Reserve Analysis Report

High Rise Condominium

Sample, New England

Version 2

November 20, 2017

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High Rise Condominium

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Preface

This preface is intended to provide an introduction to the enclosed reserve analysis as well as detailed information regarding the reserve analysis report format, reserve fund goals/objectives and calculation methods. The following sections are included in this preface:

♦ ♦ ♦ ♦ INTRODUCTION TO RESERVE BUDGETING ♦ ♦ ♦ ♦

The Board of Directors of an association has a legal and fiduciary duty to maintain the community in a good state of repair. Individual unit property values are significantly impacted by the level of maintenance and upkeep provided by the association as well as the amount of the regular assessment charged to each owner.

A prudent plan must be implemented to address the issues of long-range maintenance, repair and replacement of the common areas. Additionally, the plan should recognize that the value of each unit is affected by the amount of the regular assessment charged to each unit.

There is a fine line between “not enough,” “just right” and “too much.” Each member of an association should contribute to the reserve fund for their proportionate amount of “depreciation” (or “use”) of the reserve components. Through time, if each owner contributes his “fair share” into the reserve fund for the depreciation of the reserve components, then the possibility of large increases in regular assessments or special assessments will be minimized.

An accurate reserve analysis and a “healthy” reserve fund are essential to protect and maintain the association's common areas and the property values of the individual unit owners. A comprehensive reserve analysis is one of the most significant elements of any association's long-range plan and provides the critical link between sound business judgment and good fiscal planning. The reserve analysis provides a “financial blueprint” for the future of an association.

♦ ♦ ♦ ♦ UNDERSTANDING THE RESERVE ANALYSIS ♦ ♦ ♦ ♦

In order for the reserve analysis to be useful, it must be understandable by a variety of individuals. Board members (from seasoned, experienced Board members to new Board members), property managers, accountants, attorneys and even homeowners may ultimately review the reserve analysis. The reserve analysis must be detailed enough to provide a comprehensive analysis, yet simple enough to enable less experienced individuals to understand the results.

There are four key bits of information that a comprehensive reserve analysis should provide: Budget, Percent Funded, Projections and Inventory. This information is described as follows:

Budget
Amount recommended to be transferred into the reserve account for the fiscal year for which the reserve analysis was prepared. In some cases, the reserve analysis may present two or more funding plans based on different goals/objectives. The Board should have a clear understanding of the differences among these funding goals/objectives prior to implementing one of them in the annual budget.

Percent Funded
Measure of the reserve fund “health” (expressed as a percentage) as of the beginning of the fiscal year for which the

reserve analysis was prepared. This figure is the ratio of the actual reserve fund on hand to the fully funded balance. A reserve fund that is "100% funded" means the association has accumulated the proportionately correct amount of money, to date, for the reserve components it maintains.

Projections
Indicate the "level of service" the association will provide the membership as well as a "road map" for the fiscal future of the association. The projections define the timetables for repairs and replacements, such as when the buildings will be painted or when the asphalt will be seal coated. The projections also show the financial plan for the association – when an underfunded association will "catch up" or how a properly funded association will remain fiscally "healthy."

Inventory
Complete listing of the reserve components. Key bits of information are available for each reserve component, including placed-in-service date, useful life, remaining life, replacement year, quantity, current cost of replacement, future cost of replacement and analyst's comments.

♦ ♦ ♦ ♦ RESERVE FUNDING GOALS / OBJECTIVES ♦ ♦ ♦ ♦

There are four reserve funding goals/objectives which may be used to develop a reserve funding plan that corresponds with the risk tolerance of the association: Full Funding, Baseline Funding, Threshold Funding and Statutory Funding. These goals/objectives are described as follows:

Full Funding
Describes the goal/objective to have reserves on hand equivalent to the value of the deterioration of each reserve component. The objective of this funding goal is to achieve and/or maintain a 100% percent funded reserve fund. The component calculation method or cash flow calculation method is typically used to develop a full funding plan.

Baseline Funding
Describes the goal/objective to have sufficient reserves on hand to never completely run out of money. The objective of this funding goal is to simply pay for all reserve expenses as they come due without regard to the association's percent funded. The cash flow calculation method is typically used to develop a baseline funding plan.

Threshold Funding
Describes the goal/objective other than the 100% level (full funding) or just staying cash-positive (baseline funding). This threshold goal/objective may be a specific percent funded target or a cash balance target. Threshold funding is often a value chosen between full funding and baseline funding. The cash flow calculation method is typically used to develop a threshold funding plan.

Statutory Funding
Describes the pursuit of an objective as described or required by local laws or codes. The component calculation method or cash flow calculation method is typically used to develop a statutory funding plan.

♦ ♦ ♦ ♦ RESERVE FUNDING CALCULATION METHODS ♦ ♦ ♦ ♦

There are two funding methods which can be used to develop a reserve funding plan based on a reserve funding goal/objective: Component Calculation Method and Cash Flow Calculation Method. These calculation methods are described as follows:

Component Calculation Method
This calculation method develops a funding plan for each individual reserve component. The sum of the funding plan for each component equals the total funding plan for the association. This method is often referred to as the "straight line"

method and is widely believed to be the most conservative reserve funding method. This method structures a funding plan that enables the association to pay all reserve expenditures as they come due, enables the association to achieve the ideal level of reserves in time, and then enables the association to maintain the ideal level of reserves through time. The following is a detailed description of the component calculation method:

Step 1: Calculation of fully funded balance for each component

The fully funded balance is calculated for each component based on its age, useful life and current cost. The actual formula is as follows:

$$\text{Fully Funded Balance} = \frac{\text{Age}}{\text{Useful Life}} \times \text{Current Cost}$$

Step 2: Distribution of current reserve funds

The association's current reserve funds are assigned to (or distributed amongst) the reserve components based on each component's remaining life and fully funded balance as follows:

Pass 1: Components are organized in remaining life order, from least to greatest, and the current reserve funds are assigned to each component up to its fully funded balance, until reserves are exhausted.

Pass 2: If all components are assigned their fully funded balance and additional funds exist, they are assigned in a "second pass." Again, the components are organized in remaining life order, from least to greatest, and the remaining current reserve funds are assigned to each component up to its current cost, until reserves are exhausted.

Pass 3: If all components are assigned their current cost and additional funds exist, they are assigned in a "third pass." Components with a remaining life of zero years are assigned double their current cost.

Distributing, or assigning, the current reserve funds in this manner is the most efficient use of the funds on hand – it defers the make-up period of any underfunded reserves over the lives of the components with the largest remaining lives.

Step 3: Developing a funding plan

After step 2, all components have a "starting" balance. A calculation is made to determine what funding would be required to get from the starting balance to the future cost over the number of years remaining until replacement. The funding plan incorporates the annual contribution increase parameter to develop a "stair stepped" contribution.

For example, if an association needs to accumulate $100,000 in ten years, $10,000 could be contributed each year. Alternatively, the association could contribute $8,723 in the first year and increase the contribution by 3% each year thereafter until the tenth year.

In most cases, this rate should match the inflation parameter. Matching the annual contribution increase parameter to the inflation parameter indicates, in theory, that member contributions should increase at the same rate as the cost of living (inflation parameter). Due to the "time value of money," this creates the most equitable distribution of member contributions through time.

Using an annual contribution increase parameter that is greater than the inflation parameter will reduce the burden to the current membership at the expense of the future membership. Using an annual contribution increase parameter that is less than the inflation parameter will increase the burden to the current membership to the benefit of the future membership. The following chart shows a comparison:

	0% Increase	3% Increase	10% Increase
Year 1	$10,000.00	$8,723.05	$6,274.54
Year 2	$10,000.00	$8,984.74	$6,901.99
Year 3	$10,000.00	$9,254.28	$7,592.19
Year 4	$10,000.00	$9,531.91	$8,351.41
Year 5	$10,000.00	$9,817.87	$9,186.55
Year 6	$10,000.00	$10,112.41	$10,105.21
Year 7	$10,000.00	$10,415.78	$11,115.73
Year 8	$10,000.00	$10,728.25	$12,227.30
Year 9	$10,000.00	$11,050.10	$13,450.03
Year 10	$10,000.00	$11,381.60	$14,795.04
TOTAL	$100,000.00	$100,000.00	$100,000.00

This parameter is used to develop a funding plan only; it does not mean that the reserve contributions must be raised each year. There are far more significant factors that will contribute to a total reserve contribution increase or decrease from year to year than this parameter.

One of the major benefits of using this calculation method is that for any single component (or group of components), the accumulated balance and reserve funding can be precisely calculated. For example, using this calculation method, the reserve analysis can indicate the exact amount of current reserve funds "in the bank" for the roofs and the amount of money being funded towards the roofs each month. This information is displayed on the Management / Accounting Summary and Charts as well as elsewhere within the report.

The component calculation method is typically used for well-funded associations (greater that 65% funded) with a goal/ objective of full funding.

Cash Flow Calculation Method

This calculation method develops a funding plan based on current reserve funds and projected expenditures during a specific timeframe (typically 30 years). This funding method structures a funding plan that enables the association to pay for all reserve expenditures as they come due, but is not necessarily concerned with the ideal level of reserves through time.

This calculation method tests reserve contributions against reserve expenditures through time to determine the minimum contribution necessary (baseline funding) or some other defined goal/objective (full funding, threshold funding or statutory funding).

Unlike the component calculation method, this calculation method cannot precisely calculate the reserve funding for any single component (or group of components). In order to work-around this issue to provide this bookkeeping information, a formula has been applied to component method results to calculate a reasonable breakdown. This information is displayed on the Management / Accounting Summary and Charts as well as elsewhere within the report.

The cash flow calculation method is typically used for under-funded associations (less than 65% funded) with a goal/ objective of full funding, threshold funding, baseline funding or statutory funding.

Preface

♦ ♦ ♦ ♦ READING THE RESERVE ANALYSIS ♦ ♦ ♦ ♦

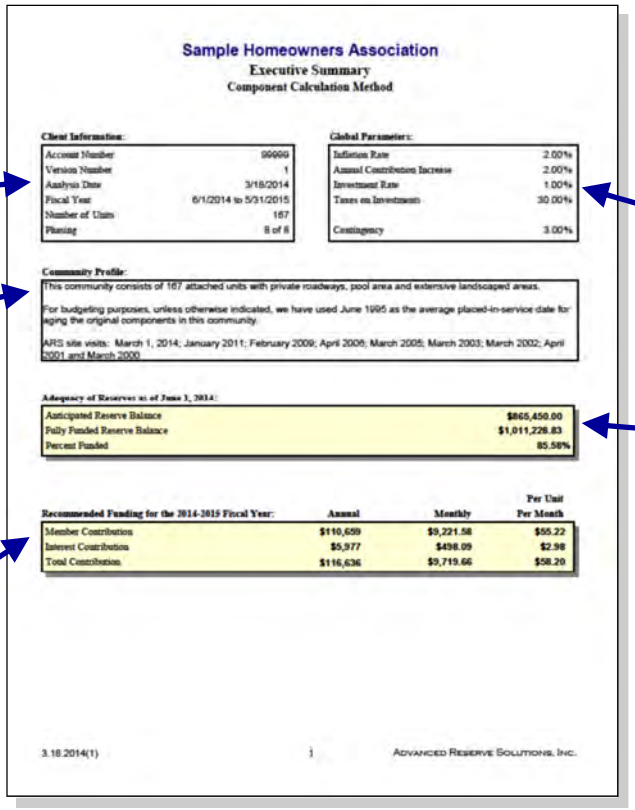
In some cases, the reserve analysis may be a lengthy document of one hundred pages or more. A complete and thorough review of the reserve analysis is always a good idea. However, if time is limited, it is suggested that a thorough review of the summary pages be made. If a "red flag" is raised in this review, the reader should then check the detail information, of the component in question, for all relevant information. In this section, a description of most of the summary or report sections is provided along with comments regarding what to look for and how to use each section.

Executive Summary

Provides general information about the client, global parameters used in the calculation of the reserve analysis as well as the core results of the reserve analysis.

Client Information
Provides various client information including fiscal year for which the reserve analysis was prepared, number of units, phasing, etc.

Global Parameters
Displays the calculation parameters that were used to calculate the reserve analysis including inflation, annual contribution increase, investment rate, tax rate and contingency.



Sample Homeowners Association
Executive Summary
Component Calculation Method

Client Information:

Account Number	99999
Version Number	1
Analysis Date	3/18/2014
Fiscal Year	6/1/2014 to 5/31/2015
Number of Units	167
Phasing	8 of 8

Global Parameters:

Inflation Rate	2.00%
Annual Contribution Increase	2.00%
Investment Rate	1.00%
Taxes on Investments	30.00%
Contingency	3.00%

Community Profile:
This community consists of 167 attached units with private roadways, pool area and extensive landscaped areas.
For budgeting purposes, unless otherwise indicated, we have used June 1995 as the average placed-in-service date for aging the original components in this community.
ARS site visits: March 1, 2014; January 2011; February 2009; April 2006; March 2005; March 2003; March 2002; April 2001 and March 2000

Adequacy of Reserves as of June 1, 2014:

Anticipated Reserve Balance	$865,450.00
Fully Funded Reserve Balance	$1,011,228.83
Percent Funded	85.58%

Recommended Funding for the 2014-2015 Fiscal Year:	Annual	Monthly	Per Unit Per Month
Member Contribution	$110,659	$9,221.58	$55.22
Interest Contribution	$5,977	$498.09	$2.98
Total Contribution	$116,636	$9,719.66	$58.20

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Community Profile
Provides brief description of the community, as well as other "global" type comments.

Budget
Provides recommended funding for the fiscal year for which the reserve analysis was prepared. Indicates the reserve funding from the membership, anticipated interest contribution and the total contribution

Adequacy of Reserves
Displays the results of calculations with regard to the "health" of the reserve fund as of the beginning of the fiscal year for which the reserve analysis was prepared. Provides the anticipated reserve balance, fully funded reserve balance and the percent funded.

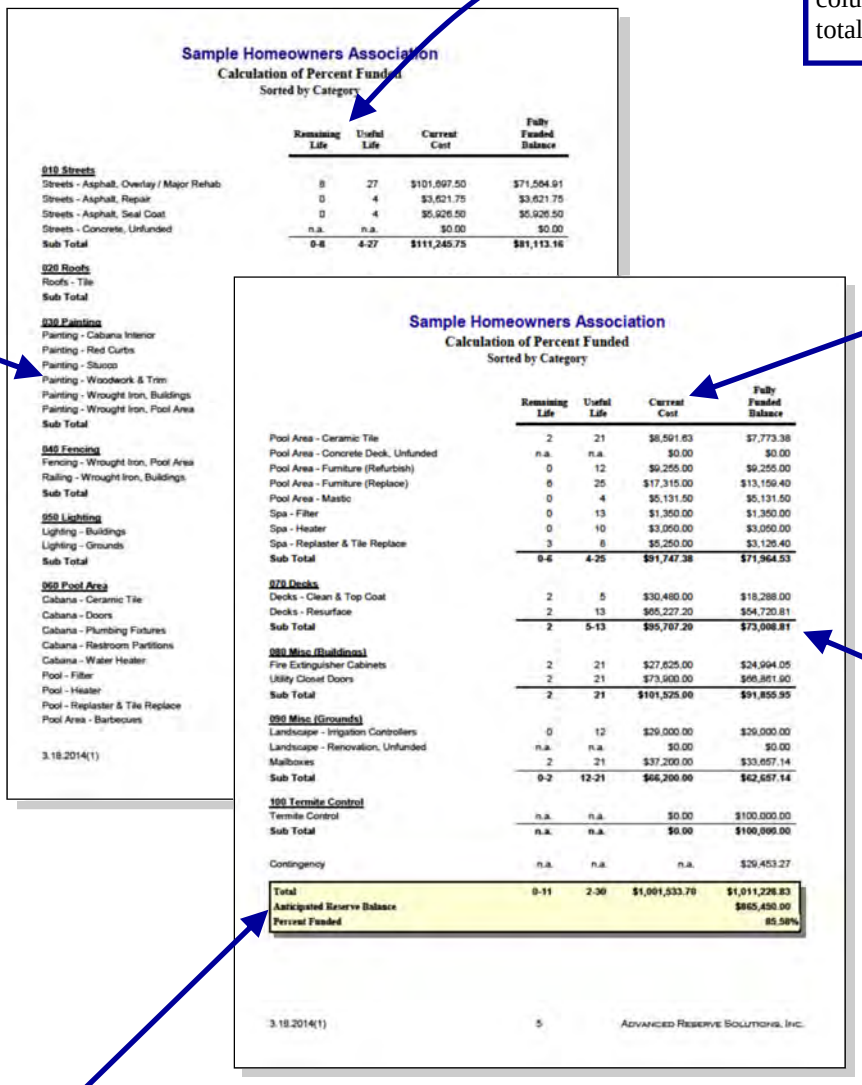
Preface

Calculation of Percent Funded

Summary displays all reserve components, shown here in "category" order. Provides the remaining life, useful life, current cost and the fully funded balance at the beginning of the fiscal year for which the reserve analysis was prepared.

Lifespans
Remaining life and useful life are displayed. And, these columns are conveniently sub totaled to show range.

Reserve Components
All components are displayed (shown here in "category" order).



Sample Homeowners Association
Calculation of Percent Funded
Sorted by Category

	Remaining Life	Useful Life	Current Cost	Fully Funded Balance
010 Streets				
Streets - Asphalt, Overlay / Major Rehab	8	27	$101,697.50	$71,584.91
Streets - Asphalt, Repair	0	4	$3,621.75	$3,621.75
Streets - Asphalt, Seal Coat	0	4	$5,926.50	$5,926.50
Streets - Concrete, Unfunded	n.a.	n.a.	$0.00	$0.00
Sub Total	**0-8**	**4-27**	**$111,245.75**	**$81,113.16**
020 Roofs				
Roofs - Tile				
Sub Total				
030 Painting				
Painting - Cabana Interior				
Painting - Red Curbs				
Painting - Stucco				
Painting - Woodwork & Trim				
Painting - Wrought Iron, Buildings				
Painting - Wrought Iron, Pool Area				
Sub Total				
040 Fencing				
Fencing - Wrought Iron, Pool Area				
Railing - Wrought Iron, Buildings				
Sub Total				
050 Lighting				
Lighting - Buildings				
Lighting - Grounds				
Sub Total				
060 Pool Area				
Cabana - Ceramic Tile				
Cabana - Doors				
Cabana - Plumbing Fixtures				
Cabana - Restroom Partitions				
Cabana - Water Heater				
Pool - Filter				
Pool - Heater				
Pool - Replaster & Tile Replace				
Pool Area - Barbecues				

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Sample Homeowners Association
Calculation of Percent Funded
Sorted by Category

	Remaining Life	Useful Life	Current Cost	Fully Funded Balance
Pool Area - Ceramic Tile	2	21	$8,591.63	$7,773.38
Pool Area - Concrete Deck, Unfunded	n.a.	n.a.	$0.00	$0.00
Pool Area - Furniture (Refurbish)	0	12	$9,255.00	$9,255.00
Pool Area - Furniture (Replace)	6	25	$17,315.00	$13,159.40
Pool Area - Mastic	0	4	$5,131.50	$5,131.50
Spa - Filter	0	13	$1,350.00	$1,350.00
Spa - Heater	0	10	$3,050.00	$3,050.00
Spa - Replaster & Tile Replace	3	8	$5,250.00	$3,126.40
Sub Total	**0-6**	**4-25**	**$91,747.38**	**$71,964.53**
070 Decks				
Decks - Clean & Top Coat	2	5	$30,480.00	$18,288.00
Decks - Resurface	2	13	$65,227.20	$54,720.81
Sub Total	**2**	**5-13**	**$95,707.20**	**$73,008.81**
080 Misc (Buildings)				
Fire Extinguisher Cabinets	2	21	$27,825.00	$24,994.05
Utility Closet Doors	2	21	$73,900.00	$66,861.90
Sub Total	**2**	**21**	**$101,525.00**	**$91,855.95**
090 Misc (Grounds)				
Landscape - Irrigation Controllers	0	12	$29,000.00	$29,000.00
Landscape - Renovation, Unfunded	n.a.	n.a.	$0.00	$0.00
Mailboxes	2	21	$37,200.00	$33,657.14
Sub Total	**0-2**	**12-21**	**$66,200.00**	**$62,657.14**
100 Termite Control				
Termite Control	n.a.	n.a.	$0.00	$100,000.00
Sub Total	**n.a.**	**n.a.**	**$0.00**	**$100,000.00**
Contingency	n.a.	n.a.	n.a.	$29,453.27
Total	**0-11**	**2-30**	**$1,001,533.70**	**$1,011,228.83**
Anticipated Reserve Balance				**$865,450.00**
Percent Funded				**85.58%**

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Current Cost
Displays the current cost to replace or otherwise maintain each component. This column is conveniently sub totaled.

Fully Funded Balance
Displays the fully funded balance for each component. This column is conveniently sub totaled.

The total current cost to replace or otherwise maintain all components, total fully funded balance, anticipated reserve balance and percent funded are provided at the bottom of this summary. Also shown is the range of reserve component remaining lives and useful lives.

Preface

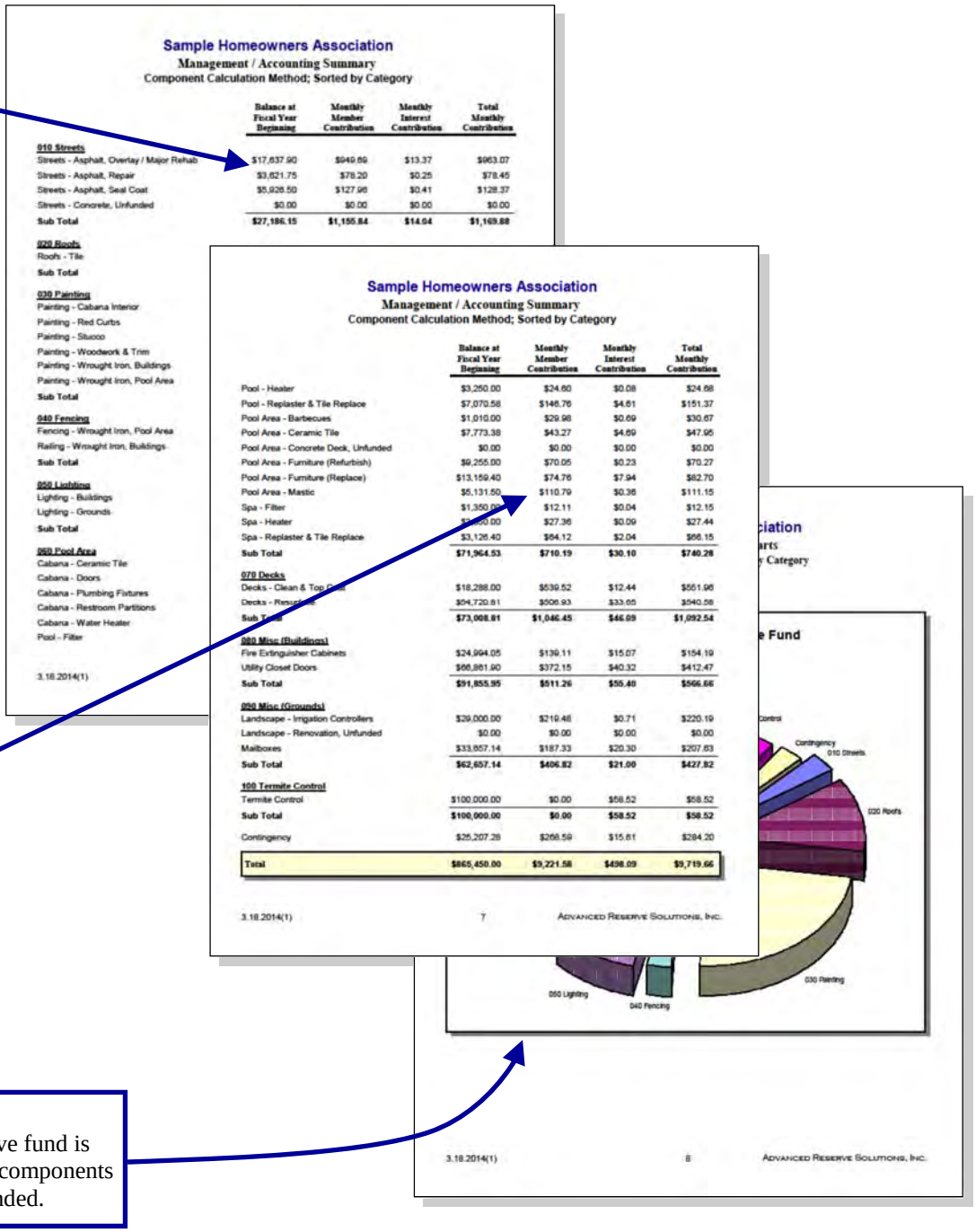
Management / Accounting Summary and Charts

Summary displays all reserve components, shown here in "category" order. Provides the assigned reserve funds at the beginning of the fiscal year for which the reserve analysis was prepared along with the monthly member contribution, interest contribution and total contribution for each component and category. Pie charts show graphically how the total reserve fund is distributed amongst the reserve component categories and how each category is funded on a monthly basis.

Balance at FYB
Shows the amount of reserve funds assigned to each reserve component. And, this column is conveniently sub totaled.

Monthly Funding
Displays the monthly funding for each component from the members and interest. Total monthly funding is also indicated. And, these columns are conveniently sub totaled.

Pie Charts
Show graphically how the reserve fund is distributed amongst the reserve components and how the components are funded.



Sample Homeowners Association
Management / Accounting Summary
Component Calculation Method; Sorted by Category

	Balance at Fiscal Year Beginning	Monthly Member Contribution	Monthly Interest Contribution	Total Monthly Contribution
010 Streets				
Streets - Asphalt, Overlay / Major Rehab	$17,637.90	$949.69	$13.37	$963.07
Streets - Asphalt, Repair	$3,621.75	$78.20	$0.25	$78.45
Streets - Asphalt, Seal Coat	$5,926.50	$127.96	$0.41	$128.37
Streets - Concrete, Unfunded	$0.00	$0.00	$0.00	$0.00
Sub Total	**$27,186.15**	**$1,155.84**	**$14.04**	**$1,169.88**
020 Roofs				
Roofs - Tile				
Sub Total				
030 Painting				
Painting - Cabana Interior				
Painting - Red Curbs				
Painting - Stucco				
Painting - Woodwork & Trim				
Painting - Wrought Iron, Buildings				
Painting - Wrought Iron, Pool Area				
Sub Total				
040 Fencing				
Fencing - Wrought Iron, Pool Area				
Railing - Wrought Iron, Buildings				
Sub Total				
050 Lighting				
Lighting - Buildings				
Lighting - Grounds				
Sub Total				
060 Pool Area				
Cabana - Ceramic Tile				
Cabana - Doors				
Cabana - Plumbing Fixtures				
Cabana - Restroom Partitions				
Cabana - Water Heater				
Pool - Filter				

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Sample Homeowners Association
Management / Accounting Summary
Component Calculation Method; Sorted by Category

	Balance at Fiscal Year Beginning	Monthly Member Contribution	Monthly Interest Contribution	Total Monthly Contribution
Pool - Heater	$3,250.00	$24.60	$0.08	$24.68
Pool - Replaster & Tile Replace	$7,070.58	$146.76	$4.61	$151.37
Pool Area - Barbecues	$1,010.00	$29.98	$0.69	$30.67
Pool Area - Ceramic Tile	$7,773.38	$43.27	$4.69	$47.96
Pool Area - Concrete Deck, Unfunded	$0.00	$0.00	$0.00	$0.00
Pool Area - Furniture (Refurbish)	$9,255.00	$70.05	$0.23	$70.27
Pool Area - Furniture (Replace)	$13,159.40	$74.76	$7.94	$82.70
Pool Area - Mastic	$5,131.50	$110.79	$0.36	$111.15
Spa - Filter	$1,350.00	$12.11	$0.04	$12.15
Spa - Heater	$3,050.00	$27.36	$0.09	$27.44
Spa - Replaster & Tile Replace	$3,126.40	$64.12	$2.04	$66.15
Sub Total	**$71,964.53**	**$710.19**	**$30.10**	**$740.28**
070 Decks				
Decks - Clean & Top Coat	$18,288.00	$539.52	$12.44	$551.96
Decks - Resurface	$54,720.81	$506.93	$33.65	$540.58
Sub Total	**$73,008.81**	**$1,046.45**	**$46.09**	**$1,092.54**
080 Misc (Buildings)				
Fire Extinguisher Cabinets	$24,994.05	$139.11	$15.07	$154.19
Utility Closet Doors	$66,861.90	$372.15	$40.32	$412.47
Sub Total	**$91,855.95**	**$511.26**	**$55.40**	**$566.66**
090 Misc (Grounds)				
Landscape - Irrigation Controllers	$29,000.00	$219.48	$0.71	$220.19
Landscape - Renovation, Unfunded	$0.00	$0.00	$0.00	$0.00
Mailboxes	$33,657.14	$187.33	$20.30	$207.63
Sub Total	**$62,657.14**	**$406.82**	**$21.00**	**$427.82**
100 Termite Control				
Termite Control	$100,000.00	$0.00	$58.52	$58.52
Sub Total	**$100,000.00**	**$0.00**	**$58.52**	**$58.52**
Contingency	$26,207.28	$266.59	$15.61	$284.20
Total	**$865,450.00**	**$9,221.58**	**$498.09**	**$9,719.66**

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Fund

Contingency
010 Streets
020 Roofs
030 Painting
040 Fencing
050 Lighting

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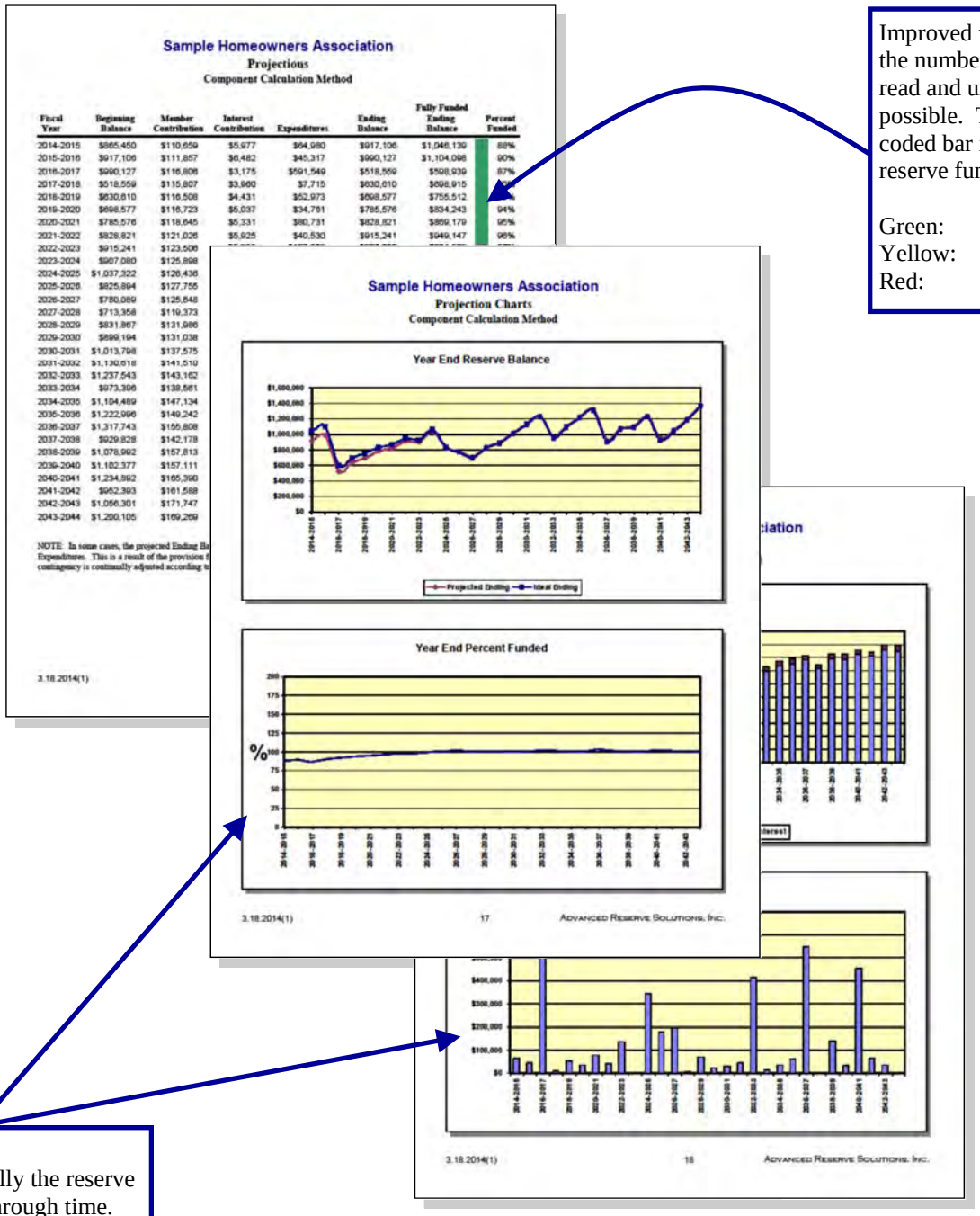
Projections and Charts

Summary displays projections of beginning reserve balance, member contribution, interest contribution, expenditures and ending reserve balance for each year of the projection period (shown here for 30 years). The two columns on the right-hand side provide the fully funded ending balance and the percent funded for each year. Charts show the same information in an easy-to-understand graphic format.



Improved format makes the numbers as easy to read and understand as possible. The color-coded bar indicates the reserve fund status:

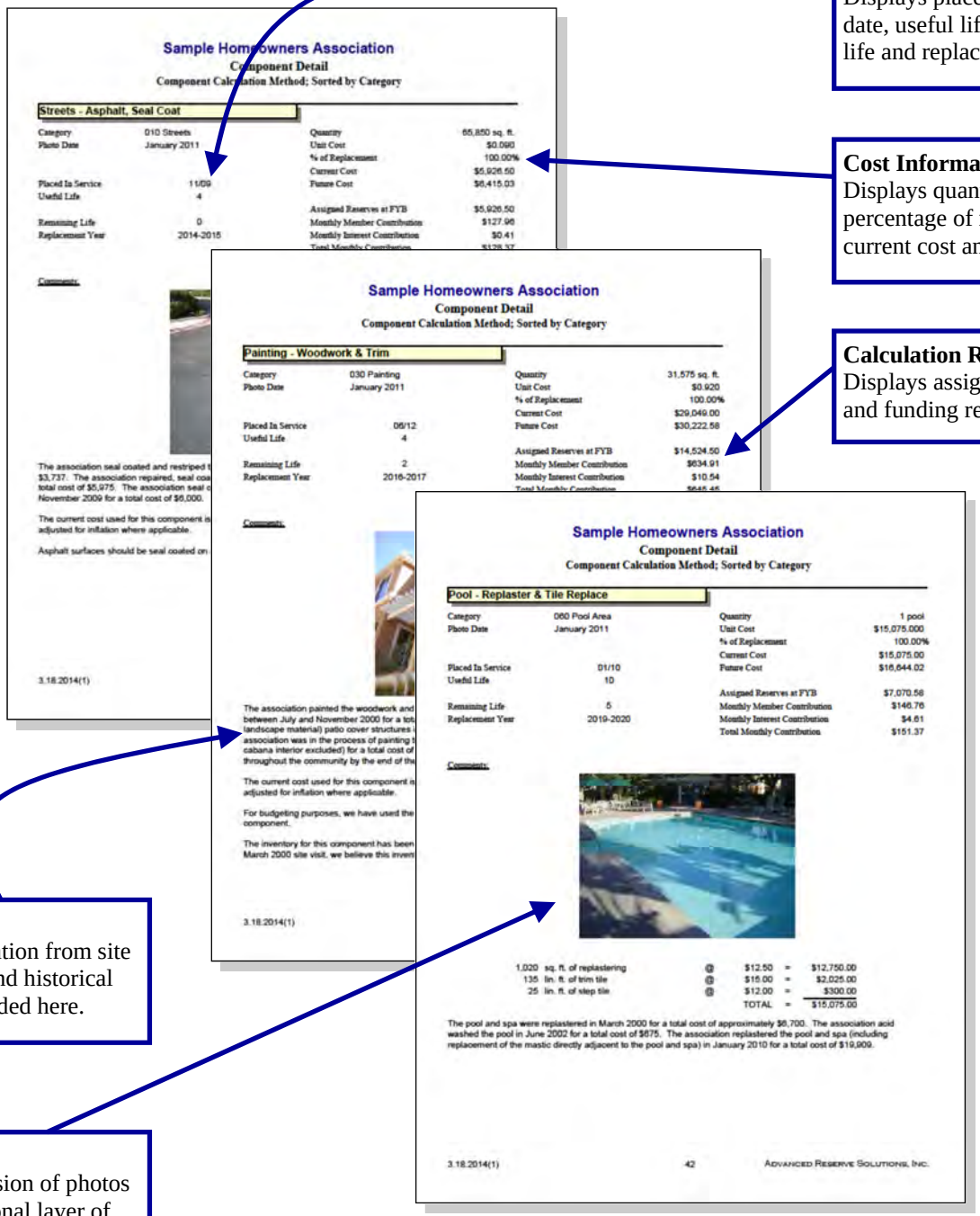
Green:	Good
Yellow:	Fair
Red:	Poor

Charts
Show graphically the reserve funding plan through time.

Preface

Component Detail

Summary provides detailed information about each reserve component. These pages display all information about each reserve component as well as comments from site observations and historical information regarding replacement or other maintenance.



Lifespan Information
Displays placed-in-service date, useful life, remaining life and replacement year.

Cost Information
Displays quantity, unit cost, percentage of replacement, current cost and future cost.

Calculation Results
Displays assigned reserves and funding requirements.

Comments
Useful information from site observations and historical expenses included here.

Photos
Optional inclusion of photos adds an additional layer of detail to the reserve analysis.

Preface

♦ ♦ ♦ ♦ GLOSSARY OF KEY TERMS ♦ ♦ ♦ ♦

Annual Contribution Increase Parameter
The rate used in the calculation of the funding plan. This rate is used on an annual compounding basis. This rate represents, in theory, the rate the association expects to increase contributions each year.

In most cases, this rate should match the inflation parameter. Matching the annual contribution increase parameter to the inflation parameter indicates, in theory, that member contributions should increase at the same rate as the cost of living (inflation parameter). Due to the "time value of money," this creates the most equitable distribution of member contributions through time.

This parameter is used to develop a funding plan only; it does not mean that the reserve contributions must be raised each year. There are far more significant factors that will contribute to a total reserve contribution increase or decrease from year to year than this parameter. See the description of "reserve funding calculation methods" in this preface for more detail on this parameter.

Anticipated Reserve Balance (or Reserve Funds)
The amount of money, as of a certain point in time, held by the association to be used for the repair or replacement of reserve components. This figure is "anticipated" because it is calculated based on the most current financial information available as of the analysis date, which is almost always prior to the fiscal year beginning date for which the reserve analysis is prepared.

Assigned Funds (and "Fixed" Assigned Funds)
The amount of money, as of the fiscal year beginning date for which the reserve analysis is prepared, that a reserve component has been assigned.

The assigned funds are considered "fixed" when the normal calculation process is bypassed and a specific amount of money is assigned to a reserve component. For example, if the normal calculation process assigns $10,000 to the roofs, but the association would like to show $20,000 assigned to roofs, "fixed" funds of $20,000 can be assigned.

Cash Flow Calculation Method
Reserve funding calculation method developed based on total annual expenditures. A more detailed description of the actual calculation process is included in the "reserve funding calculation methods" section of the preface.

Component Calculation Method
Reserve funding calculation method developed based on each individual component. A more detailed description of the actual calculation process is included in the "reserve funding calculation methods" section of the preface.

Contingency Parameter
The rate used as a built-in buffer in the calculation of the funding plan. This rate will assign a percentage of the reserve funds, as of the fiscal year beginning, as contingency funds and will also determine the level of funding toward the contingency each month.

Current Replacement Cost
The amount of money, as of the fiscal year beginning date for which the reserve analysis is prepared, that a reserve component is expected to cost to replace.

Fiscal Year
Indicates the budget year for the association for which the reserve analysis was prepared. The fiscal year beginning (FYB) is the first day of the budget year; the fiscal year end (FYE) is the last day of the budget year.

Fully Funded Reserve Balance (or Ideal Reserves)
The amount of money that should theoretically have accumulated in the reserve fund as of a certain point in time. Fully funded reserves are calculated for each reserve component based on the current replacement cost, age and useful life:

$$\text{Fully Funded Reserves} = \frac{\text{Age}}{\text{Useful Life}} \times \text{Current Replacement Cost}$$

The fully funded reserve balance is the sum of the fully funded reserves for each reserve component.

An association that has accumulated the fully funded reserve balance does not have all of the funds necessary to replace all of its reserve components immediately; it has the proportionately appropriate reserve funds for the reserve components it maintains, based on each component's current replacement cost, age and useful life.

Future Replacement Cost
The amount of money, as of the fiscal year during which replacement of a reserve component is scheduled, that a reserve component is expected to cost to replace. This cost is calculated using the current replacement cost compounded annually by the inflation parameter.

Global Parameters
The financial parameters used to calculate the reserve analysis. See also "inflation parameter," "annual contribution increase parameter," "investment rate parameter" and "taxes on investments parameter."

Inflation Parameter
The rate used in the calculation of future costs for reserve components. This rate is used on an annual compounding basis. This rate represents the rate the association expects the cost of goods and services relating to their reserve components to increase each year.

Interest Contribution
The amount of money contributed to the reserve fund by the interest earned on the reserve fund and member contributions.

Investment Rate Parameter
The gross rate used in the calculation of interest contribution (interest earned) from the reserve balance and member contributions. This rate (net of the taxes on investments parameter) is used on a monthly compounding basis. This parameter represents the weighted average interest rate the association expects to earn on their reserve fund investments.

Membership Contribution
The amount of money contributed to the reserve fund by the association's membership.

Monthly Contribution (and "Fixed" Monthly Contribution)
The amount of money, for the fiscal year which the reserve analysis is prepared, that a reserve component will be funded.

The monthly contribution is considered "fixed" when the normal calculation process is bypassed and a specific amount of money is funded to a reserve component. For example, if the normal calculation process funds $1,000 to the roofs each month, but the association would like to show $500 funded to roofs each month, a "fixed" contribution of $500 can be assigned.

Number of Units (or other assessment basis)
Indicates the number of units for which the reserve analysis was prepared. In "phased" developments (see phasing), this number represents the number of units, and corresponding common area components, that existed as of a certain point in time.

For some associations, assessments and reserve contributions are based on a unit of measure other than the number of units. Examples include time-interval weeks for timeshare resorts or lot acreage for commercial/industrial developments.

One-Time Replacement
Used for components that will be budgeted for only once.

Percent Funded
A measure, expressed as a percentage, of the association's reserve fund "health" as of a certain point in time. This number is the ratio of the anticipated reserve fund balance to the fully funded reserve balance:

$$\text{Percent Funded} = \frac{\text{Anticipated Reserve Fund Balance}}{\text{Fully Funded Reserve Balance}}$$

An association that is 100% funded does not have all of the reserve funds necessary to replace all of its reserve components immediately; it has the proportionately appropriate reserve funds for the reserve components it maintains, based on each component's current replacement cost, age and useful life.

Percentage of Replacement
The percentage of the reserve component that is expected to be replaced.

For most reserve components, this percentage should be 100%. In some cases, this percentage may be more or less than 100%. For example, fencing which is shared with a neighboring community may be set at 50%.

Phasing
Indicates the number of phases for which the reserve analysis was prepared and the total number of phases expected at build-out (i.e. Phase 4 of 7). In phased developments, the first number represents the number of phases, and corresponding common area components, that existed as of a certain point in time. The second number represents the number of phases that are expected to exist at build-out.

Placed-In-Service Date
The date (month and year) that the reserve component was originally put into service or last replaced.

Remaining Life
The length of time, in years, until a reserve component is scheduled to be replaced.

Remaining Life Adjustment
The length of time, in years, that a reserve component is expected to last in excess (or deficiency) of its useful life for the current cycle of replacement.

If the current cycle of replacement for a reserve component is expected to be greater than or less than the "normal" life expectancy, the reserve component's life should be adjusted using a remaining life adjustment.

For example, if wood trim is painted normally on a 4 year cycle, the useful life should be 4 years. However, when it comes time to paint the wood trim and it is determined that it can be deferred for an additional year, the useful life should remain at 4 years and a remaining life adjustment of +1 year should be used.

Replacement Year
The fiscal year that a reserve component is scheduled to be replaced.

Reserve Components
Line items included in the reserve analysis.

Taxes on Investments Parameter
The rate used to offset the investment rate parameter in the calculation of the interest contribution. This parameter represents the marginal tax rate the association expects to pay on interest earned by the reserve funds and member contributions.

Total Contribution
The sum of the membership contribution and interest contribution.

Useful Life
The length of time, in years, that a reserve component is expected to last each time it is replaced. See also "remaining life adjustment."

♦ ♦ ♦ ♦ LIMITATIONS OF RESERVE ANALYSIS ♦ ♦ ♦ ♦

This reserve analysis is intended as a tool for the association's Board of Directors to be used in evaluating the association's current physical and financial condition with regard to reserve components. The results of this reserve analysis represent the independent opinion of the preparer. There is no implied warranty or guarantee of this work product.

For the purposes of this reserve analysis, it has been assumed that all components have been installed properly, no construction defects exist and all components are operational. Additionally, it has been assumed that all components will be maintained properly in the future.

The representations set forth in this reserve analysis are based on the best information and estimates of the preparer as of the date of this analysis. These estimates are subject to change. This reserve analysis includes estimates of replacement costs and life expectancies as well as assumptions regarding future events. Some estimates are projections of future events based on information currently available and are not necessarily indicative of the actual future outcome. The longer the time period between the estimate and the estimated event, the more likely the possibility or error and/or discrepancy. For example, some assumptions inevitably will not materialize and unanticipated events and circumstances may occur subsequent to the preparation of this reserve analysis. Therefore, the actual replacement costs and remaining lives may vary from this reserve analysis and the variation may be significant. Additionally, inflation and other economic events may impact this reserve analysis, particularly over an extended period of time and those events could have a significant and negative impact on the accuracy of this reserve analysis and, further, the funds available to meet the association's obligation for repair, replacement or other maintenance of major components during their estimated useful life. Furthermore, the occurrence of vandalism, severe weather conditions, earthquakes, floods, acts of nature or other unforeseen events cannot be predicted and/or accounted for and are excluded when assessing life expectancy, repair and/or replacement costs of the components.

High Rise Condominium

Executive Summary

Directed Cash Flow Calculation Method

Client Information:

Account Number	20011
Version Number	2
Analysis Date	11/20/2017
Fiscal Year	1/1/2018 to 12/31/2018
Number of 193	193
Phasing	1 of 1

Global Parameters:

Inflation Rate	2.00%
Annual Contribution Increase	2.00%
Investment Rate	0.50%
Taxes on Investments	0.00%
Contingency	3.00%

Community Profile:

Condominium consists of two high-rise residential buildings located at 100 and 200 Street in Rhode Island. 100 Street (Tower A) is 19-stories tall. 200 Street (Tower B) is 17-stories tall. Both buildings have top floor mechanical levels and in aggregate contain 193 residential units and 6 commercial spaces on the first floor. Construction of the buildings was completed in 2008.

The site consists of three buildings, 100, 200, and 500 Street, and a parking garage. The buildings at 100 and 200 Street comprise Condominium. The third building at 500 Street is owned and operated by CBS. Waterplace 1 and CBS each own 50% of the Master Condominium and split the costs of the Master Association accordingly. The Garage is part of the Master Condominium and is responsible for garage components. Garage has its own budget that is funded 60.5% from Condominium and 39.5% from CBS for maintenance and repairs for components that are solely garage-owned and a percentage of jointly-owned components.

Reserve fund balance as of 1/1/2018 provided by client. Annual reserve fund contribution is $203,541.

ARS site visits: July 26, 2017, August 11, 2017, September 3, 2017

Adequacy of Reserves as of January 1, 2018:

Anticipated Reserve Balance	**$464,299.00**
Fully Funded Reserve Balance	**$2,932,755.93**
Percent Funded	**15.83%**

Recommended Funding for the 2018 Fiscal Year:	Annual	Monthly	Per 193 Per Month
Member Contribution	**$723,895**	**$60,324.58**	**$312.56**
Interest Contribution	**$2,409**	**$200.76**	**$1.04**
Total Contribution	**$726,304**	**$60,525.34**	**$313.60**

High Rise Condominium

Preparer's Disclosure Statement

Paul Huijing, P.E. completed this reserve study. Consultant certifies that:

1) Consultant has no other involvement with association which could result in actual or perceived conflicts of interest.

2) Consultant made site visits to this community on July 26, 2017, August 11, 2017, and September 3, 2017.

3) Many component inventories were taken from prior Strategic Inspections 2012 reserve study. Quantities are deemed accurate. Some component inventories were verified by field inventory examination, representative sampling, or by making "take-offs" of scaled plans/maps from community's developer. Additional components omitted in prior study were added.

4) Component conditional assessments were developed by actual field observation and representative sampling.

5) Financial assumptions used in this analysis are listed on the Executive Summary and further explained in the Preface of this report.

6) This is a "Level 2" update reserve study with a site visit.

7) Exterior windows and exterior doors within units are 100% responsibility of association per client.

8) Unit doors to common hallway are responsibility of unit owners per property manager.

9) There are no other material issues known to consultant at this time which would cause a distortion of the association's situation.

10) Distribution of components common to more than one association per discussions with management.

11) Tax rate on investments set to zero per client

High Rise Condominium

Note Pad

Association Expense Split:
CBS and Condominium each own 50% of the Master Condominium and split the costs of the Master Association accordingly.

The Garage is part of the Master Condominium that is responsible for garage components. Garage has its own budget that is funded 60.5% from Condominium and 39.5% from CBS for maintenance and repairs for components that are solely garage-owned.

Condominium Specific Comments:
Version 2 added:
Contribution from developer litigation $500,000 in 2018
Repair of expansion joint between Tower A and plaza
Set 2018 contribution to $223,895 per client

The following specific components are currently unfunded:
-Concrete exterior stairs
-Unit storage area lockers
-Building lobby, fitness center, and elevator lobby renovations (individual components are funded)
-Unit hallway renovations (individual components are funded)
-Fire doors and stairwells
-Exterior flush steel doors
-Replacement of exterior cladding comprised primarily of pre-cast concrete panels
-Unit hall doors and balcony doors are responsibility of unit owners per client

-Unit windows components changed to 100% association responsibility from version 1 based on client input

General unfunded components:
The following components are often repaired and/or replaced on an "as-needed" basis and not funded for a complete replacement at one time.

Concrete:
Typically, budgeting for concrete repairs as a reserve component is excluded as it is anticipated that any repairs required will be addressed immediately due to safety concerns. Minor repairs, as needed, should be addressed immediately as a maintenance issue using the client's operating and/or reserve contingency funds. Should the client desire, funding for this component can be included.

Areas include but not limited to:
- Foundation and retaining walls
- Walls (Exterior/Interior)
- Balcony structure
- Parking Deck/Entrance Area/Underground Parking

Plumbing Pipes: Complete replacement of the plumbing pipes is an expensive replacement that would require removal of walls, ceilings and floors. Typically, budgeting for plumbing pipes repairs and/or replacements as a reserve component is excluded as it is anticipated that any repairs required will be addressed immediately due to safety concerns. There is no way to predict the remaining life of plumbing pipes. Most are completely enclosed in walls, ceilings and floors. Therefore, a complete visual inspection is not possible. Plumbing systems are built to last the legal life of a building. Most repairs and/or replacements are due to unforeseen issues, product defects, construction defects, improper installation, or from improper chemical treatments. Repairs to this type of system are done on an 'as-needed' basis. It is rare that a complete system of this type is replaced all at once.

Electrical Services (Lines/Meters): Complete replacement of the electrical service lines is costly and would require removal of walls, ceilings and floors. Typically, budgeting for electrical repairs and/or replacements as a reserve

component is excluded as it is anticipated that any repairs required will be addressed immediately due to safety concerns. There is no way to predict the remaining life of electrical service lines. Most are completely enclosed in walls, ceilings and floors. Therefore a complete visual inspection is not possible. Electrical Service systems are built to last the legal life of a building. Most repairs and/or replacements are due to unforeseen issues, product defects, construction defects, or improper installation. Repairs to this type of system are done on an 'as-needed' basis. It is rare that a complete system of this type is replaced all at once. Electrical Meters are replaced on an 'as-needed' basis. The Electric Service provider would replace any damaged component of the system immediately and bill the client accordingly.

Landscaping: Landscaping is an annual maintenance expense.

Fiberboard Ceiling Panels: The fiberboard ceiling panels should be replaced on an 'as-needed' basis.

Unit Doors: Responsibility of unit owner.

Sidewalk/Patio: The walkways should be kept in a good state of repair at all times.

Garbage Chute Doors: repair/replace 'as-needed'.

Storage lockers: Low use item that can be repaired on as-needed basis.

Emergency Lighting: The emergency lighting should be tested periodically. Any damaged or not working units should be repaired/replaced immediately.

High Rise Condominium

Calculation of Percent Funded

Sorted by Category

	Remaining Life	Useful Life	Current Cost	Fully Funded Balance
010 Roof				
Roof	10	20	$690,000.00	$345,000.00
Roof, Terrace Pavers	10	20	$83,760.00	$41,880.00
Sub Total	**10**	**20**	**$773,760.00**	**$386,880.00**
020 Building Exterior				
Balcony Coating	10	20	$636,000.00	$318,000.00
Balcony Coating, Clean & Top Coat	5	5	$53,000.00	$0.00
Expansion Joint Repair, Tower A & Plaza	0	1	$250,000.00	$250,000.00
Exterior Cladding Maintenance	0	10	$59,000.00	$59,000.00
Exterior Railings	20	30	$486,486.00	$162,162.00
Glass Canopies	10	20	$13,500.00	$6,750.00
Windows, Common Storefront Areas	5	5	$37,612.50	$0.00
Windows, Units	1	2	$60,000.00	$30,000.00
Sub Total	**0-20**	**1-30**	**$1,595,598.50**	**$825,912.00**
030 Building Interior				
Floor, Carpet	5	15	$106,560.00	$71,040.00
Floor, Rubber Tile	5	15	$4,037.50	$2,691.67
Floor, Stone Tile	2	12	$45,060.00	$37,550.00
Floor, Vinyl Tile	10	20	$18,482.25	$9,241.13
Floor, Wood	5	15	$39,720.00	$26,480.00
Lighting, Common Area	15	25	$71,200.00	$28,480.00
Restrooms, Common Area	10	20	$60,000.00	$30,000.00
Sub Total	**2-15**	**12-25**	**$345,059.75**	**$205,482.79**
040 Interior Furnishings				
Appliances, Common Area	10	20	$53,200.00	$26,600.00
Cabinetry & Countertops, Common Area	10	20	$70,050.00	$35,025.00
Furnishings, Common Roof Terrace	5	15	$24,000.00	$16,000.00
Furnishings, Community Room	5	15	$12,000.00	$8,000.00
Furnishings, Entrance Lobbies	5	15	$36,000.00	$24,000.00
Sub Total	**5-10**	**15-20**	**$195,250.00**	**$109,625.00**
090 Equipment				
Air Handler - Heat Pump, Tower A	10	20	$10,000.00	$5,000.00
Air Handler - Heat Pump, Tower B	10	20	$10,000.00	$5,000.00
Air Handler - Water Pumps, Tower A	5	15	$9,000.00	$6,000.00
Air Handler - Water Pumps, Tower B	5	15	$9,000.00	$6,000.00

High Rise Condominium

Calculation of Percent Funded

Sorted by Category

	Remaining Life	Useful Life	Current Cost	Fully Funded Balance
Air Handler, Tower A	10	20	$20,000.00	$10,000.00
Air Handler, Tower B	10	20	$20,000.00	$10,000.00
Boiler Water Circulation	5	15	$24,800.00	$16,533.33
Boilers	20	30	$150,000.00	$50,000.00
Boilers, Scheduled Maintenance	1	3	$7,500.00	$5,000.00
Building Management System	2	5	$10,200.00	$6,120.00
Combustion Air Supply Fan	15	25	$15,000.00	$6,000.00
Condenser Water Circulation, Cooling Tower	5	15	$35,000.00	$23,333.33
Condenser Water Circulation, Primary	5	15	$42,000.00	$28,000.00
Condenser Water Circulation, Tower A	5	15	$30,000.00	$20,000.00
Condenser Water Circulation, Tower B	5	15	$42,000.00	$28,000.00
Condenser Water Heat Exchanger	10	20	$100,000.00	$50,000.00
Condenser Water Heat Exchanger, Maintenance	0	10	$4,200.00	$4,200.00
Cooling Tower	15	25	$250,000.00	$100,000.00
Cooling Tower, Refurbishment	6	16	$50,000.00	$31,250.00
Cooling Tower, Water Treatment	7	15	$3,300.00	$1,760.00
Domestic Water Pumps	3	13	$55,200.00	$42,461.54
Electrical System, IR Testing	3	3	$2,400.00	$0.00
Electrical, Periodic Repairs	15	15	$24,000.00	$0.00
Elevator Cab Refurbish, Towers	5	15	$100,000.00	$66,666.67
Elevator Modernization, Towers	20	30	$1,000,000.00	$333,333.33
Entrance Door Access Control	5	15	$29,700.00	$19,800.00
Entrance Door Intercom	10	20	$4,500.00	$2,250.00
Entrance Door Unit Intercom Access	5	15	$4,000.00	$2,666.67
Fire Alarm	15	25	$159,293.75	$63,717.50
Fire Sprinkler, Jockey Pump	10	20	$6,375.00	$3,187.50
Fire Sprinkler, Main Pump	10	20	$29,750.00	$14,875.00
Fitness Equipment	5	15	$24,000.00	$16,000.00
Generator	20	30	$280,000.00	$93,333.33
Generator, Fuel Pump	5	15	$2,100.00	$1,400.00
Generator, Fuel Tank	15	25	$8,050.00	$3,220.00
Heat Pump, Common Areas	10	20	$100,000.00	$50,000.00
Heat Pump, Equipment Areas	10	20	$30,000.00	$15,000.00
Heat Pump, Unit Style	10	20	$60,000.00	$30,000.00
Heat Trace System	0	10	$1,875.00	$1,875.00
Loading Dock Overhead Doors	10	20	$18,815.00	$9,407.50
Mailboxes	20	30	$11,165.00	$3,721.67

High Rise Condominium

Calculation of Percent Funded

Sorted by Category

	Remaining Life	Useful Life	Current Cost	Fully Funded Balance
Stairwell Pressurization Fan	20	30	$56,000.00	$18,666.67
Surveillance System	9	10	$8,000.00	$800.00
Trash Compactors	10	20	$58,000.00	$29,000.00
Unit Heater, Equipment Rooms	10	20	$4,995.00	$2,497.50
Unit Heater, Mechanical Penthouse	10	20	$7,000.00	$3,500.00
Ventilation Fan, Common Area	10	20	$17,500.00	$8,750.00
Ventilation Fan, Unit Bathroom	10	20	$60,000.00	$30,000.00
Water Heater, Circulation 2nd floor	2	5	$8,000.00	$4,800.00
Water Heater, Electric Supplemental	2	12	$2,000.00	$1,666.67
Water Heater, Main	6	8	$118,000.00	$29,500.00
Water Heater, Main Circulation	3	7	$9,000.00	$5,142.86
Sub Total	**0-20**	**3-30**	**$3,141,718.75**	**$1,319,436.06**
Contingency	n.a.	n.a.	n.a.	$85,420.08
Total	**0-20**	**1-30**	**$6,051,387.00**	**$2,932,755.93**
Anticipated Reserve Balance				**$464,299.00**
Percent Funded				**15.83%**

High Rise Condominium

Management / Accounting Summary

Directed Cash Flow Calculation Method; Sorted by Category

	Balance at Fiscal Year Beginning	Monthly Member Contribution	Monthly Interest Contribution	Total Monthly Contribution
010 Roof				
Roof	$0.00	$7,031.39	$15.53	$7,046.93
Roof, Terrace Pavers	$0.00	$853.55	$1.88	$855.43
Sub Total	**$0.00**	**$7,884.94**	**$17.42**	**$7,902.36**
020 Building Exterior				
Balcony Coating	$0.00	$6,481.11	$14.32	$6,495.43
Balcony Coating, Clean & Top Coat	$0.00	$1,041.65	$2.30	$1,043.95
Expansion Joint Repair, Tower A & Plaza	$250,000.00	$0.00	$0.00	$0.00
Exterior Cladding Maintenance	$59,000.00	$1,159.57	$2.56	$1,162.13
Exterior Railings	$0.00	$2,661.89	$5.88	$2,667.77
Glass Canopies	$0.00	$137.57	$0.30	$137.87
Windows, Common Storefront Areas	$0.00	$739.23	$1.64	$740.86
Windows, Units	$30,000.00	$2,904.76	$19.98	$2,924.74
Sub Total	**$339,000.00**	**$15,125.79**	**$46.98**	**$15,172.76**
030 Building Interior				
Floor, Carpet	$0.00	$2,094.31	$4.63	$2,098.94
Floor, Rubber Tile	$0.00	$79.35	$0.17	$79.53
Floor, Stone Tile	$37,550.00	$413.62	$17.90	$431.52
Floor, Vinyl Tile	$0.00	$188.34	$0.41	$188.75
Floor, Wood	$0.00	$780.65	$1.72	$782.37
Lighting, Common Area	$0.00	$501.37	$1.10	$502.48
Restrooms, Common Area	$0.00	$611.43	$1.35	$612.78
Sub Total	**$37,550.00**	**$4,669.07**	**$27.30**	**$4,696.36**
040 Interior Furnishings				
Appliances, Common Area	$0.00	$542.13	$1.20	$543.33
Cabinetry & Countertops, Common Area	$0.00	$713.84	$1.58	$715.42
Furnishings, Common Roof Terrace	$0.00	$471.69	$1.04	$472.73
Furnishings, Community Room	$0.00	$235.85	$0.52	$236.37
Furnishings, Entrance Lobbies	$0.00	$707.54	$1.56	$709.10
Sub Total	**$0.00**	**$2,671.04**	**$5.90**	**$2,676.95**
090 Equipment				
Air Handler - Heat Pump, Tower A	$0.00	$101.90	$0.23	$102.13
Air Handler - Heat Pump, Tower B	$0.00	$101.90	$0.23	$102.13
Air Handler - Water Pumps, Tower A	$0.00	$176.88	$0.39	$177.27

High Rise Condominium

Management / Accounting Summary

Directed Cash Flow Calculation Method; Sorted by Category

	Balance at Fiscal Year Beginning	Monthly Member Contribution	Monthly Interest Contribution	Total Monthly Contribution
Air Handler - Water Pumps, Tower B	$0.00	$176.88	$0.39	$177.27
Air Handler, Tower A	$0.00	$203.81	$0.45	$204.26
Air Handler, Tower B	$0.00	$203.81	$0.45	$204.26
Boiler Water Circulation	$0.00	$487.41	$1.07	$488.49
Boilers	$0.00	$820.75	$1.81	$822.56
Boilers, Scheduled Maintenance	$5,000.00	$245.57	$2.81	$248.37
Building Management System	$6,120.00	$204.69	$3.22	$207.90
Combustion Air Supply Fan	$0.00	$105.63	$0.24	$105.86
Condenser Water Circulation, Cooling Tower	$0.00	$687.88	$1.52	$689.40
Condenser Water Circulation, Primary	$0.00	$825.46	$1.82	$827.28
Condenser Water Circulation, Tower A	$0.00	$589.61	$1.30	$590.91
Condenser Water Circulation, Tower B	$0.00	$825.46	$1.82	$827.28
Condenser Water Heat Exchanger	$0.00	$1,019.04	$2.25	$1,021.30
Condenser Water Heat Exchanger, Maintenanc	$4,200.00	$42.80	$0.10	$42.90
Cooling Tower	$0.00	$1,760.43	$3.89	$1,764.32
Cooling Tower, Refurbishment	$0.00	$824.91	$1.82	$826.73
Cooling Tower, Water Treatment	$0.00	$47.01	$0.11	$47.12
Domestic Water Pumps	$42,461.54	$470.73	$20.24	$490.98
Electrical System, IR Testing	$0.00	$77.47	$0.17	$77.64
Electrical, Periodic Repairs	$0.00	$169.00	$0.37	$169.37
Elevator Cab Refurbish, Towers	$0.00	$1,965.38	$4.34	$1,969.72
Elevator Modernization, Towers	$0.00	$5,471.67	$12.09	$5,483.75
Entrance Door Access Control	$0.00	$583.72	$1.29	$585.01
Entrance Door Intercom	$0.00	$45.86	$0.10	$45.95
Entrance Door Unit Intercom Access	$1,559.67	$50.15	$0.81	$50.96
Fire Alarm	$0.00	$1,121.70	$2.48	$1,124.18
Fire Sprinkler, Jockey Pump	$0.00	$64.96	$0.14	$65.10
Fire Sprinkler, Main Pump	$0.00	$303.17	$0.67	$303.84
Fitness Equipment	$0.00	$471.69	$1.04	$472.73
Generator	$0.00	$1,532.07	$3.38	$1,535.45
Generator, Fuel Pump	$1,400.00	$15.72	$0.67	$16.39
Generator, Fuel Tank	$0.00	$56.69	$0.13	$56.82
Heat Pump, Common Areas	$0.00	$1,019.04	$2.25	$1,021.30
Heat Pump, Equipment Areas	$0.00	$305.71	$0.67	$306.38
Heat Pump, Unit Style	$0.00	$611.43	$1.35	$612.78
Heat Trace System	$1,875.00	$19.11	$0.04	$19.15

High Rise Condominium

Management / Accounting Summary

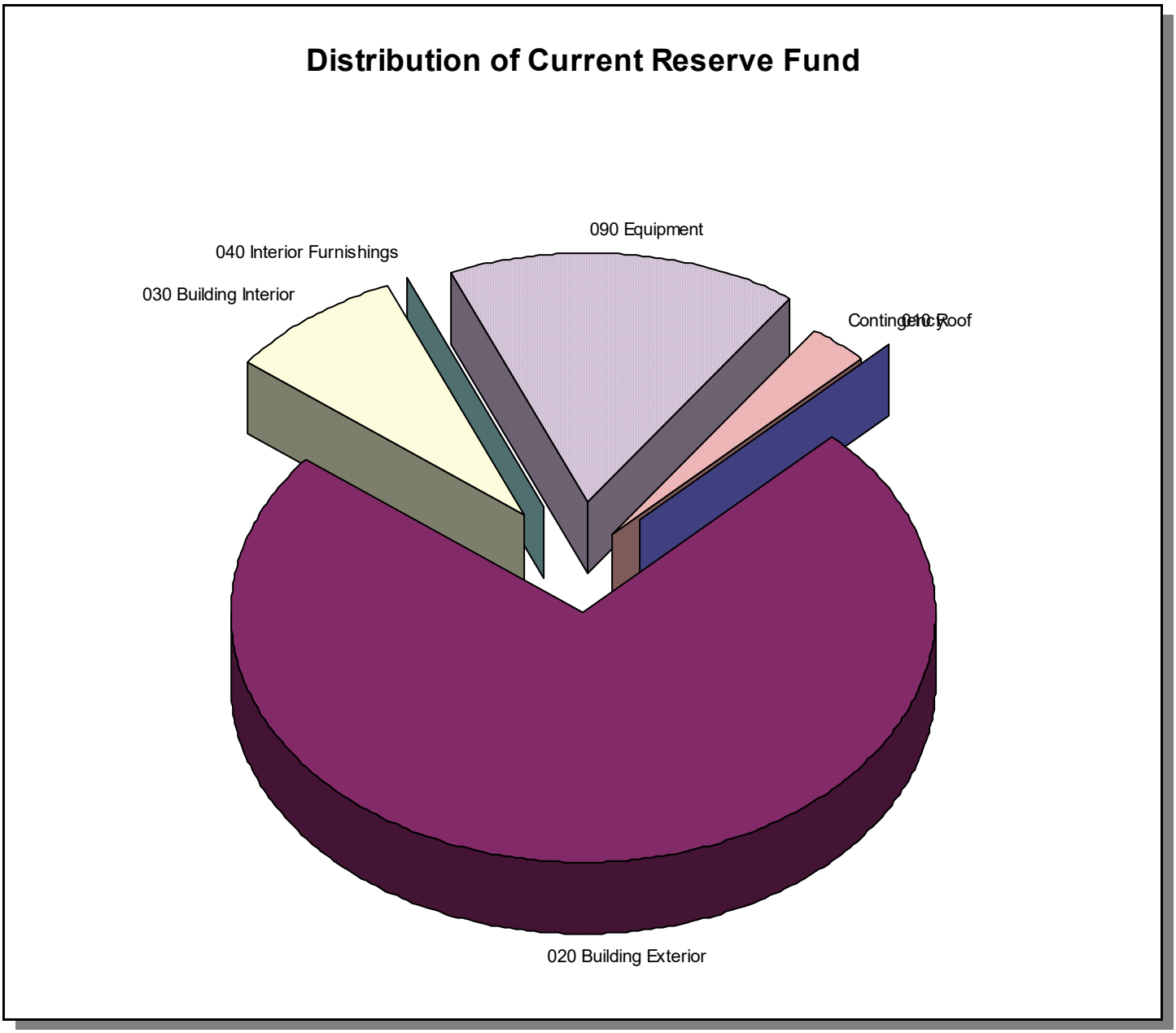
Directed Cash Flow Calculation Method; Sorted by Category

	Balance at Fiscal Year Beginning	Monthly Member Contribution	Monthly Interest Contribution	Total Monthly Contribution
Loading Dock Overhead Doors	$0.00	$191.73	$0.42	$192.16
Mailboxes	$0.00	$61.09	$0.13	$61.22
Stairwell Pressurization Fan	$0.00	$306.41	$0.67	$307.08
Surveillance System	$0.00	$89.93	$0.19	$90.12
Trash Compactors	$0.00	$591.04	$1.31	$592.36
Unit Heater, Equipment Rooms	$0.00	$50.90	$0.11	$51.01
Unit Heater, Mechanical Penthouse	$0.00	$71.33	$0.16	$71.50
Ventilation Fan, Common Area	$0.00	$178.33	$0.39	$178.72
Ventilation Fan, Unit Bathroom	$0.00	$611.43	$1.35	$612.78
Water Heater, Circulation 2nd floor	$4,800.00	$160.54	$2.52	$163.06
Water Heater, Electric Supplemental	$1,666.67	$18.36	$0.79	$19.15
Water Heater, Main	$0.00	$1,946.79	$4.30	$1,951.09
Water Heater, Main Circulation	$5,142.86	$131.72	$2.62	$134.34
Sub Total	**$74,225.73**	**$28,216.71**	**$93.14**	**$28,309.85**
Contingency	$13,523.27	$1,757.03	$10.00	$1,767.02
Total	**$464,299.00**	**$60,324.58**	**$200.76**	**$60,525.34**

High Rise Condominium

Management / Accounting Charts

Directed Cash Flow Calculation Method; Sorted by Category

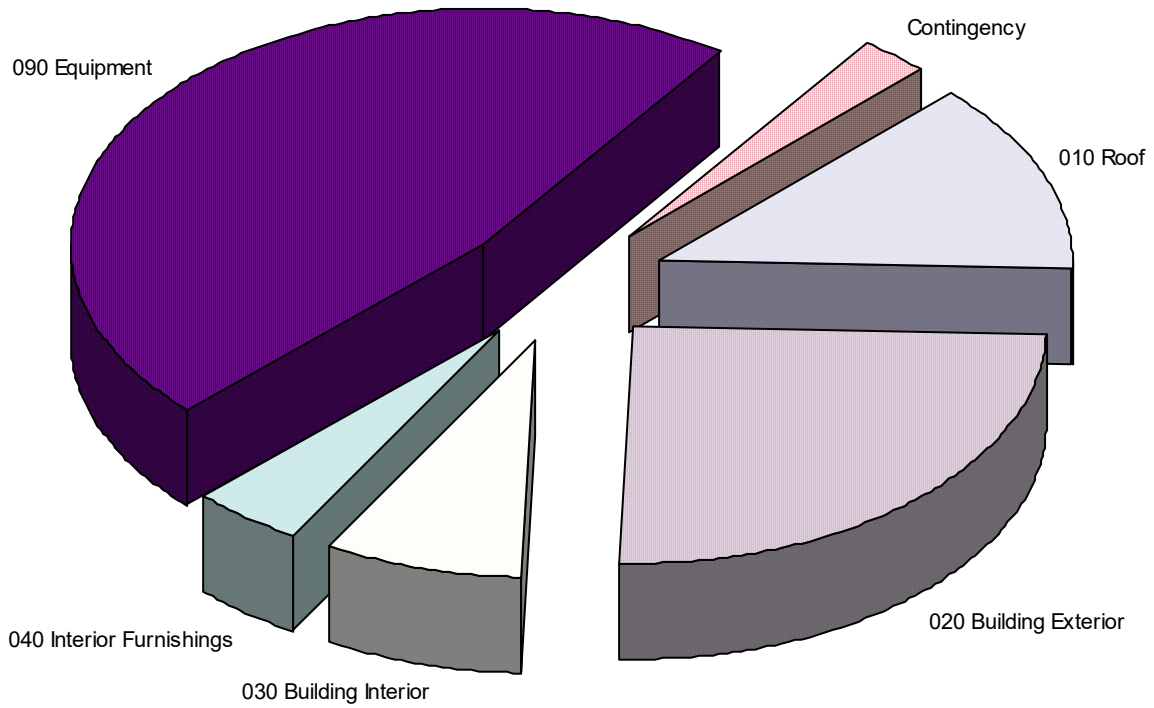


High Rise Condominium

Management / Accounting Charts

Directed Cash Flow Calculation Method; Sorted by Category

Monthly Member Contribution



High Rise Condominium

Annual Expenditure Detail

Sorted by Description

2018 Fiscal Year	
Condenser Water Heat Exchanger, Maintenance	$4,200.00
Expansion Joint Repair, Tower A & Plaza	$250,000.00
Exterior Cladding Maintenance	$59,000.00
Heat Trace System	$1,875.00
Sub Total	**$315,075.00**
2019 Fiscal Year	
Boilers, Scheduled Maintenance	$7,650.00
Windows, Units	$61,200.00
Sub Total	**$68,850.00**
2020 Fiscal Year	
Building Management System	$10,612.08
Floor, Stone Tile	$46,880.42
Water Heater, Circulation 2nd floor	$8,323.20
Water Heater, Electric Supplemental	$2,080.80
Sub Total	**$67,896.50**
2021 Fiscal Year	
Domestic Water Pumps	$58,578.68
Electrical System, IR Testing	$2,546.90
Water Heater, Main Circulation	$9,550.87
Windows, Units	$63,672.48
Sub Total	**$134,348.93**
2022 Fiscal Year	
Boilers, Scheduled Maintenance	$8,118.24
Sub Total	**$8,118.24**
2023 Fiscal Year	
Air Handler - Water Pumps, Tower A	$9,936.73
Air Handler - Water Pumps, Tower B	$9,936.73
Balcony Coating, Clean & Top Coat	$58,516.28
Boiler Water Circulation	$27,381.20
Condenser Water Circulation, Cooling Tower	$38,642.83
Condenser Water Circulation, Primary	$46,371.39
Condenser Water Circulation, Tower A	$33,122.42
Condenser Water Circulation, Tower B	$46,371.39
Elevator Cab Refurbish, Towers	$110,408.08
Entrance Door Access Control	$32,791.20

High Rise Condominium

Annual Expenditure Detail

Sorted by Description

Entrance Door Unit Intercom Access	$4,416.32
Exterior Cladding Maintenance	$65,140.77
Fitness Equipment	$26,497.94
Floor, Carpet	$117,650.85
Floor, Rubber Tile	$4,457.73
Floor, Wood	$43,854.09
Furnishings, Common Roof Terrace	$26,497.94
Furnishings, Community Room	$13,248.97
Furnishings, Entrance Lobbies	$39,746.91
Generator, Fuel Pump	$2,318.57
Windows, Common Storefront Areas	$41,527.24
Windows, Units	$66,244.85
Sub Total	**$865,080.43**
2024 Fiscal Year	
Cooling Tower, Refurbishment	$56,308.12
Electrical System, IR Testing	$2,702.79
Water Heater, Main	$132,887.17
Sub Total	**$191,898.08**
2025 Fiscal Year	
Boilers, Scheduled Maintenance	$8,615.14
Building Management System	$11,716.59
Cooling Tower, Water Treatment	$3,790.66
Water Heater, Circulation 2nd floor	$9,189.49
Windows, Units	$68,921.14
Sub Total	**$102,233.02**
2027 Fiscal Year	
Electrical System, IR Testing	$2,868.22
Surveillance System	$9,560.74
Windows, Units	$71,705.55
Sub Total	**$84,134.52**
2028 Fiscal Year	
Air Handler - Heat Pump, Tower A	$12,189.94
Air Handler - Heat Pump, Tower B	$12,189.94
Air Handler, Tower A	$24,379.89
Air Handler, Tower B	$24,379.89
Appliances, Common Area	$64,850.50

High Rise Condominium

Annual Expenditure Detail

Sorted by Description

Balcony Coating	$775,280.45
Balcony Coating, Clean & Top Coat	$64,606.70
Boilers, Scheduled Maintenance	$9,142.46
Cabinetry & Countertops, Common Area	$85,390.56
Condenser Water Heat Exchanger	$121,899.44
Condenser Water Heat Exchanger, Maintenance	$5,119.78
Entrance Door Intercom	$5,485.47
Exterior Cladding Maintenance	$71,920.67
Fire Sprinkler, Jockey Pump	$7,771.09
Fire Sprinkler, Main Pump	$36,265.08
Floor, Vinyl Tile	$22,529.76
Glass Canopies	$16,456.42
Heat Pump, Common Areas	$121,899.44
Heat Pump, Equipment Areas	$36,569.83
Heat Pump, Unit Style	$73,139.67
Heat Trace System	$2,285.61
Loading Dock Overhead Doors	$22,935.38
Restrooms, Common Area	$73,139.67
Roof	$841,106.15
Roof, Terrace Pavers	$102,102.97
Trash Compactors	$70,701.68
Unit Heater, Equipment Rooms	$6,088.88
Unit Heater, Mechanical Penthouse	$8,532.96
Ventilation Fan, Common Area	$21,332.40
Ventilation Fan, Unit Bathroom	$73,139.67
Water Heater, Main Circulation	$10,970.95
Windows, Common Storefront Areas	$45,849.43
Sub Total	**$2,869,652.74**
2029 Fiscal Year	
Windows, Units	$74,602.46
Sub Total	**$74,602.46**
2030 Fiscal Year	
Building Management System	$12,936.07
Electrical System, IR Testing	$3,043.78
Water Heater, Circulation 2nd floor	$10,145.93
Water Heater, Electric Supplemental	$2,536.48
Sub Total	**$28,662.26**

High Rise Condominium

Annual Expenditure Detail

Sorted by Description

2031 Fiscal Year	
Boilers, Scheduled Maintenance	$9,702.05
Domestic Water Pumps	$71,407.09
Windows, Units	$77,616.40
Sub Total	**$158,725.53**
2032 Fiscal Year	
Water Heater, Main	$155,698.49
Sub Total	**$155,698.49**
2033 Fiscal Year	
Balcony Coating, Clean & Top Coat	$71,331.02
Combustion Air Supply Fan	$20,188.03
Cooling Tower	$336,467.08
Electrical System, IR Testing	$3,230.08
Electrical, Periodic Repairs	$32,300.84
Exterior Cladding Maintenance	$79,406.23
Fire Alarm	$214,388.41
Floor, Carpet	$143,415.73
Generator, Fuel Tank	$10,834.24
Lighting, Common Area	$95,825.83
Windows, Common Storefront Areas	$50,621.47
Windows, Units	$80,752.10
Sub Total	**$1,138,761.07**
2034 Fiscal Year	
Boilers, Scheduled Maintenance	$10,295.89
Sub Total	**$10,295.89**
2035 Fiscal Year	
Building Management System	$14,282.46
Water Heater, Circulation 2nd floor	$11,201.93
Water Heater, Main Circulation	$12,602.17
Windows, Units	$84,014.49
Sub Total	**$122,101.05**
2036 Fiscal Year	
Electrical System, IR Testing	$3,427.79
Sub Total	**$3,427.79**

High Rise Condominium

Annual Expenditure Detail

Sorted by Description

2037 Fiscal Year	
Boilers, Scheduled Maintenance	$10,926.08
Surveillance System	$11,654.49
Windows, Units	$87,408.67
Sub Total	**$109,989.24**
2038 Fiscal Year	
Air Handler - Water Pumps, Tower A	$13,373.53
Air Handler - Water Pumps, Tower B	$13,373.53
Balcony Coating, Clean & Top Coat	$78,755.21
Boiler Water Circulation	$36,851.50
Boilers	$222,892.11
Condenser Water Circulation, Cooling Tower	$52,008.16
Condenser Water Circulation, Primary	$62,409.79
Condenser Water Circulation, Tower A	$44,578.42
Condenser Water Circulation, Tower B	$62,409.79
Condenser Water Heat Exchanger, Maintenance	$6,240.98
Elevator Cab Refurbish, Towers	$148,594.74
Elevator Modernization, Towers	$1,485,947.40
Entrance Door Access Control	$44,132.64
Entrance Door Unit Intercom Access	$5,943.79
Exterior Cladding Maintenance	$87,670.90
Exterior Railings	$722,892.60
Fitness Equipment	$35,662.74
Floor, Rubber Tile	$5,999.51
Floor, Wood	$59,021.83
Furnishings, Common Roof Terrace	$35,662.74
Furnishings, Community Room	$17,831.37
Furnishings, Entrance Lobbies	$53,494.11
Generator	$416,065.27
Generator, Fuel Pump	$3,120.49
Heat Trace System	$2,786.15
Mailboxes	$16,590.60
Stairwell Pressurization Fan	$83,213.05
Windows, Common Storefront Areas	$55,890.20
Sub Total	**$3,873,413.13**
2039 Fiscal Year	
Electrical System, IR Testing	$3,637.60

Windows, Units	$90,939.98
Sub Total	**$94,577.58**
2040 Fiscal Year	
Boilers, Scheduled Maintenance	$11,594.85
Building Management System	$15,768.99
Cooling Tower, Refurbishment	$77,298.98
Cooling Tower, Water Treatment	$5,101.73
Water Heater, Circulation 2nd floor	$12,367.84
Water Heater, Electric Supplemental	$3,091.96
Water Heater, Main	$182,425.60
Sub Total	**$307,649.95**
2041 Fiscal Year	
Domestic Water Pumps	$87,044.84
Windows, Units	$94,613.96
Sub Total	**$181,658.80**
2042 Fiscal Year	
Electrical System, IR Testing	$3,860.25
Water Heater, Main Circulation	$14,475.94
Sub Total	**$18,336.18**
2043 Fiscal Year	
Appliances, Common Area	$87,280.24
Balcony Coating, Clean & Top Coat	$86,952.12
Boilers, Scheduled Maintenance	$12,304.55
Exterior Cladding Maintenance	$96,795.75
Floor, Carpet	$174,822.97
Floor, Vinyl Tile	$30,322.09
Windows, Common Storefront Areas	$61,707.29
Windows, Units	$98,436.36
Sub Total	**$648,621.37**
2045 Fiscal Year	
Building Management System	$17,410.24
Electrical System, IR Testing	$4,096.53
Floor, Stone Tile	$76,912.30
Water Heater, Circulation 2nd floor	$13,655.09
Windows, Units	$102,413.19

Sub Total	**$214,487.35**
2046 Fiscal Year	
Boilers, Scheduled Maintenance	$13,057.68
Sub Total	**$13,057.68**
2047 Fiscal Year	
Surveillance System	$14,206.76
Windows, Units	$106,550.68
Sub Total	**$120,757.44**

High Rise Condominium

Projections

Directed Cash Flow Calculation Method

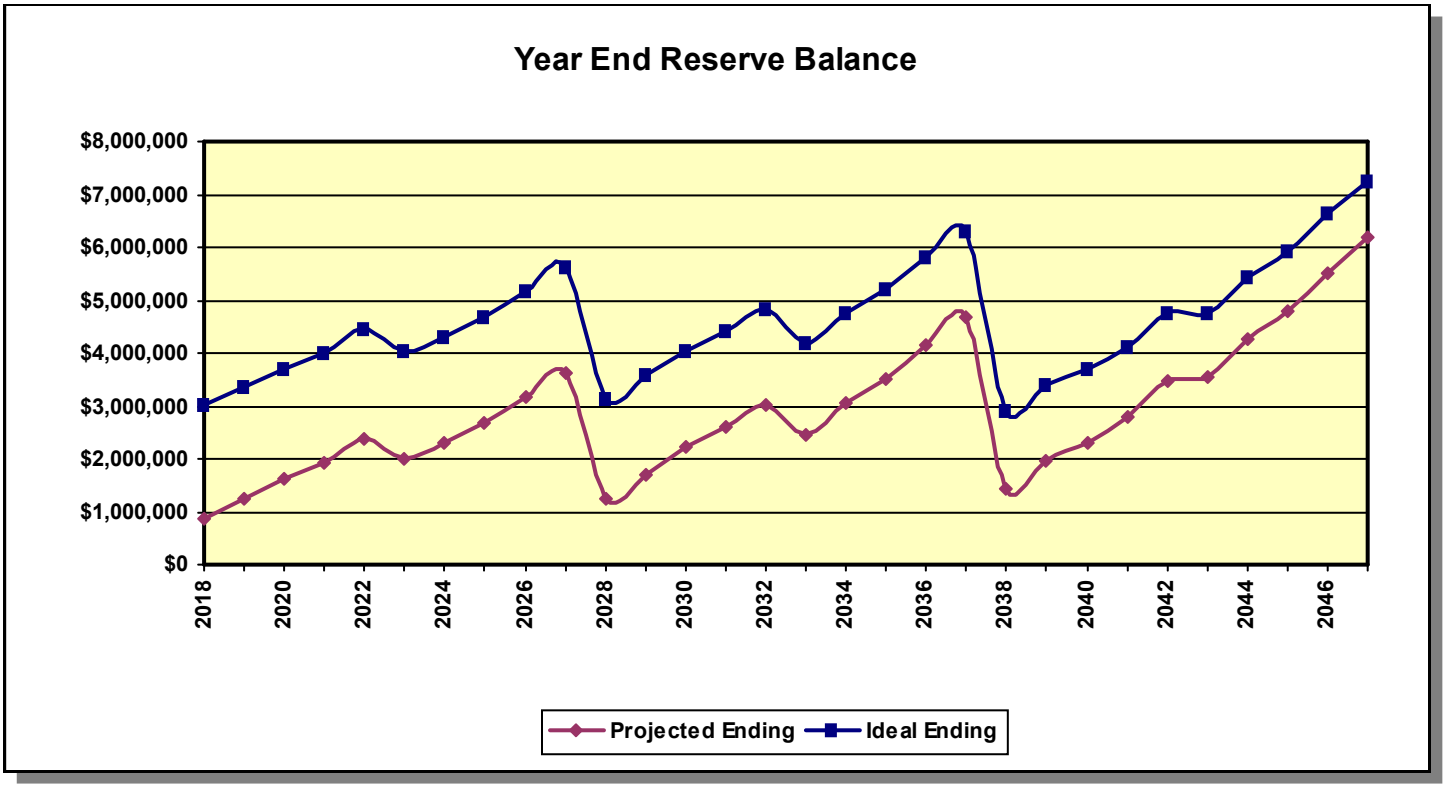
Fiscal Year	Beginning Balance	Member Contribution	Interest Contribution	Expenditures	Ending Balance	Fully Funded Ending Balance	Percent Funded
2018	$464,299	$723,895	$2,409	$315,075	$875,528	$3,008,183	29%
2019	$875,528	$427,380	$5,023	$68,850	$1,239,081	$3,350,759	37%
2020	$1,239,081	$435,928	$6,870	$67,897	$1,613,982	$3,706,185	44%
2021	$1,613,982	$444,646	$8,436	$134,349	$1,932,715	$4,007,520	48%
2022	$1,932,715	$453,539	$10,686	$8,118	$2,388,822	$4,454,867	54%
2023	$2,388,822	$462,610	$8,698	$865,080	$1,995,049	$4,022,470	50%
2024	$1,995,049	$471,862	$10,119	$191,898	$2,285,132	$4,296,419	53%
2025	$2,285,132	$481,299	$12,044	$102,233	$2,676,243	$4,677,950	57%
2026	$2,676,243	$490,925	$14,539	$0	$3,181,706	$5,182,579	61%
2027	$3,181,706	$500,744	$16,673	$84,135	$3,614,988	$5,617,129	64%
2028	$3,614,988	$510,759	$4,907	$2,869,653	$1,261,002	$3,143,821	40%
2029	$1,261,002	$520,974	$7,141	$74,602	$1,714,514	$3,566,111	48%
2030	$1,714,514	$531,393	$9,668	$28,662	$2,226,913	$4,053,867	55%
2031	$2,226,913	$542,021	$11,609	$158,726	$2,621,817	$4,423,665	59%
2032	$2,621,817	$552,862	$13,628	$155,698	$3,032,608	$4,813,149	63%
2033	$3,032,608	$563,919	$10,785	$1,138,761	$2,468,551	$4,186,908	59%
2034	$2,468,551	$575,197	$13,639	$10,296	$3,047,092	$4,743,186	64%
2035	$3,047,092	$586,701	$16,005	$122,101	$3,527,697	$5,202,794	68%
2036	$3,527,697	$598,435	$19,035	$3,428	$4,141,739	$5,806,132	71%
2037	$4,141,739	$610,404	$21,606	$109,989	$4,663,760	$6,319,642	74%
2038	$4,663,760	$622,612	$5,390	$3,873,413	$1,418,348	$2,899,827	49%
2039	$1,418,348	$635,064	$8,091	$94,578	$1,966,926	$3,392,125	58%
2040	$1,966,926	$647,765	$9,802	$307,650	$2,316,844	$3,681,088	63%
2041	$2,316,844	$660,721	$12,217	$181,659	$2,808,122	$4,119,084	68%
2042	$2,808,122	$673,935	$15,528	$18,336	$3,479,249	$4,748,531	73%
2043	$3,479,249	$687,414	$15,763	$648,621	$3,533,804	$4,739,715	75%
2044	$3,533,804	$701,162	$19,319	$0	$4,254,285	$5,423,718	78%
2045	$4,254,285	$715,185	$21,887	$214,487	$4,776,870	$5,907,845	81%
2046	$4,776,870	$729,489	$25,548	$13,058	$5,518,849	$6,625,296	83%
2047	$5,518,849	$744,079	$28,760	$120,757	$6,170,931	$7,256,207	85%

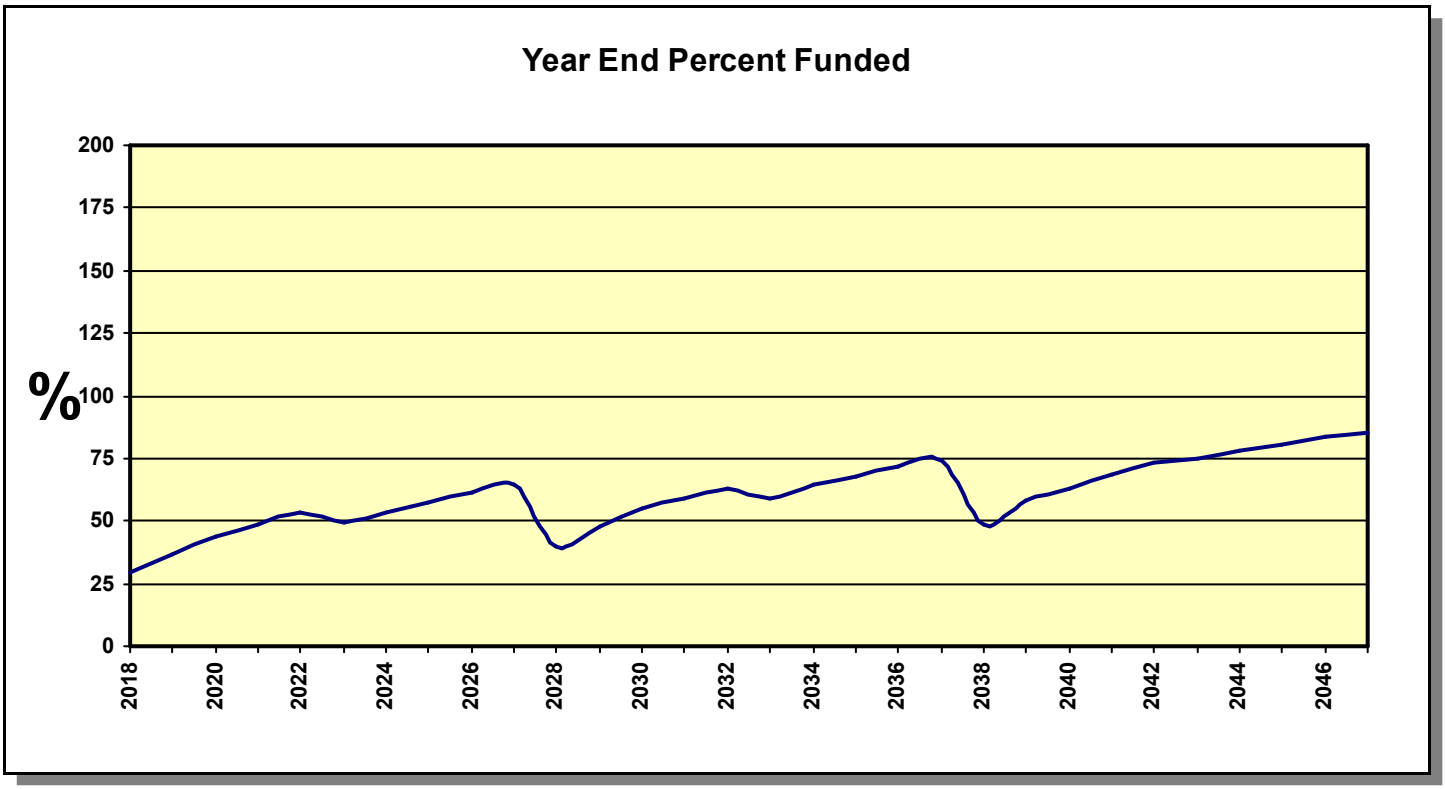
NOTE: In some cases, the projected Ending Balance may exceed the Fully Funded Ending Balance in years following high Expenditures. This is a result of the provision for contingency in this analysis, which in these projections is never expended. The contingency is continually adjusted according to need and any excess is redistributed among all components included.

High Rise Condominium

Projection Charts

Directed Cash Flow Calculation Method

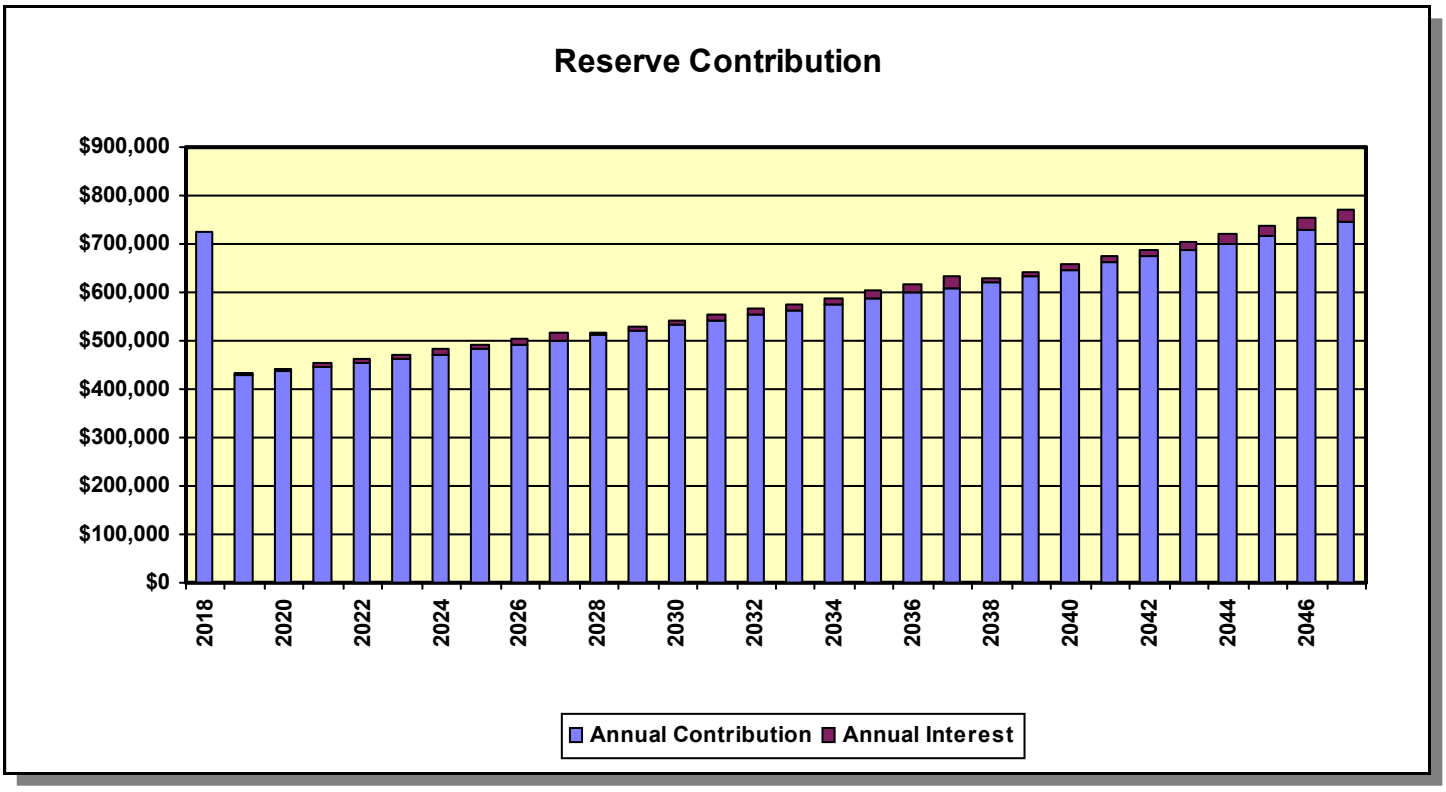


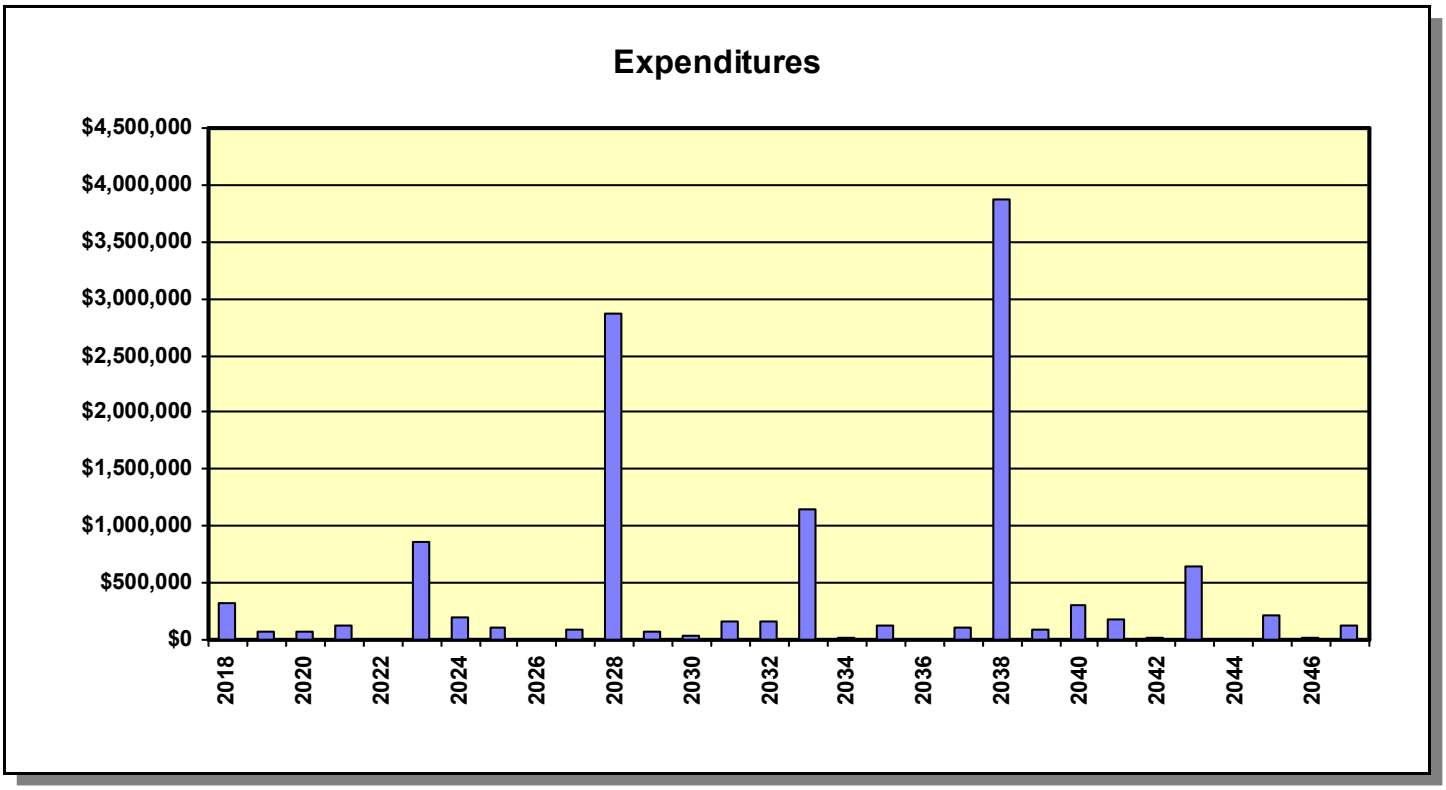


High Rise Condominium

Projection Charts

Directed Cash Flow Calculation Method





High Rise Condominium

Component Detail

Directed Cash Flow Calculation Method; Sorted by Category

Roof

Category	010 Roof	Quantity	23,000 sq. ft.
Photo Date	July 2017	Unit Cost	$30.000
		% of Replacement	100.00%
		Current Cost	$690,000.00
Placed In Service	01/08	Future Cost	$841,106.15
Useful Life	20		
		Assigned Reserves at FYB	$0.00
Remaining Life	10	Monthly Member Contribution	$7,031.39
Replacement Year	2028	Monthly Interest Contribution	$15.53
		Total Monthly Contribution	$7,046.93

Comments:

EPDM roof membranes on towers A and B are about halfway through useful life. Roofing quantity calculated from building plans.

Construction materials in roof terrace areas per client: terrace pavers, pedestals/air space, EPDM membrane, densglas, insulation boards, concrete deck

Roofing contractor: None specifically. Roof is still under warranty. BRS has done some warranty repairs on terraces. Updated terrace areas have Bison adjustable supports for pavers.

Operational experience: No major issues noted. No current issues with roof per management.

Cost to re-roof towers is about $30 per sq. ft. per Jan Dreyer of J.D. Rivet Roofing, Springfield, MA.

Related items currently unfunded:
Roof access hatches for personel and equipment
Roof anchor points

In order to ensure a high quality installation, the client may wish to obtain the services of an independent roofing

consultant to work with the client and the roofing contractor providing installation. Consultants are available for the preparation of installation specifications and, if desired, to work with the contractor during the installation process. Fees for these services vary based on the size of the project and detail required by the client, and have not been included in the cost used for this component. Should the client desire, a provision for a consultant can be incorporated into this analysis.

The roof should be monitored/visual inspection twice a year: fall and early spring. Any issues/damage should be addressed immediately to avoid further damage to the roofing system and/or damage to the interior of the building. If the roofing system becomes damaged and/or leaking issues occur, the Remaining Life of the roof should be adjusted accordingly.

High Rise Condominium

Component Detail

Directed Cash Flow Calculation Method; Sorted by Category

Roof, Terrace Pavers

Category	010 Roof	Quantity	6,980 sq. ft.
Photo Date	July 2017	Unit Cost	$12.000
		% of Replacement	100.00%
		Current Cost	$83,760.00
Placed In Service	01/08	Future Cost	$102,102.97
Useful Life	20		
		Assigned Reserves at FYB	$0.00
Remaining Life	10	Monthly Member Contribution	$853.55
Replacement Year	2028	Monthly Interest Contribution	$1.88
		Total Monthly Contribution	$855.43

Comments:

Component covers concrete pavers on tower roof decks/terraces. Paver quantity calculated from building plans.

Construction materials in roof terrace areas per client: terrace pavers, pedestals/air space, EPDM membrane, densglas, insulation boards, concrete deck

Roofing contractor: None specifically. Roof is still under warranty. Contractor BRS has done some warranty repairs on terraces. Updated terrace areas have Bison adjustable supports for pavers.

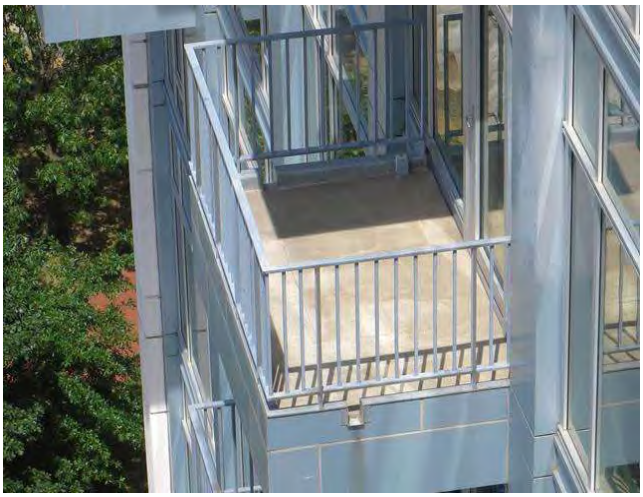
High strength/low asborbance pavers are typically used on roof terraces. Hanover Architectural Products is one manufacturer. These pavers usually have a long life and are simply removed for re-roofing and then reinstalled. This is a labor intensive process because pedestals all need to be adjusted to have the pavers be level on the sloped roof below. Cost to remove and reinstall current pavers is about $10 per sq. ft. per Jan Dreyer of J.D. Rivet Roofing, Springfield, MA. Added $2 per sq. ft. for some minor material replacements.

Operational experience: No major issues noted. No current issues with roof per management.

Balcony Coating

Category	020 Building Exterior	Quantity	1 total
Photo Date	July 2017	Unit Cost	$636,000.000
		% of Replacement	100.00%
		Current Cost	$636,000.00
Placed In Service	01/08	Future Cost	$775,280.45
Useful Life	20		
		Assigned Reserves at FYB	$0.00
Remaining Life	10	Monthly Member Contribution	$6,481.11
Replacement Year	2028	Monthly Interest Contribution	$14.32
		Total Monthly Contribution	$6,495.43

Comments:



This component covers balcony surface coatings. Balcony concrete should be protected from water intrusion to prevent corrosion of reinforcement steel and spalling. Balconies adjoin units and could not be inspected closely during site visit. Some balconies pitch toward building, but no other issues were reported by client. Balcony flashings at building should be inspected regularly to insure water is not entering the building at these vulnerable intersections. Underside of concrete balcony should also be inspected for evidence of leakage. Balconies that pitch toward building should be examined more carefully.

Cost includes cleaning and application of 2-part epoxy coating with sand broadcast in top coating layer. Typical material is Edison Flex-Deck 500E for tops of balconie slabs. Joint sealants should be installed as required. If properly applied, coating life can be 30 years. Due to differences in exposure, different sides of the building may wear at varying rates. Cost based on similar balconies with cost increase for working at heights. Current coating details are unknown. Therefore, useful life reduced to 20 years.

Tower A	43	balconies
Tower B	63	balconies
	106	balconies

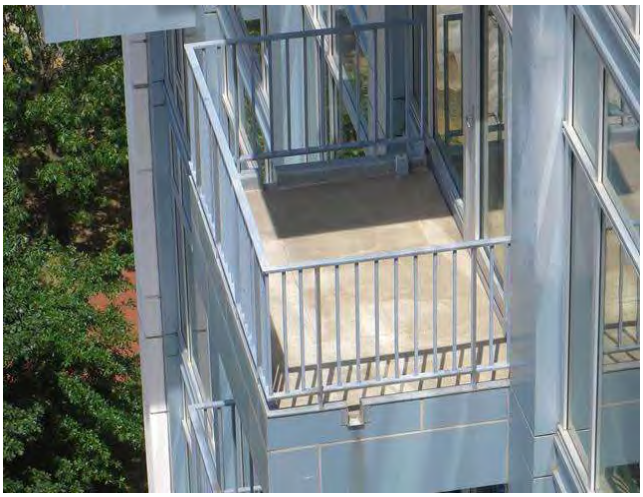
106	balcony strip and coating	@	$5,000.00	=	$530,000.00

106	high work premium	@	$1,000.00	=	$106,000.00
			TOTAL	=	$636,000.00

Balcony Coating, Clean & Top Coat

Category	020 Building Exterior	Quantity	1 total
Photo Date	July 2017	Unit Cost	$53,000.000
		% of Replacement	100.00%
		Current Cost	$53,000.00
Placed In Service	01/18	Future Cost	$58,516.28
Useful Life	5		
		Assigned Reserves at FYB	$0.00
Remaining Life	5	Monthly Member Contribution	$1,041.65
Replacement Year	2023	Monthly Interest Contribution	$2.30
		Total Monthly Contribution	$1,043.95

Comments:



This component covers cleaning and top coating balconies on a 5-year interval. Balcony concrete should be protected from water intrusion to prevent corrosion of reinforcement steel and spalling.

Balconies are part of units and could not be inspected closely during site visit. Balcony flashings at building should be inspected regularly to insure water is not entering the building at these vulnerable intersections. Underside of concrete balcony should also be inspected for evidence of leakage.

Square foot cost to clean and top coat will be high due to access difficulty and coordination with unit owners.

106	balcony clean and top coat	@	$350.00	=	$37,100.00
106	high work premium	@	$150.00	=	$15,900.00
			TOTAL	=	$53,000.00

High Rise Condominium

Component Detail

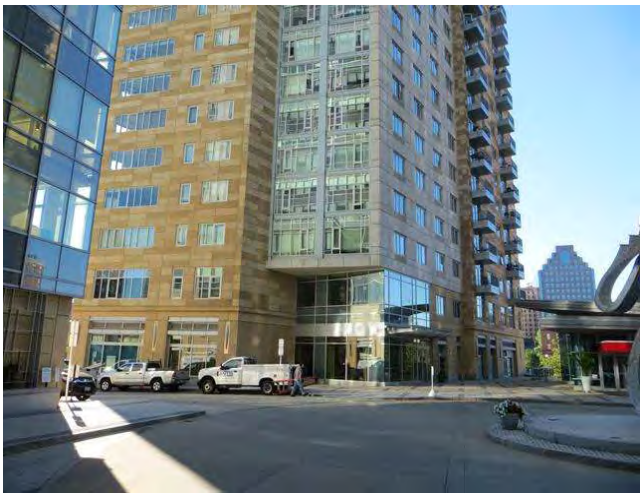
Directed Cash Flow Calculation Method; Sorted by Category

Expansion Joint Repair, Tower A & Plaza

One Time Replacement

Category	020 Building Exterior	Quantity	1 repair
Photo Date	July 2017	Unit Cost	$250,000.000
		% of Replacement	100.00%
		Current Cost	$250,000.00
Placed In Service	01/17	Future Cost	$0.00
Useful Life	1		
		Assigned Reserves at FYB	$250,000.00
Remaining Life	0	Monthly Member Contribution	$0.00
Replacement Year	2018	Monthly Interest Contribution	$0.00
		Total Monthly Contribution	$0.00

Comments:



Component covers repair to expansion joint between plaza and Tower A. Per client, this is expected to be a one-time repair. Cost provided by client.

High Rise Condominium

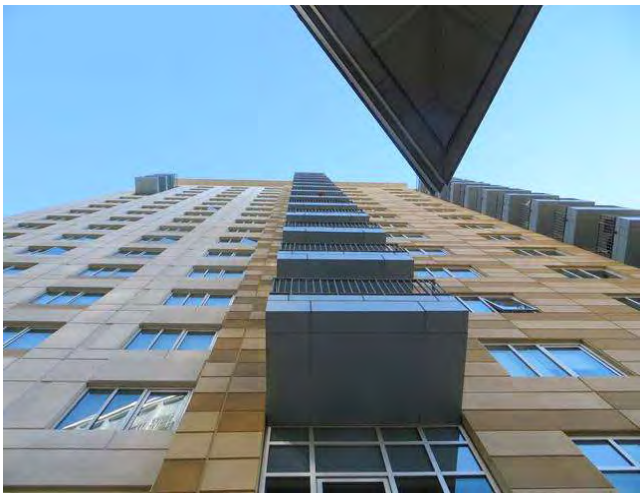
Component Detail

Directed Cash Flow Calculation Method; Sorted by Category

Exterior Cladding Maintenance

Category	020 Building Exterior	Quantity	1 exterior maintenance
Photo Date	July 2017	Unit Cost	$59,000.000
		% of Replacement	100.00%
		Current Cost	$59,000.00
Placed In Service	01/08	Future Cost	$65,140.77
Useful Life	5		
Adjustment	+5	Assigned Reserves at FYB	$59,000.00
Remaining Life	0	Monthly Member Contribution	$1,159.57
Replacement Year	2018	Monthly Interest Contribution	$2.56
		Total Monthly Contribution	$1,162.13

Comments:



Condition of exterior tower cladding appeared good during site visits. No specific issues were noted. No significant work has been done on exterior cladding per client. No significant issues currently.

Exterior cladding maintenance mainly involves caulking windows and other penetrations with a quality joint sealant. Exterior should be monitored for leaks and minor issues addressed. As issues become more prevalent on an elevation, the entire elevation should be addressed. Cost of caulking entire building would be high. Caulking may need to be replaced every 5-10 years based on experience with building. Component covers performing a detailed examination of cladding and addressing any issues found at the time of inspection. This component addresses this on-going maintenance. If maintenance schedule is followed, re-caulking entire building at one time will not likely be required.

Allowance amount taken from prior reserve study with inflation added.

High Rise Condominium

Component Detail

Directed Cash Flow Calculation Method; Sorted by Category

Exterior Railings

Category	020 Building Exterior	Quantity	3,640 lin. ft.
Photo Date	July 2017	Unit Cost	$165.000
		% of Replacement	81.00%
		Current Cost	$486,486.00
Placed In Service	01/08	Future Cost	$722,892.60
Useful Life	30		
		Assigned Reserves at FYB	$0.00
Remaining Life	20	Monthly Member Contribution	$2,661.89
Replacement Year	2038	Monthly Interest Contribution	$5.88
		Total Monthly Contribution	$2,667.77

Comments:

Galvanized railings are original to building and were in generally good condition during site visits. Some evidence of corrosion was evident and should be addressed. Regular maintenance will insure railings achieve their useful life. Pricing obtained from similar railings in Boston. Material for new rail replacement is galvanized steel. Solid 3/4" balusters. Logan Grate, Inc., fabrication and installation contractor, anticipates a Useful Life of 30 years for new railing/fencing with proper maintenance. Galvanized coating will protect iron fence if coating not damaged.

site railings, horizontal	130	lin. ft.
site stair and ramp railing with balusters	490	lin. ft.
site stair railing	60	lin. ft.
roof terrace railings	650	lin. ft.
balcony railings	2,310	lin. ft.
	3,640	lin. ft.

High Rise Condominium

Component Detail

Directed Cash Flow Calculation Method; Sorted by Category

Glass Canopies

Category	020 Building Exterior	Quantity	3 canopies
Photo Date	July 2017	Unit Cost	$4,500.000
		% of Replacement	100.00%
		Current Cost	$13,500.00
Placed In Service	01/08	Future Cost	$16,456.42
Useful Life	20		
		Assigned Reserves at FYB	$0.00
Remaining Life	10	Monthly Member Contribution	$137.57
Replacement Year	2028	Monthly Interest Contribution	$0.30
		Total Monthly Contribution	$137.87

Comments:

Component covers repair of canopies over tower entry doors. Glass has failed in past due to snow loads. Tower A has two canopies and Tower B has one. Cost provided by client.

High Rise Condominium

Component Detail

Directed Cash Flow Calculation Method; Sorted by Category

Windows, Common Storefront Areas

Category	020 Building Exterior	Quantity	3,009 sq. ft.
Photo Date	July 2017	Unit Cost	$50.000
		% of Replacement	25.00%
		Current Cost	$37,612.50
Placed In Service	01/18	Future Cost	$41,527.24
Useful Life	5		
		Assigned Reserves at FYB	$0.00
Remaining Life	5	Monthly Member Contribution	$739.23
Replacement Year	2023	Monthly Interest Contribution	$1.64
		Total Monthly Contribution	$740.86

Comments:

Component represents exterior common storefront window/door areas for both towers on first floor and fitness room on second floor of Tower A. Commercial units on first floor are excluded. Windows and doors were in good condition during site visits and no problems were reported by client.

Service contractor:
Massey's Plate Glass & Aluminum, Branford, CT 203-488-2377
Rob Colek x106
Pricing reviewed with Mr. Colek. Glass typically has 10 year warranty. Service life is variable depending on exposure. Typical maximum is around 20 years. Cost to for glass is about $20-$25 per sq. ft. Labor adds $10-$15 per sq. ft. for a total of about $30-$40 per sq. ft.
Allowance for damage to frame components should be added. Door hardware should be replaced from operating budget on as-needed basis.

Tower A common exterior windows	1,675	sq. ft.
Tower B common exterior windows	1,334	sq. ft.
	3,009	sq. ft.

Average cost for replacement glass is about $50 per sq. ft. Budget covers replacement of 25% of window/doors on 5 year interval. Budget for window replacements should be monitored and adjusted as the association gains more experience

with this component and windows age beyond warranty period.

1	window glass	@	$25.00	=	$25.00
1	labor allowance	@	$15.00	=	$15.00
1	misc allowance	@	$10.00	=	$10.00
			TOTAL	=	$50.00

High Rise Condominium

Component Detail

Directed Cash Flow Calculation Method; Sorted by Category

Windows, Units

Category	020 Building Exterior	Quantity	1 total
Photo Date	July 2017	Unit Cost	$60,000.000
		% of Replacement	100.00%
		Current Cost	$60,000.00
Placed In Service	01/17	Future Cost	$61,200.00
Useful Life	2		
		Assigned Reserves at FYB	$30,000.00
Remaining Life	1	Monthly Member Contribution	$2,904.76
Replacement Year	2019	Monthly Interest Contribution	$19.98
		Total Monthly Contribution	$2,924.74

Comments:

Component represents partial replacement of exterior unit window areas on for both towers. Included are opaque windows and exterior doors on building elevations from floors 2 to the top floor. Cost for this component is 100% association per client. Windows have expected useful life of 30 - 40 years. This component covers replacement of (8) windows at $7500 every two years at 100% per client. This component should be adjusted as association gains experience with failure rates.

About (5) clear windows have been failing per year due to nickel sulfide inclusions per client. When glass is tempered for safety, it is heated and then cooled quickly. If nickel sulfide is present, it remains in its high temperature form/structure while the rest of the glass is cooled. Over several years, nickel sulfide will return to its low-temperature structure. During this transformation, it expands and can cause glass to crack.

Per Wikispaces Classroom article by Kathryn Gromowski, most failures occur within 2-7 years after installation, but predictions do not have a good level of accuracy. Failure depends on many factors within the glass and specific installation location parameters.

Tower A window area	27,500	sq. ft.
Tower B window area	32,300	sq. ft.
	59,800	sq. ft.

Floor, Carpet

Category	030 Building Interior	Quantity	17,760 sq. ft.
Photo Date	July 2017	Unit Cost	$6.000
		% of Replacement	100.00%
		Current Cost	$106,560.00
Placed In Service	01/08	Future Cost	$117,650.85
Useful Life	10		
Adjustment	+5	Assigned Reserves at FYB	$0.00
Remaining Life	5	Monthly Member Contribution	$2,094.31
Replacement Year	2023	Monthly Interest Contribution	$4.63
		Total Monthly Contribution	$2,098.94

Comments:

Component covers all association carpet. Quantity from actual measurements. Cost from prior reserve study with inflation added.

Per client, carpet in elevator lobby areas was recently changed on some floors. More elevator lobby carpets will be replaced in near future. Carpet in hallways is in generally good condition and will likely have a useful life of 5 years.

5 years has been added to service life to yield an average replacement date reflecting areas changed recently and hallway replacements.

Floor, Rubber Tile

Category	030 Building Interior	Quantity	425 sq. ft.
Photo Date	July 2017	Unit Cost	$9.500
		% of Replacement	100.00%
		Current Cost	$4,037.50
Placed In Service	01/08	Future Cost	$4,457.73
Useful Life	15		
		Assigned Reserves at FYB	$0.00
Remaining Life	5	Monthly Member Contribution	$79.35
Replacement Year	2023	Monthly Interest Contribution	$0.17
		Total Monthly Contribution	$79.53

Comments:

Component covers fitness center rubber tile floor mat in weight lifting area. Quantity from prior reserve study deemed accurate. Cost from prior reserve study with inflation added.

Floor, Stone Tile

Category	030 Building Interior	Quantity	1 total
Photo Date	July 2017	Unit Cost	$45,060.000
		% of Replacement	100.00%
		Current Cost	$45,060.00
Placed In Service	01/08	Future Cost	$46,880.42
Useful Life	25		
Adjustment	-13	Assigned Reserves at FYB	$37,550.00
Remaining Life	2	Monthly Member Contribution	$413.62
Replacement Year	2020	Monthly Interest Contribution	$17.90
		Total Monthly Contribution	$431.52

Comments:

Component covers stone tile floors in tower lobbies. Component not listed in prior reserve study. Stone tiles are cracking and failing. No loose tiles were observed. Useful life decreased to reflect current condition. Client is obtaining proposals to replace tile. Removal of existing tile is difficult to estimate. Cost of materials chosen to replace the current tile can also vary widely. Per square foot cost has been increased due to uncertainty.
After/during removal of tile, cause of current cracking should be determined.
Potential causes:
- Cracks in concrete below tile telegraphing through
  - Crack isolation membrane should be used to reinstall tile
- Improper installation
- Failed adhesive materials

1,142	sq. ft. tile in lobby Tower A	@	$20.00	=	$22,840.00
1,111	sq. ft. tile in lobby Tower B	@	$20.00	=	$22,220.00
			TOTAL	=	$45,060.00

Stone tile areas do not include restrooms and elevators. The cost to replace this tile is included in components covering those areas.

Floor, Vinyl Tile

Category	030 Building Interior	Quantity	3,891 sq. ft.
Photo Date	July 2017	Unit Cost	$4.750
		% of Replacement	100.00%
		Current Cost	$18,482.25
Placed In Service	01/08	Future Cost	$22,529.76
Useful Life	15		
Adjustment	+5	Assigned Reserves at FYB	$0.00
Remaining Life	10	Monthly Member Contribution	$188.34
Replacement Year	2028	Monthly Interest Contribution	$0.41
		Total Monthly Contribution	$188.75

Comments:

Component covers vinyl tile floor in unit owner storage areas. Quantity from prior reserve study deemed accurate. Cost from prior reserve study with inflation added.

The remaining life of this component has been extended due to its apparent infrequent use.

High Rise Condominium

Component Detail

Directed Cash Flow Calculation Method; Sorted by Category

Floor, Wood

Category	030 Building Interior	Quantity	3,310 sq. ft.
Photo Date	July 2017	Unit Cost	$12.000
		% of Replacement	100.00%
		Current Cost	$39,720.00
Placed In Service	01/08	Future Cost	$43,854.09
Useful Life	15		
		Assigned Reserves at FYB	$0.00
Remaining Life	5	Monthly Member Contribution	$780.65
Replacement Year	2023	Monthly Interest Contribution	$1.72
		Total Monthly Contribution	$782.37

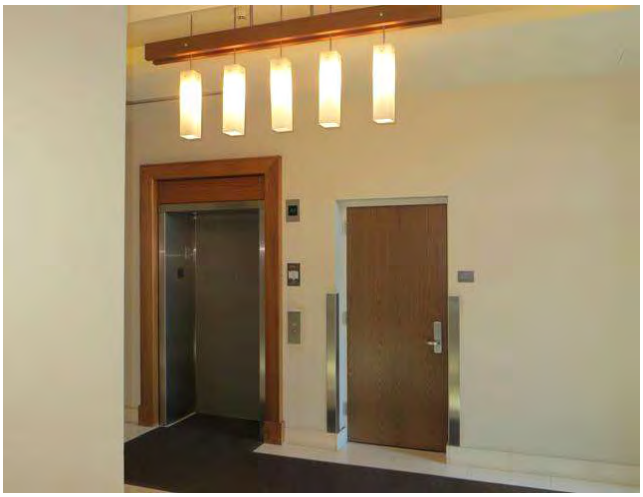
Comments:

Component covers removal and replacement of wood floors in lobbies and community room. Quantity from prior reserve study deemed accurate.

Lighting, Common Area

Category	030 Building Interior	Quantity	1 total
Photo Date	July 2017	Unit Cost	$89,000.000
		% of Replacement	80.00%
		Current Cost	$71,200.00
Placed In Service	01/08	Future Cost	$95,825.83
Useful Life	25		
		Assigned Reserves at FYB	$0.00
Remaining Life	15	Monthly Member Contribution	$501.37
Replacement Year	2033	Monthly Interest Contribution	$1.10
		Total Monthly Contribution	$502.48

Comments:



Component covers interior and exterior common area lighting. No quantity listed in prior reserve study. Cost allowance from prior reserve study plus inflation used after consultation with client.

High Rise Condominium

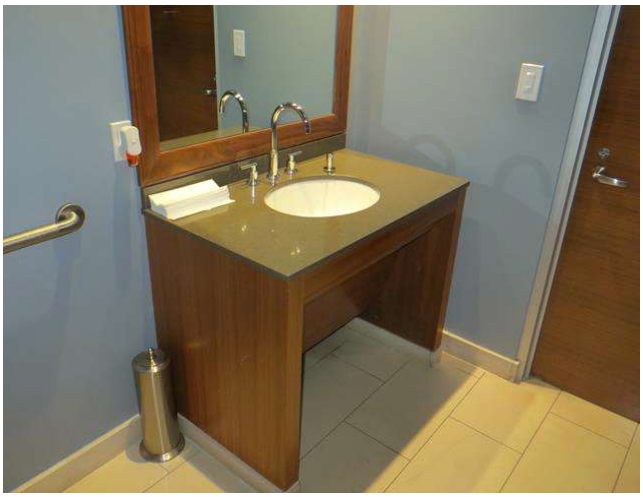
Component Detail

Directed Cash Flow Calculation Method; Sorted by Category

Restrooms, Common Area

Category	030 Building Interior	Quantity	5 renovations
Photo Date	July 2017	Unit Cost	$15,000.000
		% of Replacement	80.00%
		Current Cost	$60,000.00
Placed In Service	01/08	Future Cost	$73,139.67
Useful Life	20		
		Assigned Reserves at FYB	$0.00
Remaining Life	10	Monthly Member Contribution	$611.43
Replacement Year	2028	Monthly Interest Contribution	$1.35
		Total Monthly Contribution	$612.78

Comments:



Component covers remodeling common restrooms located in lobby of each tower, fitness center, community room, and garage office. $15,000 allowance to cover all components of remodel (with fixtures remaing in same locations). Pricing developed with consultation from client.

High Rise Condominium

Component Detail

Directed Cash Flow Calculation Method; Sorted by Category

Appliances, Common Area

Category	040 Interior Furnishings	Quantity	1 total
Photo Date	July 2017	Unit Cost	$53,200.000
		% of Replacement	100.00%
		Current Cost	$53,200.00
Placed In Service	01/08	Future Cost	$64,850.50
Useful Life	15		
Adjustment	+5	Assigned Reserves at FYB	$0.00
Remaining Life	10	Monthly Member Contribution	$542.13
Replacement Year	2028	Monthly Interest Contribution	$1.20
		Total Monthly Contribution	$543.33

Comments:

Component covers appliances in community room and both tower lobbies. Also included are TV, sinks and faucets.

The remaining life of this component has been extended due to its apparent infrequent use.

2	Subzero refrigerator 611/F3 replace with BI-30	@	$11,000.00	=	$22,000.00
2	Gaggenau oven HLEB38	@	$10,000.00	=	$20,000.00
1	Wolf microwave MW24 replace with MS24	@	$1,000.00	=	$1,000.00
3	Grohe faucet & stainless steel sink	@	$2,000.00	=	$6,000.00
2	Fisher & Paykel dishwasher drawer DS6051	@	$1,250.00	=	$2,500.00
2	InSinkErator disposal	@	$350.00	=	$700.00
1	Samsung 55" TV	@	$1,000.00	=	$1,000.00
			TOTAL	=	$53,200.00

Cabinetry & Countertops, Common Area

Category	040 Interior Furnishings	Quantity	1 total
Photo Date	July 2017	Unit Cost	$70,050.000
		% of Replacement	100.00%
		Current Cost	$70,050.00
Placed In Service	01/08	Future Cost	$85,390.56
Useful Life	20		
		Assigned Reserves at FYB	$0.00
Remaining Life	10	Monthly Member Contribution	$713.84
Replacement Year	2028	Monthly Interest Contribution	$1.58
		Total Monthly Contribution	$715.42

Comments:

Component covers cabinetry and countertops in community room and both tower lobbies.

1	Tower A lobby cabinetry	@	$7,700.00	=	$7,700.00
1	Tower A lobby kitchenette cabinetry	@	$9,000.00	=	$9,000.00
1	Tower A lobby countertops (40 sq. ft.)	@	$5,000.00	=	$5,000.00
1	Tower B lobby kitchenette cabinetry	@	$14,000.00	=	$14,000.00
1	Tower B lobby cabinetry	@	$9,000.00	=	$9,000.00
1	Tower B lobby countertops (46 sq. ft.)	@	$5,750.00	=	$5,750.00
1	Tower B community room kitchenette cabinetry	@	$10,000.00	=	$10,000.00
1	Tower B community room TV cabinetry	@	$5,500.00	=	$5,500.00
1	Tower B community room countertops (33 sq. ft.)	@	$4,100.00	=	$4,100.00
			TOTAL	=	$70,050.00

High Rise Condominium

Component Detail

Directed Cash Flow Calculation Method; Sorted by Category

Furnishings, Common Roof Terrace

Category	040 Interior Furnishings	Quantity	1 deck furishings
Photo Date	July 2017	Unit Cost	$24,000.000
		% of Replacement	100.00%
		Current Cost	$24,000.00
Placed In Service	01/08	Future Cost	$26,497.94
Useful Life	15		
		Assigned Reserves at FYB	$0.00
Remaining Life	5	Monthly Member Contribution	$471.69
Replacement Year	2023	Monthly Interest Contribution	$1.04
		Total Monthly Contribution	$472.73

Comments:

Component covers furnishings on Tower B roof community terrace. Furnishings are maintained with teak oil periodically.

No quantities listed in prior reserve study. Original allowance from prior reserve study adjusted for inflation.

High Rise Condominium

Component Detail

Directed Cash Flow Calculation Method; Sorted by Category

Furnishings, Community Room

Category	040 Interior Furnishings	Quantity	1 total
Photo Date	July 2017	Unit Cost	$12,000.000
		% of Replacement	100.00%
		Current Cost	$12,000.00
Placed In Service	01/08	Future Cost	$13,248.97
Useful Life	15		
		Assigned Reserves at FYB	$0.00
Remaining Life	5	Monthly Member Contribution	$235.85
Replacement Year	2023	Monthly Interest Contribution	$0.52
		Total Monthly Contribution	$236.37

Comments:

Component covers furnishings in community room. No quantity listed in prior reserve study. Original allowance from prior reserve study adjusted for inflation.

High Rise Condominium

Component Detail

Directed Cash Flow Calculation Method; Sorted by Category

Furnishings, Entrance Lobbies

Category	040 Interior Furnishings	Quantity	2 lobby furishings
Photo Date	July 2017	Unit Cost	$18,000.000
		% of Replacement	100.00%
		Current Cost	$36,000.00
Placed In Service	01/08	Future Cost	$39,746.91
Useful Life	15		
		Assigned Reserves at FYB	$0.00
Remaining Life	5	Monthly Member Contribution	$707.54
Replacement Year	2023	Monthly Interest Contribution	$1.56
		Total Monthly Contribution	$709.10

Comments:

Component covers furnishings in tower lobbies. No quantities listed in prior reserve study. Original allowance from prior reserve study adjusted for inflation.

Air Handler - Heat Pump, Tower A

Category	090 Equipment	Quantity	1 heat pump
Photo Date	July 2017	Unit Cost	$10,000.000
		% of Replacement	100.00%
		Current Cost	$10,000.00
Placed In Service	01/08	Future Cost	$12,189.94
Useful Life	20		
		Assigned Reserves at FYB	$0.00
Remaining Life	10	Monthly Member Contribution	$101.90
Replacement Year	2028	Monthly Interest Contribution	$0.23
		Total Monthly Contribution	$102.13

Comments:

ClimateMaster GLW360CFD1ABRBS 30 ton water source heat pump servicing McQuay International air handler.

(1) 2-stage heat pump packaged in one cabinet for each tower. Labeled HP-9 in both towers.

Service contractor:
Air Masters HVAC Services of NE 508-672-7993

Operational experience: No significant issues reported. Typically failed parts within units will be replaced rather than replacing entire unit. Compressor most likely major part to fail.

Pricing per discussion with client. Service contractor not responsive.

Air Handler - Heat Pump, Tower B

Category	090 Equipment	Quantity	1 heat pump
Photo Date	July 2017	Unit Cost	$10,000.000
		% of Replacement	100.00%
		Current Cost	$10,000.00
Placed In Service	01/08	Future Cost	$12,189.94
Useful Life	20		
		Assigned Reserves at FYB	$0.00
Remaining Life	10	Monthly Member Contribution	$101.90
Replacement Year	2028	Monthly Interest Contribution	$0.23
		Total Monthly Contribution	$102.13

Comments:

ClimateMaster GLW360CFD1ABRBS 30 ton water source heat pump servicing McQuay International air handler.

(1) 2-stage heat pump packaged in one cabinet for each tower. Labeled HP-9 in both towers.

Service contractor:
Air Masters HVAC Services of NE 508-672-7993

Operational experience: Minor trouble with one heat pump. Typically failed parts within units will be replaced rather than replacing entire unit. Compressor most likely major part to fail.

Pricing per discussion with client. Service contractor not responsive.

Air Handler - Water Pumps, Tower A

Category	090 Equipment	Quantity	2 pumps
Photo Date	July 2017	Unit Cost	$4,500.000
		% of Replacement	100.00%
		Current Cost	$9,000.00
Placed In Service	01/08	Future Cost	$9,936.73
Useful Life	15		
		Assigned Reserves at FYB	$0.00
Remaining Life	5	Monthly Member Contribution	$176.88
Replacement Year	2023	Monthly Interest Contribution	$0.39
		Total Monthly Contribution	$177.27

Comments:

3 hp motor powers Taco 90 GPM circulation pumps servicing McQuay International air handler.
Circulate water between water source heat pump and coils inside air handler. Motors operate at fixed speed.
(2) pumps for each tower: Pump 7 & 8 tower A

Service contractor:
Air Masters HVAC Services of NE 508-672-7993

Operational experience: Pump 7 Tower A was rebuilt in 2016 by Delta, Cranston, RI 401-944-8350. Cost was $2500.

Pricing per discussion with client. Service contractor not responsive.

Air Handler - Water Pumps, Tower B

Category	090 Equipment	Quantity	2 pumps
Photo Date	July 2017	Unit Cost	$4,500.000
		% of Replacement	100.00%
		Current Cost	$9,000.00
Placed In Service	01/08	Future Cost	$9,936.73
Useful Life	15		
		Assigned Reserves at FYB	$0.00
Remaining Life	5	Monthly Member Contribution	$176.88
Replacement Year	2023	Monthly Interest Contribution	$0.39
		Total Monthly Contribution	$177.27

Comments:

3 hp motor powers Taco 90 GPM circulation pumps servicing McQuay International air handler.
Circulate water between water source heat pump and coils inside air handler. Motors operate at fixed speed.
(2) pumps for each tower: Pump 9 & 10 tower B.

Service contractor:
Air Masters HVAC Services of NE 508-672-7993

Operational experience: Pump 7 tower A was rebuilt in 2016 by Delta, Cranston, RI 401-944-8350

Pricing per discussion with client. Service contractor not responsive.

High Rise Condominium

Component Detail

Directed Cash Flow Calculation Method; Sorted by Category

Air Handler, Tower A

Category	090 Equipment	Quantity	1 air handler
Photo Date	July 2017	Unit Cost	$20,000.000
		% of Replacement	100.00%
		Current Cost	$20,000.00
Placed In Service	01/08	Future Cost	$24,379.89
Useful Life	20		
		Assigned Reserves at FYB	$0.00
Remaining Life	10	Monthly Member Contribution	$203.81
Replacement Year	2028	Monthly Interest Contribution	$0.45
		Total Monthly Contribution	$204.26

Comments:

McQuay International CAH012GDAC E805580010 and E805580020 air handlers service common areas on floors 2-19 in tower A. 6000 cfm per prior reserve study.

Service and preventative maintenance contractor:
Air Masters HVAC Services of NE Josh Medieros 508-672-7993
System is serviced quarterly. Filter changes and belt checks.

Operational experience: No major issues. Typically parts/sections would be replaced rather than entire unit.

Pricing per discussion with client. Service contractor not responsive.

Air Handler, Tower B

Category	090 Equipment	Quantity	1 air handler
Photo Date	July 2017	Unit Cost	$20,000.000
		% of Replacement	100.00%
		Current Cost	$20,000.00
Placed In Service	01/08	Future Cost	$24,379.89
Useful Life	20		
		Assigned Reserves at FYB	$0.00
Remaining Life	10	Monthly Member Contribution	$203.81
Replacement Year	2028	Monthly Interest Contribution	$0.45
		Total Monthly Contribution	$204.26

Comments:

McQuay International CAH012GDAC E805580010 and E805580020 air handlers service common areas on floors 2-17 in tower B. 6000 cfm per prior reserve study.

Service and preventative maintenance contractor:
Air Masters HVAC Services of NE Josh Medieros 508-672-7993
System is serviced quarterly. Filter changes and belt checks.

Operational experience: No major issues. Typically parts/sections would be replaced rather than entire unit.

Pricing per discussion with client. Service contractor not responsive.

Boiler Water Circulation

Category	090 Equipment	Quantity	2 pumps
Photo Date	July 2017	Unit Cost	$12,400.000
		% of Replacement	100.00%
		Current Cost	$24,800.00
Placed In Service	01/08	Future Cost	$27,381.20
Useful Life	15		
		Assigned Reserves at FYB	$0.00
Remaining Life	5	Monthly Member Contribution	$487.41
Replacement Year	2023	Monthly Interest Contribution	$1.07
		Total Monthly Contribution	$488.49

Comments:

(2) 10 hp pumps (P-11 and P-12) circulate condensor/boiler water within the boilers.
Pumps are controlled with variable frequency drives. The system can operate with only one motor/pump. Other condenser water pumps are listed as separate components.

Service contractor:
Air Masters HVAC Services of NE Josh Medieros 508-672-7993

Operational experience: no issues reported

Pricing per discussion with client. Service contractor not responsive.

1	10 hp motor	@	$6,000.00	=	$6,000.00
1	pump	@	$5,000.00	=	$5,000.00
1	variable frequency drive	@	$1,400.00	=	$1,400.00
			TOTAL	=	$12,400.00

Boilers

Category	090 Equipment	Quantity	3 Boilers
Photo Date	July 2017	Unit Cost	$50,000.000
		% of Replacement	100.00%
		Current Cost	$150,000.00
Placed In Service	01/08	Future Cost	$222,892.11
Useful Life	30		
		Assigned Reserves at FYB	$0.00
Remaining Life	20	Monthly Member Contribution	$820.75
Replacement Year	2038	Monthly Interest Contribution	$1.81
		Total Monthly Contribution	$822.56

Comments:

(3) Cleaver Brooks FLX-700-300-160HW gas-fired boilers provide hot water for heating both towers. Capacity is 2400 Mbtu per boiler. Boilers are power-vented through wall to area adjacent to cooling tower.

Service and preventative maintenance contractor:
Air Masters HVAC Services of NE Josh Medieros 508-672-7993
System is serviced annually.

Operational experience: No major issues

Pricing per discussion with client includes peripheral equipment. Service contractor not responsive.

Boilers, Scheduled Maintenance

Category	090 Equipment	Quantity	3 Boilers
Photo Date	July 2017	Unit Cost	$2,500.000
		% of Replacement	100.00%
		Current Cost	$7,500.00
Placed In Service	01/16	Future Cost	$7,650.00
Useful Life	3		
		Assigned Reserves at FYB	$5,000.00
Remaining Life	1	Monthly Member Contribution	$245.57
Replacement Year	2019	Monthly Interest Contribution	$2.81
		Total Monthly Contribution	$248.37

Comments:

(3) Cleaver Brooks FLX-700-300-160HW gas-fired boilers provide hot water for heating both towers via water-source heat pumps. Component covers scheduled maintenance on 3 year intervals.

Service and preventative maintenance contractor:
Air Masters HVAC Services of NE Josh Medieros 508-672-7993
System is serviced annually.

Operational experience: No major issues

Pricing per discussion with client. Service contractor not responsive.

Building Management System

Category	090 Equipment	Quantity	1 total
Photo Date	July 2017	Unit Cost	$12,000.000
		% of Replacement	85.00%
		Current Cost	$10,200.00
Placed In Service	01/15	Future Cost	$10,612.08
Useful Life	5		
		Assigned Reserves at FYB	$6,120.00
Remaining Life	2	Monthly Member Contribution	$204.69
Replacement Year	2020	Monthly Interest Contribution	$3.22
		Total Monthly Contribution	$207.90

Comments:

Primarily Johnson Controls system. Some parts of system are Honeywell Tridium. Some changes to system were implemented when Air Masters took over system in 2015. "J" system.

Component covers periodic upgrades and required maintenance on 5 year interval. Adjust allowance based on association experience.

Component cost distribution: 85% Waterplace 1; 5% Waterplace Master; 10% Waterplace Garage.
Distribution based on approximate percentage of system usage.

Service contractor:
Air Masters HVAC Services of NE Josh Medieros 508-672-7993

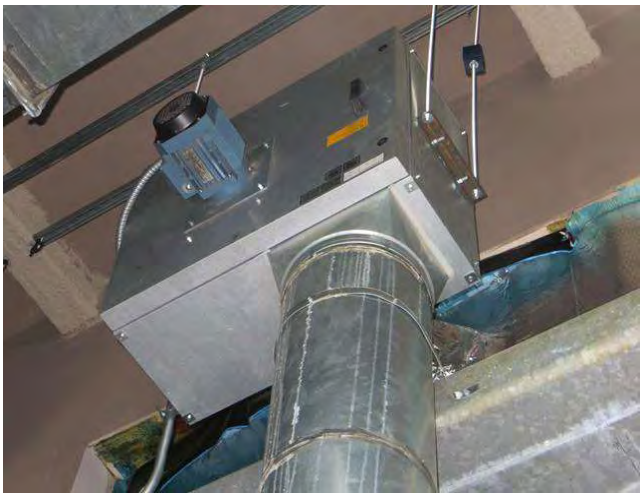
Operational experience: No major issues, but communication between two systems is problematic periodically.

Pricing per discussion with client. Service contractor not responsive.

Combustion Air Supply Fan

Category	090 Equipment	Quantity	2 fans
Photo Date	July 2017	Unit Cost	$7,500.000
		% of Replacement	100.00%
		Current Cost	$15,000.00
Placed In Service	01/08	Future Cost	$20,188.03
Useful Life	25		
		Assigned Reserves at FYB	$0.00
Remaining Life	15	Monthly Member Contribution	$105.63
Replacement Year	2033	Monthly Interest Contribution	$0.24
		Total Monthly Contribution	$105.86

Comments:



Exhausto fan brings combustion air into penthouse of Tower A for water heaters and boilers.
Fan hangs near ceiling in south west corner.

Cook fan brings combustion air into penthouse of Tower B for water heaters.
Fan hangs near ceiling in south west corner.

Service contractor:
Air Masters HVAC Services of NE Josh Medieros 508-672-7993

Operational experience: No issues

Pricing per discussion with client includes damper, motor, and control. Service contractor not responsive.

Condenser Water Circulation, Cooling Tower

Category	090 Equipment	Quantity	2 pumps
Photo Date	July 2017	Unit Cost	$17,500.000
		% of Replacement	100.00%
		Current Cost	$35,000.00
Placed In Service	01/08	Future Cost	$38,642.83
Useful Life	15		
		Assigned Reserves at FYB	$0.00
Remaining Life	5	Monthly Member Contribution	$687.88
Replacement Year	2023	Monthly Interest Contribution	$1.52
		Total Monthly Contribution	$689.40

Comments:

(2) 50 hp pumps circulate condensor/boiler water within the cooling tower and heat exchanger.
Pumps are controlled with variable frequency drives. The system can operate with only one motor/pump. Primary and secondary building specific water pumps are listed as separate components.

Service contractor:
Air Masters HVAC Services of NE Josh Medieros 508-672-7993

Operational experience: one 50 hp motor was replaced in 2015.

Pricing per discussion with client. Service contractor not responsive.

1	50 hp motor	@	$8,500.00	=	$8,500.00
1	pump	@	$6,000.00	=	$6,000.00
1	variable frequency drive	@	$3,000.00	=	$3,000.00
			TOTAL	=	$17,500.00

Condenser Water Circulation, Primary

Category	090 Equipment	Quantity	2 pumps
Photo Date	July 2017	Unit Cost	$21,000.000
		% of Replacement	100.00%
		Current Cost	$42,000.00
Placed In Service	01/08	Future Cost	$46,371.39
Useful Life	15		
		Assigned Reserves at FYB	$0.00
Remaining Life	5	Monthly Member Contribution	$825.46
Replacement Year	2023	Monthly Interest Contribution	$1.82
		Total Monthly Contribution	$827.28

Comments:

(1) 75 hp pump (P-4) and (1) 50 hp pump (P-3) circulate condensor/boiler water within the boilers and cooling tower. Pumps are controlled with variable frequency drives. The system can operate with only one motor/pump. Secondary building specific water pumps are listed as separate components.

Service contractor:
Air Masters HVAC Services of NE Josh Medieros 508-672-7993

Operational experience: P-3 50 hp motor was replaced in 2013. It is unclear why this is a 50 hp motor. Appears that original motor was size of 75 hp motor adjacent.

Pricing per discussion with client. Service contractor not responsive.

1	75 hp motor	@	$10,000.00	=	$10,000.00
1	pump	@	$7,000.00	=	$7,000.00
1	variable frequency drive	@	$4,000.00	=	$4,000.00
			TOTAL	=	$21,000.00

Condenser Water Circulation, Tower A

Category	090 Equipment	Quantity	2 pumps
Photo Date	July 2017	Unit Cost	$15,000.000
		% of Replacement	100.00%
		Current Cost	$30,000.00
Placed In Service	01/08	Future Cost	$33,122.42
Useful Life	15		
		Assigned Reserves at FYB	$0.00
Remaining Life	5	Monthly Member Contribution	$589.61
Replacement Year	2023	Monthly Interest Contribution	$1.30
		Total Monthly Contribution	$590.91

Comments:

(2) 30 hp pumps, P-1A and P-2A, circulate condensor/boiler water within building 100 operate at approximately 25 psi. Pumps are controlled with variable frequency drives. The system can operate with only one motor/pump. These pumps are secondary to the main condensor water pumps listed as separate component.

Service contractor:
Air Masters HVAC Services of NE Josh Medieros 508-672-7993

Operational experience: motor P-1A was recently rebuilt by Delta, Cranston, RI for $2880. Failed bearing was replaced.

Pricing per discussion with client. Service contractor not responsive.

1	30 hp motor	@	$7,000.00	=	$7,000.00
1	pump	@	$6,000.00	=	$6,000.00
1	variable frequency drive	@	$2,000.00	=	$2,000.00
			TOTAL	=	$15,000.00

Condenser Water Circulation, Tower B

Category	090 Equipment	Quantity	2 pumps
Photo Date	July 2017	Unit Cost	$21,000.000
		% of Replacement	100.00%
		Current Cost	$42,000.00
Placed In Service	01/08	Future Cost	$46,371.39
Useful Life	15		
		Assigned Reserves at FYB	$0.00
Remaining Life	5	Monthly Member Contribution	$825.46
Replacement Year	2023	Monthly Interest Contribution	$1.82
		Total Monthly Contribution	$827.28

Comments:

(2) 75 hp pumps, P-2B and P-2B, circulate condensor/boiler water within building 200 (located in #100 penthouse) operate at approximately 30 psi. Pumps are controlled with variable frequency drives. The system can operate with only one motor/pump. These pumps are secondary to the main condensor water pumps listed as separate component.

Service contractor:
Air Masters HVAC Services of NE Josh Medieros 508-672-7993

Operational experience: no issues

Pricing per discussion with client. Service contractor not responsive.

1	75 hp motor	@	$10,000.00	=	$10,000.00
1	pump	@	$7,000.00	=	$7,000.00
1	variable frequency drive	@	$4,000.00	=	$4,000.00
			TOTAL	=	$21,000.00

Condenser Water Heat Exchanger

Category	090 Equipment	Quantity	1 heat exchanger
Photo Date	July 2017	Unit Cost	$100,000.000
		% of Replacement	100.00%
		Current Cost	$100,000.00
Placed In Service	01/08	Future Cost	$121,899.44
Useful Life	20		
		Assigned Reserves at FYB	$0.00
Remaining Life	10	Monthly Member Contribution	$1,019.04
Replacement Year	2028	Monthly Interest Contribution	$2.25
		Total Monthly Contribution	$1,021.30

Comments:

Alfa Laval - Richmond, VA 866-253-2528
Condensor water heat exchanger provides cooled water to building for air conditioning via water source heat pumps. Cooling tower provides cooled water 75-78 degrees Fahrenheit to heat exchanger. After passing through heat exchanger, condenser water is 80 degrees Fahrenheit maximum. If condenser water reaches 90 degrees, the heat pump systems will shut down.

Label indicates manufactured in 2006. January 1, 2008 placed-in-service date assumed.

Service contractor:
Air Masters HVAC Services of NE Josh Medieros 508-672-7993

Operational experience: no issues

Pricing per discussion with client. Useful life 20-25 years per client research. Service contractor not responsive.

Condenser Water Heat Exchanger, Maintenance

Category	090 Equipment	Quantity	1 heat exchanger
Photo Date	July 2017	Unit Cost	$4,200.000
		% of Replacement	100.00%
		Current Cost	$4,200.00
Placed In Service	01/08	Future Cost	$5,119.78
Useful Life	10		
		Assigned Reserves at FYB	$4,200.00
Remaining Life	0	Monthly Member Contribution	$42.80
Replacement Year	2018	Monthly Interest Contribution	$0.10
		Total Monthly Contribution	$42.90

Comments:

Condensor water heat exchanger provides cooled water to building for air conditioning via water source heat pumps. Cooling tower provides cooled water 75-78 degrees Fahrenheit to heat exchanger. After passing through heat exchanger, condenser water is 80 degrees Fahrenheit maximum.

Manufacturer: Alfa Laval - Richmond, VA 866-253-2528
Component covers recommended maintenance and cleaning every 5 - 10 years. Client has proposal to perform service for $4200. Time interval for next service should be set based on findings during planned service this year.

Service contractor:
Air Masters HVAC Services of NE Josh Medieros 508-672-7993

Operational experience: no issues

Cooling Tower

Category	090 Equipment	Quantity	2 cooling towers
Photo Date	July 2017	Unit Cost	$125,000.000
		% of Replacement	100.00%
		Current Cost	$250,000.00
Placed In Service	01/08	Future Cost	$336,467.08
Useful Life	25		
		Assigned Reserves at FYB	$0.00
Remaining Life	15	Monthly Member Contribution	$1,760.43
Replacement Year	2033	Monthly Interest Contribution	$3.89
		Total Monthly Contribution	$1,764.32

Comments:

(2) Baltimore Aircoil Company 700 ton cooling towers.

Sub components included:
Air circulation fans and motor
Water spray system

Water circulation pumps are a separate component.

Service contractor:
Air Masters HVAC Services of NE Josh Medieros 508-672-7993

Operational experience: Fan motor developed bad bearing. Variable frequency drive was damaged. Both were replaced for $9000.

Pricing per discussion with client. Useful life 20-25 years per client research. Service contractor not responsive.Useful life for separate refurbishment component set at 16 years and useful life of cooling tower replacement extended to 25 years.

Cooling Tower, Refurbishment

Category	090 Equipment	Quantity	2 refurbishments
Photo Date	July 2017	Unit Cost	$25,000.000
		% of Replacement	100.00%
		Current Cost	$50,000.00
Placed In Service	01/08	Future Cost	$56,308.12
Useful Life	16		
		Assigned Reserves at FYB	$0.00
Remaining Life	6	Monthly Member Contribution	$824.91
Replacement Year	2024	Monthly Interest Contribution	$1.82
		Total Monthly Contribution	$826.73

Comments:

(2) Baltimore Aircoil Company 700 ton cooling towers.

Sub components included:
Air circulation fans and motor
Water spray system

Water circulation pumps are a separate component.

Service contractor:
Air Masters HVAC Services of NE Josh Medieros 508-672-7993

Operational experience: Fan motor developed bad bearing. Variable frequency drive was damaged. Both were replaced for $9000.

Refurbishment component added per discussion with client. Useful life 20-25 years per client research. Useful life for refurbishment set at 16 years and useful life of separate cooling tower replacement compnent extended to 25 years.

Cooling Tower, Water Treatment

Category	090 Equipment	Quantity	1 treatment system
Photo Date	July 2017	Unit Cost	$3,300.000
		% of Replacement	100.00%
		Current Cost	$3,300.00
Placed In Service	01/10	Future Cost	$3,790.66
Useful Life	15		
		Assigned Reserves at FYB	$0.00
Remaining Life	7	Monthly Member Contribution	$47.01
Replacement Year	2025	Monthly Interest Contribution	$0.11
		Total Monthly Contribution	$47.12

Comments:

System is operated by Bardons Water Services, East Greenwich, RI.
Contact: Carl Anderson, 401-219-0737
Mr. Andersen stated that there are no current issues with system. System was installed approximately 2010. Yearly fee covers operation of pumps, but equipment is owned by association.
Three chemical pumps supply cooling tower. Lifespan of pumps is about 10-15 years. A bypass feeder supplies chemicals to condensor water with controller using a temperature sensor to regulate chemicals. Lifespan of controller is about 15-20 years when protected from elements.

Operational experience: no issues

Component covers both pumps and controller due to relatively low cost.

3	chemical pumps	@	$500.00	=	$1,500.00
1	controller	@	$1,800.00	=	$1,800.00
			TOTAL	=	$3,300.00

Domestic Water Pumps

Category	090 Equipment	Quantity	1 triplex system
Photo Date	July 2017	Unit Cost	$60,000.000
		% of Replacement	92.00%
		Current Cost	$55,200.00
Placed In Service	01/08	Future Cost	$58,578.68
Useful Life	10		
Adjustment	+3	Assigned Reserves at FYB	$42,461.54
Remaining Life	3	Monthly Member Contribution	$470.73
Replacement Year	2021	Monthly Interest Contribution	$20.24
		Total Monthly Contribution	$490.98

Comments:

SyncroFlo 55TE74V domestic water triplex booster pumps are powered by 7-1/2 hp motors.
90 gpm per pump.

Component cost distribution: 92% Waterplace 1; 4% Waterplace Master; 4% Waterplace Garage. Distribution based on percentage of shared operating costs provided by client.

Service contractor: Gustavo Preston, Chelmsford, MA, 978-654-6920
Per Dan Pelligrini, impossible to predict when components like a seal will fail. These should be replaced out of operating budget. System useful life is expected to be about 10 years. System is at end of expected useful life. System package consists of (3) pumps and control panel. Control panels may also have individual components that need periodic replacement (electrical contactors are an example).

Price for a replacement system for the triplex booster is estimated at $33,700.00 plus freight and taxes and this would not include any installation or labor. Mr. Pelligrini recommends replacing with a variable frequency drive system (VFD) with 7.5hp motors, horizontally mounted close coupled end suction pumps with 4" headers. It would not be a direct dimensional replacement because the existing has vertically mounted close coupled pumps. New design would have horizontally mounted pumps so they may be a bump in price for custom headers. The life expectancy of such a pump would be about 10 years. Total system replacement cost can be expected to be in the $55,000 - $60,000 range.

Operational experience: Pump 1 leaks. Ceramic seal will be replaced for $1200.

The remaining life of this component has been extended due to its condition at our most recent site visit.

Electrical System, IR Testing

Category	090 Equipment	Quantity	1 allowance
Photo Date	July 2017	Unit Cost	$3,000.000
		% of Replacement	80.00%
		Current Cost	$2,400.00
Placed In Service	01/18	Future Cost	$2,546.90
Useful Life	3		
		Assigned Reserves at FYB	$0.00
Remaining Life	3	Monthly Member Contribution	$77.47
Replacement Year	2021	Monthly Interest Contribution	$0.17
		Total Monthly Contribution	$77.64

Comments:

Typically, electrical panels are unfunded.
This component is for allowance for infrared inspection on 3 year interval of all electrical panels and transformers.

Installation and service contractor: none

Operational experience: no issues

Electrical, Periodic Repairs

Category	090 Equipment	Quantity	1 allowance
Photo Date	July 2017	Unit Cost	$30,000.000
		% of Replacement	80.00%
		Current Cost	$24,000.00
Placed In Service	01/18	Future Cost	$32,300.84
Useful Life	15		
		Assigned Reserves at FYB	$0.00
Remaining Life	15	Monthly Member Contribution	$169.00
Replacement Year	2033	Monthly Interest Contribution	$0.37
		Total Monthly Contribution	$169.37

Comments:

Typically, electrical panels and transformers are unfunded. However, due to the large number of panels and transformers in the association, it is prudent to expect some level of repairs will be required.

This component is for allowance for inspection and replacements on 15 year interval. This allows some funding for occasional, unpredictable repairs. Allowance should be adjusted as more experience is gained as electrical equipment ages.

Installation contractor was E.W. Audete and Sons, Providence, RI, 401-467-3510
Jack Osowa stated that transformers may typically fail when first energized, but that failure rates are low after initial start up.

Operational experience: no issues

Elevator Cab Refurbish, Towers

Category	090 Equipment	Quantity	4 elevators
Photo Date	July 2017	Unit Cost	$25,000.000
		% of Replacement	100.00%
		Current Cost	$100,000.00
Placed In Service	01/08	Future Cost	$110,408.08
Useful Life	15		
		Assigned Reserves at FYB	$0.00
Remaining Life	5	Monthly Member Contribution	$1,965.38
Replacement Year	2023	Monthly Interest Contribution	$4.34
		Total Monthly Contribution	$1,969.72

Comments:

(4) tower elevator cabs

Service contractor: Otis Elevator, Christine Kassis, 401-536-5039
Ms. Kassis provided rough ballpark cost for tower cab refurbishments.
She will provide a more detailed and accurate cost in near future.

Operational experience: no issues reported in general. Tile floors are cracking.

Elevator Modernization, Towers

Category	090 Equipment	Quantity	4 elevators
Photo Date	July 2017	Unit Cost	$250,000.000
		% of Replacement	100.00%
		Current Cost	$1,000,000.00
Placed In Service	01/08	Future Cost	$1,485,947.40
Useful Life	30		
		Assigned Reserves at FYB	$0.00
Remaining Life	20	Monthly Member Contribution	$5,471.67
Replacement Year	2038	Monthly Interest Contribution	$12.09
		Total Monthly Contribution	$5,483.75

Comments:

(4) traction elevators, (2) in each tower.

Service contractor: Otis Elevator, Christine Kassis, 401-536-5039
Ms. Kassis provided rough ballpark cost for tower elevator modernizations.
She will provide a more detailed and accurate cost in near future.

Operational experience: no issues reported.

High Rise Condominium

Component Detail

Directed Cash Flow Calculation Method; Sorted by Category

Entrance Door Access Control

Category	090 Equipment	Quantity	1 system
Photo Date	July 2017	Unit Cost	$33,000.000
		% of Replacement	90.00%
		Current Cost	$29,700.00
Placed In Service	01/08	Future Cost	$32,791.20
Useful Life	15		
		Assigned Reserves at FYB	$0.00
Remaining Life	5	Monthly Member Contribution	$583.72
Replacement Year	2023	Monthly Interest Contribution	$1.29
		Total Monthly Contribution	$585.01

Comments:

Component covers C.cure 8000 access system. Most components are original. Separate components for intercom system to tower front desks and access dialing system to units.

Service contractor: Siemens, Canton, MA Mark Derby 781-571-9474
Major components:
Control panels are located in each tower and in garage. Panels are at end of model life. Parts will be available for 5 years per manufacturer.
Server is original and due for an upgrade to new C.cure 9000 system.
Software is also due for upgrade to C.cure 9000 system. Current version will no longer offer security updates.
Field devices have long service life and should be replaced on as-needed basis

Remaining useful life set at 5 years to reflect sunset of parts availability.

2	16-door main panels	@	$11,000.00	=	$22,000.00
1	4-door parking garage panel	@	$5,000.00	=	$5,000.00
1	server & software upgrade	@	$6,000.00	=	$6,000.00
			TOTAL	=	$33,000.00

Entrance Door Intercom

Category	090 Equipment	Quantity	2 access intercoms
Photo Date	July 2017	Unit Cost	$2,500.000
		% of Replacement	90.00%
		Current Cost	$4,500.00
Placed In Service	01/08	Future Cost	$5,485.47
Useful Life	20		
		Assigned Reserves at FYB	$0.00
Remaining Life	10	Monthly Member Contribution	$45.86
Replacement Year	2028	Monthly Interest Contribution	$0.10
		Total Monthly Contribution	$45.95

Comments:

Component covers Aiphone door intercom. Separate components for C.cure access system and access dialing system to units.

Service contractor: Siemens, Canton, MA Mark Derby 781-571-9474
Current basic stand-alone system does not interface with C.cure system 8000. Main panel for intercom is at tower front desks. Control panels are large and antiquated, but will likely function until an integrated access system is desired. Smaller control panels with similar functionality to current system are available for about $1000 each. Field devices at entry doors are very reliable.

Upgrades are available for integration of intercom with C.cure 9000 but would likely require running new wiring to field devices.

Pricing does not include ugrade to integrated system.

High Rise Condominium

Component Detail

Directed Cash Flow Calculation Method; Sorted by Category

Entrance Door Unit Intercom Access

Category	090 Equipment	Quantity	1 total
Photo Date	July 2017	Unit Cost	$4,000.000
		% of Replacement	100.00%
		Current Cost	$4,000.00
Placed In Service	01/08	Future Cost	$4,416.32
Useful Life	15		
		Assigned Reserves at FYB	$1,559.67
Remaining Life	5	Monthly Member Contribution	$50.15
Replacement Year	2023	Monthly Interest Contribution	$0.81
		Total Monthly Contribution	$50.96

Comments:

Component covers access control system. Aegis 7000 series allows visitors to call units to gain access to towers.

Service contractor: none listed

Pricing assumes all wiring can be reused.

2	Aegis 7000 access control parts	@	$1,000.00	=	$2,000.00
2	installation labor	@	$1,000.00	=	$2,000.00
			TOTAL	=	$4,000.00

Fire Alarm

Category	090 Equipment	Quantity	1 total
Photo Date	July 2017	Unit Cost	$165,500.000
		% of Replacement	96.25%
		Current Cost	$159,293.75
Placed In Service	01/08	Future Cost	$214,388.41
Useful Life	25		
		Assigned Reserves at FYB	$0.00
Remaining Life	15	Monthly Member Contribution	$1,121.70
Replacement Year	2033	Monthly Interest Contribution	$2.48
		Total Monthly Contribution	$1,124.18

Comments:

The fire alarm system is composed of Edwards EST3 fire alarm panels and peripheral equipment in the Waterplace towers, garage, and Blue Cross Blue Shield (BCBS) building. Each alarm location has different panel depending on area served. Note that if panels are upgraded in Waterplace and garage, then they also will have to be replaced in BCBS building. Funding for BCBS is not included.

Service contractor: CSI Communication Systems Inc., North Providence, RI Jim Baril 401-727-0030
Fire alarm panels are all still in production and parts are available. It is expected that parts will be available for the foreseeable future and that parts will be backwards compatible with both head end panels and peripheral devices (detectors, pull stations, sirens, boosters, batteries). Peripheral devices are not included in budget and should be replaced on as-needed basis.

Per Mr. Baril, Organizational breakdown of system:
Tower A: Alarm main panel on ground level. Remote panels on floors 9, 13, 17, penthouse
Tower B: Alarm main panel on ground level. Remote panels on floors 5, 9, 13, penthouse
Garage: Alarm main panel in garage office
Remote annunciators: one in each tower

Operational experience: No issues reported by client
The remaining life of this component has been extended at the request of the client.

3	main fire alarm panels	@	$14,000.00	=	$42,000.00
10	remote fire alarm panels	@	$11,000.00	=	$110,000.00
2	remote annunciators	@	$1,750.00	=	$3,500.00
1	miscellaneous electrical, etc.	@	$10,000.00	=	$10,000.00
			TOTAL	=	$165,500.00

Pricing for panels includes programming, final connections, testing. Miscellaneous allowance includes electrical work that may be required, permits, assistance with testing from other trades.

Fire Sprinkler, Jockey Pump

Category	090 Equipment	Quantity	1 pump
Photo Date	July 2017	Unit Cost	$7,500.000
		% of Replacement	85.00%
		Current Cost	$6,375.00
Placed In Service	01/08	Future Cost	$7,771.09
Useful Life	20		
		Assigned Reserves at FYB	$0.00
Remaining Life	10	Monthly Member Contribution	$64.96
Replacement Year	2028	Monthly Interest Contribution	$0.14
		Total Monthly Contribution	$65.10

Comments:

Fire sprinkler jockey pump is in equipment room on level P2 of parking garage.
3 hp pump maintains wet sprinkler pipes at approximately 260 psi to aid in sensing if a sprinkler head discharges. Jockey pump also eliminates need for main fire pump to run to maintain system pressure.

Service contractor: Gustavo Preston, Chelmsford, MA, 978-654-6920 Dan Pelligrini

Operational experience: no issues reported

Fire Sprinkler, Main Pump

Category	090 Equipment	Quantity	1 pump
Photo Date	July 2017	Unit Cost	$35,000.000
		% of Replacement	85.00%
		Current Cost	$29,750.00
Placed In Service	01/08	Future Cost	$36,265.08
Useful Life	20		
		Assigned Reserves at FYB	$0.00
Remaining Life	10	Monthly Member Contribution	$303.17
Replacement Year	2028	Monthly Interest Contribution	$0.67
		Total Monthly Contribution	$303.84

Comments:

Allis Chalmer fire sprinkler pump is in equipment room on level P2 of parking garage.
125 hp (when operating at 60 HZ) motor with 1000 gpm pump.

Service contractor: Gustavo Preston, Chelmsford, MA, 978-654-6920 Dan Pelligrini

Operational experience: no issues reported by client

Cost from prior reserve study with inflation added. Updated pricing information from Gustavo Preston pending.

High Rise Condominium

Component Detail

Directed Cash Flow Calculation Method; Sorted by Category

Fitness Equipment

Category	090 Equipment	Quantity	1 total
Photo Date	July 2017	Unit Cost	$24,000.000
		% of Replacement	100.00%
		Current Cost	$24,000.00
Placed In Service	01/08	Future Cost	$26,497.94
Useful Life	15		
		Assigned Reserves at FYB	$0.00
Remaining Life	5	Monthly Member Contribution	$471.69
Replacement Year	2023	Monthly Interest Contribution	$1.04
		Total Monthly Contribution	$472.73

Comments:

Component covers partial replacement of fitness equipment in the gym on 15 year interval. Most equipment is lightly used. Treadmills receive the most use. Walking decks wear and need periodic repair. Funding from operating budget. A preventative maintenance program is in place. Reviewed strategy with client.

Allowance amount from original reserve study $20,000 with inflation added. No quantity listed in prior reserve study.

Generator

Category	090 Equipment	Quantity	1 total
Photo Date	July 2017	Unit Cost	$400,000.000
		% of Replacement	70.00%
		Current Cost	$280,000.00
Placed In Service	01/08	Future Cost	$416,065.27
Useful Life	30		
		Assigned Reserves at FYB	$0.00
Remaining Life	20	Monthly Member Contribution	$1,532.07
Replacement Year	2038	Monthly Interest Contribution	$3.38
		Total Monthly Contribution	$1,535.45

Comments:

Component covers generator and peripheral equipment. 1000 kw generator has never been needed per client. Waterplace is on same electrical grid as hospital. Power supply has been very reliable.Generator is tested once a week.

Service contractor: South Shore Generator, East Wareham, MA, Sherri Dinwoodie 508-295-7336
Per Jeff Stelmack useful life is between 20 and 30 years or more depending on parts availability. They have many large industrial units that have been in service longer than 30 years. However, this is only an estimate as there is no way to predict failures, and when the cost of repair will exceed the value of replacement. Replacement cost is estimated to be between $300,000 and $500,000.

Operational experience: generally no major issues.
Currently there is a leak in the engine heater block. $5000 repair is scheduled.

The remaining life of this component has been extended due to its apparent infrequent use. Average replacement cost provided by contractor used.

Generator, Fuel Pump

Category	090 Equipment	Quantity	1 fuel pump
Photo Date	July 2017	Unit Cost	$3,000.000
		% of Replacement	70.00%
		Current Cost	$2,100.00
Placed In Service	01/08	Future Cost	$2,318.57
Useful Life	15		
		Assigned Reserves at FYB	$1,400.00
Remaining Life	5	Monthly Member Contribution	$15.72
Replacement Year	2023	Monthly Interest Contribution	$0.67
		Total Monthly Contribution	$16.39

Comments:

Component covers generator diesel fuel pump. 1000 kw generator has never been needed per client. Waterplace is on same electrical grid as hospital. Power supply has been very reliable.Generator is tested once a week.

Service contractor: Mass Tanks Sales, Inc. Middleborough, MA, 508-947-8826

Operational experience: No issues reported.

Replacement cost from prior reserve study adjusted for inflation.

High Rise Condominium

Component Detail

Directed Cash Flow Calculation Method; Sorted by Category

Generator, Fuel Tank

Category	090 Equipment	Quantity	1 fuel tank
Photo Date	July 2017	Unit Cost	$11,500.000
		% of Replacement	70.00%
		Current Cost	$8,050.00
Placed In Service	01/08	Future Cost	$10,834.24
Useful Life	25		
		Assigned Reserves at FYB	$0.00
Remaining Life	15	Monthly Member Contribution	$56.69
Replacement Year	2033	Monthly Interest Contribution	$0.13
		Total Monthly Contribution	$56.82

Comments:

Component covers generator 600 gallon diesel fuel tank. 1000 kw generator has never been needed per client. Waterplace is on same electrical grid as hospital. Power supply has been very reliable.Generator is tested once a week.

Service contractor: Mass Tanks Sales, Inc. Middleborough, MA, 508-947-8826

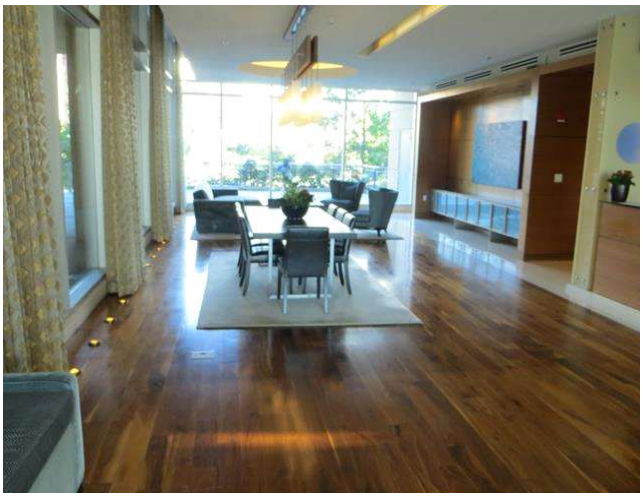
Operational experience: No issues reported.

Replacement cost from prior reserve study adjusted for inflation.

Heat Pump, Common Areas

Category	090 Equipment	Quantity	10 heat pumps
Photo Date	July 2017	Unit Cost	$10,000.000
		% of Replacement	100.00%
		Current Cost	$100,000.00
Placed In Service	01/08	Future Cost	$121,899.44
Useful Life	20		
		Assigned Reserves at FYB	$0.00
Remaining Life	10	Monthly Member Contribution	$1,019.04
Replacement Year	2028	Monthly Interest Contribution	$2.25
		Total Monthly Contribution	$1,021.30

Comments:



Water-source heat pump locations in common areas:

Tower A
Lobby #1, Lobby #2, Lobby #3, Fitness #1, Fitness #2, (loading dock is serviced by one of lobby units)
Tower B
Loading dock, Mail room, Management office, Restroom, Lobby

Inventory from building management system per Kevin Fernandes. All units are 1-1/2 ton per label information provided.

Service contractor:
Air Masters HVAC Services of NE Josh Medieros 508-672-7993
Service contractor not responsive.

Operational experience: no issues reported by client.

Pricing per discussion with client. Service contractor not responsive.

Heat Pump, Equipment Areas

Category	090 Equipment	Quantity	3 heat pumps
Photo Date	July 2017	Unit Cost	$10,000.000
		% of Replacement	100.00%
		Current Cost	$30,000.00
Placed In Service	01/08	Future Cost	$36,569.83
Useful Life	20		
		Assigned Reserves at FYB	$0.00
Remaining Life	10	Monthly Member Contribution	$305.71
Replacement Year	2028	Monthly Interest Contribution	$0.67
		Total Monthly Contribution	$306.38

Comments:

Water-source 3 ton heat pump locations:

Tower A:
(2) for elevator machine room
Tower B:
(1) for elevator machine room

Service contractor:
Air Masters HVAC Services of NE Josh Medieros 508-672-7993
Service contractor not responsive.

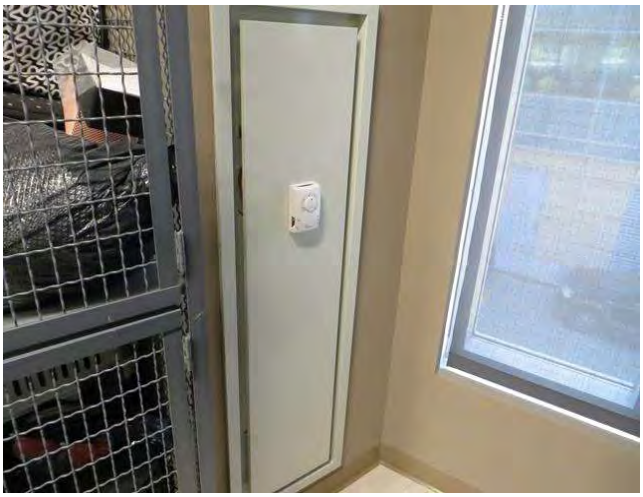
Operational experience: no issues reported by client.

Pricing per discussion with client. Service contractor not responsive.

Heat Pump, Unit Style

Category	090 Equipment	Quantity	6 heat pumps
Photo Date	July 2017	Unit Cost	$10,000.000
		% of Replacement	100.00%
		Current Cost	$60,000.00
Placed In Service	01/08	Future Cost	$73,139.67
Useful Life	20		
		Assigned Reserves at FYB	$0.00
Remaining Life	10	Monthly Member Contribution	$611.43
Replacement Year	2028	Monthly Interest Contribution	$1.35
		Total Monthly Contribution	$612.78

Comments:



Component covers unit-style water-source heat pumps located in common areas listed.

Tower A:
(2) storage room

Tower B:
(2) community room
(2) storage room

Per Kevin Fernandes, cost to replace is $10,000. Cost just to replace failed compressor is $3000.

Pricing per discussion with client. Service contractor not responsive.

Heat Trace System

Category	090 Equipment	Quantity	1 total
Photo Date	July 2017	Unit Cost	$7,500.000
		% of Replacement	25.00%
		Current Cost	$1,875.00
Placed In Service	01/08	Future Cost	$2,285.61
Useful Life	10		
		Assigned Reserves at FYB	$1,875.00
Remaining Life	0	Monthly Member Contribution	$19.11
Replacement Year	2018	Monthly Interest Contribution	$0.04
		Total Monthly Contribution	$19.15

Comments:

Heat trace system protects elements that contain water from freezing in winter. This includes cooling towers and parking garage piping. There are three control panels in garage and one in Tower A mechanical penthouse. Tyco Thermal Controls is manufacturer.

Installation contractor: E.W. Audete & Sons, Providence, RI 401-467-3510 installed system in 2008
Jack Osowa stated that systems are relatively simple and not typically problematic. He has no access to installation records or personel involved with installation.

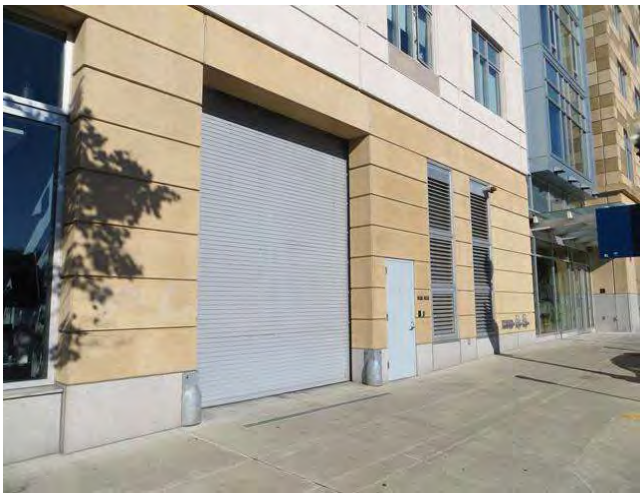
This component is for allowance for inspection and repairs on 10 year interval. This allows some funding for occasional, unpredictable repairs. Allowance should be updated periodically based on operational experience.

Operational experience: no work on system recently

Loading Dock Overhead Doors

Category	090 Equipment	Quantity	1 total
Photo Date	July 2017	Unit Cost	$18,815.000
		% of Replacement	100.00%
		Current Cost	$18,815.00
Placed In Service	01/08	Future Cost	$22,935.38
Useful Life	20		
		Assigned Reserves at FYB	$0.00
Remaining Life	10	Monthly Member Contribution	$191.73
Replacement Year	2028	Monthly Interest Contribution	$0.42
		Total Monthly Contribution	$192.16

Comments:



Component covers loading dock overhead doors.
Tower A door: 12' x 15', 180 sq. ft.
Tower B door: 10' x 8.5', 85 sq. ft.

Service contractor: Collins Overhead Door, Inc. Chelsea, MA 617-387-0759
Scott Collins recentlly bid loading dock doors for BCBS adjoining building at $19,300. Door is 21' x 13' or about $71/sq. ft. Mr. Collins recommended that the sq. ft. number be applied to client doors for budget. Due to lower usage, 20 year useful life is appropriate.

Operational experience: no problems reported by client

180	Tower A loading dock overhead door	@	$71.00	=	$12,780.00
85	Tower B loading dock overhead door	@	$71.00	=	$6,035.00
			TOTAL	=	$18,815.00

High Rise Condominium

Component Detail

Directed Cash Flow Calculation Method; Sorted by Category

Mailboxes

Category	090 Equipment	Quantity	1 total
Photo Date	July 2017	Unit Cost	$11,165.000
		% of Replacement	100.00%
		Current Cost	$11,165.00
Placed In Service	01/08	Future Cost	$16,590.60
Useful Life	30		
		Assigned Reserves at FYB	$0.00
Remaining Life	20	Monthly Member Contribution	$61.09
Replacement Year	2038	Monthly Interest Contribution	$0.13
		Total Monthly Contribution	$61.22

Comments:

Component covers Salsbury Industries USPS-STD-4B+ mailboxes in tower lobbies.

7	4B+ horizontal 7 door high x 4 wide	@	$1,360.00	=	$9,520.00
1	4B+ horizontal 7 door high x 3 wide	@	$1,045.00	=	$1,045.00
2	installation	@	$300.00	=	$600.00
			TOTAL	=	$11,165.00

Stairwell Pressurization Fan

Category	090 Equipment	Quantity	4 fans
Photo Date	July 2017	Unit Cost	$14,000.000
		% of Replacement	100.00%
		Current Cost	$56,000.00
Placed In Service	01/08	Future Cost	$83,213.05
Useful Life	30		
		Assigned Reserves at FYB	$0.00
Remaining Life	20	Monthly Member Contribution	$306.41
Replacement Year	2038	Monthly Interest Contribution	$0.67
		Total Monthly Contribution	$307.08

Comments:

Fire deparment uses in emergencies to pressurize or depressurize stairwells. Never used operationally.

Tower A:
(2) Loren Cook 365 CPS 365 CPS CL1
20 hp producing 20,000 cfm
One located in separate room in penthouse for Stairwell A1 shown in photo. Second fan stairwell A2 is located outside next to cooling tower.

Tower B:
Loren Cook 330 CPS 330 CPS CL1
15 hp producing 18,000 cfm
Located in separate room in penthouse for Stairwell B1.

Loren Cook 330 OMX 3300MX
15 hp producing 21,700 cfm
Located in separate room in penthouse for Stairwell B2.

Service and preventative maintenance contractor:
Air Masters HVAC Services of NE Josh Medieros 508-672-7993

Operational experience: no issues.

The remaining life of this component has been extended due to its apparent infrequent use.

Pricing per discussion with client and prior reserve study. Service contractor not responsive.

Surveillance System

Category	090 Equipment	Quantity	1 system
Photo Date	July 2017	Unit Cost	$16,000.000
		% of Replacement	50.00%
		Current Cost	$8,000.00
Placed In Service	01/17	Future Cost	$9,560.74
Useful Life	10		
		Assigned Reserves at FYB	$0.00
Remaining Life	9	Monthly Member Contribution	$89.93
Replacement Year	2027	Monthly Interest Contribution	$0.19
		Total Monthly Contribution	$90.12

Comments:

Component covers surveillance system. Original system was analog and lacked detail in camera view. System was upgraded in 2017 with 6 additional cameras and a new DVR/server per client.

Replacement cost for system provided by client.

Service contractor: Integrated Securities upgraded system per client

High Rise Condominium

Component Detail

Directed Cash Flow Calculation Method; Sorted by Category

Trash Compactors

Category	090 Equipment	Quantity	2 compactors
Photo Date	July 2017	Unit Cost	$29,000.000
		% of Replacement	100.00%
		Current Cost	$58,000.00
Placed In Service	01/08	Future Cost	$70,701.68
Useful Life	20		
		Assigned Reserves at FYB	$0.00
Remaining Life	10	Monthly Member Contribution	$591.04
Replacement Year	2028	Monthly Interest Contribution	$1.31
		Total Monthly Contribution	$592.36

Comments:

Manufacturer: U.S. Chutes, Bantam, CT 800-872-4883
Model 3x3 container/packer, front loading

Service contractor: none

Operational experience: no issues reported

Manufacturer not responsive to pricing inquiries. Cost from prior reserve study with inflation added.

Unit Heater, Equipment Rooms

Category	090 Equipment	Quantity	37 unit heaters
Photo Date	July 2017	Unit Cost	$500.000
		% of Replacement	27.00%
		Current Cost	$4,995.00
Placed In Service	01/08	Future Cost	$6,088.88
Useful Life	20		
		Assigned Reserves at FYB	$0.00
Remaining Life	10	Monthly Member Contribution	$50.90
Replacement Year	2028	Monthly Interest Contribution	$0.11
		Total Monthly Contribution	$51.01

Comments:

Electrical unit heaters provide heat to mechanical rooms in garage and stair pressurization fan rooms in mechanical penthouses.

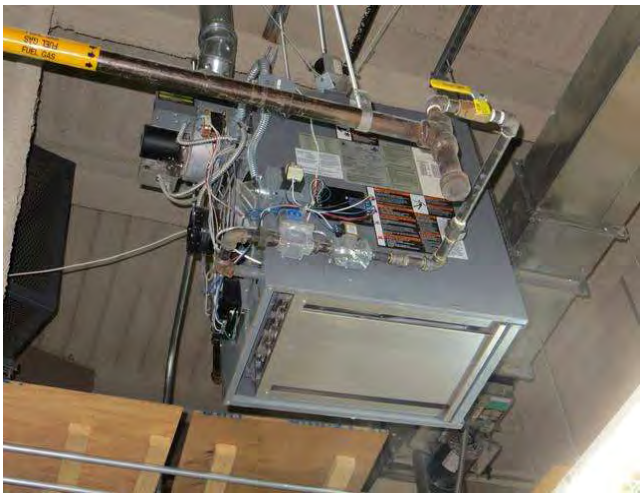
Service contractor: simple units are typically serviced in house. Parts inventory for heaters is available in garage storage room.

Operational experience: no issues

Unit Heater, Mechanical Penthouse

Category	090 Equipment	Quantity	2 unit heaters
Photo Date	July 2017	Unit Cost	$3,500.000
		% of Replacement	100.00%
		Current Cost	$7,000.00
Placed In Service	01/08	Future Cost	$8,532.96
Useful Life	20		
		Assigned Reserves at FYB	$0.00
Remaining Life	10	Monthly Member Contribution	$71.33
Replacement Year	2028	Monthly Interest Contribution	$0.16
		Total Monthly Contribution	$71.50

Comments:



Trane gas-fired unit heaters provide heat to penthouse mechanical rooms.

Service contractor: simple units are typically serviced in house

Operational experience: no issues

Pricing per discussion with client.

Ventilation Fan, Common Area

Category	090 Equipment	Quantity	5 fans
Photo Date	July 2017	Unit Cost	$3,500.000
		% of Replacement	100.00%
		Current Cost	$17,500.00
Placed In Service	01/08	Future Cost	$21,332.40
Useful Life	20		
		Assigned Reserves at FYB	$0.00
Remaining Life	10	Monthly Member Contribution	$178.33
Replacement Year	2028	Monthly Interest Contribution	$0.39
		Total Monthly Contribution	$178.72

Comments:

Mushroom fans located under cooling towers are general common area exhaust.
Loren Cook 120 ACFU 120R3B 50

Service contractor:
Air Masters HVAC Services of NE Josh Medieros 508-672-7993

Pricing per discussion with client. Service contractor not responsive.

common exhaust fan, Tower A	4	fans
common exhaust fan, Tower B	1	fan
	5	fans

Ventilation Fan, Unit Bathroom

Category	090 Equipment	Quantity	24 fans
Photo Date	July 2017	Unit Cost	$2,500.000
		% of Replacement	100.00%
		Current Cost	$60,000.00
Placed In Service	01/08	Future Cost	$73,139.67
Useful Life	20		
		Assigned Reserves at FYB	$0.00
Remaining Life	10	Monthly Member Contribution	$611.43
Replacement Year	2028	Monthly Interest Contribution	$1.35
		Total Monthly Contribution	$612.78

Comments:

1/2 - 1/6 hp variable speed in line booster fans ventilate unit bathrooms. Quantity from prior reserve study.

Service and preventative maintenance contractor:
Air Masters HVAC Services of NE Josh Medieros 508-672-7993

Operational experience: Two fan motors recently replaced in house. Motor $180; (2) hours labor $200

Pricing per discussion with client. Service contractor not responsive.

Water Heater, Circulation 2nd floor

Category	090 Equipment	Quantity	4 pumps
Photo Date	July 2017	Unit Cost	$2,000.000
		% of Replacement	100.00%
		Current Cost	$8,000.00
Placed In Service	01/15	Future Cost	$8,323.20
Useful Life	5		
		Assigned Reserves at FYB	$4,800.00
Remaining Life	2	Monthly Member Contribution	$160.54
Replacement Year	2020	Monthly Interest Contribution	$2.52
		Total Monthly Contribution	$163.06

Comments:

Water is heated to 145 degrees Fahrenheit by PVI main water heaters. Mixing valves in mechanical penthouse temper water to 135 degrees for distribution to building. Hot water is circulated to reduce waiting times. Water for floors 2-10 is pumped both down and up. These pumps send water back up to penthouse. Booster hot water heater on floor 2 is listed as separate component.

Taco Pumps:
Tower A
(2) 1/2 hp motors run continuously for floors 2-10

Tower B
(2) 1/2 hp motors run continuously for floors 2-10

Motors/pumps run continuously at a fixed speed.

Service and preventative maintenance contractor:
Air Masters HVAC Services of NE Josh Medieros 508-672-7993

Operational experience: Motor and pump replaced last year for $1200
Useful life is set at 5 years based on association experience.

Average placed in service date used.

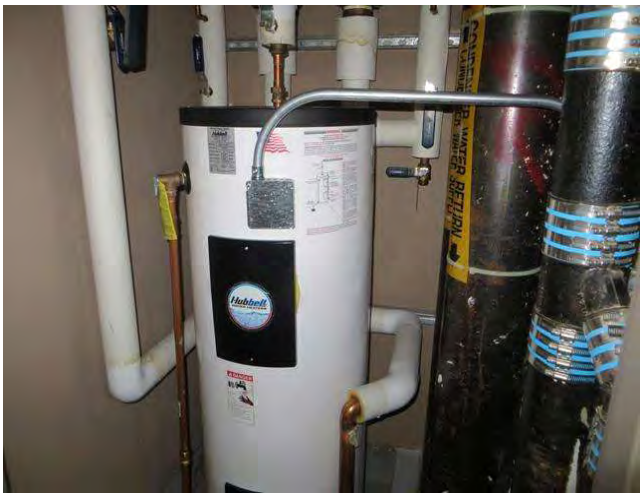
Pricing per discussion with client. Service contractor not responsive.

1	1/2 hp motor	@	$1,200.00	=	$1,200.00
1	pump	@	$600.00	=	$600.00
1	niscellaneous	@	$200.00	=	$200.00
			TOTAL	=	$2,000.00

Water Heater, Electric Supplemental

Category	090 Equipment	Quantity	2 water heaters
Photo Date	July 2017	Unit Cost	$1,000.000
		% of Replacement	100.00%
		Current Cost	$2,000.00
Placed In Service	01/08	Future Cost	$2,080.80
Useful Life	10		
Adjustment	+2	Assigned Reserves at FYB	$1,666.67
Remaining Life	2	Monthly Member Contribution	$18.36
Replacement Year	2020	Monthly Interest Contribution	$0.79
		Total Monthly Contribution	$19.15

Comments:



Hubbell 40 gallon electric water heaters have input of 9,000 watts. There is one on second floor of each tower.

Water is heated to 145 degrees Fahrenheit in penthouse. Mixing valves temper water to 135 degrees for distribution to building. Hot water is circulated to reduce waiting times. Water for floors 2-10 is pumped down to floor 2 and then back up. Pumps are listed as separate components. Booster hot water heaters on floor 2 of both buildings bring temperature back to 135 degrees after transport losses from penthouse. This is a small temperature increase and results in longer life. Units are original to building per client. The remaining life of this component has been extended due to its apparent light use.

Service and preventative maintenance contractor:
Air Masters HVAC Services of NE Josh Medieros 508-672-7993

Operational experience: no issues

Pricing per discussion with client. Service contractor not responsive.

Water Heater, Main

Category	090 Equipment	Quantity	4 water heaters
Photo Date	July 2017	Unit Cost	$29,500.000
		% of Replacement	100.00%
		Current Cost	$118,000.00
Placed In Service	01/16	Future Cost	$132,887.17
Useful Life	8		
		Assigned Reserves at FYB	$0.00
Remaining Life	6	Monthly Member Contribution	$1,946.79
Replacement Year	2024	Monthly Interest Contribution	$4.30
		Total Monthly Contribution	$1,951.09

Comments:

Water is heated to 145 degrees Fahrenheit by PVI main water heaters. Mixing valves in mechanical penthouse temper water to 135 degrees for distribution to building. Hot water is circulated through building to reduce waiting times.

PVI 1000 L 175A-TP gas-fired water heaters have input of 8,000,000 BTU/hr. Tank capacity is 175 gallons. Major parts of water heater: control, burner, tank, mixing valve

Service and preventative maintenance contractor:
Air Masters HVAC Services of NE Josh Medieros 508-672-7993
Equipment supplier representative: Tower Hill Sales, Auburn, NH Nick 800-542-5554

Operational experience: units have been replaced recently

Installation dates: Tower A unit 1: 2016, unit 2: 2015; Tower B unit 1: 2016, unit 2: 2017
Average placed-in-service date used.
Useful life is set at 8 years based on association experience.
Pricing per discussion with client.

Water Heater, Main Circulation

Category	090 Equipment	Quantity	6 pumps
Photo Date	July 2017	Unit Cost	$1,500.000
		% of Replacement	100.00%
		Current Cost	$9,000.00
Placed In Service	01/14	Future Cost	$9,550.87
Useful Life	7		
		Assigned Reserves at FYB	$5,142.86
Remaining Life	3	Monthly Member Contribution	$131.72
Replacement Year	2021	Monthly Interest Contribution	$2.62
		Total Monthly Contribution	$134.34

Comments:

Water is heated to 145 degrees Fahrenheit by PVI main water heaters. Mixing valves in mechanical penthouse temper water to 135 degrees for distribution to building. Hot water is circulated to reduce waiting times. Water for floors 2-10 is pumped both down and up. All of these pumps send water down to building from penthouse.

Taco Pumps:
Tower A
(2) 3/4 hp motor: DCP-1; DCP-2 serve floors 2-10
(1) 1/3 hp motor: serves floors 11-19

Tower B
(2) 3/4 hp motor: DCP-3; DCP-4 serve floors 2-10
(1) 1/3 hp motor: serves floors 11-17

Motors/pumps are controlled with variable frequency drives.

Service and preventative maintenance contractor:
Air Masters HVAC Services of NE Josh Medieros 508-672-7993

Operational experience: Pump seal recently replaced last year for $250

High Rise Condominium

Component Detail

Directed Cash Flow Calculation Method; Sorted by Category

Useful life is set at 7 years based on association experience.
Exact placed-in-service date is unavailable. Date is estimated based on useful life and original construction date.

Pricing per discussion with client. Service contractor not responsive.

High Rise Condominium

Detail Report Index

High Rise Condominium

Detail Report Index

Number of components included in this reserve analysis is 74.