

# Depreciation Report

Birch Gardens 1263 West 8th Avenue, Vancouver, BC



SUBMITTED TO Ms. Kate Baillie  
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# 1. Introduction

RDH Building Engineering Ltd. (RDH) was retained by Strata Plan VR1122 (the Owners) to prepare a Depreciation Report (the Report) for the common property components (the *Assets*) at the residential low-rise building located at 1263 West 8th Avenue, Vancouver, BC and known as Birch Gardens.

The purpose of the Report is to help the Owners, the strata council and the management team to make informed decisions about the allocation of resources to the common property assets (such as roofs and windows).

Site visits were conducted on October 7<sup>th</sup>, 2012 and January 5<sup>th</sup>, 2012. In order to prepare the Report, RDH acknowledges that there is no relationship between the employees at RDH and the strata corporation.

The information provided in the Report satisfies the requirements stipulated in the Strata Property Act and. In addition to the requirements outlined in the legislation, RDH has developed an interactive software tool that enables the Owners to proactively manage their funding requirements and maintenance obligations.

This Report is provided as a PDF so that it can be readily printed and distributed. It represents a synopsis of many hundreds of pages of information. The supporting data is posted on a secure website at <http://bams.rdhbe.com>. The purpose of the website is to provide a tool to empower the strata council and management team to:

- Track and monitor the health of the assets.
- Generate alternative funding scenarios.
- Keep the data current as projects are completed.

The data is owned by the strata corporation and can be printed and/or exported to spreadsheets as required.

As the physical and financial status of the commonly owned assets changes, the Report will require updating. The BC legislation requires that updates to the Report are performed every three years.

A glossary of terms is included in the appendices.

## 2. Evaluation of Assets

A Depreciation Report should include two key parts: i) a “physical” assessment and ii) a “financial” assessment. Together these two sets of data provide the baseline of information regarding the current status of the assets on the site. Once the status of the assets has been determined, the data can be used to generate operational, tactical and strategic plans. The strategic plan is used to help guide the creation of possible funding scenarios. This process is summarized in the graphic below:

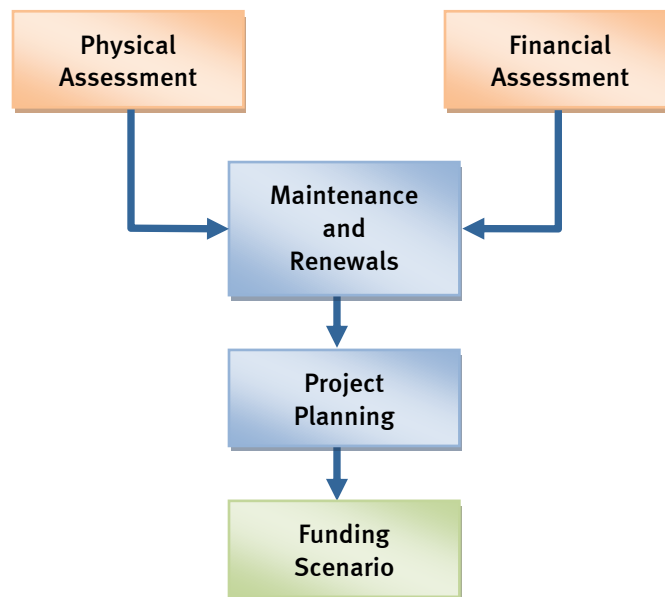


Fig.2.1 Depreciation Report Process

### 2.2. Physical Assessment

All assets are subject to physical deterioration as a result of the action of the elements, normal wear & tear, misuse & abuse and various other factors. Deterioration results in the need for maintenance, repair and renewal of assets. To this end, the physical assessment identifies the following:

- The inventory of common property assets.
- The effective age of the assets and the estimated remaining useful life of the assets.

The method of determining the physical health of the assets is based on discussions with facility representatives, a visual review of a representative sampling of the assets in readily accessible locations, and review of readily available reference documents. No destructive testing was carried out on any of the assets, nor were the assets disassembled or subjected to confirmation of operational characteristics.

Over time, all assets move through a series of life cycle stages. In this regard, Birch Gardens can be considered a “mature” building where the majority of the assets date from original construction, and some significant major maintenance or renewals have occurred such as:

- Replacement of 2-ply SBS roof deck membranes and aluminum guardrails
- Replacement of exterior lighting
- Replacement of sump pumps

The table below contains a summary of some of the key physical parameters of Birch Gardens:

Physical Parameters	
Date of Original Construction	1981
Gross Floor Area (ft <sup>2</sup> )	16,500
Stories Above Grade	3
# of Suites / Units:	18
Asset Age (Average Years)	25
Remaining Service Life (Average Years)	8

### 2.3. Financial Assessment

Owners will spend money for operating, reviewing, renewing and maintaining assets over their service lives. Sometimes more comprehensive rehabilitation costs are also incurred. The financial assessment identifies the following:

- The current replacement costs of the assets and their future replacement costs.
- The status of the current CRF balance and how it relates to ongoing CRF requirements.
- The ability of the current budget to meet major maintenance and renewal needs.

Over the life of the building, the costs associated with the stewardship of the assets can be distributed into three general categories: "Catch-up costs", "Keep-up costs" and "Get-ahead costs".

The Report is concerned primarily with the "Keep-up" costs. All costs are presented as "Class D" estimates. Soft costs, such as consulting fees and contingency allowances are not included.

Listed below is a summary of the key financial parameters of Birch Gardens, which are used to develop funding scenarios and the tactical and strategic plans:

Financial Parameters	
Fiscal Year End	30 Sep
Building Reproduction Cost	\$3,262,000
Current Operating Budget	\$67,149
Current Annual Reserve Allocation	\$10,000
Current Accumulated Reserve Balance	\$30,391
Assumed Inflation Rate	2%

### 3. Major Maintenance and Renewals

Maintenance includes work that is necessary to preserve the assets and to allow their continued use and function above a minimum acceptable level of performance. Maintenance ensures that the assets achieve their full service lives. Renewal includes the financial planning and logistics for the replacement of the assets as they reach the end of their useful service lives.

#### 3.1. Maintenance Plan

The strata corporation’s maintenance budget is \$24,400 per year, which represents approximately 36% of the annual operating budget. The strata corporation has five line items in the budget that are devoted to maintenance of the different systems, including two line items totalling \$14,455 for unspecified repairs and maintenance. The strata corporation has at least three maintenance service contracts, which cover the key systems, such as fire safety, elevators and landscaping services.

The figure below contains a summary distribution of the current annual maintenance costs for Birch Gardens.

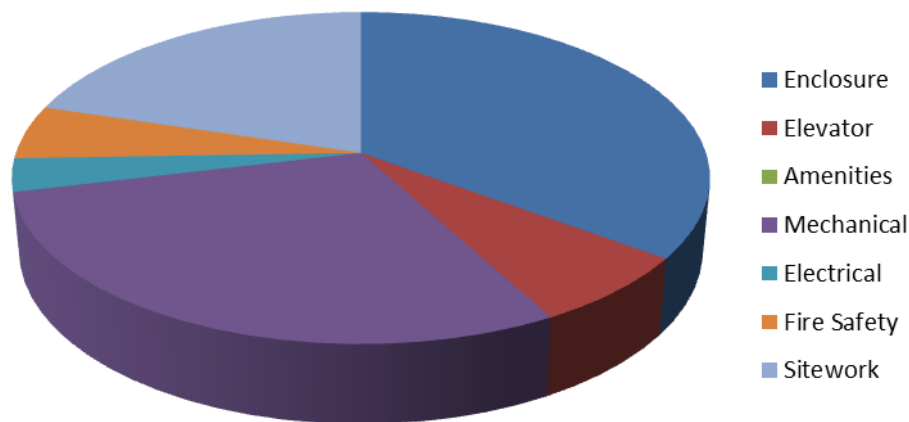


Fig. 3.1.1 Distribution of Annual Maintenance Costs

The current budget will need to be increased to allow for additional maintenance requirements as the assets age. Adequate maintenance of the assets will help to achieve the full service life for all assets of the building.

In late-2011 and early-2012 site reviews were carried out and deferred maintenance was identified at that time. Over the past year, effort has been made to address the backlog of deferred maintenance. The ongoing maintenance program provides guidelines for the necessary and sufficient maintenance of the assets over their useful lives. The software also has the capability to monitor minor maintenance events and can be used to bundle and coordinate the implementation of maintenance work. This functionality is not included in the Report.

3.2. Renewals Plan

It has been estimated that the strata corporation will need to spend approximately \$2.4M in capital expenditures over the next 30 years. The following table indicates the distribution of the projected major maintenance and renewal costs within each system over the next 30 years. This will enable the owners to better understand which asset groups will require the largest investment of the owners' money over time.

Table 3.2.1 Costs broken down by System

System	Current Dollars	Future Dollars
Enclosure	\$1,238,020	\$1,594,100
Electrical	\$17,200	\$24,500
Mechanical	\$184,700	\$221,400
Elevator	\$285,000	\$376,500
Fire Safety	\$60,300	\$76,900
Amenities	\$7,700	\$9,400
Sitework	\$121,300	\$152,300

The figure below contains a summary distribution of the major maintenance and renewal costs for the next 10 years. For Birch Gardens, the majority of these costs are in the enclosure system.

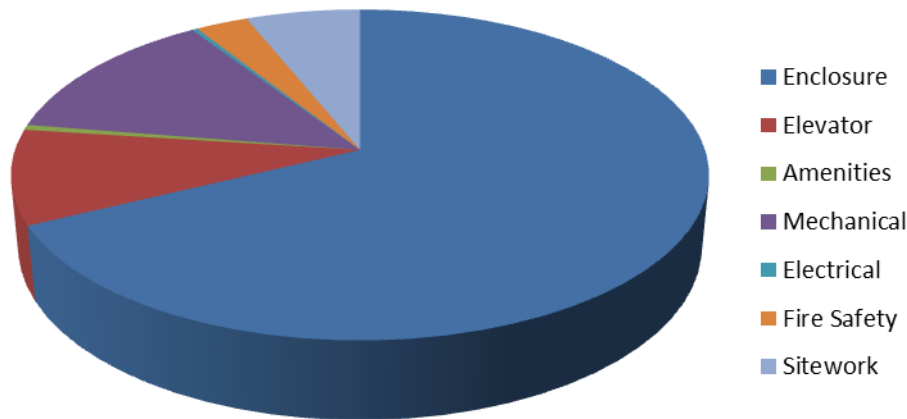


Fig. 3.2.2 Distribution of Major Maintenance and Renewal Costs over next 10 years

The cost implications of these events, together with scheduling considerations, are addressed in the following sections of the Report together with additional supporting material, such as photographs.

## 4. Project Planning

When making forecasts about future events and plans for these events, it is recommended that these are projected over three different planning horizons:

- ⇒ **“Strategic”** (30 years): Since the average service life of many of the assets is approximately 25 years (such as roofs and boilers) it is recognized that a long-range view enables the owners to anticipate the majority of the future renewal projects.
- ⇒ **“Tactical”** (5-10 years): A five year outlook enables the owners to break up the strategic plan into manageable chunks and to thereby bridge the annual operating budget with the long-range strategic plan. Most owners do not consider ownership of their real estate investment beyond a 5-year window and are therefore only concerned about special levies that may arise during this time period.
- ⇒ **“Operational”** (1 year): The annual operating period encompasses one fiscal cycle (12 months). The reserve allocation in the operating budget should reflect the majority of the projects in the tactical plan (5 years) and ideally should also contemplate some elements of the strategic plan (30 years).

The next section addresses some of the expenditures that are projected for Birch Gardens within these three planning horizons.

### 4.1. “Strategic” Planning Horizon

The chart below graphically illustrates the estimated major maintenance and renewal costs over the next 30 years and thereby provides a high-level overview of the longer term projected cash flow. The purple bars indicate the years in which some renewal work is projected. Estimated maintenance costs (green bars) are generally more consistent from year-to-year.

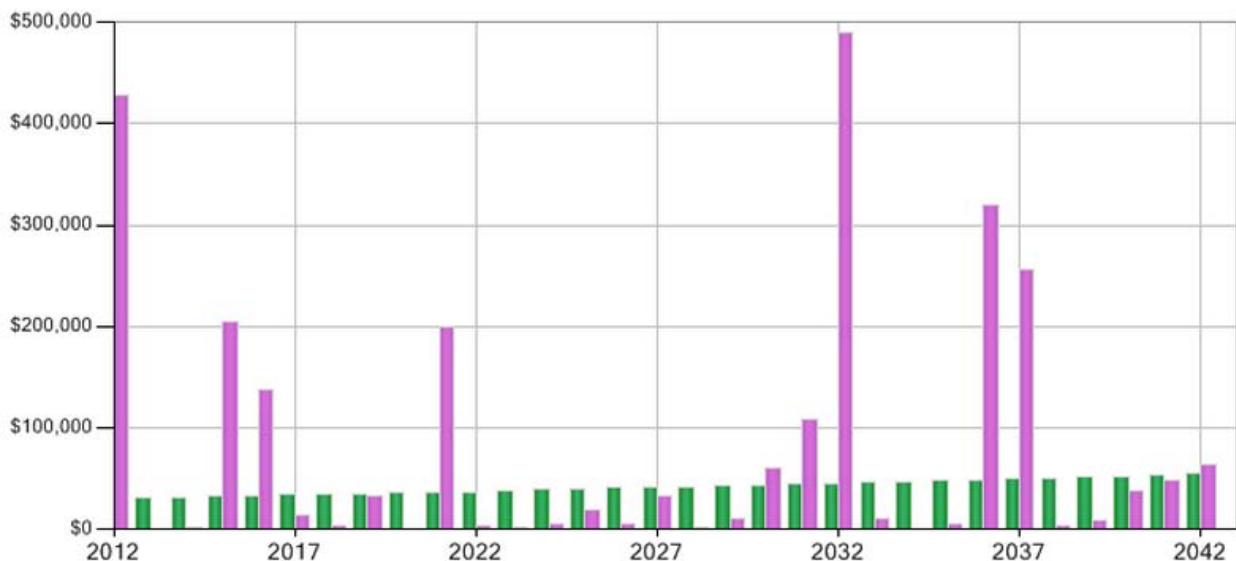


Fig. 4.1.1 Strategic Forecast (30 Years)

The fluctuation of major maintenance and renewal costs over the 30-year period is due to a variety of factors, such as:

- ⇒ The different service lives for each of the range of assets in the asset inventory. For example, some assets may have a useful life of 5 years whereas other assets may have a useful life of 25 years.
- ⇒ The different magnitude of renewal costs for each of the assets.



- The impact of different rehabilitation strategies to either replace assets or extend their useful service lives through major maintenance projects.
- The cumulative financial impact of inflation compounded annually over 30 years.

The actual timing of renewal projects will depend on the quality of maintenance and other factors, which either may result in earlier replacement or, in some cases, extended the life of the assets.

## 4.2. “Tactical” Planning Horizon

Although the tactical plan can be described as a single five year window the chart below provides the projected major maintenance and renewal costs for the next ten years so that the two five year windows can be reviewed. The bars indicate the years in which a project (or bundle of events) is most likely to occur as well as the total magnitude of major maintenance and renewal costs for that year.

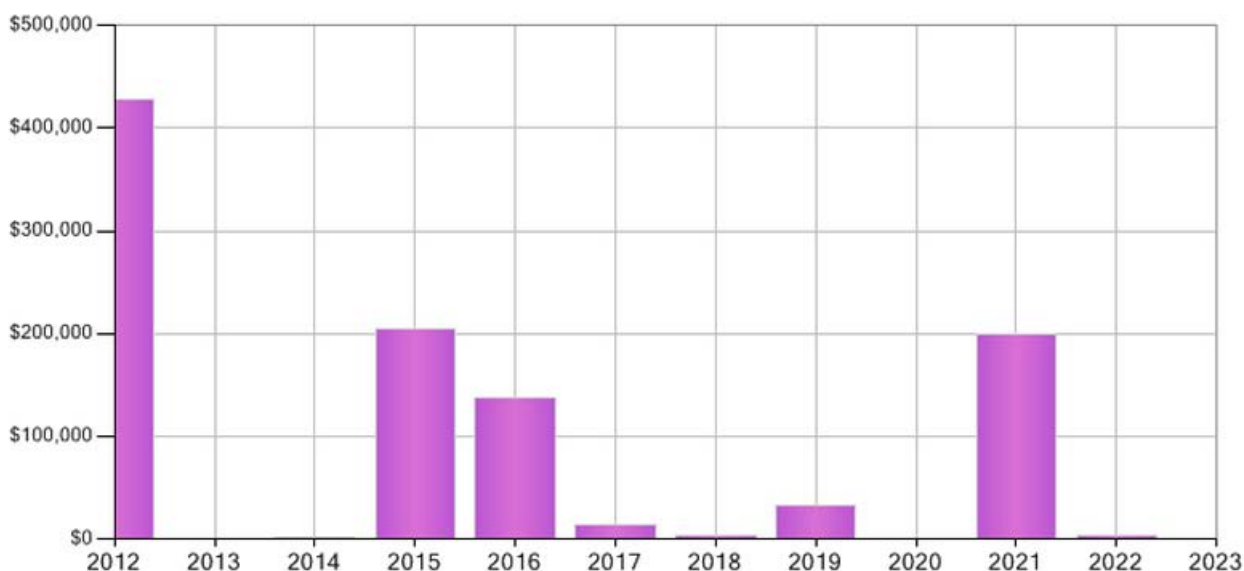


Fig. 4.2.1 10-Year Expenditure Forecast

Listed below are some of the major maintenance and capital renewal projects that are contemplated in the preceding bar graph:

- Replacement of aluminum framed windows, and associated sealant work.
- Modernization of elevators.
- Replacement of at-grade waterproofing membrane, including landscaping.
- Re-piping of the plumbing distribution system.
- Replacement of wood siding and trim.
- Replacement of miscellaneous doors, insulated glazing units, and mechanical system components.

Some projects will require refinement through a normal design process to further define the scope and budget prior to tendering the renewal project. “Class D” estimates have been provided in the Report and a number of general assumptions about the potential scopes of work were made when costs associated with these projects were generated.

Implementation steps for any renewal event will vary and may include an investigation to confirm existing construction and any design requirements included in the project scope. Various options, such as phasing, product choice, and project bundling are also typically evaluated as part of the design requirements. Through this process, the scope of work will be finalized and the total project costs will be estimated for the Strata as a budget suitable for formal expenditure approval

from the contingency reserve fund. The costs associated with the investigation and design requirements are not included in the Report as the need and magnitude for this work varies with renewal activities and specific Owner needs.

### 4.3. “Operational” Planning Horizon

There are a number of significant capital renewal projects or major maintenance projects forecast for the next fiscal year. This is almost entirely due to the age and years of deferred assembly renewal, such as the podium slab water-proofing. The most significant capital renewals will include the elevator, and at-grade waterproofing over the parking garage.

### 4.4. Project Implementation Strategies

As renewal projects are implemented the strata corporation will need to engage consultants and contractors to confirm the appropriate scopes of work, to develop specifications and to coordinate and supervise the work.

The owners will need to consider several implementation strategies including:

- **Targeted Projects.** These are projects that are localized to particular portions of the building. Different exposure conditions and wear patterns may require that only sections of the building require renewal at one point time. For example: the carpets in amenity rooms would be replaced at a different time to the hallway carpets due to additional wear in high traffic locations.
- **Phased Projects.** These are projects that are carried out in multiple stages rather than as a single coordinated project. For example: the sealant could be renewed on one elevation in the first year and then on the other elevations in subsequent years. While phased projects can reduce the financial burden by spreading the costs over a longer period, the owners will likely pay more over the long term due to the remobilization of contractors.
- **Comprehensive Projects.** These are projects that are implemented as one coordinated undertaking. Some of the major advantages of this approach are that the owners can sometimes leverage the best economies of scale, shorten the overall duration and lower the overall costs. For example: the exterior wood trim is recoated in all locations around the building at the same time.
- **Bundled Projects.** Often it makes sense to bundle, or combine, various projects due to proximity, availability of skills, and funding needs. The major advantage of project bundling is that the owners can leverage economies of scale and lower the overall costs if these projects were completed as several, individual projects. For example: the exterior wood trim is repainted at the same time as the repainting of the cladding for the building or complex.

## 5. Funding Scenarios

The physical assessment and financial assessment have together provided a baseline of information for the owners and management team to evaluate the current funding levels and to consider an appropriate funding strategy moving forward based on their tolerance for risk and desired standard of care for the property. RDH provides the tools but the funding level that the owners choose is up to them as long as it meets the minimum legislative requirements.

### 5.1. Alternative Funding Scenarios

To help the owners make an informed decision about their funding level, BAMS software is used to generate some alternative funding scenarios to compare the financial impact of different funding levels over the next 30 years. These scenarios serve as a sensitivity analysis to determine the size of the special levies that may occur as a result of different allocations to the CRF.

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

Table 5.1.1 Comparison of Different Funding Scenarios

Alternative Annual Reserve Allocation				
	"A" Maximum Statutory	"B" Current	"C" Alternative	"D" Progressive Reserve
Percent of Progressive Reserve	10 %	15 %	28 %	100 %
Reserve Allocation	\$6,715	\$10,000	\$18,000	\$65,000
Per Suite Per Month	\$31	\$46	\$83	\$301
Per Square Foot	\$0.41	\$0.61	\$1.09	\$3.94
Assumed Inflation Rate	2%	2%	2%	2%
Assumed Interest Rate	1.5%	1.5%	1.5%	1.5%

- **"A" The "Statutory" Reserve Allocation.** This is the funding level that is required to meet the statutory requirements in BC. The Strata Property Act dictates that the reserve allocation will vary according to the reserve fund balance; therefore the reserve allocation is not linear. For comparison purposes, the table above shows the amount equal to 10% of the operating budget, this is the maximum that would be allocated to the reserve fund annually under this scenario.
- **"B" The Current Reserve Allocation.** This is the funding level that was approved by the owners at the last Annual General Meeting and represents the status quo.
- **"C" Alternative Reserve Allocation.** This represents an incremental increase from the status quo, which is just one of many possible scenarios for a new funding level in the next fiscal year.
- **"D" Progressive Reserve Allocation.** This is the annual allocation that would have been set aside since the first year of operations to ensure that the reserve balance is sufficient to avoid any special assessments over a 30-year period. In other words, the progressive reserve is equivalent to a fully funded reserve balance. The "progressive" reserve allocation is an idealistic target that many strata corporations are not able to meet.

The alternative funding scenarios are provided as a guide for the Owners. The Owners can use the BAMS software to create additional funding scenarios that work for them.

Based on the findings of the Report, the Strata Corporation is currently considered to be approximately **15% funded**. This means that the cumulative reserve balance (\$30,391) is approximately 1/10 of what it ideally should be if the owners were to avoid any special levies over the next 30 years.

Although the Strata Corporation is meeting the statutory minimum contribution to the CRF, it is important to note that the statutory guideline is not a good measure of the financial preparedness of the corporation. If the owners wish to avoid special levies, or to mitigate the financial hardship by reducing the number and size of the levies, then incremental increases will need to be made over the upcoming years to move the current funding level from 15%. Although the strata corporation has not yet accumulated sufficient funds in its contingency reserve account to avoid all special levies, the age of the complex means that it is relatively easy to make adjustments and catch-up.

## 5.2. Funding Scenario “A” –Statutory

The first scenario is the verification that there is currently enough money being committed to the CRF to meet BC legislation. It shows a variable annual reserve contribution over the 30-year planning horizon. 10 years of cash flow data is provided below for reference. Appendix E contains the full 30 years of cash flow data for each scenario or this information can be reviewed in the online BAMS software.

Table 5.2.1 Statutory Funding Model: Cash Flow Table

Year	Opening Balance	Reserve Contribution	Special Levies	Reserve Income	Renewal Costs	Contingency Costs	Closing Balance
2012	\$30,390	\$0	\$398,910	\$0	\$428,300	\$1,000	\$0
2013	\$0	\$6,715	\$0	\$0	\$0	\$1,000	\$5,715
2014	\$5,715	\$6,715	\$0	\$0	\$1,700	\$1,000	\$9,730
2015	\$9,730	\$6,715	\$189,155	\$0	\$204,600	\$1,000	\$0
2016	\$0	\$6,715	\$132,085	\$0	\$137,800	\$1,000	\$0
2017	\$0	\$6,715	\$8,685	\$0	\$14,400	\$1,000	\$0
2018	\$0	\$6,715	\$0	\$0	\$3,400	\$1,000	\$2,315
2019	\$2,315	\$6,715	\$25,170	\$0	\$33,200	\$1,000	\$0
2020	\$0	\$6,715	\$0	\$0	\$0	\$1,000	\$5,715
2021	\$5,715	\$6,715	\$187,870	\$0	\$199,300	\$1,000	\$0

The figure below graphically illustrates the annual contributions (green bars), the closing balance in the CRF (the purple line) and the size of the special levies (blue bars) resulting from this funding level meeting the minimum statutory requirements.

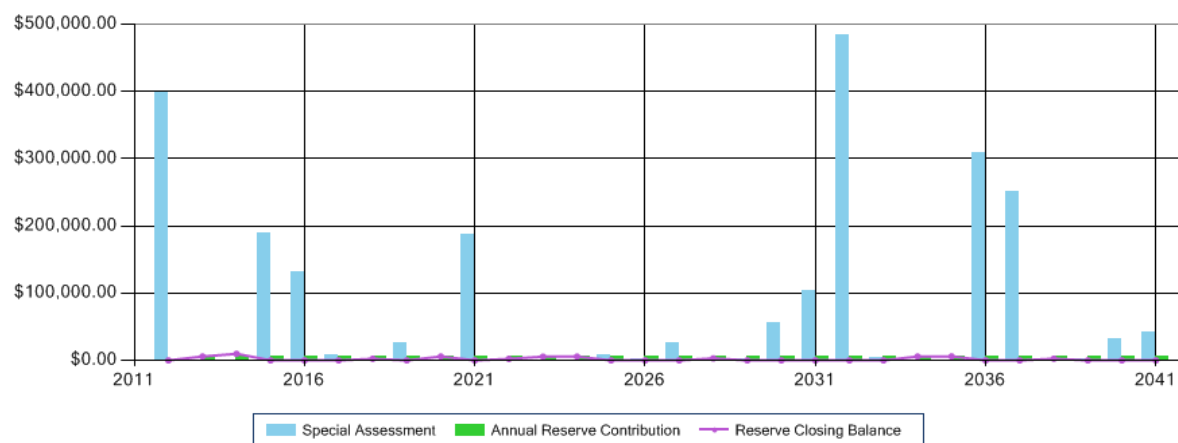


Fig. 5.2.2 Statutory Funding Model : Graphical Analysis

The BAMS software tool enables the strata council and management to explore alternate funding scenarios by adjusting the financial variables in the model (such as inflation rates and interest rates).

### 5.3. Funding Scenario “B” – Current (Status quo)

Scenario “B” represents the current funding level approved by the owners at the last general meeting (i.e., status quo) and is based on a fixed annual reserve contribution of **\$10,000** and is summarized in the following cash flow table.

Table 5.3.1 Status Quo Funding Model \$10,000: Cash Flow Table

Year	Opening Balance	Reserve Contribution	Special Levies	Reserve Income	Renewal Costs	Contingency Costs	Closing Balance
2012	\$30,390	\$10,000	\$388,454	\$456	\$428,300	\$1,000	\$0
2013	\$0	\$10,000	\$0	\$0	\$0	\$1,000	\$9,000
2014	\$9,000	\$10,000	\$0	\$135	\$1,700	\$1,000	\$16,435
2015	\$16,435	\$10,000	\$178,918	\$247	\$204,600	\$1,000	\$0
2016	\$0	\$10,000	\$128,800	\$0	\$137,800	\$1,000	\$0
2017	\$0	\$10,000	\$5,400	\$0	\$14,400	\$1,000	\$0
2018	\$0	\$10,000	\$0	\$0	\$3,400	\$1,000	\$5,600
2019	\$5,600	\$10,000	\$18,516	\$84	\$33,200	\$1,000	\$0
2020	\$0	\$10,000	\$0	\$0	\$0	\$1,000	\$9,000
2021	\$9,000	\$10,000	\$181,165	\$135	\$199,300	\$1,000	\$0

The owners are currently accustomed to monthly reserve allocations of approximately **\$46** per suite per month (averaged). If the owners were to continue to fund the reserve account at this level, the reserve balance and will require that the owners having to raise approximately \$2.1M for special levies over the next thirty years.

The figure below provides a graphical illustration of the status quo funding scenario. The annual contribution into the reserve account is shown by the green bars, the closing balance in the CRF is shown by the purple line and the special levies (to offset the shortfall in the reserve account) are shown as blue bars.

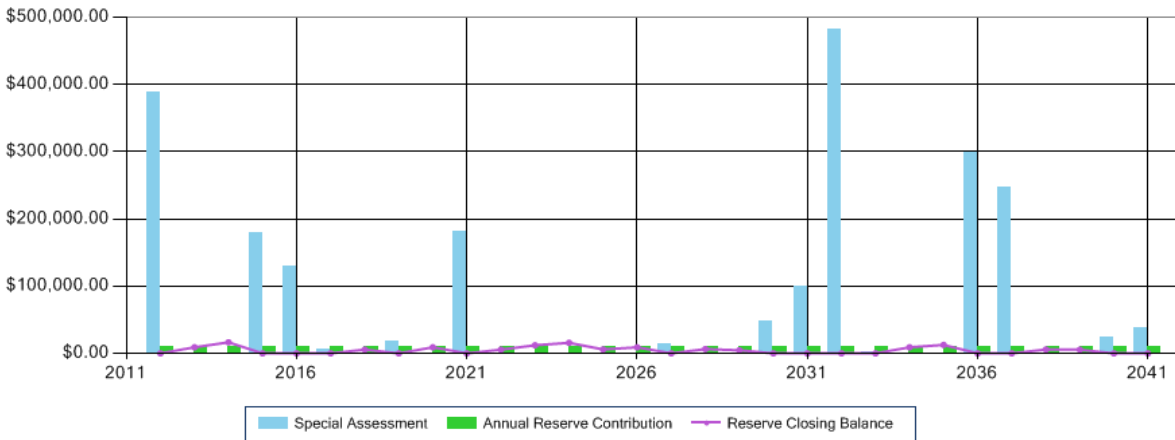


Fig. 5.3.2 Status Quo Funding Model \$10,000: Graphical Analysis

The BAMS software tool enables the strata council and management to adjust the financial variables in this model (such as inflation rates and interest rates) and to generate additional models.

#### 5.4. Funding Scenario “C” – Alternative

The next scenario is based on a fixed annual reserve contribution of approximately **\$18,000** over the 30-year planning horizon. This represents a reserve contribution that is equivalent to approximately **\$83** per suite per month (averaged), which is approximately twice the current funding level.

Table 5.4.1 Alternative Funding Model \$18,000: Cash Flow Table

Year	Opening Balance	Reserve Contribution	Special Levies	Reserve Income	Renewal Costs	Contingency Costs	Closing Balance
2012	\$30,390	\$18,000	\$380,454	\$456	\$428,300	\$1,000	\$0
2013	\$0	\$18,000	\$0	\$0	\$0	\$1,000	\$17,000
2014	\$17,000	\$18,000	\$0	\$255	\$1,700	\$1,000	\$32,555
2015	\$32,555	\$18,000	\$154,557	\$488	\$204,600	\$1,000	\$0
2016	\$0	\$18,000	\$120,800	\$0	\$137,800	\$1,000	\$0
2017	\$0	\$18,000	\$0	\$0	\$14,400	\$1,000	\$2,600
2018	\$2,600	\$18,000	\$0	\$39	\$3,400	\$1,000	\$16,239
2019	\$16,239	\$18,000	\$0	\$244	\$33,200	\$1,000	\$283
2020	\$283	\$18,000	\$0	\$4	\$0	\$1,000	\$17,287
2021	\$17,287	\$18,000	\$164,754	\$259	\$199,300	\$1,000	\$0

While Scenario “C” does result in eliminating some of the smaller levies, it is still not adequate to offset all the special levies over the 30-year planning horizon. The figure below graphically illustrates the annual contributions (green bars), the closing balance in the CRF (the purple line) and the size of the special levies (blue bars) resulting from this funding level.

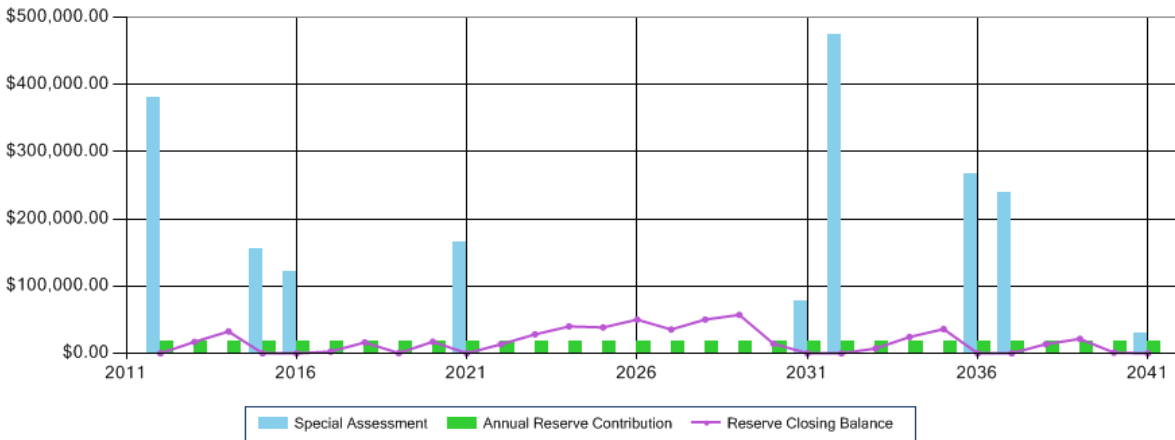


Fig. 5.4.1 Alternative Funding Model \$18,000: Graphical Analysis

The BAMS software tool enables the strata council and management to adjust the financial variables in this model (such as inflation rates and interest rates) and to generate additional models.

## 5.5. Funding Scenario “D” – Progressive

The next scenario is based on a fixed annual reserve contribution of approximately **\$65,000** over the 30-year planning horizon. This represents a reserve contribution that is equivalent to approximately **\$301** per suite per month (averaged).

Table 5.5.1 Progressive Funding Model \$65,000: Cash Flow Table

Year	Opening Balance	Reserve Contribution	Special Levies	Reserve Income	Renewal Costs	Contingency Costs	Closing Balance
2012	\$30,390	\$65,000	\$333,454	\$456	\$428,300	\$1,000	\$0
2013	\$0	\$65,000	\$0	\$0	\$0	\$1,000	\$64,000
2014	\$64,000	\$65,000	\$0	\$960	\$1,700	\$1,000	\$127,260
2015	\$127,260	\$65,000	\$11,431	\$1,909	\$204,600	\$1,000	\$0
2016	\$0	\$65,000	\$73,800	\$0	\$137,800	\$1,000	\$0
2017	\$0	\$65,000	\$0	\$0	\$14,400	\$1,000	\$49,600
2018	\$49,600	\$65,000	\$0	\$744	\$3,400	\$1,000	\$110,944
2019	\$110,944	\$65,000	\$0	\$1,664	\$33,200	\$1,000	\$143,408
2020	\$143,408	\$65,000	\$0	\$2,151	\$0	\$1,000	\$209,559
2021	\$209,559	\$65,000	\$0	\$3,143	\$199,300	\$1,000	\$77,403

While Scenario “D” does result in eliminating some of the smaller levies, it is still not adequate to offset all the special levies over the 30-year planning horizon. The figure below graphically illustrates the annual contributions (green bars), the closing balance in the CRF (the purple line) and the size of the special levies (blue bars) resulting from this funding level.

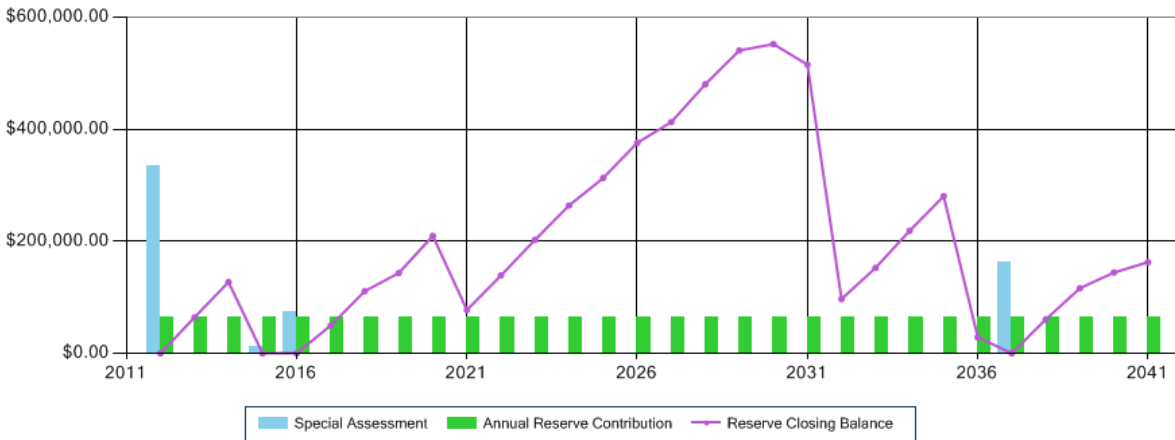


Fig. 5.5.2 Progressive Funding Model \$65,000: Graphical Analysis

The BAMS software tool enables the strata council and management to adjust the financial variables in this model (such as inflation rates and interest rates) and to generate additional models.

## 5.6. Funding by Individual Owners

Notwithstanding which funding scenario may ultimately be selected by the strata corporation at the next general meeting, each owner can develop their own individual funding plans based on the renewal costs identified in the depreciation report.

Since the Depreciation Report has identified about \$2.4 million in capital reserve and major maintenance projects over the next 30 years, each of the 18 unit owners can estimate their personal share based on unit entitlements.

Each owner, on average, could set aside over \$200 per unit per month for their personal share of the capital projects and major maintenance over the next 30 years. This will prepare the individual owners for special levies if the corporation does not fund the CRF to an adequate level.



## 6. Recommendations

The following key recommendations are presented for the Owners consideration. The goal is to help the Owners move to a more objective basis of allocating contingency reserve funds for Birch Gardens.

- **Presentations.** Arrange for RDH to provide a presentation of the Report to the strata council and property manager, as required.
- **Condition Assessment.** Conduct a Condition Assessment of the walls, roofs and windows to validate the assumptions regarding the remaining service lives based on the visual review conducted for the Report. Update the Report with these findings and recommendations as may be required.
- **Assumptions.** Review the disclosures and disclaimers listed in the appendix of the Report. Understand how the assumptions can be updated over time as new information comes to light about the performance of the assets and as certain projects are completed. Seek clarification from RDH regarding any of the disclosures and disclaimers.
- **Funding Scenarios.** Review the alternative funding scenarios in the Report and develop scenarios for presentation to the owners that are most likely to secure approval of the owners.
- **Funding Levels.** Review the current annual reserve allocation levels relative to the funding levels illustrated in the Report.
- **Software Tool.** Utilize the web-based building asset management system on an ongoing basis to keep the data current and ensure that it is readily accessible to the council members and property manager.
- **Updates.** Plan for updates to the financial component of the Report at least once a year (such as reserve balances) and updates to the physical component of the Report in three years (such as remaining useful life of the assets). The online data can be updated at time during the course of the year by authorized users.
- **Further Investigations.** Conduct additional condition investigations, as required, to refine the data.
- **Full System Maintenance Plan.** Review the adequacy of checklists and budgeting of routine maintenance to ensure that a program is implemented to achieve full service lives from the assets.

RDH is available to assist the Owners with all aspects of the Report and the on-line BAMS system. Please contact our office with any questions or if you should require further information.

Sincerely,

RDH Building Engineering Ltd.



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Brandon Carreira, Dipl.T



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Jason Dunn, B.Arch.Sc., CCCA

# Appendix A

## Glossary of Terms

## Glossary

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

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

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

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

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

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

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

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

**Funding Model** - A mathematical model used to establish an appropriate funding level for sustaining the assets in a building. Running a number of scenarios out of the funding model using different parameters

(such as inflation rates and interest rates) can serve as a sensitivity analysis to determine the financial impact of different funding levels.

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

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

- Functional obsolescence
- Legal obsolescence
- Style obsolescence

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

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

**Keep-up Costs** - The monies required for renewal projects as each asset reaches the end of its useful service life. If an asset is not replaced at the end of its useful service life and is kept in operation, through targeted repairs, then these costs get reclassified into the “catch-up” category.

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

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

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

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

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

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

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

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

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

**Reserve Contribution** - The amount of money that is allocated to the Reserve Fund each fiscal year. Determining the appropriate size of the Reserve Contribution is aided with a Reserve Fund Study (Depreciation Report in B.C.).

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

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

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

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

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

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

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

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

# Appendix B

## Asset Inventory



Asset Inventory

Enclosure

Roofs & Decks



Encl 01

Roof

Location:	Low slope (flat) roofs.		
Description:	Two plies of manufactured modified bitumen sheet membrane. The top ply is protected by embedded granules and overlaid with a cedar panel traffic surface.		
Chronological Age:	1	Service Life:	25
Effective Age:	1	Remaining Service Life:	24
		Outstanding Conditions:	0



Encl 02

Metal Roofing & Cladding

Location:	Entrance door canopies, bay windows and penthouse roofing at the main roof level.		
Description:	Standing seam metal panels installed above and below bay windows and unit 13 entrance canopy.		
Chronological Age:	31	Service Life:	40
Effective Age:	31	Remaining Service Life:	9
		Outstanding Conditions:	0



Encl 03

Balcony Waterproofing and Guards

Location:	4 non-enclosed balconies.		
Description:	The membrane assembly consists of multiple layers of hot applied asphalt and reinforcing felt. The top ply is generally protected by a wood traffic surface. Guards are composed of wood frame guardwalls clad with siding similar to the building, wood top rails and glazing infill across the front of the deck at some units. Metal frame with glass infill balcony guardrails.		
Chronological Age:	31	Service Life:	20
Effective Age:	16	Remaining Service Life:	4
		Outstanding Conditions:	0



Encl 04

Aluminum Guardrails

Location:	Roof deck.		
Description:	Tubular powder coated aluminum guardrails with glass and picket infill.		
Chronological Age:	1	Service Life:	40
Effective Age:	1	Remaining Service Life:	39
		Outstanding Conditions:	0

Skylight





Encl 05

### T-Bar Skylights

Location:

Roof deck.

Description:

T-bar skylight assemblies with georgian wire insulated glazing units. Flashings associated with the skylight assemblies were replaced during the 2011 roof renewal.

Chronological Age:

31

Service Life:

20

Effective Age:

17

Remaining Service Life:

3

Outstanding Conditions:

0

## Walls



Encl 06

### Concrete Block Wall

Location:

East and West elevations.

Description:

The wall is a single wythe of concrete masonry with an interior stud wall supporting interior finishes.

Chronological Age:

31

Service Life:

50

Effective Age:

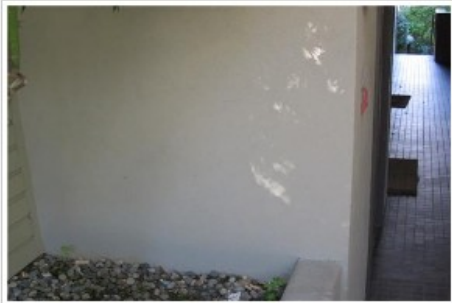
31

Remaining Service Life:

19

Outstanding Conditions:

0



Encl 07

### Face Seal Stucco

Location:

Exterior corridor walls and soffits.

Description:

Stucco cladding installed directly on the sheathing paper.

Chronological Age:

31

Service Life:

40

Effective Age:

21

Remaining Service Life:

19

Outstanding Conditions:

0



Encl 08

### Horizontal Wood Siding & Trim

Location:

Exterior walls.

Description:

Horizontal channel, wood siding and trim, installed directly on sheathing paper.

Chronological Age:

31

Service Life:

40

Effective Age:

31

Remaining Service Life:

9

Outstanding Conditions:

1

## Windows



Encl 09

### Acrylic Dome Window

Location:

Second floor of unit 12.

Description:

Dome shaped acrylic glazing.

Chronological Age:

31

Service Life:

25

Effective Age:

22

Remaining Service Life:

3

Outstanding Conditions:

0





#### Encl 10

Location:

Description:

Chronological Age:

Effective Age:

#### Aluminum Frame Windows

North and south elevation exterior walls.

Exterior glazed, concealed barrier, aluminum frame windows, some with horizontal sliding openers.

31

27

Service Life:

Remaining Service Life:

Outstanding Conditions:

30

3

0



#### Encl 11

Location:

Description:

Chronological Age:

Effective Age:

#### Glazed Balcony Enclosures [PLACEHOLDER]

Unit #8, 14, 15, 16, 17, 18 decks.

Owner commissioned glazed enclosures.

31

22

Service Life:

Remaining Service Life:

Outstanding Conditions:

25

3

0

### Doors



#### Encl 12

Location:

Description:

Chronological Age:

Effective Age:

#### Metal Storm Doors

Rooftop access doors.

Aluminum storm doors with screen installed at all rooftop access doors.

7

7

Service Life:

Remaining Service Life:

Outstanding Conditions:

25

18

0



#### Encl 13

Location:

Description:

Chronological Age:

Effective Age:

#### Sliding Glass Doors

Decks.

Aluminum frame sliding glass doors for access onto decks. Only sliding glass doors which are exposed to the exterior (i.e. not located within a glazed enclosure) are accounted for within the renewal tasks.

31

27

Service Life:

Remaining Service Life:

Outstanding Conditions:

30

3

0



#### Encl 14

Location:

Description:

Chronological Age:

Effective Age:

#### Metal Swing Doors

Parkade access doors and service rooms.

Painted metal swing doors in pressed steel frames.

31

21

Service Life:

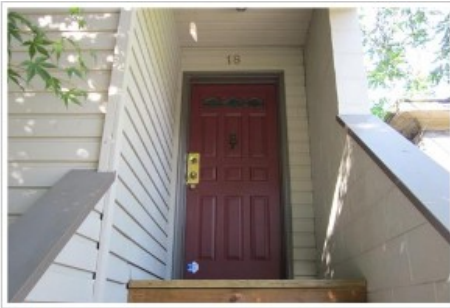
Remaining Service Life:

Outstanding Conditions:

25

4

0



#### Encl 15

Location:

Description:

Chronological Age:

Effective Age:

#### Townhouse Entry Doors

Unit entries.

Steel clad insulated entry doors with a painted finish and decorative glazing.

Service Life: 25

Remaining Service Life: 9

Outstanding Conditions: 0

#### At Grade



#### Encl 16

Location:

Description:

Chronological Age:

Effective Age:

#### At-grade Waterproofing

Podium slab.

The membrane assembly consists of multiple layers of hot applied asphalt and reinforcing felt. The top ply is overburdened with hard landscaping or soil, plantings and irrigation sprinkler piping.

Service Life: 20

Remaining Service Life: 0

Outstanding Conditions: 1

#### Parking Garage



#### Encl 17

Location:

Description:

Chronological Age:

Effective Age:

#### Parking Garage Slab

Parkade.

Exposed concrete slab on grade with penetrations for storm water drainage. Service life cited refers to painted traffic demarcation striping.

Service Life: 10

Remaining Service Life: 0

Outstanding Conditions: 0

#### General & Inspections



#### Encl 18

Location:

Description:

Chronological Age:

Effective Age:

#### Miscellaneous & Inspections

All elevations and all levels of the building.

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

Service Life: 40

Remaining Service Life: 9

Outstanding Conditions: 0

#### Electrical

##### Distribution



#### Elec 01

Location:

Description:

Chronological Age:

Effective Age:

#### Electrical Distribution

Parkade electrical room.

Main electrical switchboard (600 amp) with distribution breakers and copper wiring to a local sub-panel and mechanical loads.

Service Life: 50

Remaining Service Life: 19

Outstanding Conditions: 0

##### Light Fixtures





#### Elec 02

Location:

Description:

Chronological Age:

Effective Age:

#### Exterior Light Fixtures

Exterior walls, soffits, and landscaped areas.

A variety of fixture types, including wall and ceiling mounted fixtures and landscaping lighting. Exterior lighting attached to the building was replaced in 2011.

Service Life: 20

Remaining Service Life: 19

Outstanding Conditions: 0



#### Elec 03

Location:

Description:

Chronological Age:

Effective Age:

#### Interior Light Fixtures

Parkade, service and storage rooms.

A combination of incandescent and fluorescent lighting mounted to ceilings throughout the parkade

Service Life: 25

Remaining Service Life: 0

Outstanding Conditions: 0

### Mechanical

#### Plumbing & Drainage



#### Mech 01

Location:

Description:

Chronological Age:

Effective Age:

#### Sump Pumps

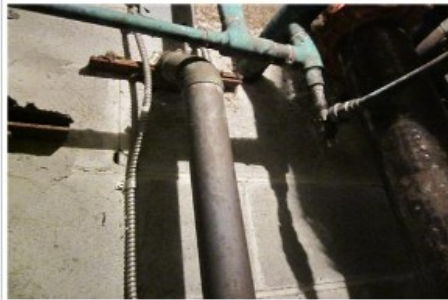
Sprinkler room.

Submersible sump pump assembly for storm drainage. Northwest Tech-con duplex controls.

Service Life: 15

Remaining Service Life: 5

Outstanding Conditions: 0



#### Mech 02

Location:

Description:

Chronological Age:

Effective Age:

#### Plumbing Distribution

Throughout the building.

Copper risers and branch lines of various sizes, with connections and accessories for the water supply to various appliances and components.

Service Life: 35

Remaining Service Life: 4

Outstanding Conditions: 0



#### Mech 03

Location:

Description:

Chronological Age:

Effective Age:

#### Sanitary & Storm Drainage

Throughout the building.

Cast iron drainage piping and cleanouts.

Service Life: 50

Remaining Service Life: 19

Outstanding Conditions: 0



#### Mech 04

Location:

Description:

Chronological Age:

Effective Age:

#### Valves & Cross Connection

Service rooms.

Water meter, backflow preventers, isolation valves, pressure reducing valves, and check valves at various locations throughout the distribution system.

Service Life: 28

Remaining Service Life: 0

Outstanding Conditions: 0

### Heating & Cooling



#### Mech 05

Location:

Description:

Chronological Age:

Effective Age:

#### Electric Baseboard & Unit Heaters

Sprinkler & storage rooms.

Wall and ceiling mounted, electric resistant devices with metal fins and coils in metal enclosure for localized space heating, controlled by remote or integral thermostat.

Service Life: 30

Remaining Service Life: 0

Outstanding Conditions: 0



#### Mech 06

Location:

Description:

Chronological Age:

Effective Age:

#### Fireplaces & Chimneys

Wood burning fireplaces within individual units and chimneys at the roof level.

Original wood burning fireplaces with lined chimney vents. Replacement of the wood burning fireplaces are the responsibility of individual unit owners. Maintenance of the stoves and chimneys is a strata responsibility.

Service Life: 15

Remaining Service Life: 0

Outstanding Conditions: 0

### Ventilation



#### Mech 07

Location:

Description:

Chronological Age:

Effective Age:

#### Miscellaneous Exhaust Fans

Storage room and elevator service room.

Low CFM belt-driven cabinet fans and direct drive fans, and associated ductwork, for the removal of stale air from storage and service rooms in the parkade.

Service Life: 25

Remaining Service Life: 0

Outstanding Conditions: 0



#### Mech 08

Location:

Description:

Chronological Age:

Effective Age:

#### Parkade Exhaust Fan

Parkade.

Belt drive propeller fans for the mechanical removal of stale and toxic air from the parking garage, which are controlled by timers.

Service Life: 20

Remaining Service Life: 0

Outstanding Conditions: 0

### Other





#### Mech 09

Location:

#### Overhead Gate Motors

Parkade.

Description:

Commercial-grade, overhead sectional door for vehicular access into parking garage, controlled by an electric operator.

Chronological Age:

7

Service Life:

20

Effective Age:

7

Remaining Service Life:

13

Outstanding Conditions:

0

### Elevator

#### Hydraulic



#### Elev 01

Location:

#### Hydraulic Elevator Equipment

Parkade elevator machine room.

Description:

Dover direct acting hydraulic with buried cylinder, pump and motor used for vertical passenger transportation between the levels of the building.

Chronological Age:

31

Service Life:

25

Effective Age:

25

Remaining Service Life:

0

Outstanding Conditions:

0

#### Car Interiors



#### Elev 02

Location:

#### Elevator Cab Hardware & Furnishings

Elevator cab.

Description:

Door detectors, door operators and hardware, interior cab finishes.

Chronological Age:

31

Service Life:

20

Effective Age:

20

Remaining Service Life:

0

Outstanding Conditions:

0

### Fire Safety

#### Detection



#### Fire 01

Location:

#### Fire Annunciator Panel

Parkade electrical room & second floor exterior corridor.

Description:

Edwards 2280, 8-zoned hard wired Fire Alarm Control Panel (FACP) and Fire Alarm Annunciator Panel (FAAP) system for fire detection devices and fire sprinkler annunciation.

Chronological Age:

31

Service Life:

20

Effective Age:

20

Remaining Service Life:

0

Outstanding Conditions:

0



#### Fire 02

Location:

#### Fire Detection & Alarm

Mounted to ceilings and walls in various strategic locations throughout.

Description:

Heat detectors, bell alarms, pull stations, and other fixed apparatus field devices to detect fire and smoke conditions and initiate timely response.

Chronological Age:

31

Service Life:

20

Effective Age:

20

Remaining Service Life:

0

Outstanding Conditions:

0

#### Suppression



#### Fire 03

Location:

#### Dry Sprinkler Compressor

Sprinkler room.

Description:

Swan single cylinder belt driven air compressor used to maintain the pressure of air in the dry fire sprinkler lines.

Chronological Age:

31

Service Life:

15

Effective Age:

11

Remaining Service Life:

4

Outstanding Conditions:

0



#### Fire 04

Location:

#### Dry Sprinkler Valve and Trim

Parkade sprinkler room with fire department connections located adjacent to the entrance to the exterior corridors.

Description:

Dry sprinkler system with a 4" drypipe valve used for dry fire sprinkler system within the parkade. Two fire department connections with siamese connections are provided at the north elevation, at street level, for firefighter use in connecting system to pumper truck.

Chronological Age:

31

Service Life:

50

Effective Age:

31

Remaining Service Life:

19

Outstanding Conditions:

0

### Egress



#### Fire 05

Location:

#### Emergency Egress Equipment

Parkade.

Description:

Exit lights and emergency lighting equipment to facilitate evacuation from the interior of the parkade in the event of an emergency.

Chronological Age:

1

Service Life:

25

Effective Age:

1

Remaining Service Life:

24

Outstanding Conditions:

0

### Amenities

#### Furnishings



#### Amen 01

Location:

#### Central Mailboxes

Ground level corridor.

Description:

Surface mounted, front loading, vertical metal finish, extruded aluminum trim, 5-pin cam locks, and Canada postal crown lock.

Chronological Age:

31

Service Life:

30

Effective Age:

30

Remaining Service Life:

0

Outstanding Conditions:

0



#### Amen 02

Location:

#### Bicycle Racks

Parkade.

Description:

Wall mounted, tubular steel framed bike racks.

Chronological Age:

31

Service Life:

50

Effective Age:

31

Remaining Service Life:

19

Outstanding Conditions:

0





#### Amen 03

Location:

Description:

Chronological Age:

Effective Age:

#### Public Signage

Various locations throughout the site.

Variety of permanently displayed information placards in common areas.

31

Service Life: 25

18

Remaining Service Life: 7

Outstanding Conditions: 0



#### Amen 04

Location:

Description:

Chronological Age:

Effective Age:

#### Wood Storage Lockers

Parkade.

Wood framed general purpose storage lockers with swing door hardware.

31

Service Life: 30

21

Remaining Service Life: 9

Outstanding Conditions: 0

### Sitework

#### Hard Landscaping



#### Site 01

Location:

Description:

Chronological Age:

Effective Age:

#### Concrete Unit Paving

Courtyard.

Concrete pavers, over compacted sub-grade, over waterproof membrane and suspended structural concrete slab.

31

Service Life: 40

37

Remaining Service Life: 3

Outstanding Conditions: 0



#### Site 02

Location:

Description:

Chronological Age:

Effective Age:

#### Outdoor Wood Deck & Trellis

Courtyard.

Wood framed deck with built-in seating area and overhead trellis.

31

Service Life: 30

30

Remaining Service Life: 0

Outstanding Conditions: 0



#### Site 03

Location:

Description:

Chronological Age:

Effective Age:

#### Wood Stairs

South elevation town house entries and access to the courtyard.

Exterior wood stairs.

7

Service Life: 20

7

Remaining Service Life: 13

Outstanding Conditions: 0



#### Site 04

Location:

Description:

Chronological Age:

Effective Age:

#### Parkade Traffic Striping

Parkade

Line striping and traffic markings on concrete parkade slab.

6

6

Service Life: 12

Remaining Service Life: 6

Outstanding Conditions: 0



#### Site 05

Location:

Description:

Chronological Age:

Effective Age:

#### Tiled Paving

North elevation stairway landings and exterior corridors.

Tiled paving adhered to concrete slab.

31

31

Service Life: 35

Remaining Service Life: 4

Outstanding Conditions: 0



#### Site 06

Location:

Description:

Chronological Age:

Effective Age:

#### Wood Fencing

Patios and landscaped areas.

Wood posts, wood slats serving as wood structure to give privacy to ground floor patios and units on the south elevation with street level entrances.

3

3

Service Life: 30

Remaining Service Life: 27

Outstanding Conditions: 0

#### Soft Landscaping



#### Site 07

Location:

Description:

Chronological Age:

Effective Age:

#### Irrigation Sprinklers

Buried within the landscaped areas.

A network of pipes, valves, and irrigation heads buried amongst the exterior 'soft' landscaping, connected to a central control panel.

31

15

Service Life: 15

Remaining Service Life: 0

Outstanding Conditions: 0



#### Site 08

Location:

Description:

Chronological Age:

Effective Age:

#### Soft Landscaping

Courtyard and south elevation.

Various forms of plant material including, shrubs, flowers, ground cover, hedges and trees located within wood and concrete planters. Also considered are growing medium such as top soil.

31

27

Service Life: 30

Remaining Service Life: 3

Outstanding Conditions: 0















































# Appendix C

## Asset Service Life Summary



Service Life (Current)

		Est. Future Cost	Chronological Age (as reported in 2011)	Remaining Service Life (as reported in 2011)
► Enclosure				
Roofs & Decks				
Encl 01	Roof	\$300,000	1 	24 
Encl 02	Metal Roofing & Cladding	\$16,000	31 	9 
Encl 03	Balcony Waterproofing and Guards	\$7,600	31 	4 
Encl 04	Aluminum Guardrails	\$49,000	1 	39 
Skylight				
Encl 05	T-Bar Skylights	\$4,200	31 	3 
Walls				
Encl 06	Concrete Block Wall	\$0	31 	19 
Encl 07	Face Seal Stucco	\$37,000	31 	19 
Encl 08	Horizontal Wood Siding & Trim	\$140,000	31 	9 
Windows				
Encl 09	Acrylic Dome Window	\$1,000	31 	3 
Encl 10	Aluminum Frame Windows	\$150,000	31 	3 
Encl 11	Glazed Balcony Enclosures [PLACEHOLDER]	\$0	31 	3 
Doors				
Encl 12	Metal Storm Doors	\$4,300	7 	18 
Encl 13	Sliding Glass Doors	\$6,400	31 	3 
Encl 14	Metal Swing Doors	\$2,200	31 	4 
Encl 15	Townhouse Entry Doors	\$33,000	31 	9 
At Grade				
Encl 16	At-grade Waterproofing	\$280,000	31 	0 
Parking Garage				
Encl 17	Parking Garage Slab	\$1,500	31 	0 
General & Inspections				
Encl 18	Miscellaneous & Inspections	\$0	31 	9 
► Electrical				
Distribution				
Elec 01	Electrical Distribution	\$5,100	31 	19 
Light Fixtures				
Elec 02	Exterior Light Fixtures	\$11,000	1 	19 
Elec 03	Interior Light Fixtures	\$2,500	31 	0 
► Mechanical				
Plumbing & Drainage				
Mech 01	Sump Pumps	\$4,400	4 	5 

Mech 02	Plumbing Distribution	\$110,000	31	<div><div></div></div>	4	<div><div></div></div>
Mech 03	Sanitary & Storm Drainage	\$22,000	31	<div><div></div></div>	19	<div><div></div></div>
Mech 04	Valves & Cross Connection	\$5,000	31	<div><div></div></div>	0	<div><div></div></div>
Heating & Cooling						
Mech 05	Electric Baseboard & Unit Heaters	\$400	31	<div><div></div></div>	0	<div><div></div></div>
Mech 06	Fireplaces & Chimneys	\$3,600	31	<div><div></div></div>	0	<div><div></div></div>
Ventilation						
Mech 07	Miscellaneous Exhaust Fans	\$2,000	31	<div><div></div></div>	0	<div><div></div></div>
Mech 08	Parkade Exhaust Fan	\$1,000	31	<div><div></div></div>	0	<div><div></div></div>
Other						
Mech 09	Overhead Gate Motors	\$3,900	7	<div><div></div></div>	13	<div><div></div></div>
► Elevator						
Hydraulic						
Elev 01	Hydraulic Elevator Equipment	\$80,000	31	<div><div></div></div>	0	<div><div></div></div>
Car Interiors						
Elev 02	Elevator Cab Hardware & Furnishings	\$15,000	31	<div><div></div></div>	0	<div><div></div></div>
► Fire Safety						
Detection						
Fire 01	Fire Annunciator Panel	\$15,000	31	<div><div></div></div>	0	<div><div></div></div>
Fire 02	Fire Detection & Alarm	\$800	31	<div><div></div></div>	0	<div><div></div></div>
Suppression						
Fire 03	Dry Sprinkler Compressor	\$1,600	31	<div><div></div></div>	4	<div><div></div></div>
Fire 04	Dry Sprinkler Valve and Trim	\$5,500	31	<div><div></div></div>	19	<div><div></div></div>
Egress						
Fire 05	Emergency Egress Equipment	\$1,600	1	<div><div></div></div>	24	<div><div></div></div>
► Amenities						
Furnishings						
Amen 01	Central Mailboxes	\$1,500	31	<div><div></div></div>	0	<div><div></div></div>
Amen 02	Bicycle Racks	\$1,700	31	<div><div></div></div>	19	<div><div></div></div>
Amen 03	Public Signage	\$1,100	31	<div><div></div></div>	7	<div><div></div></div>
Amen 04	Wood Storage Lockers	\$2,200	31	<div><div></div></div>	9	<div><div></div></div>
► Sitework						
Hard Landscaping						
Site 01	Concrete Unit Paving	\$11,000	31	<div><div></div></div>	3	<div><div></div></div>
Site 02	Outdoor Wood Deck & Trellis	\$7,000	31	<div><div></div></div>	0	<div><div></div></div>
Site 03	Wood Stairs	\$9,100	7	<div><div></div></div>	13	<div><div></div></div>
Site 04	Parkade Traffic Striping	\$1,100	6	<div><div></div></div>	6	<div><div></div></div>
Site 05	Tiled Paving	\$1,900	31	<div><div></div></div>	4	<div><div></div></div>
Site 06	Wood Fencing	\$8,500	3	<div><div></div></div>	27	<div><div></div></div>
Soft Landscaping						
Site 07	Irrigation Sprinklers	\$5,000	31	<div><div></div></div>	0	<div><div></div></div>
Site 08	Soft Landscaping	\$32,000	31	<div><div></div></div>	3	<div><div></div></div>

\*PREDICTING THE FUTURE:

The life expectancy information in this report is intended as a guide only and is considered to be representative of the useful life of building elements. The actual life span of any asset may vary considerably depending on several factors, such as:

- 1.The appropriateness of the design of the asset.
- 2.The quality of the materials used in constructing the asset.
- 3.The level of maintenance and sustainment activities applied to achieve the full service life of the asset.
- 4.The extent of use, misuse and abuse of the asset.
- 5.The general operating conditions, such as exposure to mechanical damage.
- 6.The service environment conditions, such as exposure to extraordinary levels of dust, dirt and other environmental factors.
- 7.Extraordinary events, such as insurance losses (fire, flood, earthquake).

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# Appendix D

## Funding Scenario Cash Flow Tables

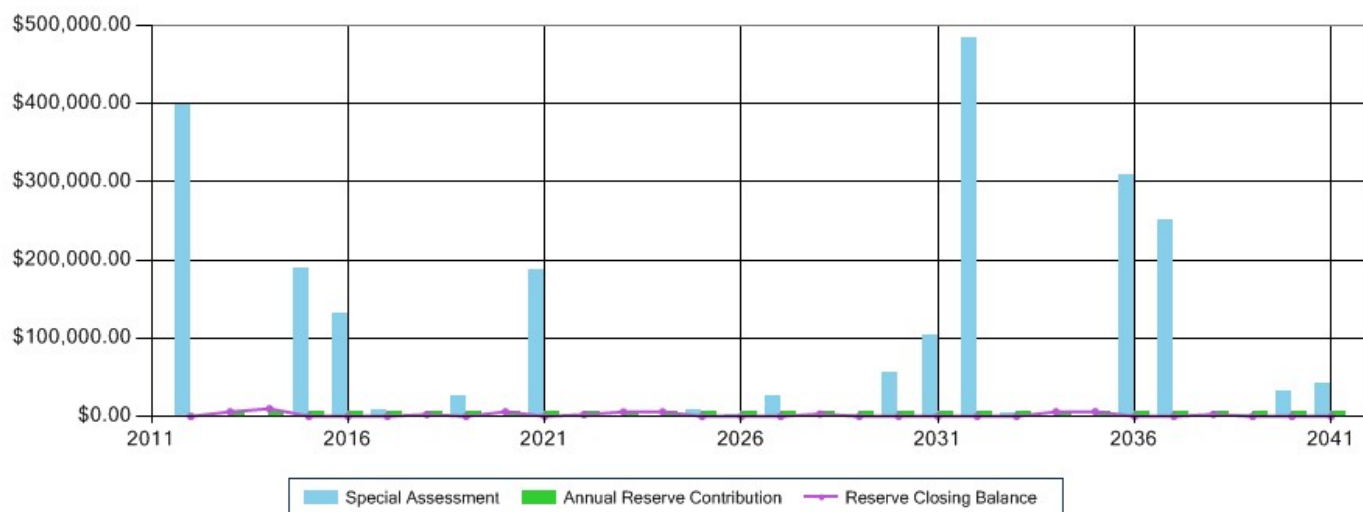




Funding Model (Basic)

Name	Statutory Funding		
Type	Basic	Init Catchup Cost	\$0
Regarding	Birch Gardens	Operating Budget	\$67,149
Start Year	2012	Starting Reserve Balance	\$30,390
Interest/Investment Rate	0.0%	Reserver Contribution Threshold	\$16,787
Estimated Contingency Allowance	\$1,000	Contribution Below Threshold	\$6,715
Tax Rate	0.0%	Contribution Above Threshold	\$0
Planning Horizon	30	Reserve Contribution Increase	0.0%
Number Of Units	18	Monthly Avg. Unit Contribution	\$0

Year	Opening Balance	Reserve Contribution	Special Levy	Reserve Income	Renewal Costs	Contingency Costs	Tax Liability	Closing Balance	Percent Funded
2012	\$30,390	\$0	\$398,910	\$0	\$428,300	\$1,000	\$0	\$0	0.00 %
2013	\$0	\$6,715	\$0	\$0	\$0	\$1,000	\$0	\$5,715	1.10 %
2014	\$5,715	\$6,715	\$0	\$0	\$1,700	\$1,000	\$0	\$9,730	1.66 %
2015	\$9,730	\$6,715	\$189,155	\$0	\$204,600	\$1,000	\$0	\$0	0.00 %
2016	\$0	\$6,715	\$132,085	\$0	\$137,800	\$1,000	\$0	\$0	0.00 %
2017	\$0	\$6,715	\$8,685	\$0	\$14,400	\$1,000	\$0	\$0	0.00 %
2018	\$0	\$6,715	\$0	\$0	\$3,400	\$1,000	\$0	\$2,315	0.47 %
2019	\$2,315	\$6,715	\$25,170	\$0	\$33,200	\$1,000	\$0	\$0	0.00 %
2020	\$0	\$6,715	\$0	\$0	\$0	\$1,000	\$0	\$5,715	0.98 %
2021	\$5,715	\$6,715	\$187,870	\$0	\$199,300	\$1,000	\$0	\$0	0.00 %
2022	\$0	\$6,715	\$0	\$0	\$3,500	\$1,000	\$0	\$2,215	0.43 %
2023	\$2,215	\$6,715	\$0	\$0	\$2,500	\$1,000	\$0	\$5,430	0.95 %
2024	\$5,430	\$6,715	\$0	\$0	\$5,600	\$1,000	\$0	\$5,545	0.87 %
2025	\$5,545	\$6,715	\$7,840	\$0	\$19,100	\$1,000	\$0	\$0	0.00 %
2026	\$0	\$6,715	\$185	\$0	\$5,900	\$1,000	\$0	\$0	0.00 %
2027	\$0	\$6,715	\$26,785	\$0	\$32,500	\$1,000	\$0	\$0	0.00 %
2028	\$0	\$6,715	\$0	\$0	\$2,700	\$1,000	\$0	\$3,015	0.35 %
2029	\$3,015	\$6,715	\$2,070	\$0	\$10,800	\$1,000	\$0	\$0	0.00 %
2030	\$0	\$6,715	\$54,985	\$0	\$60,700	\$1,000	\$0	\$0	0.00 %
2031	\$0	\$6,715	\$103,285	\$0	\$109,000	\$1,000	\$0	\$0	0.00 %
2032	\$0	\$6,715	\$484,585	\$0	\$490,300	\$1,000	\$0	\$0	0.00 %
2033	\$0	\$6,715	\$4,085	\$0	\$9,800	\$1,000	\$0	\$0	0.00 %
2034	\$0	\$6,715	\$0	\$0	\$0	\$1,000	\$0	\$5,715	1.04 %
2035	\$5,715	\$6,715	\$0	\$0	\$5,600	\$1,000	\$0	\$5,830	1.00 %
2036	\$5,830	\$6,715	\$308,355	\$0	\$319,900	\$1,000	\$0	\$0	0.00 %
2037	\$0	\$6,715	\$250,685	\$0	\$256,400	\$1,000	\$0	\$0	0.00 %
2038	\$0	\$6,715	\$0	\$0	\$3,300	\$1,000	\$0	\$2,415	3.40 %
2039	\$2,415	\$6,715	\$1,270	\$0	\$9,400	\$1,000	\$0	\$0	0.00 %
2040	\$0	\$6,715	\$31,985	\$0	\$37,700	\$1,000	\$0	\$0	0.00 %
2041	\$0	\$6,715	\$41,985	\$0	\$47,700	\$1,000	\$0	\$0	100.00 %
		\$194,731	\$2,259,979		\$2,455,100				



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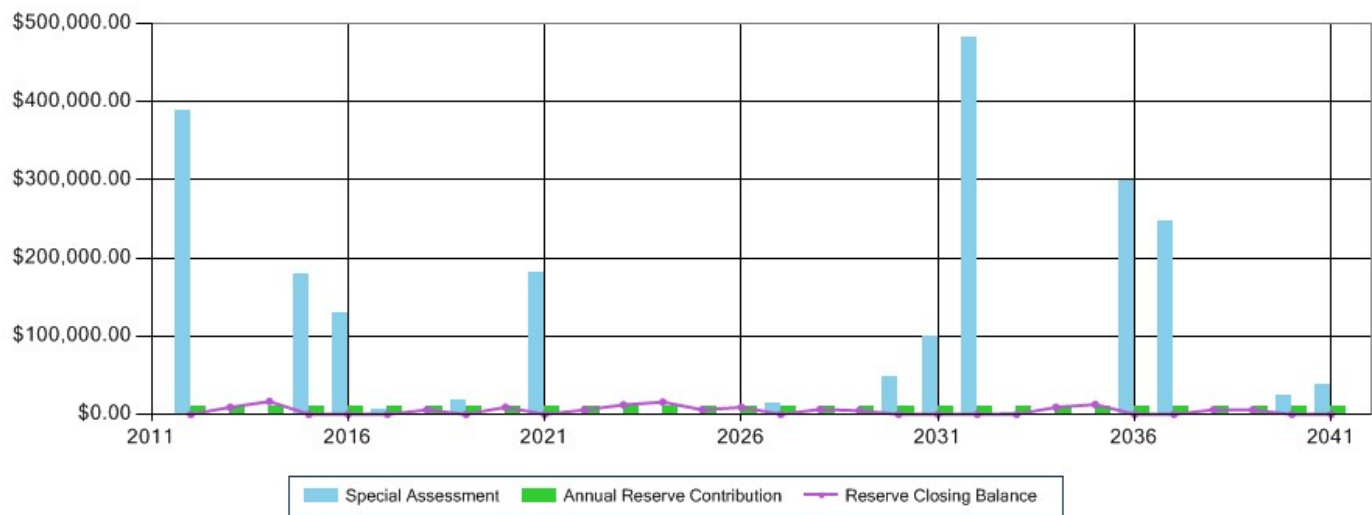


Funding Model (Basic)

Name	Fixed annual funding of \$10,000 (Status Quo)		
Type	Basic	Init Catchup Cost	\$0
Regarding	Birch Gardens	Operating Budget	\$67,149
Start Year	2012	Starting Reserve Balance	\$30,390
Interest/Investment Rate	1.5%	Reserver Contribution Threshold	\$500,000
Estimated Contingency Allowance	\$1,000	Contribution Below Threshold	\$10,000
Tax Rate	0.0%	Contribution Above Threshold	\$10,000
Planning Horizon	30	Reserve Contribution Increase	0.0%
Number Of Units	18	Monthly Avg. Unit Contribution	\$46

Year	Opening Balance	Reserve Contribution	Special Levy	Reserve Income	Renewal Costs	Contingency Costs	Tax Liability	Closing Balance	Percent Funded
2012	\$30,390	\$10,000	\$388,454	\$456	\$428,300	\$1,000	\$0	\$0	0.00 %
2013	\$0	\$10,000	\$0	\$0	\$0	\$1,000	\$0	\$9,000	1.74 %
2014	\$9,000	\$10,000	\$0	\$135	\$1,700	\$1,000	\$0	\$16,435	2.80 %
2015	\$16,435	\$10,000	\$178,918	\$247	\$204,600	\$1,000	\$0	\$0	0.00 %
2016	\$0	\$10,000	\$128,800	\$0	\$137,800	\$1,000	\$0	\$0	0.00 %
2017	\$0	\$10,000	\$5,400	\$0	\$14,400	\$1,000	\$0	\$0	0.00 %
2018	\$0	\$10,000	\$0	\$0	\$3,400	\$1,000	\$0	\$5,600	1.15 %
2019	\$5,600	\$10,000	\$18,516	\$84	\$33,200	\$1,000	\$0	\$0	0.00 %
2020	\$0	\$10,000	\$0	\$0	\$0	\$1,000	\$0	\$9,000	1.54 %
2021	\$9,000	\$10,000	\$181,165	\$135	\$199,300	\$1,000	\$0	\$0	0.00 %
2022	\$0	\$10,000	\$0	\$0	\$3,500	\$1,000	\$0	\$5,500	1.08 %
2023	\$5,500	\$10,000	\$0	\$83	\$2,500	\$1,000	\$0	\$12,083	2.11 %
2024	\$12,083	\$10,000	\$0	\$181	\$5,600	\$1,000	\$0	\$15,664	2.48 %
2025	\$15,664	\$10,000	\$0	\$235	\$19,100	\$1,000	\$0	\$5,799	0.85 %
2026	\$5,799	\$10,000	\$0	\$87	\$5,900	\$1,000	\$0	\$8,986	1.20 %
2027	\$8,986	\$10,000	\$14,380	\$135	\$32,500	\$1,000	\$0	\$0	0.00 %
2028	\$0	\$10,000	\$0	\$0	\$2,700	\$1,000	\$0	\$6,300	0.73 %
2029	\$6,300	\$10,000	\$0	\$95	\$10,800	\$1,000	\$0	\$4,595	0.49 %
2030	\$4,595	\$10,000	\$47,037	\$69	\$60,700	\$1,000	\$0	\$0	0.00 %
2031	\$0	\$10,000	\$100,000	\$0	\$109,000	\$1,000	\$0	\$0	0.00 %
2032	\$0	\$10,000	\$481,300	\$0	\$490,300	\$1,000	\$0	\$0	0.00 %
2033	\$0	\$10,000	\$800	\$0	\$9,800	\$1,000	\$0	\$0	0.00 %
2034	\$0	\$10,000	\$0	\$0	\$0	\$1,000	\$0	\$9,000	1.65 %
2035	\$9,000	\$10,000	\$0	\$135	\$5,600	\$1,000	\$0	\$12,535	2.15 %
2036	\$12,535	\$10,000	\$298,177	\$188	\$319,900	\$1,000	\$0	\$0	0.00 %
2037	\$0	\$10,000	\$247,400	\$0	\$256,400	\$1,000	\$0	\$0	0.00 %
2038	\$0	\$10,000	\$0	\$0	\$3,300	\$1,000	\$0	\$5,700	8.02 %
2039	\$5,700	\$10,000	\$0	\$86	\$9,400	\$1,000	\$0	\$5,386	7.58 %
2040	\$5,386	\$10,000	\$23,234	\$81	\$37,700	\$1,000	\$0	\$0	0.00 %
2041	\$0	\$10,000	\$38,700	\$0	\$47,700	\$1,000	\$0	\$0	100.00 %
		\$300,000	\$2,152,280		\$2,455,100				





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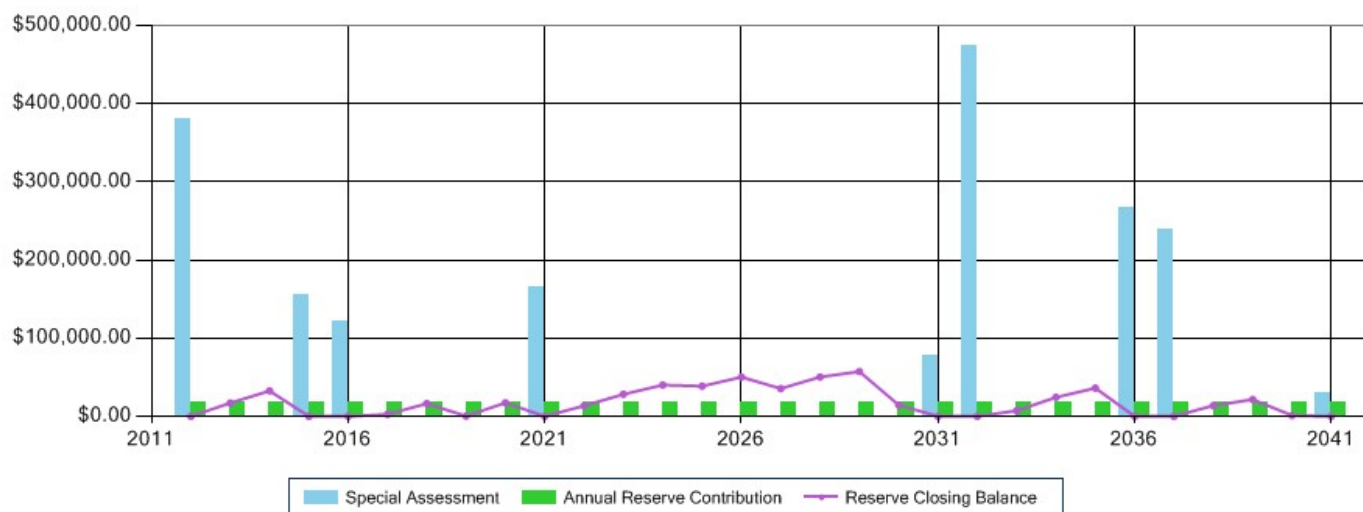


Funding Model (Basic)

Name	Fixed annual funding of \$18,000		
Type	Basic	Init Catchup Cost	\$0
Regarding	Birch Gardens	Operating Budget	\$67,149
Start Year	2012	Starting Reserve Balance	\$30,390
Interest/Investment Rate	1.5%	Reserver Contribution Threshold	\$500,000
Estimated Contingency Allowance	\$1,000	Contribution Below Threshold	\$18,000
Tax Rate	0.0%	Contribution Above Threshold	\$18,000
Planning Horizon	30	Reserve Contribution Increase	0.0%
Number Of Units	18	Monthly Avg. Unit Contribution	\$83

Year	Opening Balance	Reserve Contribution	Special Levy	Reserve Income	Renewal Costs	Contingency Costs	Tax Liability	Closing Balance	Percent Funded
2012	\$30,390	\$18,000	\$380,454	\$456	\$428,300	\$1,000	\$0	\$0	0.00 %
2013	\$0	\$18,000	\$0	\$0	\$0	\$1,000	\$0	\$17,000	3.28 %
2014	\$17,000	\$18,000	\$0	\$255	\$1,700	\$1,000	\$0	\$32,555	5.56 %
2015	\$32,555	\$18,000	\$154,557	\$488	\$204,600	\$1,000	\$0	\$0	0.00 %
2016	\$0	\$18,000	\$120,800	\$0	\$137,800	\$1,000	\$0	\$0	0.00 %
2017	\$0	\$18,000	\$0	\$0	\$14,400	\$1,000	\$0	\$2,600	0.61 %
2018	\$2,600	\$18,000	\$0	\$39	\$3,400	\$1,000	\$0	\$16,239	3.34 %
2019	\$16,239	\$18,000	\$0	\$244	\$33,200	\$1,000	\$0	\$283	0.05 %
2020	\$283	\$18,000	\$0	\$4	\$0	\$1,000	\$0	\$17,287	2.97 %
2021	\$17,287	\$18,000	\$164,754	\$259	\$199,300	\$1,000	\$0	\$0	0.00 %
2022	\$0	\$18,000	\$0	\$0	\$3,500	\$1,000	\$0	\$13,500	2.65 %
2023	\$13,500	\$18,000	\$0	\$203	\$2,500	\$1,000	\$0	\$28,203	4.94 %
2024	\$28,203	\$18,000	\$0	\$423	\$5,600	\$1,000	\$0	\$40,026	6.34 %
2025	\$40,026	\$18,000	\$0	\$600	\$19,100	\$1,000	\$0	\$38,526	5.66 %
2026	\$38,526	\$18,000	\$0	\$578	\$5,900	\$1,000	\$0	\$50,204	6.73 %
2027	\$50,204	\$18,000	\$0	\$753	\$32,500	\$1,000	\$0	\$35,457	4.51 %
2028	\$35,457	\$18,000	\$0	\$532	\$2,700	\$1,000	\$0	\$50,289	5.88 %
2029	\$50,289	\$18,000	\$0	\$754	\$10,800	\$1,000	\$0	\$57,243	6.22 %
2030	\$57,243	\$18,000	\$0	\$859	\$60,700	\$1,000	\$0	\$14,402	1.54 %
2031	\$14,402	\$18,000	\$77,382	\$216	\$109,000	\$1,000	\$0	\$0	0.00 %
2032	\$0	\$18,000	\$473,300	\$0	\$490,300	\$1,000	\$0	\$0	0.00 %
2033	\$0	\$18,000	\$0	\$0	\$9,800	\$1,000	\$0	\$7,200	1.43 %
2034	\$7,200	\$18,000	\$0	\$108	\$0	\$1,000	\$0	\$24,308	4.46 %
2035	\$24,308	\$18,000	\$0	\$365	\$5,600	\$1,000	\$0	\$36,073	6.20 %
2036	\$36,073	\$18,000	\$266,286	\$541	\$319,900	\$1,000	\$0	\$0	0.00 %
2037	\$0	\$18,000	\$239,400	\$0	\$256,400	\$1,000	\$0	\$0	0.00 %
2038	\$0	\$18,000	\$0	\$0	\$3,300	\$1,000	\$0	\$13,700	19.29 %
2039	\$13,700	\$18,000	\$0	\$206	\$9,400	\$1,000	\$0	\$21,506	30.28 %
2040	\$21,506	\$18,000	\$0	\$323	\$37,700	\$1,000	\$0	\$1,128	2.62 %
2041	\$1,128	\$18,000	\$29,555	\$17	\$47,700	\$1,000	\$0	\$0	100.00 %
		\$540,000	\$1,906,488		\$2,455,100				





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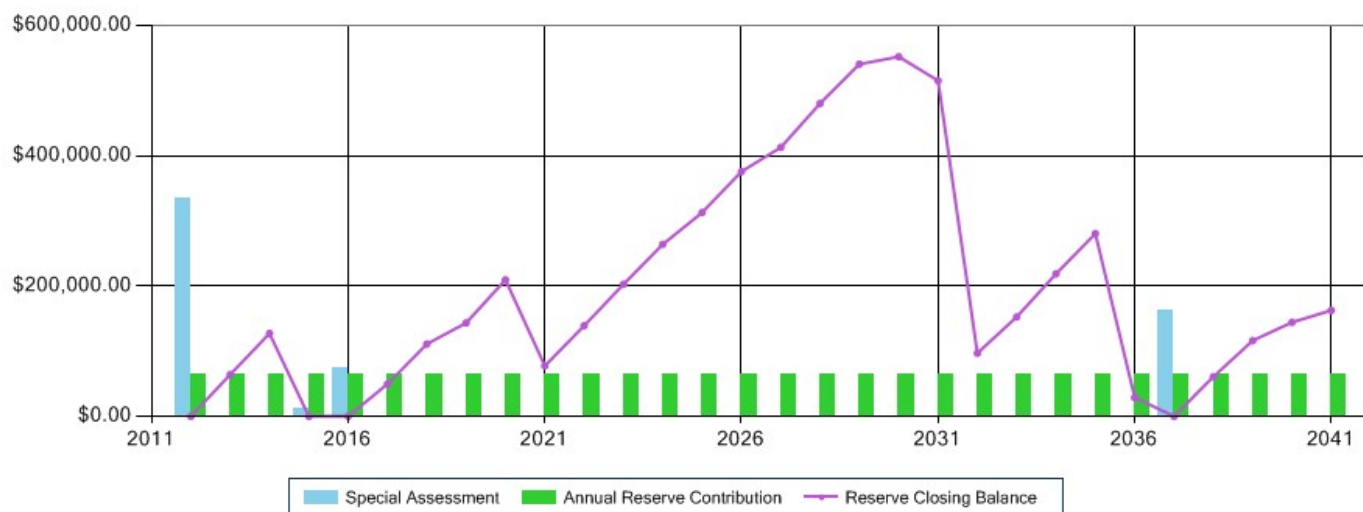


Funding Model (Basic)

Name	Fixed annual funding of \$65,000 (Progressive)		
Type	Basic	Init Catchup Cost	\$0
Regarding	Birch Gardens	Operating Budget	\$67,149
Start Year	2012	Starting Reserve Balance	\$30,390
Interest/Investment Rate	1.5%	Reserver Contribution Threshold	\$500,000
Estimated Contingency Allowance	\$1,000	Contribution Below Threshold	\$65,000
Tax Rate	0.0%	Contribution Above Threshold	\$65,000
Planning Horizon	30	Reserve Contribution Increase	0.0%
Number Of Units	18	Monthly Avg. Unit Contribution	\$301

Year	Opening Balance	Reserve Contribution	Special Levy	Reserve Income	Renewal Costs	Contingency Costs	Tax Liability	Closing Balance	Percent Funded
2012	\$30,390	\$65,000	\$333,454	\$456	\$428,300	\$1,000	\$0	\$0	0.00 %
2013	\$0	\$65,000	\$0	\$0	\$0	\$1,000	\$0	\$64,000	12.37 %
2014	\$64,000	\$65,000	\$0	\$960	\$1,700	\$1,000	\$0	\$127,260	21.75 %
2015	\$127,260	\$65,000	\$11,431	\$1,909	\$204,600	\$1,000	\$0	\$0	0.00 %
2016	\$0	\$65,000	\$73,800	\$0	\$137,800	\$1,000	\$0	\$0	0.00 %
2017	\$0	\$65,000	\$0	\$0	\$14,400	\$1,000	\$0	\$49,600	11.64 %
2018	\$49,600	\$65,000	\$0	\$744	\$3,400	\$1,000	\$0	\$110,944	22.82 %
2019	\$110,944	\$65,000	\$0	\$1,664	\$33,200	\$1,000	\$0	\$143,408	27.68 %
2020	\$143,408	\$65,000	\$0	\$2,151	\$0	\$1,000	\$0	\$209,559	36.00 %
2021	\$209,559	\$65,000	\$0	\$3,143	\$199,300	\$1,000	\$0	\$77,403	17.23 %
2022	\$77,403	\$65,000	\$0	\$1,161	\$3,500	\$1,000	\$0	\$139,064	27.37 %
2023	\$139,064	\$65,000	\$0	\$2,086	\$2,500	\$1,000	\$0	\$202,650	35.55 %
2024	\$202,650	\$65,000	\$0	\$3,040	\$5,600	\$1,000	\$0	\$264,089	41.85 %
2025	\$264,089	\$65,000	\$0	\$3,961	\$19,100	\$1,000	\$0	\$312,951	46.02 %
2026	\$312,951	\$65,000	\$0	\$4,694	\$5,900	\$1,000	\$0	\$375,745	50.43 %
2027	\$375,745	\$65,000	\$0	\$5,636	\$32,500	\$1,000	\$0	\$412,881	52.59 %
2028	\$412,881	\$65,000	\$0	\$6,193	\$2,700	\$1,000	\$0	\$480,374	56.18 %
2029	\$480,374	\$65,000	\$0	\$7,206	\$10,800	\$1,000	\$0	\$540,780	58.84 %
2030	\$540,780	\$65,000	\$0	\$8,112	\$60,700	\$1,000	\$0	\$552,192	59.18 %
2031	\$552,192	\$65,000	\$0	\$8,283	\$109,000	\$1,000	\$0	\$515,475	57.46 %
2032	\$515,475	\$65,000	\$0	\$7,732	\$490,300	\$1,000	\$0	\$96,907	20.48 %
2033	\$96,907	\$65,000	\$0	\$1,454	\$9,800	\$1,000	\$0	\$152,560	30.33 %
2034	\$152,560	\$65,000	\$0	\$2,288	\$0	\$1,000	\$0	\$218,849	40.15 %
2035	\$218,849	\$65,000	\$0	\$3,283	\$5,600	\$1,000	\$0	\$280,531	48.28 %
2036	\$280,531	\$65,000	\$0	\$4,208	\$319,900	\$1,000	\$0	\$28,839	9.61 %
2037	\$28,839	\$65,000	\$163,128	\$433	\$256,400	\$1,000	\$0	\$0	0.00 %
2038	\$0	\$65,000	\$0	\$0	\$3,300	\$1,000	\$0	\$60,700	85.49 %
2039	\$60,700	\$65,000	\$0	\$911	\$9,400	\$1,000	\$0	\$116,211	163.67 %
2040	\$116,211	\$65,000	\$0	\$1,743	\$37,700	\$1,000	\$0	\$144,254	335.47 %
2041	\$144,254	\$65,000	\$0	\$2,164	\$47,700	\$1,000	\$0	\$162,717	100.00 %
		\$1,950,000	\$581,813		\$2,455,100				





#### BAMS Disclaimer

#### MAINTENANCE CHECKLIST

1. The maintenance checklists are not exhaustive and are intended as a framework for the ongoing refinement of the maintenance program.
2. Work must only be carried out by qualified service personnel who have the necessary and sufficient knowledge about the maintenance tasks and maintenance intervals.
3. The manufacturers' latest printed instructions should take precedence in the event of any conflict with the maintenance checklists.
4. The owners' maintenance staff and/or service contractors are responsible to verify what is contained in the manufacturer's documentation regarding recommended maintenance procedures.
5. The maintenance checklists and maintenance intervals must be reviewed annually and adjusted, as required, to reflect the service environment, feedback from contractors, etc.

#### ACCURACY OF COST ESTIMATES:

1. Costs on this report are provided in future year dollars (rounded), which includes inflation or escalation factors.
2. Costs are preliminary estimates intended for initial budget planning purposes and not for accounting use.
3. Actual costs will vary depending on several factors. For example, some economies of scale may be achieved if the individual work items are bundled together into larger projects rather than being done piecemeal.
4. Each project should also include appropriate cost line items when developing an overall project budget.
5. Labor and material costs are subject to the vagaries of the marketplace. At the time of tender, costs may vary depending on the time of the year and/or contractor availability.
6. The budget estimates must be updated over time and confirmed by competitive tender before any contracts are awarded.
7. Detailed repair specifications are required to be prepared in order to confirm scopes of work and costs.
8. Soft costs, such as consulting services and contingency allowances are not included in the budget estimates. Depending on the sizes, scope and timing of individual projects, the magnitude of the soft costs will vary.
9. Cost savings may be realized depending on the use of in-house labor or 3rd party-contractors.
10. The estimates do not include allowances for general conditions, such as site specific access requirements and environmental concerns, which should be addressed on a project-by-project basis.
11. Consideration may sometimes need to be given to costs arising from the impact of projects on occupancy use and facility operations.

# Appendix E

## Disclosures and Disclaimers

## Disclosures and Disclaimers

### Condition of the Assets

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

### Cost Estimating for Assets

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

### **Maintenance of the Assets:**

- The maintenance checklists are not exhaustive and are intended as a framework for the ongoing refinement of the maintenance program.
- Work must only be carried out by appropriately qualified personnel who have the necessary and sufficient knowledge about the maintenance tasks and maintenance intervals.
- The manufacturers' latest printed instructions should take precedence in the event of any conflict with the maintenance checklists.
- The owners' maintenance staff and/or service contractors are responsible to verify what is contained in the manufacturers' documentation regarding recommended maintenance procedures and intervals.
- The maintenance checklists and maintenance intervals should be reviewed annually and adjusted, as required, to reflect the service environment, feedback from contractors, etc.

### **Specialist and Non-Specialist Reviews**

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

### **Forecasting the Useful Service Life of Assets**

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

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

### **Funding Models**

The funding models for Depreciation Reports are based on a 30-year horizon and use “future year dollars termed” methodology. This methodology projects the costs (in future year dollars) over the planning horizon and not beyond the terminus year of the planning horizon. The current year is the starting year of the planning horizon. The term, therefore, matches the initial horizon and does not respect a shifting horizon. This means that in year 1 the funding scenarios will look forward for 30 years.

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



# Appendix F

## RDH Qualifications



## DEPRECIATION REPORT

New regulations in British Columbia make Depreciation Reports mandatory for most strata corporations. RDH Building Engineering Ltd. offers building science and building asset management services from three offices in BC; Vancouver, Victoria, and Courtenay. RDH staff have broad practical experience assisting building owners with all aspects of planning for the long term stewardship of their building(s). Our reserve fund analysts, engineers, architects, and technologists have a wide variety of formal training—including building science, structural engineering, and mechanical engineering. To supplement our in-house expertise, we hire subconsultants for items such as elevator and swimming pool reviews. We believe that by using a team approach, we can ensure an appropriate level of thoroughness and quality.

We have prepared hundreds of Depreciation Reports and are recognized as industry leaders. David Albrice is a certified Professional Reserve Analyst and was one of the key people consulted when the legislation was drafted. He has an unrivaled depth of understanding of the physical, financial planning, and strata governance issues that need to be considered in the development of an effective Depreciation Report.



## ABOUT US



**David Albrice, B.Sc. URP, ARP, PRA**

- Professional Reserve Analyst, APRA
- B.Sc. Urban and Regional Planning
- Associate Reserve Planner, REIC
- Project Manager on 100s of Facility Condition Assessments and Reserve Studies (Depreciation Reports)



**Mike Wilson, P.Eng.**

- B.Eng. & M.Eng., Structural Engineering
- Registered professional engineer, APEGBC
- 20 years experience as a consultant focused in the field of building science



**Mark Will, Dipl.T., BA**

- Dipl.T., Building Science Technology
- B.A., Economics
- 15 years experience in project management
- CHOA Board Member



**Peter Fitch, C.Tech.**

- UBC/UBCM Certified Professional program (audit only)
- Member of Applied Science Technologists & Technicians of British Columbia
- 30 years of experience in the mechanical design field



**Phil Johnson, P.Eng.**

- B.Sc. & M.Sc., Agricultural Engineering
- Registered professional engineer, APEGBC
- 20 years experience as a consultant focused in the field of building science.



**Matt Mulleray, P.Eng.**

- B.A.Sc., Civil Engineering
- Dip. Tech., Civil and Structural Engineering
- Registered professional engineer, APEGBC
- Over 10 years experience in building science consulting





### Harvey Goodman, P.Eng.

- B.A.Sc., Civil Engineering
- Registered professional engineer, APEGBC
- 20 years experience in building science consulting



### Serge Desmarais, MAIBC, CP

- B.Arch.
- Registered architect, AIBC
- Certified Professional, UBC
- 30 years experience in building design and construction dollar capital renewal projects



### Jason Dunn, CCCA

- B.Arch.Sc, Building Science Option
- Certified Construction Contract Administrator, CSC
- 10 years experience in building science consulting



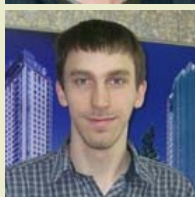
### Robin Breuer, A.Sc.T., RRO

- Dipl.T., Building Engineering Technology (Building Science Option)
- Registered Roof Observer, RCI Inc.
- 15 years experience in building science consulting



### Rob Mathena, Dipl.T.

- Dipl.T., Architectural & Building Engineering Technology (Building Science Option)
- 15 years experience in building science consulting and construction



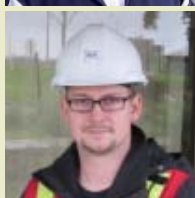
### David Ganguin, Dipl.T.

- Dipl.T., Building Engineering Technology (Building Science Option)
- 1 year experience in building science consulting



### Brandon Carreira, Dipl.T.

- Dipl.T., Architectural & Building Engineering Technology (Building Science Option)
- 1 year experience in building science consulting



### Tim Smith, A.Sc.T.

- Dipl.T., Civil Engineering Technologist
- Certificate, Computer Graphics Technician
- 5 years experience in building science consulting



**climatesmart  
business2011**

We are committed to reducing our environmental impact. RDH participated in Climate Smart to evaluate and reduce our carbon footprint.

# Appendix G

## Insurance Certificate

**Ref. No. 320006531726**

**CERTIFICATE OF INSURANCE**

Aon Reed Stenhouse Inc.  
900 Howe Street  
P.O. Box 3228  
Vancouver BC V6B 3X8  
tel 604-688-4442 fax 604-682-4026

Re: Evidence of Insurance:

**To Whom It May Concern**

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

**Insured**

RDH Building Engineering Ltd.  
224 West 8th Avenue  
Vancouver, BC V5Y 1N5

**Coverage**

<b>Professional Liability</b>	<b>Insurer</b>	Lloyd's Underwriters	
<b>Policy #</b>	QC1202155		
<b>Effective</b>	02-May-2012	<b>Expiry</b>	02-May-2013
<b>Limits of Liability</b>	Subject to aggregate where applicable		

**Terms and / or Additional Coverage**

Worldwide Coverage; Limit of Liability - CAD \$2,000,000 any one claim and CAD \$4,000,000 in the aggregate annually.

**Cancellation / Termination**

The Insurer will endeavour to provide THIRTY ( 30 ) days written notice of cancellation/termination to the addressee except that statutory or policy conditions (whichever prevails) will apply for non-payment of premium.

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

**Aon Reed Stenhouse Inc.**

Dated : 26-April-2012  
Issued By : Hadden,Lindsay D.  
Tel : 604-443-2524

*L Hadden*

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

**THE POLICY CONTAINS A PARTIAL PAYMENT OF LOSS CLAUSE**