STRUCTURAL INTEGRITY RESERVE STUDY

FOR

HARBOR OAKS PLACE CONDOMINIUM

30 TURNER STREET
CLEARWATER, FLORIDA 33756

PREPARED FOR:

HARBOR OAKS PLACE CONDOMINIUM ASSOCIATION, INC.
C/O
AMERI-TECH COMMUNITY MANAGEMENT, INC.
24701 US HIGHWAY 19 NORTH, SUITE 102
CLEARWATER, FLORIDA 33763

PREPARED BY: STEVEN W. RAY, P.E., R.S.
BRIAN J. ELLIOTT

RAY ENGINEERING, INC.
CONSULTING ENGINEERS

5001 N NEBRASKA AVE.
SUITE A
TAMPA, FLORIDA 33603

DECEMBER 2024
REVISED: MARCH 2025

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I. STRUCTURAL INTEGRITY RESERVE STUDY DETERMINATION

A. METHODOLOGY AND ASSUMPTIONS

A Structural Integrity Reserve Study (SIRS) is a report giving an estimate of the amount of money that must be put aside to replace or restore structural elements of the building(s) that will require replacement before the community's use expires. Per the Florida Statute Title XXXIII, Chapter 553, Section 899 and in conformance with the scope of work specified in SB 4-D & SB 154 – Building Safety, Dated May 26, 2022, and all other executed amendments to SB 4-D & SB 154, revisions Dated May 04, 2023, and, signed by the governor on June 09, 2023, passed by the state as per the date of this report, this includes the following components: Roof, load bearing walls and other primary structural members, fireproofing & fire safety, common area plumbing, common area electrical systems, exterior painting & waterproofing, and windows/exterior doors if the Association is responsible, as well as any other items that have deferred maintenance expense or replacement cost that exceeds $10,000 and the failure to replace or maintain such time negatively affects the previously listed components.

The commonly accepted guidelines, as established by the previously mentioned governing statutes, the Community Associations Institute, and our engineering judgment and experience have been used as a basis for the reserve schedule in this report. The schedule, when implemented in conjunction with a well-planned preventive maintenance program, will provide adequate funds for the replacement of the community's SIRS elements as they reach the end of their useful lives or are experiencing deferred maintenance. In order to ensure that this schedule remains current, a reassessment of the existing condition and replacement costs for each item is necessary at regular intervals as recommended within the report. Updating the schedule, reduction of the useful lives, and inflation of the replacement costs may be executed with the benefit of re-inspection. The schedule must also be adjusted as common elements are added or modified.

It is important to note that a reserve item is a SIRS component that will require repair or replacement on a recurring basis using a similar cost item. If an upgrade is necessitated due to a cost change or other extraordinary reason, the cost over and above the replacement cost is considered to be a capital improvement rather than a capital replacement. Capital improvements should not be funded from the reserves. After it has been upgraded, the item

will then become part of the reserve schedule.

Method of Accounting

The Method used in the Structural Integrity Reserve Study is the "Cash Flow" Method and the funding plan utilized is the Baseline Funding. The goal of this funding method is to keep the reserve cash balance above zero. This means that while each individual component may not be fully funded, the reserve balance does not drop below zero during the projected period.

Level of Service

The SIRS inventory was established based on information provided by the association's representative, field measurements, and/or drawing take-offs.

B. SUMMARY OF REPLACEMENT RESERVE NEEDS

1. TECHNICAL DEFINITIONS

This page is a summary of each of the different categories within the detailed schedule. It shows the total dollar amounts for each category and is based on the full funding of each item.

The Following are descriptions of the different variables, which are shown on the reserve schedule in the order in which they appear.

Description

This column on the schedule lists all of the components for which we recommend that reserves be accumulated. The basis for the selection of these items includes:

- Review of the governing documents regarding the common and limited common elements.
- Review of all available maintenance contracts.
- The type of component and its anticipated full useful life and condition.
- A review of applicable statutes dealing with reserve requirements.

Quantity

The quantities that are used as a basis for this report are calculated from field measurements and drawings that have been supplied to Ray Engineering, Inc. Ray Engineering, Inc. has not made extensive as-built measurements, and the quantities used are based primarily on the reference materials provided.

Unit Cost

The construction and replacement costs used in this report are based primarily on the various publications written by the R.S. Means Company and the construction-related experience of Ray Engineering. The publications are listed in the Bibliography.

Reserve Requirements Present Dollars

This is calculated by multiplying the "quantity" by the "unit costs".

Existing Reserve Fund

This is an allocation of the total existing reserve funds to the individual line items using a weighing factor which is based on the total "reserve requirement present dollars", the "estimated remaining life", and other factors. An existing balance was submitted to Ray Engineering, Inc. This balance was used in developing our SIRS.

Estimated Useful Life

The useful life values that are part of this report come from a variety of sources, some of which are listed in the Bibliography. In order to ensure that all items attain their anticipated useful lives, it is imperative that a well-planned maintenance schedule be adhered to. If an existing item is replaced with an upgraded product, the estimated remaining life has been listed for the new product.

Estimated Remaining Life

The estimated remaining life is based on both the age of the component and the results of the field inspections conducted in 2024.

Annual Reserve Funding

The reserve requirement present value was converted to the future value for the time in which each replacement will occur. A 3.5% compounded inflation rate has been assumed. The future value was then converted to an annual reserve fund value. The arithmetic calculations and formulas are indicated later in this report.

C. EXECUTIVE SUMMARY

Harbor Oaks Place is a private condominium complex located off Turner Street in Clearwater, Florida. The property includes one (1), ten-story building containing a total of 70 units that was constructed in 1972. The building is constructed in a method that is consistent with cast-in-place reinforced concrete columns, beams, and deck slabs with infill of CMU block walls. The foundation system appears consistent with deep concrete piles with pile caps below the concrete columns of the main structure and shallow foundations below the exterior walls of the ground floor. The roof systems consist of Duro-last PVC single-ply membrane roofing on tapered insulation boards and a flat roof deck. The roof drainage is controlled by surface drains and backup scuppers. The exteriors are clad with stucco. Each unit has at least one balcony. It is our understanding that the unit windows, doors, and balcony floor covering are not COA responsibility; however, any underlying concrete damage/repairs of the unit balconies is COA responsibility.

At the time of the inspection, the association was in the process of a sewer line repair project, which will not be included in the SIRS. Overall, the building appeared to be in good condition; however, we observed significant deterioration of the interior finish around the common area windows and doors on the ground floor from water intrusion. The common area windows and exterior doors are near the end of their useful service life; based on the observed repairs at some common area windows and at the request of the Association, the replacement of the common area windows and doors are deferred till 2035. Necessary repairs at common area windows and doors are presumed until replacement.

This SIRS is prepared for the fiscal year starting January 1, 2026. Based on no beginning funding balance, it is our recommendation that the annual contribution be set to $66,000 in 2026 and through the remainder of the reserve, which is equivalent to an average contribution of $943 per year, per residential unit. For a review of the funding requirements for the next 30 years, please refer to the "Cost and Funding Recap" included as a part of this report.

D. REPLACEMENT RESERVE REQUIREMENTS

SCHEDULE I

Exterior/Interior Building

SCHEDULE II

Electrical /Plumbing/Fire Safety

YEAR-BY-YEAR FUNDING RECAP - ALL ITEMS

COST AND FUNDING RECAP

ITEMIZED PROJECT COSTS BY YEAR

RAY ENGINEERING, INC.
CONSULTING ENGINEERS

PROJECT NAME	HARBOR OAKS PLACE	
INFLATION RATE	3.50%	
YIELD ON RESERVE FUNDS	3.00%	
BEGINNING YEAR OF FUNDING	2026	
PLANNING HORIZON	30	yrs

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Consulting Engineers

RESERVE EXPENDITURES

	COMPONENT DESCRIPTION/INVENTORY	UNITS	UNIT QUANTITY	UNIT COST	TOTAL COST	ESTIMATED USEFUL LIFE	ESTIMATED REMAINING LIFE	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
	EXTERIOR/INTERIOR BUILDING MAINTENANCE ITEMS																							
1	ROOF COVERING - DURO-LAST PVC MEMBRANE - REPLACE	ALLOW.	1	$323,406	$323,406.00	20	14															$523,495.5		
2	MISC. ROOF REPAIRS - AS NEEDED	ALLOW.	1	$20,000	$20,000.00	10	4					$22,950.5										$32,373.9		
3	EXTERIOR STUCCO - REPAIR/PAINT	S.F.	24008	$6	$144,048.00	10	6							$177,071.8										$249,777.2
4	BALCONIES CONCRETE REPAIRS - ONCE TILES REMOVED	UNITS	46	$1,250	$57,750.00	50	9										$78,707.3							
5	COMMON AREA - EXTERIOR METAL DOORS - REPAIR/REPLACE AS NEEDED	EA.	12	$2,500	$30,000.00	30	9										$40,886.9							
6	COMMON AREA & LOBBY - STOREFRONT WINDOWS - REPAIR/REPLACE AS NEEDED	S.F.	853	$60	$51,180.00	30	9										$69,753.1							
7	COMMON AREA - LOBBY ENTRANCE GLASS DOOR - REPAIR/REPLACE AS NEEDED	EA.	1	$6,400	$6,400.00	30	9										$8,722.5							
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	TOTAL EXTERIOR/INTERIOR BUILDING MAINTENANCE ITEMS							**$0**	**$0**	**$0**	**$0**	**$22,950**	**$0**	**$177,072**	**$0**	**$0**	**$198,070**	**$0**	**$0**	**$0**	**$0**	**$555,869**	**$0**	**$249,777**

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RESERVE EXPENDITURES

	COMPONENT DESCRIPTION/INVENTORY	UNITS	UNIT QUANTITY	UNIT COST	TOTAL COST	ESTIMATED USEFUL LIFE	ESTIMATED REMAINING LIFE	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	30 YR TOTAL
	EXTERIOR/INTERIOR BUILDING MAINTENANCE ITEMS																				
1	ROOF COVERING - DURO-LAST PVC MEMBRANE - REPLACE	ALLOW.	1	$323,406	$323,406.00	20	14														**$523,496**
2	MISC. ROOF REPAIRS - AS NEEDED	ALLOW.	1	$20,000	$20,000.00	10	4								$45,666.6						**$100,991**
3	EXTERIOR STUCCO - REPAIR/PAINT	S.F.	24008	$6	$144,048.00	10	6										$352,335.4				**$779,184**
4	BALCONIES CONCRETE REPAIRS - ONCE TILES REMOVED	UNITS	46	$1,250	$57,750.00	50	9														**$78,707**
5	COMMON AREA - EXTERIOR METAL DOORS - REPAIR/REPLACE AS NEEDED	EA.	12	$2,500	$30,000.00	30	9														**$40,887**
6	COMMON AREA & LOBBY - STOREFRONT WINDOWS - REPAIR/REPLACE AS NEEDED	S.F.	853	$60	$51,180.00	30	9														**$69,753**
7	COMMON AREA - LOBBY ENTRANCE GLASS DOOR - REPAIR/REPLACE AS NEEDED	EA.	1	$6,400	$6,400.00	30	9														**$8,723**
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	TOTAL EXTERIOR/INTERIOR BUILDING MAINTENANCE ITEMS							**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$45,667**	**$0**	**$352,335**	**$0**	**$0**	**$0**	**$1,601,741**

| | TOTAL EXTERIOR/INTERIOR BUILDING MAINTENANCE ITEMS | | | | | | | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $45,667 | $0 | $352,335 | $0 | $0 | $0 | $1,601,741 |

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RESERVE EXPENDITURES

	COMPONENT DESCRIPTION/INVENTORY	UNITS	UNIT QUANTITY	UNIT COST	TOTAL COST	ESTIMATED USEFUL LIFE	ESTIMATED REMAINING LIFE	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
	ELECTRICAL/MECHANICAL/PLUMBING ITEMS																							
1	ELECTRICAL PANELBOARDS AND SWITHCES - REPLACE AS NEEDED	EA.	11	$3,000	$33,000.00	30	19																	
2	LIFE SAFETY EQUIPMENT - REPLACE AS NEEDED	S.F.	126000	$1	$126,000.00	25	21																	
3	DOMESTIC PUMP/LINES (2 PUMP CONTROLLER SYSTEM) - REPAIR/REPLACE AS NEEDED	ALLOW	1	$40,000	$40,000.00	35	33																	
4	BACKUP GENERATOR (52 kW) - REPAIR/REPLACE AS NEEDED	ALLOW.	1	$50,000	$50,000.00	40	29																	
5	FIRE PUMP - REPAIR/REPLACE AS NEEDED	ALLOW.	1	$65,000	$65,000.00	40	26																	
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	TOTAL ELECTRICAL/MECHANICAL/PLUMBING ITEMS							**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
	TOTAL							**$0**	**$0**	**$0**	**$0**	**$22,950**	**$0**	**$177,072**	**$0**	**$0**	**$198,070**	**$0**	**$0**	**$0**	**$0**	**$555,869**	**$0**	**$249,777**

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RESERVE EXPENDITURES

	COMPONENT DESCRIPTION/INVENTORY	UNITS	UNIT QUANTITY	UNIT COST	TOTAL COST	ESTIMATED USEFUL LIFE	ESTIMATED REMAINING LIFE	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	30 YR TOTAL
	ELECTRICAL/MECHANICAL/PLUMBING ITEMS																				
1	ELECTRICAL PANELBOARDS AND SWITHCES - REPLACE AS NEEDED	EA.	11	$3,000	$33,000.00	30	19			$63,442.5											**$63,443**
2	LIFE SAFETY EQUIPMENT - REPLACE AS NEEDED	S.F.	126000	$1	$126,000.00	25	21					$259,488.4									**$259,488**
3	DOMESTIC PUMP/LINES (2 PUMP CONTROLLER SYSTEM) - REPAIR/REPLACE AS NEEDED	ALLOW	1	$40,000	$40,000.00	35	33														
4	BACKUP GENERATOR (52 kW) - REPAIR/REPLACE AS NEEDED	ALLOW.	1	$50,000	$50,000.00	40	29													$135,593.9	**$135,594**
5	FIRE PUMP - REPAIR/REPLACE AS NEEDED	ALLOW.	1	$65,000	$65,000.00	40	26										$158,987.3				**$158,987**
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	TOTAL ELECTRICAL/MECHANICAL/PLUMBING ITEMS							**$0**	**$0**	**$63,443**	**$0**	**$259,488**	**$0**	**$0**	**$0**	**$0**	**$158,987**	**$0**	**$0**	**$135,594**	**$617,512**
	TOTAL							**$0**	**$0**	**$63,443**	**$0**	**$259,488**	**$0**	**$0**	**$45,667**	**$0**	**$511,323**	**$0**	**$0**	**$135,594**	**$2,219,253**

	FULLY FUNDED BALANCE EXTERIOR/INTERIOR BUILDING MAINTENANCE ITEMS DESCRIPTION SCHEDULE II	First Replacement			Second Replacement			Third Replacement			Fourth Replacement			Fifth Replacement		
		Yr Replaced	Adjusted Cost if Inflation is 3.50%	Annual Funding Thru Yr Replaced	Yr Replaced	Adjusted Cost if Inflation is 3.50%	Annual Funding Thru Yr Replaced	Yr Replaced	Adjusted Cost if Inflation is 3.50%	Annual Funding Thru Yr Replaced	Yr Replaced	Adjusted Cost if Inflation is 3.50%	Annual Funding Thru Yr Replaced	Yr Replaced	Adjusted Cost if Inflation is 3.50%	Annual Funding Thru Yr Replaced
1	ROOF COVERING - DURO-LAST PVC MEMBRANE - REPLACE	2040	$523,496	$34900	2060			2080			2100			2120		
2	MISC. ROOF REPAIRS - AS NEEDED	2030	$22,950	$4590	2040	$32,374	$3237	2050	$45,667	$4567	2060			2070		
3	EXTERIOR STUCCO - REPAIR/PAINT	2032	$177,072	$25296	2042	$249,777	$24978	2052	$352,335	$35234	2062			2072		
4	BALCONIES CONCRETE REPAIRS - ONCE TILES REMOVED	2035	$78,707	$7871	2085			2135			2185			2235		
5	COMMON AREA - EXTERIOR METAL DOORS - REPAIR/REPLACE AS NEEDED	2035	$40,887	$4089	2065			2095			2125			2155		
6	COMMON AREA & LOBBY - STOREFRONT WINDOWS - REPAIR/REPLACE AS N	2035	$69,753	$6975	2065			2095			2125			2155		
7	COMMON AREA - LOBBY ENTRANCE GLASS DOOR - REPAIR/REPLACE AS NEE	2035	$8,723	$872	2065			2095			2125			2155		
8		2026	0		2026	0		2026	0		2026	0		2026	0	
9		2026	0		2026	0		2026	0		2026	0		2026	0	
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39		2026	0		2026	0		2026	0		2026	0		2026	0	
40		2026	0		2026	0		2026	0		2026	0		2026	0	

	FULLY FUNDED BALANCE ELECTRICAL/MECHANICAL/PLUMBING MAINTENANCE ITEMS DESCRIPTION SCHEDULE III	First Replacement			Second Replacement			Third Replacement			Fourth Replacement			Fifth Replacement		
		Yr Replaced	Adjusted Cost if Inflation is 3.50%	Annual Funding Thru Yr Replaced	Yr Replaced	Adjusted Cost if Inflation is 3.50%	Annual Funding Thru Yr Replaced	Yr Replaced	Adjusted Cost if Inflation is 3.50%	Annual Funding Thru Yr Replaced	Yr Replaced	Adjusted Cost if Inflation is 3.50%	Annual Funding Thru Yr Replaced	Yr Replaced	Adjusted Cost if Inflation is 3.50%	Annual Funding Thru Yr Replaced
1	ELECTRICAL PANELBOARDS AND SWITHCES - REPLACE AS NEEDED	2045	$63,443	$3172	2075			2105			2135			2165		
2	LIFE SAFETY EQUIPMENT - REPLACE AS NEEDED	2047	$259,488	$11795	2072			2097			2122			2147		
3	DOMESTIC PUMP/LINES (2 PUMP CONTROLLER SYSTEM) - REPAIR/REPLACE A	2059			2094			2129			2164			2199		
4	BACKUP GENERATOR (52 kW) - REPAIR/REPLACE AS NEEDED	2055	$135,594	$4520	2095			2135			2175			2215		
5	FIRE PUMP - REPAIR/REPLACE AS NEEDED	2052	$158,987	$5888	2092			2132			2172			2212		
6		2026	0		2026	0		2026	0		2026	0		2026	0	
7		2026	0		2026	0		2026	0		2026	0		2026	0	
8		2026	0		2026	0		2026	0		2026	0		2026	0	
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17		2026	0		2026	0		2026	0		2026	0		2026	0	
18		2026	0		2026	0		2026	0		2026	0		2026	0	
19		2026	0		2026	0		2026	0		2026	0		2026	0	
20		2026	0		2026	0		2026	0		2026	0		2026	0	
21		2026	0		2026	0		2026	0		2026	0		2026	0	
22		2026	0		2026	0		2026	0		2026	0		2026	0	
23		2026	0		2026	0		2026	0		2026	0		2026	0	
24		2026	0		2026	0		2026	0		2026	0		2026	0	
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27		2026	0		2026	0		2026	0		2026	0		2026	0	
28		2026	0		2026	0		2026	0		2026	0		2026	0	
29		2026	0		2026	0		2026	0		2026	0		2026	0	
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39		2026	0		2026	0		2026	0		2026	0		2026	0	
40		2026	0		2026	0		2026	0		2026	0		2026	0	

HARBOR OAKS PLACE
COST AND FUNDING RECAP
EXISTING FUNDING

	2026 1	2027 2	2028 3	2029 4	2030 5	2031 6	2032 7	2033 8	2034 9	2035 10	2036 11	2037 12	2038 13	2039 14	2040 15
Beginning Reserve Fund Balance	$0	$67,980	$137,999	$210,119	$284,403	$337,965	$416,084	$319,474	$397,038	$476,930	$361,148	$439,962	$521,141	$604,755	$690,878
Recommended Annual Funding	$66,000	$66,000	$66,000	$66,000	$66,000	$66,000	$66,000	$66,000	$66,000	$66,000	$66,000	$66,000	$66,000	$66,000	$66,000
Annual Interest	$1,980	$4,019	$6,120	$8,284	$10,512	$12,119	$14,463	$11,564	$13,891	$16,288	$12,814	$15,179	$17,614	$20,123	$22,706
Capital Expenditures	$0	$0	$0	$0	$22,950	$0	$177,072	$0	$0	$198,070	$0	$0	$0	$0	$555,869
Ending Reserve Balance	$67,980	$137,999	$210,119	$284,403	$337,965	$416,084	$319,474	$397,038	$476,930	$361,148	$439,962	$521,141	$604,755	$690,878	$223,715

Inflation Rate: 3.50%
Interest Rate: 3.00%

TOTAL UNITS: 70

ANNUAL CONTRIBUTION PER UNIT	$943	$943	$943	$943	$943	$943	$943	$943	$943	$943	$943	$943	$943	$943	$943
MONTHLY CONTRIBUTION PER UNIT	$78.57	$78.57	$78.57	$78.57	$78.57	$78.57	$78.57	$78.57	$78.57	$78.57	$78.57	$78.57	$78.57	$78.57	$78.57

HARBOR OAKS PLACE
COST AND FUNDING RECAP
EXISTING FUNDING

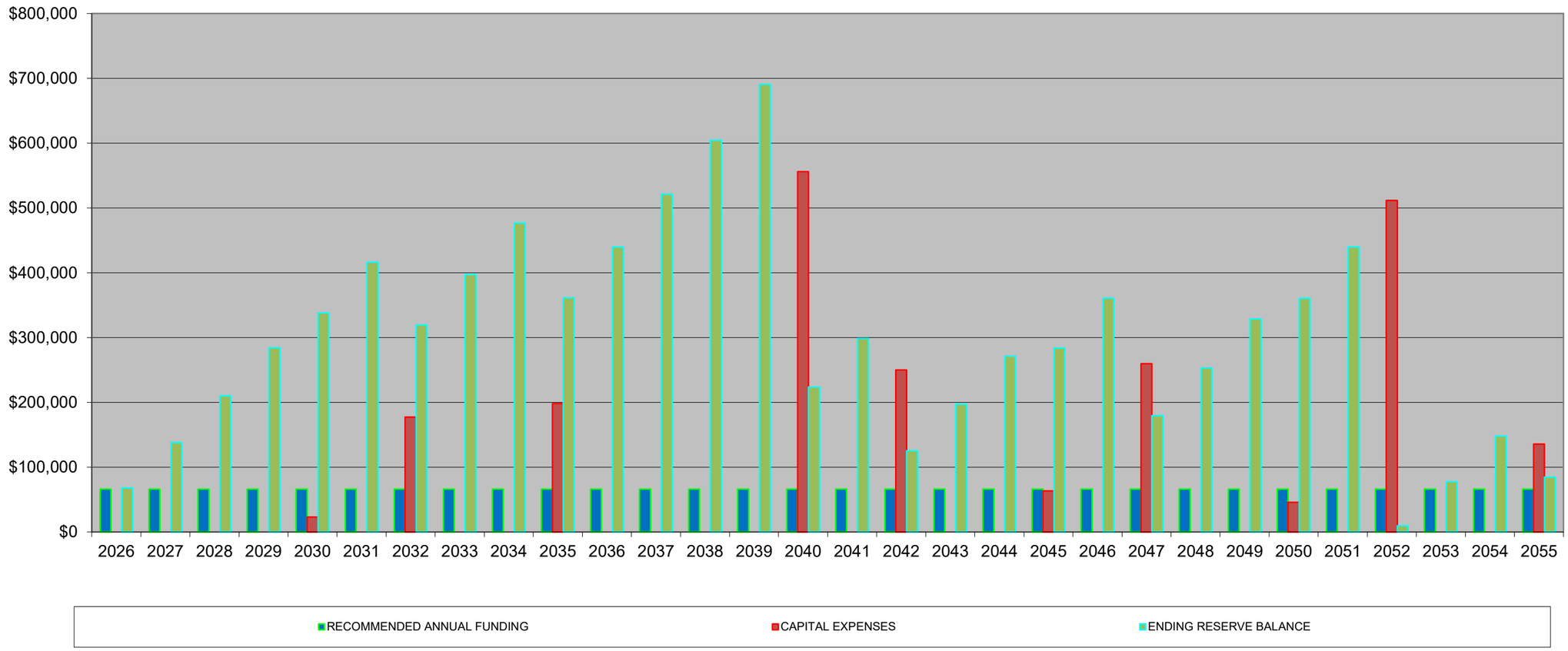
	2041 16	2042 17	2043 18	2044 19	2045 20	2046 21	2047 22	2048 23	2049 24	2050 25	2051 26	2052 27	2053 28	2054 29	2055 30
Beginning Reserve Fund Balance	$223,715	$298,406	$125,561	$197,308	$271,207	$283,881	$360,377	$179,680	$253,051	$328,622	$360,794	$439,598	$9,443	$77,707	$148,018
Recommended Annual Funding	$66,000	$66,000	$66,000	$66,000	$66,000	$66,000	$66,000	$66,000	$66,000	$66,000	$66,000	$66,000	$66,000	$66,000	$66,000
Annual Interest	$8,691	$10,932	$5,747	$7,899	$10,116	$10,496	$12,791	$7,370	$9,572	$11,839	$12,804	$15,168	$2,263	$4,311	$6,421
Capital Expenditures	$0	$249,777	$0	$0	$63,443	$0	$259,488	$0	$0	$45,667	$0	$511,323	$0	$0	$135,594
Ending Reserve Balance	$298,406	$125,561	$197,308	$271,207	$283,881	$360,377	$179,680	$253,051	$328,622	$360,794	$439,598	$9,443	$77,707	$148,018	$84,845

Inflation Rate: 3.50%
Interest Rate: 3.00%

TOTAL UNITS: 70

ANNUAL CONTRIBUTION PER UNIT	$943	$943	$943	$943	$943	$943	$943	$943	$943	$943	$943	$943	$943	$943	$943
MONTHLY CONTRIBUTION PER UNIT	$78.57	$78.57	$78.57	$78.57	$78.57	$78.57	$78.57	$78.57	$78.57	$78.57	$78.57	$78.57	$78.57	$78.57	$78.57

PROJECTED CASH FLOW - RECOMMENDED FUNDING



HARBOR OAKS PLACE
ITEMIZED PROJECTED COST BY YEAR
(Excluding Capital Improvements)

MISC. ROOF REPAIRS - AS NEEDED	$22,950
Total 2030 Expenditures	**$22,950**
EXTERIOR STUCCO - REPAIR/PAINT	$177,072
Total 2032 Expenditures	**$177,072**
BALCONIES CONCRETE REPAIRS - ONCE TILES REMOVED	$78,707
COMMON AREA - EXTERIOR METAL DOORS - REPAIR/REPLACE AS NE	$40,887
COMMON AREA & LOBBY - STOREFRONT WINDOWS - REPAIR/REPLA	$69,753
COMMON AREA - LOBBY ENTRANCE GLASS DOOR - REPAIR/REPLACE	$8,723
Total 2035 Expenditures	**$198,070**
ROOF COVERING - DURO-LAST PVC MEMBRANE - REPLACE	$523,496
MISC. ROOF REPAIRS - AS NEEDED	$32,374
Total 2040 Expenditures	**$555,869**
EXTERIOR STUCCO - REPAIR/PAINT	$249,777
Total 2042 Expenditures	**$249,777**
ELECTRICAL PANELBOARDS AND SWITHCES - REPLACE AS NEEDED	$63,443
Total 2045 Expenditures	**$63,443**
LIFE SAFETY EQUIPMENT - REPLACE AS NEEDED	$259,488
Total 2047 Expenditures	**$259,488**
MISC. ROOF REPAIRS - AS NEEDED	$45,667
Total 2050 Expenditures	**$45,667**
EXTERIOR STUCCO - REPAIR/PAINT	$352,335
FIRE PUMP - REPAIR/REPLACE AS NEEDED	$158,987
Total 2052 Expenditures	**$511,323**
BACKUP GENERATOR (52 kW) - REPAIR/REPLACE AS NEEDED	$135,594
Total 2055 Expenditures	**$135,594**
Total Expenditures	**$2,219,253**

II. RESERVE CASH FLOW ANALYSIS

A. INTRODUCTION

The enclosed chart and graph contain a 30-year cash flow projection of the reserve requirements for the Association. The budget should be adjusted at the end of the 30-year period to readjust for changes in remaining life, inflation, and current costs of replacements. This cash flow analysis is based on the assumption that all of the items that make up the schedule are fully funded. By this, we mean that each item will accumulate its full replacement cost during its life span. At the end of this life, each item would be replaced, and the funding would start aging for items with a long life. For items with a short useful life, the funding for the first replacement is budgeted in addition to future replacements due to the short life span. The future replacement funding is started in the first year; however, payments are less than the first replacement due to the extended time period allowed to accumulate funds. Taking all of the components that make up the reserve schedule, using this full funding analysis, there is typically an ongoing surplus in the reserve fund. This ensures that the Association will have a surplus at the end of the 30-year period. This is called the "pooling effect" and is represented by the upper line on the cash flow chart, which is designated as the "Net Cumulative Fund". The "Net Cumulative Fund" is calculated by taking the existing amount in the reserve fund at the time the reserve schedule is prepared, adding to it the yearly contribution, and subtracting from it the annual expenditures.

The annual reserve funding required has been calculated by estimating the remaining useful service life based on the current condition, age, and all other known factors of each item description. The present value replacement cost was estimated by either past quotations or other listed methods of estimation. The present value replacement cost was then converted to future value using a 3.5% annual compounded inflation rate. The future cost was calculated for the projected time when replacements will be required.

The future cost was then broken down into annual installments while still considering the 3.5% compounded annual inflation rate. The monthly reserve funding was calculated by a further breakdown of the annual reserve funding required.

1. Formulas

The following economic formulas were used in our calculations:

DISCOUNTING FACTOR	FUNCTIONAL NOTATION	FORMULA
Single Payment Compound Amount	(F/P, i %, n)	$(1+i)^n$
Uniform Series Sinking Fund	(A/F, i %, n)	$i/[(1+i)^{n-1}]$

2. Definitions

Definitions of the above-mentioned terms are as follows:

TERM	DEFINITION
Single Payment Compound Amount	Conversion of present worth to future value
Uniform Series Sinking Fund	Conversion of future value to annual value
F	Future worth of item in *n* years from present
P	Present Worth
A	Annual worth
I	Interest Rate (3.00% used)
N	# of years until each calculated replacement

The Association should update the reserve schedule a minimum of once every two years. It is especially important to update the schedule when using average contributions due to the fact that even a minor change in the estimated useful service life can have a significant impact on adequate funding.

The Association should review each of the individual line items that make up the reserve schedule to make sure that there is no overlap between what is indicated in the schedule and any other portion of the budget. For example, we may show on the reserve schedule the replacement of fencing, but at the same time, the Association may be replacing the fencing out of their operating budget. If duplication like this exists, the item should either be removed from the reserve schedule or the operation budget. It should not be funded in two different locations.

The Association should review the items on the schedule to ensure that their replacement is not covered under a maintenance contract. An example would be reserving for the replacement of mechanical equipment components while the Association has a maintenance contract for the item at the same time. The reserve schedule should be carefully reviewed to be sure that it does not fund the replacement of any portion of any item whose replacement is covered under a maintenance contract.

The Association should review the items on the schedule to be sure that they are all the Association's responsibility. As an example, if we have included site lighting on the reserve schedule, but at the same time the local municipality is responsible for the maintenance and repair of these connections, they should be removed from the schedule.

The Association should review the individual line items on the reserve schedule carefully to determine if a number of the smaller individual components can be consolidated into one line item that can be continuously funded.

For example, if there are five or six components with a total replacement cost of $1,000 each, rather than reserving the full $5,000 or $6,000 for all of these items, the Association may want to consider funding all six components under one line item for a total of $1,000. Should one of these six items have to be replaced, that line item would have to be brought current within a year or so after its expenditure. By doing this rather than

funding the full $6,000, only a portion of the total would be funded. This would reduce the overall yearly contribution to reserves.

Depending on the size of the overall operating budget, the Association may decide that any line item of less than the given amount will be funded directly through the operating budget rather than through the reserve schedule. If this is the case, any item with the given value or less should be removed from the schedule. The schedule would then be footnoted accordingly.

DISCLOSURES

Ray Engineering, Inc. does not have any other involvement with the association, which could result in actual or perceived conflicts of interest.

During our review of the property, visual review, and field measurements, as needed, of each common element were performed. No destructive testing or drawing take-offs were performed.

Material issues that, if not disclosed, would cause a distortion of the association's situation.

Information provided by the official representative of the association regarding financial, physical, quantity, or historical issues will be deemed reliable by the consultant.

The SIRS will be a reflection of information provided to the consultant and assembled for the association's use, not for the purpose of performing an audit, quality/forensic analyses, or background checks of historical records.

Ray Engineering, Inc. did not perform an audit of the current or past budgets of the association.

Information provided to Ray Engineering, Inc. by the association representative about reserve projects will be considered reliable. Any on-site inspection(s) by Ray Engineering, Inc. should not be considered a project audit or quality inspection.

BIOGRAPHY

STEVEN W. RAY, P.E., R.S.
PROFESSIONAL ENGINEER

Mr. Ray is owner and president of Ray Engineering, Inc. He started Ray Engineering in 1990 and has been in business for 35 years. He is a licensed civil/structural engineer and is registered in 14 states. Mr. Ray has over 40 years' experience in the engineering field and has provided consulting services all over the United States. In 1993, Ray Engineering began preparing reserve studies and since then, has prepared thousands of reserve studies in the southeast. Mr. Ray obtained his Reserve Specialist designation from CAI along with three other engineers at Ray Engineering. He also provides forensic engineering services and expert witness and testimony in litigation involving structural and construction related incidents. Ray Engineering has been a member of CAI since 1993 and has been a Gold Sponsor since 1998.

LIMITATION OF RESPONSIBILITY

The report represents a statement of the physical condition of the common elements of the property based on our visual observation, professional analysis, and judgment. The report applies only to those portions of the property and/or items and equipment that were capable of being visually observed. Unless specifically stated otherwise, no intrusive testing was performed nor were any materials removed or excavations made for further inspection. Drawings and specifications were available only to the extent described in the report.

The following activities are not included in the scope and are excluded from the scope of the SIRS described in the National Reserve Study Standards:

- *Utilities* – The operating condition of any underground system or infrastructure; accessing manholes or utility pits; the SIRS does not include any infrastructure with an estimated useful life of more than 30 years unless specified otherwise in the report;
- *Structural Frame and Building Envelope* – Unless specifically defined in the proposal, entering crawl, attic, or confined space areas (however, the field observer will observe conditions to the extent easily visible from the point of access to the crawl or confined space if the access is at the exterior of the building or common space); determination of previous substructure flooding or water penetration unless easily visible or unless such information is provided;
- *Roofs* – Walking on pitched roofs or any roof areas that appear to be unsafe or roofs with no built-in access; determining roofing design criteria;
- *Plumbing* – Verifying the condition of any pipes underground, behind walls or ceilings; determining adequate pressure and flow rate, verifying pipe size, or verifying the point of discharge for underground systems;
- *HVAC* – Observation of fire connections, interiors of chimneys, flues, or boiler stacks, or tenant-owned or tenant-maintained equipment;
- *Electrical* – Removal of any electrical panels or device covers, except if removed by building staff; providing common equipment or tenant-owned equipment.
- *Vertical Transportation* – Examining of cable, shears, controllers, motors, inspection tags or entering elevator/escalator pits;
- *Life Safety/Fire Protection* – Determining NFPA hazard classifications; classifying or

testing fire rating of assemblies;

- Preparing engineering calculations to determine any system's components or equipment's adequacy or compliance with any specific or commonly accepted design requirements or building codes; preparing designs or specifications to remedy any physical deficiencies;
- Reporting on the presence or absence of pests or insects unless evidence of such presence is readily apparent during the field observer's walk-through survey, or such information is provided to the Consultant;
- Entering or accessing any area of the property deemed by the engineer to pose a threat to the safety of any individual or to the integrity of the building system or material;
- Providing an opinion on the operation of any system or component that is shut down or not properly operating;
- Evaluating any acoustical or insulating characteristics of the property;
- Providing an opinion on matters regarding the security and protection of its occupants or users;
- Providing an environmental assessment or opinion of the presence of any environmental issues such as asbestos, hazardous wastes, toxic materials, radon, or the location of designated wetlands, unless specifically defined within the scope of work;
- Any representations regarding the status of ADA Title III Compliance.

The report is not a compliance inspection or certification for past or present governmental codes or regulations of any kind. Any reference made to codes in this report is to assist in the identification of a specific problem.

GLOSSARY OF TERMS

Abbreviation	Definition	Abbreviation	Definition
Allow.	Allowance	L.F.	Linear Foot
Avg.	Average	Lg.	Long Length
B.F.	Board Feet	L.S.	Lump Sum
Bit/Bitum.	Bituminous	Maint.	Maintenance
Bldg.	Building	Mat., Mat'l	Material
Brk.	Brick	Max	Maximum
Cal	Calculated	MBF	Thousand Board Feet
C.C.F.	Hundred Cubic Feet	M.C.F.	Thousand Cubic Feet
C.F.	Cubic Feet	Min.	Minimum
C.L.F.	Hundred Linear Feet	Misc.	Miscellaneous
Col.	Column	M.L.F.	Thousand Linear Feet
Conc.	Concrete	M.S.F.	Thousand Square Feet
Cont.	Continuous, continued	M.S.Y.	Thousand Square Yards
C.S.F.	Hundred Square Feet	NA	Not applicable/available
Cu. Ft.	Cubic Feet	No.	Number
C.Y.	Cubic Yard, 27 cubic feet	O.C.	On Center
DHW	Domestic Hot Water	P.E.	Professional Engineer
Diam.	Diameter	Ply.	Plywood
Ea.	Each	Pr.	Pair
Est.	Estimated	PVC	Polyvinyl Chloride
Ext.	Exterior	Pvmt.	Pavement
Fig.	Figure	Quan. Qty.	Quantity
Fin.	Finished	R.C.P.	Reinforced Concrete Pipe
Fixt	Fixture	Reinf.	Reinforced
Flr.	Floor	Req'd	Required
FRP	Fiberglass Reinforced Plastic	Sch., Sched.	Schedule
Ft.	Foot, Feet	S.F.	Square Foot
Galv.	Galvanized	Sq.	Square, 100 Square Feet
Ht.	Height	Std.	Standard
Htrs.	Heaters	Sys.	System
HVAC	Heating, Ventilation, A/C	S.Y.	Square Yard
HW	Hot Water	T&G	Tongue & Groove
In.	Inch	Th, Thk.	Thick
Int.	Interior	Tot.	Total
Inst.	Installation	Unfin.	Unfinished
Insul.	Insulation	V.C.T.	Vinyl Composition Tile
lb.	Pound	Vent.	Ventilator
		Yd.	Yard

BIBLIOGRAPHY

Architectural Drawings
by N/A

Declaration of Covenants, Conditions, and Restrictions
by N/A

Site Work Cost Data
by R.S. Means Company, Inc. & Historical Data

Mechanical Cost Data
by R.S. Means Company, Inc. & Historical Data

Electrical Cost Data
by R.S. Means Company, Inc. & Historical Data

Open Shop Cost Data
by R.S. Means Company, Inc. & Historical Data

PHOTOGRAPHS

1. View of the front elevation of the subject building.

2. View of the rear elevation of the subject building.

3. Overview of the roof.

4. View of the roof of the subject building.

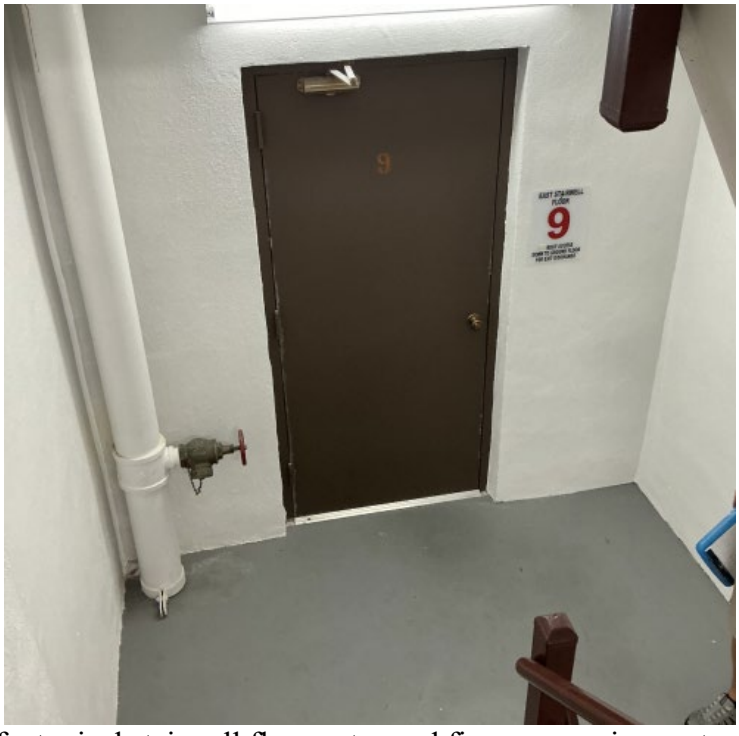
5. View of the roof material placard.

6. View of the typical ground-level common area windows.

7. View of typical moisture intrusion at the common area windows.

8. View of a penthouse balcony.

9. View of a typical unit balcony.



10. View of a typical stairwell floor entry and fire suppression system standpipe.

11. View of the stairwell concrete landing metal deck pan.

12. View of a stair-step crack in the ground-level CMU wall at the rear entrance.

13. View of stucco cracks in the rear ancillary room wall.

14. View of the typical meter stack, breaker panel, and sub-switches in the electrical rooms on floors 3, 6, and 9.

15. View of the main electrical switches.

16. View of the fire suppression system pump.

17. View of corrosion at the fire suppression system pump mounts.

18. View of the domestic water pump system.

19. View of the backup generator.