spot paint badly stained areas.				
Remarks	None.				

Pictures



Paint application on walls and ceiling



Reserve Component D10100101	Elevator cab				
Properties	Cab interior finishes				
Potential Deterioration	Elevator cab may be damaged by moving large objects in and out. Vandalism and wear and tear are the main causes for deterioration for the elevator cab.				
Condition Analysis	Deterioration	None apparent.			
	Overall Condition	Good.			
Repair History	New interior finishes were installed in 2012.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	2012	4 years	25 years	4 years	21 years
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2037	\$6,000		\$12,108	
Funding Method	Budget for full replacement.				
Preventative Maintenance	Regular cleaning.				
Remarks	None.				

Pictures



Wall and floor finishes



Wall and ceiling finishes



Reserve Component	Elevator machinery				
D10100102					
Properties	Hydraulic pump, reservoir, control panels				
Potential Deterioration	Hydraulic elevators are best suited for low-speed and light-duty applications, mostly used in buildings with four floors or less. The service life is 20-30 years, depending on the level of use. The most common defects include the following: cylinder damage, excessive creep, leaks.				
Condition Analysis	Deterioration	None apparent.			
	Overall Condition	Acceptable.			
Repair History	Not available.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	1982	34 years	30 years	23 years	7 years
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2023	\$110,000		\$139,007	
Funding Method	Budget for full replacement.				
Preventative Maintenance	Rough operation is an indication of problems within the electric equipment or control system. As elevator ages, it will require more corrective maintenance. A sharp increase in maintenance requirements is an indication that the control system is approaching the end of its service life. Decision of system upgrade/refurbishment is generally determined by its impact on safety reliability, performance, and cost savings.				
Remarks	None.				

Pictures



Elevator machinery



Elevator control panel



Reserve Component D20200201	Domestic cold and hot water distribution system				
Properties	Piping, valves, circulation pumps				
Potential Deterioration	Common domestic water piping materials include copper, CPVC, and PEX tubing. Over time, as the building ages, there could be seizing and leakage of valves. In case of copper piping, the persistent flow, combined with the soft quality of copper, and chemically-treated municipal water supplies, leads to a corrosion and pinholes appearance.				
Condition Analysis	Deterioration	None apparent.			
	Overall Condition	Acceptable.			
Repair History	Water distribution system was retrofitted in 2012.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	2012	4 years	Building life	4 years	Building life
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2023	\$7,000		\$8,846	
Funding Method	Budget for contingency allowance every 7 years.				
Preventative Maintenance	Inspect copper piping annually for leaks, and for deterioration of water meter. Every 5 years, inspect to evaluate condition and adjust performance life based on findings.				
Remarks	None.				

Pictures



Domestic cold water main line



Domestic hot water piping and valves



Reserve Component	Domestic water storage				
D20200301					
Properties	Hot water storage tank				
Potential Deterioration	Typically, pitting corrosion occurs on the inner tank wall over time and may lead to water leakage. Failures of different parts (electronic controls, valves, etc.) do not lead to tank replacement and can be addressed separately.				
Condition Analysis	Deterioration	None apparent.			
	Overall Condition	Acceptable.			
Repair History	domestic hot water storage tank was replaced in 2013				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	2013	3 years	20 years	3 years	17 years
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2033	\$10,000		\$17,654	
Funding Method	Budget for full replacement.				
Preventative Maintenance	Annual inspection by a qualified technician.				
Remarks	None.				

Pictures



Domestic hot water storage tanks



Reserve Component D20300101	Sanitary waste drainage				
Properties	Piping, manholes				
Potential Deterioration	Fats, Oil, and Grease (FOGs) from kitchen sinks causes most drain lines to clog. Non-organic material can become imbedded or attached to the FOG build-up inside the pipes, causing further blockage and back-up problems. From 1985, plumbers began to use specially designed plastic PVC pipes.				
Condition Analysis	Deterioration	None apparent.			
	Overall Condition	Acceptable.			
Repair History	Not available.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	1982	34 years	Building life	34 years	Building life
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2021	\$5,000		\$5,910	
Funding Method	Budget for contingency allowance every 7 years.				
Preventative Maintenance	System should be routinely cleaned and repaired.				
Remarks	None.				

Pictures



Sink sanitary drain



Sanitary piping in parkade area



Reserve Component	Rain water drainage				
D20400101					
Properties	Piping, manholes, catch basins				
Potential Deterioration	Catch basins and storm drains that become clogged due to accumulated debris and sediment or due to collapsing because of settlement, can cause flooding and safety issues				
Condition Analysis	Deterioration	None apparent.			
	Overall Condition	Acceptable.			
Repair History	Not available.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	1982	34 years	Building life	34 years	Building life
Cost Estimates	Starting Year	Current Cost	Future Cost		
	2020	\$6,000	\$6,859		
Funding Method	Budget for contingency allowance every 5 years.				
Preventative Maintenance	Visual inspections at regular intervals. Sump pumps should be annually inspected and may include: flushing and pumping out the pit, inspection and lubrication of motors, inspection of check valves.				
Remarks	None.				

Pictures



Storm water piping in parkade area



Storm water manhole



Reserve Component D30200101	Boilers				
Properties	Heating boilers serving the hot water heating system				
Potential Deterioration	Controls could malfunction causing unreliable operation. Deposits of scale could result in the boiler being incapable of producing sufficient heat. Impurities can cause overheating, failure to produce hot water, a drop in the boiler flow rate, and an overall loss of efficiency. Overheating, deterioration, and leakage could cause physical damage to the boiler to the extent that it becomes unusable, or could ultimately lead to catastrophic failure.				
Condition Analysis	Deterioration	None apparent.			
	Overall Condition	Acceptable.			
Repair History	boiler serving the swimming pool was replaced in 2002				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	1982	34 years	35 years	27 years	8 years
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2024	\$70,000		\$91,467	
Funding Method	Budget for full replacement.				
Preventative Maintenance	Water treatment to remove impurities within the system is mandatory. The interlocking system of controls and safety devices should be regularly inspected, cleaned, tested, and adjusted by a specialized, licensed contractor.				
Remarks	None.				

Pictures



Hot water heating boilers



Reserve Component	Boilers				
D30200103					
Properties	Heating boiler serving the pool				
Potential Deterioration	Controls could malfunction causing unreliable operation. Chemical damage and galvanic corrosion are the main causes of premature boiler failure.				
Condition Analysis	Deterioration	None apparent.			
	Overall Condition	Acceptable.			
Repair History	Not available.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	2002	14 years	35 years	14 years	21 years
Cost Estimates	Starting Year	Current Cost	Future Cost		
	2037	\$21,000	\$42,379		
Funding Method	Budget for full replacement.				
Preventative Maintenance	Water treatment to remove impurities is necessary. The interlocking system of controls and safety devices should be regularly inspected, cleaned, tested, and adjusted by a specialized, licensed contractor.				
Remarks	None.				

Pictures



Pool heating boiler



Reserve Component D30200301	Pool water circulation system				
Properties	Piping, circulation pump, filter, dechlorinating system				
Potential Deterioration	The pool equipment consist of pumps and motors, timers and controls, automatic pool cleaners, and salt and chlorination systems. Components may fail from various causes. Also pump failure is known to occur after 7-10 years of service. Water leaks may occur over time from broken pipes and valves.				
Condition Analysis	Deterioration	None apparent.			
	Overall Condition	Acceptable.			
Repair History	Not available.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	1982	34 years	Contingency	12 years	Contingency
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2019	\$3,000		\$3,317	
Funding Method	Budget for contingency allowance every 5 years.				
Preventative Maintenance	The different types of equipment and conditions under which they operate make proper lubrication extremely important. The preventive maintenance should include daily operation procedures as well as seasonal care. Some of the maintenance operations may include: filter cleaning and repairs, backwashing, review and repair of chlorine equipment, pumps and piping. Special procedures at seasonal pool opening and closing should be followed.				
Remarks	None.				

Pictures



Sand filter, pump and piping



Circulation pump



Reserve Component D30200302	Hot water heating distribution system				
Properties	Piping, circulation pumps, valves, heating baseboards				
Potential Deterioration	The most common failures include pipe corrosion, water leakage at valves and connections and failures of circulation pumps.				
Condition Analysis	Deterioration	None apparent.			
	Overall Condition	Acceptable.			
Repair History	New control valves are scheduled to be installed in 2016.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	1982	34 years	Building life	34 years	Building life
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2023	\$12,000		\$15,164	
Funding Method	Budget for contingency allowance every 5 years.				
Preventative Maintenance	The system should be maintained at about pH 9 - 10, and tested annually for effectiveness of corrosion inhibitor and antifreeze protection.				
	Distribution piping should be checked for leaks at valves and connections and repaired/replaced as needed. Pipes should be properly insulated in unheated basements, attics, and crawl spaces. Pumps and mixing valves should be exercised at least once a month during the off-season to prevent seizure and deterioration.				
Remarks	None.				

Pictures



Hot water heating piping and valves



Hot water heating baseboard



Reserve Component D30400201	Exhaust and ventilating system				
Properties	Make up air units				
Potential Deterioration	Common issues with the make-up air unit may include: malfunctioning of the blower motor, tripped pressure switches, broken belt, control malfunctioning.				
Condition Analysis	Deterioration	None apparent.			
	Overall Condition	Acceptable.			
Repair History	Not available.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	1982	34 years	20 years	18 years	2 years
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2018	\$7,000		\$7,484	
Funding Method	Budget for full replacement.				
Preventative Maintenance	Annual maintenance is provided by specialized personnel and should include: checking fan blades and dumpers for dirt accumulation and cleaning if necessary, checking fan bearing collar set screws for tightness, checking belts for wear and adjusting tension or alignment, lubrication of bearings, checking and adjusting controls.				
Remarks	None.				

Pictures



Make-up air unit



Reserve Component D30400204	Exhaust and ventilating system				
Properties	Underground parking ventilation				
Potential Deterioration	Typically, the malfunctioning and failures are caused by dirt accumulation. Over time, the exhaust fan may experience electrical motor breakdowns, or loose or defective components.				
Condition Analysis	Deterioration	None apparent.			
	Overall Condition	Acceptable.			
Repair History	Not available.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	1982	34 years	30 years	28 years	2 years
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2018	\$9,000		\$9,622	
Funding Method	Budget for full replacement.				
Preventative Maintenance	Annual maintenance may include: checking blades for dust buildup and clean if necessary, checking fan RPM to design specifications, checking belt tension, wear and alignment, bearing collar set screws to make sure that they are tight, lubricate fan bearings and motor. Measure motor amperage using a C clamp amprobe. Increased current flow may indicate that bearings are seizing.				
Remarks	None.				

Pictures



Exhaust fan in parkade



Exhaust fan in parkade



Reserve Component	Exhaust and ventilating system				
D30400206					
Properties	Exhaust fans in service/storage rooms, washrooms				
Potential Deterioration	Typically, the malfunctioning and failures are caused by dirt accumulation. Over time, the exhaust fan may experience electrical motor breakdowns, or loose or defective components.				
Condition Analysis	Deterioration	None apparent.			
	Overall Condition	Acceptable.			
Repair History	Not available.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	1982	34 years	20 years	18 years	2 years
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2018	\$4,000		\$4,277	
Funding Method	Budget for full replacement.				
Preventative Maintenance	Check cleanliness of the fan, switch operation. Repair as required. Check fan belt tension, wear and alignment. Replace if necessary to ensure proper operation. Check and adjust the controls.				
Remarks	None.				

Pictures



Exhaust fan in service room



Exhaust fan in washroom



Reserve Component	Sprinkler system				
D40100201					
Properties	Piping, control valves, air compressor, sprinkler heads, monitoring devices				
Potential Deterioration	Corrosion or rust can weaken pipes and sprinkler heads and ultimately cause water release. Wet system pipes that are inadequately insulated can freeze and rupture during the winter months, rendering a sprinkler system inoperable and potentially causing severe damage once temperatures rises and pipes begin to thaw.				
Condition Analysis	Deterioration	None apparent.			
	Overall Condition	Acceptable.			
Repair History	New air compressor and flow valves installed in 2013.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	1982	34 years	Building life	34 years	Building life
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2021	\$12,000		\$14,184	
Funding Method	Budget for contingency allowance every 7 years.				
Preventative Maintenance	Fire sprinkler systems are subject to very specific inspections, testing and maintenance requirements to help ensure that they will function properly when needed, and should be performed annually by licensed contractors. Conducting a thorough winterization inspection of a facility can help protect a Wet Pipe system from freezing.				
Remarks	None.				

Pictures



Distribution station and control valve



Air compressor



Reserve Component D40300305	Fire alarm system				
Properties	Control panel, annunciator, pull stations, alarm bells				
Potential Deterioration	Increased frequency of failures while performing the tests may signal the necessity of replacement or upgrading.				
Condition Analysis	Deterioration	None apparent.			
	Overall Condition	Acceptable.			
Repair History	Not available.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	1982	34 years	Contingency	N/A	Contingency
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2023	\$6,000		\$7,582	
Funding Method	Budget for contingency allowance every 7 years.				
Preventative Maintenance	Annual inspections and testing as required, performed by a certified contractor.				
Remarks	None.				

Pictures



Annunciator panel, alarm bell, pull station



Reserve Component	Electrical power distribution				
D50100101					
Properties	Distribution panels, cabling/wiring, switches, receptacles				
Potential Deterioration	Bolts and connecting devices may corrode or overheat. Insulating deposits may built up on the energized contacts, leading to arcing and power disruption. Also, the devices may exhibit signs of corona, tracking, and thermal or physical damages.				
Condition Analysis	Deterioration	None apparent.			
	Overall Condition	Acceptable.			
Repair History	Not available.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	1982	34 years	Building life	34 years	Building life
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2019	\$3,000		\$3,317	
Funding Method	Budget for contingency allowance every 3 years.				
Preventative Maintenance	Preventive maintained and testing are recommended every 3 years, performed by specialized personnel. Electrical rooms or vaults should be kept cleaned of dirt, and examined for water seepage, especially at the top of electrical equipment enclosures. Prior to the planned maintenance, an infrared survey should be conducted to help identify areas that need specific and immediate attention.				
Remarks	None.				

Pictures



Distribution panel



Interrupters



Reserve Component	Intercom system				
D50300201					
Properties	Control panel, wiring, door station				
Potential Deterioration	The frequency of breakdowns may increase toward the end of its expected useful life, increasing the maintenance costs. The system may also become obsolete over time.				
Condition Analysis	Deterioration	None apparent.			
	Overall Condition	Acceptable.			
Repair History	Intercom installed in 1991 as mentioned on the control panel.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	1991	25 years	25 years	23 years	2 years
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2018	\$15,000		\$16,037	
Funding Method	Budget for full replacement.				
Preventative Maintenance	Regular maintenance by a qualified technician.				
Remarks	None.				

Pictures



Maine entrance station



Control panel



Reserve Component D50900202	Exit and emergency lights				
Properties	Exit signs, emergency lights, battery packs				
Potential Deterioration	The emergency lighting and exit signs may become obsolete and no longer meet the code requirements.				
Condition Analysis	Deterioration	None apparent.			
	Overall Condition	Acceptable.			
Repair History	Not available.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	1982	34 years	Contingency	N/A	Contingency
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2020	\$5,000		\$5,715	
Funding Method	Budget for contingency allowance every 7 years.				
Preventative Maintenance	Annual inspections and testing as required, performed by a licensed contractor, including but not limited to inspect for structural defects and deposits, pushing test button and observing light operation.				
Remarks	None.				

Pictures



Exit sign



Obsolete emergency lights and battery package



Reserve Component	Laundry room				
E10100601					
Properties	Appliances, plumbing, architectural finishes, electrical, lighting				
Potential Deterioration	Partial replacement and renovations in the laundry room including interior finishes, furnishings, cabinetry, plumbing fixtures, and lighting are generally subject to functionality considerations.				
Condition Analysis	Deterioration	None apparent.			
	Overall Condition	Acceptable.			
Repair History	New washers and dryers were installed in 2013.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	1982	34 years	Contingency	years	Contingency
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2023	\$10,000		\$12,637	
Funding Method	Budget for contingency allowance every 7 years.				
Preventative Maintenance	Periodic inspections and repairs/replacements as needed.				
Remarks	None.				

Pictures



Laundry room - washers and dryers, finishes



Laundry room - service sink, cabinetry



Reserve Component E10900401		Interior light fixtures				
Properties		Light fixtures in service/storage rooms, parkade				
Potential Deterioration		Lighting in parkade and service/storage rooms is generally replaced based on energy saving considerations or for better illumination. Over time the corrosion may occur on the casing or discoloring and yellowing may occur on the lens.				
Condition Analysis		Deterioration	None apparent.			
		Overall Condition	Acceptable.			
Repair History						
Life Cycle Analysis	DOI		CA	EUL	EA	RUL
	1982		34 years	Contingency	N/A	Contingency
Cost Estimates	Starting Year		Current Cost		Future Cost	
	2023		\$2,000		\$2,527	
Funding Method		Budget for contingency allowance every 5 years.				
Preventative Maintenance		Maintenance service should be performed annually and typically include: removing of old lamps and cleaning the fixtures, inspecting wiring, contacts, terminals and sockets, installation of new lamps, putting back into service and testing the operation.				
Remarks		None.				

Pictures



Fluorescent tube light fixtures



Fluorescent lamp light fixture in service room



Reserve Component	Lobby area				
E10900501					
Properties	Aluminum mailboxes, architectural finishes, furnishings, electrical, lighting				
Potential Deterioration	Partial replacement and renovations in the lobby area, including interior finishes, furnishings, cabinetry, and lighting are generally subject to aesthetic consideration. Wear and tear due to aging are natural, and some components may last up to 30-35 years before the first signs of deterioration are evident.				
Condition Analysis	Deterioration	None apparent.			
	Overall Condition	Good.			
Repair History	New mailboxes were installed in 2013. Quarry tile flooring was installed in 2013.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	2013	3 years	Contingency	N/A	Contingency
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2021	\$5,000		\$5,910	
Funding Method	Budget for contingency allowance every 7 years.				
Preventative Maintenance	Periodic inspections local repair and renovations as needed.				
Remarks	None.				

Pictures



Lobby area



Quarry tiles flooring



Reserve Component	Interior lighting fixtures				
E20100701					
Properties	Light fixtures on corridors				
Potential Deterioration	Interior lighting is generally replaced based on aesthetic and energy saving considerations or for better illumination of the areas served. Over time the corrosion may occur on the casing or discoloring and yellowing may occur on the lens.				
Condition Analysis	Deterioration	None apparent.			
	Overall Condition	Good.			
Repair History	New light fixtures were installed on hallways in 2012.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	2012	4 years	Contingency	N/A	Contingency
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2023	\$2,000		\$2,527	
Funding Method	Budget for contingency allowance every 7 years.				
Preventative Maintenance	Maintenance service should be performed annually and typically include: removing of old lamps and cleaning the fixtures, inspecting wiring, contacts, terminals and sockets, installation of new lamps, putting back into service and testing the operation.				
Remarks	None.				

Pictures



Light fixtures on corridor



Reserve Component	Exterior lighting fixtures				
E20100702					
Properties	Wall and soffit mounted light fixtures				
Potential Deterioration	Wall and soffit lighting is generally replaced based on aesthetic and energy saving considerations and/or for better illumination of the areas served. Over time the corrosion may occur on the casing or discoloring and yellowing may occur on the lens.				
Condition Analysis	Deterioration				
	Overall Condition	Good			
Repair History					
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	1982	34 years	Contingency	N/A	Contingency
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2021	\$2,000		\$2,364	
Funding Method	Budget for contingency allowance every 7 years.				
Preventative Maintenance	Maintenance service should be performed annually and typically include: removing of old lamps and cleaning the fixtures, inspecting wiring, contacts, terminals and sockets, installation of new lamps, putting back into service and testing the operation.				
Remarks	None.				

Pictures



Soffit mounted light fixtures



Wall mounted light fixture



Reserve Component	Pool building				
F10400901					
Properties	Interior and exterior finishes, roofing, plumbing, electrical				
Potential Deterioration	The exterior components (i.e. roof, walls, eaves, fasciae, gutters, etc.) are exposed to elements, therefore weathering and deterioration is likely to occur sooner compared to the rest of the building' components. Typically the interior finishes are minimal, and the aesthetics are not a major concern. Partial replacement and renovations including interior finishes, furnishings, cabinetry, plumbing fixtures, and lighting are generally subject to functionality considerations.				
Condition Analysis	Deterioration	Wood shake roof was observed to be in poor condition. Doors exhibit delamination on exterior side. Weathered areas are visible on the interior walls. Washroom areas were observed to be in acceptable condition.			
	Overall Condition	Poor/Acceptable			
Repair History	Not available.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	1982	34 years	Contingency	N/A	Contingency
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2019	\$25,000		\$27,638	
Funding Method	Budget for 50% partial replacement.				
Preventative Maintenance	Periodic inspections and repairs/replacements as needed.				
Remarks	None.				

Pictures



Pool building



Plumbing fixtures in washroom



Reserve Component	Exterior pedestrian walkway				
G20300104					
Properties	Concrete walkways				
Potential Deterioration	Over time, settlement, and freeze-thaw cycles may lead to cracks and spalling. Also, salt or other de-icing products used for ice control in the winter may adversely affect the surface of the concrete.				
Condition Analysis	Deterioration	Some delamination were observed at the concrete paved alley to main entrance. Some cracking was observed at the concrete walkway at the back.			
	Overall Condition	Acceptable.			
Repair History	Not available.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	1982	34 years	Building life	34 years	Building life
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2017	\$3,000		\$3,102	
Funding Method	Budget for contingency allowance every 3 years.				
Preventative Maintenance	Stresses producing minor defects are constantly at work. Early detection and repair (patching, crack sealing, etc.) of minor defects is essential before they deteriorate into pavement failures requiring major repair expenditures.				
Remarks	None.				

Pictures



Front walkway with delamination



Concrete walkway at the back of the building



Reserve Component G20400106	Site wood works				
Properties	Wood fencing, patio enclosures, pool wood decking, trellis				
Potential Deterioration	Wooden site components may rot after prolonged exposure to moisture. Also, settlement and mechanical impacts may lead to leaning or detachment.				
Condition Analysis	Deterioration	Localized weathered and rotten areas were observed.			
	Overall Condition	Acceptable.			
Repair History	Pool wood deckings were replaced in 2014. A portion of the back fence was replaced in 2014.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	1982	34 years	23 years	20 years	3 years
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2019	\$25,000		\$27,638	
Funding Method	Budget for 65% partial replacement.				
Preventative Maintenance	Inspect periodically for mold and mildew stains, fasteners, gate locks, hinges, cracking, warping, splintering. Check posts for stability, soil erosion etc. Repair/replace as needed. Apply clear wood preservative/sealer/paint every 3-5 years.				
Remarks	Partial replacement were performed recently. Further partial replacements, as needed, are expected within the next 3-5 years.				

Pictures



Newer wood fence



Pool fence, trellis and decking

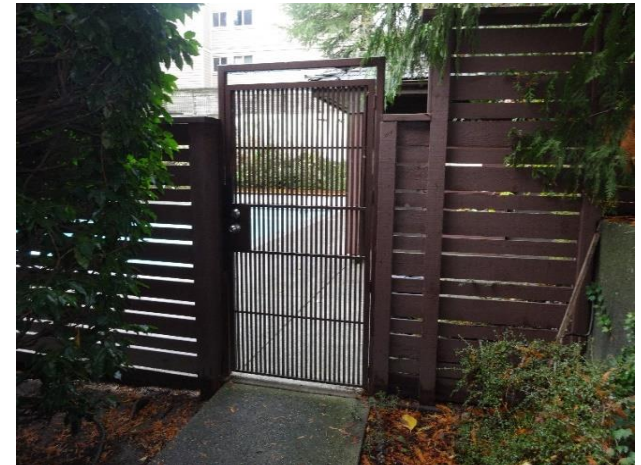


Reserve Component	Site wood works - painting				
G20400109					
Properties	Paint/stain application on wood site elements				
Potential Deterioration	Over prolonged exposure to the elements, fading, yellowing, blistering, or peeling typically occur. Rusting of metal components on surface may lead to stains.				
Condition Analysis	Deterioration	Faded paint was observed especially at the bottom of the fences.			
	Overall Condition	Acceptable.			
Repair History	Not available.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	1982	34 years	8 years	5 years	3 years
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2019	\$12,000		\$13,266	
Funding Method	Budget for 25% partial replacement.				
Preventative Maintenance	Clean annually.				
Remarks	Repainting off the wood works are expected within the next 3-5 years, in the same time with partial replacements of more advanced deteriorated portions - see previous item.				

Pictures



Paint on patio wood divider



Paint on perimeter fence and gate



Reserve Component G20400201	Retaining wall				
Properties	Concrete retaining wall				
Potential Deterioration	Retaining walls are constantly exposed to soil and moisture, and freeze/thaw cycles that can cause cracking, spalling, loosening, etc. Cracks allow water penetration causing further deterioration such as bulging, shifting, and potential collapse. Vegetation also may displace concrete as it grows and causes cracking.				
Condition Analysis	Deterioration	None apparent.			
	Overall Condition	Acceptable.			
Repair History	Not available.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	1982	34 years	Building life	34 years	Building life
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2023	\$5,000		\$6,318	
Funding Method	Budget for contingency allowance every 7 years.				
Preventative Maintenance	Periodic inspections should be performed to determine deteriorated mortar joints, cracks, shifting, crumbling, pooling water at the base of the wall, and/or any changes in the landscape on either side of the wall. Drainage vents must be kept clear. Localized repairs should be performed as needed.				
Remarks	None.				

Pictures



Retaining wall



Reserve Component G20400603	Pool lining				
Properties	Waterproofing lining				
Potential Deterioration	Pool liners deteriorate over time due to harsh ultraviolet rays and pool chemicals. In addition, the liner loses its tensile strength with age, and tears and punctures may occur, allowing water leakage.				
Condition Analysis	Deterioration	None apparent.			
	Overall Condition	Acceptable.			
Repair History	Not available.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	1982	34 years	25 years	23 years	2 years
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2018	\$5,000		\$5,346	
Funding Method	Budget for full replacement.				
Preventative Maintenance	N/A				
Remarks	Inspection and local repairs of the lining in order to prevent water leaking. Generally a major rehabilitation is known to be necessary every 10-15 years.				

Pictures



Pool lining



Reserve Component	Pool decking				
G20400604					
Properties	concrete decking, drains, related accessories				
Potential Deterioration	The pool decking may exhibit cracks, depressions or other deterioration due to backfill settlement.				
Condition Analysis	Deterioration	None apparent.			
	Overall Condition	Acceptable.			
Repair History	Not available.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	1982	34 years	Contingency	24 years	Contingency
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2018	\$3,000		\$3,207	
Funding Method	Budget for contingency allowance every 5 years.				
Preventative Maintenance	Seal the decking cracks and re-level. Generally a major rehabilitation is known to be necessary every 10-15 years.				
Remarks	A general retrofit of the pool decking and related accessories is expected to be performed at the earliest convenience in order to avoid water seepage and further damages.				

Pictures



Cracked pool concrete decking



Reserve Component	Property signage, appurtenances				
G20400901					
Properties	Gazebo, property signage				
Potential Deterioration	Property signage, gazebo, and other appurtenances are subject to wear and tear process due to the exposure to weather.				
Condition Analysis	Deterioration	Gazebo exhibit rotten wood members, deteriorated roof. Property sign appear to be in acceptable condition.			
	Overall Condition	Poor/acceptable			
Repair History	Removal of gazebo is scheduled in near future.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	1982	34 years	Contingency	N/A	Contingency
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2018	\$7,000		\$7,484	
Funding Method	Budget for contingency allowance every 7 years.				
Preventative Maintenance	Periodic inspection and repairs as needed. Replacement may be considered due to aesthetic considerations as well.				
Remarks	None.				

Pictures



Gazebo



Property sign



Reserve Component G20500501	Landscaping				
Properties	Plants, trees, lawns, shrubs, related accessories				
Potential Deterioration	Due to vegetative growth, the landscaping should be periodically redesigned to integrate resource efficiency, site functionality, and aesthetics.				
Condition Analysis	Deterioration	None apparent.			
	Overall Condition	Acceptable.			
Repair History	Not available.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	1982	34 years	Building life	34 years	Building life
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2021	\$3,000		\$3,546	
Funding Method	Budget for contingency allowance every 5 years.				
Preventative Maintenance	Maintain the existing elements by keeping plants healthy and preventing deterioration due to weather, damage and normal usage.				
Remarks	None.				

Pictures



Landscaping



Landscaping



Reserve Component G40200101	Site lighting				
Properties	Pole and post mounted light fixtures				
Potential Deterioration	Site lighting is generally replaced based on aesthetic and energy saving considerations and/or for better illumination of the areas served. Over time the corrosion may occur on the casing or discoloring and yellowing may occur on the lens.				
Condition Analysis	Deterioration	Broken plastic blobe and a fallen post were observed at the back of the building.			
	Overall Condition	Acceptable.			
Repair History	New site lighting was installed in 2012.				
Life Cycle Analysis	DOI	CA	EUL	EA	RUL
	2012	4 years	Contingency	N/A	Contingency
Cost Estimates	Starting Year	Current Cost		Future Cost	
	2017	\$2,000		\$2,068	
Funding Method	Budget for contingency allowance every 7 years.				
Preventative Maintenance	Maintenance service should be performed annually and typically include: removing of old lamps and cleaning the fixtures, inspecting wiring, contacts, terminals and sockets, installation of new lamps, putting back into service and testing the operation.				
Remarks	None.				

Pictures



Broken plastic globe



Fallen post with light fixture



Appendix C – Assumptions and Qualifications

Preamble

This report is subject to the assumptions and qualifications outlined below and otherwise set out elsewhere in this report. Use of this report by any reader constitutes acceptance of these assumptions, qualification and the conditions outlined below and elsewhere in this report. The acceptance of this report also constitutes acceptance of responsibility for payment of the fee balance and any due costs to ABSSEI.

Common Property Conditions

The determination of the physical condition of the common properties is solely based on a visual review of a representative sampling of all common properties in readily accessible locations after discussion with Strata Corporation representatives and a review of documentation provided by the Strata Corporation. No invasive testing or excavations were carried out on the site for the purposes of this report. Similarly, none of the equipment is disassembled, operated or subjected to any sort of functional testing. The physical inspection does not constitute a "technical audit" since extensive, comprehensive testing was not included in the scope of work.

Building Codes

The visual reviews were not conducted to determine whether common property construction meets or exceeds building code requirements and thus this depreciation report is exempt from all recommendations regarding build code requirements.

Cost Estimation for Common Properties

All cost estimates are performed in future year dollars. The estimates presented are solely intended for budgetary or planning purposes and not accounting for tender use. Actual costs will vary depending on a variety of factors. Most importantly, the estimates assume economies of scale and small operations will incur higher costs when performed individually. Miscellaneous costs such as consulting services and certain contingency allowances unrelated to building components are not included in the budget estimates. Cost estimates for actual projects should be developed in greater detail, accounting for owner contingency, permit fees, engineering fees etc. Construction costs may fluctuate, varying based on the time of year, contractor availability and other factors. These cost estimates must be updated over time and confirmed by competitive tender before any contracts are awarded. The cost estimates do not include allowances for site-specific access requirements or environmental concerns. Generally, replacement costs are based on like-for-like with a similar component except in face of building code modifications or external obsolescence.



Remaining Useful Life of Common Properties

Determination of the remaining useful life is based on the condition of the common properties assessed through a visual review and on the average lifespan of the same component by industry standards. Poor maintenance, insurable losses such as earthquakes, fires and floods can shorten the life of an asset. These unforeseen events are not accounted for in our calculation

Funding Models

The funding models for this depreciation report are calculated based on a 30-year horizon, beginning within the current year. A report performed in 2013 projects funding until 2043. The projected period is stationary and does not shift. Hence, in year 1, 2014, the projections will be valid for 29 years. The funding projections does not extend past 30 years and accuracy is only estimated by a +/- 30% error within the prescribed period of 30 years. Renewals and major maintenance projects occurring beyond the 30-year projection time frame are not considered in the given funding models.

Services Not Included

The agreed compensation for services rendered in preparing this report does not include fees for follow-up consultations and/or attendances to arbitrations or mediations, other than those outlined at the time of the acceptance of the given quote. Additional fees will have to be negotiated if personal appearances are required in connection with this report after its acceptance.

Services Included

Limited consulting or clarification regarding the content of this report or requested modifications shall be provided at no additional charge within one year of the completion of the draft report. Attendance of a final meeting with the strata council to clarify ramifications and concerns regarding the report will also be provided at no extra charge.

Currency

Unless otherwise noted, all estimates are expressed in Canadian currency.

Report Distribution, Third Party Liability

This report is intended sole and exclusive use of the Strata Corporation. Possession of a copy of the report shall not authorize use of the report for any purpose other than that noted in the agreement and/or report. This report shall not be distributed or communicated to unauthorized third parties in whole or in part without prior written consent of representative of the client as noted herein. Any liability, if any, of ABSSEI is limited to the Strata Corporation only. Notwithstanding anything herein to the contrary, the Strata Corporation will forever indemnify and hold ABSSEI along with its employees harmless from any claims by third parties related in any way to this report.



Information Provided by Third Parties

This report, its analysis and conclusions required information from various sources. Such information was believed to be reasonably reliable, accurate, and true. ABSSEI shall not be responsible for the accuracy of any information used in this report that has been obtained from any source. No independent verification of factual data presented to ABSSEI has been undertaken by ABSSEI.

Modifications

ABSSEI reserves the right at any time to alter statements, analyses, conclusions or value estimates, if additional facts pertinent to this report are discovered at any time. ABSSEI is not responsible for any unauthorized alterations or distributions to the report. The report must not be abstracted and must be used in its entirety.

Measurements and Exhibits

The sketches, maps and photographs in the report are included solely for the purpose of assisting the reader in visualizing the assets and may not be to scale. All components assessed herein are assumed to be completed according to the architectural, structural, mechanical, electrical plans provided, unless otherwise noted. Any variation in land or building areas from those considered in the depreciation report may alter the estimates and in turn, the required funding. No legal survey, soil tests, engineering investigations, detailed quantity survey compilations, nor exhaustive physical examinations have been made. Accordingly, no responsibility is assumed concerning these matters or other technical and engineering techniques, which would be required to discover any inherent or hidden condition of the property.

Legal Concerns

The author is highly qualified in matters concerning the depreciation report itself but otherwise not qualified in legal affairs and does not purport to give legal advice. It is assumed that:

- 1) The legal description as well as the registered survey as stated herein is that which is recorded by the Registrar of the requisite Land Titles Office and are assumed correct;
- 2) Title to the property is good and marketable; and
- 3) Rights-of-way, easements or encroachments over other real property, are legally enforceable.

The distribution of cost and other estimates in this report apply only under the programme of utilization as identified in this report. The estimates herein must not be used in conjunction with any other forms of valuation or depreciation reports and may be invalid if so used.

The report is based, unless otherwise stated, on there being full compliance with all applicable federal, provincial and local environmental regulations, laws and restrictions.



Moreover, it is assumed that all required permits have been or can be obtained or renewed for any use considered herein. It is also assumed that the subject property is maintained and managed pursuant to prudent and competent ownership and management.

Environmental Concerns

ABSSEI personnel are not qualified in aspects of surveying and environmental assessment. Unless otherwise stated in the report, it is assumed that the subject assets are not affected in any way by any adverse environmental conditions. ABSSEI personnel are not qualified to detect potentially hazardous materials and/or substances which may adversely affect the value of the property. Hence, ABSSEI shall not be held responsible for past or present, legal or physical deficiencies that may be found.

Furthermore, ABSSEI personnel are not qualified to comment on environmental issues that may affect the market value of the property. These environmental issues include but are not limited to, the pollution or contamination of land, buildings, water, groundwater or air. Unless expressly stated, the property is assumed to be free and clear of pollutants and contaminants including, but not limited to, moulds or mildews or the conditions that might give rise to either. ABSSEI and its assignees expressly deny any legal liability relating to the effect of environmental issues on the market value of the property assessed.

Physical Concerns

ABSSEI shall not be held responsible for any costs incurred to investigate or correct any deficiencies of any type, which may be present in the real estate and/or real property described herein. It is assumed that there are no patent or latent defects in the subject improvements, that no objectionable materials are present and that the improvements are structurally, mechanically and electrically adequate and in need of no immediate repairs unless expressly noted within this report.



Appendix D – Replacement Schedule

The following table notes the recommended years of replacement for each component over the 30-year period. Please note that the years listed below may differ from the replacement years in Appendix B in order to optimize the financial models. The costs listed are the future replacement costs as determined by the inflation rates noted in Section 2.3.1.

Component	Current Cost	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Undeground structure	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Waterproofing membrane	\$ 98,000	-	\$ 100,548	-	-	-	-	-	-	-	-	-	-	-	-
Balcony flooring	\$ 45,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Patio flooring	\$ 5,000	-	-	-	-	-	-	-	\$ 5,984	-	-	-	-	\$ 6,804	-
Cladding	\$ 153,000	-	-	-	-	-	\$ 20,000	-	-	-	-	\$ 197,772	-	-	-
Cladding	\$ 315,000	-	-	-	-	-	-	-	-	-	-	\$ 407,178	-	-	-
Balcony railings	\$ 30,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Balcony soffits	\$ 10,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Exterior painting	\$ 41,000	-	-	-	-	-	\$ 46,614	-	-	-	-	-	-	-	-
Exterior windows	\$ 170,000	-	-	-	-	-	\$ 193,279	-	-	-	-	-	-	-	-
Caulking	\$ 30,000	-	-	-	-	-	\$ 34,108	-	-	-	-	-	-	-	-
Main entrance doors	\$ 4,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Egress doors	\$ 6,000	-	-	-	-	-	-	-	-	-	-	-	-	\$ 8,164	-
Garage doors	\$ 4,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Patio and balcony doors	\$ 131,600	-	-	-	-	-	-	-	-	-	-	-	-	\$ 179,071	-
Roofing	\$ 29,928	-	-	-	-	-	-	-	-	-	-	\$ 38,686	-	-	-
Roofing	\$ 174,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gutters and downspouts	\$ 15,000	-	-	-	-	-	\$ 17,054	-	-	-	-	-	-	-	-
Service doors	\$ 26,400	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Unit entry doors	\$ 70,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Interior stairs	\$ 30,000	-	-	-	\$ 32,401	-	-	-	-	-	-	-	-	-	-
Flooring finishes	\$ 35,000	-	-	-	\$ 37,802	-	-	-	-	-	-	-	-	-	-
Wall and ceiling finishes	\$ 17,000	-	-	-	-	-	-	-	\$ 20,346	-	-	-	-	-	-
Elevator cab	\$ 6,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Elevator machinery	\$ 110,000	-	-	-	-	-	-	-	\$ 131,651	-	-	-	-	-	-
Domestic cold and hot water distribution system	\$ 7,000	-	-	-	-	-	-	-	\$ 8,378	-	-	-	-	-	-
Domestic water storage	\$ 10,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sanitary waste drainage	\$ 5,000	-	-	-	-	-	\$ 5,685	-	-	-	-	-	-	\$ 6,804	-
Rain water drainage	\$ 6,000	-	-	-	-	\$ 6,649	-	-	-	-	\$ 7,559	-	-	-	-
Boilers	\$ 70,000	-	-	-	-	-	-	-	-	\$ 85,956	-	-	-	-	-
Boilers	\$ 21,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pool water circulation system	\$ 3,000	-	-	-	\$ 3,240	-	-	-	-	\$ 3,684	-	-	-	-	\$ 4,188
Hot water heating distribution system	\$ 12,000	-	-	-	-	-	-	-	\$ 14,362	-	-	-	-	\$ 16,329	-
Exhaust and ventilating system	\$ 7,000	-	-	\$ 7,369	-	-	-	-	-	-	-	-	-	-	-
Exhaust and ventilating system	\$ 9,000	-	-	\$ 9,474	-	-	-	-	-	-	-	-	-	-	-
Exhaust and ventilating system	\$ 4,000	-	-	\$ 4,211	-	-	-	-	-	-	-	-	-	-	-
Sprinkler system	\$ 12,000	-	-	-	-	-	\$ 13,643	-	-	-	-	-	-	\$ 16,329	-
Fire alarm system	\$ 6,000	-	-	-	-	-	-	-	\$ 7,181	-	-	-	-	-	-
Electrical power distribution	\$ 3,000	-	-	-	\$ 3,240	-	-	\$ 3,499	-	-	\$ 3,780	-	-	\$ 4,082	-
Intercom system	\$ 15,000	-	-	\$ 15,790	-	-	-	-	-	-	-	-	-	-	-
Exit and emergency lights	\$ 5,000	-	-	-	-	\$ 5,541	-	-	-	-	-	-	\$ 6,631	-	-
Laundry room	\$ 10,000	-	-	-	-	-	-	-	\$ 11,968	-	-	-	-	-	-
Interior light fixtures	\$ 2,000	-	-	-	-	-	-	-	\$ 2,394	-	-	-	-	\$ 2,721	-
Lobby area	\$ 5,000	-	-	-	-	-	\$ 5,685	-	-	-	-	-	-	\$ 6,804	-
Interior lighting fixtures	\$ 2,000	-	-	-	-	-	-	-	\$ 2,394	-	-	-	-	-	-
Exterior lighting fixtures	\$ 2,000	-	-	-	-	-	\$ 2,274	-	-	-	-	-	-	\$ 2,721	-
Pool building	\$ 25,000	-	-	-	\$ 27,001	-	-	-	-	-	-	-	-	-	-
Exterior pedestrian walkway	\$ 3,000	-	\$ 3,078	-	-	\$ 3,324	-	-	\$ 3,590	-	-	\$ 3,878	-	-	\$ 4,188
Site wood works	\$ 25,000	-	-	-	\$ 27,001	-	-	-	-	-	-	-	-	-	-
Site wood works - painting	\$ 12,000	-	-	-	\$ 12,961	-	-	-	-	-	-	-	\$ 15,915	-	-
Retaining wall	\$ 5,000	-	-	-	-	-	-	-	\$ 5,984	-	-	-	-	-	-
Pool lining	\$ 5,000	-	-	\$ 5,263	-	-	-	-	-	-	-	-	-	-	-
Pool decking	\$ 3,000	-	-	\$ 3,158	-	-	-	-	\$ 3,590	-	-	-	-	\$ 4,082	-
Property signage, appurtenances	\$ 7,000	-	-	\$ 7,369	-	-	-	-	-	-	\$ 8,819	-	-	-	-
Landscaping	\$ 3,000	-	-	-	-	-	\$ 3,411	-	-	-	-	\$ 3,878	-	-	-
Site lighting	\$ 2,000	-	\$ 2,052	-	-	-	-	-	-	\$ 2,456	-	-	-	-	-
Total	-	-	\$ 105,678	\$ 52,634	\$ 143,646	\$ 15,514	\$ 341,753	\$ 3,499	\$ 217,823	\$ 92,096	\$ 20,158	\$ 651,392	\$ 22,546	\$ 253,910	\$ 8,377

Component	Current Cost	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
Undeground structure	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Waterproofing membrane	\$ 98,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Balcony flooring	\$ 45,000	-	-	-	-	\$ 71,427	-	-	-	-	-	-	-	-	-
Patio flooring	\$ 5,000	-	-	-	\$ 7,735	-	-	-	-	\$ 8,795	-	-	-	-	\$ 9,999
Cladding	\$ 153,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cladding	\$ 315,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Balcony railings	\$ 30,000	-	-	-	-	\$ 47,618	-	-	-	-	-	-	-	-	-
Balcony soffits	\$ 10,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Exterior painting	\$ 41,000	-	\$ 60,255	-	-	-	-	-	-	-	-	-	\$ 77,888	-	-
Exterior windows	\$ 170,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Caulking	\$ 30,000	-	\$ 44,089	-	-	-	-	-	-	-	-	-	\$ 56,991	-	-
Main entrance doors	\$ 4,000	-	-	-	-	-	-	-	-	-	-	-	-	\$ 7,796	-
Egress doors	\$ 6,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Garage doors	\$ 4,500	-	-	-	\$ 6,962	-	-	-	-	-	-	-	-	-	-
Patio and balcony doors	\$ 131,600	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Roofing	\$ 29,928	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Roofing	\$ 174,300	-	-	-	-	-	\$ 291,236	-	-	-	-	-	-	-	-
Gutters and downspouts	\$ 15,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Service doors	\$ 26,400	-	\$ 39,807	-	-	-	-	-	-	-	-	-	-	-	-
Unit entry doors	\$ 70,500	-	\$ 106,303	-	-	-	-	-	-	-	-	-	-	-	-
Interior stairs	\$ 30,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Flooring finishes	\$ 35,000	-	-	-	-	\$ 55,555	-	-	-	-	-	-	-	-	-
Wall and ceiling finishes	\$ 17,000	-	-	-	\$ 26,300	-	-	-	-	-	-	-	-	-	\$ 33,996
Elevator cab	\$ 6,000	-	-	-	-	-	-	\$ 10,286	-	-	-	-	-	-	-
Elevator machinery	\$ 110,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Domestic cold and hot water distribution system	\$ 7,000	\$ 10,027	-	-	-	-	-	\$ 12,000	-	-	-	-	-	-	-
Domestic water storage	\$ 10,000	-	-	-	\$ 15,471	-	-	-	-	-	-	-	-	-	-
Sanitary waste drainage	\$ 5,000	-	-	-	-	-	\$ 8,143	-	-	-	-	-	-	\$ 9,745	-
Rain water drainage	\$ 6,000	\$ 8,594	-	-	-	-	\$ 9,771	-	-	-	-	\$ 11,109	-	-	-
Boilers	\$ 70,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Boilers	\$ 21,000	-	-	-	-	-	-	\$ 36,001	-	-	-	-	-	-	-
Pool water circulation system	\$ 3,000	-	-	-	-	\$ 4,762	-	-	-	-	\$ 5,414	-	-	-	-
Hot water heating distribution system	\$ 12,000	-	-	-	\$ 18,565	-	-	-	-	\$ 21,107	-	-	-	-	\$ 23,997
Exhaust and ventilating system	\$ 7,000	-	-	-	-	-	-	-	-	\$ 12,312	-	-	-	-	-
Exhaust and ventilating system	\$ 9,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Exhaust and ventilating system	\$ 4,000	-	-	-	-	-	-	-	-	\$ 7,036	-	-	-	-	-
Sprinkler system	\$ 12,000	-	-	-	-	-	\$ 19,543	-	-	-	-	-	-	\$ 23,389	-
Fire alarm system	\$ 6,000	\$ 8,594	-	-	-	-	-	-	\$ 10,286	-	-	-	-	-	-
Electrical power distribution	\$ 3,000	-	\$ 4,409	-	-	\$ 4,762	-	-	\$ 5,143	-	-	\$ 5,555	-	-	\$ 5,999
Intercom system	\$ 15,000	-	-	-	-	-	-	-	-	-	-	-	-	-	\$ 29,996
Exit and emergency lights	\$ 5,000	-	-	-	-	\$ 7,936	-	-	-	-	-	-	\$ 9,498	-	-
Laundry room	\$ 10,000	\$ 14,324	-	-	-	-	-	-	\$ 17,143	-	-	-	-	-	-
Interior light fixtures	\$ 2,000	-	-	-	\$ 3,094	-	-	-	-	\$ 3,518	-	-	-	-	\$ 4,000
Lobby area	\$ 5,000	-	-	-	-	-	\$ 8,143	-	-	-	-	-	-	\$ 9,745	-
Interior lighting fixtures	\$ 2,000	\$ 2,865	-	-	-	-	-	-	\$ 3,429	-	-	-	-	-	-
Exterior lighting fixtures	\$ 2,000	-	-	-	-	-	\$ 3,257	-	-	-	-	-	-	\$ 3,898	-
Pool building	\$ 25,000	-	-	-	-	\$ 39,682	-	-	-	-	-	-	-	-	-
Exterior pedestrian walkway	\$ 3,000	-	-	\$ 4,524	-	-	\$ 4,886	-	-	\$ 5,277	-	-	\$ 5,699	-	-
Site wood works	\$ 25,000	-	-	-	-	-	-	-	-	-	-	-	-	\$ 48,727	-
Site wood works - painting	\$ 12,000	-	-	-	-	-	\$ 19,543	-	-	-	-	-	-	-	\$ 23,997
Retaining wall	\$ 5,000	\$ 7,162	-	-	-	-	-	-	\$ 8,572	-	-	-	-	-	-
Pool lining	\$ 5,000	-	-	-	-	-	-	-	-	-	-	-	-	-	\$ 9,999
Pool decking	\$ 3,000	-	-	-	\$ 4,641	-	-	-	-	\$ 5,277	-	-	-	-	\$ 5,999
Property signage, appurtenances	\$ 7,000	-	-	\$ 10,555	-	-	-	-	-	-	\$ 12,632	-	-	-	-
Landscaping	\$ 3,000	-	\$ 4,409	-	-	-	-	\$ 5,013	-	-	-	-	\$ 5,699	-	-
Site lighting	\$ 2,000	-	\$ 2,939	-	-	-	-	-	-	\$ 3,518	-	-	-	-	-
Total	-	\$ 51,566	\$ 116,101	\$ 161,189	\$ 82,767	\$ 231,742	\$ 73,285	\$ 296,248	\$ 102,860	\$ 66,838	\$ 18,046	\$ 16,664	\$ 155,775	\$ 103,302	\$ 147,983

Component	Current Cost	2044	2045	2046
Undeground structure	-	-	-	-
Waterproofing membrane	\$ 98,000	-	-	-
Balcony flooring	\$ 45,000	-	-	-
Patio flooring	\$ 5,000	-	-	-
Cladding	\$ 153,000	-	-	-
Cladding	\$ 315,000	-	-	-
Balcony railings	\$ 30,000	-	-	-
Balcony soffits	\$ 10,000	-	-	-
Exterior painting	\$ 41,000	-	-	-
Exterior windows	\$ 170,000	-	-	-
Caulking	\$ 30,000	-	-	-
Main entrance doors	\$ 4,000	-	-	-
Egress doors	\$ 6,000	-	-	-
Garage doors	\$ 4,500	-	-	-
Patio and balcony doors	\$ 131,600	-	-	-
Roofing	\$ 29,928	-	-	\$ 64,640
Roofing	\$ 174,300	-	-	-
Gutters and downspouts	\$ 15,000	-	-	-
Service doors	\$ 26,400	-	-	-
Unit entry doors	\$ 70,500	-	-	-
Interior stairs	\$ 30,000	-	-	-
Flooring finishes	\$ 35,000	-	-	-
Wall and ceiling finishes	\$ 17,000	-	-	-
Elevator cab	\$ 6,000	-	-	-
Elevator machinery	\$ 110,000	-	-	-
Domestic cold and hot water distribution system	\$ 7,000	\$ 14,362	-	-
Domestic water storage	\$ 10,000	-	-	-
Sanitary waste drainage	\$ 5,000	-	-	-
Rain water drainage	\$ 6,000	-	\$ 12,631	-
Boilers	\$ 70,000	-	-	-
Boilers	\$ 21,000	-	-	-
Pool water circulation system	\$ 3,000	\$ 6,155	-	-
Hot water heating distribution system	\$ 12,000	-	-	-
Exhaust and ventilating system	\$ 7,000	-	-	-
Exhaust and ventilating system	\$ 9,000	-	-	-
Exhaust and ventilating system	\$ 4,000	-	-	-
Sprinkler system	\$ 12,000	-	-	-
Fire alarm system	\$ 6,000	\$ 12,311	-	-
Electrical power distribution	\$ 3,000	-	-	\$ 6,480
Intercom system	\$ 15,000	-	-	-
Exit and emergency lights	\$ 5,000	-	-	-
Laundry room	\$ 10,000	\$ 20,518	-	-
Interior light fixtures	\$ 2,000	-	-	-
Lobby area	\$ 5,000	-	-	-
Interior lighting fixtures	\$ 2,000	\$ 4,104	-	-
Exterior lighting fixtures	\$ 2,000	-	-	-
Pool building	\$ 25,000	-	-	-
Exterior pedestrian walkway	\$ 3,000	\$ 6,155	-	-
Site wood works	\$ 25,000	-	-	-
Site wood works - painting	\$ 12,000	-	-	-
Retaining wall	\$ 5,000	\$ 10,259	-	-
Pool lining	\$ 5,000	-	-	-
Pool decking	\$ 3,000	-	-	-
Property signage, appurtenances	\$ 7,000	-	-	\$ 15,119
Landscaping	\$ 3,000	-	-	\$ 6,480
Site lighting	\$ 2,000	-	\$ 4,210	-
Total	-	\$ 73,863	\$ 16,841	\$ 92,717