



**Vantage Pointe Condominium Corporation
Parkade**

Plan No: 0510908

Address: 1035, 10th Avenue SW, Calgary AB

**2017 Capital Replacement Reserve Fund
Study**

Managed by:

FirstService Residential

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EXECUTIVE SUMMARY

The intent of a Capital Reserve Fund analysis is to develop and determine the financial requirements for future major repairs and/or replacement of the common property components owned by the Corporation. These financial requirements are required by the Province of Alberta as stipulated in the Condominium Property Act.

Wall Engineering Ltd. has performed visual inspections of the building to determine the current general condition of common property building components. The anticipated life and replacement costs of each component are derived from published data, discussion with contractors, and our experience within the industry. These projections are accepted industry standards and do not necessarily reflect the actual life or cost of the component installed. The present equivalent age and the expected normal life determine the remaining life of a specific component.

Reserve fund projections are prepared based on the present annual contributions as well as the calculated future contributions in order to maintain a minimum balance in the reserve fund. Possible funding scenarios are provided for consideration by the Board. Legislation requires that the Capital Replacement Reserve Fund analysis and cash flow charts be updated at a maximum of five years to reflect the current condition of the common property as well as requirements of the Corporation.

In general the complex appears to be in good condition with minimal large expenditures expected within the next 5 year cycle. Parkade waterproofing, concrete restoration, various pumps and parkade CO/NO₂ detector replacement and restoration are expected to occur. Given the age of the building, more expenditures are predicted to occur near the latter half of the study and will require increasing the fund gradually over time in order to accommodate. Cash flow projections anticipate a 1.25% annual increase over the 25 year scenario to maintain the fund.

Reserve Fund Background Information:			
Condominium Plan No.:	0510908	Draft Issue Date:	March 20, 2017
Number of Units:	438	Final Issue Date:	August 29, 2017
Construction Year:	2005		
Year End of Corporation:	March		
Opening Balance	\$307,459		
Current Annual Contribution	\$84,300		
Reserve Fund Projection	25 years		



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1.0 INTRODUCTION

In response to your request, Wall Engineering Ltd. completed a capital replacement reserve fund study on behalf of the Board of Directors. The primary intent of the study is to inventory all major common property owned by the corporation, visually review all items to form an opinion of their general condition, determine the future financial requirements to repair or replace the common property and endeavor to ensure availability of adequate funds to cover the foreseeable capital expenses over the next 25 years. In addition to the financial requirements, the assessment is intended to establish a general timeline for the foreseeable repair or replacement of common property and gauge the expected remaining service life of the individual items. No destructive testing or selective dismantling was performed to confirm actual installed conditions for the preparation of the study. The following information was provided to assist with the study:

1. Condominium plan, original architectural, structural, electrical and mechanical drawings (as provided by the Client).
2. The Condominium bylaws.
3. Existing Reserve Fund balance as of the last year end, anticipated contribution for the next year, interest and inflation rates.

The Province of Alberta Condominium Property Act, Revised Statutes of Alberta 2000 Chapter C-22 and the Condominium Property Regulations 168/2000 with amendments up to and including Alberta regulation 103/2011 were used for the purposes of this reserve fund study and defines the Capital Replacement Reserve Fund as an amount of money:

"used to provide sufficient funds that can reasonably be expected to provide for major repairs and replacement of any real and personal property owned by the Corporation, and the common property, where the repair and replacement is of a nature that does not normally occur annually" (Section 38.1).

The Condominium Act requires that a financial study be performed in order to generally assess and determine the amount of funding required for the capital replacement of items on a property. The study must allow for sufficient funds to be available over the life of the complex. The function of the study is intended to provide a quantitative expression for the corporation to use to develop a proposed plan of action. A minimum fund balance approach has been used to prepare this study. This approach maintains the closing balance at or above a predetermined minimum amount over the study period (25 years).

The individual replacement schedules for each item is intended to act as a guideline and can vary over the timeframe of the study, depending on the actual condition of the component, level of use or exposure and rate of deterioration as the item approaches the end of its service life.



In addition, the minimum fund balance approach incorporates a rolling budget concept such that the contributions are anticipated to change in subsequent study updates. As the reserve fund balance is set to a minimum value, the annual contributions may possibly need to be adjusted throughout the life of the complex to reflect changing or actual annual conditions.

Annual maintenance items are not intended to be included in the Capital Replacement Reserve Fund, and must be accounted for separately by the Board, typical through an operations and maintenance budget. For the purposes of the financial projections, the study only includes the repair and replacement expenditures that are expected to be required within the next 25 years. Components that may require repair or replacement beyond the 25 year projection period have been listed as they will appear in subsequent updates although budgets have not been included.

2.0 COMMON PROPERTY AND PARTIAL DESCRIPTION OF THE COMPLEX

The Vantage Pointe Condominium Parkade Complex was constructed circa 2007. The 438 unit parkade structure includes parking areas, common hallways, and elevator lobbies. The roof assembly of the parkade forms exterior/surface parking for adjacent Commercial Retail Unit. Common make up air, exhaust system, fire suppression systems, CO/NO detectors building pressurization units and electrical systems are a few of the major mechanical and electrical common property items located within the complex.

The Condominium Property Act defines that

"Common Property means so much of the parcel as is not comprised in any unit shown on the Condominium Plan, but does not include land shown on the condominium plan that has been provided for the purposes of roads, public utilities and reserve land" (Section 1 (1) f).

The following common property areas have been included in the reserve Fund Study:

- Roofing materials,
- Fencing, railings, and guards
- Parking areas and the building structure
- Interior finishes, including hallways, stairwells and common rooms,
- Boilers, heating and,
- Electrical components, lighting and supply systems
- Fire safety components, panels and alarms.
- Utility services through the common property.



3.0 METHODOLOGY OF THE STUDY

Reserve fund calculations are based on the replacement budgets for capital items and the respective expected normal service life. For some items, the Board will need to decide whether to maintain a component beyond its expected service life or to replace it. This will require a detailed review or inspection of the particular component by qualified individuals and assessment of the costs, risks, and benefits of performing either restoration or replacement work. This type of assessment and recommendation is not part of a reserve fund study. Maintenance will be required to help a component reach its expected normal life.

As the component reaches the end of its expected life, maintenance of the component might not be economically feasible or practical. The expected life values are determined based on standard industry practices, published values, and our own experience. The equivalent age of an item is based on current performance reports, and visual assessment rather than the actual age of a component (which would be based solely on the time of installation). Maintaining the component beyond its expected service life could result in higher maintenance costs and increased risks associated with failure of the component.

We attempt to determine the life expectancy, replacement costs and present condition of a particular item as accurately as possible; however, this is neither a detailed condition assessment nor an exact science, especially with respect to underlying or buried elements hidden from view. Actual or hidden conditions may differ significantly from the assumed conditions.

Opinions of costs and present condition rely on published data on expected service lives of components, discussion with contractors and on our previous experience. These are not firm costs and the actual cost and life predictions will vary. There may also be unforeseen conditions that could affect the proposed expenditure schedule. This could require adjustment to the time frames for the work and in some cases, could result in special assessments, should there be a large, unbudgeted expense in any particular year. In addition, the level of maintenance performed can significantly impact the life expectancy of a component. Therefore, it is important to update technical assessments periodically in order to keep the fund schedule current.

The projected timing of expenditures is estimated and should not necessarily be used to determine the actual timing of repairs or replacements. Year to year adjustments to timing and/or phasing of repair programs have little effect on the required contribution. The Board should develop their annual budgets based on actual conditions at that time and should not rely upon the projection represented on the Reserve Fund Expenditure Schedule, which attempts to predict expenditures too far into the future to be reliable in the short term.

The following condition rating system has been used to help qualify and describe the condition of the individual components.



Condition Rating:

<ul style="list-style-type: none">• Good	No Deficiencies or concerns reported. No capital expenditure is anticipated within the next 15 years
<ul style="list-style-type: none">• Good/Fair	Reasonable Condition as a whole; minor deficiencies noted. No Capital expenditure is anticipated within the next 10 years
<ul style="list-style-type: none">• Fair	Reasonable Condition as a whole; deterioration noted in isolated areas. Capital expenditure is anticipated within the next 10 years
<ul style="list-style-type: none">• Fair/poor	Deterioration/damage noted and the item is approaching the end of its expected service life. Capital expenditure is anticipated within the next 5 years.
<ul style="list-style-type: none">• Poor	Deterioration/damage noted and the item is at or exceeded its expected service life. Capital expenditure is anticipated within the next 0 to 2 years.

This assessment does not include the review of components for the compliance with applicable codes and/or regulations. No calculations or testing of the systems or equipment have been undertaken to ascertain the internal condition or capacities of the components/systems to meet the code or original design requirements of the building.



4.0 PROPERTY CONDITION ASSESSMENT RESULTS

4.1 Roofing

The roof over the parkade consists of a built up waterproofing, with asphalt wearing surface, and the area is used as exterior/surface parking for the adjacent CO-OP building.

Additional items located on the roof level have been included in subsequent sections.

This type of assembly tends to have a longer service life in comparison to other roof assemblies, such as conventional built up roofing (BUR) systems due to reduced exposure to temperature fluctuations, oxidation and UV degradation. The typical anticipated life of this type of assembly is in the range of 30 to 35 years or longer depending on the quality of original construction and scheduled maintenance. We understand that there were isolated reports of moisture leakage at the time of our review and that maintenance will be required in the near term. Please note that underlying repairs to the roof structure would be in addition to the replacement budget.



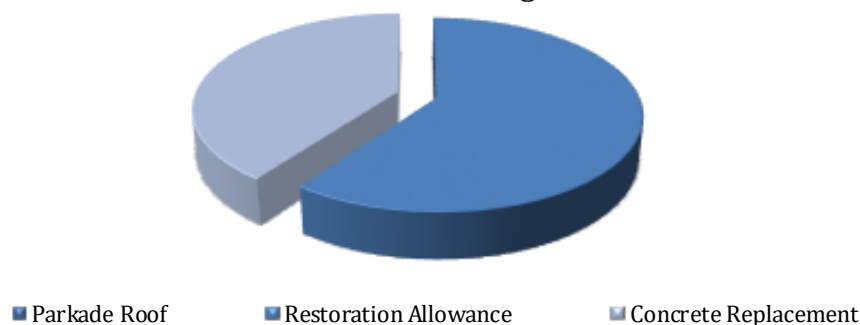
Photograph 1: Parkade Roof.

We recommend performing annual roof inspections as part of a preventative maintenance program and that the remaining life of the roofing be revised based on the results of the review and maintenance requirements. If any evidence of moisture infiltration is identified, remedial repairs should be initiated promptly to mitigate damage. Preventative maintenance measures should include cleaning and removal of debris from drains, sealant application to open joints or failed seams.

Table 4.1: Roofing

ROOFING		Cond.	Expenditure (\$)	Spread (Yrs)	Budget (\$/yr)	Expected Life (Yrs)	Adjusted Age (Yrs)	Remaining (Yrs)	Total Cost
4.1.1	Parkade Roof	Fair	\$524,000	1	\$524,000	35	9	26	\$0
4.1.2	Restoration Allowance	Fair	\$45,000	1	\$45,000	15	9	6	\$90,000
4.1.3	Concrete Replacement	Fair	\$60,000	1	\$60,000	30	9	21	\$60,000

Chart 4.1: Roofing





4.2 Exterior & Interior Items

Interior finishes and exterior components have been grouped into areas rather than separately outlining the individual elements (e.g.: paint, flooring, ceiling finishes etc.) and include the hallways, stairwells and elevator lobby areas. The frequency of refinishing work or renovation will vary depending upon both level of use and the intent to update appearance. For the purpose of the reserve fund, budgets have been provided to maintain the existing appearance and we have not included allowances for upgrades in materials. Additional budgets to perform annual maintenance have not been included in the study. Budgets provided only include a partial allowance to cover a medium repair. Additional funds or a special assessment will be necessary should full replacement be required within the time frame of the study. The interior elements and common property finishes appeared to be in fair condition at the time of review. We have included budgets for painting and replacement of tile in the common area finishes item.



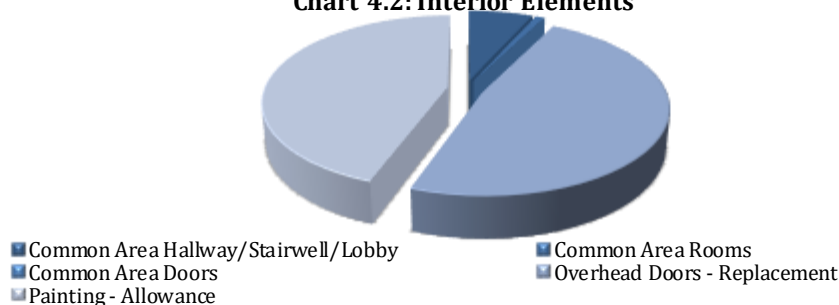
Photograph 2: Painting Finishes and Doors

The parkade entrance/exit high speed fabric doors as well as the common area, service room and stairwell doors have been included in the reserve fund. No budgets have been included for replacement of the handrails within the stairwells at this time.

Table 4.2: Exterior/ Interior Elements

EXTERIOR/INTERIOR ITEMS	Condition	Expenditure (\$)	Spread (Yrs)	Budget (\$/yr)	Expected Life (Yrs)	Adjusted Age (Yrs)	Remaining (Yrs)	Total Cost
4.2.1 Common Area Hallway/Stairwell/Lobby	Fair	\$15,000	7	\$2,143	20	9	11	\$15,000
4.2.2 Common Area Rooms	Fair	\$2,000	1	\$2,000	20	9	11	\$2,000
4.2.3 Common Area Doors	Good/Fair	\$27,000	7	\$3,857	45	9	36	\$0
4.2.4 Overhead Doors - Replacement	Fair	\$54,000	1	\$54,000	15	9	6	\$108,000
4.2.5 Painting - Allowance	Fair	\$50,000	1	\$50,000	15	9	6	\$100,000

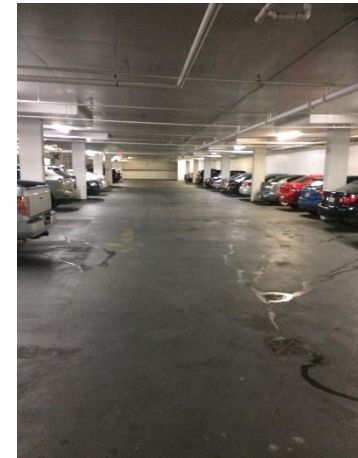
Chart 4.2: Interior Elements





4.3 Structural Elements

The residential parkade structure includes 4 levels and is accessed from a ramp at the east elevation of the site. The suspended parking slabs have been waterproofed using a thin traffic deck coating system. We recommend that the Corporation implement a parkade restoration and maintenance program which will extend the life of the waterproofing membrane as well as protect the underlying structure. Future studies should adjusted the present age of the components respectively. Reapplication of the traffic deck coating system wearing surface is typically required on a 5 to 10 year intervals within high traffic areas to maintain the life expectancy of the waterproofing. Eventual full replacement will be required as the system approaches the end of its design life.



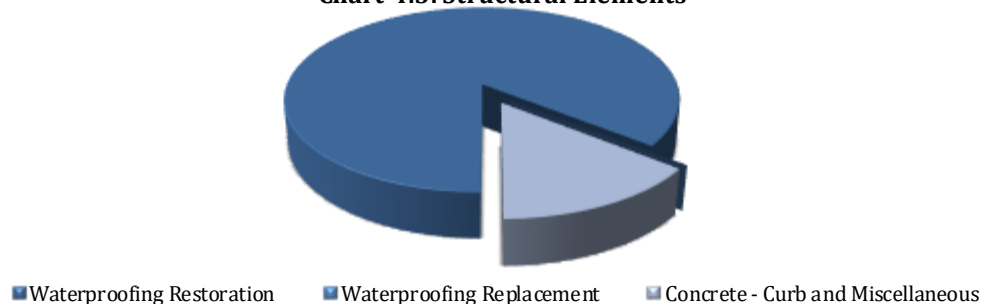
Photograph 3: Parkade Level.

The slab-on-grade parkade floor positively slopes towards the drains, and control joints have been installed to promote and control cracking from normal concrete shrinkage. Replacement of the structural components is not typically performed and budgets have not been carried in the study. We have included a partial allowance for select concrete replacement, which would typically include replacement of damaged exposed concrete finishes, spalling/delamination and general surface scaling.

Table 4.3: Structural Elements

STRUCTURAL ELEMENTS		Condition	Expenditure (\$)	Spread (Yrs)	Budget (\$/yr)	Expected Life (Yrs)	Adjusted Age (Yrs)	Remaining (Yrs)	Total Cost
4.3.1	Waterproofing Restoration	Fair/Poor	\$238,000	1	\$238,000	15	13	2	\$476,000
4.3.2	Waterproofing Replacement	Fair	\$590,000	2	\$295,000	35	9	26	\$0
4.3.3	Concrete - Curb and Miscellaneous	Fair	\$80,000	3	\$26,667	25	9	16	\$80,000

Chart 4.3: Structural Elements



4.4 Mechanical Systems

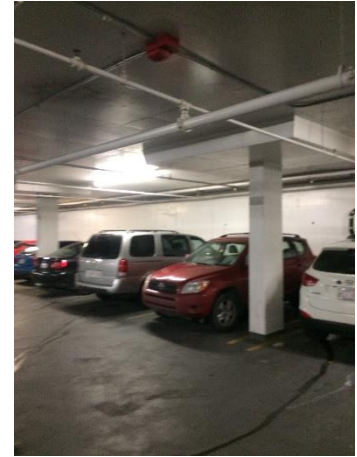
This section includes replacement of the various mechanical systems and equipment throughout the buildings. The service life of these items is dependent on the frequency of servicing and degree of maintenance. Therefore it is possible that the actual service life of a given component may exceed the normal life if the item is well maintained. Please note that systems or components located inside the residential units are not considered common property and are excluded from the study, unless specifically outlined in the bylaws.

It may not be economically beneficial to rebuild a component when it has reached the end of its normal life as new energy efficient technology could be employed and may justify early replacement. We note that the mechanical systems have a direct effect on the building envelope and improper operation can lead to premature building envelope failure. The following list of major items is located throughout the building:

- Water Distribution/Drainage System
- Heaters
- Make-Up Air Units
- Exhaust System
- Mechanical Controls

Isolated leaks in both the heating piping and water/drainage piping should be repaired on an "as needed" basis, however replacement should be considered when it is more economical than select repair. Monitoring and recording locations and frequency of pipe leaks will help to determine when a replacement program should be implemented. Ultra sonic testing, to determine the existing pipe wall thickness in localized areas, could be completed in the future and would assist in scheduling the replacement. The actual timing of the replacement and costs will be influenced by factors such as the quality, quantity and configuration of the piping and its installation and the quality of interior finishes that will be affected during the work. The timing of the replacement will be a function of the rate of failure that occurs in the piping.

The storm and sanitary services consist of the underground lines that could be constructed of concrete and/or cast iron, which can deteriorate over time. Visual inspection of these underground services was not performed as part of this report. Typically, the sewer piping will not require complete replacement. We have not allowed for full replacement of the various underground service lines at this time; however we have provided an allowance for selected repair/replacement of lengths of pipe. Should repairs become significant or too frequent, replacement of the systems could be required.



Photograph 4: Parkade Level.



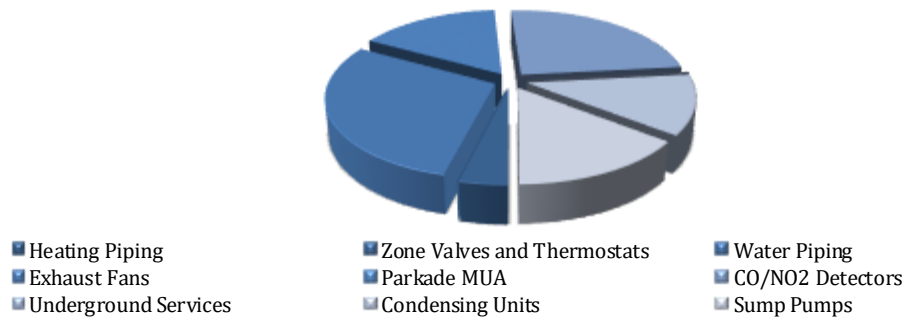
Photograph 5: Surface Lot Drainage.



Table 4.4: Mechanical Systems

MECHANICAL SYSTEMS		Condition	Expenditure (\$)	Spread (Yrs)	Budget (\$/yr)	Expected Life (Yrs)	Adjusted Age (Yrs)	Remaining (Yrs)	Total Cost
4.4.1	Heating Piping	Good/Fair	\$80,000	2	\$40,000	45	9	36	\$0
4.4.2	Zone Valves and Thermostats	Good	\$8,000	2	\$4,000	20	9	11	\$8,000
4.4.3	Water Piping	Good/Fair	\$25,000	2	\$12,500	45	9	36	\$0
4.4.4	Exhaust Fans	Good	\$60,000	2	\$30,000	25	9	16	\$60,000
4.4.5	Parkade MUA	Good/Fair	\$33,000	1	\$33,000	25	9	16	\$33,000
4.4.6	CO/NO2 Detectors	Good	\$25,000	2	\$12,500	15	9	6	\$50,000
4.4.7	Underground Services	Good/Fair	\$50,000	1	\$50,000	45	9	36	\$0
4.4.8	Condensing Units	Good	\$25,000	2	\$12,500	20	9	11	\$25,000
4.4.9	Sump Pumps	Good/Fair	\$15,000	1	\$15,000	15	9	6	\$30,000

Chart 4.4: Mechanical





4.5 Electrical Systems

The electrical systems and equipment will require continued maintenance and eventual replacement. The following list of items is located within the electrical room and throughout the building:

- Electrical disconnects
- Equipment disconnects
- Distribution centers
- Intercoms
- Light system
- Video surveillance system



Photograph 6: Parkade Level.

A proper preventive maintenance schedule typically includes periodic cleaning and infrared scans of all panel, disconnects, motor starters and distribution centers. It is recommended that this practice be implemented. In addition, it would be anticipated that such a maintenance program would need to be increased in frequency as the buildings age.

The security system is comprised of keyless access readers, alarmed doors, closed circuit video camera system, monitor and video recording software. We understand that camera locations are located within the main floor and parkade. The system is serviced on a regular basis. We have included an allowance for office equipment, electrical equipment and common area electrical appliances below.

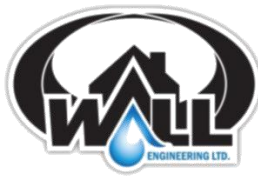
Table 4.5: Electrical Systems

ELECTRICAL SYSTEMS		Condition	Expenditure (\$)	Spread (Yrs)	Budget (\$/yr)	Expected Life (Yrs)	Adjusted Age (Yrs)	Remaining (Yrs)	Total Cost
4.5.1	Lighting System	Good/Fair	\$15,000	1	\$15,000	20	9	11	\$15,000
4.5.2	Electrical Distribution	Good/Fair	\$50,000	1	\$50,000	45	9	36	\$0
4.5.3	Intercoms	Good/Fair	\$5,000	1	\$5,000	20	9	11	\$5,000
4.5.4	Keyless Access Readers	Good/Fair	\$8,000	1	\$8,000	15	9	6	\$16,000
4.5.5	Security System	Good/Fair	\$10,000	1	\$10,000	15	9	6	\$20,000

Chart 4.5: Electrical Systems



■ Lighting System ■ Electrical Distribution ■ Intercoms ■ Keyless Access Readers ■ Security System



4.6 Fire Safety Systems

This section includes components required to maintain occupant safety in the event of fire within the building. These components should be maintained on a regular basis to ensure functionality and prevent premature deterioration. We note the following:

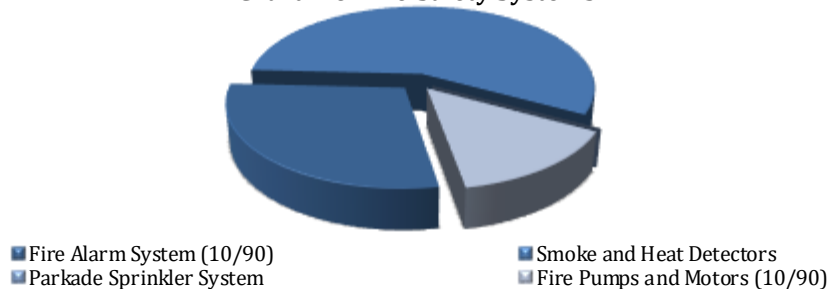
The fire system is tested and serviced on an annual/monthly basis. The fire suppression system includes multiple fire pumps and fire jockey pump station.

The alarm system is located throughout the building on each floor and is comprised of pull stations, horn strobes and smoke detectors / heat sensors. Replacement allowance costs of the current devices is included but does not include the cost for replacement of the wiring as it is expected to outlast the term of this study. The common area sprinkler system has been included to repair isolated sections, however, the complete allowance may not be required over the term of the study.

Table 4.6: Fire Safety Systems

FIRE SAFETY SYSTEMS		Condition	Expenditure (\$)	Spread (Yrs)	Budget (\$/yr)	Expected Life (Yrs)	Adjusted Age (Yrs)	Remaining (Yrs)	Total Cost
4.6.1	Fire Alarm System (10/90)	Good/Fair	\$10,000	1	\$10,000	20	9	11	\$10,000
4.6.2	Smoke and Heat Detectors	Good/Fair	\$10,000	1	\$10,000	15	9	6	\$20,000
4.6.3	Parkade Sprinkler System	Good/Fair	\$250,000	2	\$125,000	45	9	36	\$0
4.6.4	Fire Pumps and Motors (10/90)	Good/Fair	\$5,000	1	\$5,000	20	9	11	\$5,000

Chart 4.6: Fire Safety Systems





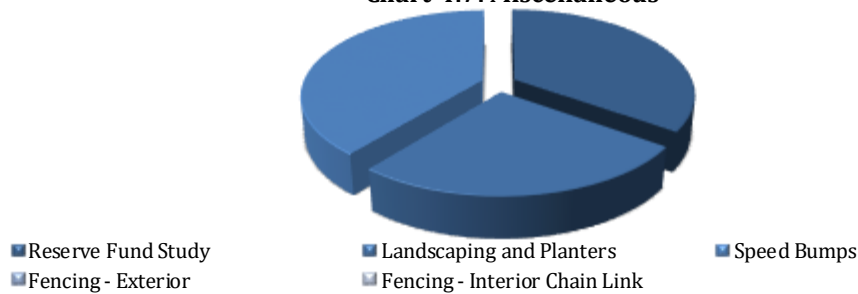
4.7 Miscellaneous Items

The following miscellaneous items have been included in the reserve fund study. An allowance to replace site fencing, as well as the various planters located throughout surface lot areas. This budget is not intended to perform annual landscaping maintenance in select planters, this is assumed to be covered in the operations and maintenance budgets.

Table 4.7: Miscellaneous

MISCELLANEOUS		Condition	Expenditure (\$)	Spread (Yrs)	Budget (\$/yr)	Expected Life (Yrs)	Adjusted Age (Yrs)	Remaining (Yrs)	Total Cost
4.7.1	Reserve Fund Study	Good	\$8,000	1	\$8,000	5	0	5	\$40,000
4.7.2	Landscaping and Planters	Good/Fair	\$30,000	1	\$30,000	20	9	11	\$30,000
4.7.3	Speed Bumps	Fair	\$15,000	1	\$15,000	8	5	3	\$45,000
4.7.4	Fencing - Exterior	Good/Fair	\$40,000	1	\$40,000	35	9	26	\$0
4.7.5	Fencing - Interior Chain Link	Good/Fair	\$10,000	1	\$10,000	35	9	26	\$0

Chart 4.7: Miscellaneous





5.0 DISCUSSION

The following Summary Table lists all proposed major capital items included in calculating the annual contributions. The summary includes the current costs of the work, expected service life, present age and the estimated remaining life.

Cash flow projections are presented for the Corporation's review. The projections calculate the closing balances and required contributions for the next 25 years of the building's life. In accordance with the Condominium Property Act, the Corporation must select and approve a cash flow projection and develop a plan for adequately funding and maintaining the reserve fund. These amounts are designated for capital expenditures and allocated in the reserve fund. These funds are in addition to other condominium fees which the Corporation may normally assess for maintenance and operations.

As there are numerous factors that can affect the longevity and performance of a component, it is difficult to accurately predict the anticipated expenditures over the 25-year period. In some cases, components could require replacement earlier or later than what is noted in this document. It is therefore essential that the Corporation understand that the reserve fund report should be used to establish fees and expenditures for the first three to five years (note that the legislation requires that the plan be updated at a period not to exceed five years). Annual contributions could then be adjusted as required.

In addition, the Corporation may wish to consider updating only the financial calculations for the reserve fund annually, similar to updating the maintenance and operating budgets. This would consist of recording the actual work performed in that year, updating the costs and possibly modifying the expenditures in the short term.

We have assumed that as of the 2017 year end, the balance in the reserve fund will be approximately \$307,459.00 (as of March 1, 2017). We have tried to maintain a minimum fund balance of \$100,000 (increased for inflation) throughout the 25 year period where possible.



Table 5.1: Summary Table

ROOFING		Cond.	Expenditure (\$)	Spread (Yrs)	Budget (\$/yr)	Expected Life (Yrs)	Adjusted Age (Yrs)	Remaining (Yrs)	Total Cost
4.1.1	Parkade Roof	Fair	\$524,000	1	\$524,000	35	9	26	\$0
4.1.2	Restoration Allowance	Fair	\$45,000	1	\$45,000	15	9	6	\$90,000
4.1.3	Concrete Replacement	Fair	\$60,000	1	\$60,000	30	9	21	\$60,000
EXTERIOR/INTERIOR ITEMS									
		Condition	Expenditure (\$)	Spread (Yrs)	Budget (\$/yr)	Expected Life (Yrs)	Adjusted Age (Yrs)	Remaining (Yrs)	Total Cost
4.2.1	Common Area Hallway/Stairwell/Lobby	Fair	\$15,000	7	\$2,143	20	9	11	\$15,000
4.2.2	Common Area Rooms	Fair	\$2,000	1	\$2,000	20	9	11	\$2,000
4.2.3	Common Area Doors	Good/Fair	\$27,000	7	\$3,857	45	9	36	\$0
4.2.4	Overhead Doors - Replacement	Fair	\$54,000	1	\$54,000	15	9	6	\$108,000
4.2.5	Painting - Allowance	Fair	\$50,000	1	\$50,000	15	9	6	\$100,000
STRUCTURAL ELEMENTS									
		Condition	Expenditure (\$)	Spread (Yrs)	Budget (\$/yr)	Expected Life (Yrs)	Adjusted Age (Yrs)	Remaining (Yrs)	Total Cost
4.3.1	Waterproofing Restoration	Fair/Poor	\$238,000	1	\$238,000	15	13	2	\$476,000
4.3.2	Waterproofing Replacement	Fair	\$590,000	2	\$295,000	35	9	26	\$0
4.3.3	Concrete - Curb and Miscellaneous	Fair	\$80,000	3	\$26,667	25	9	16	\$80,000
MECHANICAL SYSTEMS									
		Condition	Expenditure (\$)	Spread (Yrs)	Budget (\$/yr)	Expected Life (Yrs)	Adjusted Age (Yrs)	Remaining (Yrs)	Total Cost
4.4.1	Heating Piping	Good/Fair	\$80,000	2	\$40,000	45	9	36	\$0
4.4.2	Zone Valves and Thermostats	Good	\$8,000	2	\$4,000	20	9	11	\$8,000
4.4.3	Water Piping	Good/Fair	\$25,000	2	\$12,500	45	9	36	\$0
4.4.4	Exhaust Fans	Good	\$60,000	2	\$30,000	25	9	16	\$60,000
4.4.5	Parkade MUA	Good/Fair	\$33,000	1	\$33,000	25	9	16	\$33,000
4.4.6	CO/NO2 Detectors	Good	\$25,000	2	\$12,500	15	9	6	\$50,000
4.4.7	Underground Services	Good/Fair	\$50,000	1	\$50,000	45	9	36	\$0
4.4.8	Condensing Units	Good	\$25,000	2	\$12,500	20	9	11	\$25,000
4.4.9	Sump Pumps	Good/Fair	\$15,000	1	\$15,000	15	9	6	\$30,000
ELECTRICAL SYSTEMS									
		Condition	Expenditure (\$)	Spread (Yrs)	Budget (\$/yr)	Expected Life (Yrs)	Adjusted Age (Yrs)	Remaining (Yrs)	Total Cost
4.5.1	Lighting System	Good/Fair	\$15,000	1	\$15,000	20	9	11	\$15,000
4.5.2	Electrical Distribution	Good/Fair	\$50,000	1	\$50,000	45	9	36	\$0
4.5.3	Intercoms	Good/Fair	\$5,000	1	\$5,000	20	9	11	\$5,000
4.5.4	Keyless Access Readers	Good/Fair	\$8,000	1	\$8,000	15	9	6	\$16,000
4.5.5	Security System	Good/Fair	\$10,000	1	\$10,000	15	9	6	\$20,000
FIRE SAFETY SYSTEMS									
		Condition	Expenditure (\$)	Spread (Yrs)	Budget (\$/yr)	Expected Life (Yrs)	Adjusted Age (Yrs)	Remaining (Yrs)	Total Cost
4.6.1	Fire Alarm System (10/90)	Good/Fair	\$10,000	1	\$10,000	20	9	11	\$10,000
4.6.2	Smoke and Heat Detectors	Good/Fair	\$10,000	1	\$10,000	15	9	6	\$20,000
4.6.3	Parkade Sprinkler System	Good/Fair	\$250,000	2	\$125,000	45	9	36	\$0
4.6.4	Fire Pumps and Motors (10/90)	Good/Fair	\$5,000	1	\$5,000	20	9	11	\$5,000
MISCELLANEOUS									
		Condition	Expenditure (\$)	Spread (Yrs)	Budget (\$/yr)	Expected Life (Yrs)	Adjusted Age (Yrs)	Remaining (Yrs)	Total Cost
4.7.1	Reserve Fund Study	Good	\$8,000	1	\$8,000	5	0	5	\$40,000
4.7.2	Landscaping and Planters	Good/Fair	\$30,000	1	\$30,000	20	9	11	\$30,000
4.7.3	Speed Bumps	Fair	\$15,000	1	\$15,000	8	5	3	\$45,000
4.7.4	Fencing - Exterior	Good/Fair	\$40,000	1	\$40,000	35	9	26	\$0
4.7.5	Fencing - Interior Chain Link	Good/Fair	\$10,000	1	\$10,000	35	9	26	\$0

Total Expenditures For 25 Year Period: \$1,343,000



Table 5.2: Expenditure Timeline

Item Description	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
ROOFING												
4.1.1 Parkade Roof												
4.1.2 Restoration Allowance						\$45,000						
4.1.3 Concrete Replacement												
EXTERIOR/INTERIOR ITEMS												
4.2.1 Common Area Hallway/Stairwell/Lobby								\$2,143	\$2,143	\$2,143	\$2,143	\$2,143
4.2.2 Common Area Rooms											\$2,000	
4.2.3 Common Area Doors												
4.2.4 Overhead Doors - Replacement						\$54,000						
4.2.5 Painting - Allowance						\$50,000						
STRUCTURAL ELEMENTS												
4.3.1 Waterproofing Restoration		\$238,000										
4.3.2 Waterproofing Replacement												
4.3.3 Concrete - Curb and Miscellaneous												
MECHANICAL SYSTEMS												
4.4.1 Heating Piping												
4.4.2 Zone Valves and Thermostats											\$4,000	\$4,000
4.4.3 Water Piping												
4.4.4 Exhaust Fans												
4.4.5 Parkade MUA												
4.4.6 CO/NO2 Detectors						\$12,500	\$12,500					
4.4.7 Underground Services												
4.4.8 Condensing Units											\$12,500	\$12,500
4.4.9 Sump Pumps						\$15,000						
ELECTRICAL SYSTEMS												
4.5.1 Lighting System											\$15,000	
4.5.2 Electrical Distribution												
4.5.3 Intercoms											\$5,000	
4.5.4 Keyless Access Readers						\$8,000						
4.5.5 Security System						\$10,000						
FIRE SAFETY SYSTEMS												
4.6.1 Fire Alarm System (10/90)											\$10,000	
4.6.2 Smoke and Heat Detectors						\$10,000						
4.6.3 Parkade Sprinkler System												
4.6.4 Fire Pumps and Motors (10/90)											\$5,000	
MISCELLANEOUS												
4.7.1 Reserve Fund Study					\$8,000					\$8,000		
4.7.2 Landscaping and Planters											\$30,000	
4.7.3 Speed Bumps			\$15,000								\$15,000	
4.7.4 Fencing - Exterior												
4.7.5 Fencing - Interior Chain Link												
EXPENDITURES PER YEAR												
Total Expenditure	\$0	\$238,000	\$15,000	\$0	\$8,000	\$204,500	\$12,500	\$2,143	\$2,143	\$10,143	\$100,643	\$18,643
Total Expenditure Including Inflation	\$0	\$240,856	\$15,362	\$0	\$8,391	\$217,068	\$13,427	\$2,329	\$2,357	\$11,292	\$113,393	\$21,257



Table 5.2: Expenditure Timeline (Continued)

Item Description	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
ROOFING													
4.1.1 Parkade Roof													
4.1.2 Restoration Allowance									\$45,000				
4.1.3 Concrete Replacement									\$60,000				
EXTERIOR/INTERIOR ITEMS													
4.2.1 Common Area Hallway/Stairwell/Lobby	\$2,143	\$2,143											
4.2.2 Common Area Rooms													
4.2.3 Common Area Doors													
4.2.4 Overhead Doors - Replacement									\$54,000				
4.2.5 Painting - Allowance									\$50,000				
STRUCTURAL ELEMENTS													
4.3.1 Waterproofing Restoration					\$238,000								
4.3.2 Waterproofing Replacement													
4.3.3 Concrete - Curb and Miscellaneous			\$26,667	\$26,667	\$26,667								
MECHANICAL SYSTEMS													
4.4.1 Heating Piping													
4.4.2 Zone Valves and Thermostats													
4.4.3 Water Piping													
4.4.4 Exhaust Fans				\$30,000	\$30,000								
4.4.5 Parkade MUA				\$33,000									
4.4.6 CO/NO2 Detectors									\$12,500	\$12,500			
4.4.7 Underground Services													
4.4.8 Condensing Units													
4.4.9 Sump Pumps									\$15,000				
ELECTRICAL SYSTEMS													
4.5.1 Lighting System													
4.5.2 Electrical Distribution													
4.5.3 Intercoms													
4.5.4 Keyless Access Readers									\$8,000				
4.5.5 Security System									\$10,000				
FIRE SAFETY SYSTEMS													
4.6.1 Fire Alarm System (10/90)													
4.6.2 Smoke and Heat Detectors									\$10,000				
4.6.3 Parkade Sprinkler System													
4.6.4 Fire Pumps and Motors (10/90)													
MISCELLANEOUS													
4.7.1 Reserve Fund Study			\$8,000					\$8,000					\$8,000
4.7.2 Landscaping and Planters													
4.7.3 Speed Bumps							\$15,000						
4.7.4 Fencing - Exterior													
4.7.5 Fencing - Interior Chain Link													
EXPENDITURES PER YEAR													
Total Expenditure	\$2,143	\$2,143	\$34,667	\$89,667	\$294,667	\$0	\$15,000	\$8,000	\$264,500	\$12,500	\$0	\$0	\$8,000
Total Expenditure Including Inflation	\$2,473	\$2,502	\$40,967	\$107,236	\$356,631	\$0	\$18,593	\$10,035	\$335,765	\$16,058	\$0	\$0	\$10,652

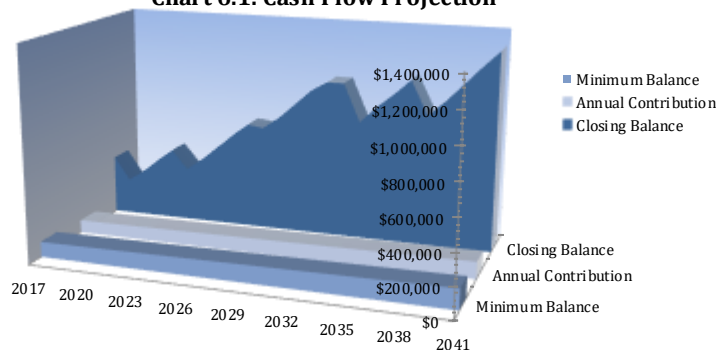


6.0 RECOMMENDATIONS – CASH FLOW PROJECTIONS

6.1 Cash Flow Projection Scenario 1

Parameters:				Projection Information:			
1. For Year Starting:	2017	1. Initial Contribution:	\$84,300				
2. Interest Rate:	0.5%	2. Annual Increase Thereafter:	1.25%				
3. Inflation Rate:	1.2%						
Comments:							
This Scenario Provides Sufficient Funding Until 2052. Additional funding is required in subsequent years.							
Year	Opening Fund Balance	Annual Contribution	Special Assessments	Expenditure	Interest	Closing Balance	
1 2017	\$307,459	\$84,300		\$0	\$1,748	\$393,507	
2 2018	\$393,507	\$85,354		\$240,856	\$1,579	\$239,584	
3 2019	\$239,584	\$86,421		\$15,362	\$1,376	\$312,018	
4 2020	\$312,018	\$87,501		\$0	\$1,779	\$401,297	
5 2021	\$401,297	\$88,595		\$8,391	\$2,207	\$483,708	
6 2022	\$483,708	\$89,702		\$217,068	\$2,100	\$358,442	
7 2023	\$358,442	\$90,823		\$13,427	\$1,986	\$437,824	
8 2024	\$437,824	\$91,959		\$2,329	\$2,413	\$529,866	
9 2025	\$529,866	\$93,108		\$2,357	\$2,876	\$623,493	
10 2026	\$623,493	\$94,272		\$11,292	\$3,325	\$709,798	
11 2027	\$709,798	\$95,450		\$113,393	\$3,504	\$695,359	
12 2028	\$695,359	\$96,644		\$21,257	\$3,665	\$774,411	
13 2029	\$774,411	\$97,852		\$2,473	\$4,111	\$873,901	
14 2030	\$873,901	\$99,075		\$2,502	\$4,611	\$975,084	
15 2031	\$975,084	\$100,313		\$40,967	\$5,024	\$1,039,453	
16 2032	\$1,039,453	\$101,567		\$107,236	\$5,183	\$1,038,968	
17 2033	\$1,038,968	\$102,837		\$356,631	\$4,560	\$789,734	
18 2034	\$789,734	\$104,122		\$0	\$4,209	\$898,065	
19 2035	\$898,065	\$105,424		\$18,593	\$4,707	\$989,604	
20 2036	\$989,604	\$106,741		\$10,035	\$5,190	\$1,091,500	
21 2037	\$1,091,500	\$108,076		\$335,765	\$4,888	\$868,698	
22 2038	\$868,698	\$109,427		\$16,058	\$4,577	\$966,644	
23 2039	\$966,644	\$110,795		\$0	\$5,110	\$1,082,548	
24 2040	\$1,082,548	\$112,179		\$0	\$5,693	\$1,200,421	
25 2041	\$1,200,421	\$113,582		\$10,652	\$6,259	\$1,309,610	
TOTALS		\$2,456,117		(\$1,546,646)	\$92,681		

Chart 6.1: Cash Flow Projection





7.0 CLOSURE

Please note that the services provided in connection with this project did not include identification, assessment, or presentation of opinions with respect to hazardous or potentially hazardous materials including but not limited to asbestos, mould, mildew or fungus in any form.

Any costs presented are not an estimate but a reasoned allowance based on generally accepted broad unit rates and past experience. Actual costs may vary depending on local market conditions, phasing of the repairs, timing of the repairs, unforeseen conditions due to the hidden nature of the work, and specific use of site or access requirements based on use and occupancy for the facility. Costs are presented in 2016 dollars.

Trusting this study meet your present requirements, we respectfully remain at your service. If you have any questions, please contact our office at your convenience.

Yours truly,
Wall Engineering Ltd.

A handwritten signature in blue ink, appearing to read "Elie Filion".

Elie Filion, B.A.Sc., P.Eng.
Project Engineer
Building Science & Restoration