

**RESERVE FUND STUDY  
CARLETON CONDOMINIUM CORPORATION  
# 286**

**PREPARED FOR: CARLETON CONDOMINIUM CORPORATION #286**

**PREPARED BY: Newbridge Engineering Inc.**

**DATE: February 18, 2020**

## **EXECUTIVE SUMMARY**

CCC #286 has been well maintained and in general the complex is in very good condition for its age. Many of the common elements will require repair or replacement over the length of this thirty-year study period (2019/20-2049/50). This is not because of any unusual issues, but simply due to normal life cycle renewal of the common elements.

Based on our visual inspections and the anticipated future expenditures, we recommend that the annual reserve fund contribution be thirty-one thousand one hundred and twenty-four dollars (\$31,124) in 2020/21, Thirty-one thousand nine hundred and eighty dollars (\$31,980) in 2021/22 and thirty-two thousand eight hundred and fifty-nine dollars (\$32,859) in 2022/23. We also recommend that the annual reserve fund contribution be increased an additional 2.75% each year from 2022/23 until the end of the study period in 2049/50. This is a decrease from the 3.00% per year increase that was recommended in the previous study. This reduction is mainly the result of the elevator replacement in 2019/20 coming in under budget. It is also the result of being able to reschedule some of the future repairs to a later date than was scheduled in the previous study. We have incorporated these increases into the spreadsheet provided in appendix 'A'.

This report outlines the scope of work and the methodology of the Reserve Fund Study along with our recommendations for the repair, maintenance and replacement of the common elements for which the Condominium Corporation is responsible.

A spreadsheet is provided in appendix "A".

Photographs are provided in appendix "B".

Charts are provided in appendix "C".

A Plan For Future Funding (Form 15) is provided in appendix "D".

### **Major Repairs and Replacement:**

Major repairs and replacement work required over the study period of the Reserve Fund Study include the following elements:

- Balcony refurbishing
- Caulking and exterior window refinishing
- Chimney flue replacement
- Carpeting
- Elevator modernization
- Roofing

### **Maintenance:**

Miscellaneous maintenance & repairs may be required using funds from the annual operating budget to correct deficiencies affecting common elements. Some of these maintenance items are as follows:

- Miscellaneous exterior building repairs
- Miscellaneous interior building repairs
- Landscaping repairs
- Sewer cleaning

To ensure the longevity of the serviceability of the buildings common elements, timely repairs and maintenance work should be carried out as required.

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## RESERVE FUND STUDY FOR CCC #286

### 1. INTRODUCTION

Carleton Condominium Corporation #286 commissioned Newbridge Engineering Inc. to inspect the common elements of its complex and prepare the following Reserve Fund Study. The work included a visual inspection of the common architectural and structural elements for which the Condominium is responsible.

It is our understanding that CCC #286 was constructed in approximately 1985.

This 34-year-old condominium 3-storey complex houses 12 units. The building structure consists of cast-in place, reinforced concrete foundation system of walls and footings. The exterior walls of the building are clad with brick masonry veneer. The roof system consists of a liquid-applied roofing membrane protected by insulation and gravel ballast. The building also includes a one-level parking garage situated under the building itself.

Other common elements of the building include entrance door systems, windows in the common stairwells, interior finishes and other typical building envelope elements, such as joint sealants, steel lintels, painted steel balcony railings, and miscellaneous cladding elements.

Mechanical and electrical systems throughout the building include various air handling systems, water services systems, an elevator, lighting, the fire alarm system, the door entry system and other miscellaneous elements.

The common property elements also include all site services (such as water supply, electrical supply, sewer systems, and grounds lighting), common walkways, retaining walls and landscaped grounds.

### 2. STUDY OBJECTIVE

The purpose of this Study is to establish a plan for major repairs and replacement work encompassing all common property elements for which the Condominium is responsible. The Reserve Fund Study contains findings about the current conditions of the common elements. Capital expenditure predictions over the next thirty (30) years are tabulated.

Although we recommend reserve fund contributions or funding levels, these should be set by the Board of Directors to properly reflect the perceived needs and planning objectives set out by the Board of Directors of CCC #286.

### **3. BACKGROUND INFORMATION**

The Board of Directors provided background information. This information included audited financial statements and a record of the reserve fund expenditures over the last three years. Site inspections were carried out during the month of October 2019.

### **4. ASSUMPTIONS AND LIMITATIONS**

The accuracy of the discussions, conclusions, and cost information contained in this Study is limited to the extent of information available at this time. The assessment of the conditions of the common property elements is based upon visual examination only. No destructive test or performance monitoring was conducted.

Projections of component life expectancy assume that the Condominium Corporation will provide good and timely periodic maintenance. This Study does not make allowances for the effects of rare events such as flood, fire, lightning, earthquakes and explosions, etc.

It has been assumed that the expected standards of performance and appearance correspond to the current norm, and that building industry averages and manufacturers published data on components life expectancy apply to these structures and elements.

**Note:** This report is intended for the sole use of CCC #286, and is not to be distributed to or used by others without the consent of Newbridge Engineering Inc. It is based on documents and information provided to Newbridge Engineering Inc. by the Property Manager and the Board. It is assumed that all documents, information, correspondence, data, invoices and reports that were furnished to us are accurate.

### **5. REPAIR / REPLACEMENT COSTS**

#### **5.1 Determination of Repair / Replacement Costs**

The procedures for determining the repair or replacement costs of the property common elements involve site inspections, quantity take-offs from drawings, cost calculations, estimates, quotations and a spreadsheet layout. These procedures are described in detail in this report.

First, an on site visual investigation is performed to assess the general conditions of the property common elements. This site work also allows the determination of the type of repair or replacement work that will be required for each common element as well as the time when such work will likely be required.

Once the type and quantity of the repair or replacement work is known, the costs associated with such work are estimated. Newbridge Engineering Inc. has developed an extensive listing of unit costs for a wide variety of repair and replacement work that is typically addressed by the Reserve Fund Study. This list was compiled using prices obtained from repair and replacement contracts in which Newbridge Engineering Inc. was previously involved, as well as from estimates provided by manufacturers, suppliers, and contractors. For unique repair or replacement items, advice is generally obtained from a contractor with experience in his field. In such cases, the contractor examines the work and prepares an estimate for our use in the Reserve Fund Study.

## **5.2 Forecast**

Capital expenditures for repair and replacement of building components have been forecast in dollars of the year 2020. The most probable year(s) when these expenditures will be required have been set out in this report. Adjustments for inflation are made to the spreadsheet at 2.75 % per year. We feel that this should provide a fair average representative figure over the next thirty (30) years.

The expectant incurrence of an expense depends on a number of factors. The urgency of repair or replacement of some building components such as water supply, sanitary sewers and electrical mains must operate flawlessly at all times. The repair costs cannot be deferred. On the other hand, items such as caulking, paving or painting may not be required when the first blemish appears. The Board of Directors has considerable flexibility to delay or advance the time when funds will be spent on these non-essential types of repairs to suit the financial constraints of the Corporation's budget.

In most cases, expenses for each type of repair have been budgeted for the specific year in which the repair or replacement will likely be required. Repair or replacement of components will usually be carried out during one year rather than spreading the repairs or replacement out over a few years. For cases where repair or replacement of a component is not required throughout at the same time, it may be more cost effective to phase the work over two or more years. Phasing the work may also be necessary due to a lack of reserve funds. A prudent manager would be expected to determine whether phasing the work is cost effective and to have the work carried out accordingly. Some of the expenses outlined in the Reserve Fund Study may be incurred earlier than predicted, while other expenses may be incurred later than predicted. However, the accumulated reserve fund should be sufficient to pay for all these expenses as they become due.

### **5.3 Spreadsheet**

The main purpose of the spreadsheet is to determine the annual reserve fund contributions that are required to ensure that there will be sufficient funds to pay for all foreseeable expenditures over the next thirty (30) years.

To achieve this goal, all projected expenditures are entered into the spreadsheet and the cost predictions are summed up and then adjusted for inflation to determine the total expenditures to be incurred in each year.

The contributions ensure that enough funds are accumulated in the reserve fund to cover all anticipated expenditures as they become due. As well, the appropriation values and fee contributions by the owners can be anticipated over the next thirty (30) years. Leaving a surplus depends greatly on the Board of Directors. However it is recommended that a surplus be sought, as expenses will continue to be incurred beyond this study period.

In this report, as noted above, an annual inflation rate of 2.75% was used. While the inflation rate will fluctuate from year to year, an annual rate of 2.75% likely provides a reasonable representation of how prices will increase over the Reserve Fund Study period. Adjustments to inflation can be made during the regular Reserve Fund Study updates every three (3) years. Contributions from interest earned are included in the spreadsheet. An interest rate of 2.30% has been assumed, which should provide a reasonable representation over the next thirty (30) years. Like inflation, these numbers may fluctuate, and adjustments may be required when the Reserve Fund Study is updated in three (3) years.

## **6. TECHNICAL AUDIT AND COSTING**

The following sections include a brief technical discussion of the major components for which the Corporation is responsible; repair and or replacement costs, normal life expectancy, service life remaining, year of probable repair and or replacement and condition.

## 6.1 ARCHITECTURAL, CIVIL

### 6.1.1 Balconies

The balcony floors are cast-in-place concrete slabs with a waterproofing membrane applied to their surface. Metal railings protect the open side of the balconies. The three walls enclosing the balconies are brick veneer.

#### 6.1.1.a Railing Refinishing

The balcony railings have been refinished in the past and will need to be refinished again in the future before they are eventually replaced. The current condition of the railings varies from balcony to balcony. The railings on the balconies that are more exposed to the elements, i.e., the balconies facing Charlotte St. and Wilbrod St., appear to have the most deterioration on their surface.

Refinishing of the railings has been scheduled in the year(s) 2020/21 at an estimated cost of seven thousand dollars (\$7,000).

Refinishing of the railings has also been scheduled in the year(s) 2036/37 and 3046/47 at an estimated cost of five thousand dollars (\$5,000) each year. The refinishing allowances are lower in these years because the railings are scheduled for replacement in 2026/27 and will require minimum refinishing for a number of years thereafter.

The total estimated cost to refinish the balcony railings over the length of the study period is therefore \$17,000 (\$7,000 + \$5,000 X 2).

<b>RAILING REFINISHING</b>	
<b>Cost</b>	\$17,000 (\$7,000/yr. x 1 + \$5,000/yr. x 2)
<b>Normal life expectancy</b>	5-10 yr.
<b>Service life remaining</b>	0-1 yr.
<b>Refinishing year(s)</b>	2020/21, 2036/37, 2046/47
<b>Quantity</b>	56 m
<b>Condition</b>	Fair/Satisfactory

### 6.1.1.b Railing Replacement

Eventually the railings will deteriorate to the point where refinishing will no longer be an option and they will have to be replaced. The normal life expectancy of balcony railings is 30-40 years.

Replacement of the railings has been scheduled in the year(s) 2026/27 at an estimated cost of twenty-five thousand three hundred dollars (\$25,300).

The total estimated cost to replace the balcony railings over the length of the study period is therefore \$25,300.

<b>RAILING REPLACEMENT</b>	
<b>Cost</b>	\$25,300
<b>Normal life expectancy</b>	30-40 yr.
<b>Service life remaining</b>	5-6 yr.
<b>Replacement year(s)</b>	2026/27
<b>Quantity</b>	56 m
<b>Condition</b>	Fair/Satisfactory

### 6.1.1.c Waterproofing Membranes

It is our understanding that the waterproofing membranes were applied to the balcony floor slabs in 2003. The membranes appear to be in satisfactory condition.

The normal life expectancy of this type of membrane is approximately 10-15 years. We recommend that the membranes be inspected by a qualified membrane contractor in order to assess their current condition.

Replacement of the membranes has been scheduled in the year(s) 2021/22 and 2036/37 at an estimated cost of thirty-three thousand four hundred and twenty dollars (\$33,420) each year.

The total estimated cost to replace the balcony membranes over the length of the study period is therefore \$66,840 (\$33,420 x 2).

<b>WATERPROOFING MEMBRANES</b>	
<b>Cost</b>	\$66,840 (\$33,420/yr. x 2)
<b>Normal life expectancy</b>	10-15 yr.
<b>Service life remaining</b>	1-2 yr.
<b>Replacement year(s)</b>	2021/22, 2036/37
<b>Quantity</b>	130 m <sup>2</sup>
<b>Condition</b>	Satisfactory

### 6.1.2 Brick Masonry

The brick veneer on the building in general is in satisfactory condition.

Repair of any existing cracks on the retaining walls has been scheduled in 2020/21 at an estimated cost of six thousand dollars (\$6,000).

<b>BRICK REPAIRS (CURRENT)</b>	
<b>Cost</b>	\$6,000
<b>Normal life expectancy</b>	N/A
<b>Service life remaining</b>	1-2 yr.
<b>Repair year(s)</b>	2020/21
<b>Quantity</b>	N/A
<b>Condition</b>	Satisfactory

We observed that the brick window sills have been covered with prefinished metal caps as was recommended in our previous study. This will help reduce costly brick masonry repairs in the future.

There are also brick faced retaining walls located along the north and west property lines as well as outside the front entry. These walls are generally in satisfactory condition but will need periodic repairs. The most southerly section of these walls along the west property line is tilted towards the street, but it has been stabilized with cables and ground anchors. It is our understanding that this section will be removed and not replaced if it deteriorates any further.

An allowance of four thousand five hundred dollars (\$4,500) has been made every five years for future masonry repairs. This allowance is carried in the year(s) 2025/26, 2030/31, 2035/36, 2040/41 and 2045/46.

<b>BRICK REPAIR ALLOWANCE</b>	
<b>Cost</b>	\$22,500 (\$4,500/yr. x 5)
<b>Normal life expectancy</b>	N/A
<b>Service life remaining</b>	N/A
<b>Allowance year(s)</b>	2025/26, 2030/31, 2035/36, 2040/41, 2045/46
<b>Quantity</b>	N/A
<b>Condition</b>	N/A

The total estimated cost for masonry repairs over the length of the study period is therefore \$28,500 (\$6,000 + \$4,500 x 5).

### 6.1.3 Caulking & Exterior Window Refinishing

It is our understanding that the windows were repainted and re-caulked in 2012. It is also our understanding that several of the unit owners have installed new windows at their expense since that time and as a result the new windows were caulked when they were installed.

The caulking and the exterior surfaces of all window frames are common elements.

Replacement of the caulking and the refinishing of the exterior surfaces of the window frames has been scheduled until the year(s) 2022/23, 2032/33 and 2042/43 at an estimated cost of thirteen thousand four hundred and twenty dollars (\$13,420) each year. Any miscellaneous caulking repairs required before that time can be covered by the annual operating budget.

The total estimated cost to replace the caulking and refinish the exterior surfaces of the window frames over the length of the study period is therefore \$40,260 (\$13,420 x 3).

<b>CAULKING &amp; EXTERIOR WINDOW REFINISHING</b>	
<b>Cost</b>	\$40,260 (\$13,420/yr. x 3)
<b>Normal life expectancy</b>	8-10 yr.
<b>Service life remaining</b>	2-3 yr.
<b>Replacement year(s)</b>	2030/31
<b>Quantity</b>	N/A
<b>Condition</b>	Satisfactory

### **6.1.4 Chimneys**

Each apartment has a prefabricated metal fireplace and flue. The metal flues are contained within a brick masonry chimney. There are four chimneys, each containing three metal flues. The flues are a common element but the fireplaces are the unit owner's responsibility.

#### **6.1.4.a Chimney Caps (Concrete)**

The original concrete chimney caps have been covered with prefinished metal caps. Normally these caps would not require replacement during the study period. However if they are damaged when the flues are replaced, the caps may also need to be replaced at that time. The caps should be inspected periodically and re-caulked or repaired as required.

#### **6.1.4.b Chimney Flues**

The metal chimney flues are a common element but the metal fireboxes and the finishes around the fireplaces are the responsibility of the individual unit owners. We were unable to do a visual inspection of the metal chimney flues because they are completely enclosed. The life expectancy of a prefabricated metal fireplace and flue can vary depending on how often the fireplace is used and the type of fuel (wood or manufactured logs) that is burned. The life expectancy of a metal firebox is 30-35 years. Normally when an older firebox is replaced the flue is replaced at the same time. This is either because the flue is also deteriorated or will not conform to the new firebox. We are assuming the individual owners will not replace all the fireplaces at one time, but on an as needed basis. We have therefore spread an allowance for the replacement cost of the flues over several years.

The flues should be cleaned on a periodic basis to remove creosote buildups that could result in chimney fires. The creosote buildup will vary depending on the type of fuel that is used. Unseasoned (moist or green) wood will produce the most creosote when burned. Seasoned hardwoods (oak or fruitwoods) will produce much less creosote. Studies indicate that manufactured logs produce 75% less creosote accumulation in chimneys. It is our understanding that the Board arranges for a contractor to inspect the flues once per year and to clean them, as required. The Corporation should also have all the metal fireboxes inspected by a qualified fireplace technician on a regular basis to insure that they are safe to use.

Low burning fires also cause more creosote buildup. Fresh air will produce a cleaner and more efficient burn. The buildings fireplaces have a fresh air intake through the balcony walls into their fireboxes.

**Note:** *We have noticed in the past that some owners had blocked the fresh air intakes on the balcony wall. This was probably an attempt to reduce drafts into the interior of the apartments. Because of the reasons outlined above, it is important that these intakes not be blocked when the fireplaces are in use.*

One chimney flue on the top floor was replaced in late 2013. An allowance of thirteen thousand four hundred and twenty dollars (\$13,420) has been scheduled in the year(s) 2023/24, 2024/25, 2025/26 and 2026/27 for the replacement of the remaining flues. These costs are based on the assumption that the flues can be removed and replaced without dismantling the chimneys.

The total estimated cost to replace the chimney flues over the length of the study period is therefore \$53,680 (\$13,420 x 4).

<b>CHIMNEY FLUES</b>	
<b>Cost</b>	\$53,680 ( \$13,420 x 4)
<b>Normal life expectancy</b>	30-40 yr.
<b>Service life remaining</b>	5-6 yr.
<b>Replacement year(s)</b>	2023/24, 2024/25, 2025/26, 2026/27
<b>Quantity</b>	12
<b>Condition</b>	Satisfactory

### 6.1.5 Concrete

The building complex has several concrete components, which are outlined below. These components in general are in satisfactory condition.

#### 6.1.5.a Foundation Walls

In general the cast-in-place concrete foundation walls appear to be in good condition. There is no indication of damage to the foundation walls at this time. No allowance has been made in this Study for foundation wall repairs. If it is determined in the future that foundation repairs are required, allowances can be added to future studies.

In general the parging on the exterior walls is in satisfactory condition. Parging repairs will be required occasionally and are included in the masonry repair allowances.

### 6.1.5.b Garage Columns

There are a number of reinforced concrete load bearing columns in the garage. Three of these columns are freestanding and another thirteen are incorporated into the garage walls. Several others are located inside the locker storage areas. The bases of the columns have been repaired in recent years and a waterproofing coating has been applied. The columns are in satisfactory condition. The bases of both the concrete columns and the concrete block walls should be monitored periodically for damage from road salt.

### 6.1.5.c Garage Floor

The cast-in-place concrete slab-on-grade garage floor is in general in good condition for its age. Minor cracks and surface spalling should be repaired and sealed on a regular basis as they occur to prevent any serious deterioration.

An allowance of three thousand three hundred dollars (\$3,300) has been made every ten years for garage floor repairs. This allowance is carried in the year(s) 2022/23, 2032/33, and 2042/43.

The total estimated cost to repair the garage concrete floor over the length of the study period is therefore \$9,900 (\$3,300 x 3).

<b>GARAGE FLOOR REPAIRS</b>	
<b>Cost</b>	\$9,300 (\$3,300/yr. x 3)
<b>Normal life expectancy</b>	N/A
<b>Service life remaining</b>	N/A
<b>Repair year(s)</b>	2022/23, 2032/33, 2042/43
<b>Quantity</b>	N/A
<b>Condition</b>	Satisfactory

### 6.1.5.d Garage Ramp Drain

The concrete around the drain and the ironwork will need resetting as it ages.

An allowance of four thousand two hundred and forty dollars (\$4,240) has been made in 2028/29 to repair the drain.

The total estimated cost to repair the garage ramp drain over the length of the study period is therefore \$4,240.

<b>GARAGE RAMP DRAIN</b>	
<b>Cost</b>	\$4,240
<b>Normal life expectancy</b>	15-20 yr.
<b>Service life remaining</b>	8-10 yr.
<b>Repair year(s)</b>	2028/29
<b>Quantity</b>	1
<b>Condition</b>	Satisfactory

**Note:** *We recommend that road salt not be used on the garage ramp as it will accelerate deterioration of the concrete around the ramp drain and on the concrete garage floor and around the concrete columns. A non-corrosive de-icing agent should be used rather than salt.*

#### **6.1.5.e Retaining Walls**

Cast-in-place concrete retaining walls run along each side of the parking garage entrance ramp. They are in satisfactory condition but will need periodic repairs to the concrete and parging. If the walls are well maintained, complete replacement should not be required during the study period.

Parging repairs on the retaining walls have been included in the brick masonry repair allowance of \$6,000 in 2020/21.

Additional allowances of two thousand nine hundred and forty dollars (\$2,940) have been made in the year(s) 2030/31 and 2040/41 to maintain the integrity of the concrete and parging.

The total estimated cost for the concrete retaining wall maintenance over the length of the study period is therefore \$5,880 (\$2,940 x 2).

<b>CONCRETE RETAINING WALLS</b>	
<b>Cost</b>	\$5,880 (\$2,940/yr. x 2)
<b>Normal life expectancy</b>	30-40 yr.
<b>Service life remaining</b>	N/A
<b>Repair year(s)</b>	2030/31, 2040/41.
<b>Quantity</b>	2
<b>Condition</b>	Fair/Satisfactory

### 6.1.6 Doors

#### Exterior Doors

##### 6.1.6.a Entry Door (Front)

The front entry door system consists of a steel door in a steel frame with a glazed sidelite and transom.

Replacement of the front entry door has been scheduled in the year(s) 2033/34 at an estimated cost of two thousand five hundred and thirty dollars (\$2,530).

The total estimated cost to replace the front entry door over the length of the study period is therefore \$2,530.

<b>ENTRY DOOR (FRONT)</b>	
<b>Cost</b>	\$2,530
<b>Normal life expectancy</b>	25-30 yr.
<b>Service life remaining</b>	10-15 yr.
<b>Replacement year(s)</b>	2033/34
<b>Quantity</b>	1
<b>Condition</b>	Satisfactory

Regular maintenance or replacement of the entry door hardware should be covered with funds from the annual operating budget.

**6.1.6.b Entry Door (Rear)**

The rear entry door system consists of a wood door in a steel frame with a glazed transom.

Replacement of the rear entry door has been scheduled in the year(s) 2023/24 at an estimated cost of \$2,530.

The total estimated cost to replace the rear entry door over the length of the study period is therefore \$2,530.

<b>ENTRY DOOR (REAR)</b>	
<b>Cost</b>	\$2,530
<b>Normal life expectancy</b>	30-35 yr.
<b>Service life remaining</b>	2-3 yr.
<b>Replacement year(s)</b>	2023/24
<b>Quantity</b>	1
<b>Condition</b>	Satisfactory

**6.1.6.c Garage Door (Exit)**

A steel exit door from the garage is located at the south end of the building. With proper maintenance this door should not require replacing during the study period.

**6.1.6.d Garage Doors (Overhead)**

Two overhead wood sectional doors are located on the north end of the building. The lower sections are starting to show signs of deterioration. The normal life expectancy of this type of door is 15-20 years. However since these doors have been well maintained and since there are only twelve units in the building (resulting in little traffic), these doors have out performed their life expectancy. When the doors are replaced consideration should be given to replacing the wood doors with insulated doors with a more durable finish such as steel or fibreglass.

Replacement of the overhead doors has been scheduled in the year(s) 2022/23 and again in 2046/47 at an estimated cost of eight thousand and two hundred and ninety-eight dollars (\$8,298) each year.

The total estimated cost to replace the overhead garage doors over the length of the study period is therefore \$16,596 (\$8,298 x 2).

<b>GARAGE OVERHEAD DOORS</b>	
<b>Cost</b>	\$16,596 (\$8,298/yr. x 2)
<b>Normal life expectancy</b>	15-20 yr.
<b>Service life remaining</b>	2-3 yr.
<b>Replacement year(s)</b>	2022/23, 2046/47
<b>Quantity</b>	2
<b>Condition</b>	Fair

Each of the overhead garage doors has an electric door opener. The normal life expectancy of this type of opener is 5-10 years. These openers like the doors have out performed their life expectancy because of limited usage. We have therefore only budgeted for their replacement three times over the length of the study period.

Replacement of the electric door openers has been scheduled in the year(s) 2022/23, 2031/32 and 2046/47 at an estimated cost of four thousand four hundred and seventy-two dollars (\$4,472) each year.

The total estimated cost to replace the overhead garage door openers over the length of the study period is therefore \$13,416 (\$4,472 x 3).

<b>ELECTRIC GARAGE DOOR OPENERS</b>	
<b>Cost</b>	\$13,416 (\$4,472/yr. x 3)
<b>Normal life expectancy</b>	5-10 yr.
<b>Service life remaining</b>	2-3 yr.
<b>Replacement year(s)</b>	2022/23, 2031/32, 2046/47
<b>Quantity</b>	2
<b>Condition</b>	Satisfactory

The total estimated budget for the replacement of the overhead garage doors and openers over the length of the Study period is therefore \$30,012 (\$8,298 x 2 + \$4,472 x 3).

Regular maintenance of the overhead doors and openers should be covered with funds from the annual operating budget.

## Interior Doors

### 6.1.6.e Steel Doors

There are a number of interior steel doors located throughout the garage area. With proper maintenance these doors should not require replacing during the study period. Regular maintenance of these doors and their hardware should be covered with funds from the annual operating budget.

### 6.1.6.f Wood Doors (Common element)

There are a number of common element interior wood (oak) doors. These doors lead off the lobby to the front vestibule, garage and front stairway. They also lead off the corridors to the stairways and garbage chute rooms. The wood entry doors to each unit are not a common element. The Corporation is only responsible for maintaining the finish on the exterior of these doors to the units. All the common element interior wood doors are in satisfactory condition. The normal life expectancy of an interior wood door is 30-40 years.

An allowance of seventeen thousand eight hundred and ninety dollars (\$17,890) has been made in the year(s) 2030/31 to replace the interior common element wood doors.

The total estimated cost for the replacement of the interior common element wood doors over the length of the study period is therefore \$17,890.

Regular maintenance of these doors and their hardware should be covered with funds from the annual operating budget.

<b>INTERIOR WOOD DOORS (COMMON ELEMENT)</b>	
<b>Cost</b>	\$17,890
<b>Normal life expectancy</b>	30-40 yr.
<b>Service life remaining</b>	10 yr.
<b>Replacement year(s)</b>	2030/31
<b>Quantity</b>	12
<b>Condition</b>	Satisfactory

## 6.1.7 Interior Finishes

### 6.1.7.a Carpeting

The carpeting in the corridors and front stairway is in satisfactory condition.

Replacement of the carpeting has been scheduled in the year(s) 2022/23, 2034/35 and 2046/47 at an estimated cost of ten thousand and sixty dollars (\$10,060) each year.

The total estimated cost to replace the carpeting over the length of the study period is therefore \$30,180 (\$10,060 x3).

The carpet should be cleaned periodically with funds from the annual operating budget.

<b>CARPETING</b>	
<b>Cost</b>	\$30,180 (\$10,060/yr. x 3)
<b>Normal life expectancy</b>	8-12 yr.
<b>Service life remaining</b>	2- 3 yr.
<b>Replacement year(s)</b>	2022/23, 2034/35, 2046/47
<b>Quantity</b>	180 m <sup>2</sup>
<b>Condition</b>	Satisfactory

### 6.1.7.b Marble Tile

Marble (travertine) tile is installed on the floor and sections of the walls in the ground floor lobby area. The tiles have been well maintained and are in satisfactory condition. If they continue to be well maintained they should not require replacing over the length of the study period. They will however require refinishing to extend their life expectancy. A qualified marble refinisher can repair chips and cracks and polish scratched surfaces.

Refinishing can be covered with funds from the annual operating budget. If the floors are cleaned and polished by a contractor the cost would be approximately \$3-4/sf. If refurbished (grinding, filling & polishing) the cost would be approximately \$5-\$7/sf.

### 6.1.7.c Mirrors

Mirrors are installed on sections of the walls in the ground floor lobby and upper floor corridors. The mirrors have been well maintained and are in satisfactory condition. If they continue to be well maintained they should not require replacing over the length of the study period.

### 6.1.7.d Wood Paneling & Trim

Wood paneling and trim is installed throughout the lobby and corridor areas. If properly maintained the paneling and trim should not require replacement over the length of the study period but will require refinishing.

A refinishing allowance of five thousand one hundred and twenty dollars (\$5,120) has been made in the year(s) 2023/24 and 2043/44 to refinish the wood paneling and trim.

The total estimated cost for the refinishing of the wood paneling and trim over the length of the study period is therefore \$10,240 (\$5,120 x 2).

<b>WOOD PANELING &amp; TRIM</b>	
<b>Cost</b>	\$10,240 (\$5,120/yr. x 2)
<b>Normal life expectancy</b>	15-20 yr.
<b>Service life remaining</b>	3-4 yr.
<b>Refinishing year(s)</b>	2023/24, 2043/44
<b>Quantity</b>	N/A
<b>Condition</b>	Satisfactory

### 6.1.8 Landscaping

#### 6.1.8.a Interlocking Pavers

Interlocking pavers are installed on the walkways, entrances, exits and driveway ramp. The pavers are in satisfactory condition but will require replacement during the study period.

Replacement of the interlocking pavers has been scheduled in the year(s) 2022/23 at an estimated cost of sixteen thousand eight hundred and thirty dollars (\$16,830).

The total estimated cost to replace the interlocking pavers over the length of the study period is therefore \$16,830.

Periodic levelling of the pavers may be required in isolated areas before they are replaced. Levelling or repairs should be covered with funds from the annual operating budget.

<b>INTERLOCKING PAVERS</b>	
<b>Cost</b>	\$16,830
<b>Normal life expectancy</b>	20-30 yr.
<b>Service life remaining</b>	2-3yr.
<b>Replacement year(s)</b>	2022/23
<b>Quantity</b>	100 m <sup>2</sup>
<b>Condition</b>	Satisfactory

#### **6.1.8.b Planting**

The property has a number of trees and shrubs, which are in satisfactory condition. We have not carried a replacement allowance for the planting in this Study. Regular maintenance should be covered with funds from the annual operating budget.

#### **6.1.8.c Retaining Walls (Brick)**

As previously covered in section 6.1.2 Brick Masonry, there are brick faced retaining walls located along the north and west property lines as well as outside the front entry. These walls are in satisfactory condition but will need periodic repairs. An allowance for these repairs has been included in the brick repair allowance in section 6.1.2. The most southerly section of these walls along the west property line is tilted towards the street, but it has been stabilized with anchors. It is our understanding that this section will be removed and not replaced if it deteriorates any further.

#### **6.1.8.d Retaining Walls (Wood)**

Small quantities of pressure treated wood retaining walls are located in several areas around the property. These walls are in satisfactory condition but will need replacing during the study period.

Replacement of the wood retaining walls has been scheduled in the year(s) 2022/23 at an estimated cost of five thousand one hundred and twenty dollars (\$5,120).

The total estimated cost to replace the wood retaining walls over the length of the study period is therefore \$5,120.

Periodic repairs to the walls may be required in isolated areas before they are replaced. Repairs should be covered with funds from the annual operating budget.

<b>WOOD RETAINING WALLS</b>	
<b>Cost</b>	\$5,120
<b>Normal life expectancy</b>	20-25yr.
<b>Service life remaining</b>	1-2 yr.
<b>Replacement year(s)</b>	2022/23
<b>Quantity</b>	20 m
<b>Condition</b>	Fair/Satisfactory

#### **6.1.8.e Sprinkler System**

It is our understanding that the sprinkler system is in satisfactory condition but will most likely need to be replaced during the study period.

Replacement of the sprinkler system has been scheduled in the year(s) 2035/36 at an estimated cost of eleven thousand one hundred and twenty dollars (\$11,120).

The total estimated cost to replace the sprinkler system over the length of the study period is therefore \$11,120.

<b>SPRINKLER SYSTEM</b>	
<b>Cost</b>	\$11,120
<b>Normal life expectancy</b>	20-30yr.
<b>Service life remaining</b>	10-15 yr.
<b>Replacement year(s)</b>	2035/36
<b>Quantity</b>	N/A
<b>Condition</b>	Satisfactory

#### **6.1.9 Mailboxes**

The mailboxes located in the ground floor lobby area are in satisfactory condition.

Replacement of the mailboxes has been scheduled in the year(s) 2023/24 at an estimated cost of two thousand one hundred and eighty dollars (\$2,180).

The total estimated cost to replace the mailboxes over the length of the study period is therefore \$2,180.

Periodic repairs to the mailbox locks may be required before the mailboxes are replaced. Repairs should be covered with funds from the annual operating budget.

<b>MAILBOXES</b>	
<b>Cost</b>	\$2,180
<b>Normal life expectancy</b>	35-40yr.
<b>Service life remaining</b>	3-4 yr.
<b>Replacement year(s)</b>	2023/24
<b>Quantity</b>	20
<b>Condition</b>	Satisfactory

### **6.1.10 Painting**

#### **6.1.10.a Exterior Painting**

The exterior common elements that will require painting include balcony railings, window and door frames, garage doors, front and rear entry doors and exit doors. The cost of the balcony railing refinishing has been covered in section 6.1.1.a and is therefore not included in this section. The owners are replacing their apartment windows and patio doors when they reach the end of their service life with maintenance free units. The common area windows will also be replaced with maintenance free units when they reach the end of their service life. As a result very little exterior painting will be required once all the original windows and patio doors are replaced. The cost of refinishing of the exterior surface of the window frames is included with the caulking allowance in section 6.1.3. The cost of any other exterior painting in the future will be covered with funds from the operating budget.

#### **6.1.10.b Interior Painting & Wallpaper**

The interior painting and wallpaper are in satisfactory condition.

Complete interior repainting (excluding the garage) and wallpaper replacement has been scheduled every twelve years starting in the in the year(s) 2022/23 at an estimated cost of eighteen thousand four hundred and eighty dollars (\$18,480) each year. This allowance is carried in the year(s) 2022/23, 2034/35, and 2046/47.

The total estimated cost for interior painting and wallpaper over the length of the study period is therefore \$55,440 (\$18,480 x 3).

The refinishing of the wood trim has previously been covered in section 6.1.7.d. Periodic minor repairs to the paint and wallpaper may be required in isolated areas before complete refinishing is required. Repairs should be covered with funds from the annual operating budget.

<b>INTERIOR PAINTING (CORRIDORS &amp; STAIRS)</b>	
<b>Cost</b>	\$55,440 (\$18,480/yr. x 3)
<b>Normal life expectancy</b>	8-12 yr.
<b>Service life remaining</b>	2- 3 yr.
<b>Refinishing year(s)</b>	2022/23, 2034/35, 2046/47
<b>Quantity</b>	N/A
<b>Condition</b>	Satisfactory

Repainting of the drywall areas in the garage has been scheduled in the year(s) 2042/43 at an estimated cost of one thousand six hundred and fifty dollars (\$1,650).

The total estimated cost for interior painting in the garage over the length of the study period is therefore \$1,650.

<b>INTERIOR PAINTING (GARAGE)</b>	
<b>Cost</b>	\$1,650
<b>Normal life expectancy</b>	20 yr.
<b>Service life remaining</b>	20 yr.
<b>Refinishing year(s)</b>	2042/43
<b>Quantity</b>	N/A
<b>Condition</b>	Satisfactory

The total estimated cost for all interior painting (corridors, stairs and garage) over the length of the study period is therefore \$57,090 (\$18,480 x 3 + \$1,650).

### 6.1.11 Roofing

The roof was replaced in 2009 and is in satisfactory condition.

Replacement of the roofing has been scheduled in the year(s) 2029/30 at an estimated cost of one hundred and forty-five thousand five hundred and seventy dollars (\$145,570).

The total estimated cost for roofing replacement over the length of the study period is therefore \$145,570.

<b>ROOFING</b>	
<b>Cost</b>	\$145,570
<b>Normal life expectancy</b>	20-25 yr.
<b>Service life remaining</b>	10 yr.
<b>Replacement year(s)</b>	2029/30
<b>Quantity</b>	700 m <sup>2</sup>
<b>Condition</b>	Satisfactory

### **6.1.12 Site Services**

The main sewer system and water supply lines are expected to last the life of the complex without requiring major repairs or replacement. While the sewers should not be a problem, they should not be ignored under the assumption that they will operate flawlessly at all times.

Periodic inspections by a qualified inspection company should be carried out in the future to ensure that all systems are functioning properly. These inspections should be covered by the annual operating budget.

If necessary, sewers should be pumped clean or repaired if the inspection reveals that work is warranted.

The garage ramp drain and garage floor drains should also be cleaned periodically to prevent the possibility of blockages.

### **6.1.13 Windows (Common Element)**

The wood framed windows in the common areas are in fair condition for their age but will need to be replaced during the study period.

Replacement of the common windows has been scheduled in the year(s) 2024/25 at an estimated cost of sixteen thousand three hundred and sixty dollars (\$16,360).

The total estimated cost to replace the common windows over the length of the study period is therefore \$16,360.

<b>WINDOWS (COMMON ELEMENT)</b>	
<b>Cost</b>	\$16,360
<b>Normal life expectancy</b>	25-30 yr.
<b>Service life remaining</b>	4- 5 yr.
<b>Replacement year(s)</b>	2024/25
<b>Quantity</b>	29 sashes
<b>Condition</b>	Fair/Satisfactory

According to the Declaration, the owners are responsible for the replacement of the windows (frame, sash, glazing and hardware), balcony doors (frame, sash, glazing and hardware) and doors to the corridor for their own unit.

We recommend that the Corporation continue to co-ordinate the replacement of the windows and balcony doors. This will lower the cost and provide a more standardized product and installation. If the owners use different window manufacturers the sizes and colours of the windows will not be exactly the same.

#### 6.1.14 Garbage Bin

<b>GARBAGE BIN</b>	
<b>Cost</b>	\$1,500
<b>Normal life expectancy</b>	N/A
<b>Service life remaining</b>	10 yr.
<b>Replacement year(s)</b>	2030/31
<b>Quantity</b>	1
<b>Condition</b>	Satisfactory

## **6.2 ELECTRICAL**

The electrical service system consists of a main distribution system, a branch distribution system, distribution panels, wiring and power receptacles.

It is assumed that an electrical maintenance program is in place and will be continued throughout the length of the study period. The cost of this maintenance program should be covered by the annual operating budget.

It is our understanding that the electrical systems have been performing well.

### **6.2.1 Distribution**

The building is serviced from a Hydro Ottawa vault located in the basement parking garage area. The Hydro transformers feed a 120/208V, 3PH, 4W, 1000 AMP switchboard located in the Main Electrical Room beside the vault.

The main distribution system should not require major upgrading or replacement during the study period if properly maintained. Replacement of the main distribution system has therefore not been scheduled during the study period. The switchboard feeds all panels and other various equipment.

The branch distribution system services the common areas and individual units. It is not likely to require major upgrading or replacement during the study period if properly maintained. Replacement of the branch distribution system has therefore not been scheduled during the study period.

Each apartment has a sub panel in the unit.

### **6.2.2 Electric Heaters**

Electric wall heaters are installed throughout the common areas. These include a recessed forced air heater in the front entrance vestibule, baseboard heaters in the stairwells and ceiling mounted forced air heaters in the garage.

The normal life expectancy of these heaters is approximately thirty to thirty-five (30-35) years. The Board of Directors informed us that in order to save electricity the forced air heater at the front entrance and the baseboard heaters in the stairwells have not been used for many years. There is no intention to use these heaters in the future. Therefore their replacement cost has been excluded from this Study.

An allowance of four thousand two hundred and forty dollars (\$4,240) has been made in the year(s) 2024/25 to replace the forced air heaters in the garage.

The total estimated cost for the replacement of these heaters over the length of the study period is therefore \$4,240.

Regular maintenance of the electric heaters should be covered by the annual operating budget.

<b>GARAGE HEATERS</b>	
<b>Cost</b>	\$4,240
<b>Normal life expectancy</b>	30-35 yr.
<b>Service life remaining</b>	4-5 yr.
<b>Replacement year(s)</b>	2024/25
<b>Quantity</b>	4
<b>Condition</b>	Fair/Satisfactory

### **6.2.3 Fire Alarm System**

The fire alarm system consists of manual pull stations, heat detectors, sprinklers, alarm bells, smoke detectors, smoke alarms in the apartments, supervisory elements on all sprinkler/fire standpipes and incoming main water line and a main control panel in the lobby vestibule. The fire alarm system is in satisfactory condition.

Tests must be carried out on a regular basis to meet code requirements. The code requires that a ULC 536 test of the fire system be completed on an annual basis. It is recommended that they be done in the presence of a fire department official in order that official certificates can be obtained. The cost of these tests should be covered by the annual operating budget.

Replacement of the fire alarm system has been scheduled in the year(s) 2030/31, at an estimated cost of eleven thousand eight hundred and ninety dollars (\$11,890).

The total estimated cost for the replacement of the fire alarm system over the length of the study period is therefore \$11,890.

<b>FIRE ALARM SYSTEM</b>	
<b>Cost</b>	\$11,890
<b>Normal life expectancy</b>	30-35 yr.
<b>Service life remaining</b>	10 yr.
<b>Replacement year(s)</b>	2030/31
<b>Quantity</b>	N/A
<b>Condition</b>	Satisfactory

#### **6.2.4 Intercom System**

The intercom system is activated from the apartments through the telephone network. The system allows for communication with visitors and for the operation of the front entry door latch.

It is our understanding that the intercom panel was replaced in 2005 in order to be compatible with the new ten-digit phone number system.

Replacement of the intercom system has been scheduled in the year(s) 2033/34, at an estimated cost of two thousand nine hundred and forty dollars (\$2,940).

The total estimated cost for the replacement of the intercom system over the length of the study period is therefore \$2,940.

<b>INTERCOM SYSTEM</b>	
<b>Cost</b>	\$2,940
<b>Normal life expectancy</b>	25-30 yr.
<b>Service life remaining</b>	10-15 yr.
<b>Replacement year(s)</b>	2033/34
<b>Quantity</b>	N/A
<b>Condition</b>	Satisfactory

#### **6.2.5 Lighting (Common Areas)**

The lighting of the common areas is a combination of incandescent and fluorescent fixtures. All of the original incandescent bulbs have been replaced with more energy efficient compact fluorescent bulbs or LED bulbs. In general the fixtures are in satisfactory condition.

Since the normal life expectancy is approximately thirty years, many of the light fixtures will require replacement over the length of the study period. More energy efficient fixtures and lamps are now available that would further reduce energy costs.

An allowance of fourteen thousand seven hundred dollars (\$14,700) has been made in the year(s) 2027/28 to replace the light fixtures.

The total estimated cost for the replacement of the light fixtures over the length of the study period is therefore \$14,700.

The emergency lighting should be checked every six months and the battery packs replaced as required.

Regular maintenance of the light fixtures, including replacement of the battery packs, should be covered with funds from the annual operating budget.

<b>LIGHTING FIXTURES</b>	
<b>Cost</b>	\$14,700
<b>Normal life expectancy</b>	30-35 yr.
<b>Service life remaining</b>	5-6 yr.
<b>Replacement year(s)</b>	2027/28,
<b>Quantity</b>	N/A
<b>Condition</b>	Satisfactory

### **6.3 MECHANICAL**

It is assumed that a mechanical maintenance program is in place and will be continued throughout the length of the study period.

#### **6.3.1 Elevator**

One hydraulic elevator provides vertical transportation in the building. The elevator was modernized in 2019 by Regional Elevator. Coordination and supervision of the modernization was provided by Priestman Neilson & Associates Ltd. The total cost was \$177,380.

We understand that an elevator maintenance program is in place and will be continued throughout the length of the study period.

The life expectancy of this type of elevator system is 20-25 years. Once the elevator system is deemed to have reached its full life potential, parts coverage will no longer be offered under most maintenance contracts. It is therefore prudent to have a third party qualified inspector do an audit of the system from time to time to ensure the maintenance contract is being fulfilled. These audits would also confirm if the elevator meets the TSSA mandated directives. We recommend that a full elevator audit be done every six years with the full Reserve Fund Study.

Complete modernization of the elevator and cab refurbishing has been scheduled again in the year(s) 2044/45 at an estimated cost of one hundred and seventy-seven thousand three hundred and eighty dollars (\$177,380).

The total estimated cost for the complete elevator modernization and cab refurbishing over the length of the study period is therefore \$354,760.

<b>ELEVATOR SYSTEM</b>	
<b>Cost</b>	\$354,760 (\$177,380/yr. x 2)
<b>Normal life expectancy</b>	20-25 yr.
<b>Service life remaining</b>	20-25 yr.
<b>Replacement year(s)</b>	2019/20, 2044/45
<b>Quantity</b>	1
<b>Condition</b>	Satisfactory

**Note:** *Additional elevator maintenance costs will be incurred from time to time to comply with TSSA mandated directives. The Board has elected to use funds from the operating budget to cover these costs.*

**Note:** *Consideration should be given to arrange the replacement/modernization of the elevator before it completely fails since there is no backup elevator. The replacement/modernization of an elevator usually takes 2-3 months once the replacement equipment and the installation crews are on-site. Obtaining the equipment and booking the crews can add substantially to that time. Installation crews are not usually readily available due to demand and at times labour disputes. Having to do the work under emergency conditions could also add significantly to the cost. Pre-planning the work would save time and money and would be much less stressful.*

### 6.3.2 Fire Protection System

The fire protection system includes sprinkler systems and fire hose cabinets with portable fire extinguishers. Water is provided by an incoming service line from the municipal water main. Sprinklers are located in the garage, garbage room, garbage chute, storage lockers, elevator room, mechanical room, janitor room, generator room and mechanical room. Fire hose cabinets with portable fire extinguishers are located on each floor and in the garage. A standpipe system fire pump and jockey pump are located in the mechanical room. Supervisory valves with tamper switches and alarm valves are installed as required.

Replacement of the sprinkler system has been scheduled in the year(s) 2026/27, at an estimated cost of eleven thousand eight hundred and ninety dollars (\$11,890).

The total estimated cost for the replacement of the sprinkler system over the length of the study period is therefore \$11,890.

The fire protection monitoring system is covered in section 6.2.3.

The maintenance of the fire extinguishers should be covered by the annual operating budget.

<b>SPRINKLER SYSTEM</b>	
<b>Cost</b>	\$11,890
<b>Normal life expectancy</b>	40-45 yr.
<b>Service life remaining</b>	6-7 yr.
<b>Replacement year(s)</b>	2026/27
<b>Quantity</b>	N/A
<b>Condition</b>	Satisfactory

### 6.3.3 Ventilation Units

Numerous common element ventilation units are located throughout the building. These units are listed below.

The individual unit owners are responsible for the kitchen and bathroom exhaust fans in their units. These exhaust fans are connected to common element risers that vent through the roof. The risers that exhaust the clothes dryers should be checked periodically for lint build-up and cleaned as required. The individual owners should also periodically clean the dryer ducts within their units. Lint build-up not only severely decreases the efficiency of the dryer, but can also create a fire hazard.

#### 6.3.3.a Elevator Machine Room Exhaust Fan

Replacement of the elevator machine room exhaust fan has been scheduled in the year(s) 2023/24, at an estimated cost of one thousand two hundred and ninety-two dollars (\$1,292).

The total estimated cost for the replacement of the elevator machine room exhaust fan over the length of the study period is therefore \$1,292.

<b>ELEVATOR MACHINE ROOM EXHAUST FAN</b>	
<b>Cost</b>	\$1,292
<b>Normal life expectancy</b>	20-25 yr.
<b>Service life remaining</b>	2-5 yr.
<b>Replacement year(s)</b>	2023/24
<b>Quantity</b>	1
<b>Condition</b>	Satisfactory

#### 6.3.3.b Garage Air Intakes & Exhaust Fans

Fresh air to the garage is provided by two air intakes with motorized dampers and by two exhaust fans. A C.O. monitoring system controls these units. The sensors should be inspected semi-annually.

Replacement of the air intakes and exhaust fans has been scheduled in the year(s) 2023/24, at an estimated cost of eight thousand two hundred and thirty-eight dollars (\$8,238).

The total estimated cost for the replacement of the garage air intakes and exhaust fans over the length of the study period is therefore \$8,238.

<b>GARAGE AIR INTAKES &amp; EXHAUST FANS</b>	
<b>Cost</b>	\$8,238
<b>Normal life expectancy</b>	20-25 yr.
<b>Service life remaining</b>	2-5 yr.
<b>Replacement year(s)</b>	2023/24
<b>Quantity</b>	2 intakes, 2 exhaust
<b>Condition</b>	Satisfactory

### 6.3.3.c Garbage Room Exhaust Fan

Replacement of the garbage room exhaust fan has been scheduled in the year(s) 2023/24, at an estimated cost of one thousand two hundred and ninety-two dollars (\$1,292).

The total estimated cost for the replacement of the garbage room exhaust fan over the length of the study period is therefore \$1,292.

<b>GARBAGE ROOM EXHAUST FAN</b>	
<b>Cost</b>	\$1,294
<b>Normal life expectancy</b>	20-25 yr.
<b>Service life remaining</b>	2-5 yr.
<b>Replacement year(s)</b>	2023/24
<b>Quantity</b>	1
<b>Condition</b>	Satisfactory

### 6.3.3.d Make-up Air Unit

An electric make-up air unit is located on the roof. This unit provides make-up air and pressurization to the main lobby and corridors.

Replacement of the make-up air unit has been scheduled in the year(s) 2023/24, at an estimated cost of eight thousand eight hundred and twenty-six dollars (\$8,826).

The total estimated cost for the replacement of the make-up air unit over the length of the study period is therefore \$8,826.

<b>MAKE UP AIR UNIT</b>	
<b>Cost</b>	\$8,826
<b>Normal life expectancy</b>	20-25 yr.
<b>Service life remaining</b>	2-5 yr.
<b>Replacement year(s)</b>	2023/24
<b>Quantity</b>	1
<b>Condition</b>	Satisfactory

**6.3.3.e Storage Locker Exhaust Fans**

The Board of Directors informed us that these fans are only operational a few hours per year. We have therefore scheduled their replacement well past their normal life expectancy.

Replacement of the storage locker exhaust fans has been scheduled in the year(s) 2032/33, at an estimated cost of six thousand six hundred and fifty dollars (\$6,650).

The total estimated cost for the replacement of the storage locker exhaust fans over the length of the study period is therefore \$6,650.

<b>STORAGE LOCKER EXHAUST FANS</b>	
<b>Cost</b>	\$6,650
<b>Normal life expectancy</b>	20-25 yr.
<b>Service life remaining</b>	10-15 yr.
<b>Replacement year(s)</b>	2032/33
<b>Quantity</b>	5
<b>Condition</b>	Satisfactory

**6.3.3.f Transformer Vault Air Intake & Exhaust Fan**

The transformer vault has a fresh air intake and an exhaust fan.

Replacement of the transformer vault air intake and exhaust fan has been scheduled in the year(s) 2023/24, at an estimated cost of two thousand nine hundred and forty-two dollars (\$2,942).

The total estimated cost for the replacement of the transformer vault air intake and exhaust fan over the length of the study period is therefore \$2,942.

<b>TRANSFORMER AIR INTAKE/ EXHAUST FAN</b>	
<b>Cost</b>	\$2,942
<b>Normal life expectancy</b>	20-25 yr.
<b>Service life remaining</b>	2-5 yr.
<b>Replacement year(s)</b>	2023/24
<b>Quantity</b>	1
<b>Condition</b>	Satisfactory

The total estimated cost to replace all the exhaust fans and the make up air unit over the length of the Study period is therefore \$29,240 (\$1,292 + \$8,238 + \$1,292 + \$8,826 + \$6,650 + \$2,942).

The replacement of the majority of these fans has been scheduled at the same time in 2023/24. However, in reality they will probably be replaced on an individual basis as needed.

#### 6.3.4 Sump Pump

A sump pump is located in the pit of the elevator machine room. It is our understanding that the sump pump was replaced in 2014.

Replacement of the sump pump has been scheduled in the year(s) 2025/26 and 2040/41, at an estimated cost of six hundred dollars (\$600) each year.

The total estimated cost for the replacement of the sump pump over the length of the study period is therefore \$1,200 (\$600 x 2).

<b>SUMP PUMP</b>	
<b>Cost</b>	\$1,200 (\$600 x 2)
<b>Normal life expectancy</b>	10-15 yr.
<b>Service life remaining</b>	10 yr.
<b>Replacement year(s)</b>	2025/26, 2040/41
<b>Quantity</b>	1
<b>Condition</b>	Satisfactory

### 6.3.5 Contingency Allowances (Electrical & Mechanical)

A mechanical and electrical contingency allowance of four thousand one hundred and seventy dollars (\$4,170) has been made every five years starting in the year(s) 2024/25 for miscellaneous repairs and replacement of motors etc. This contingency allowance is carried in the year(s) 2024/25, 2029/30, 2034/35, 2039/40, 2044/45 and 2049/50.

The total cost for the contingency allowance over the length of the study period is therefore \$28,260 (\$4,170 x 6).

CONTINGENCY ALLOWANCES	
<b>Cost</b>	\$28,260 (\$4,170/yr. x 6)
<b>Contingency year(s)</b>	2024/25, 2029/30, 2034/35, 2039/40, 2044/45, 2049/50

**Note:** *The individual owners are responsible for the maintenance and replacement of their air conditioning systems (including the rooftop condenser).*

## **8. Engineering Fees**

It is strongly recommended that a Professional Engineer be retained for all significant replacement or major repair of common elements.

Engineering fees should be paid out of the reserve fund. These fees would cover items such as preparation of specifications, tender calling and review, contract preparation, on site supervision, inspections and reports. Retaining an engineer will help ensure that costs are controlled and that efficiency and good workmanship are achieved.

Engineering fees have been incorporated into the spreadsheet for the elevator replacement allowance scheduled in 2044/45. The intent of including engineering fees is to ensure that allowances have been made in order to avoid under funding in the long term. These budgeted fee amounts are only guesstimates based on what the scope of the work might be. The scope of the work may vary significantly from that assumed at this time.

## **9. Reserve Fund Study Fees**

It is mandatory under the current condominium act that the Reserve Fund Study be reviewed and updated every three (3) years in order that the financial data presented is kept current and relevant. These updates alternate between updates that require site inspections and updates that do not require site inspections. We have budgeted for the cost of these updates on the spreadsheet. The estimated costs that we have included in the spreadsheet for future Reserve Fund Studies are \$4,170 for updates without a site inspection and \$6,130 for updates with a site inspection.

## 10. CONCLUSIONS AND RECOMMENDATIONS

CCC #286 has been well maintained and in general the complex is in very good condition for its age. Many of the common elements will require repair or replacement over the length of this thirty-year study period (2019/20-2049/50). This is not because of any unusual issues, but simply due to normal life cycle renewal of the common elements.

Based on our visual inspections and the anticipated future expenditures, we recommend that the annual reserve fund contribution be thirty-one thousand one hundred and twenty-four dollars (\$31,124) in 2020/21, Thirty-one thousand nine hundred and eighty dollars (\$31,980) in 2021/22 and thirty-two thousand eight hundred and fifty-nine dollars (\$32,859) in 2022/23. We also recommend that the annual reserve fund contribution be increased an additional 2.75% each year from 2022/23 until the end of the study period in 2049/50. This is a decrease from the 3.00% per year increase that was recommended in the previous study. This reduction is mainly the result of the elevator replacement in 2019/20 coming in under budget. It is also the result of being able to reschedule some of the future repairs to a later date than was scheduled in the previous study. We have incorporated these increases into the spreadsheet provided in appendix 'A'.

This report outlines the scope of work and the methodology of the Reserve Fund Study along with our recommendations for the repair, maintenance and replacement of the common elements for which the Condominium Corporation is responsible.

Finally, as per the current Condominium Act, it is mandatory that the Reserve Fund Study be reviewed and updated every three (3) years in order that the financial data presented is kept current and relevant. The updates alternate between updates that require site inspections and updates that do not require site inspections. We have budgeted for the cost of these updates on the spreadsheet.

The next Reserve Fund Study ('Updated Study without site inspections') will be required in February 2023.

---

Lewis G. Farhood, P. Eng.

Newbridge Engineering Inc.

**APPENDIX “A”**  
**SPREADSHEET**

**RESERVE FUND STUDY CCC #286**  
**SPREADSHEET FOR MAJOR REPAIR, MAINTENANCE AND REPLACEMENT COSTS**  
**FISCAL YEARS 2019/20 TO 2049/50**

CCC #286

AGE OF BUILDING	33 Years	34 Years	35 Years	36 Years	37 Years	38 Years	39 Years	40 Years	41 Years	42 Years	43 Years	44 Years	45 Years	46 Years	47 Years	48 Years	49 Years	
FISCAL YEAR	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	
WORK YEAR	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	
<b>6.1 ARCHITECTURAL, CIVIL</b>																		
6.1.1 Balconies																		
6.1.1.a - Railing Refinishing			\$7,000															
6.1.1.b - Railing Replacement									\$25,300									
6.1.1.c - Waterproofing Membrane				\$33,420														
6.1.2 Brick Masonry			\$6,000					\$4,500					\$4,500					
6.1.3 Caulking & Exterior Window Refinishing					\$13,420										\$13,420			
6.1.4 Chimney																		
6.1.4.a - Caps																		
6.1.4.b - Flues						\$13,420	\$13,420	\$13,420	\$13,420									
6.1.5 Concrete																		
6.1.5.a - Foundation Walls																		
6.1.5.b - Garage Columns																		
6.1.5.c - Garage Floor					\$3,300										\$3,300			
6.1.5.d - Garage Ramp Drain											\$4,240							
6.1.5.e - Retaining Walls													\$2,940					
6.1.6 Doors (Exterior)																		
6.1.6.a - Entry (Front)																		
6.1.6.b - Entry (Rear)						\$2,530										\$2,530		
6.1.6.c - Garage Exit																		
6.1.6.d - Garage Overhead					\$12,770									\$4,472				
6.1.6.e - Steel																		
6.1.6.f - Wood													\$17,890					
6.1.7 Interior Finishes																		
6.1.7.a - Carpeting					\$10,060												\$10,060	
6.1.7.b - Marble																		
6.1.7.c - Mirrors																		
6.1.7.d - Wood Trim						\$5,120												
6.1.8 Landscaping																		
6.1.8.a - Interlocking Pavers					\$16,830													
6.1.8.b - Planting																		
6.1.8.c - Ret. Walls (Brick)																		
6.1.8.d - Ret. Walls (Wood)					\$5,120													
6.1.8.e - Sprinkler System																		
6.1.9 Mail Boxes							\$2,180											
6.1.10 Painting																		
6.1.10.a - Exterior																		
6.1.10.b - Interior					\$18,480												\$18,480	
6.1.11 Roofing													\$145,570					
6.1.12 Site Services																		
6.1.13 Windows (Common Element)							\$16,360											
6.1.14 Garbage Bin													\$1,500					
<b>6.2 ELECTRICAL</b>																		
6.2.1 Distribution - Branch & Main																		
6.2.2 Electric Heaters							\$4,240											
6.2.3 Fire Alarm System													\$11,890					
6.2.4 Intercom System																\$2,940		
6.2.5 Lighting - Common Areas										\$14,700								
<b>6.3 MECHANICAL</b>																		
6.3.1 Elevator		\$177,380																
6.3.2 Fire Protection System									\$11,890									
6.3.3 Ventilation Units						\$22,590									\$6,650			
6.3.4 Sump Pump								\$600										
6.3.5 Contingencies ( Mech. & Elect.)							\$4,710					\$4,710					\$4,710	
<b>7 Engineering Fees</b>																		
<b>8 Reserve Fund Study</b>		\$6,126			\$4,170			\$6,130			\$4,170			\$6,130			\$4,170	
<b>YEARLY EXPENDITURE TOTALS (2020 dollars)</b>		<b>\$183,506</b>	<b>\$13,000</b>	<b>\$33,420</b>	<b>\$84,150</b>	<b>\$45,840</b>	<b>\$38,730</b>	<b>\$24,650</b>	<b>\$50,610</b>	<b>\$14,700</b>	<b>\$8,410</b>	<b>\$150,280</b>	<b>\$38,720</b>	<b>\$10,602</b>	<b>\$23,370</b>	<b>\$5,470</b>	<b>\$37,420</b>	
<b>RESERVE FUND - OPENING BALANCE</b>		<b>\$379,007</b>	<b>\$231,472</b>	<b>\$255,128</b>	<b>\$258,610</b>	<b>\$207,932</b>	<b>\$196,567</b>	<b>\$192,512</b>	<b>\$204,440</b>	<b>\$185,948</b>	<b>\$210,312</b>	<b>\$243,693</b>	<b>\$95,441</b>	<b>\$87,558</b>	<b>\$117,548</b>	<b>\$131,112</b>	<b>\$171,050</b>	
<b>INFLATED ANNUAL FEE CONTRIBUTION</b>		<b>\$30,291</b>	<b>\$31,124</b>	<b>\$31,980</b>	<b>\$32,859</b>	<b>\$33,763</b>	<b>\$34,691</b>	<b>\$35,645</b>	<b>\$36,626</b>	<b>\$37,633</b>	<b>\$38,668</b>	<b>\$39,731</b>	<b>\$40,824</b>	<b>\$41,946</b>	<b>\$43,100</b>	<b>\$44,285</b>	<b>\$45,503</b>	
<b>INFLATED YEARLY EXPENDITURES</b>		<b>\$183,506</b>	<b>\$13,000</b>	<b>\$34,339</b>	<b>\$88,842</b>	<b>\$49,727</b>	<b>\$43,169</b>	<b>\$28,231</b>	<b>\$59,556</b>	<b>\$17,774</b>	<b>\$10,448</b>	<b>\$191,839</b>	<b>\$50,787</b>	<b>\$14,289</b>	<b>\$32,362</b>	<b>\$7,783</b>	<b>\$54,708</b>	
<b>SPECIAL ASSESSMENT or OTHER CONTRIBUTIONS</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>											
<b>INTEREST EARNED</b>		<b>\$5,680</b>	<b>\$5,532</b>	<b>\$5,841</b>	<b>\$5,304</b>	<b>\$4,599</b>	<b>\$4,424</b>	<b>\$4,513</b>	<b>\$4,438</b>	<b>\$4,505</b>	<b>\$5,162</b>	<b>\$3,856</b>	<b>\$2,081</b>	<b>\$2,332</b>	<b>\$2,827</b>	<b>\$3,435</b>	<b>\$3,828</b>	
<b>REMAINING RESERVE FUND</b>		<b>\$379,007</b>	<b>\$231,472</b>	<b>\$255,128</b>	<b>\$258,610</b>	<b>\$207,932</b>	<b>\$196,567</b>	<b>\$192,512</b>	<b>\$204,440</b>	<b>\$185,948</b>	<b>\$210,312</b>	<b>\$243,693</b>	<b>\$95,441</b>	<b>\$87,558</b>	<b>\$117,548</b>	<b>\$131,112</b>	<b>\$171,050</b>	<b>\$165,674</b>

- Notes:
1. Inflation rate assumed to be an average of 2.75% per year over the length of the study period.
  2. Interest contributions for each year are based on the average remaining reserve fund for that year at an interest rate of 2.30%.
  3. Estimates for expenditures and contributions have been adjusted to account for inflation.
  4. All the individual allowances on the spreadsheet are in 2020 dollars.

February 18, 2020 (Final).

**RESERVE FUND STUDY CCC #286**  
**SPREADSHEET FOR MAJOR REPAIR, MAINTENANCE AND REPLACEMENT COSTS**  
**FISCAL YEARS 2019/20 TO 2049/50**

50 Years	51 Years	52 Years	53 Years	54 Years	55 Years	56 Years	57 Years	58 Years	59 Years	60 Years	61 Years	62 Years	63 Years	64 Years	Total	AGE OF BUILDING
2035/36	2036/37	2037/38	2038/39	2039/40	2040/41	2041/42	2042/43	2043/44	2044/45	2045/46	2046/47	2047/48	2048/49	2049/50		FISCAL YEAR
2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049		WORK YEAR
																6.1 ARCHITECTURAL, CIVIL
																6.1.1 Balconies
	\$5,000										\$5,000					\$17,000 6.1.1.a - Railing Refinishing
		\$33,420														\$25,300 6.1.1.b - Railing Replacement
\$4,500					\$4,500					\$4,500						\$66,840 6.1.1.c - Waterproofing Membrane
							\$13,420									\$28,500 6.1.2 Brick Masonry
																\$40,260 6.1.3 Caulking & Exterior Window Refinishing
																6.1.4 Chimney
																\$0 6.1.4.a - Caps
																\$53,680 6.1.4.b - Flues
																6.1.5 Concrete
																\$0 6.1.5.a - Foundation Walls
																\$0 6.1.5.b - Garage Columns
							\$3,300									\$9,900 6.1.5.c - Garage Floor
																\$4,240 6.1.5.d - Garage Ramp Drain
					\$2,940											\$5,880 6.1.5.e - Retaining Walls
																6.1.6 Doors (Exterior)
																\$2,530 6.1.6.a - Entry (Front)
																\$2,530 6.1.6.b - Entry (Rear)
																\$0 6.1.6.c - Garage Exit
											\$12,770					\$30,012 6.1.6.d - Garage Overhead
																Doors (Interior)
																\$0 6.1.6.e - Steel
																\$17,890 6.1.6.f - Wood
																6.1.7 Interior Finishes
											\$10,060					\$30,180 6.1.7.a - Carpeting
																\$0 6.1.7.b - Marble
																\$0 6.1.7.c - Mirrors
								\$5,120								\$10,240 6.1.7.d - Wood Trim
																6.1.8 Landscaping
																\$16,830 6.1.8.a - Interlocking Pavers
																\$0 6.1.8.b - Planting
																\$0 6.1.8.c - Ret. Walls (Brick)
																\$5,120 6.1.8.d - Ret. Walls (Wood)
\$11,120																\$11,120 6.1.8.e - Sprinkler System
																\$2,180 6.1.9 Mail Boxes
																6.1.10 Painting
																\$0 6.1.10.a - Exterior
							\$1,650				\$18,480					\$57,090 6.1.10.b - Interior
																\$145,570 6.1.11 Roofing
																\$0 6.1.12 Site Services
																\$16,360 6.1.13 Windows (Common Element)
																\$1,500 6.1.14 Garbage Bin
																6.2 ELECTRICAL
																\$0 6.2.1 Distribution - Branch & Main
																\$4,240 6.2.2 Electric Heaters
																\$11,890 6.2.3 Fire Alarm System
																\$2,940 6.2.4 Intercom System
																\$14,700 6.2.5 Lighting - Common Areas
																6.3 MECHANICAL
									\$177,380							\$354,760 6.3.1 Elevator
																\$11,890 6.3.2 Fire Protection System
																\$29,240 6.3.3 Ventilation Units
				\$4,710	\$600											\$1,200 6.3.4 Sump Pump
									\$4,710							\$28,260 6.3.5 Contingencies ( Mech. & Elect.)
																\$0 7 Engineering Fees
		\$6,130			\$4,170			\$6,130			\$4,170			\$6,130		\$57,626 8 Reserve Fund Study
\$15,620	\$38,420	\$6,130	\$0	\$4,710	\$12,210	\$0	\$18,370	\$11,250	\$182,090	\$4,500	\$50,480	\$0	\$0	\$10,840	\$1,117,498	YEARLY EXPENDITURE TOTALS (2020 dollars)
\$165,674	\$193,042	\$186,091	\$230,466	\$287,069	\$338,407	\$379,105	\$443,476	\$477,109	\$525,600	\$244,863	\$303,557	\$270,901	\$342,621	\$417,792	\$379,007	RESERVE FUND - OPENING BALANCE
\$46,754	\$48,040	\$49,361	\$50,719	\$52,113	\$53,547	\$55,019	\$56,532	\$58,087	\$59,684	\$61,326	\$63,012	\$64,745	\$66,525	\$68,355	\$1,452,490	INFLATED ANNUAL FEE CONTRIBUTION
\$23,464	\$59,302	\$9,722	\$0	\$7,886	\$21,006	\$0	\$33,366	\$20,996	\$349,181	\$8,867	\$102,199	\$0	\$0	\$23,807	\$1,540,157	INFLATED YEARLY EXPENDITURES
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	SPECIAL ASSESSMENT or OTHER CONTRIBUTIONS
\$4,078	\$4,310	\$4,736	\$5,884	\$7,111	\$8,158	\$9,352	\$10,466	\$11,400	\$8,760	\$6,235	\$6,531	\$6,975	\$8,645	\$10,122	\$181,121	INTEREST EARNED
\$193,042	\$186,091	\$230,466	\$287,069	\$338,407	\$379,105	\$443,476	\$477,109	\$525,600	\$244,863	\$303,557	\$270,901	\$342,621	\$417,792	\$472,461	\$472,461	REMAINING RESERVE FUND

Reserve fund balance = \$379,007 (May 31, 2019).  
 Current annual contributions = \$30,291 (June 01, 2019).  
 Future annual contributions = 2.75% increase per year from 2020/21-2049/50.

**APPENDIX “B”**  
**PHOTOGRAPHS**



**ABOVE:** West elevation.  
**BELOW:** Southwest elevation.





**ABOVE:** North elevation.  
**BELOW:** Northeast elevation.





**ABOVE:** Front entrance.  
**BELOW:** Rear entrance.





**ABOVE:** Brick retaining walls on northwest corner.  
**BELOW:** Brick retaining walls on northwest corner.





**ABOVE:** Tilting retaining wall on southwest corner.

**BELOW:** Support anchors on southwest corner retaining wall.





**ABOVE:** Wood retaining walls near front entrance.  
**BELOW:** Garage ramp.



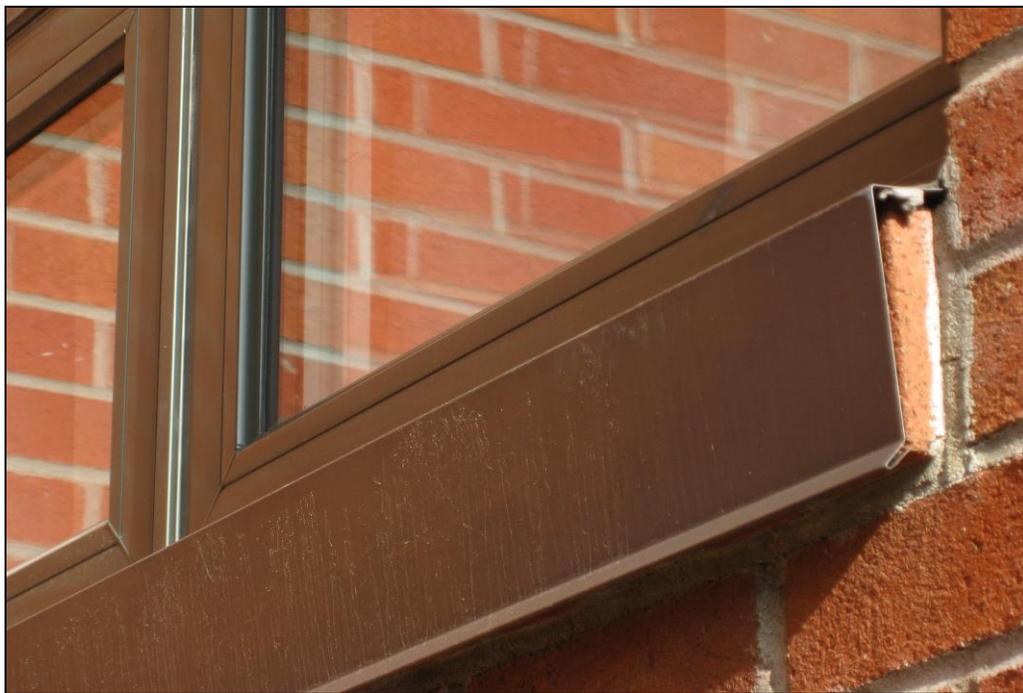


**ABOVE:** Concrete retaining wall along garage ramp.  
**BELOW:** Storm drain at bottom of garage ramp.





**ABOVE:** Damaged parging.  
**BELOW:** Typical new window sill metal cap.





**ABOVE:** Rooftop mechanical equipment.  
**BELOW:** Rooftop mechanical equipment.





**ABOVE:** Roof hatch.  
**BELOW:** Chimney flues.





**ABOVE:** Typical balcony from above.  
**BELOW:** Rust on a balcony railing.





**ABOVE:** Front stairwell.  
**BELOW:** Typical hallway.





**ABOVE:** Garage overhead doors.  
**BELOW:** Electric garage door opener.





**ABOVE:** Exhaust fans.  
**BELOW:** Electrical garage heater.





**ABOVE:** Electrical room.  
**BELOW:** Electrical room.





**ABOVE:** Pump room.  
**BELOW:** Garbage room.





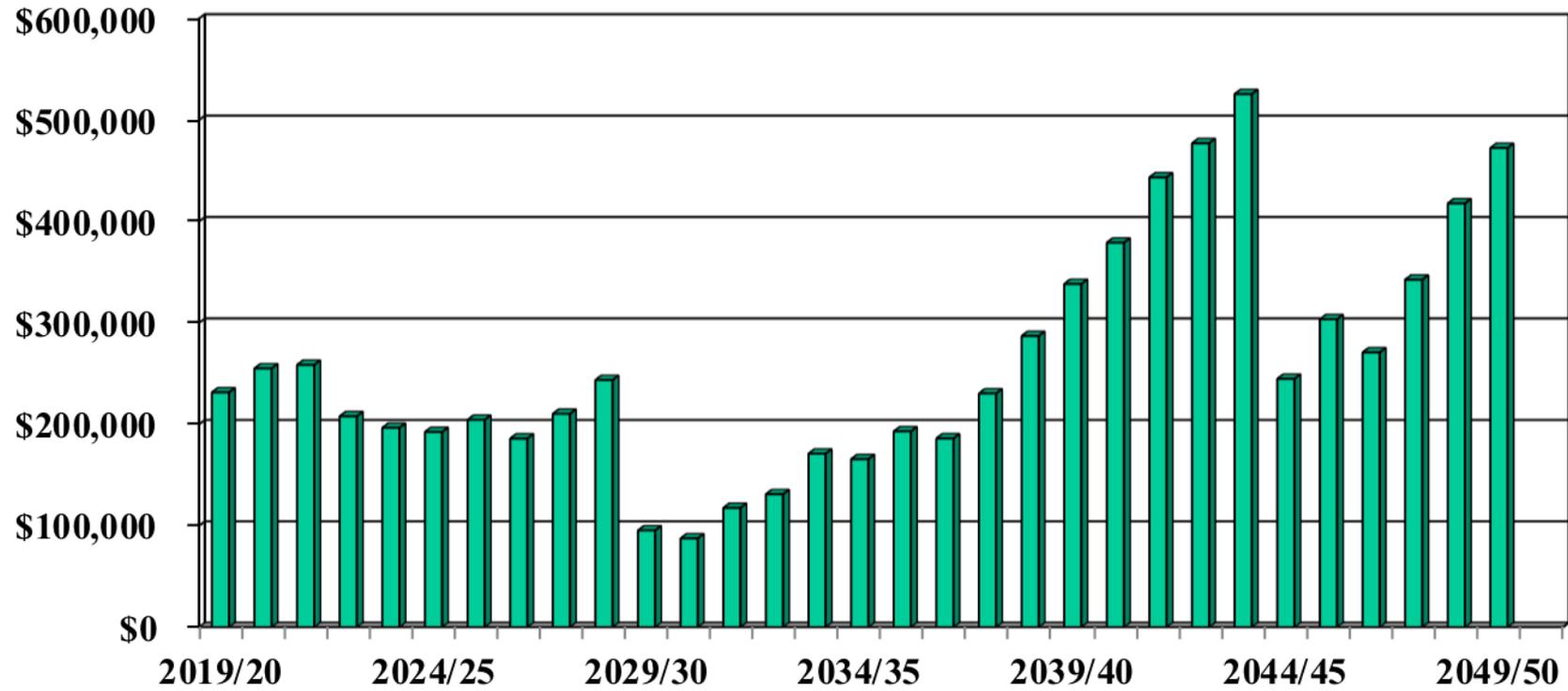
**ABOVE:** Elevator equipment room.  
**BELOW:** Elevator room sump pump pit.



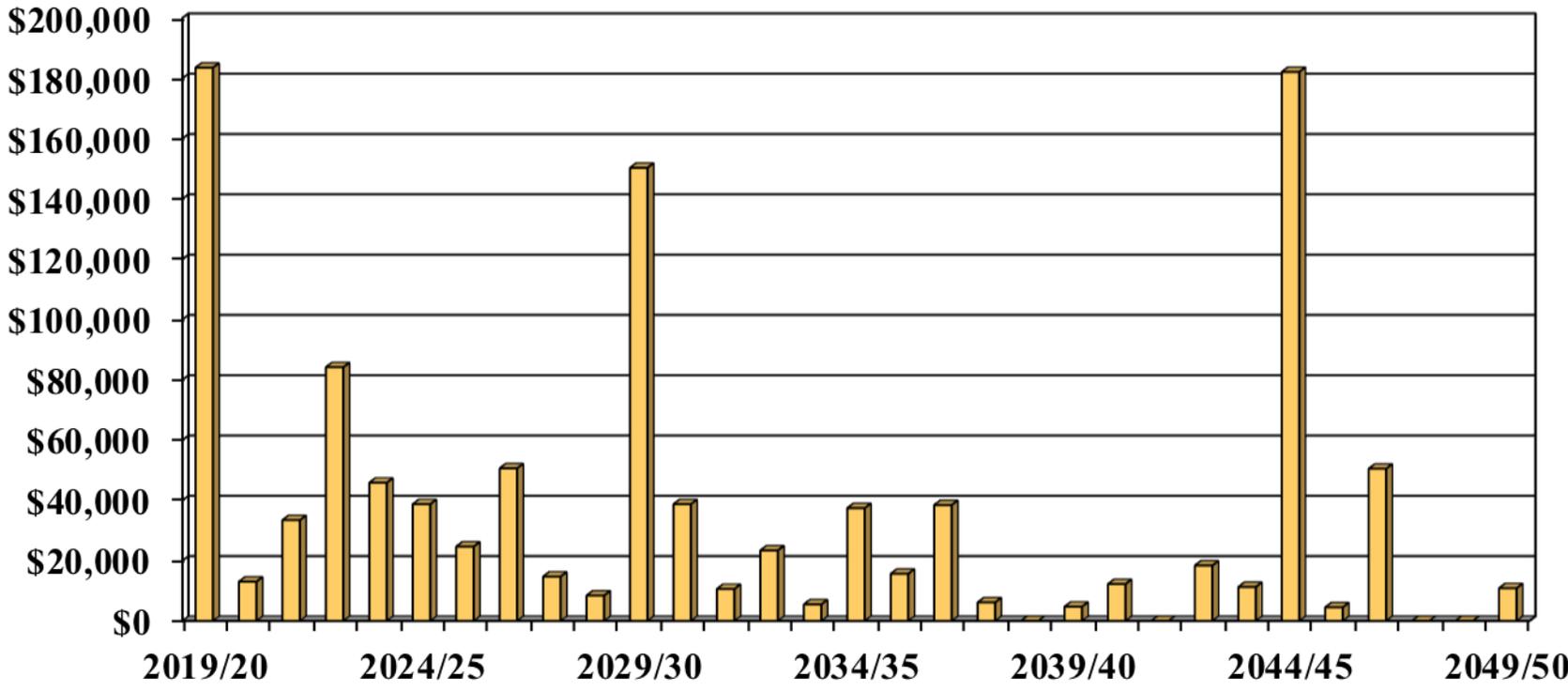
**APPENDIX “C”**

**CHARTS**

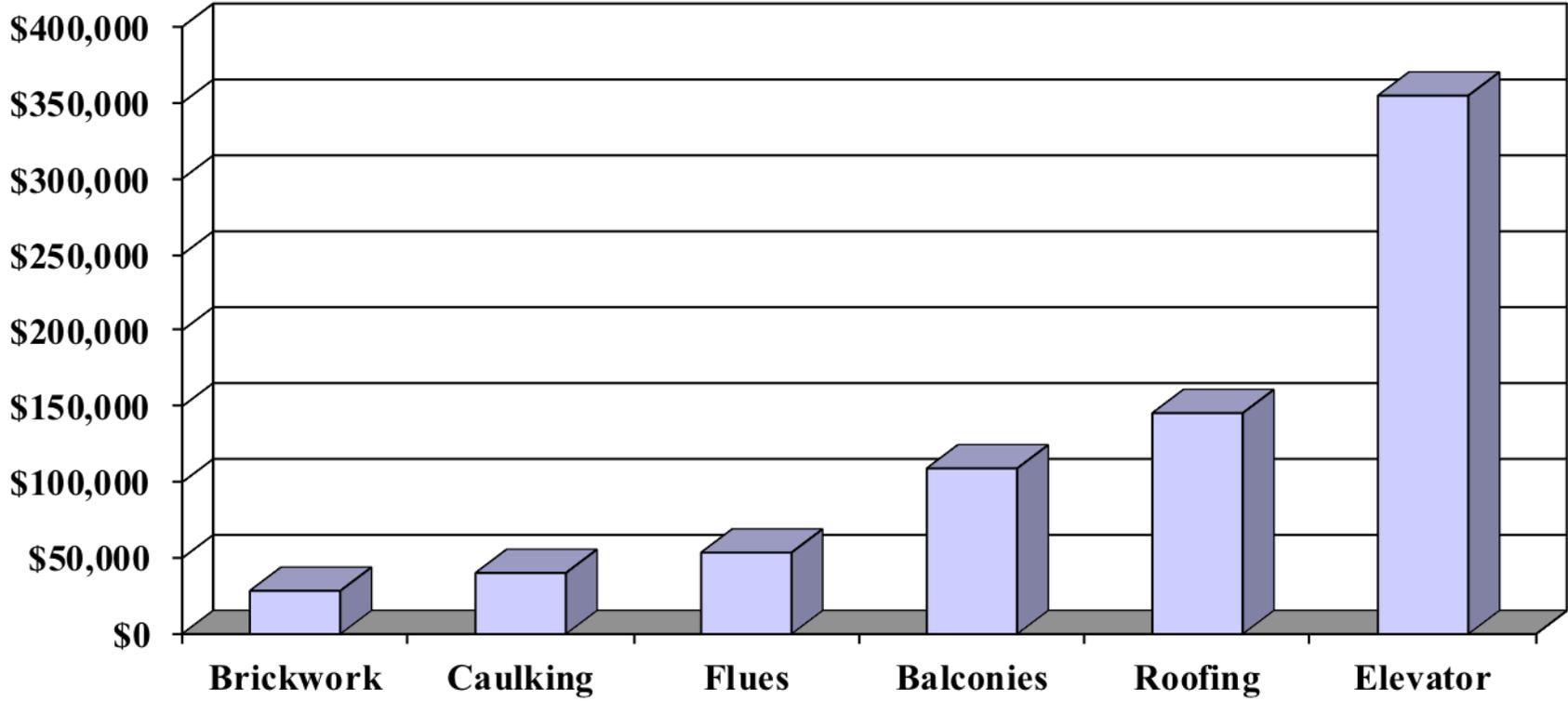
**CCC #286**  
**Reserve Fund Balance**  
**2019/20-2049/50**



**CCC #286**  
**Total Yearly Expenditures**  
**(In 2020 dollars)**  
**2019/20-2049/50**



**CCC #286  
Major Expenditures  
2019/20-2049/50**



**APPENDIX “D”**  
**PLAN FOR FUTURE FUNDING**

**NOTICE OF FUTURE FUNDING OF THE RESERVE FUND**  
**(Under subsection 94 (9) of the Condominium Act, 1998)**

TO: All owners in **Carleton Condominium Corporation No. 286** (CCC #286)

The Board has received and reviewed a **Reserve Fund Study** dated **February 18, 2020** prepared by **Newbridge Engineering Inc.**, and has proposed a plan for the future funding of the reserve fund that the Board, has determined will ensure that, in accordance with the regulations made under the *Condominium Act, 1998*, the reserve fund will be adequate for the major repair and replacement of the common elements and assets of the Corporation.

This notice contains:

- I. A summary of the Reserve Fund Study.
2. A summary of the proposed funding plan.
3. A statement indicating the areas, if any, in which the proposed funding plan differs from the Reserve Fund Study.

At the present time the average contribution per unit per month to the reserve fund is **\$210.35** (2019/20). Based on the proposed funding plan, the average increase in Annual Contribution per unit per month (to the reserve fund) will be **+\$5.79** in 2020/21, **+\$5.94** in 2021/22 and **+\$6.11** in 2022/23.

The proposed funding plan will be implemented beginning on **May 01, 2020**.

Dated this... day of ....., .....

Carleton Condominium Corporation No. 286.

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Print name)

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Print name)

## SUMMARY OF RESERVE FUND STUDY

The following is a summary of the **Reserve Fund Study** dated **February 18, 2020**, prepared by **Newbridge Engineering Inc.** for **Carleton Condominium Corporation No. 286** (CCC #286).

Subsection 94 (l) of the *Condominium Act*, 1998, requires the Corporation to conduct periodic studies to determine whether the amount of money in the reserve fund and the amount of contributions collected by the Corporation are adequate to provide for the expected costs of major repair and replacement of the common elements and assets of the Corporation. As a result, the Corporation has obtained the Reserve Fund Study.

The estimated expenditures from the reserve fund for the next thirty (30) years are set out in the CASH FLOW TABLE. In this summary, the term "annual contribution" means the total amount to be contributed each year to the reserve fund, exclusive of interest earned on the reserve fund. The annual contribution for **2019/20** is **\$30,291**. The recommended annual contribution for **2020/21** is **\$31,124** based on the estimated expenditures and the following:

Opening Balance of the Reserve Fund	\$379,007 (2019/20)
Minimum Reserve Fund Balance during the projected period	\$87,558 (2030/31)
Assumed Annual Inflation Rate for Reserve Fund Expenditures	2.75%
Assumed Annual Interest Rate for interest earned on the Reserve Fund	2.30%

The Reserve Fund Study can be examined by contacting the Property Managers office during normal business hours at:

Capital Integral Property Management,  
904 Lady Ellen Place,  
Ottawa, ON, K1Z 5L5  
613-722-1232.

Forty-eight hours advance notice is required.

## CASH FLOW TABLE

### CCC #286

Opening Balance of the Reserve Fund	\$379,007 (2019/20)
Minimum Reserve Fund Balance during the projected period	\$87,558 (2030/31)
Assumed Annual Inflation Rate for Reserve Fund Expenditures	2.75%
Assumed Annual Interest Rate for interest earned on the Reserve Fund	2.30%

Fiscal Year	Opening Balance	Recommended Annual Contribution	Estimated Inflation Adjusted Expenditures	Estimated Interest Earned	Percentage Increase In Recommended Annual Contributions	Closing Balance
2019/20	\$379,007	\$30,291	\$183,506	\$5,680	3.00%	\$231,472
2020/21	\$231,472	\$31,124	\$13,000	\$5,532	2.75%	\$255,128
2021/22	\$255,128	\$31,980	\$34,339	\$5,841	2.75%	\$258,610
2022/23	\$258,610	\$32,859	\$88,842	\$5,304	2.75%	\$207,932
2023/24	\$207,932	\$33,763	\$49,727	\$4,599	2.75%	\$196,567
2024/25	\$196,567	\$34,691	\$43,169	\$4,424	2.75%	\$192,512
2025/26	\$192,512	\$35,645	\$28,231	\$4,513	2.75%	\$204,440
2026/27	\$204,440	\$36,626	\$59,556	\$4,438	2.75%	\$185,948
2027/28	\$185,948	\$37,633	\$17,774	\$4,505	2.75%	\$210,312
2028/29	\$210,312	\$38,668	\$10,448	\$5,162	2.75%	\$243,693
2029/30	\$243,693	\$39,731	\$191,839	\$3,856	2.75%	\$95,441
2030/31	\$95,441	\$40,824	\$50,787	\$2,081	2.75%	\$87,558
2031/32	\$87,558	\$41,946	\$14,289	\$2,332	2.75%	\$117,548
2032/33	\$117,548	\$43,100	\$32,362	\$2,827	2.75%	\$131,112
2033/34	\$131,112	\$44,285	\$7,783	\$3,435	2.75%	\$171,050
2034/35	\$171,050	\$45,503	\$54,708	\$3,828	2.75%	\$165,674
2035/36	\$165,674	\$46,754	\$23,464	\$4,078	2.75%	\$193,042
2036/37	\$193,042	\$48,040	\$59,302	\$4,310	2.75%	\$186,091
2037/38	\$186,091	\$49,361	\$9,722	\$4,736	2.75%	\$230,466
2038/39	\$230,466	\$50,719	\$0	\$5,884	2.75%	\$287,069
2039/40	\$287,069	\$52,113	\$7,886	\$7,111	2.75%	\$338,407
2040/41	\$338,407	\$53,547	\$21,006	\$8,158	2.75%	\$379,105
2041/42	\$379,105	\$55,019	\$0	\$9,352	2.75%	\$443,476
2042/43	\$443,476	\$56,532	\$33,366	\$10,466	2.75%	\$477,109
2043/44	\$477,109	\$58,087	\$20,996	\$11,400	2.75%	\$525,600
2044/45	\$525,600	\$59,684	\$349,181	\$8,760	2.75%	\$244,863
2045/46	\$244,863	\$61,326	\$8,867	\$6,235	2.75%	\$303,557
2046/47	\$303,557	\$63,012	\$102,199	\$6,531	2.75%	\$270,901
2047/48	\$270,901	\$64,745	\$0	\$6,975	2.75%	\$342,621
2048/49	\$342,621	\$66,525	\$0	\$8,645	2.75%	\$417,792
2049/50	\$417,792	\$68,355	\$23,807	\$10,122	2.75%	\$472,461

## SUMMARY OF PROPOSED PLAN FOR FUTURE FUNDING OF THE RESERVE FUND

The following is a summary of the Board's proposed plan for the future funding of the reserve fund.

The Board of **Carleton Condominium Corporation #286** has reviewed the **Reserve Fund Study** dated **February 18, 2020**, prepared by **Newbridge Engineering Inc.** for the Corporation and has proposed a plan for the future funding of the reserve fund that the Board has determined will ensure that, in accordance with the regulations made under the *Condominium Act*, 1998, the reserve fund will be adequate for the major repair and replacement of the common elements and assets of the Corporation.

The Board has adopted the funding recommendations of the Reserve Fund Study and will implement them as set out in the Contribution Table.

The total annual contribution recommended under the proposed funding plan for the current fiscal year (2019/20) is **\$30,291**, which is the same amount that has already been budgeted. The recommended annual contribution for (2020/21) is **\$31,124** based on the estimated expenditures and the following:

**OR**

The Board has not adopted the funding recommendations of the Reserve Fund Study and has proposed a plan for the future funding as set out in the Contribution Table based on the following:

Opening Balance of the Reserve Fund	\$.....
Minimum Reserve Fund Balance during the projected period	\$.....
Assumed Annual Inflation Rate for Reserve Fund Expenditures	....%
Assumed Annual Interest Rate for interest earned on the Reserve Fund	....%

The total annual contribution recommended under the proposed funding plan for the current fiscal year is \$....., which is the same amount that has already been budgeted OR represents an increase of .....% over the amount already budgeted.

The Reserve Fund Study can be examined by contacting the Property Managers office during normal business hours at:

Capital Integral Property Management,  
904 Lady Ellen Place,  
Ottawa, ON, K1Z 5L5  
613-722-1232.

Forty-eight hours advance notice is required.

# CONTRIBUTION TABLE

CCC #286

Fiscal Year	<u>A</u> Annual Contribution*	% Increase Over Previous Year	<u>B</u> Other Planned Contributions (e.g. special assessment, loan)	<u>A + B</u> Total Contribution Each Year To The Reserve Fund
2019/20	\$30,291	3.00%	\$0	\$30,291
2020/21	\$31,124	2.75%	\$0	\$31,124
2021/22	\$31,980	2.75%	\$0	\$31,980
2022/23	\$32,859	2.75%	\$0	\$32,859
2023/24	\$33,763	2.75%	\$0	\$33,763
2024/25	\$34,691	2.75%	\$0	\$34,691
2025/26	\$35,645	2.75%	\$0	\$35,645
2026/27	\$36,626	2.75%	\$0	\$36,626
2027/28	\$37,633	2.75%	\$0	\$37,633
2028/29	\$38,668	2.75%	\$0	\$38,668
2029/30	\$39,731	2.75%	\$0	\$39,731
2030/31	\$40,824	2.75%	\$0	\$40,824
2031/32	\$41,946	2.75%	\$0	\$41,946
2032/33	\$43,100	2.75%	\$0	\$43,100
2033/34	\$44,285	2.75%	\$0	\$44,285
2034/35	\$45,503	2.75%	\$0	\$45,503
2035/36	\$46,754	2.75%	\$0	\$46,754
2036/37	\$48,040	2.75%	\$0	\$48,040
2037/38	\$49,361	2.75%	\$0	\$49,361
2038/39	\$50,719	2.75%	\$0	\$50,719
2039/40	\$52,113	2.75%	\$0	\$52,113
2040/41	\$53,547	2.75%	\$0	\$53,547
2041/42	\$55,019	2.75%	\$0	\$55,019
2042/43	\$56,532	2.75%	\$0	\$56,532
2043/44	\$58,087	2.75%	\$0	\$58,087
2044/45	\$59,684	2.75%	\$0	\$59,684
2045/46	\$61,326	2.75%	\$0	\$61,326
2046/47	\$63,012	2.75%	\$0	\$63,012
2047/48	\$64,745	2.75%	\$0	\$64,745
2048/49	\$66,525	2.75%	\$0	\$66,525
2049/50	\$68,355	2.75%	\$0	\$68,355

\*The term “annual contribution” means the amount to be contributed each year to the reserve fund from the monthly common expenses.

