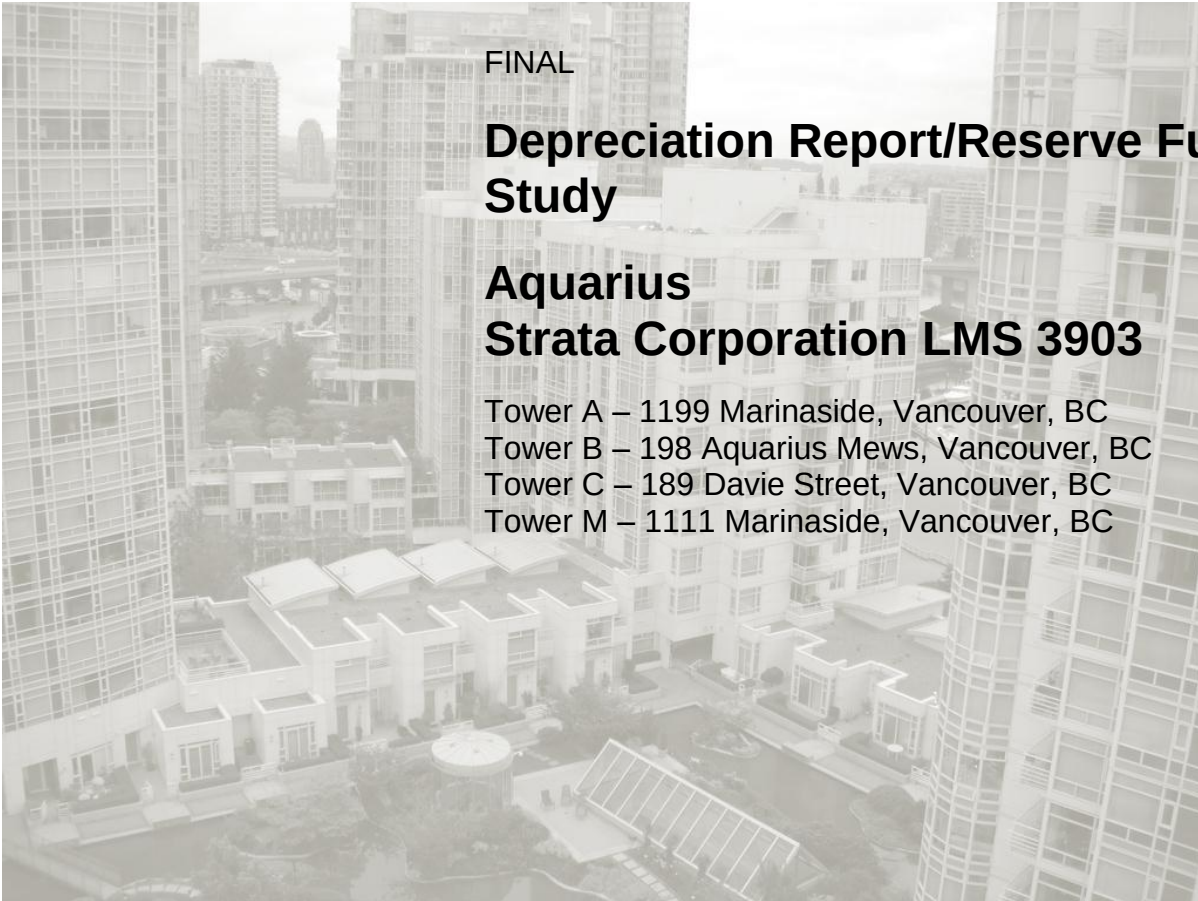




MORRISON HERSHFIELD



FINAL

Depreciation Report/Reserve Fund Study

Aquarius Strata Corporation LMS 3903

Tower A – 1199 Marinaside, Vancouver, BC
Tower B – 198 Aquarius Mews, Vancouver, BC
Tower C – 189 Davie Street, Vancouver, BC
Tower M – 1111 Marinaside, Vancouver, BC

Presented to:

The Owners of Aquarius Strata Corp. LMS 3903

c/o Terry Li
Strata Manager
Rancho Management Services
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1. INTRODUCTION

Morrison Hershfield Limited (MH) was retained to conduct a Depreciation Report (also known as a Reserve Fund Study) of the Aquarius, Strata Plan LMS 3903 located at 1199 and 1111 Marina Side Crescent, 189 Davie Street and 198 Aquarius Mews, Vancouver, BC. This report is specific to the residential portion of Aquarius and does not incorporate the commercial units of the complex. The report for the commercial units was prepared by MH and issued under separate cover.

Authorization to proceed with the assessment was provided by Terry Li of Rancho Management Services on August 19, 2010.

1.1 Report Format

The following report is separated into eight sections for the convenience of the reader. Briefly, the contents of each of these sections are:

1. Introduction

A general description of the scope of work and the use of the document.

2. Component Review

A general overview of the condition of the building, indicating major repairs anticipated in the near future, or where there is uncertainty regarding a specific item and recommendations for further investigation. A detailed component review is included in Appendix A.

3. Financial Analysis

Identification of the anticipated repair costs, methodology of calculating cash-flow plan, and examples of contribution plans, which may be considered adequate.

4. Conclusion

A Summary of the Reserve Fund Study process and the Strata's proposed financial contribution plan.

5. Appendix A – Component Review

A detailed description of the common elements of the complex included in the component inventory, their condition, including photographs, and their life expectancies.

6. Appendix B – Elevator Review

A detailed review of the elevator systems by our independent consultant is provided. Their recommendations are included in the financial tables.

7. Appendix C – Financial Tables

A Replacement Cost Summary (Table 1). This identifies the common elements to be addressed by the Reserve Fund. Thirty-Year Detailed Cash-Flow Plan (Table 2), a Reserve Fund Summary Graph, and a Thirty-Year Cash-Flow Chart for the final scenario.

8. Appendix D – Draft Changes

Changes made from draft to final issue. The draft scenarios are also provided for reference.

1.2 Objectives

The objective of this Depreciation Report/Reserve Fund Study is to provide the Strata with sufficient information to enable them to:

- a) Provide a schedule for the anticipated repair and replacement of common element items and, where possible, suggest any areas where maintenance practices might extend the life of the common elements.
- b) Identify a special account for major repair items and replacement of common elements and assets of the Corporation.
- c) To determine the annual financial contributions necessary to maintain an adequate reserve fund balance for the 30 year period of this study.
- d) Satisfy the legislation regarding the *Strata Property Act 1999 with Amendments July 1, 2000 and December 13, 2011* that requires a depreciation report be completed.

1.3 Terms of Reference

This Reserve Fund Study was subject to the limitations of Section 1.6 and addressed the scope of service as outlined in our proposal dated July 29, 2010.

Originally, the building envelope was not included in our scope of work, and this RFS, as a previous capital replacement plan complete with life cycling and costing had been performed by RDH Building Engineering dated September 5, 2008.

However, in October 2010, we were requested to update our proposal to include the RDH components in our overall study. As such, the building envelope components are included in the financial analysis of our report, but not in the physical condition sections as we did not review them. We provide no opinion related to the BE items identified by RDH.

To the best of our knowledge, this document was prepared in general compliance with Section 6.2 (Depreciation Report) of the Strata Property Regulation B.C. Reg. 43/2000 with Amendments July 1, 2000 and December 13, 2011.

1.4 Project Team

As per section 6.2 of the Act, clause 1d, the report must provide the name of the person from whom the depreciation report was obtained and a description of:

- (i) their qualifications
- (ii) the error and omission insurance, if any, carried by that person, and
- (iii) the relationship between that person and the strata corporation

(i) Morrison Hershfield Limited (MH) prepared this report. MH is a prominent, privately held, multi-disciplinary engineering and management firm. Our mandate is to provide services and solutions that will assist our clients in achieving their objectives in a cost effective, efficient, professional and friendly manner. The firm was established in 1946 and has a broad range of engineering, architectural and specialist skills that are used to serve clients in the public and private sectors.

Depreciation Report projects at MH are carried out by the Buildings, Technology and Energy division. This group encompasses a staff of approximately 400 people across North America. We have worked on many types of buildings and structures for a diverse array of clients and have helped owners retrofit their buildings/structures and plan funds for future maintenance/capital works, since our inception in 1946. The team at Morrison Hershfield has the expertise to complete assessments on mechanical, electrical, life safety, building envelope and structural systems. Interrelationships between different building systems are understood and technically integrated solutions are provided to clients. We ensure consistency in assessments across large and diverse portfolios and across disciplines to assist our clients in making well-informed decisions.

This Depreciation Report has been prepared and/or reviewed by various personnel. The visual review of the building, mechanical and electrical systems, and site was conducted during our reviews in October, 2010. The following are the reviewers and the respective disciplines for which each was responsible:

- Jacquelyn White, P.Eng. of MH is project manager in facility assessment with over ten years of experience in the design, review and assessment of buildings. Ms. White has been performing depreciation report/reserve fund studies since the late 1990's while working in Ontario. Ms. White addressed the interior building and site elements and reviewed the report for compliance with contractual requirements, except for the sections noted below.
- Tom Miller P.Eng. of MH is a mechanical engineer with experience in building systems design, telecommunications design and inspections, building

condition/reserve fund assessments and custom design work. Mr. Miller addressed the mechanical systems and drafted these sections of the report;

- Alex Rubin of MH is an electrical designer with over 20 years of experience in design, review and assessment of electrical systems. Mr. Rubin addressed the electrical systems and drafted these sections of the report;
- Patrick Ho, P.Eng. of KJA Consultants is a mechanical engineer with experience in the construction, modernization and review of elevator systems. Mr. Ho prepared the elevator section of the report.

(ii) We confirm that we carry professional liability insurance in the amount of \$2,000,000 per claim.

(iii) Morrison Hershfield is not associated with Strata Corporation LMS 3903 beyond being retained to perform professional services. We are not aware of any conflicts of interest.

1.5 Reference Documents/Information

The following documentation was provided for our review to assist in the preparation of this Reserve Fund Study:

- Architectural Drawings A1.2 to 11.26 prepared by James KM Cheng Architects dated March 15, 1999 stamped “record set”
- Electrical Drawings, prepared by Arnold Nemetz & Associates Ltd. dated March 15, 1999 stamped “record drawings”
- Mechanical Drawings, prepared by Yoneda & Associates, dated April 30, 1999 stamped “record drawings”
- Various other drawing sets including landscaping, structural etc.
- Building Envelope Maintenance Review Reports prepared by PBEM dated May 3, 2005 and March 21, 2007
- Roof Report prepared by Inter-Provincial Roof Consultants Ltd. Dated September 20, 2005
- Strata Plan LMS 3903 Bylaws updated January 18, 2010
- Aquarius Consolidated Disclosure Statement dated October 17, 1997
- Aquarius Enclosure Maintenance and Renewal Plan Update, prepared by RDH Building Engineering Ltd. dated September 5, 2008

1.6 Limitations and Assumptions

This report is intended for the sole use of LMS3903 and must not be distributed or used by others without our knowledge. It is based on the documents and information provided to us and the findings at the time of our on-site investigation.

It is a basic assumption that any correspondence, material, data, evaluations and reports furnished by others are free of latent deficiencies or inaccuracies except for apparent variances discovered during the completion of this report.

Unless specifically noted in this report, no testing, verification of operation of systems, review of concealed elements, intrusive openings, opening of system components for internal inspection, detailed analysis or design calculations were conducted, nor were they within the scope of this review.

If repairs are identified, further investigation should be conducted as the RFS is not intended to provide an in-depth assessment and/or design of repair items.

Some of the findings herein are based on a random sampling visual review of the surface conditions, discussions with the Strata and/or their designated representatives, and review of relevant documents. Observations were made only of those areas that were readily accessible during our review. Deficiencies existing but not recorded in this report were not apparent given the level of study undertaken. Components not included have not been reviewed, and if their conditions need to be known, further study will be required. Finally, we have not undertaken a physical review of subsurface conditions or concealed structural systems.

It is possible that unexpected conditions may be encountered at the building/facility that have not been explored within the scope of this report. Should such an event occur, MH should be notified in order that we may determine if modifications to our conclusions are necessary.

In issuing this report, MH does not assume any of the duties or liabilities of the 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 as to the limitations of the documents reviewed and the general visual inspection undertaken, and understand that MH cannot be held liable for damages they may suffer in respect to the purchase, ownership, or use of the subject property.

Professional judgment was exercised in gathering and analyzing the information obtained and in the formulation of the conclusions. Like all professional persons rendering advice, we do not act as insurers of the conclusions we reach, but we commit ourselves to care and competence in reaching those conclusions. No other warranties, either expressed or implied, are made.

1.7 General Facility Description

Aquarius Complex is comprised of 4 high rise buildings and townhouses with a total of 480 residential units. The complex was completed in 1999. The towers are located on the outside corners of a quadrant, with townhouses over commercial space in between. The townhouses exit to an interior courtyard/podium which is landscaped and includes a substantial pond. A standalone activity room is located at

this podium level. Below the podium level is a combination of commercial (not within the scope of this review) and common amenity areas.

The four towers are located as follows:

Tower A – 1199 Marinaside, 39 stories
Tower B – 198 Aquarius Mews, 37 stories
Tower C – 189 Davie Street, 17 stories
Tower M – 1111 Marinaside, 16 stories

The buildings are concrete framed and primarily clad with exposed concrete and window wall with some areas of brick. Units are provided with balconies and/or roof decks. The roofs are a combination of protected membrane systems and sloped metal.

Tower M houses common amenities such as meeting rooms, party room, fitness room, pool and hot tub as well as the concierge office. Along Aquarius Mews, there is exterior landscaping that is part of the Strata.

The elevating equipment at Aquarius consists of nine direct acting hydraulic passenger elevators.

The heating system is central steam. The mechanical ventilation system is from the corridors, supplied by roof-top makeup air units. DHW (domestic hot water) is provided by double wall shell and tube heat exchangers circulated to storage tanks.

BC Hydro provides power to the complex through feeds from two separate circuits. The low voltage distribution equipment is spread out in various electrical rooms and closets to supply the individual suites. A fire alarm system and entry phone/security system also service the buildings.

1.7.1 Common Elements

Based on our discussions with the Strata Council, we understand that the following building components are common elements at Aquarius:

- Structural Systems
- Exterior Walls, all components up to the back-side of the interior gypsum wall board
- Windows
- Balconies
- Roofing Systems
- Sprinkler, electrical and communication rooms
- Mechanical Systems (components that serve more than one unit)
- Electrical Systems (components that serve more than one unit)
- Mechanical and electrical systems of common areas
- Common Area Landscaping

- Entrance ramps and parking garage
- Interior finishes in common rooms, corridors, lobbies
- Elevator systems

Many of these elements are shared with Strata Plan LMS 3912, the Commercial Strata. This is reflected in the tables.

1.8 The Aquarius Building Maintenance Process

The successful operation of a building includes maintenance and renewals.

Maintenance of the buildings ensures that components and assemblies fulfill their intended functions and realize their expected service life. A maintenance program helps to establish a realistic yearly operating fund and ensure that the warranties are maintained.

There are several steps in the preparation of a maintenance program:

1. Identify the building components.
2. Identify the frequency of maintenance tasks and inspections, and parties responsible.
3. Identify the roles and responsibilities for performing maintenance tasks and inspections.
4. Establish a maintenance records tracking system (log forms).
5. Provide periodic review of the program.
6. Establish budgets and funding for the maintenance and renewal plans.

At Aquarius, a maintenance program for the various building components has been implemented, with the exception of task 6: budget and funding. This RFS completes the maintenance program.

1.8.1 Purpose of the RFS Document

In addition to the maintenance costs, it is recommended that the owners establish a renewal plan to address long-term replacement of various building envelope items. A renewal plan identifies the nature of the replacement, the timing and the associated costs. Renewal costs are typically for components with life cycles in excess of five years and not covered in a maintenance plan. The age of the building and the existing condition of the building elements will influence not only the costs but also the schedule for replacement.

Renewal costs form the basis for a Reserve Fund Study. A Reserve Fund Study provides a guideline for the building owner/operator for budgeting and scheduling replacement of all renewable common components of the building. It enables the Owner to set up a schedule for the anticipated replacement, to set up a special

account, and determine the annual contributions necessary to maintain adequate and sufficient funds for the study period (i.e., 30 years).

Although usually presented separately, maintenance and renewal plans are closely related. Good maintenance planning will allow achievement of expected service life for each element and therefore renewal costs could be deferred or diminished. On the other hand, poor building maintenance could mean higher renewal costs or alternatively having to spend money on replacement earlier than would typically be required with a responsible maintenance plan. Quality of the design and construction is also an important factor in the determination of the service life of each element.

Experience gained, as the building ages, should influence budgeting decisions (cost and schedule) so a renewal plan should be reviewed and updated periodically.

2. PHYSICAL ANALYSIS

The first step in conducting the physical analysis is identifying the component inventory for the complex.

2.1 Component Inventory

A component inventory is an inventory of each item of the common elements of a complex that requires, or is expected to require within at least 30 years of the date of the study, major repair or replacement. The Strata Property Act differentiates between operating fund expenses and reserve fund expenses as follows:

Operating fund: *common expenses that usually occur either once a year or more often than once a year.*

Contingency reserve fund: *common expenses that usually occur less often than once a year or that do not usually occur.*

It has been our experience that most Strata Councils choose to cover small capital expenditures out of the operating budget. We have directed been by the Strata that capital expenses less than **\$10,000** will be covered out of the operating budget, and expenses greater than that amount be budgeted for in the Reserve Fund.

Once the items to be included in the component inventory are defined, a visual review of each of those elements is conducted. A description of each component and its condition is provided in Appendix A, Building and Site Conditions.

This review, along with discussions with the Strata and/or their designated representatives is conducted in order to assess the following eight parameters for each component:

1. actual or estimated year of acquisition,
2. present or estimated age,
3. normal expected life,
4. remaining life expectancy,
5. estimated years until major repairs and replacements,
6. opinion of probable order of magnitude cost for major repairs and/or renewals,
7. the percentage of the cost of major repairs and replacement to be covered by the reserve fund, and
8. adjusted cost resulting from the application of that percentage

The above criteria are outlined in **Table 1 – Replacement Cost Summary**, which can be found in **Appendix C** of this study.

2.2 Table 1 – Replacement Cost Summary Table

A Reserve Fund is a fund set up in a special account for major repair and replacement of common elements and assets of the Corporation. The amounts we recommend be contributed to the fund are calculated on the basis of life expectancy and expected repair and replacement costs (except where noted otherwise). The life expectancy and replacement cost information that was used for the reserve fund analysis is summarized in Table 1. The following describes the information presented in this table.

Table 1 lists all the items in the Component Inventory (Appendix A), an item description, the recommended action, the normal life expectancy and the repair or renewal cost associated with the recommended action. An adjustment is made to the normal life expectancy when, in our opinion, the maintenance and/or use of an item has been such that the normal life expectancy will be notably affected (either positively or negatively).

As the complex has been constructed over a number of years, and is separated into four distinct buildings, we have generally phased significant replacement costs over four years to reflect the different ages of the buildings.

The costs identified in Table 1 represent the adjusted cost when the percentage of the cost of major repairs and replacement is applied to the complete renewal cost. For most items, 100 percent of the complete replacement cost is provided. Exceptions include where complete replacement is not anticipated (such as with structural systems) or where specific common elements are shared with another corporation (Commercial Strata). Where less than 100 percent of the total cost is allowed for, we have provided a description under “Item Recommendation”.

This table also provides a priority rating identifying which replacement items are life safety/code requirements (Priority 1); necessary for the continuing functionality of the building (Priority 2); and those which are discretionary (Priority 3).

2.3 Significant Capital Expense Forecasts

Our observations and comments on all of the reviewed elements are discussed in further detail in Appendix A.

The following items should be budgeted for over the next ten years, which can have a major impact on the Reserve Fund Study.

- Upgrades to the elevator systems;
- Replacement of podium waterproofing systems;
- Replacement of window sealants;
- Metal panel repairs.

3. FINANCIAL ANALYSIS

Based on our experience and limited visual review of the condition of the complex, an assessment of the remaining life expectancy and replacement costs (in 2010 dollars) for each of the common element components, is shown in Table 1 in Appendix C.

Table 2 in Appendix C is a Detailed Cash-Flow Plan that identifies the anticipated cash-flow for each of the years in the thirty-year study period. Table 2 is generated based on the information shown in Table 1, input from the Strata and certain assumptions as discussed below.

3.1 Strata Input

In calculating the Reserve Fund Cash-Flow Plan, we were provided the following information:

- Current Fiscal Year: 2010/2011
December 1, 2010 to November 30, 2011
- Present Annual Contribution to the Reserve Fund: \$200,000
- Reserve Fund Balance at the start of 2010 \$1,619,609

3.2 Assumptions

3.2.1 Interest and Inflation Rates

For the preparation of this Reserve Fund Study, we have assumed an **Inflation Rate of 2.0 percent** and an **Interest Rate of 2.0 percent** for the duration of this study.

3.2.1 Adequate Reserve Fund

Any of the sample scenarios shown below consider a Reserve Fund to be adequate where the closing balance in every year of the study is positive. Strata requested some guidance regarding a minimum balance to be maintained during the study period.

The Strata has requested that MH determine the **Minimum Balance** to be maintained. Based on our experience with similar sized complexes, a minimum balance of \$1,000,000 is recommended. This allows for a contingency to address potential emergency repairs.

3.3 Cash-Flow Calculations

The Cash-Flow Calculations shown in Table 2 are discussed below. Each of the years shown in Table 2 represents the Fiscal Year of the Corporation as indicated in Section 3.1 above.

3.3.1 Starting Balance

The Starting Balance for this Reserve Fund Study has been shown in Section 3.1 above.

3.3.2 Total Expenses

Opinions of probable cost are provided only as an indication of possible cost of remedial work. The repair or replacement costs are based on published construction cost data, our experience, recent bid prices on similar work, and information provided by the owner. More precise opinions of probable cost would require more detailed investigation to define the scope of work.

We recommend that costs for consulting services, including design, tendering and construction review, be included in the reserve fund plan. The cost for these services can vary significantly depending on the size, scope and degree of complexity of the project. For the purposes of reserve fund budgeting, we have included an allowance of 7 % for consulting fees where we believe it is appropriate, and the GST of 5% (in light of anticipated reversion to the GST in 2013). All costs in Table 1 are identified in **2010 Canadian dollars**, and they are inflated annually as indicated in Section 3.2.1.

The repairs and renewals we have forecasted in Table 2 do not represent a fixed schedule for renewals; repairs or renewals may be required sooner or later than we have anticipated, depending on maintenance and use or wear. Similarly, the opinions of probable cost we have presented can vary due to a number of reasons including changing market conditions, availability of newer materials and systems, and increased or decreased scope of work than we have identified.

Review of the Tables reveals several contingencies that occur in a single year of the study period. Though these repairs and renewals will not all occur in one year, and may not be required at all, it is prudent to budget for such repairs since failure of some components is unpredictable.

All opinions of probable cost assume that regular annual maintenance and repairs will be performed to all elements at the facility. All costs are inflated by the inflation rate identified in 3.2.1 above.

3.3.3 Interest Earned

The interest earned on the Reserve Fund for each year is based on a **Mid-Year Interest Calculation**. It is our understanding from previous discussions with clients involved in long-term financial planning that this interest calculation is accepted for long-term financial planning. Over the 30-year period, the calculated interest is lower than calculating Simple Interest, therefore it is a more conservative method for calculating interest.

With the Mid-Year Interest Calculation, the interest earned on the Reserve Fund is calculated at the middle of the fiscal year assuming that half the expenses have been taken out of the Reserve Fund and half the annual contribution has been deposited into the Reserve Fund. Therefore, Interest is calculated as follows:

$$Interest = InterestRate \times (StartingBalance - \frac{Expenses}{2} + \frac{AnnualContribution}{2})$$

3.3.4 Annual Reserve Contribution

The Annual Reserve Contribution for the first year of this study is indicated in Section 3.1 above. Future annual contributions are calculated based on the estimates of life expectancy and opinions of probable cost, Minimum Reserve Fund Balance, and the assumptions for inflation and interest. Sample annual contributions that would result in an adequate Reserve Fund are indicated in the Scenarios shown in Section 3.4 below.

Contributions may be limited by the Strata Act as provided by Section 6.1, which indicates that the amount of the annual contribution to the contingency reserve fund 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 annual 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 annual 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.

3.3.5 Other Contribution

When large expenses are anticipated in the near future and the existing Reserve Fund Balance is relatively low, increases to the annual contribution may not be sufficient. Increasing the annual contribution to an amount that can accommodate the major expenses is typically not considered a suitable funding plan since the Reserve Fund Balance often becomes relatively high for the remainder of the study period. This is not recommended as the Strata Property Act limits expenditures from the reserve fund to those:

- (a) consistent with the purposes of the fund as set out in Section 92 (b), and*
- (b) first approved by a resolution passed by a $\frac{3}{4}$ vote at an annual or special general meeting, or authorized under section 98.*

In such cases, Other Contributions are considered in the Cash-Flow Plan. These contributions can be in the form of special assessments or surplus funds that the Strata have indicated will be available from other sources (i.e. transferred from operating budgets or contingency funds).

We note that there is a risk of relying on Special Levies as they must be approved by a resolution passed by a $\frac{3}{4}$ vote.

3.4 Aquarius Forecast

The final scenario approved by the owners at the AGM in January 2013 is described below. It should be read in conjunction with the tables provided in Appendix C, described as follows:

Table 1 lists all the items in the Component Inventory, an item description, the recommended action, the normal life expectancy and the repair or replacement cost associated with the recommended action.

Table 2 is a Detailed Cash-Flow Plan that identifies the anticipated cash-flow for each of the years in the thirty-year study period. Table 2 is generated based on the information shown in Table 1.

Contribution Table shows the percentage increase of contributions each year and the corresponding overall contribution required.

Reserve Fund Summary Table provides the anticipated cash flow for the duration of the study including year end balances, each year's expenditures, interest earned, and the annual contributions required to achieve a positive reserve fund.

3.4.1 Final Scenario: Gradual Funding

This scenario shows the balance of the reserve if increases to the annual contribution are increased by 27% annually for the next 10 years. This provides adequate funds to cover all of the expenditures in the next 10 years.

After 10 years, the contribution levels can be reduced back to \$1,000,000 and thereafter increase by inflation only. The 30 year balance is approximately \$6,340,000 and the minimum balance over the 30 year life cycle is approximately \$1,262,000 in 2014.

4. SUMMARY

Morrison Hershfield Limited has reviewed and assessed the reserve fund requirements of Strata Corp. LMS 3903 in accordance with the Scope of Services and Limitations outlined in Section 1 of this report.

This Depreciation Report presents possible funding strategies that will provide adequate funding to cover anticipated major repairs and renewals expected in the next 30 years. It has been developed based on the information provided to us by Strata Corp. LMS 3903 and our review of the site.

The Depreciation Report is a dynamic document that will change over time as repairs/renewals are carried out on the common elements and interest/inflation rates change. The repairs and renewals we have forecasted in Table 2 do not represent a fixed schedule for renewals; repairs or renewals may be required sooner or later than we have anticipated. Similarly, the opinions of probable cost we have presented can vary due to a number of reasons including changing market conditions, availability of newer materials and systems, and increased or decreased scope of work than we have identified. As such, regular updates to this Depreciation Report are necessary to re-assess the needs of your building.

The Strata should consider an Update with Site Inspection if any significant changes in the condition of the common elements become apparent. Similarly, the Strata should consider an Update without Site Inspection at an earlier date (prior to the three-year anniversary of this study) if there are any significant changes to the cash flow due to unforeseen conditions.

If you have any questions regarding the information contained herein, please contact the undersigned.

MORRISON HERSHFIELD LIMITED



Jacquelyn White, P.Eng.
Principal, Project Manager
Building Science Division



(FOR)
Tom Miller, P.Eng.
Project Engineer
Mechanical Division

APPENDIX A

Building and Site Conditions

A) SUBSTRUCTURE

A general evaluation of the buildings was performed. Our site review consisted of a visual walk-through survey of a sampling of readily accessible structural components in an attempt to identify the symptoms of structural distress (e.g., wide cracks or excessive displacement). Given that our review has been made on a random sampling basis and that structural members were generally not subjected to their full design live loads (including wind and seismic effects), this type of review is very limited in identifying hidden or latent structural defects. All interior structural elements, such as columns, and load-bearing walls, are assumed to last the life of the complex. We have assumed that the complex was built in accordance with the code of the day.

Foundations

Description:

The foundation walls of the parking garage are typically cast in place concrete supported on strip footings with a perimeter drain tile system. The structural drawings indicate that PVC waterstops are provided at construction joints. The walls of the parkade are not painted.

Repair History:

Some patch repairs at cracks were noted throughout.

Condition:

The exposed portions of the garage foundation walls were reviewed for obvious signs of deterioration (i.e., cracking, spalling and moisture penetration) from the garage interior. There are a number of full height cracks (e.g. stalls 372, 375, etc along Pacific Street wall) with staining and efflorescence. We noted a previous repair attempt at stall 342 has failed and the patch has become debonded. No active leakage was noted, however, our review was performed in dry weather.



Reserve Fund Recommendations:

Cracking of the foundation walls is common in parkade structures. As concrete is expected to crack, waterproofing methods such as waterstops at cold joints and dampproofing or waterproofing of the exterior walls are typically employed at the time of constructed. Once constructed, foundation walls are generally not easily accessible from the exterior, and repairs are limited to what can be done from the inside face.

Isolated repairs to areas of the foundation walls such as injecting cracks, spall repairs, application of sealers, etc are covered under the operating budget. No major repairs or replacements to the foundation walls are anticipated within the 30 year scope of this report.

Slab on Grade

Description:

The P3 level is a 200mm slab-on-grade, with the concrete sloped to drains over a polyethylene vapour barrier on a compacted free draining granular base. Sawcuts have been provided for crack control.

Stall lines and numbers have been painted on the SOG.

Repair History:

None available.

Condition:

The concrete is generally in good condition. We did note that stall lines and numbers were fading.

Reserve Fund Recommendations:

Slabs on-grade typically will last the life of the building with minor repairs to seal cracking and correct any settlement problems, should they arise. Annual maintenance should include cleaning and repainting of lines and numbers as required. No allowance has been made in the budget at this time, however, future studies may require a repair allowance if problems arise.

B) SHELL

The shell of the building includes the superstructure and the exterior enclosure including roofing. The superstructure review included a walkthrough of the parkade to review the condition of the suspended slabs, as well as a review of the exterior to review the condition of the balcony slabs. The exterior enclosure review was previously reviewed by RDH and was not part of our scope of work.

Floor Construction

Description:

There are three levels of parkade, P1 and P2 are suspended slabs. The suspended slabs are typically supported on the foundation walls and concrete columns which in turn are supported on spread footings. The slabs range from 200-300mm depending on the location.

The suspended slabs in the parking garage have been protected with a liquid-applied elastomeric polyurethane waterproofing membrane system. Stall lines and numbers have been painted on the traffic membrane.



The ramps between levels are provided with hand rails and speed bumps.

At P1, the area is divided between the residential and the commercial strata. In general, only the visitor's parking of P1 is the responsibility of the residential strata.

Repair History:

No repairs to the suspended slabs were reported. Ongoing repairs to the traffic membrane were observed.

Condition:

The concrete surface was generally in good condition. We did note an area of chipped concrete at the top of the ramp down to P3 lower.

The condition of the waterproofing membrane varied. We noted an area of failed membrane at the drain between stalls 262 and 285 on level P2.



Reserve Fund Recommendations:

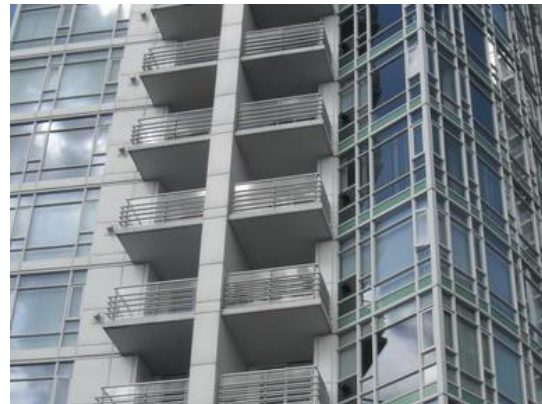
We understand that concrete repairs to the suspended slab(s) (including through-slab, top surface and soffit repairs), as well as isolated repairs to the column bases, perimeter walls, and ramps will be covered under the operating budget.

- B.1 Complete replacement of the traffic coating is budgeted for every 20 years, phased over 3 years.

Balcony Construction

Description:

Most units are provided with balconies. The balconies are cantilevered concrete framed. All balcony slabs are provided with a conventional urethane waterproofing membrane system. Interfaces with flashing and other components are sealed with sealant. Rail systems are a combination of horizontal bars and glass infill panels. In general, they are top mounted to the balcony slab. Where curbs are provided, the rails are face mounted.



Repair History:

Repairs to the balconies were undertaken in 2012.

Condition:

The PBEM report dated March 21, 2007 itemizes a number of deficiencies with balconies. We understand these were addressed in the 2012 repair program.

Reserve Fund Recommendations:

- B.2 We have budgeted for a contingency allowance to conduct periodic concrete repairs to the slab edge and deck, every 20 years. In order to provide a more accurate amount and detailed scope of repairs, we recommend conducting an engineering study of the balconies (see Section H), before major repairs are conducted.
- B.3 The guardrails are expected to last approximately 30 years, at which time replacement is phased over 4 years. Fasteners should be reviewed and replaced as required as part of regular maintenance.

Exterior Enclosure

The Building Envelope Systems were covered by RDH under separate cover. We have incorporated the items from table “Overall plan sorted table Task” on page 4 - 5 of the RDH Enclosure Maintenance & Renewals Manual dated October 2004 report under the following numbering system. Refer to the RDH report in conjunction with this report.

- Metal Roof (Item 5 in RDH report): Remove existing exterior sealant and replace with new. To be addressed under the operating budget.
- B.4 Metal roof (Item 6 in RDH report): Remove existing metal roof and replace with new.
- Pond (Item 14 in RDH report): Remove existing exterior sealant and replace with new. To be addressed under the operating budget.
- B.5 Pond (Item 15 in RDH report): Remove existing liner membrane and replace with new. Apply new layer over existing waterproofing membrane.
- B.6 Ballast roof (Item 19 in RDH report): Remove existing membrane and replace with a 30 year roof assembly.
- B.7 Landscaping (Item 22 in RDH report): Remove existing membrane and replace with a 30 year roof assembly.
- B.8 Paved roof (Item 27 in RDH report): Remove existing membrane and associated flashing and replace with a 30 year roof assembly.
- Brick (Item 35 in RDH report): Remove existing brick and replace with new. Outside 30 year horizon, repairs included in metal panel repairs.
- B.9 Metal panels (Item 42 in RDH report): Provide a repair allowance.
- Doors (Item 45 in RDH report): sliders – Replace gaskets, interlock plug and the exterior sealant bead. Adjust and lubricate the rollers and the hardware. To be addressed under the operating budget.
- Doors (Item 46 in RDH report): Swing – Remove existing gaskets and replace with new. Adjust door and replace broken hardware. To be addressed under the operating budget.
- B.10 Glass Block (Item 50 in RDH report): Remove existing glass block and replace with new.
- B.11 Glass wall Entry (Item 55 in RDH report): Remove existing glass wall and replace with new.
- B.12 Residential Windows (Item 74 in RDH report): Replace failed sealed insulating glass units (condensation or misting between glass) after expiration of warranty period.
- B.13 Residential Windows (Items 27, 34, 41, 49 and 75 in RDH report): Remove existing exterior sealant of all assemblies and replace with new.

- B.14 Residential Windows (Item 76 in RDH report): Remove existing operable vent gaskets and replace with new.
- B.15 Resident Windows (Item 77 in RDH report): Remove existing window wall and replace with new.
- B.16 Balcony (Item 81 in RDH report): Remove existing membrane and replace with new.
- B.17 General items (item 90 in RDH report): Replace fireplace exhaust vent covers.



C) INTERIORS

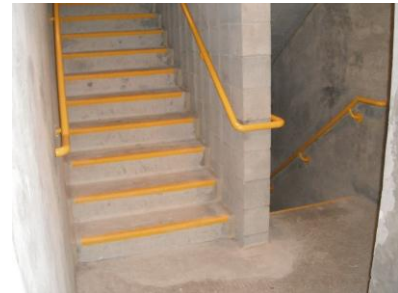
A cursory visual review of the main common area interior building elements was carried out in the corridors, lobbies, stairwells, gymnasium, washroom/ changing rooms, concierge office, board room, theatre, yoga room and podium. These areas were generally reviewed for condition of architectural finishes.

Stairwells

Description:

At each building, two full height indoor stairwells are provided to allow for egress from the building in case of an emergency. The concrete stairs are finished with steel handrails provided on both sides. The stairwells are enclosed by exposed concrete.

Doors to the stairwells are metal-framed with wire glass. Panic hardware is provided at fire doors.

**Repair History:**

None available.

Condition:

The stairs were observed to be in good condition.

Reserve Fund Recommendations:

Steel handrails are expected to last the life of the building.

Doors and panic hardware have a life expectancy of approximately 25-30 years. To be addressed under the operating budget.

Interior Finishes

Entrance Lobby of 189, 198 and 1199

Description:

The main entrance/elevator lobbies are finished with tile flooring, painted gypsum wallboard, and decorative wood panels. Various pieces of furniture and artwork are provided. We assume the finishes to be original to the buildings.



Repair History:

None available.

Condition:

All the interior finishes and furniture appear to be in good condition and appear well maintained.

Reserve Fund Recommendations:

- C.1 We have provided a contingency to repaint and update the interior finishes in the lobbies every 10 years.
- C.2 Tile replacement should be budgeted for every 25 years and phased over 3 years.
- C.3 A contingency for the replacement of lobby furniture and decorative wood panels is included at the same time as tile replacement.

Entrance Lobby of 1111

Description:

The main entrance/elevator lobbies are finished with marble tile flooring. At a small area in front of the fireplace the flooring is carpet. The majority of wall finishes are marble tiles. The walls around the mail boxes and elevators are finished with wood panels. Various pieces of furniture and artwork are provided.

**Repair History:**

None available.

Condition:

All the interior finishes and furniture appear to be in good condition and appear well maintained.

Reserve Fund Recommendations:

- C.4 We have provided a contingency to repaint (ceiling) and update the interior of the lobbies every 10 years.
- C.5 Tile replacement should be budgeted for every 25 years.
- C.6 A contingency for the replacement of lobby furniture and wall wood panels is included at the time of tile replacement.
- C.7 A contingency for the replacement of the fireplace is included at the same time as the tile replacement.

Corridors of 189, 198 and 1199

Description:

The flooring in the corridors is carpet and the walls are painted drywall throughout. The suite entrance doors are solid core wood framed doors.

The corridor finishes at the penthouse levels are the same as the rest of the floors, except that the wall in front of the elevator door is covered with wallpaper or stone.

**Repair History:**

None available.

Condition:

All the interior finishes appear to be in good condition and appear well maintained.

Reserve Fund Recommendations:

- C.8 We have allowed for the replacement of the carpeting and repainting of the walls, suite doors and ceiling every 12 years, phased over 3 years.
- C.9 Suite doors and thresholds typically have a life expectancy of 25 years; after which, we have provided an annual allowance to replace them on an as-needed basis.

Corridors of 1111

Description:

At the corridors, carpet is installed throughout. The wall finishes in the corridors consist of painted drywall. The wall around the elevator door is covered with wallpaper. The suite entrance doors are solid core wood framed doors. A piece of artwork is provided on the wall on each floor.

Repair History:

None available.

Condition:

All the interior finishes appear to be in good condition and appear well maintained.

Reserve Fund Recommendations:

C.10 We have allowed for the replacement of the carpeting and repainting of the walls, suite doors and ceiling every 12 years.

C.11 Suite doors and thresholds typically have a life expectancy of 25 years; after which, we have provided an annual allowance to replace them on an as-needed basis.

Replacement of the artworks to be addressed under the operating budget.

Service Rooms

Description: Many of the service rooms (i.e., the mechanical penthouse, elevator machine room, garbage rooms, electrical closets, etc.) are finished with exposed or painted concrete or concrete masonry block. The majority of the service rooms are not accessible or used by the public, and as a result, will not require major repairs/renovations apart from regular maintenance. In general, the service room doors (i.e., the service room doors, exit doors, meter room doors, storage doors, electrical closet doors, etc.) are metal doors in metal frames.
Repair History: None available.
Condition: The service rooms were observed to be in good condition and well maintained.
Reserve Fund Recommendations: Service rooms and doors should last the life of the building (indefinitely), unless physically damaged. We have not included any costs in the Reserve Fund, as any required painting or isolated repairs/replacement may be covered by the maintenance budget.

Gym

Description: The complex has a fitness room complete with machines and free weights. The floor is carpeted and the walls are painted.
Repair History: The interior finishes were refreshed in 2012.
Condition: The fitness room was observed to be in good condition.
Reserve Fund Recommendations: C.12 A budget for select fitness equipment replacement is provided every 10 years. C.13 Carpet replacement and painting is scheduled every 15 years.

Washrooms/changing rooms

Description:

There are two washrooms and two changing rooms next to the pool area. The washrooms and changing rooms flooring and wall finishes are tiles. Each washroom is equipped with 6 toilets and two sinks. The changing rooms are equipped with a bench and lockers.

**Repair History:**

None available.

Condition:

The washrooms and changing room were observed to be in good condition.

Reserve Fund Recommendations:

C.14 A budget for the general refurbishment of the men's and ladies change room facilities is included every 20 years. Cost includes complete replacement of finishes (i.e. ceramic tiles, wallpaper, etc.), counter tops, the lockers and metal toilet partitions, and the sauna elements (finishes and mechanical equipment).

Boardroom

Description:

There is a conference room in the complex. The floor is carpeted; the walls and ceiling are painted. Various pieces of furniture and artwork are provided.



Repair History:

None available.

Condition:

The conference room was observed to be in good condition.

Reserve Fund Recommendations:

C.15 We have included a budget for the general refurbishment of the boardroom every 20 years. Includes costs for replacement of furniture and interior finishes.

Theatre

Description:

The complex has a theatre, which sits 20 people. The walls are finished with wallpaper. The floor is carpeted.



Repair History:

The theatre was refinished in 2010.

Condition:

The theatre was observed to be in good condition.

Reserve Fund Recommendations:

C.16 A budget for theatre equipment replacement is provided every 10 years.

C.17 We have included a budget for the general refurbishment of the theatre every 20 years. Includes costs for replacement of furniture and interior finishes.

Yoga Room

Description:

The complex has a yoga room which is located at the podium level. The walls are painted and the flooring finishes are wood. There is also a small kitchen and washroom inside the yoga room. Various pieces of furniture and appliances (TV, microwave, refrigerator etc.) are provided.



Repair History:

None available.

Condition:

The yoga room, kitchen and washroom were observed to be in good condition.

Reserve Fund Recommendations:

- C.18 We have included a budget for the complete refurbishment of the yoga/ping pong room every 20 years, including cost for table / furniture replacement, and replacement of interior finishes (i.e. floor tile, paint, tiled ceiling).
- C.19 We have included a budget for the refurbishment of the washroom every 20 years. Cost includes general replacement of interior finishes and refurbishment of counters and fixtures.

Concierge Office

Description:

There is a concierge office in the complex. The office area includes a small kitchen and two washrooms. The floors are finished with tile and the walls are painted. Various pieces of furniture and appliances/electronics (coffeemaker, microwave, refrigerator, dishwasher and computer) are provided.

**Repair History:**

None available.

Condition:

The office, small kitchen and washrooms were observed to be in good condition.

Reserve Fund Recommendations:

- C.20 We have included a budget for the refurbishment of the common men's and ladies' washrooms every 20 years. Cost includes general replacement of interior finishes and refurbishment of counters and fixtures.
- C.21 We have included a budget for the interior refurbishment of the concierge office every 15 years. Cost includes replacement or refinishing costs for all interior finishes, including flooring, carpet, wall coverings (i.e. paint, mirrors, etc.), ceiling tiles, and furniture, table, desk, etc. Does not include kitchen related replacements.
- C.22 We have included a budget for the general refurbishment of the kitchen facilities every 20 years. This includes for the replacement of the appliances and the cabinetry.

D) SERVICES

Conveying- Elevators

A review of the elevator systems was performed by KJA Consulting and is provided under separate cover in Appendix B. The recommendations from the KJA report (dated September 16, 2010) are included in the Tables found in Appendix C, items D1-D7.

Plumbing

Storm-water Drainage System

Description: Roof areas of all four towers are drained by roof drains and internal rain water leaders that run down to the parking level P1 then out to the City of Vancouver storm sewer system. The parking garage has a trench drain across each entrance driveway and several catch-basins in the parkade lower levels. These are all connected to a storm sump in parking level P3. The sump has two 7.5 hp pumps that lift the storm water to a main that connects to the City of Vancouver storm sewer system. Outdoor plaza areas between the towers are also drained by patio drains that are connected to the same sump.
Repair History: No major repairs or maintenance issues have been reported for the storm drainage systems in any of the buildings.
Condition: The roof drains, rain water leaders and storm drain piping visible in the parkade all appear to be in good condition.
Reserve Fund Recommendations: D.8 The storm sump pumps and their control systems have a life expectancy of approximately 25 years. Replacement is phased over 6 years.

Domestic Water Supply System

Description:

Domestic cold water is supplied to the complex from dual 12" dia. combined fire and domestic service connections from the City of Vancouver water-main. The lines enter the building in the Tower A mechanical room on P1. An 8" dia. branch supplies the fire systems, and another 8" branch supplies the domestic. The DCW is distributed to booster pumps for each residential tower, then to risers that supply DCW to floors 9 to the top floor of each tower. DCW supplied to floors 1 – 8 in the towers, and to the amenity and Commercial areas is not boosted.

Domestic hot water is supplied by double wall shell-and-tube heat exchangers. The DHW is heated in two stages. The first stage heat exchanger uses condensate to pre-heat the incoming cold water, then the pre-heated water flows to a steam heat exchangers that heats the water to the required DHW temperature. This DHW is circulated to DHW storage tanks.

Repair History:

Heat exchangers: HX-45 in Building C (HHW to DHW) was replaced in 2009 at a cost of \$15,000, and HX-14 in Tower B (steam to DHW) in 2009 at \$18,000. Based on the repair history to date of the heat exchangers, it appears that the life expectancy of the DHW heat exchangers is only 12 – 16 years.

Condition:

The domestic water piping and sewer piping are generally in good condition and currently showing no signs of deterioration. There are also no reports of significant leakage. The life expectancy of this piping can be as long as 50 years with average usage and good maintenance. One potential exception is the domestic hot water recirculation piping circuits. If the flows become unbalanced in these circuits, excessive velocity can result in some sections of pipe, and these sections will fail prematurely.

For this RFS, the cost of replacing the domestic piping has not been included. A re-assessment of the domestic piping condition is recommended for the next Reserve Fund Study.

The DHW storage tanks have had no signs of failure or repairs required.

Fixtures: The plumbing fixtures in the common and amenity area (pool change rooms) are in good condition.

Reserve Fund Recommendations:

D.9 The domestic water booster pumps that serve Towers A and B require total replacement every 20 years. Rebuilds are covered under the operating budget.

D.10 The shell-and tube heat exchangers that heat domestic hot water appear to have a 10 -15 year life expectancy. There are 15 of these exchangers. Replacement is phased over 6 years.

- | | |
|------|---|
| D.11 | The DHW storage tanks are non-fired, glass lined and should last 25 years. Replacement is phased over 6 years. |
| D.12 | The DHW recirculation pumps are all-bronze and have an average life expectancy of 25 years. Replacement is phased over 4 years. |

Sanitary Sewage System

Description:

Sewage is collected from the suites via a cast iron piping system that runs down sanitary stacks from all the towers, to the parkade then by gravity out to the City of Vancouver sanitary sewage system.

Repair History: There were no reports of significant repairs to the sanitary sewage collection system.

Condition: The cast iron sanitary piping appears to be in very good condition and is not showing any signs of deterioration.

Reserve Fund Recommendations:

No replacement of the cast iron sanitary piping is expected.

HVAC

Heating and Ventilation

Descriptions:

Heating Systems -

Residential (General) The primary heat source for the entire complex is central steam supplied City of Vancouver Central Steam. High pressure (120 psi.) steam is distributed via insulated piping that runs through the parkade level P1 to five mechanical rooms, one for each of the four towers, and one for the commercial units on the plaza level. Each mechanical room has a steam PRV station and a condensate meter both of which are maintained and paid for by Central Steam. Downstream of the PRV, the low pressure steam is used to heat HW for space heating and domestic water. Shell and tube heat exchangers utilize steam to supply heating HW to the residential areas. Additional shell-and-tube exchangers referred to as scavengers use condensate to preheat the return HW. These exchangers reduce energy costs by utilizing all of the available heat in the condensate before it is run into the drain system. This heat utilization also reduces DCW consumption which is required to cool the waste condensate before it enters the drain system. Space heating throughout the complex is primarily by perimeter HW radiation (copper pipe with aluminum fins). Temperature control in each suite is by a HW control valve and low-voltage thermostat on the wall. The 6 makeup air units in the complex have HW heating coils, supplied from the high temperature HW loops.

Towers A and B: These taller towers (38 and 35 floors) have nearly identical HW heating systems. Each have separate upper zone and lower zone HW heating loops. Each loop consists of a duplex pair of pumps and a heat exchanger. HW is distributed to the radiation in the lower zone suites via 3 HWS and 3 HWR risers. A pair of 7.5 hp pumps (one is redundant) circulate the HW. A high-temperature HW loop supplies all heating loads on the upper zone. The loop consists of a supply and return riser that runs up to a penthouse mechanical room on the 39th floor in Tower A and the 37th floor in Tower B, and two water-to-water heat exchangers, one for the upper level HW perimeter heating loop and one for the upper level domestic hot water tanks. Circulation is provided by two 5 hp pumps (one redundant) The HW converter also supplies HW for the heating coil in the make-up air unit for each tower.

Towers C and M: These towers have 10 occupied floors and thus have only one HW heating zone. High temperature HW is supplied to each penthouse mechanical room via two 3" risers. It flows to one converter to supply DHW for the building, and the rest flows to the HW coil in the make-up air unit and through a 3-way control valve to the HW radiation system.

Townhouses: The street-level townhouses in the complex are supplied heating via a hot-water loop with a pair of 1.5 hp pumps (P-38 and 39) that circulate HW from exchanger HX-08, located in the mechanical room on level P1 below tower B.

Ventilation Systems –

Towers A and B: The two taller towers (38 and 35 floors) have similar ventilation systems.



Two make-up air units supply outside air to the corridors in each tower in two zones. One unit, located in the penthouse mechanical room of each tower, supplies the upper zone (18 floors), and the other, located on level 3 of each tower, supplies the lower zone (approx. 15 floors), each via a dedicated riser duct. Each grille supplies 540 cfm, pressurizing the corridor on that floor and providing fresh air to each suite through the door undercut openings. These two supply ducts are also used as smoke removal ducts during a fire condition. In this mode a motorized smoke damper opens, and a smoke removal exhaust fan on the roof runs. The units are indoor air handlers, each with a HW heating coil, fan and filter. Air is exhausted from the washrooms in each suite via six common riser ducts with **six** exhaust fans that run continuously. There are also **six** clothes dryer exhaust risers with fans that run continuously.

Towers C and M: These towers have a single zone make-up air system, consisting of an indoor air handler with a HW heating coil, fan and filter, located in the penthouse mechanical room of each 11 story tower. The riser ducts supply approximately 440 cfm to the corridor on each floor. They also double as smoke removal duct as well and are connected to a smoke removal exhaust fan on the roof.

Amenity Areas: Six smaller air handling units serve individual common areas including the Theater (AH-1), Locker rooms (AH-2), Weight room (AH-3), Billiard room (AH-4), Aerobics room (AH-5) and the Main Lobby (AH-8). Each unit has a HW heating coil, DX cooling coil and an outside air/return air mixing section.

Parking Areas: The parkade is common to all 4 towers and has 3 levels below grade and a ground level parking area. Ventilation for these indoor parking areas is provided by 14 supply fans and 16 exhaust fans. These fans are controlled individually by CO sensors via the DDC system. Each exhaust fan and its associated supply fan operates when the CO sensor located in that area senses a CO level about the set-point. The DDC is also set up to run various parkade fans as necessary to cool the temperatures in various areas of the parkade, particularly the lower levels which are always too hot.

Pressurization Fans: Supply fans SF-1 to 6, SF-25 to 35, SF-46, and 48 are tube-axial fans that operate in a fire alarm condition to provide local pressurization to meet Code Measure M or N. Most are located in the parkade level P1.

Control Systems (DDC) : Most of the HVAC equipment described above is controlled and monitored by a central computer based digital control system (DDC). The control panels are Reliable brand and the system was designed and installed by Fraser Valley Controls. The original panels installed in all 4 buildings were Reliable Mach 1. The panels in Towers B and C were recently replaced with new Mach-Pro panels at an approximate cost of \$ 31,000. These panels were replaced primarily to address performance problems caused by corrosion, but also to provide a beneficial performance upgrade. The panels in Towers A and M are planned to be replaced next year at an estimated cost of \$ 35,000.

Repair History:

Residential towers: Plate-frame heat exchanger HX-6 in Tower A mechanical penthouse (HHW to HW) has been leaking, a seal was replaced but it still leaks, and is slated to be replaced at an estimated cost of \$15,000. Pumps: Most of the main HW heating pumps have been re-built by the maintenance manager at an average cost of \$2,500 each. The 12 main HW pumps serving Towers A and B have been rebuilt, and the 8 remaining

equivalent pumps in Towers C and M will be rebuilt within the next year. Minor pump repairs on the smaller pumps (DHW recirc. pumps, have been required over the years as well (seals, couplings, etc.) and these costs have been covered under the operating budget.

Expansion tanks: The complex has 27 bladder type ASME expansion tanks. They are required on closed hot water loops. The bladders have already failed on approx. 6 of these tanks and replacement cost has averaged \$4,500.

The HW heating piping and the perimeter radiation have had no significant repairs needed to date. A few control valves had been replaced at an approximate cost of \$150 per valve. There is one of these valves in each suite, total 495. The thermostats in the suites are being upgraded to programmable ones on a ongoing basis. This is a normal failure rate and is covered by the present operating budget.

Parkade: CO detector systems in the parkade – There are 33 CO sensors that have been in service since 1997. Approximately 8 have failed and have been replaced to date. They are tested on a regular basis and results are tracked by the DDC system.

Make up air units – These units have not required any significant repairs yet, only normal maintenance eg. belt change, filter change, etc. These indoor units typically last 30-35 years then the HW coils, fan drives, and bearings usually need replacing.

Parkade exhaust fans and fire pressurization fans have had no significant repair costs yet.

Condition: With the exception of the heat exchangers, the mechanical equipment is all original, installed in 1997, and is thus 13 years old. The mechanical equipment appears to be in generally good condition. The make-up air units are in very good condition and have had no repairs required to date. The HW piping and perimeter HW radiators are in generally good condition. The pumps and control valves are currently in good condition. When the valves fail they are replaced. Maintenance keeps a stock of spares on site. The valves have a life expectancy of 20 to 35 years.

Reserve Fund Recommendations:

- D.13 The heat exchangers that heat the HW heating loops have a 20 – 25 year range of life expectancy. Replacement is phased over 4 years.
- D.14 The neoprene bladders in the expansion tanks will need replacement every 12 – 16 years. Replacement is phased over 6 years.
- D.15 Rebuild the larger base-mounted pumps every 12 years phased over 4 years.
- D.16 Replace the larger base-mounted pumps every 35 years, phased over 6 years.
- D.17 The smaller close-coupled pumps are anticipated to require replacement every 25 years, phased over 4 years.

The pond heat exchanger and the pond circulation pumps will also need to be replaced in 2 years. This is covered under item F2.

- D.18 The 10 make-up air units and air-handling that provide continuous ventilation to the residential corridors and common areas will require overhauling at 20 years of age, phased over 2 years.
- D.19 D18 will require replacement at 40 years of age phased over 4 years.
- D.20 The exhaust fans on the tower roofs that serve the dryer and washroom exhaust shafts have an estimated 30 year life expectancy. Replacement is phased over 6 years.
- D.21 The parkade supply and exhaust fans have an estimated 30 year life expectancy. Replacement is phased over 6 years.
- D.22 The outdoor supply and exhaust louvers that serve the parkade have an estimated 30 year life expectancy. Replacement is phased over 6 years.
- D.23 The life expectancy of the CO sensors in the parkade is estimated to range from 12 to 25 years. We have provided a budget phased over 12 years.
- D.24 The DDC system has just had one panel replacement completed and will have another in 2 years. A budget amount based on the upgrade costs incurred to date has been included to cover anticipated future upgrades.

Fire Protection

Fire Suppression Sprinkler System

Description:

Fire suppression for the complex consists of a dry-type sprinkler system for all 4 levels of underground parking, a stand-pipe system with Class 1 valve hose cabinets for all 4 towers, and wet sprinkler coverage for all 4 towers, the townhouses, and the common and amenity areas. There is one electric fire-pump serving the entire complex.

Repair History:

The sprinkler systems are maintained and tested by Vancouver Fire and there have been no reports of significant repairs on the system.

Condition:

The piping, valves and related equipment is functional and in reasonably good condition.

Reserve Fund Recommendations:

The system should be tested on a quarterly basis as part of regular operating. Replacement of some central components (flow switches, check valves, etc.) can be expected every 25 years, however the estimated life of the piping and the sprinkler heads is over 40 years and is outside the scope of this study. Testing of a randomly selected sample quantity of heads is required by ULC every 40 years.

Fire Alarm System

Description:

The GE-Edwards EST 3 fire alarm control panels with audio communication are located in the lobby of the buildings "A", "B", "C" and "M", with a terminal panel and supplementary power supply located in the building "C" underground parkade.

Repair History:

The sprinkler systems are maintained and tested by Vancouver Fire and there have been no reports of significant repairs on the system.

Condition:

The panel is in good condition and should operate well for another 10 to 15 years.

Reserve Fund Recommendations:

D.25 Experience dictates that it becomes increasingly difficult to find replacement parts and technical support for older fire alarm control panels. Therefore, it becomes a discretionary call that at some point in time replacing the panel is less costly than trying to maintain it.

Further, smoke detectors tend to get replaced as they fail by the service contractor. Therefore, we have not given a replacement cost for these units. They have a median service life of 10 years with a variance of 5 years.

Electrical

Power Distribution and Main Electrical Room

Description:

The main electrical room is located on the first level of the building "A" parking garage. The main electrical service is a 12.5 kV feed from two separate BC Hydro circuits. The medium voltage incoming service feeds a dry type transformer that steps the voltage down to 347/600 Volts and is rated at 4,000 kVA. The low voltage switchgear is rated at 5000A, 600V and housing main disconnect switches for buildings "A", "B", "C", "M" and disconnect switches for commercial tenants.

1000A disconnect switch – building "A"

600A disconnect switch – building "A" residential

1200A disconnect switch – building "B"

800A disconnect switch – building "C"

800A disconnect switch – building "M"

300A disconnect switch – health club

1000A disconnect switch – Office/CRU

600A disconnect switch – food store

200A disconnect switch – restaurant

400A disconnect switch – Starbucks

60A disconnect switch – fiber optics

The electrical room appears adequately vented. The transformer winding temperature was noted to be 80°C, which is well below the alarm point for transformers of this type.

Output of the building "A" 1000A disconnect switch is feeding 1200A, 600V, 3-phase, 4-wire switchboard which is housing disconnect switches for miscellaneous building "A" loads. Building loads which require 120/208V are fed from 150kVA, 600-120/208V step down transformer.

Output of the building "A" 600A residential disconnect switch is feeding 2000A, 120/208V, 3-phase, 4-wire switchboard via 300 kVA 600-120/208v step down transformer. This panel is housing three disconnect switches for building "A" residential metering centres.

Building "A" residential units are fed via metering centres, located in the electrical closets on every other floor.

Buildings "B", "C", and "M" have dedicated electrical rooms which are housing power



distribution equipment for these buildings.

Building "B" electrical room is housing 1200A, 600V, 3-phase, 4-wire main building switch board with two disconnect switches for building and residential loads.

The building loads are fed from 1000A house panel which is housing disconnect switches for mechanical units and emergency power transfer switch.

There are two step down transformer in this room. One of them 225 kVA, 600-120/208V provides power for building "B" miscellaneous 120/208V house loads. These loads are fed through four 120/208V, 3-phase, 4-wire distribution panel boards.

The second step down transformer is 450kVA, 600-120/208V and provides power to the residential metering centres.

Building "B" residential units are fed via metering centres, located in the electrical closets on every other floor of the building "B".

Building "C" electrical room is housing 1200A, 600V, 3-phase, 4-wire main building switch board with two disconnect switches: 1) 300A for building "C" residential loads and 2) 800A for building "C" house loads. Output of the 800A disconnect switch is connected to the 1000A, 600V, 3-phase, 4-wire house panel which is housing disconnect switches for mechanical units and emergency power transfer switch.

There are two step down transformer in this room. One of them 225 kVA, 600-120/208V provides power for building "C" miscellaneous 120/208V house loads. These loads are fed through four 120/208V, 3-phase, 4-wire distribution panel boards.

Building "C" residential units are fed via metering centres, located in the electrical closets on every other floor of the building "C". Metering centres are fed from the second 225kVA, 600-120/208V step down transformer which is located in the building "C" electrical room.

Building "M" electrical room is housing 1000A, 600V, 3-phase, 4-wire main building switch board with two disconnect switches: 1) 400A for building "C" residential loads and 2) 500A for building "M" house loads. Output of the 500A disconnect switch is connected to the 800A, 600V, 3-phase, 4-wire house panel which is housing disconnect switches for mechanical units and emergency power transfer switch.

There are two step down transformer in this room. One of them 150kVA, 600-120/208V provides power for building "M" miscellaneous 120/208V house loads.

The second step down transformer is 300kVA, 600-120/208V and provides power to the residential metering centres.

Building "M" residential units are fed via metering centres, located in the electrical closets on 5th, 8th and 12th floors of the building "M".

Repair History:

All medium and low voltage equipment throughout the complex is from original construction in 1999 and is manufactured by Eaton|Cutler Hammer.



Condition:

All the panels were properly labeled, as were grounding connections. All of the equipment is clean and in good condition.

Reserve Fund Recommendations:

With proper maintenance and care, all of the electrical distribution equipment can be expected to last the life of the building; however conservative life expectancy guidelines recommend replacement of electrical equipment after 25 years. Individual replacement components are itemized in D26-D34.

D.35 We have included for the replacement of motor starters every 15 years.

D.36 We have included for the replacement of load centers every 25 years.

D.37 We have included for the replacement of electrical meters and meter base every 25 years.

We recommend that at least main electrical distribution equipment be cleaned and have infrared scans every 2 to 3 years. Poor electrical connections caused by vibration, dirt, poor maintenance, etc. can cause an increase in resistance, which results in an increase in temperature. An infrared scan can detect electrical problems before they cause serious destruction of equipment – and expensive outages. Cleaning is important where electrical equipment is located adjacent to parking areas due to the amount of dust and dirt that is stirred up on a daily basis.

The cost of an infrared scan, from initial consultation to final report, would be approximately \$2,000 per electrical room. Scans are usually completed within a day and are performed while equipment is running — requiring no downtime. The service company provides a report with infrared photos showing any problem areas, their severity and recommended actions.

Emergency Power System and Diesel Generator

Description:

The standby diesel generator is located in a separate room at the southwest corner of the first level parking garage. The generator is rated at 750kW, 600V and is manufactured by Cummins/Onan. The generator supplies emergency power for the lights, fire systems and elevators via the 600A automatic transfer switches, located in the emergency power rooms in every building.

Diesel tank with approximately 3 day fuel capacity is located in the same room.

Repair History:

According to the building representative, the generator is tested every two months and there have been no reports of significant repairs.

Condition:

The generator engine, housing, exhaust system, supports, circuit breaker and electronic controller all appeared to be in good condition, free of mechanical damage and corrosion. The starter batteries were not showing any visual indication of needing replacement.

Reserve Fund Recommendations:

D.38 Regular maintenance items will include the replacement of the starter batteries every 5 years, and the replacement of hoses and belts every 10 years. Assuming regular maintenance and testing is performed, the generator should be expected to remain in service for the next 30 years; however conservative life expectancy guidelines recommend replacement of the emergency generator after 35 years.

Lighting

Description:

The lighting throughout the building was noted to be mixture of different types as outlined in the following table:

Lighting Type	Location	Rated Lifespan
T-8 Fluorescent	Parking garage, Equipment Rooms	12,000 – 20,000 hours
Compact Fluorescent (CFL)	Lobby, common areas, hallways, some exterior wall sconces	10,000 hours
Halogen PAR	Down lighting in lobby and common areas	10,000 hours
High Intensity Metal Halide	Outdoor lighting	24,000 hours

Repair History:

Underground parking lighting fixtures were refurbished with new ballasts and new lamps in 2009.

Condition:

All lighting used are relatively efficient and provided they are switched on only when necessary, will keep energy costs to a minimum. Approximately 30% of lighting fixtures are fed from emergency power distribution system supported by diesel generator.

Reserve Fund Recommendations:

With advances in technology, there are always opportunities for energy savings that can offset the cost of lighting retrofits. For example, the cost of LED lighting, which uses far less energy than traditional fluorescent or incandescent lights has reduced drastically, and may be an economical choice within the next five years. Also T-5 fluorescent fixtures use less energy than T-8 fixtures. We recommend undertaking a lighting study or energy audit within the next 10 years to investigate possible energy savings.

D.39 We have included for the replacement of residential common area lighting fixtures every 20 years.

D.40 We have included for the replacement of the parkade lighting fixtures every 20 years.

Security

Description:

The door access system uses electronic proximity readers and electronic key fobs to control access to areas of the building. Entrance panels are located at the main entrance on ground level and underground parking entrance of each building. The main security system panel is located in the Telephone room located on the first level of the parking garage building "M".

28 monitor cameras are installed at entrances and throughout the complex. All cameras are displayed at concierge desk.

Repair History:

None available.

Condition:

The system appears to be functioning properly.

Reserve Fund Recommendations:

D.41 As with most electronic equipment, its lifespan can be estimated to be approximately 15 years, as advances in technology will make the system obsolete and it will become difficult to source replacement parts. Therefore, we have budgeted for the replacement of the security cameras and monitoring system at year 15.

D.42 We have budgeted for the replacement of the entry system panels at year 15.

E) EQUIPMENT AND FURNISHINGS

Overhead Garage Doors

Description:

There are steel overhead doors at the each entry of the parkade as well as between the visitor and residential parking for a total of 5.

**Repair History:**

The doors are reportedly replaced frequently due to high traffic.

Condition:

The doors were in good condition with no concerns reported.

Reserve Fund Recommendations:

Based on the replacement history, replacement of an overhead door every year should be accounted for in the operating budget. This would include the operating system as well as the door itself.

F) SPECIAL CONSTRUCTION

Interior Swimming Pool

Description:

There is a pool and hot tub located at the 2nd level below the courtyard. The floors and base of walls are tiled. The walls and ceiling are painted drywall. There is a skylight over the pool.

The pool has a DX type dehumidification air handling unit located above the pool area mechanical room. It brings in outside air for dehumidification and heats it with heat recovered from the pool area exhaust air and a HW heating coil.

**Repair History:**

The heat exchanger serving the whirlpool failed and was replaced recently and the exchanger serving the main pool will need to be replaced within the next 2 years.

Condition:

The pool area is in good condition.

Reserve Fund Recommendations:

The pool mechanical systems are covered in section D.

General refurbishment of the swimming pool area is assumed to be covered under the operating budget.

- F.1 We have budgeted for replacement of the swimming pool liner and waterproofing membrane systems every 20 years. Contingency has been included for isolated concrete repairs to swimming pool structural containment.
- F.2 The life expectancy of the heat exchangers serving the pool, hot tub, and pond ranges from 10 – 15 years.
- F.3 The steam generators for the two saunas have been replaced once in 2007 and will need to be replaced again in about 10 years.

G) BUILDING SITEWORK

Site Improvements

A review of the exterior site features and pavements was conducted and consisted of a visual sampling review of the existing surface drainage characteristics, and the site, pavement, walkway and curb conditions.

Exterior Walkways

Description:

Hard landscaping in the complex includes:

- Brick and concrete walkways in the courtyard.
- Concrete stairwells with handrails at the courtyard and podium.
- Concrete planters and benches

Soft landscaping is typically included in maintenance and does not appear as a line item for the reserve fund study.



Repair History:

Strata are currently reviewing quotes to replace the landscaping at the Aquarius Mews.

Condition:

In general the exterior landscaping is in good condition.

Reserve Fund Recommendations:

- G.1 The exterior concrete stairs are in good condition, and are expected to last the life of the complex with minor repairs conducted every 20 years.
- G.2 Metal guardrails are provided at each of the exterior stairs. With regular maintenance (i.e. cleaning of surface corrosion and periodic painting), handrails are expected to have a service life of 50 years after which replacement will be required.
- G.3 We have included for the replacement of the landscaping in year 2 as per the Strata's current plan.

Podium Landscaping (Hard and soft)

Description:

The podium is located in the middle of the complex at level 5. The podium has a variety of garden furniture and fixtures, including canopies, benches, tables and chairs. Metal guardrails are provided at walkways over the water.

Typically the soft landscaping is included in maintenance and does not appear as a line item for the reserve fund study. However, when it is time to replace the podium membrane (Item B10) the landscaping (hard and soft) should be replaced.



Repair History:

None available.

Condition:

In general the podium landscaping is in good condition.

Reserve Fund Recommendations:

G.4 All the soft and hard landscaping over the podium would be replaced in conjunction with the podium waterproofing replacement (item B10). An allowance for replacement is provided at that time.

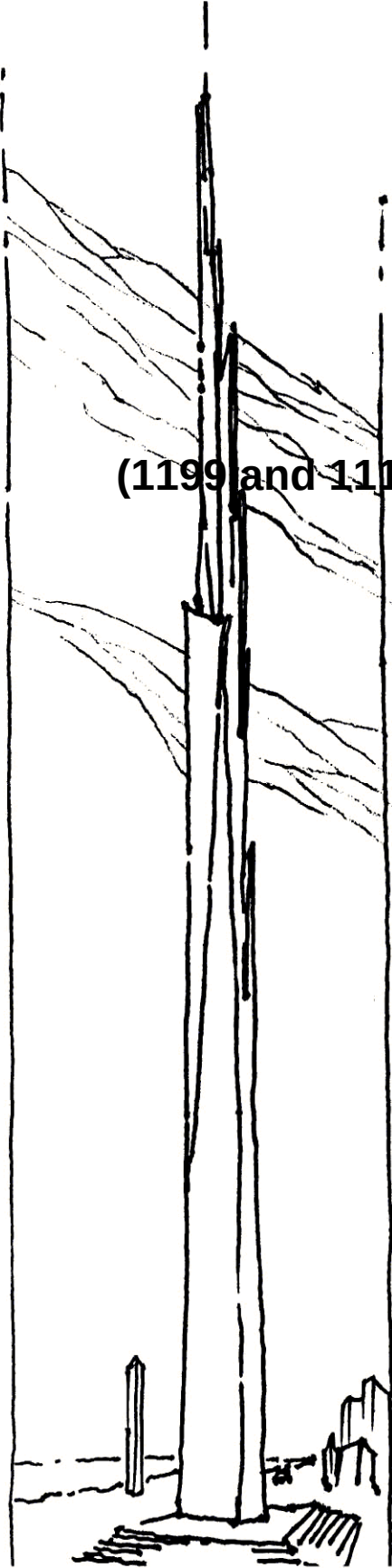
G.5 An allowance for garden furniture and fixtures is provided every 10 years.

H) CONSULTING FEES

A general budget has been provided to include depreciation report updates and other engineering reviews such as balcony condition and roof survey prior to replacement.

APPENDIX B

Elevator Report



**Aquarius Condos
(1199 and 1111 Marinaside Crescent, 198 Aquarius
Mews and 189 Davies Street)
Vancouver, BC**

Elevator Reserve Fund Study

214484 - V107140.doc
Prepared by KJA Consultants Inc.
For Morrison Hershfield Limited
Date of Inspection: September 16, 2010

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1. Inspection Summary

On September 16, 2010, we performed an Reserve Fund Study of the vertical transportation equipment located at Aquarius Condos (1199 and 1111 Marinaside Crescent, 198 Aquarius Mews and 189 Davies Street) in Vancouver, BC. The purpose of the inspection was to review the condition of the major components and to provide recommendations for repairs, capital upgrades and potential modernization work. KJA did not inspect or test the safety features of the equipment and did not check the equipment for compliance with requirements of the regulating authorities.

The elevating equipment at Aquarius Condos consists of two groups of three overhead geared traction passenger elevators located in Aquarius I and II (1199 Marinaside and 198 Aquarius Mews), two overhead geared traction passenger elevators located in Aquarius III (189 Davies Street) and a single overhead geared traction passenger elevator located the Aquarius Villas (1111 Marinaside). The elevators located in Aquarius I and II were installed by Fujitec circa 1998 while the elevators in Aquarius III and Aquarius Villas were installed by Otis circa 1998. The elevators are being presently maintained by the OEM at each site.

All equipment is original with the exception of the door equipment for car 5 at Aquarius II (198 Aquarius Mews). The door operator and interlocks were upgraded within the past year with a new closed loop door operator (GAL MOVFR) and new Fujitec interlocks.

We assume that the elevators are presently being maintained under the terms of contractor prepared full service maintenance agreements. A typical contractor prepared agreement covers the replacement of major components in addition to the labour and materials necessary for ongoing repairs, adjustment and preventative maintenance work. Entrances, cab finishes and buried hydraulic components (such as buried cylinders and piping) are excluded. This contract may contain an obsolescence clause, which states that the contractor can forward costs for parts no longer available for usual sources to the Owner. While this wording is quite common (when the agreement is written by the contractor) the costs forwarded to the Owners can be unpredictable. We are assuming that repairs required due to accidents or "Acts of God" (flood, fires, etc) are covered by insurance.

The maintenance logs located in the machine rooms for 1199 Marinaside and 198 Aquarius Mews indicate that Fujitec is visiting the site on a monthly basis. However, no annual maintenance tasks as required by the elevator code have been signed as complete in 2009 or 2010; these tasks are overdue and should be addressed immediately.

The maintenance logs located in the machine rooms for 189 Davies and 1111 Marinaside indicate that Otis is visiting the site on a monthly basis, although only 5 out of the 9 months thus far in 2010 indicate maintenance as being performed for the unit at 1111 Marinaside. A number of the annual maintenance tasks as required by the elevator code have not been signed as complete for 1111 Marinaside in any of the logs dating from 2010 to 2006, including tasks J2.5 (landing and car doors), J2.4 (wire hoist ropes), J2.5(b) (car doors - door torque, closing time and clearance), J2.10 (emergency lighting) and J2.11 (speed protection). These tasks are overdue and should be addressed immediately. The required annual tasks for the elevators at 189 Davies have only been

signed as complete for 2 tasks in 2009 (J2.3.1 - Governor and J2.6.1 - brakes). All other tasks are overdue.

The rotating mechanical and electrical equipment in the machine room appears to be operating well with no vibrations and unusual noises noted. The pits and car tops were all dry, but the pits were dusty and should be cleaned.

While a complete maintenance review was not performed, we noted a number of maintenance related deficiencies that should be addressed as follows:

All Sites:

- All elevators - The operation of the in car phones should be corrected. 50% of the elevators at these sites were tested and in all tests, the phones did not operate.

1199 Marinaside:

- Car 2 - The hoist ropes 2 are sitting low on the drive sheave. The condition of the drive sheave should be verified.
- Car 1 - The levelling is in need of improvement;
- Car 2 - The roller guides for the Whisperflex compensation chains in the pit have been replaced with pylon with the tops cut off. Proper roller guides should be installed.

198 Aquarius Mews:

- Car 5 - The in car ceiling rattles excessively during full speed travel.

189 Davies:

- Car 9 - The levelling is in need of improvement.
- Car 9 - The alarm bell does not function.

1111 Marinaside:

- The levelling is in need of improvement.

Later in this report we have listed some other upgrades that may be considered or required over the next 15 years. Short of these items, we do not anticipate any immediate major problems that would require capital expenditures.

2. Equipment Description

Aquarius I - 1199 Marinaside

Number of elevators.....	3
Building designation.....	1 - 3
Installation number.....	18159, 18160, 18161
Usage.....	passenger
Manufacturer.....	Fujitec
Date installed.....	circa 1998
Maintenance contractor.....	Fujitec
Capacity (lbs).....	Cars 1 & 2 - 2000; Car 3 - 2500
Floors served.....	P3 - P1, G, 2, 3, 5 - 12, 15 - 23, 25 - 33, 35- 38
Contract speed (feet per minute).....	500
Governor tripping speed (feet per minute).....	625 (Fujitec type X5270S59M)
Controller model.....	Fujitec Millennium
Machine type.....	Fujitec geared overhead G98-OH size TU10 ratio 64/3
Motor type.....	Cars 1 & 2 - Baldor 25 hp AC; Car 3 - Baldor 30 hp AC
Drive method.....	5 rope 5/8" diameter
Drive type.....	Fujitec Millennium VVVF: Cars 1 & 2 - SLI-900-039-4CS
Drive type.....	Car 3 - SLI-900-046-4CS
Auxiliary brake.....	Hollister Whitney 622 rope gripper
Roping ratio.....	1:1 single wrapped
Compensation.....	dual whisperflex (quietlink 15 lbs/ft)
Door type.....	single speed side opening
Door operator.....	GAL type MOML
Hall door interlock.....	GAL type MO
Hall door closer.....	spirator
Door protection.....	infra-red multi-beam
Door width.....	Cars 1 & 2 - 36"; Car 3 - 42"
Door height.....	84"
Car guide.....	Elsco 6" spring loaded rollers
Counterweight guide.....	Elsco 3" spring loaded rollers
Cab dimensions (w x d x h).....	Cars 1 & 2 - 68" x 51" x 107" ¹
	Car 3 - 80" x 51" x 107" ¹
Car operating panels.....	main only
Arrival signal.....	in car lantern with dual stroke chimes
Car / Hall position indicator:.....	digital / digital at floor G
Communication.....	hands free phone (located in phone cabinet)
Firefighters' Emergency Operation.....	Phase I and II provided
Emergency power.....	provided (single car power capacity)
Security.....	proximity card reader provided
Car door restrictor.....	not provided
Hall door safety retainers.....	provided
Seismic operation.....	not provided

¹ Height measurement is to the suspended ceiling. Measurement to the car top is 114".

Aquarius II - 198 Aquarius Mews

Number of elevators.....	3
Building designation	4, 5, 6
Installation number.....	18163, 18162, 18164
Usage.....	passenger
Manufacturer	Fujitec
Date installed	circa 1998
Maintenance contractor.....	Fujitec
Capacity (lbs)	Cars 5 & 6 - 2000; Car 4 - 2500
Floors served	P3 - P1, G, 3, 5 - 12, 15 - 23, 25 - 33, 35
Contract speed (feet per minute)	500
Governor tripping speed (feet per minute)	615 (Fujitec type X5270959)
Controller model.....	Fujitec Millennium
Machine type.....	Fujitec geared overhead size TU10 ratio 64/3
Motor type	Cars 5 & 6 - Baldor 25 hp AC; Car 4 - Baldor 30 hp AC
Drive method.....	5 rope 5/8" diameter
Drive type	Fujitec Millennium VVVF: Cars 5 & 6 - SLI-900-034-4CS
Drive type	Car 4 - SLI-900-046-4CS
Auxiliary brake.....	Hollister Whitney 622 rope gripper
Roping ratio.....	1:1 single wrapped
Compensation	dual whisperflex (quietlink 15 lbs/ft)
Door type.....	single speed side opening
Door operator.....	Cars 4 & 6 - GAL type MOML
.....	Car 5 - GAL MOVFR
Hall door interlock	Cars 4 & 6 - GAL type MO
.....	Car 5 - Fujitec type 5245AH
Hall door closer	spirator
Door protection.....	infra-red multi-beam
Door width	Cars 5 & 6 - 36"; Car 4 - 42"
Door height.....	84"
Car guide.....	Elsco 6" spring loaded rollers
Counterweight guide	Elsco 3" spring loaded rollers
Cab dimensions (w x d x h).....	Cars 5 & 6 - 68" x 51" x 107" ²
.....	Car 4 - 80" x 51" x 107" ¹
Car operating panels.....	main only
Arrival signal.....	in car lantern with dual stroke chimes
Car / Hall position indicator:	digital / digital at floor G
Communication	hands free phone (located in phone cabinet)
Firefighters' Emergency Operation	Phase I and II provided
Emergency power	provided (single car power capacity)
Security	proximity card reader provided
Car door restrictor	not provided
Hall door safety retainers	provided
Seismic operation.....	not provided

² Height measurement is to the suspended ceiling. Measurement to the car top is 114".

Aquarius III - 189 Davie Street

Number of elevators.....	2
Building designation.....	8B, 9A
Installation number.....	18231, 18230
Usage.....	passenger
Manufacturer.....	Otis
Date installed.....	circa 1998
Maintenance contractor.....	Otis
Capacity (lbs).....	Car 8 - 2000; Car 9 - 2500
Floors served.....	P3 - P1, M, 3, 5 - 12, 15 - 17
Contract speed (feet per minute).....	350
Governor tripping speed (feet per minute).....	445 (Otis type 7063A)
Controller model.....	Otis E311VF GEMS
Machine type.....	Otis 18ATF geared
Motor type.....	Car 8 - Otis 11 kW AC; Car 9 - Otis 13 kW AC
Drive method.....	6 rope ½" diameter
Drive type.....	Otis VVVF
Auxiliary brake.....	Hollister Whitney 620 rope gripper
Roping ratio.....	1:1 single wrapped
Compensation.....	not provided
Door type.....	single speed side opening
Door operator.....	Otis QL
Hall door interlock.....	Otis 6940A
Hall door closer.....	weighted
Door protection.....	infra-red multi-beam
Door width.....	Car 8 - 36"; Car 9 - 42"
Door height.....	84"
Car guide.....	4 7/8" spring loaded rollers
Counterweight guide.....	slippers
Cab dimensions (w x d x h).....	Car 8 - 67" x 51" x 108" ³
.....	Car 8 - 79" x 51" x 108" ¹
Car operating panels.....	main only
Arrival signal.....	in car lantern with dual stroke chimes
Car / Hall position indicator:.....	digital / digital at floor M
Communication.....	hands free phone (located in phone cabinet)
Firefighters' Emergency Operation.....	Phase I and II provided
Emergency power.....	provided (single car capacity)
Security.....	proximity card reader provided
Car door restrictor.....	not provided
Hall door safety retainers.....	provided
Seismic Operation.....	not provided

³ Height measurement is to the suspended ceiling. Measurement to the car top is 115".

Aquarius Villas - 1111 Marinaside

Number of elevators.....	1
Building designation	12
Installation number.....	18232
Usage.....	passenger
Manufacturer	Otis
Date installed	circa 1998
Maintenance contractor.....	Otis
Capacity (lbs)	2500
Floors served	P3, P2, P1, M, 2 – 3, 5 – 12, 15
Contract speed (feet per minute)	400
Governor tripping speed (feet per minute)	500
Controller model.....	Otis E311 GEMS LMCSS
Machine type.....	Otis 18ATF geared
Motor type	Otis 15 kW AC
Drive method.....	6 rope ½" diameter
Drive type	Otis VVVF
Auxiliary brake.....	Hollister Whitney rope gripper
Roping ratio.....	1:1
Compensation	not provided
Door type.....	single speed side opening
Door operator	Otis QL
Hall door interlock	Otis 6940A
Hall door closer	weighted
Door protection.....	infra-red multi-beam
Door width	42"
Door height.....	84"
Car guide.....	rollers
Counterweight guide	rollers
Cab dimensions (w x d x h).....	80" x 51" x 108" ⁴
Car operating panels.....	main only
Arrival signal.....	in car lantern with dual stroke chimes
Car / Hall position indicator:	digital / digital at floor M
Communication	hands free phone (located in phone cabinet)
Firefighters' Emergency Operation	Phase I and II provided
Emergency power	provided
Security	proximity card reader provided
Car door restrictor	not provided
Hall door safety retainers	not provided
Seismic Operation.....	not provided

⁴ Height measurement is to the suspended ceiling. Measurement to the car top is 115".

3. Recommended or Required Work

The typical elevator “full maintenance” contract covers the replacement of major components in addition to the labour and materials necessary for ongoing repairs, adjustment and preventative maintenance work. Entrances, cab finishes and buried cylinders are normally excluded. As long as full maintenance is purchased the only additional costs to the Owner, during the first twenty to thirty years of use, should be for malicious damage and repairs to the elevator cabs and entrances. We are assuming that repairs required due to accidents or “Acts of God” (flood, fire, etc.) are covered by insurance.

The costs noted are budget figures only, are based on the current market and are in present dollars. The actual costs may vary depending on the time of tendering, the actual detailed scope of work and market conditions. The figures listed below do not include work required by other trades in conjunction with the elevator work.

A summary of potential **required** elevator upgrades and/or repairs outside of the scope of normal maintenance, as well as work that is **recommended** is as follows:

Required Short Term Work (Years 1 - 5):

None

Required Mid Term Work (Years 5 - 10):

None

Required Long Term Work (Years 10 - 15):

Code Changes - Code adoptions have steadily increased over the last few years such that the interval between changes has been reduced to a few years. We recommend budgeting funds at five year intervals to address future code changes. Without being able to pinpoint these changes, it is reasonable to assume that they would require in the area of \$3,000 per device every five years.

Vandalism - We recommend budgeting funds to repair vandalism in elevator cabs. No precise figure can be assigned since much depends on the location and environment but we suggest allowing a figure of \$2,000 per unit every five years.

Recommended Short Term Work (Years 1 - 5):

Barrier-Free Access Recommendations - The elevators do not meet the Barrier-Free Access recommendations (as listed in Appendix E of the Elevator Code). It should be noted that it is not currently mandatory to modify existing buildings to comply with Appendix E, although most new buildings and a number of public buildings are taking steps to meet the Code. In order to comply with the recommendations, the following would need to be provided:

1199 Marinaside and 198 Aquarius Mews:

- The main floor Braille tactile on the car station and entrance jamb must have a star;
- Audible indication of floor position through voice annunciation;
- A hands free phone compliant with Barrier-Free recommendations;
- Tactile plates with floor designation on both jambs of each hall entrance, mounted at barrier-free access heights;

The cost for this work would be in area of \$5,000 per elevator and should be performed within the next two to three years.

189 Davies Street and 1111 Marinaside:

- Braille tactiles located to the left of all car operating panel buttons;
- Audible indication of floor position through voice annunciation.

The cost for this work would be in the area of \$3,500 per elevator and should be performed within the next two to three years.

Provision of Car Door Restrictor: All Elevators – There are currently no car door restrictors provided. The addition of a car door restrictor would prevent the car door from being manually opened by more than 100 mm, except when the car is within the unlocking zone (extending at least 17 mm above and below the landing floor level, and possibly as much as 450 mm). This safety device reduces the risk of people falling down the hoistway while attempting to exit a stalled elevator.

The Safety Code for Elevators (B44-07) requires a car door restrictor on all new installations. While it is not mandatory on existing installations, we believe it is a desirable safety enhancement. It is also possible that this Code requirement will be made retroactive at some point in the future. We recommend budgeting in the area of \$3,000 per elevator to perform this work within the next one to two years.

Recommended Mid Term Work (Years 5 - 10):

Cab Interior Upgrade – The existing cab interiors are presently in average condition with some signs of wear and damage due to vandalism. At some point, the cab finishes will require upgrading mainly for aesthetic issues. The cost to perform this work can range from \$15,000 to \$30,000 per elevator depending on the finishes selected. Based on the current finishes, we would recommend budgeting \$20,000 per elevator to perform this work within the next 10 years.

Car top railings - There has been a drive to provide top of car safety following an accident on a Toronto site. This will likely result in regulations requiring the installation of car top railings. There is no way of predicting when these regulations will be developed and applied but it is prudent to budget for the installation of these railings. A budget figure of \$4,000 per elevator is appropriate. It should be noted that if the ultimate design requirements include provision for ancillary devices such as collapsable railings and electrical interlocks this cost figure could be exceeded.

Equipment Guarding - There is a trend across Canada towards providing greater safety for workers on elevator equipment. These statutory requirements are as yet not definitively outlined.

It is expected that the requirements will detail machine guarding methods and list the equipment in the machine room that requires guarding, such as drive sheaves, machine brakes, commutators, selectors and governors and high voltage connections. We would expect that this work would be carried out by qualified, licenced elevator contractors.

In the case of machine-room-less elevators (MRL) there is no machine room and thus no machine room equipment guarding. However, since the machine is in the hoistway the equipment guarding requirements, although not yet specified, will likely entail some guarding of the machine, the governor and various other components in the elevator hoistway. Apart from that the considerations for protection of high voltage connections will be, if anything, more important since the control closets (control rooms) for MRL equipment are frequently in corridors or other public spaces and are thus more readily accessible to non-elevator personnel.

While we cannot determine the timing or extent future regulations, we estimate the current cost of the likely scope of work to be in the range of \$15,000 per traction elevator, although this figure will decline with increased competition and installation experience. A budget figure of \$12,000 per elevator is recommended.

Recommended Long Term Work (Years 10 - 15):

None

4. Photos - Aquarius I (1111 Marinaside)

Photo 1 – Elevator Controller



Photo 2 – Hoist Machine



Photo 3 – Elevator Pit - Note pylon used for compensation guides



Photo 4 – Elevator Interior - Car Operating Panel



5. Photos - Aquarius II (198 Aquarius Mews)

Photo 5 – Elevator Pit



Photo 6 – Car 5 interlock



Photo 7 – Elevator Car Top



6. Photos - Aquarius III (189 Davies Street)

Photo 8 – Elevator Hoist Machine



Photo 9 – Auxiliary Brake - Rope Gripper



Photo 10 – Elevator Pit



7. Photos - Aquarius Villas (1111 Marinaside)

Photo 11 – Elevator Hoist Machine



APPENDIX C

Financial Tables

**Table 1 - Replacement Cost Summary
Aquarius-LMS 3903 - February, 2013**

Item No.	Item	Recommendations	Normal Life Expectancy	Actual or Estimated Year of Acquisition	Present Age	Adjustment To Life Expectancy	Time To First Replacement	Time to Subsequent Replacements	Years Over Which Work is Phased	Total Repair or Replacement Costs*	Priority**
B1	Parkade traffic coating-replacement	Replacement of traffic waterproofing membrane.	20	1999	13	2	9	20	3	\$876,000	2
B2	Balconies - Slab Edge and Deck Repair	Allowance to conduct periodic concrete repairs to the slab edge and deck, includes repainting balcony soffits, in conjunction with balcony membrane.	20	2012	0	0	20	20	2	\$176,000	2
B3	Balcony Railing- replacement	Complete replacement of aluminum balcony railings.	30	1999	13	0	17	30	4	\$803,000	2
B4	Metal Roof (RDH item 6)-replacement	Remove existing metal roof and replace with new.	25	1999	13	0	12	25	3	\$150,000	2
B5	Pond Liner (RDH item 15)-replacement	Remove existing liner membrane and replace with new. Apply new layer over existing waterproofing membrane.	25	1999	13	0	12	25	1	\$376,000	1
B6	Ballast Roof (RDH item 19)-replacement	Remove existing membrane and replace with a new 30 year assembly.	20	1999	13	0	7	30	10	\$604,000	2
B7	Landscaping Membrane(RDH item 22)-replacement	Remove existing membrane and replace with a new 30 year assembly.	20	1999	13	0	7	30	10	\$724,000	2
B8	Paved Roof (RDH item 27)-replacement	Remove existing membrane and associated flashing and replace with a new 30 year assembly.	20	1999	13	0	7	30	10	\$550,000	2
B9	Metal Panels (RDH item 42)-Localized replacement/repair	Remove existing metal panels and replace with new.	20	1999	13	0	7	20	1	\$500,000	2
B10	Glass Block (RDH item 50)-replacement	Remove existing glass block and replace with new.	40	1999	13	0	27	40	1	\$40,000	2
B11	Glass Wall Entry (item 55)-replacement	Remove existing glass wall and replace with new.	50	1999	13	0	37	50	1	\$268,000	2
B12	Window IGU's (RDH item 74)-replacement budget	Replace failed sealed insulating glass units after expiration of warranty period.	2	1999	13	0	0	2	1	\$148,000	2
B13	Window sealants (RDH item 75)- replacement	Remove existing exterior sealant of all assemblies and replace with new (includes brick, metal panel and glass block sealants).	15	1999	13	3	5	15	4	\$1,207,000	2
B14	Window Vent Gaskets (RDH item 76)- Replacement	Remove existing operable vent gaskets and replace with new.	25	1999	13	0	12	25	1	\$235,000	2
B15	Window Wall (RDH item 77)-replacement	Remove existing window wall and replace with new.	40	1999	13	0	27	40	6	\$4,829,000	2
B16	Balcony membrane (RDH item 81)- replacement	Remove existing membrane and replace with new.	10	2012	0	0	10	10	4	\$145,000	2
B17	Vent Covers (RDH item 90)-replacement	Replace fireplace exhaust vent covers.	10	2008	4	0	6	10	1	\$27,000	2
C1	189, 198 and 1199 Lobby-refurbishment	For complete refurbishment of the lobbies including wall finishes and update of interior finishes.	10	1999	13	5	5	10	3	\$63,000	3
C2	189, 198 and 1199 Lobby Flooring- replacement	For replacement of acoustic tiles and ceramic tiling at elevator lobbies.	25	1999	13	0	12	25	3	\$113,000	3

*The Total Repair or Replacement Costs is in current dollars and includes the Consulting Fee Allowance and GST.

**Priority 1: Life Safety
Priority 2: Renewal to maintain building's functionality
Priority 3: Owner's discretion

**Table 1 - Replacement Cost Summary
Aquarius-LMS 3903 - February, 2013**

Item No.	Item	Recommendations	Normal Life Expectancy	Actual or Estimated Year of Acquisition	Present Age	Adjustment To Life Expectancy	Time To First Replacement	Time to Subsequent Replacements	Years Over Which Work is Phased	Total Repair or Replacement Costs*	Priority**
C3	189, 198 and 1199 Lobby Furniture- replacement	For replacement of lobby furniture elevator lobbies.	25	1999	13	0	12	25	3	\$47,000	3
C4	1111 Lobby- refurbishment	For complete refurbishment of the lobbies including wall finishes and update of interior finishes.	10	1999	13	3	3	10	1	\$32,000	3
C5	1111 Lobby Flooring- replacement	For replacement of acoustic tiles and ceramic tiling at elevator lobbies.	25	1999	13	0	12	25	1	\$11,000	3
C6	1111 Lobby Furniture- replacement	For replacement of lobby furniture and wood panels at the elevator lobbies.	25	1999	13	0	12	25	1	\$21,000	3
C7	1111 Lobby Fireplace- replacement	Replacement of the fireplace.	25	1999	13	0	12	25	1	\$5,000	3
C8	189, 198 and 1199 Corridors- refurbishment	For the replacement of the carpeting and repainting of the walls, suite doors and ceiling.	12	1999	13	0	0	12	3	\$252,000	3
C9	189, 198 and 1199 Suite Doors- replacement	For the replacement of the suite doors and thresholds.	25	1999	13	0	12	25	25	\$98,000	3
C10	1111 Corridors- refurbishment	For the replacement of the carpeting and repainting of the walls, suite doors and ceiling.	12	1999	13	0	0	12	1	\$16,000	3
C11	1111 Suite Doors- replacement	For the replacement of the suite doors and thresholds.	25	1999	13	0	12	25	25	\$6,000	3
C12	Gym Equipment- replacement	For the replacement of the exercise equipment in the gym.	10	1999	13	15	15	10	1	\$11,000	3
C13	Gym- refurbishment	For complete refurbishment of the fitness room including wall finishes and floor finishes.	15	2012	0	0	15	15	1	\$16,000	3
C14	Washrooms/Change rooms- refurbishment	For the general refurbishment of the men's and ladies change room facilities. Cost includes complete replacement of finishings (i.e. ceramic tiles, wall finishes, etc.), counter tops, the lockers and metal toilet partitions, and the sauna finishes.	20	1999	13	0	7	20	1	\$21,000	3
C15	Boardroom- refurbishment	For complete refurbishment of the boardroom including wall finishes, carpet, furniture and art work.	20	1999	13	0	7	20	1	\$11,000	3
C16	Theatre Electronics- replacement	For the replacement of the theatre electronics.	10	2010	2	5	13	10	1	\$8,000	3
C17	Theatre- refurbishment	For complete refurbishment of the theatre including wall finishes, furniture and carpet.	20	1999	13	5	12	20	1	\$8,000	3
C18	Yoga Room- refurbishment	For complete refurbishment of the yoga room including wall finishes, flooring, furniture and Ping-Pong table.	20	1999	13	5	12	20	1	\$11,000	3
C19	Yoga Room Washroom- refurbishment	For the refurbishment of the washroom. Cost includes general replacement of interior finishes and refurbishment of counters and fixtures, etc.	20	1999	13	0	7	20	1	\$3,000	3

*The Total Repair or Replacement Costs is in current dollars and includes the Consulting Fee Allowance and GST.

**Priority 1: Life Safety

Priority 2: Renewal to maintain building's functionality

Priority 3: Owner's discretion

Table 1 - Replacement Cost Summary
Aquarius-LMS 3903 - February, 2013

Item No.	Item	Recommendations	Normal Life Expectancy	Actual or Estimated Year of Acquisition	Present Age	Adjustment To Life Expectancy	Time To First Replacement	Time to Subsequent Replacements	Years Over Which Work is Phased	Total Repair or Replacement Costs*	Priority**
C20	Concierge Office Washrooms- refurbishment	For the refurbishment of the men's and ladies' washrooms. Cost includes general replacement of interior finishes and refurbishment of counters and fixtures, etc.	20	1999	13	0	7	20	1	\$6,000	3
C21	Concierge Office- refurbishment	For complete refurbishment of the concierge area including wall finishes, flooring, furniture and art work.	15	1999	13	0	2	15	1	\$11,000	3
C22	Concierge Office Kitchen- refurbishment	For the general refurbishment of the kitchen facilities, including replacement of the appliances and the cabinetry, and the replacement of interior finishes such as ceramic tiled floors and walls.	20	1999	13	0	7	20	1	\$5,000	3
D1	Elevators - Code and Vandalism	To address future code changes and a budget for vandalism.	5	1999	13	1	1	5	1	\$47,000	2
D2	Elevators - Barrier-Free Access- Towers A and B	To comply with Code recommendations.	25	1999	13	-12	0	25	1	\$32,000	2
D3	Elevators - Barrier-Free Access- Towers C and M	To comply with Code recommendations.	25	1999	13	-12	0	25	1	\$11,000	2
D4	Elevators - Car Door Restrictors	Contingency for safety device.	25	1999	13	-12	0	25	1	\$28,000	2
D5	Elevators - Cab Interior Upgrade	Contingency for interior upgrades.	25	1999	13	-4	8	25	1	\$189,000	2
D6	Elevators - Top Car Railings	Contingency for top car railings regulation.	25	1999	13	-4	8	25	1	\$38,000	2
D7	Elevators - Equipment Guarding	Contingency for machine guarding regulation.	25	1999	13	-4	8	25	1	\$113,000	2
D8	Storm, sanitary and condensate sump pumps- replacement	Replace storm, sanitary and condensate sump pumps and related controls.	25	1999	13	0	12	25	6	\$29,000	2
D9	Domestic water booster pumps, Towers A and B- replacement	Replace domestic water booster pumps. Towers A and B.	20	1999	13	0	7	20	4	\$47,000	2
D10	DHW heat exchangers- replacement	Replace DHW heat exchangers.	14	1999	13	0	1	14	10	\$189,000	2
D11	DHW storage tanks- replacement	Replace DHW storage tanks.	25	1999	13	0	12	25	6	\$189,000	2
D12	DHW recirculation pumps- replacement	Replace DHW recirculation pumps.	25	1999	13	0	12	25	4	\$8,000	2
D13	Steam HW heat exchangers- replacement	Replace steam/condensate/high temp. HW to HW heat exchangers.	25	1999	13	0	12	25	4	\$104,000	2
D14	Expansion tank bladders- replacement	Replace expansion tank bladders.	16	1999	13	0	3	16	6	\$95,000	2
D15	HW heating pumps- rebuild	Re-build base-mounted HW heating pumps.	12	1999	13	0	0	12	4	\$42,000	2
D16	HW heating pumps- replacement	Replace base-mounted HW heating pumps.	35	1999	13	0	22	35	6	\$101,000	2
D17	HW heating pumps- replacement	Replace small close-coupled HW heating pumps.	25	1999	13	0	12	25	4	\$4,000	2

*The Total Repair or Replacement Costs is in current dollars and includes the Consulting Fee Allowance and GST.

**Priority 1: Life Safety
Priority 2: Renewal to maintain building's functionality
Priority 3: Owner's discretion

**Table 1 - Replacement Cost Summary
Aquarius-LMS 3903 - February, 2013**

Item No.	Item	Recommendations	Normal Life Expectancy	Actual or Estimated Year of Acquisition	Present Age	Adjustment To Life Expectancy	Time To First Replacement	Time to Subsequent Replacements	Years Over Which Work is Phased	Total Repair or Replacement Costs*	Priority**
D18	Make-up air units and air handling units (indoor)-rebuild	Re-build make-up air units and air handling units (indoor).	20	1999	13	0	7	20	2	\$19,000	2
D19	Make-up air units and air handling units (indoor)-replacement	Replace make-up air units and air handling units (indoor).	40	1999	13	0	27	40	4	\$147,000	2
D20	Exhaust fans (washrooms, dryer shafts) on roof-replacement	Replace common exhaust fans (washrooms, dryer shafts) on roof.	30	1999	13	0	17	30	6	\$47,000	2
D21	Parkade exhaust fans and supply fans - replacement	Replace exhaust fans and supply fans serving the parkade.	30	1999	13	0	17	30	6	\$74,000	2
D22	Parkade exhaust and supply louvers (outdoor)-replacement	Replace exhaust and supply louvers serving the parkade (outdoor).	30	1999	13	0	17	30	6	\$28,000	2
D23	Parkade CO sensors-replacement	Replace CO sensors in parkade.	25	1999	13	0	12	25	12	\$20,000	2
D24	DDC panels in Towers A and M -upgrade	Upgrade DDC panels in Towers A and M with same panels as installed in B and C.	10	2012	0	0	10	10	1	\$37,000	2
D25	Fire Alarm System-replacement	Replace fire alarm panels	15	1999	13	0	2	15	1	\$138,000	2
D26	Main Electrical Service-replacement	Replace HV Switchgear, HV Transformer, Main Switchboard	25	1999	13	0	12	25	1	\$571,000	2
D27	Building"A" electrical distribution (not including residential loads)	Replace miscellaneous normal and emergency electrical panels, transfer switches step down transformer etc.	25	1999	13	0	12	25	1	\$177,000	2
D28	Building"A" residential electrical distribution	Replace miscellaneous electrical panels and step down transformer	25	1999	13	0	12	25	1	\$74,000	2
D29	Building"B" electrical distribution	Replace miscellaneous normal and emergency electrical panels, transfer switches step down transformer etc.	25	1999	13	0	12	25	1	\$326,000	2
D30	Building"B" residential electrical distribution	Replace miscellaneous electrical panels and step down transformer	25	1999	13	0	12	25	1	\$126,000	2
D31	Building"C" electrical distribution	Replace miscellaneous normal and emergency electrical panels, transfer switches step down transformer etc.	25	1999	13	0	12	25	1	\$233,000	2
D32	Building"C" residential electrical distribution	Replace miscellaneous electrical panels and step down transformer	25	1999	13	0	12	25	1	\$53,000	2
D33	Building"M" electrical distribution	Replace miscellaneous normal and emergency electrical panels, transfer switches step down transformer etc.	25	1999	13	0	12	25	1	\$233,000	2
D34	Building"C" residential electrical distribution	Replace miscellaneous electrical panels and step down transformer	25	1999	13	0	12	25	1	\$53,000	2
D35	Motor starters- replacement	Replace motor starters	15	1999	13	0	2	15	1	\$71,000	2
D36	Residential load centers-replacement	Replace load centers	25	1999	13	0	12	25	1	\$504,000	2

*The Total Repair or Replacement Costs is in current dollars and includes the Consulting Fee Allowance and GST.

**Priority 1: Life Safety

Priority 2: Renewal to maintain building's functionality

Priority 3: Owner's discretion

**Table 1 - Replacement Cost Summary
Aquarius-LMS 3903 - February, 2013**

Item No.	Item	Recommendations	Normal Life Expectancy	Actual or Estimated Year of Acquisition	Present Age	Adjustment To Life Expectancy	Time To First Replacement	Time to Subsequent Replacements	Years Over Which Work is Phased	Total Repair or Replacement Costs*	Priority**
D37	Residential electrical meters-replacement	Replace electrical meters and meter base	25	1999	13	0	12	25	1	\$101,000	2
D38	Emergency generator-replacement	Replace emergency generator and fuel tank	35	1999	13	0	22	35	1	\$459,000	2
D39	Residential common area lighting- replacement	Replace lighting fixtures	20	1999	13	0	7	20	1	\$116,000	2
D40	Underground parking and outdoor lighting- replacement	Replace lighting fixtures	20	2009	3	0	17	20	1	\$307,000	2
D41	Security system-replacement	Replace security cameras and monitoring equipment	15	1999	13	0	2	15	1	\$92,000	2
D42	Entry system- replacement	Replace entry system panels	15	1999	13	0	2	15	1	\$92,000	2
F1	Swimming Pool /Spa Area-refurbishment	For the general refurbishment of the swimming pool area and Spa area. Cost includes amounts for general remodeling, interior finish replacements, etc. Cost does not include amounts for swimming pool liner / membrane replacements.	15	1999	13	0	2	15	1	\$24,000	3
F2	Swimming Pool Liner-replacement	Cost for replacement of the swimming pool liner and waterproofing membrane systems. Contingency has been included for isolated concrete repairs to swimming pool structural containment.	20	1999	13	0	7	20	1	\$21,000	2
F3	Swimming Pool and Pond Heat Systems- replacement	Replace pool, hot-tub and pond heat exchangers.	12	1999	13	0	0	12	4	\$19,000	2
F4	Sauna Steam Generator-replacement	Replace sauna steam generator.	10	2007	5	3	8	10	1	\$18,000	2
G1	Walkway Handrails-replacement	For the replacement of the metal handrails at the exterior walkways.	50	1999	13	10	47	50	1	\$11,000	2
G2	Mews Membrane-replacement	For complete replacement of the podium membrane at the Mews (does not include overburden).	40	1999	13	0	27	40	1	\$126,000	3
G3	Podium Landscaping-overburden replacement	For the replacement of the soft and hard landscaping over the commercial podium which will be in conjunction with the podium waterproofing replacement (Item B7).	20	1999	13	0	7	20	1	\$588,000	2
H1	Consulting Fees	For engineering studies. Includes reserve fund study updates, regular building envelope reviews, misc. mechanical, structural, electrical reviews as required.	3	1999	13	5	5	3	1	\$21,000	2

*The Total Repair or Replacement Costs is in current dollars and includes the Consulting Fee Allowance and GST.

**Priority 1: Life Safety
Priority 2: Renewal to maintain building's functionality
Priority 3: Owner's discretion

Aquarius-LMS 3903
30 Year Reserve Fund Cash Flow Table
FINAL - February 2013

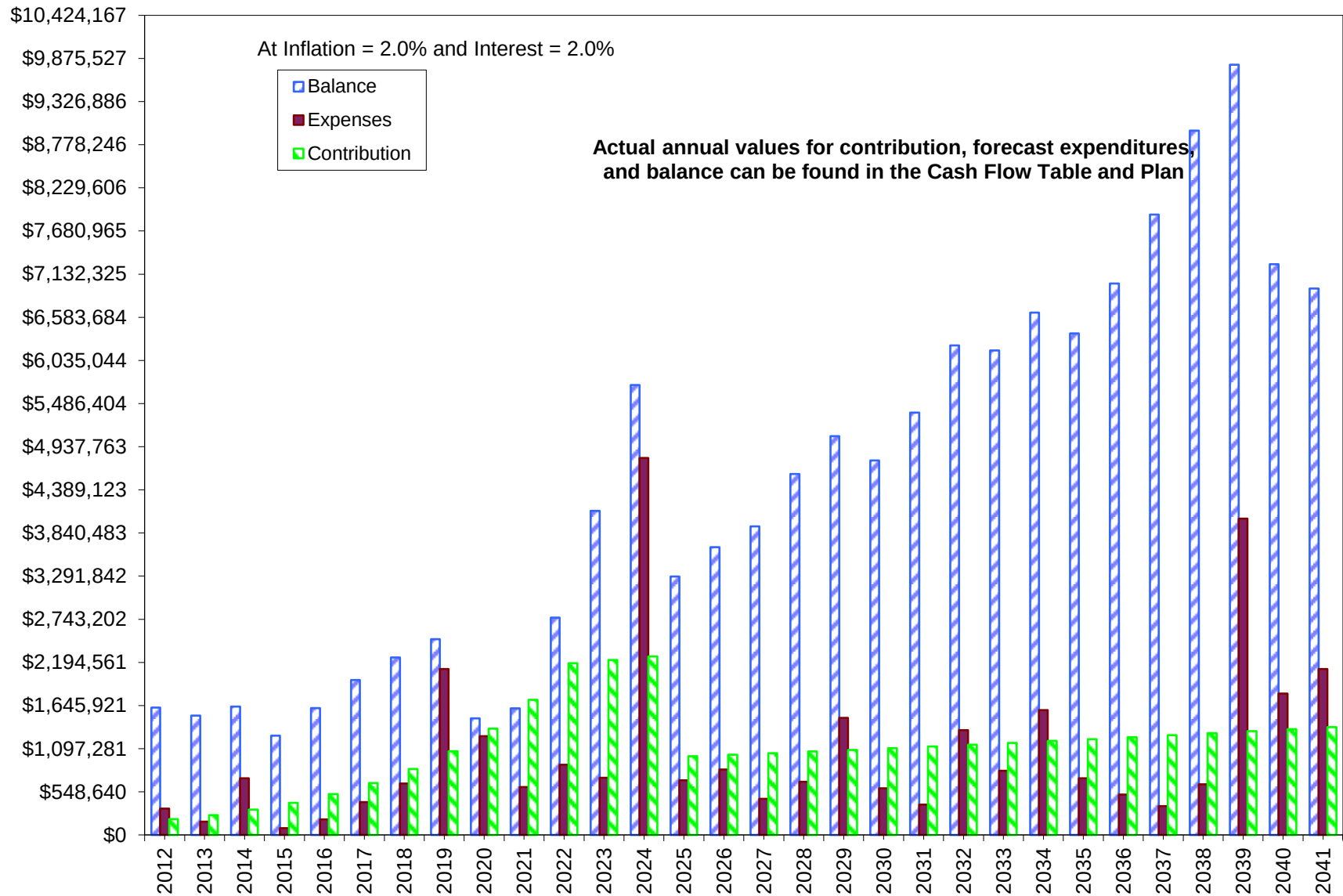
Assumed Interest Rate 2.0%
Assumed Inflation Rate 2.0%
Reserve Fund Balance at Start of 2012 Fiscal Year 1,619,609
Minimum Reserve Fund Balance 1,262,192

Year Ending In	Opening Balance	Annual Contribution*	Percent Increase over Previous Year	Other Contribution	Estimated Future Inflated Expenditures	Projected Interest Earned	Closing Balance
2012	1,619,609	200,000			334,250	31,050	1,516,409
2013	1,516,409	254,000	27.0%		168,453	31,184	1,633,139
2014	1,633,139	322,580	27.0%		722,194	28,667	1,262,192
2015	1,262,192	409,677	27.0%		87,001	28,471	1,613,338
2016	1,613,338	520,289	27.0%		197,796	35,492	1,971,323
2017	1,971,323	660,767	27.0%		417,876	41,855	2,256,069
2018	2,256,069	839,175	27.0%		652,592	46,987	2,489,639
2019	2,489,639	1,065,752	27.0%		2,110,748	39,343	1,483,985
2020	1,483,985	1,353,505	27.0%		1,256,644	30,648	1,611,494
2021	1,611,494	1,718,951	27.0%		610,035	43,319	2,763,729
2022	2,763,729	2,183,068	27.0%		891,938	68,186	4,123,045
2023	4,123,045	2,226,729	2.0%		726,193	97,466	5,721,047
2024	5,721,047	2,271,264	2.0%		4,793,692	89,197	3,287,816
2025	3,287,816	1,000,000	-56.0%		695,693	68,799	3,660,922
2026	3,660,922	1,020,000	2.0%		831,989	75,099	3,924,032
2027	3,924,032	1,040,400	2.0%		459,089	84,294	4,589,637
2028	4,589,637	1,061,208	2.0%		675,218	95,653	5,071,279
2029	5,071,279	1,082,432	2.0%		1,489,357	97,356	4,761,710
2030	4,761,710	1,104,081	2.0%		594,593	100,329	5,371,527
2031	5,371,527	1,126,162	2.0%		387,721	114,815	6,224,783
2032	6,224,783	1,148,686	2.0%		1,334,594	122,637	6,161,512
2033	6,161,512	1,171,659	2.0%		816,025	126,787	6,643,933
2034	6,643,933	1,195,093	2.0%		1,588,072	128,949	6,379,903
2035	6,379,903	1,218,994	2.0%		719,686	132,591	7,011,802
2036	7,011,802	1,243,374	2.0%		513,054	147,539	7,889,662
2037	7,889,662	1,268,242	2.0%		366,254	166,813	8,958,463
2038	8,958,463	1,293,607	2.0%		643,000	185,675	9,794,745
2039	9,794,745	1,319,479	2.0%		4,023,262	168,857	7,259,818
2040	7,259,818	1,345,868	2.0%		1,798,466	140,670	6,947,891
2041	6,947,891	1,372,786	2.0%		2,112,178	131,564	6,340,062

* The term "annual contribution" refers to the amount contributed each year to the reserve fund from the monthly expenses.



Aquarius-LMS 3903
30 Year Reserve Fund Cash Flow Chart
FINAL - February 2013



Aquarius-LMS 3903
Contribution Table
Scenario 2 - FINAL - February 2013

Year	Annual Contribution*	Percent Increase over Previous Year	Other Contribution	Total Contribution
2012	200,000			200,000
2013	254,000	27.0%		254,000
2014	322,580	27.0%		322,580
2015	409,677	27.0%		409,677
2016	520,289	27.0%		520,289
2017	660,767	27.0%		660,767
2018	839,175	27.0%		839,175
2019	1,065,752	27.0%		1,065,752
2020	1,353,505	27.0%		1,353,505
2021	1,718,951	27.0%		1,718,951
2022	2,183,068	27.0%		2,183,068
2023	2,226,729	2.0%		2,226,729
2024	2,271,264	2.0%		2,271,264
2025	1,000,000	-56.0%		1,000,000
2026	1,020,000	2.0%		1,020,000
2027	1,040,400	2.0%		1,040,400
2028	1,061,208	2.0%		1,061,208
2029	1,082,432	2.0%		1,082,432
2030	1,104,081	2.0%		1,104,081
2031	1,126,162	2.0%		1,126,162
2032	1,148,686	2.0%		1,148,686
2033	1,171,659	2.0%		1,171,659
2034	1,195,093	2.0%		1,195,093
2035	1,218,994	2.0%		1,218,994
2036	1,243,374	2.0%		1,243,374
2037	1,268,242	2.0%		1,268,242
2038	1,293,607	2.0%		1,293,607
2039	1,319,479	2.0%		1,319,479
2040	1,345,868	2.0%		1,345,868
2041	1,372,786	2.0%		1,372,786

34,037,827

* The term "annual contribution" refers to the amount contributed each year to the reserve fund from the monthly expenses.



Aquarius-LMS 3903
Detailed Thirty Year Reserve Fund Cash-Flow Plan
FINAL - February 2013



Starting Balance		1,619,609	1,516,409	1,633,139	1,262,192	1,613,338	1,971,323	2,256,069	2,489,639	1,483,985	1,611,494	2,763,729	4,123,045	5,721,047	3,287,816	3,660,922	3,924,032	4,589,637	5,071,279	4,761,710	5,371,527	6,224,783	6,161,512	6,643,933	6,379,903	7,011,802	7,889,662	8,958,463	9,794,745	7,259,818	6,947,891
Total Expenses inflated at 2% annually		334,250	168,453	722,194	87,001	197,796	417,876	652,592	2,110,748	1,256,644	610,035	891,938	726,193	4,793,692	695,693	831,989	459,089	675,218	1,489,357	594,593	387,721	1,334,594	816,025	1,588,072	719,686	513,054	366,254	643,000	4,023,262	1,798,466	2,112,178
Interest at 2% annually		31,050	31,184	28,667	28,471	35,492	41,855	46,987	39,343	30,648	43,319	68,186	97,466	89,197	68,799	75,099	84,294	95,653	97,356	100,329	114,815	122,637	126,787	128,949	132,591	147,539	166,813	185,675	168,857	140,670	131,564
Annual Reserve Contribution		200,000	254,000	322,580	409,677	520,289	660,767	839,175	1,065,752	1,353,505	1,718,951	2,183,068	2,226,729	2,271,264	1,000,000	1,020,000	1,040,400	1,061,208	1,082,432	1,104,081	1,126,162	1,148,686	1,171,659	1,195,093	1,218,994	1,243,374	1,268,242	1,293,607	1,319,479	1,345,868	1,372,786
Other Contribution																															
Ending Balance		1,516,409	1,633,139	1,262,192	1,613,338	1,971,323	2,256,069	2,489,639	1,483,985	1,611,494	2,763,729	4,123,045	5,721,047	3,287,816	3,660,922	3,924,032	4,589,637	5,071,279	4,761,710	5,371,527	6,224,783	6,161,512	6,643,933	6,379,903	7,011,802	7,889,662	8,958,463	9,794,745	7,259,818	6,947,891	6,340,062
Fiscal Year		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
Item		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
B1	Parkade traffic coating-replacement										348,967	355,946	363,065																		518,547
B2	Balconies - Slab Edge and Deck Repair																					130,763	133,379								
B3	Balcony Railing- replacement																		281,098	286,720	292,455	298,304									
B4	Metal Roof (RDH item 6)-replacement													63,412	64,680	65,974															
B5	Pond Liner (RDH item 15)-replacement													476,859																	
B6	Ballast Roof (RDH item 19)-replacement							69,381	70,768	72,184	73,627	75,100	76,602	78,134	79,697	81,290	82,916														
B7	Landscaping Membrane(RDH item 22)- replacement							83,165	84,828	86,525	88,255	90,020	91,821	93,657	95,530	97,441	99,390														
B8	Paved Roof (RDH item 27)-replacement							63,178	64,441	65,730	67,045	68,386	69,753	71,148	72,571	74,023	75,503														
B9	Metal Panels (RDH item 42)-Localized replacement/repair							574,343																					853,443		
B10	Glass Block (RDH item 50)-replacement																											68,275			
B11	Glass Wall Entry (item 55)-replacement																														
B12	Window IGU's (RDH item 74)-replacement budget	148,000		153,979		160,200		166,672		173,406		180,411		187,700		195,283		203,172		211,380		219,920		228,805		238,049		247,666		257,672	
B13	Window sealants (RDH item 75)-replacement						333,156	339,820	346,616	353,548												448,385	457,352	466,499	475,829						
B14	Window Vent Gaskets (RDH item 76)- Replacement												298,037																		
B15	Window Wall (RDH item 77)-replacement																											1,373,759	1,401,234	1,429,259	
B16	Balcony membrane (RDH item 81)- replacement										44,189	45,072	45,974	46,893								53,866	54,943	56,042	57,163						
B17	Vent Covers (RDH item 90)-replacement							30,406									37,065											45,182			
C1	189, 198 and 1199 Lobby-refurbishment						23,186	23,649	24,122								28,263	28,828	29,405								34,453	35,142	35,845		
C2	189, 198 and 1199 Lobby Flooring- replacement													47,770	48,726	49,700															
C3	189, 198 and 1199 Lobby Furniture- replacement													19,869	20,267	20,672															
C4	1111 Lobby- refurbishment				33,959										41,395										50,461						
C5	1111 Lobby Flooring- replacement													13,951																	
C6	1111 Lobby Furniture- replacement													26,633																	
C7	1111 Lobby Fireplace- replacement													6,341																	
C8	189, 198 and 1199 Corridors-refurbishment	84,000	85,680	87,394										106,532	108,663	110,836									135,109	137,811	140,567				
C9	189, 198 and 1199 Suite Doors-replacement													4,972	5,071	5,172	5,276	5,381	5,489	5,599	5,711	5,825	5,941	6,060	6,181	6,305	6,431	6,560	6,691	6,825	6,961
C10	1111 Corridors- refurbishment	16,000												20,292												25,735					
C11	1111 Suite Doors- replacement													304	310	317	323	329	336	343	350	357	364	371	378	386	394	402	410	418	426
C12	Gym Equipment- replacement																14,805										18,047				
C13	Gym- refurbishment																21,534														
C14	Washrooms/Change rooms-refurbishment								24,122																					35,845	
C15	Boardroom- refurbishment								12,636																					18,776	
C16	Theatre Electronics-replacement														10,349											12,615					
C17	Theatre- refurbishment													10,146																	
C18	Yoga Room- refurbishment													13,951																	
C19	Yoga Room Washroom-refurbishment								3,446																					5,121	
C20	Concierge Office Washrooms-refurbishment								6,892																					10,241	
C21	Concierge Office- refurbishment			11,444															15,403												
C22	Concierge Office Kitchen-refurbishment								5,743																					8,534	
D1	Elevators - Code and Vandalism		47,940					52,930					58,439				64,521					71,236						78,651			
D2	Elevators - Barrier-Free Access-Towers A and B	32,000																									52,499				
D3	Elevators - Barrier-Free Access-Towers C and M	11,000																									18,047				
D4	Elevators - Car Door Restrictors	28,000																									45,937				

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Detailed Thirty Year Reserve Fund Cash-Flow Plan
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Starting Balance		1,619,609	1,516,409	1,633,139	1,262,192	1,613,338	1,971,323	2,256,069	2,489,639	1,483,985	1,611,494	2,763,729	4,123,045	5,721,047	3,287,816	3,660,922	3,924,032	4,589,637	5,071,279	4,761,710	5,371,527	6,224,783	6,161,512	6,643,933	6,379,903	7,011,802	7,889,662	8,958,463	9,794,745	7,259,818	6,947,891	
Total Expenses inflated at 2% annually		334,250	168,453	722,194	87,001	197,796	417,876	652,592	2,110,748	1,256,644	610,035	891,938	726,193	4,793,692	695,693	831,989	459,089	675,218	1,489,357	594,593	387,721	1,334,594	816,025	1,588,072	719,686	513,054	366,254	643,000	4,023,262	1,798,466	2,112,178	
Interest at 2% annually		31,050	31,184	28,667	28,471	35,492	41,855	46,987	39,343	30,648	43,319	68,186	97,466	89,197	68,799	75,099	84,294	95,653	97,356	100,329	114,815	122,637	126,787	128,949	132,591	147,539	166,813	185,675	168,857	140,670	131,564	
Annual Reserve Contribution		200,000	254,000	322,580	409,677	520,289	660,767	839,175	1,065,752	1,353,505	1,718,951	2,183,068	2,226,729	2,271,264	1,000,000	1,020,000	1,040,400	1,061,208	1,082,432	1,104,081	1,126,162	1,148,686	1,171,659	1,195,093	1,218,994	1,243,374	1,268,242	1,293,607	1,319,479	1,345,868	1,372,786	
Other Contribution																																
Ending Balance		1,516,409	1,633,139	1,262,192	1,613,338	1,971,323	2,256,069	2,489,639	1,483,985	1,611,494	2,763,729	4,123,045	5,721,047	3,287,816	3,660,922	3,924,032	4,589,637	5,071,279	4,761,710	5,371,527	6,224,783	6,161,512	6,643,933	6,379,903	7,011,802	7,889,662	8,958,463	9,794,745	7,259,818	6,947,891	6,340,062	
Fiscal Year		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	
Item		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	
D5	Elevators - Cab Interior Upgrade									221,444																						
D6	Elevators - Top Car Railings									44,523																						
D7	Elevators - Equipment Guarding									132,398																						
D8	Storm, sanitary and condensate sump pumps- replacement													6,130	6,252	6,377	6,505	6,635	6,768													
D9	Domestic water booster pumps, Towers A and B- replacement								13,497	13,767	14,042	14,323																	20,056	20,457	20,866	
D10	DHW heat exchangers- replacement		19,278	19,664	20,057	20,458	20,867	21,284	21,710	22,144	22,587	23,039					25,437	25,946	26,465	26,994	27,534	28,084	28,646	29,219	29,803	30,399					33,563	
D11	DHW storage tanks- replacement													39,950	40,749	41,564	42,395	43,243	44,108													
D12	DHW recirculation pumps- replacement													2,536	2,587	2,639	2,692															
D13	Steam HW heat exchangers- replacement													32,974	33,634	34,306	34,993															
D14	Expansion tank bladders- replacement				16,802	17,139	17,481	17,831	18,188	18,551											23,066	23,528	23,998	24,478	24,968	25,467						
D15	HW heating pumps- rebuild	10,500	10,710	10,924	11,143									13,317	13,583	13,855	14,132										16,889	17,226	17,571	17,922		
D16	HW heating pumps- replacement																							26,024	26,544	27,075	27,617	28,169	28,733			
D17	HW heating pumps- replacement													1,268	1,294	1,319	1,346															
D18	Make-up air units and air handling units (indoor)- rebuild								10,913	11,131																		16,215	16,540			
D19	Make-up air units and air handling units (indoor)- replacement																											62,728	63,983	65,262		
D20	Exhaust fans (washrooms, dryer shafts) on roof- replacement																		10,969	11,188	11,412	11,640	11,873	12,110								
D21	Parkade exhaust fans and supply fans - replacement																		17,270	17,615	17,967	18,327	18,693	19,067								
D22	Parkade exhaust and supply louvers (outdoor)- replacement																		6,534	6,665	6,798	6,934	7,073	7,215								
D23	Parkade CO sensors- replacement													2,114	2,156	2,199	2,243	2,288	2,334	2,380	2,428	2,477	2,526	2,577	2,628							
D24	DDC panels in Towers A and M - upgrade										45,103											54,980										
D25	Fire Alarm System- replacement			143,575																193,233												
D26	Main Electrical Service- replacement													724,166																		
D27	Building"A" electrical distribution (not including residential loads)													224,479																		
D28	Building"A" residential electrical distribution													93,850																		
D29	Building"B" electrical distribution													413,447																		
D30	Building"B" residential electrical distribution													159,798																		
D31	Building"C" electrical distribution													295,500																		
D32	Building"C" residential electrical distribution													67,217																		
D33	Building"M" electrical distribution													295,500																		
D34	Building"C" residential electrical distribution													67,217																		
D35	Motor starters- replacement			73,868																99,417												
D36	Residential load centers- replacement													639,194																		
D37	Residential electrical meters- replacement													128,092																		
D38	Emergency generator- replacement																							709,605								
D39	Residential common area lighting- replacement								133,248																					197,999		
D40	Underground parking and outdoor lighting- replacement																		429,874													
D41	Security system- replacement			95,717																128,822												
D42	Entry system- replacement			95,717																128,822												
F1	Swimming Pool /Spa Area- refurbishment			24,970																33,606												
F2	Swimming Pool Liner- replacement								24,122																				35,845			

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Detailed Thirty Year Reserve Fund Cash-Flow Plan
FINAL - February 2013



Starting Balance		1,619,609	1,516,409	1,633,139	1,262,192	1,613,338	1,971,323	2,256,069	2,489,639	1,483,985	1,611,494	2,763,729	4,123,045	5,721,047	3,287,816	3,660,922	3,924,032	4,589,637	5,071,279	4,761,710	5,371,527	6,224,783	6,161,512	6,643,933	6,379,903	7,011,802	7,889,662	8,958,463	9,794,745	7,259,818	6,947,891
Total Expenses inflated at 2% annually		334,250	168,453	722,194	87,001	197,796	417,876	652,592	2,110,748	1,256,644	610,035	891,938	726,193	4,793,692	695,693	831,989	459,089	675,218	1,489,357	594,593	387,721	1,334,594	816,025	1,588,072	719,686	513,054	366,254	643,000	4,023,262	1,798,466	2,112,178
Interest at 2% annually		31,050	31,184	28,667	28,471	35,492	41,855	46,987	39,343	30,648	43,319	68,186	97,466	89,197	68,799	75,099	84,294	95,653	97,356	100,329	114,815	122,637	126,787	128,949	132,591	147,539	166,813	185,675	168,857	140,670	131,564
Annual Reserve Contribution		200,000	254,000	322,580	409,677	520,289	660,767	839,175	1,065,752	1,353,505	1,718,951	2,183,068	2,226,729	2,271,264	1,000,000	1,020,000	1,040,400	1,061,208	1,082,432	1,104,081	1,126,162	1,148,686	1,171,659	1,195,093	1,218,994	1,243,374	1,268,242	1,293,607	1,319,479	1,345,868	1,372,786
Other Contribution																															
Ending Balance		1,516,409	1,633,139	1,262,192	1,613,338	1,971,323	2,256,069	2,489,639	1,483,985	1,611,494	2,763,729	4,123,045	5,721,047	3,287,816	3,660,922	3,924,032	4,589,637	5,071,279	4,761,710	5,371,527	6,224,783	6,161,512	6,643,933	6,379,903	7,011,802	7,889,662	8,958,463	9,794,745	7,259,818	6,947,891	6,340,062
Fiscal Year		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
Item		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
F3	Swimming Pool and Pond Heat Systems- replacement	4,750	4,845	4,942	5,041									6,024	6,145	6,268	6,393									7,640	7,793	7,949	8,108		
F4	Sauna Steam Generator- replacement							21,090												25,708										31,338	
G1	Walkway Handrails- replacement																														
G2	Mews Membrane- replacement																											215,068			
G3	Podium Landscaping- overburden replacement							675,427																				1,003,649			
H1	Consulting Fees						23,186			24,605			26,111			27,709			29,405			31,205			33,115			35,142			37,293

APPENDIX D

Draft Changes

DRAFT CHANGES
Aquarius-LMS 3903

Item No.	Item	Recommendations	Normal Life Expectancy	Actual or Estimated Year of Acquisition	Present Age	Adjustment To Life Expectancy	Time To First Replacement	Time to Subsequent Replacements	Years Over Which Work is Phased	Total Repair or Replacement Costs*	Priority**	Comments from Client (Accept, Delete, Modify) As discussed at Meeting January 5, 2012
A1	Foundations	Allowance to repair isolated areas of the foundation walls.	5	1999	11	0	0	5	1	\$8,000	2	Delete- Operating
B1	Concrete floor repairs	Contingency amount for localized concrete repairs to be conducted concurrently with waterproofing replacement.	10	1999	11	2	2	10	1	\$12,000	2	Delete- Operating
B2	Concrete floor traffic coating	Replacement of traffic waterproofing membrane.	10	1999	11	2	2	10	1	\$935,000	2	Increase life expectancy to 20 yrs, phase over 3 years
B3	Balconies - Slab Edge and Deck Repair	Allowance to conduct periodic concrete repairs to the slab edge and deck, includes repainting balcony soffits, in conjunction with balcony membrane.	10	1999	11	0	0	10	2	\$188,000	2	Increase life expectancy to 20 yrs, Year of Acquisition 2012
B4	Balconies - Railings	Complete replacement of aluminum balcony railings.	30	1999	11	0	19	30	4	\$857,000	2	
B5	Metal Roof (RDH item 5)	Remove existing exterior sealant and replace with new.	5	1999	11	0	0	5	1	\$1,000	2	Delete- Operating
B6	Metal Roof (RDH item 6)	Remove existing metal roof and replace with new.	20	1999	11	0	9	20	1	\$193,000	2	Increase life expectancy to 25 years, Phase over 3 years
B7	Pond (RDH item 14)	Remove existing exterior sealant and replace with new.	10	1999	11	0	0	10	1	\$7,000	2	Delete- Operating
B8	Pond (RDH item 15)	Remove existing liner membrane and replace with new. Apply new layer over existing waterproofing membrane.	20	1999	11	0	9	20	1	\$485,000	2	Increase life expectancy to 25 years, Priority 1
B9	Ballast Roof (RDH item 19)	Remove existing membrane and replace with a new 30 year assembly.	10	1999	11	0	0	10	1	\$778,000	2	Increase life expectancy to 20 years, phase over 10 years
B10	Landscaping (RDH item 22)	Remove existing membrane and replace with a new 30 year assembly.	10	1999	11	0	0	10	1	\$934,000	2	Increase life expectancy to 20 years, phase over 10 years
B11	Paved Roof (RDH item 27)	Remove existing membrane and associated flashing and replace with a new 30 year assembly.	10	1999	11	0	0	10	1	\$710,000	2	Increase life expectancy to 20 years, phase over 10 years
B12	Metal Panels (RDH item 42)	Remove existing metal panels and replace with new.	40	1999	11	0	29	40	1	\$5,548,000	2	Have a 20 year allowance of \$500K instead of complete replacement
B13	Doors-Sliders (RDH item 45)	Replace gaskets, interlock plug and the exterior sealant bead. Adjust and lubricate the rollers and hardware.	5	1999	11	0	0	5	1	\$17,000	2	Delete- Operating
B14	Doors-Swing (RDH item 46)	Replace gaskets. Adjust door and broken hardware.	20	1999	11	0	9	20	1	\$9,000	2	Delete- Operating
B15	Glass Block (RDH item 50)	Remove existing glass block and replace with new.	40	1999	11	0	29	40	1	\$52,000	2	
B16	Glass Wall Entry (item 55)	Remove existing glass wall and replace with new.	50	1999	11	0	39	50	1	\$346,000	2	
B17	Windows (RDH item 74)	Replace failed sealed insulating glass units after expiration of warranty period.	2	1999	11	0	0	2	1	\$190,000	2	
B18	Window sealants (RDH item 75)	Remove existing exterior sealant of all assemblies and replace with new (includes brick, metal panel and glass block sealants).	15	1999	11	0	4	15	1	\$1,557,000	2	
B19	Windows (RDH item 76)	Remove existing operable vent gaskets and replace with new.	25	1999	11	0	14	25	1	\$303,000	2	
B20	Windows (RDH item 77)	Remove existing window wall and replace with new.	40	1999	11	0	29	40	1	\$31,143,000	2	Reduce to 20% funded, phased over 6 years
B21	Balcony (RDH item 81)	Remove existing membrane and replace with new.	10	1999	11	0	0	10	1	\$187,000	2	Year of Acquisition updated to 2012, phase over 4 years
B22	Vent Covers (RDH item 90)	Replace fireplace exhaust vent covers.	5	1999	11	0	0	5	1	\$34,000	2	Year of Acquisition updated to 2008, life expectancy 10 years
C1	Stairwells-panic hardware	Replacement of panic hardware.	30	1999	11	0	19	30	4	\$50,000	2	Delete- Operating
C2	189, 198 and 1199 Lobby	For complete refurbishment of the lobbies including wall finishes and update of interior finishes.	10	1999	11	5	5	10	3	\$67,000	3	
C3	189, 198 and 1199 Lobby	For replacement of acoustic tiles and ceramic tiling at elevator lobbies.	25	1999	11	0	14	25	3	\$121,000	2	Flooring, priority 3
C4	189, 198 and 1199 Lobby	For replacement of lobby furniture elevator lobbies.	25	1999	11	0	14	25	3	\$50,000	3	

*The Total Repair or Replacement Costs is in current dollars and includes the Consulting Fee Allowance and GST.

**Priority 1: Life Safety
Priority 2: Renewal to maintain building's functionality
Priority 3: Owner's discretion



DRAFT CHANGES
Aquarius-LMS 3903

Item No.	Item	Recommendations	Normal Life Expectancy	Actual or Estimated Year of Acquisition	Present Age	Adjustment To Life Expectancy	Time To First Replacement	Time to Subsequent Replacements	Years Over Which Work is Phased	Total Repair or Replacement Costs*	Priority**	Comments from Client (Accept, Delete, Modify) As discussed at Meeting January 5, 2012
C5	1111 Lobby	For complete refurbishment of the lobbies including wall finishes and update of interior finishes.	10	1999	11	3	3	10	1	\$34,000	3	
C6	1111 Lobby	For replacement of acoustic tiles and ceramic tiling at elevator lobbies.	25	1999	11	0	14	25	1	\$11,000	2	Flooring, priority 3
C7	1111 Lobby	For replacement of lobby furniture and wood panels at the elevator lobbies.	25	1999	11	0	14	25	1	\$22,000	3	
C8	1111 Lobby	Replacement of the fireplace.	25	1999	11	0	14	25	1	\$6,000	3	
C9	189, 198 and 1199 Corridors	For complete refurbishment of the corridors including wall finishes and update of interior finishes.	12	1999	11	0	1	12	3	\$269,000	3	
C10	189, 198 and 1199 Corridors	For the replacement of the suite doors and thresholds.	25	1999	11	0	14	25	25	\$105,000	3	
C11	1111 Corridors	For the replacement of the carpeting and repainting of the walls, suite doors and ceiling.	12	1999	11	0	1	12	1	\$17,000	3	
C12	1111 Corridors	For the replacement of the suite doors and thresholds.	25	1999	11	0	14	25	25	\$7,000	3	
C13	1111 Corridors	For the replacement of the artwork.	25	1999	11	0	14	25	1	\$6,000	3	Delete- Operating
C14	Recreation Facilities - Gym	For the replacement of the exercise equipment in the gym.	5	1999	11	15	15	5	1	\$11,000	3	Increase life expectancy to 10 years
C15	Recreation Facilities - Gym	For complete refurbishment of the fitness room including wall finishes and floor finishes.	12	1999	11	0	1	12	1	\$11,000	3	Increase life expectancy to 15 years. Year of Acquisition updated to 2012.
C16	Washrooms	For the general refurbishment of the men's and ladies change room facilities. Cost includes complete replacement of finishings (i.e. ceramic tiles, wall finishes, etc.), counter tops, the lockers and metal toilet partitions, and the sauna finishes.	20	1999	11	0	9	20	1	\$22,000	3	
C17	Boardroom	For complete refurbishment of the boardroom including wall finishes, carpet, furniture and art work.	12	1999	11	0	1	12	1	\$11,000	3	Increase life expectancy to 20 years
C18	Theatre	For the replacement of the theatre electronics.	10	1999	11	5	5	10	1	\$9,000	3	Year of acquisition updated to 2010
C19	Theatre	For complete refurbishment of the theatre including wall finishes, furniture and carpet.	10	1999	11	5	5	10	1	\$9,000	3	Increase life expectancy to 20 years
C20	Yoga Room	For complete refurbishment of the yoga room including wall finishes, flooring, furniture and Ping-Pong table.	10	1999	11	5	5	10	1	\$11,000	3	Increase life expectancy to 20 years
C21	Yoga Room	For the refurbishment of the washroom. Cost includes general replacement of interior finishes and refurbishment of counters and fixtures, etc.	20	1999	11	0	9	20	1	\$3,000	3	
C22	Concierge Office	For the refurbishment of the men's and ladies' washrooms. Cost includes general replacement of interior finishes and refurbishment of counters and fixtures, etc.	20	1999	11	0	9	20	1	\$7,000	3	
C23	Concierge Office	For complete refurbishment of the concierge area including wall finishes, flooring, furniture and art work.	15	1999	11	0	4	15	1	\$11,000	3	
C24	Concierge Office	For the general refurbishment of the kitchen facilities, including replacement of the appliances and the cabinetry, and the replacement of interior finishes such as ceramic tiled floors and walls.	20	1999	11	0	9	20	1	\$6,000	3	
D1	Elevators - Code and Vandalism	To address future code changes and a budget for vandalism.	5	1999	11	1	1	5	1	\$50,000	1	

*The Total Repair or Replacement Costs is in current dollars and includes the Consulting Fee Allowance and GST.

**Priority 1: Life Safety
Priority 2: Renewal to maintain building's functionality
Priority 3: Owner's discretion



DRAFT CHANGES

Aquarius-LMS 3903

Item No.	Item	Recommendations	Normal Life Expectancy	Actual or Estimated Year of Acquisition	Present Age	Adjustment To Life Expectancy	Time To First Replacement	Time to Subsequent Replacements	Years Over Which Work is Phased	Total Repair or Replacement Costs*	Priority**	Comments from Client (Accept, Delete, Modify) As discussed at Meeting January 5, 2012
D2	Elevators - Barrier-Free Access- Towers A and B	To comply with Code recommendations.	25	1999	11	-12	2	25	1	\$34,000	1	
D3	Elevators - Barrier-Free Access- Towers C and M	To comply with Code recommendations.	25	1999	11	-12	2	25	1	\$12,000	1	
D4	Elevators - Car Door Restrictors	Contingency for safety device.	25	1999	11	-12	2	25	1	\$30,000	2	
D5	Elevators - Cab Interior Upgrade	Contingency for interior upgrades.	25	1999	11	-4	10	25	1	\$202,000	2	
D6	Elevators - Top Car Railings	Contingency for top car railings regulation.	25	1999	11	-4	10	25	1	\$40,000	2	
D7	Elevators - Equipment Guarding	Contingency for machine guarding regulation.	25	1999	11	-4	10	25	1	\$121,000	2	
D8	Water and Sewer systems	Replace storm, sanitary and condensate sump pumps and related controls.	25	1999	11	0	14	25	6	\$31,000	2	
D9	Water and Sewer systems	Re-build domestic water booster pumps. Towers A and B	12	1999	11	0	1	12	4	\$17,000	2	Delete- Operating
D10	Water and Sewer systems	Replace domestic water booster pumps. Towers A and B.	30	1999	11	0	19	30	4	\$50,000	2	Reduce life expectancy to 20 years
D11	Domestic Hot Water supply	Replace DHW heat exchangers.	14	1999	11	0	3	14	6	\$202,000	2	
D12	Domestic Hot Water supply	Replace DHW storage tanks.	35	1999	11	0	24	35	6	\$27,000	2	Increase Repair cost (error in draft), Reduce life expectancy to 25 years.
D13	Domestic Hot Water supply	Replace DHW recirculation pumps.	25	1999	11	0	14	25	4	\$9,000	2	
D14	Heating System	Replace steam/condensate/high temp. HW to HW heat exchangers.	25	1999	11	0	14	25	4	\$111,000	2	
D15	Heating System	Replace expansion tank bladders.	16	1999	11	0	5	16	6	\$101,000	2	
D16	Heating System	Re-build base-mounted HW heating pumps.	12	1999	11	0	1	12	4	\$45,000	2	
D17	Heating System	Replace base-mounted HW heating pumps.	35	1999	11	0	24	35	6	\$108,000	2	
D18	Heating System	Replace small close-coupled HW heating pumps.	25	1999	11	0	14	25	4	\$4,000	2	
D19	Ventilation and Exhaust systems	Re-build make-up air units and air handling units (indoor).	20	1999	11	0	9	20	2	\$20,000	2	
D20	Ventilation and Exhaust systems	Replace make-up air units and air handling units (indoor).	40	1999	11	0	29	40	4	\$157,000	2	
D21	Ventilation and Exhaust systems	Replace common exhaust fans (washrooms, dryer shafts) on roof.	30	1999	11	0	19	30	6	\$50,000	2	
D22	Ventilation and Exhaust systems	Replace exhaust fans and supply fans serving the parkade.	30	1999	11	0	19	30	6	\$78,000	2	
D23	Ventilation and Exhaust systems	Replace exhaust and supply louvers serving the parkade (outdoor).	30	1999	11	0	19	30	6	\$29,000	2	
D24	Ventilation and Exhaust systems	Replace CO sensors in parkade.	25	1999	11	0	14	25	12	\$22,000	2	
D25	Ventilation and Exhaust systems	Upgrade DDC panels in Towers A and M with same panels as installed in B and C.	15	1999	11	0	4	15	1	\$39,000	2	Reduce life expectancy to 10 years, Year of Acquisition updated to 2012.
D26	Fire Suppression Systems	Replace central components (pressure switches, compressors, flow switches, etc)	25	1999	11	0	14	25	1	\$34,964	2	Delete- Operating
D27	F/A system	Replace fire alarm panels	15	1999	11	0	4	15	1	\$147,000	2	
D28	Main Electrical Service	Replace HV Switchgear, HV Transformer, Main Switchboard	25	1999	11	0	14	25	1	\$609,000	2	
D29	Building"A" electrical distribution (not including residential loads)	Replace miscellaneous normal and emergency electrical panels, transfer switches step down transformer etc.	25	1999	11	0	14	25	1	\$189,000	2	
D30	Building"A" residential electrical distribution	Replace miscellaneous electrical panels and step down transformer	25	1999	11	0	14	25	1	\$78,000	2	
D31	Building"B" electrical distribution	Replace miscellaneous normal and emergency electrical panels, transfer switches step down transformer etc.	25	1999	11	0	14	25	1	\$347,000	2	
D32	Building"B" residential electrical distribution	Replace miscellaneous electrical panels and step down transformer	25	1999	11	0	14	25	1	\$134,000	2	
D33	Building"C" electrical distribution	Replace miscellaneous normal and emergency electrical panels, transfer switches step down transformer etc.	25	1999	11	0	14	25	1	\$248,000	2	
D34	Building"C" residential electrical distribution	Replace miscellaneous electrical panels and step down transformer	25	1999	11	0	14	25	1	\$56,000	2	

*The Total Repair or Replacement Costs is in current dollars and includes the Consulting Fee Allowance and GST.

**Priority 1: Life Safety
Priority 2: Renewal to maintain building's functionality
Priority 3: Owner's discretion



DRAFT CHANGES
Aquarius-LMS 3903

Item No.	Item	Recommendations	Normal Life Expectancy	Actual or Estimated Year of Acquisition	Present Age	Adjustment To Life Expectancy	Time To First Replacement	Time to Subsequent Replacements	Years Over Which Work is Phased	Total Repair or Replacement Costs*	Priority**	Comments from Client (Accept, Delete, Modify) As discussed at Meeting January 5, 2012
D35	Building"M" electrical distribution	Replace miscellaneous normal and emergency electrical panels, transfer switches step down transformer etc.	25	1999	11	0	14	25	1	\$248,000	2	
D36	Building"C" residential electrical distribution	Replace miscellaneous electrical panels and step down transformer	25	1999	11	0	14	25	1	\$56,000	2	
D37	Motor starters	Replace motor starters	15	1999	11	0	4	15	1	\$76,000	2	
D38	Residential load centers	Replace load centers	25	1999	11	0	14	25	1	\$538,000	2	
D39	Residential electrical meters	Replace electrical meters and meter base	25	1999	11	0	14	25	1	\$108,000	2	
D40	Emergency generator	Replace emergency generator and fuel tank	35	1999	11	0	24	35	1	\$489,000	2	
D41	Residential common area lighting	Replace lighting fixtures	20	1999	11	0	9	20	1	\$123,000	2	
D42	Underground parking and outdoor lighting	Replace lighting fixtures	20	2009	1	0	19	20	1	\$327,000	2	
D43	Security system	Replace security cameras and monitoring equipment	15	1999	11	0	4	15	1	\$98,000	2	
D44	Entry system	Replace entry system panels	15	1999	11	0	4	15	1	\$98,000	2	
E1	Equipment and Furnishings	For the replacement of the parking garage overhead doors, which would include the operating system as well as the door itself.	5	1999	11	10	10	5	5	\$56,000	2	Delete- Operating
F1	Swimming Pool Area	For the general refurbishment of the swimming pool area. Cost includes amounts for general remodeling, interior finish replacements, etc. Cost does not include amounts for swimming pool liner / membrane replacements.	30	1999	11	0	19	30	1	\$48,000	3	Phase cost over 2 years, 15 years apart (to account for spa and swimming pool separately)
F2	Swimming Pool - Liner	Cost for replacement of the swimming pool liner and waterproofing membrane systems. Contingency has been included for isolated concrete repairs to swimming pool structural containment.	20	1999	11	0	9	20	1	\$21,000	2	
F3	Swimming Pool area and Pond systems	Replace pool, hot-tub and pond heat exchangers.	12	1999	11	0	1	12	4	\$20,000	2	
F4	Swimming Pool area and Pond systems	Replace sauna steam generator.	10	2007	3	3	10	10	1	\$19,000	2	
G1	Building sitework	For the repairing the exterior concrete stairs (exterior walkways).	20	1999	11	10	19	20	1	\$2,000	2	
G2	Building sitework	For the replacement of the metal handrails at the exterior walkways.	50	1999	11	10	49	50	1	\$11,000	2	Replace with membrane only (60% LMS 3903)
G3	Building sitework	For the redesigning of the exterior walkways in year 2 as per the Strata current plan.	15	1999	11	-2	2	15	1	\$448,000	3	
G4	Podium Landscaping	For the replacement of the soft and hard landscaping over the podium which will be in conjunction with the podium waterproofing replacement.	10	1999	11	0	0	10	1	\$627,000	2	
G5	Podium Landscaping	For the replacement of the garden furniture and fixtures.	10	1999	11	10	10	10	1	\$2,000	3	
H1	Reserve Fund Study Updates	For conducting a site inspection and a reserve found study.	5	1999	11	5	5	5	1	\$22,000	2	Bundle all engineering studies with a 3 year life expectancy.
H2	Balcony Condition Survey	For conducting a condition survey of the balconies prior to major repairs/replacement of the balcony membranes.	10	1999	11	1	1	10	1	\$17,000	2	Delete (as provided in H1)
H3	Building Envelope Condition Assessment (RDH item 92)	Conduct a BECA' to review the conditions of the building envelope.	5	1999	11	1	5	5	1	\$17,000	2	Delete (as provided in H1)
H4	Roof Review	A roof review should be conducted prior to complete replacement of the roof membrane.	10	1999	11	10	10	10	1	\$9,000	2	Delete (as provided in H1)

*The Total Repair or Replacement Costs is in current dollars and includes the Consulting Fee Allowance and GST.

**Priority 1: Life Safety
Priority 2: Renewal to maintain building's functionality
Priority 3: Owner's discretion



Aquarius-LMS 3903
30 Year Reserve Fund Cash Flow Table
Scenario 2 - Gradual Funding - January 13, 2012

Assumed Interest Rate 2.0%
 Assumed Inflation Rate 2.0%
 Reserve Fund Balance at Start of 2012 Fiscal Year 1,619,609
 Minimum Reserve Fund Balance **1,175,488**

Year Ending In	Opening Balance	Annual Contribution*	Percent Increase over Previous Year	Other Contribution	Estimated Future Inflated Expenditures	Projected Interest Earned	Closing Balance
2012	1,619,609	200,000			334,250	31,050	1,516,409
2013	1,516,409	232,000	16.0%		168,453	30,964	1,610,919
2014	1,610,919	269,120	16.0%		722,194	27,688	1,185,533
2015	1,185,533	312,179	16.0%		87,001	25,962	1,436,674
2016	1,436,674	362,128	16.0%		197,796	30,377	1,631,382
2017	1,631,382	420,068	16.0%		417,876	32,650	1,666,224
2018	1,666,224	487,279	16.0%	1,000,000	652,592	31,671	2,532,582
2019	2,532,582	565,244	16.0%	1,000,000	2,110,748	35,197	2,022,274
2020	2,022,274	655,683	16.0%	1,000,000	1,256,644	34,436	2,455,749
2021	2,455,749	760,592	16.0%	1,000,000	610,035	50,621	3,656,927
2022	3,656,927	882,287	16.0%	1,000,000	891,938	73,042	4,720,318
2023	4,720,318	899,933	2.0%		726,193	96,144	4,990,202
2024	4,990,202	917,931	2.0%		4,793,692	61,046	1,175,488
2025	1,175,488	936,290	2.0%		695,693	25,916	1,442,000
2026	1,442,000	955,016	2.0%		831,989	30,070	1,595,098
2027	1,595,098	974,116	2.0%		459,089	37,052	2,147,177
2028	2,147,177	993,598	2.0%		675,218	46,127	2,511,685
2029	2,511,685	1,013,470	2.0%		1,489,357	45,475	2,081,272
2030	2,081,272	1,033,740	2.0%		594,593	46,017	2,566,436
2031	2,566,436	1,054,415	2.0%		387,721	57,996	3,291,126
2032	3,291,126	1,075,503	2.0%		1,334,594	63,232	3,095,267
2033	3,095,267	1,097,013	2.0%		816,025	64,715	3,440,970
2034	3,440,970	1,118,953	2.0%		1,588,072	64,128	3,035,980
2035	3,035,980	1,141,332	2.0%		719,686	64,936	3,522,562
2036	3,522,562	1,164,159	2.0%		513,054	76,962	4,250,630
2037	4,250,630	1,187,442	2.0%		366,254	93,224	5,165,042
2038	5,165,042	1,211,191	2.0%		643,000	108,983	5,842,216
2039	5,842,216	1,235,415	2.0%		4,023,262	88,966	3,143,334
2040	3,143,334	1,260,123	2.0%		1,798,466	57,483	2,662,474
2041	2,662,474	1,285,326	2.0%		2,112,178	44,981	1,880,603

* The term "annual contribution" refers to the amount contributed each year to the reserve fund from the monthly expenses.



Aquarius-LMS 3903
30 Year Reserve Fund Cash Flow Table
Scenario 3 - Upfront Funding - January 13, 2012

Assumed Interest Rate 2.0%
 Assumed Inflation Rate 2.0%
 Reserve Fund Balance at Start of 2012 Fiscal Year 1,619,609
 Minimum Reserve Fund Balance **853,485**

Year Ending In	Opening Balance	Annual Contribution*	Percent Increase over Previous Year	Other Contribution	Estimated Future Inflated Expenditures	Projected Interest Earned	Closing Balance
2012	1,619,609	200,000			334,250	31,050	1,516,409
2013	1,516,409	260,000	30.0%		168,453	31,244	1,639,199
2014	1,639,199	338,000	30.0%		722,194	28,942	1,283,948
2015	1,283,948	439,400	30.0%		87,001	29,203	1,665,549
2016	1,665,549	571,220	30.0%		197,796	37,045	2,076,018
2017	2,076,018	742,586	30.0%		417,876	44,767	2,445,495
2018	2,445,495	757,438	2.0%		652,592	49,958	2,600,299
2019	2,600,299	772,586	2.0%		2,110,748	38,624	1,300,762
2020	1,300,762	788,038	2.0%		1,256,644	21,329	853,485
2021	853,485	803,799	2.0%		610,035	19,007	1,066,257
2022	1,066,257	819,875	2.0%	2,000,000	891,938	20,605	3,014,798
2023	3,014,798	836,272	2.0%		726,193	61,397	3,186,274
2024	3,186,274	852,998	2.0%	2,000,000	4,793,692	24,319	1,269,899
2025	1,269,899	870,058	2.0%		695,693	27,142	1,471,405
2026	1,471,405	887,459	2.0%		831,989	29,983	1,556,859
2027	1,556,859	905,208	2.0%		459,089	35,598	2,038,576
2028	2,038,576	923,312	2.0%		675,218	43,252	2,329,923
2029	2,329,923	941,779	2.0%		1,489,357	41,123	1,823,466
2030	1,823,466	960,614	2.0%		594,593	40,130	2,229,617
2031	2,229,617	979,826	2.0%		387,721	50,513	2,872,236
2032	2,872,236	999,423	2.0%		1,334,594	54,093	2,591,158
2033	2,591,158	1,019,411	2.0%		816,025	53,857	2,848,402
2034	2,848,402	1,039,800	2.0%		1,588,072	51,485	2,351,616
2035	2,351,616	1,060,596	2.0%		719,686	50,441	2,742,966
2036	2,742,966	1,081,808	2.0%		513,054	60,547	3,372,267
2037	3,372,267	1,103,444	2.0%		366,254	74,817	4,184,274
2038	4,184,274	1,125,513	2.0%		643,000	88,511	4,755,297
2039	4,755,297	1,148,023	2.0%		4,023,262	66,354	1,946,411
2040	1,946,411	1,170,983	2.0%		1,798,466	32,653	1,351,581
2041	1,351,581	1,194,403	2.0%	1,000,000	2,112,178	17,854	1,451,661

* The term "annual contribution" refers to the amount contributed each year to the reserve fund from the monthly expenses.



Aquarius-LMS 3903
30 Year Reserve Fund Cash Flow Table
Scenario 3 - Upfront Increase plus Gradual Funding - August 28, 2012

Assumed Interest Rate 2.0%
Assumed Inflation Rate 2.0%
Reserve Fund Balance at Start of 2012 Fiscal Year 1,619,609
Minimum Reserve Fund Balance **1,392,220**

Year Ending In	Opening Balance	Annual Contribution*	Percent Increase over Previous Year	Other Contribution	Estimated Future Inflated Expenditures	Projected Interest Earned	Closing Balance
2012	1,619,609	200,000			334,250	31,050	1,516,409
2013	1,516,409	320,000	60.0%		168,453	31,844	1,699,799
2014	1,699,799	384,000	20.0%		722,194	30,614	1,392,220
2015	1,392,220	460,800	20.0%		87,001	31,582	1,797,601
2016	1,797,601	552,960	20.0%		197,796	39,504	2,192,268
2017	2,192,268	663,552	20.0%		417,876	46,302	2,484,246
2018	2,484,246	796,262	20.0%		652,592	51,122	2,679,038
2019	2,679,038	955,515	20.0%		2,110,748	42,028	1,565,833
2020	1,565,833	1,146,618	20.0%		1,256,644	30,216	1,486,023
2021	1,486,023	1,375,941	20.0%		610,035	37,380	2,289,309
2022	2,289,309	1,651,130	20.0%		891,938	53,378	3,101,879
2023	3,101,879	1,981,356	20.0%		726,193	74,589	4,431,631
2024	4,431,631	2,377,627	20.0%		4,793,692	64,472	2,080,038
2025	2,080,038	1,500,000	-36.9%		695,693	49,644	2,933,989
2026	2,933,989	1,530,000	2.0%		831,989	65,660	3,697,660
2027	3,697,660	1,560,600	2.0%		459,089	84,968	4,884,139
2028	4,884,139	1,591,812	2.0%		675,218	106,849	5,907,581
2029	5,907,581	1,623,648	2.0%		1,489,357	119,495	6,161,367
2030	6,161,367	1,656,121	2.0%		594,593	133,843	7,356,737
2031	7,356,737	1,689,244	2.0%		387,721	160,150	8,818,410
2032	8,818,410	1,723,029	2.0%		1,334,594	180,253	9,387,098
2033	9,387,098	1,757,489	2.0%		816,025	197,157	10,525,719
2034	10,525,719	1,792,639	2.0%		1,588,072	212,560	10,942,846
2035	10,942,846	1,828,492	2.0%		719,686	229,945	12,281,596
2036	12,281,596	1,865,061	2.0%		513,054	259,152	13,892,756
2037	13,892,756	1,902,363	2.0%		366,254	293,216	15,722,080
2038	15,722,080	1,940,410	2.0%		643,000	327,416	17,346,906
2039	17,346,906	1,979,218	2.0%		4,023,262	326,498	15,629,360
2040	15,629,360	2,018,803	2.0%		1,798,466	314,791	16,164,486
2041	16,164,486	2,059,179	2.0%		2,112,178	322,760	16,434,247

* The term "annual contribution" refers to the amount contributed each year to the reserve fund from the monthly expenses.

