

# Stonewall Condominium Association, Inc.

August 20, 2024 • Atlanta, GA

FULL RESERVE STUDY





Stonewall Condominium Association, Inc.  
Atlanta, Georgia

Dear Board of Directors of Stonewall Condominium Association, Inc.:

At the direction of the Board that recognizes the need for proper reserve planning, we have conducted a *Full Reserve Study* of Stonewall Condominium Association, Inc. in Atlanta, Georgia and submit our findings in this report. The effective date of this study is the date of our visual, noninvasive inspection, August 20, 2024.

This *Full Reserve Study* exceeds the Association of Professional Reserve Analysts (APRA) standards fulfilling the requirements of a “Level I Full Reserve Study.”

An ongoing review by the Board and an Update of this Reserve Study are necessary to ensure an equitable funding plan since a Reserve Study is a snapshot in time. We recommend the Board budget for an Update to this Reserve Study in two- to three-years. We look forward to continuing to help Stonewall Condominium Association, Inc. plan for a successful future.

As part of our long-term thinking and everyday commitment to our clients, we are available to answer any questions you may have regarding this study.

Respectfully submitted on October 3, 2024 by

*Reserve Advisors, LLC*

Visual Inspection and Report by: Dylan Lewis, RS<sup>1</sup>  
Review by: Keary D. Wass, RS, Quality Assurance Engineer  
Alan M. Ebert, RS, PRA2, Director of Quality Assurance



<sup>1</sup> RS (Reserve Specialist) is the reserve provider professional designation of the Community Associations Institute (CAI) representing America's more than 300,000 condominium, cooperative and homeowners associations.

<sup>2</sup> PRA (Professional Reserve Analyst) is the professional designation of the Association of Professional Reserve Analysts. Learn more about APRA at <http://www.apra-usa.com>.



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## 1. RESERVE STUDY EXECUTIVE SUMMARY

**Client:** Stonewall Condominium Association, Inc. (Stonewall)

**Location:** Atlanta, Georgia

**Reference:** 080461

**Property Basics:** Stonewall Condominium Association, Inc. is a townhome style development which consists of 97 units in 16 buildings. The community was built in 1970.

**Reserve Components Identified:** 39 Reserve Components.

**Inspection Date:** August 20, 2024.

**Funding Goal:** The Funding Goal of this Reserve Study is to maintain reserves above an adequate, not excessive threshold during one or more years of significant expenditures. Our recommended Funding Plan recognizes these threshold funding years in 2029 due to the renovation of the exterior paint applications and in 2051 due to the replacement of the fiber cement siding.

**Methodology:** We use the Cash Flow Method to compute the Reserve Funding Plan. This method offsets future variable Reserve Expenditures with existing and future stable levels of reserve funding. Our application of this method also considers:

- Current and future local costs of replacement
- 2.7% anticipated annual rate of return on invested reserves
- 3.0% future Inflation Rate for estimating Future Replacement Costs

**Sources for Local Costs of Replacement:** Our proprietary database, historical costs and published sources, i.e., R.S. Means, Incorporated.

### **Unaudited Cash Status of Reserve Fund:**

- \$251,130 as of July 31, 2024
- 2024 budgeted Reserve Contributions of \$98,841
- A potential deficit in reserves might occur by 2026 based upon continuation of the most recent annual reserve contribution of \$98,841 and the identified Reserve Expenditures.

**Recommended Reserve Funding:** We recommend the following in order to achieve a stable and equitable Cash Flow Methodology Funding Plan:

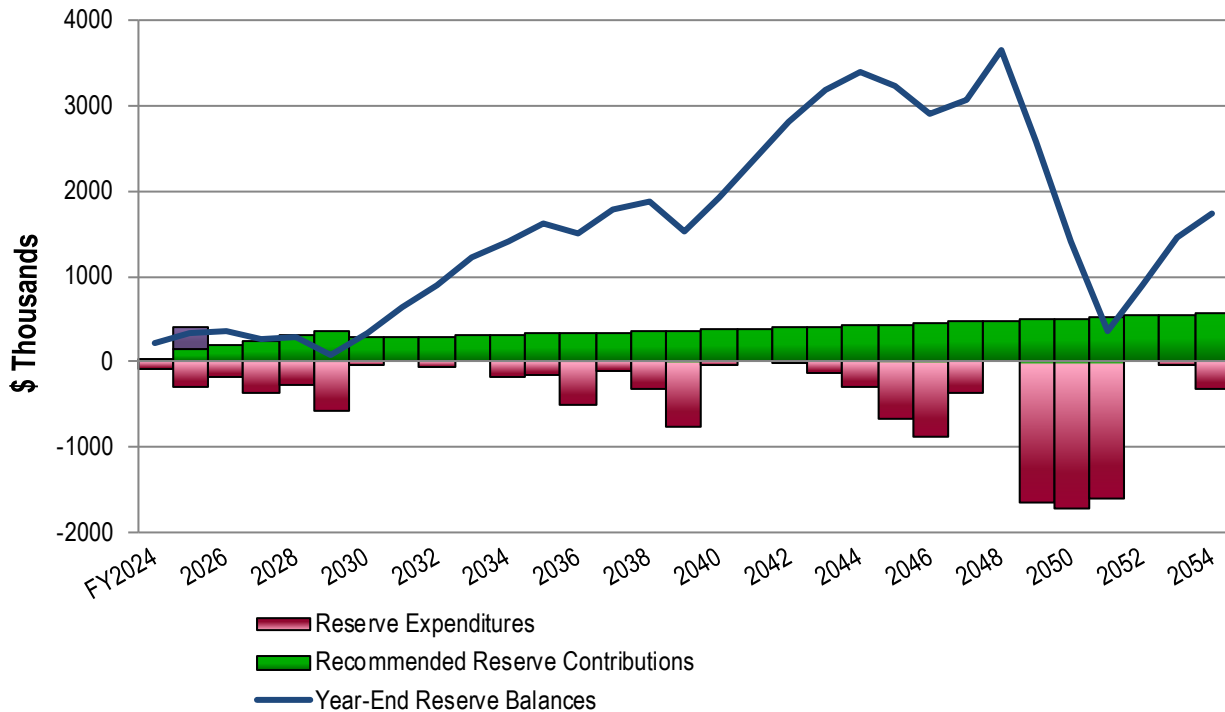
- Phased increases of \$51,000 from 2025 through 2029
- The Association informs us of additional annual Reserve Contribution of \$250,000 in 2025 to fund replacement of the subsurface utility pipes and flat roofs
- Decrease to \$281,000 by 2030 due to fully funding for renovation of the exterior paint finishes
- Inflationary increases thereafter through 2054, the limit of this study's Cash Flow Analysis
- Initial adjustment in Reserve Contributions of \$50,959 represents an average monthly increase of \$43.78 per owner and about a ten percent (10.3%) adjustment in the 2024 total Operating Budget of \$494,700.
- These recommended Reserve Contributions ensure that each owner funds their use of the Association maintained elements annually. The actual Reserve Contributions approved by the Board may vary based on factors external to the Reserve Study such as the financial impact on unit owners, desire to utilize funding mechanisms other than reserves and the market value of the units. We include stepped or phased annual



increases in the Reserve Contribution based on the current financial conditions of the Association, significant recommended Reserve Contributions and the critical Reserve Balances. Any phase in the required Reserve Contribution increase defers the cost burden to future owners. We therefore limit the number of phased increases to limit the deferred cost burden to future owners. We opine this funding method adheres to APRA Standards of Practice which state in part "... any Funding Plan shall meet the Following Funding Principles: Sufficient funds when required, stable contribution rate over the years, evenly distributed contributions over the years, and fiscally responsible."

**Stonewall**  
Recommended Reserve Funding Table and Graph

Year	Reserve Contributions (\$)	Reserve Balances (\$)	Year	Reserve Contributions (\$)	Reserve Balances (\$)	Year	Reserve Contributions (\$)	Reserve Balances (\$)
2025	149,800	335,321	2035	325,700	1,611,286	2045	437,900	3,237,425
2026	200,800	365,625	2036	335,500	1,491,552	2046	451,000	2,892,831
2027	251,800	261,618	2037	345,600	1,783,114	2047	464,500	3,076,847
2028	302,800	290,536	2038	356,000	1,877,168	2048	478,400	3,644,780
2029	353,800	86,742	2039	366,700	1,529,393	2049	492,800	2,566,538
2030	281,000	337,058	2040	377,700	1,914,981	2050	507,600	1,412,327
2031	289,400	639,465	2041	389,000	2,360,937	2051	522,800	351,894
2032	298,100	891,516	2042	400,700	2,815,936	2052	538,500	907,165
2033	307,000	1,226,731	2043	412,700	3,178,016	2053	554,700	1,447,274
2034	316,200	1,402,832	2044	425,100	3,386,772	2054	571,300	1,744,797







## 2. RESERVE STUDY REPORT

At the direction of the Board that recognizes the need for proper reserve planning, we have conducted a *Full Reserve Study* of

**Stonewall Condominium Association, Inc.**

**Atlanta, Georgia**

and submit our findings in this report. The effective date of this study is the date of our visual, noninvasive inspection, August 20, 2024.

We present our findings and recommendations in the following report sections and spreadsheets:

- **Identification of Property** - Segregates all property into several areas of responsibility for repair or replacement
- **Reserve Expenditures** - Identifies reserve components and related quantities, useful lives, remaining useful lives and future reserve expenditures during the next 30 years
- **Reserve Funding Plan** - Presents the recommended Reserve Contributions and year-end Reserve Balances for the next 30 years
- **Five-Year Outlook** - Identifies reserve components and anticipated reserve expenditures during the first five years
- **Reserve Component Detail** - Describes the reserve components, includes photographic documentation of the condition of various property elements, describes our recommendations for repairs or replacement, and includes detailed solutions and procedures for replacements for the benefit of current and future board members
- **Methodology** - Lists the national standards, methods and procedures used to develop the Reserve Study
- **Definitions** - Contains definitions of terms used in the Reserve Study, consistent with national standards
- **Professional Service Conditions** - Describes Assumptions and Professional Service Conditions
- **Credentials and Resources**

## IDENTIFICATION OF PROPERTY



Our investigation includes Reserve Components or property elements as set forth in your Declaration or which were identified as part of your request for proposed services. The Expenditure tables in Section 3 list the elements contained in this study. Our analysis begins by segregating the property elements into several areas of responsibility for repair and replacement.

Our process of identification helps assure that future boards and the management team understand whether reserves, the operating budget or Owners fund certain replacements and assists in preparation of the annual budget. We derive these segregated classes of property from our review of the information provided by the Association and through conversations with Management and the Board. These classes of property include:

- Reserve Components
- Long-Lived Property Elements
- Operating Budget Funded Repairs and Replacements
- Property Maintained by Owners
- Property Maintained by Others

We advise the Board conduct an annual review of these classes of property to confirm its policy concerning the manner of funding, i.e., from reserves or the operating budget. Reserve Components are defined by CAI as property elements with:

- Stonewall responsibility
- Limited useful life expectancies
- Predictable remaining useful life expectancies
- Replacement cost above a minimum threshold

The following tables depict the items excluded from the Reserve Expenditure plan:

## Excluded Components

for  
**Stonewall**  
**Condominium Association, Inc.**  
Atlanta, Georgia

<b>Operating Budget Components</b>
<p>Repairs normally funded through the Operating Budget and Expenditures less than \$5,000 (These relatively minor expenditures have a limited effect on the recommended Reserve Contributions.)</p> <p>The operating budget provides money for the repair and replacement of certain Reserve Components. The Association may develop independent criteria for use of operating and reserve funds.</p>
<ul style="list-style-type: none"> <li>• Chimney Cap, Clubhouse</li> <li>• Irrigation System</li> <li>• Landscape</li> <li>• Paint Finishes, Touch Up</li> <li>• Pavers, Masonry</li> <li>• Railins, Handrails, Steel, Paint Finishes and Interim Repairs</li> <li>• Signage, Monument</li> <li>• Signage, Street and Traffic</li> <li>• Staircases, Metal, Paint Finishes and Inerim Repairs</li> </ul>

<b>Long-Lived Components</b>		
<p>These elements may not have predictable Remaining Useful Lives or their replacement may occur beyond the scope of this study. The operating budget should fund infrequent repairs. Funding untimely or unexpected replacements from reserves will necessitate increases to Reserve Contributions. Periodic updates of this Reserve Study will help determine the merits of adjusting the Reserve Funding Plan.</p>	<b>Useful Life</b>	<b>Estimated Cost</b>
• Electrical Systems, Common	to 80+	N/A
• Foundations	Indeterminate	N/A
• Pipes, Interior Building, Domestic Water, Sanitary Waste, Common	to 80+	N/A
• Retaining Walls, Masonry, Replacement	Indeterminate	N/A
• Retaining Walls, Stone, Replacement	Indeterminate	N/A
• Structural Frames	Indeterminate	N/A



## **Excluded Components**

for  
**Stonewall**  
**Condominium Association, Inc.**  
Atlanta, Georgia

### **Owners Responsibility Components**

Certain items have been designated as the responsibility of the Owners to repair or replace at their cost, including items billed back.

- Balconies, Railings, Metal, Townhomes
- Balconies, Wood, Townhomes
- Chimney Caps, Townhomes
- Concrete Patios, Townhomes
- Electrical Systems (Including Circuit Protection Panels)
- Heating, Ventilating and Air Conditioning (HVAC) Units, Townhomes
- Interiors
- Light Fixtures, Exterior, Townhomes
- Pipes (Within Units)
- Windows and Doors, Townhomes

### **Others Responsibility Components**

Certain items have been designated as the responsibility of Others to repair or replace.

- Light Poles and Fixtures<sup>1</sup>

<sup>1</sup> Leased

### **3. RESERVE EXPENDITURES and FUNDING PLAN**

The tables following this introduction present:

#### **Reserve Expenditures**

- Line item numbers
- Total quantities
- Quantities replaced per phase (in a single year)
- Reserve component inventory
- Estimated first year of event (i.e., replacement, application, etc.)
- Life analysis showing
  - useful life
  - remaining useful life
- 2024 local cost of replacement
  - Per unit
  - Per phase
  - Replacement of total quantity
- Percentage of future expenditures anticipated during the next 30 years
- Schedule of estimated future costs for each reserve component including inflation

#### **Reserve Funding Plan**

- Reserves at the beginning of each year
- Total recommended reserve contributions
- Estimated interest earned from invested reserves
- Anticipated expenditures by year
- Anticipated reserves at year end
- Predicted reserves based on current funding level

#### **Five-Year Outlook**

- Line item numbers
- Reserve component inventory of only the expenditures anticipated to occur within the first five years
- Schedule of estimated future costs for each reserve component anticipated to occur within the first five years

The purpose of a Reserve Study is to provide an opinion of reasonable annual Reserve Contributions. Prediction of exact timing and costs of minor Reserve Expenditures typically will not significantly affect the 30-year cash flow analysis. Adjustments to the times and/or costs of expenditures may not always result in an adjustment in the recommended Reserve Contributions.

Financial statements prepared by your association, by you or others might rely in part on information contained in this section. For your convenience, we have provided an electronic data file containing the tables of ***Reserve Expenditures*** and ***Reserve Funding Plan***.

## RESERVE EXPENDITURES

**Stonewall  
Condominium Association, Inc.**  
Atlanta, Georgia

**Explanatory Notes:**

- 1) **3.0%** is the estimated Inflation Rate for estimating Future Replacement Costs.
- 2) **FY2024** is Fiscal Year beginning January 1, 2024 and ending December 31, 2024.

Line Item	Total Quantity	Per Phase Quantity	Units	Reserve Component Inventory	Estimated 1st Year of Event	Life Analysis, Years		Costs, \$			Percentage of Future Expenditures	RUL = 0 FY2024	1 2025	2 2026	3 2027	4 2028	5 2029	6 2030	7 2031	8 2032	9 2033	10 2034	11 2035	12 2036	13 2037	14 2038	15 2039
						Useful	Remaining	Unit (2024)	Per Phase (2024)	Total (2024)																	
<b>Exterior Building Elements</b>																											
1.240	12,200	6,100	Linear Feet	Gutters and Downspouts, Aluminum, Phased	2027	15 to 20	3 to 4	7.50	45,750	91,500	2.4%				49,992	51,492											
1.280	860	430	Squares	Roofs, Asphalt Shingles, Phased	2027	15 to 20	3 to 4	430.00	184,900	369,800	9.6%				202,045	208,107											
1.460	51	51	Units	Roofs, Metal	2025	to 30	1	1,850.00	94,350	94,350	0.8%	97,181															
1.530	9,500	3,167	Square Feet	Roofs, Thermoplastic (Replaced 2015-2022), Phased	2035	15 to 20	11 to 15	21.00	66,500	199,500	2.5%											92,052		97,658		103,605	
1.531	5,100	5,100	Square Feet	Roofs, Thermoplastic (Unknown Age)	2025	15 to 20	1	21.00	107,100	107,100	2.7%	110,313															
1.600	4	4	Each	Staircases, Metal, Replacement	2029	to 35	5	17,400.00	69,600	69,600	0.7%						80,685										
1.820	36,800	36,800	Square Feet	Walls, Masonry, Inspections and Repairs	2029	8 to 10	5	1.40	51,520	51,520	2.1%						59,726									80,266	
1.840	97	97	Units	Walls, Siding, Fiber Cement, Paint Finishes	2029	8 to 12	5	2,500.00	242,500	242,500	5.7%						281,124									377,807	
1.845	140,000	46,667	Square Feet	Walls, Siding, Fiber Cement, Replacement, Phased (Includes Wood Trim, Soffit and Fascia)	2049	to 50	25 to 27	15.50	723,333	2,170,000	40.4%																
1.865	97	97	Units	Walls, Siding, Wood Trim, Paint Finishes (Includes Soffit and Fascia)	2029	4 to 6	5	1,100.00	106,700	106,700	7.6%						123,695					143,396				166,235	
<b>Property Site Elements</b>																											
4.020	12,300	12,300	Square Yards	Asphalt Pavement, Crack Repair and Patch	2030	3 to 5	6	0.70	8,610	8,610	0.9%						10,281					11,571			13,023		
4.041	8,400	4,200	Square Yards	Asphalt Pavement, Mill and Overlay, Parking Areas, Phased	2026	15 to 20	2 to 3	18.00	75,600	151,200	1.4%		80,204	82,610													
4.045	3,900	3,900	Square Yards	Asphalt Pavement, Total Replacement, Stonewall Dr	2038	15 to 20	14	37.00	144,300	144,300	1.9%														218,267		
4.046	8,400	4,200	Square Yards	Asphalt Pavement, Total Replacement, Parking Areas, Phased	2046	15 to 20	22 to 23	37.00	155,400	310,800	5.2%																
4.100	6	6	Each	Catch Basins, Inspections and Capital Repairs	2026	15 to 20	2	1,050.00	6,300	6,300	0.1%		6,684														
4.110	2,500	1,000	Linear Feet	Concrete Curbs, Stonewall Dr, Partial	2038	to 65	14 to 30+	36.50	36,500	91,250	0.5%														55,210		
4.111	3,700	740	Linear Feet	Concrete Curbs, Parking Areas, Partial	2026	to 65	2 to 30+	36.50	27,010	135,050	1.4%		28,655	29,515													
4.140	17,000	850	Square Feet	Concrete Sidewalks, Partial	2025	to 65	1 to 30+	15.50	13,175	263,500	1.0%	13,570					15,732					18,237					
4.200	290	290	Linear Feet	Fences, Aluminum	2045	to 25	21	42.00	12,180	12,180	0.2%																
4.500	1	1	Allowance	Landscape and Drainage Improvements, Partial Replacements	2029	to 5	5	15,000.00	15,000	15,000	1.3%						17,389					20,159				23,370	
4.650	2	1	Allowance	Pipes, Subsurface Utilities, Partial (Per Board Request)	2024	to 85+	0 to 1	140,000.00	N/A	N/A	1.2%	80,000	60,000														
4.660	1	1	Allowance	Playground Equipment	2036	15 to 20	12	19,000.00	19,000	19,000	0.2%													27,089			
4.733	160	160	Linear Feet	Railings, Handrails, Steel, Replacement	2030	to 35	6	54.00	8,640	8,640	0.1%						10,317										
4.740	1,570	1,570	Square Feet	Retaining Walls, Masonry, Inspection and Capital Repairs	2035	10 to 15	11	5.00	7,850	7,850	0.2%												10,866				
4.750	1,870	1,870	Square Feet	Retaining Walls, Stone, Inspection and Capital Repairs	2035	10 to 15	11	14.00	26,180	26,180	0.8%												36,239				
4.760	1,200	1,200	Square Feet	Retaining Walls, Timber (replace with masonry)	2043	15 to 20	19	62.00	74,400	74,400	1.1%																
<b>Clubhouse Elements</b>																											
5.070	1	1	Each	Air Handling and Condensing Units, Split System	2040	15 to 20	16	10,500.00	10,500	10,500	0.1%																
5.480	550	550	Square Feet	Ceilings, Acoustical Tiles And Grid	2028	to 30	4	9.50	5,225	5,225	0.1%				5,881												
5.500	1	1	Allowance	Clubhouse, Renovation, Complete	2044	to 20	20	30,500.00	30,500	30,500	0.5%																
5.510	1	1	Allowance	Clubhouse, Renovation, Partial	2032	to 10	8	8,000.00	8,000	8,000	0.1%								10,134								
5.580	2	2	Each	Rest Rooms, Renovation	2028	to 25	4	7,000.00	14,000	14,000	0.4%				15,757												
5.800	270	270	Square Feet	Windows and Doors	2032	to 40	8	85.00	22,950	22,950	0.3%											29,072					
<b>Pool Elements</b>																											
6.200	3,600	3,600	Square Feet	Concrete Deck, Inspections, Partial Replacements and Repairs	2026	8 to 12	2	2.00	7,200	7,200	0.2%			7,638													
6.400	270	270	Linear Feet	Fence, Aluminum	2036	to 25	12	44.00	11,880	11,880	0.1%												16,938				
6.500	2	1	Allowance	Furniture, Phased	2026	to 12	2 to 8	16,000.00	16,000	32,000	1.1%			16,974				20,268							24,201		
6.600	2	1	Allowance	Mechanical Equipment, Phased	2025	to 15	1 to 8	5,500.00	5,500	11,000	0.4%	5,665						6,967								8,569	



## RESERVE EXPENDITURES

**Stonewall  
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Atlanta, Georgia

Line Item	Total Quantity	Per Phase Quantity	Units	Reserve Component Inventory	Estimated 1st Year of Event	Life Analysis, Years		Costs, \$			Percentage of Future Expenditures	16 2040	17 2041	18 2042	19 2043	20 2044	21 2045	22 2046	23 2047	24 2048	25 2049	26 2050	27 2051	28 2052	29 2053	30 2054	
						Useful	Remaining	Unit (2024)	Per Phase (2024)	Total (2024)																	
<b>Exterior Building Elements</b>																											
1.240	12,200	6,100	Linear Feet	Gutters and Downspouts, Aluminum, Phased	2027	15 to 20	3 to 4	7.50	45,750	91,500	2.4%						85,108	87,662									
1.280	860	430	Squares	Roofs, Asphalt Shingles, Phased	2027	15 to 20	3 to 4	430.00	184,900	369,800	9.6%						343,968	354,288									
1.460	51	51	Units	Roofs, Metal	2025	to 30	1	1,850.00	94,350	94,350	0.8%																
1.530	9,500	3,167	Square Feet	Roofs, Thermoplastic (Replaced 2015-2022), Phased	2035	15 to 20	11 to 15	21.00	66,500	199,500	2.5%																
1.531	5,100	5,100	Square Feet	Roofs, Thermoplastic (Unknown Age)	2025	15 to 20	1	21.00	107,100	107,100	2.7%						199,238										
1.600	4	4	Each	Staircases, Metal, Replacement	2029	to 35	5	17,400.00	69,600	69,600	0.7%																
1.820	36,800	36,800	Square Feet	Walls, Masonry, Inspections and Repairs	2029	8 to 10	5	1.40	51,520	51,520	2.1%										107,871						
1.840	97	97	Units	Walls, Siding, Fiber Cement, Paint Finishes	2029	8 to 12	5	2,500.00	242,500	242,500	5.7%																
1.845	140,000	46,667	Square Feet	Walls, Siding, Fiber Cement, Replacement, Phased (Includes Wood Trim, Soffit and Fascia)	2049	to 50	25 to 27	15.50	723,333	2,170,000	40.4%										1,514,499	1,559,934	1,606,733				
1.865	97	97	Units	Walls, Siding, Wood Trim, Paint Finishes (Includes Soffit and Fascia)	2029	4 to 6	5	1,100.00	106,700	106,700	7.6%						192,712										258,989
<b>Property Site Elements</b>																											
4.020	12,300	12,300	Square Yards	Asphalt Pavement, Crack Repair and Patch	2030	3 to 5	6	0.70	8,610	8,610	0.9%			14,658				16,498				18,568				20,899	
4.041	8,400	4,200	Square Yards	Asphalt Pavement, Mill and Overlay, Parking Areas, Phased	2026	15 to 20	2 to 3	18.00	75,600	151,200	1.4%																
4.045	3,900	3,900	Square Yards	Asphalt Pavement, Total Replacement, Stonewall Dr	2038	15 to 20	14	37.00	144,300	144,300	1.9%																
4.046	8,400	4,200	Square Yards	Asphalt Pavement, Total Replacement, Parking Areas, Phased	2046	15 to 20	22 to 23	37.00	155,400	310,800	5.2%								297,762	306,695							
4.100	6	6	Each	Catch Basins, Inspections and Capital Repairs	2026	15 to 20	2	1,050.00	6,300	6,300	0.1%																
4.110	2,500	1,000	Linear Feet	Concrete Curbs, Stonewall Dr, Partial	2038	to 65	14 to 30+	36.50	36,500	91,250	0.5%																
4.111	3,700	740	Linear Feet	Concrete Curbs, Parking Areas, Partial	2026	to 65	2 to 30+	36.50	27,010	135,050	1.4%							51,754	53,307								
4.140	17,000	850	Square Feet	Concrete Sidewalks, Partial	2025	to 65	1 to 30+	15.50	13,175	263,500	1.0%	21,142					24,509					28,413					
4.200	290	290	Linear Feet	Fences, Aluminum	2045	to 25	21	42.00	12,180	12,180	0.2%						22,658										
4.500	1	1	Allowance	Landscape and Drainage Improvements, Partial Replacements	2029	to 5	5	15,000.00	15,000	15,000	1.3%					27,092					31,407						36,409
4.650	2	1	Allowance	Pipes, Subsurface Utilities, Partial (Per Board Request)	2024	to 85+	0 to 1	140,000.00	N/A	N/A	1.2%																
4.660	1	1	Allowance	Playground Equipment	2036	15 to 20	12	19,000.00	19,000	19,000	0.2%																
4.733	160	160	Linear Feet	Railings, Handrails, Steel, Replacement	2030	to 35	6	54.00	8,640	8,640	0.1%																
4.740	1,570	1,570	Square Feet	Retaining Walls, Masonry, Inspection and Capital Repairs	2035	10 to 15	11	5.00	7,850	7,850	0.2%															16,929	
4.750	1,870	1,870	Square Feet	Retaining Walls, Stone, Inspection and Capital Repairs	2035	10 to 15	11	14.00	26,180	26,180	0.8%															56,460	
4.760	1,200	1,200	Square Feet	Retaining Walls, Timber (replace with masonry)	2043	15 to 20	19	62.00	74,400	74,400	1.1%				130,461												
<b>Clubhouse Elements</b>																											
5.070	1	1	Each	Air Handling and Condensing Units, Split System	2040	15 to 20	16	10,500.00	10,500	10,500	0.1%	16,849															
5.480	550	550	Square Feet	Ceilings, Acoustical Tiles And Grid	2028	to 30	4	9.50	5,225	5,225	0.1%																
5.500	1	1	Allowance	Clubhouse, Renovation, Complete	2044	to 20	20	30,500.00	30,500	30,500	0.5%					55,086											
5.510	1	1	Allowance	Clubhouse, Renovation, Partial	2032	to 10	8	8,000.00	8,000	8,000	0.1%																
5.580	2	2	Each	Rest Rooms, Renovation	2028	to 25	4	7,000.00	14,000	14,000	0.4%															32,992	
5.800	270	270	Square Feet	Windows and Doors	2032	to 40	8	85.00	22,950	22,950	0.3%																
<b>Pool Elements</b>																											
6.200	3,600	3,600	Square Feet	Concrete Deck, Inspections, Partial Replacements and Repairs	2026	8 to 12	2	2.00	7,200	7,200	0.2%								13,796								
6.400	270	270	Linear Feet	Fence, Aluminum	2036	to 25	12	44.00	11,880	11,880	0.1%																
6.500	2	1	Allowance	Furniture, Phased	2026	to 12	2 to 8	16,000.00	16,000	32,000	1.1%					28,898						34,505					
6.600	2	1	Allowance	Mechanical Equipment, Phased	2025	to 15	1 to 8	5,500.00	5,500	11,000	0.4%							10,539							12,961		

## RESERVE EXPENDITURES

**Stonewall  
Condominium Association, Inc.**  
Atlanta, Georgia

**Explanatory Notes:**

- 1) **3.0%** is the estimated Inflation Rate for estimating Future Replacement Costs.
- 2) **FY2024** is Fiscal Year beginning January 1, 2024 and ending December 31, 2024.

Line Item	Total Quantity	Per Phase Quantity	Units	Reserve Component Inventory	Estimated 1st Year of Event	Life Analysis, Years		Costs, \$			Percentage of Future Expenditures	RUL = 0 FY2024	1 2025	2 2026	3 2027	4 2028	5 2029	6 2030	7 2031	8 2032	9 2033	10 2034	11 2035	12 2036	13 2037	14 2038	15 2039	
						Useful	Remaining	Unit (2024)	Per Phase (2024)	Total (2024)																		
6.800	1,380	1,380	Square Feet	Pool Finish, Plaster	2026	8 to 12	2	17.00	23,460	23,460	0.6%			24,889														
6.801	170	170	Linear Feet	Pool Finish, Tile and Coping	2026	15 to 25	2	82.00	13,940	13,940	0.1%			14,789														
6.900	1,380	1,380	Square Feet	Pool Structure, Total Replacement	2036	to 60	12	230.00	317,400	317,400	3.9%																452,537	
<b>Anticipated Expenditures, By Year (\$11,591,847 over 30 years)</b>												80,000	286,729	179,833	364,162	281,237	562,619	36,329	0	66,442	0	175,126	157,394	496,564	97,658	310,701	759,852	

## RESERVE EXPENDITURES

**Stonewall  
Condominium Association, Inc.**  
Atlanta, Georgia

Line Item	Total Quantity	Per Phase Quantity	Units	Reserve Component Inventory	Estimated 1st Year of Event	Life Analysis, Years		Costs, \$			Percentage of Future Expenditures	16 2040	17 2041	18 2042	19 2043	20 2044	21 2045	22 2046	23 2047	24 2048	25 2049	26 2050	27 2051	28 2052	29 2053	30 2054	
						Useful	Remaining	Unit (2024)	Per Phase (2024)	Total (2024)																	
6.800	1,380	1,380	Square Feet	Pool Finish, Plaster	2026	8 to 12	2	17.00	23,460	23,460	0.6%							44,952									
6.801	170	170	Linear Feet	Pool Finish, Tile and Coping	2026	15 to 25	2	82.00	13,940	13,940	0.1%																
6.900	1,380	1,380	Square Feet	Pool Structure, Total Replacement	2036	to 60	12	230.00	317,400	317,400	3.9%																
<b>Anticipated Expenditures, By Year (\$11,591,847 over 30 years)</b>												37,991	0	14,658	130,461	303,788	675,482	877,250	360,002	0	1,653,778	1,714,810	1,606,733	0	45,953	316,297	



# RESERVE FUNDING PLAN

## CASH FLOW ANALYSIS

### Stonewall

### Condominium Association, Inc.

Atlanta, Georgia

#### Individual Reserve Budgets & Cash Flows for the Next 30 Years

		FY2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
<b>Reserves at Beginning of Year</b>	(Note 1)	251,130	214,921	335,321	365,625	261,618	290,536	86,742	337,058	639,465	891,516	1,226,731	1,402,832	1,611,286	1,491,552	1,783,114	1,877,168
Recommended Reserve Contributions		41,184	149,800	200,800	251,800	302,800	353,800	281,000	289,400	298,100	307,000	316,200	325,700	335,500	345,600	356,000	366,700
Additional Reserve Contributions			250,000														
<b>Total Recommended Reserve Contributions</b>	(Note 2)	<b>41,184</b>	<b>399,800</b>	<b>200,800</b>	<b>251,800</b>	<b>302,800</b>	<b>353,800</b>	<b>281,000</b>	<b>289,400</b>	<b>298,100</b>	<b>307,000</b>	<b>316,200</b>	<b>325,700</b>	<b>335,500</b>	<b>345,600</b>	<b>356,000</b>	<b>366,700</b>
Estimated Interest Earned, During Year	(Note 3)	2,607	7,329	9,337	8,355	7,355	5,025	5,645	13,007	20,393	28,215	35,026	40,149	41,330	43,619	48,756	45,376
Anticipated Expenditures, By Year		(80,000)	(286,729)	(179,833)	(364,162)	(281,237)	(562,619)	(36,329)	0	(66,442)	0	(175,126)	(157,394)	(496,564)	(97,658)	(310,701)	(759,852)
<b>Anticipated Reserves at Year End</b>		<u>\$214,921</u>	<u>\$335,321</u>	<u>\$365,625</u>	<u>\$261,618</u>	<u>\$290,536</u>	<u>\$86,742</u>	<u>\$337,058</u>	<u>\$639,465</u>	<u>\$891,516</u>	<u>\$1,226,731</u>	<u>\$1,402,832</u>	<u>\$1,611,286</u>	<u>\$1,491,552</u>	<u>\$1,783,114</u>	<u>\$1,877,168</u>	<u>\$1,529,393</u>

(NOTE 5)

Predicted Reserves based on 2024 funding level of: \$98,841 214,921 30,299 (50,968) (321,247)

(continued)

#### Individual Reserve Budgets & Cash Flows for the Next 30 Years, Continued

		2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054
<b>Reserves at Beginning of Year</b>		1,529,393	1,914,981	2,360,937	2,815,936	3,178,016	3,386,772	3,237,425	2,892,831	3,076,847	3,644,780	2,566,538	1,412,327	351,894	907,165	1,447,274
<b>Total Recommended Reserve Contributions</b>		<b>377,700</b>	<b>389,000</b>	<b>400,700</b>	<b>412,700</b>	<b>425,100</b>	<b>437,900</b>	<b>451,000</b>	<b>464,500</b>	<b>478,400</b>	<b>492,800</b>	<b>507,600</b>	<b>522,800</b>	<b>538,500</b>	<b>554,700</b>	<b>571,300</b>
Estimated Interest Earned, During Year		45,880	56,956	68,957	79,841	87,444	88,235	81,656	79,517	89,533	82,736	52,999	23,500	16,771	31,362	42,519
Anticipated Expenditures, By Year		(37,991)	0	(14,658)	(130,461)	(303,788)	(675,482)	(877,250)	(360,002)	0	(1,653,778)	(1,714,810)	(1,606,733)	0	(45,953)	(316,297)
<b>Anticipated Reserves at Year End</b>		<u>\$1,914,981</u>	<u>\$2,360,937</u>	<u>\$2,815,936</u>	<u>\$3,178,016</u>	<u>\$3,386,772</u>	<u>\$3,237,425</u>	<u>\$2,892,831</u>	<u>\$3,076,847</u>	<u>\$3,644,780</u>	<u>\$2,566,538</u>	<u>\$1,412,327</u>	<u>\$351,894</u>	<u>\$907,165</u>	<u>\$1,447,274</u>	<u>\$1,744,797</u>

(NOTE 5)

(NOTE 4)

### Explanatory Notes:

- 1) Year 2024 starting reserves are as of July 31, 2024; FY2024 starts January 1, 2024 and ends December 31, 2024.
- 2) Reserve Contributions for 2024 are the remaining budgeted 5 months; 2025 is the first year of recommended contributions.
- 3) 2.7% is the estimated annual rate of return on invested reserves; 2024 is a partial year of interest earned.
- 4) Accumulated year 2054 ending reserves consider the age, size, overall condition and complexity of the property.
- 5) Threshold Funding Years (reserve balance at critical point).

## FIVE-YEAR OUTLOOK

**Stonewall  
Condominium Association, Inc.**  
Atlanta, Georgia

Line Item	Reserve Component Inventory	RUL = 0 FY2024	1 2025	2 2026	3 2027	4 2028	5 2029
<b><u>Exterior Building Elements</u></b>							
1.240	Gutters and Downspouts, Aluminum, Phased				49,992	51,492	
1.280	Roofs, Asphalt Shingles, Phased				202,045	208,107	
1.460	Roofs, Metal		97,181				
1.531	Roofs, Thermoplastic (Unknown Age)		110,313				
1.600	Staircases, Metal, Replacement						80,685
1.820	Walls, Masonry, Inspections and Repairs						59,726
1.840	Walls, Siding, Fiber Cement, Paint Finishes						281,124
1.865	Walls, Siding, Wood Trim, Paint Finishes (Includes Soffit and Fascia)						123,695
<b><u>Property Site Elements</u></b>							
4.041	Asphalt Pavement, Mill and Overlay, Parking Areas, Phased			80,204	82,610		
4.100	Catch Basins, Inspections and Capital Repairs			6,684			
4.111	Concrete Curbs, Parking Areas, Partial			28,655	29,515		
4.140	Concrete Sidewalks, Partial		13,570				
4.500	Landscape and Drainage Improvements, Partial Replacements						17,389
4.650	Pipes, Subsurface Utilities, Partial (Per Board Request)	80,000	60,000				
<b><u>Clubhouse Elements</u></b>							
5.480	Ceilings, Acoustical Tiles And Grid					5,881	
5.580	Rest Rooms, Renovation					15,757	
<b><u>Pool Elements</u></b>							
6.200	Concrete Deck, Inspections, Partial Replacements and Repairs			7,638			
6.500	Furniture, Phased			16,974			
6.600	Mechanical Equipment, Phased		5,665				
6.800	Pool Finish, Plaster			24,889			
6.801	Pool Finish, Tile and Coping			14,789			
<b>Anticipated Expenditures, By Year (\$11,591,847 over 30 years)</b>		80,000	286,729	179,833	364,162	281,237	562,619

## 4. RESERVE COMPONENT DETAIL

The Reserve Component Detail of this *Full Reserve Study* includes enhanced solutions and procedures for select significant components. This section describes the Reserve Components, documents specific problems and condition assessments, and may include detailed solutions and procedures for necessary capital repairs and replacements for the benefit of current and future board members. We advise the Board use this information to help define the scope and procedures for repair or replacement when soliciting bids or proposals from contractors. *However, the Report in whole or part is not and should not be used as a design specification or design engineering service.*



## Exterior Building Elements



Townhome exterior overview



Townhome exterior overview



Townhome exterior overview



Townhome exterior overview



Townhome exterior overview



Townhome exterior overview



## Gutters and Downspouts, Aluminum

---

**Line Item:** 1.240

**Quantity:** Approximately 12,200 linear feet of aluminum five-inch seamless gutters and two-inch by three-inch downspouts. This quantity includes the clubhouse.

**History:** Varies. Replaced in 1994 and minor replacements as needed.

**Condition:** Fair overall with periodic dented sections and missing downspout extensions evident.



**Aluminum gutters and downspouts at clubhouse**



**Damage at aluminum gutters**



**Debris accumulation**



**Aluminum gutters and downspouts**

**Useful Life:** 15- to 20-years

**Component Detail Notes:** The size of the gutter is determined by the roof's watershed area, a roof pitch factor and the rainfall intensity number of the Association's region. We recommend sloping gutters 1/16 inch per linear foot and providing fasteners a maximum of every three feet.

Downspouts can drain 100 square feet of roof area per one square inch of downspout cross sectional area. We recommend the use of downspout extensions and splash blocks at the downspout discharge to direct storm water away from the foundations. The useful life of gutters and downspouts coincides with that of the sloped roofs. Coordinated replacement will result in the most economical unit price and minimize the possibility of damage to other roof components as compared to separate replacements.

**Preventative Maintenance Notes:** We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Semi-annually:
  - Clean out debris and leaves that collect in the gutters
  - Repair and refasten any loose gutter fasteners
  - Repair and seal any leaking seams or end caps
  - Verify downspouts discharge away from foundations

**Priority/Criticality:** Defer only upon opinion of independent professional or engineer

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.

## Roofs, Asphalt Shingles

---

**Line Item:** 1.280

**Quantity:** Approximately 860 *squares*<sup>1</sup>. This quantity includes the asphalt shingle roof at the clubhouse.

**History:** Replaced in 2009.

**Condition:** Fair overall with shingle lift, sheathing deflection, curled shingles and weathering evident from our visual inspection from the ground. Management and the Board report limited history of leaks.

<sup>1</sup> We quantify the roof area in squares where one square is equal to 100 square feet of surface area.





**Townhome roof overview**



**Clubhouse roof - shingle curl and sheathing deflection evident**



**Penetrations at townhomes**



**Weathering evident**



**Roof overview - shingle curl and sheathing deflection evident**



**Roof overview**



**Roof overview**



**Roof overview**

**Useful Life:** 15- to 20-years

**Component Detail Notes:** The existing roof assembly comprises the following:

- Three tab shingles
- Boston style ridge caps
- Rubber seal with metal base boot flashing at waste pipes
- Soffit and ridge vents
- Metal drip edge

Insulation and ventilation are two major components of a sloped roof system. Together, proper insulation and ventilation help to control attic moisture and maintain an energy efficient building. Both insulation and ventilation prevent moisture buildup which can cause wood rot, mold and mildew growth, warp sheathing, deteriorate shingles, and eventually damage building interiors. Sufficient insulation helps to minimize the quantity of moisture that enters the attic spaces and adequate ventilation helps to remove any moisture that enters the attic spaces. These two roof system components also help to reduce the amount of energy that is required to heat and cool a building. Proper attic insulation minimizes heat gain and heat loss between the residential living spaces and attic spaces. This reduces energy consumption year-round. Proper attic ventilation removes excessive heat from attic spaces that can radiate into residential living spaces and cause air conditioners to work harder. Properly installed attic insulation and ventilation work together to maximize the useful life of sloped roof systems.

The vents should be clear of debris and not blocked from above by attic insulation. If the soffit vents are blocked from above, installation of polystyrene vent spaces or baffles between the roof joists at these locations can ensure proper ventilation.

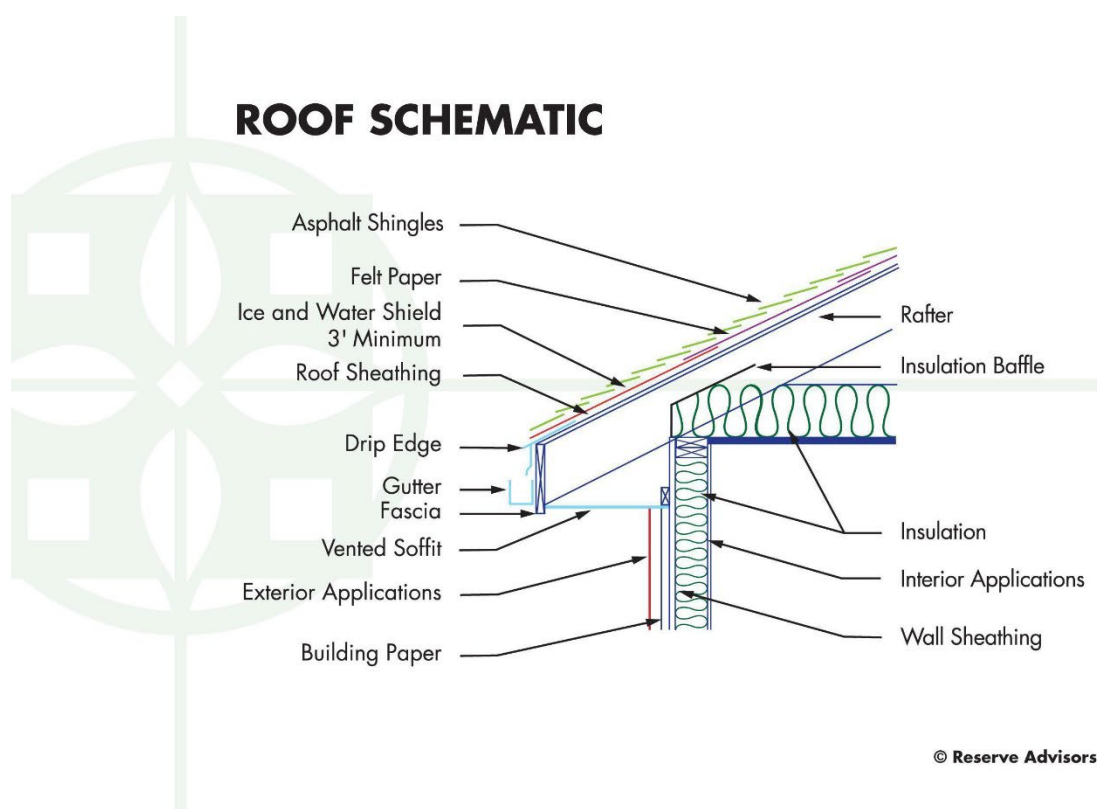
Certain characteristics of condition govern the times of replacement. Replacement of an asphalt shingle roof becomes necessary when there are multiple or recurring leaks and when the shingles begin to cup, curl and lift. These conditions are indications that the asphalt shingle roof is near the end of its useful life. Even if the shingles are largely watertight, the infiltration of water in one area can lead to permanent damage to the underlying roof sheathing. This type of deterioration requires replacement of saturated



sections of sheathing and greatly increases the cost of roof replacement. Roof leaks may occur from interrelated roof system components, i.e., flashings. Therefore, the warranty period, if any, on the asphalt shingles, may exceed the useful life of the roof system.

Warranties are an indication of product quality and are not a product guarantee. Asphalt shingle product warranties vary from 20- to 50-years and beyond. However, the scope is usually limited to only the material cost of the shingles as caused by manufacturing defects. Warranties may cover defects such as thermal splitting, granule loss, cupping, and curling. Labor cost is rarely included in the remedy so if roof materials fail, the labor to tear off and install new shingles is extra. Other limitations of warranties are exclusions for "incidental and consequential" damages resulting from age, hurricanes, hail storms, ice dams, severe winds, tornadoes, earthquakes, etc. There are some warranties which offer no dollar limit for replacement at an additional cost (effectively an insurance policy) but again these warranties also have limits and may not cover all damages other than a product defect. We recommend a review of the manufacturers' warranties as part of the evaluation of competing proposals to replace a roof system. This evaluation should identify the current costs of remedy if the roof were to fail in the near future. A comparison of the costs of remedy to the total replacement cost will assist in judging the merits of the warranties.

The following cross-sectional schematic illustrates a typical asphalt shingle roof system although it may not reflect the actual configuration at Stonewall:



Contractors use one of two methods for replacement of sloped roofs, either an overlayment or a tear-off. Overlayment is the application of new shingles over an existing roof. However, there are many disadvantages to overlayment including hidden defects



of the underlying roof system, absorption of more heat resulting in accelerated deterioration of the new and old shingles, and an uneven visual appearance. Therefore, we recommend only the tear-off method of replacement. The tear-off method of replacement includes removal of the existing shingles, flashings if required and underlayments.

The Association should plan to coordinate the replacement of gutters and downspouts with the adjacent roofs. This will result in the most economical unit price and minimize the possibility of damage to other roof components as compared to separate replacements.

**Preventative Maintenance Notes:** We recommend the Association maintain a service and inspection contract with a qualified professional and record all documentation of repairs conducted. We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Annually:
  - Record any areas of water infiltration, flashing deterioration, damage or loose shingles
  - Implement repairs as needed if issues are reoccurring
  - Trim tree branches that are near or in contact with roof
- As-needed:
  - Ensure proper ventilation and verify vents are clear of debris and not blocked from attic insulation

**Priority/Criticality:** Defer only upon opinion of independent professional or engineer

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. We base our cost on replacement with architectural dimensional shingles.

## Roofs, Metal

---

**Line Item:** 1.460

**Quantity:** Approximately 9 squares<sup>2</sup> at 51 units

**History:** Varies, minor replacements made as needed

**Condition:** Fair to poor with significant finish deterioration throughout the community

<sup>2</sup> We quantify the roof area in squares where one square is equal to 100 square feet of surface area.



**Metal roof at townhouse**



**Metal roof finish deterioration**



**Metal roof**



**Metal roof deterioration evident**

**Useful Life:** Up to 30 years

**Preventative Maintenance Notes:** We recommend the Association maintain a service and inspection contract with a qualified professional and record all documentation of repairs conducted. We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Annually:
  - Record any areas of water infiltration, flashing deterioration, damage or loose fasteners
  - Implement repairs as needed if issues are reoccurring
  - Ensure proper ventilation and verify vents are clear of debris and not blocked from attic insulation
  - Clear valleys of debris
  - Periodic cleaning at areas with organic growth

**Priority/Criticality:** Defer only upon opinion of independent professional or engineer

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.

## Roofs, Thermoplastic

---

**Line Items:** 1.530 and 1.531

**Quantity:** Approximately 14,600 square feet of thermoplastic flat roofing

**History:** Approximately 9,500 square feet was replaced between 2015 through 2022 and 5,100 replaced prior to 2015 at unknown dates.

**Condition:** Unable to visually inspect. The Board reports unsatisfactory with plans to replace in near future. Management and the Board reports a limited history of leaks.

**Useful Life:** 15- to 20-years

**Component Detail Notes:** Thermoplastic roofs include the following:

- Polyvinyl chloride (PVC or simply vinyl)
- PVC alloys or compounded thermoplastics
- Thermoplastic olefin (TPO)
- Chlorinated polyethylene (CPE)

The following characteristics define most thermoplastic roofs:

- Attachment to the roof deck is either fully adhered, mechanical or ballasted
- Membranes are commonly white and reinforced with polyester
- Seams are sealed with heat or chemical welding
- Sheet widths range from 6- to 12-feet wide
- Sheets are typically 40- to 100-mils thick
- Single ply (one layer)

Over time, exposure to ultraviolet light, heat and weather degrade the membrane. This degradation results in membrane damage from thermal expansion and contraction, adverse weather and pedestrian traffic. The aging process makes the membrane less pliable and more difficult to maintain. Ponding water on the roof can increase the effects of ultraviolet light on the membrane and contaminants in ponded water can cause the membrane to deteriorate prematurely. Thermoplastic roofs (especially TPO) are relatively new and their long-term performance is not well defined.

Contractors can install a new thermoplastic roof in one of two ways: *tear-off* or an *overlay*. An *overlay* is the application of a new roof membrane over an existing roof. This method, although initially more economical, often covers up problems with the deck, flashing and saturated insulation. The *tear-off* method of replacement includes removal of the existing roofing, flashings and insulation, and installation of a new roofing system.

The contractor should follow the manufacturer's directions and specifications upon installation of the roof. The contractor should remove the original insulation if saturated or compacted and apply a new layer of insulation per the manufacturer's instructions. The insulation should fit loosely with gaps no greater than ¼ inch. Gaps will cause failure of

the membrane later. Mechanical fastening of the insulation is the best manner of installation.

**Preventative Maintenance Notes:** We recommend the Association maintain a service and inspection contract with a qualified professional and record all documentation of repairs conducted. We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Semi-annually:
  - Note drainage issues with water ponding after 48 hours of rainfall event. Verify scuppers and drains are free of debris. Replace damaged or missing drain covers.
  - Inspect perimeter flashing for loose fasteners, deflections, and sealant damage
  - Verify membrane surface is free of ruptures or damage, and areas of extensive blistering or bubbling
  - Remove oil spills or contaminants from mechanical equipment
  - In areas of possible foot traffic, remove any sharp debris or trash and note areas of crushed insulation
  - If frequency of leaks increase or location of water infiltration is unknown, we recommend the consideration of a thermal image inspection

**Priority/Criticality:** Defer only upon opinion of independent professional or engineer

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.

## Staircases

---

**Line Item:** 1.600

**Quantity:** Four sets of steel frame staircases

**History:** Replaced in 1994

**Condition:** Good to fair overall with rust formation and finish deterioration evident.





**Staircase overview**



**Rust**



**Staircase overview**

**Useful Life:** Up to 35 years

**Preventative Maintenance Notes:** We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Semi-annually:
  - Check railing stability and fasteners.
  - Apply finish applications at areas with excessive finish deterioration, if applicable
  - Replace damage or broken stair treads and ensure proper attachment to the building
- Every three years:
  - Perform touch up paint finish applications

**Priority/Criticality:** Defer only upon opinion of independent professional or engineer

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.



## Walls, Masonry

---

**Line Item:** 1.820

**Quantity:** Approximately 36,800 square feet of masonry comprises the exterior walls

**History:** Original, repairs made as needed

**Condition:** Good to fair overall with the following evident:

- No reported history of recent water infiltration
- Common brick masonry
- Minimal previous repairs evident
- Efflorescence is not visible
- Lintel paint finish in good condition
- Masonry exhibits isolated cracks
- Masonry exhibits isolated spalls
- No mortar deterioration is evident



Masonry walls overview



Masonry walls overview



Masonry walls overview



Masonry walls overview





**Masonry walls overview**



**Masonry spall**



**Masonry cracks**

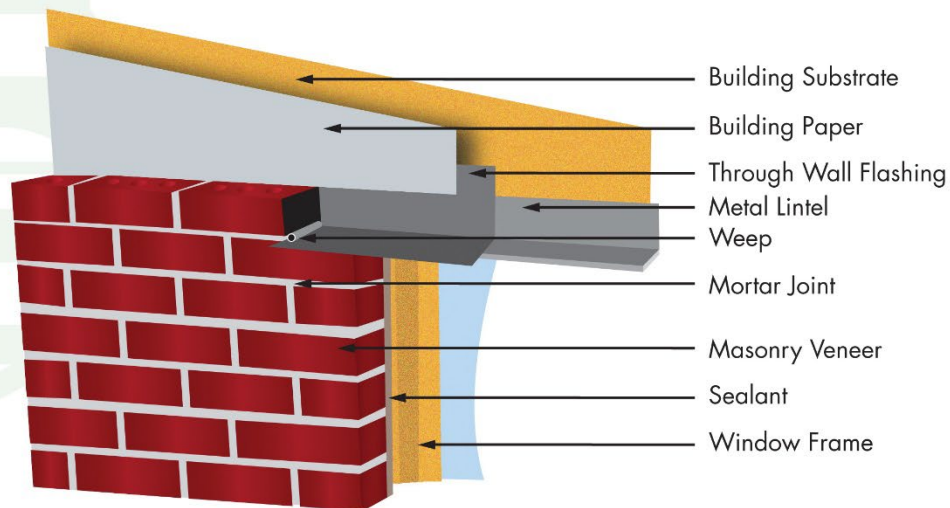
**Useful Life:** We advise a complete inspection of the masonry and related masonry repairs every 8- to 10-years to forestall deterioration.

**Component Detail Notes:** Common types of masonry deterioration include efflorescence, spalling, joint deterioration and cracking. The primary cause of efflorescence, cracks and face spall is water infiltration, therefore prevention of water infiltration is the principal concern for the maintenance of masonry applications.

Repointing is a process of raking and cutting out defective mortar to a depth of not less than  $\frac{1}{2}$  inch nor more than  $\frac{3}{4}$  inch and replacing it with new mortar. Face grouting is the process of placing mortar over top of the existing mortar. We advise against face grouting because the existing, often deteriorated mortar does not provide a solid base for the new mortar. New mortar spalls at face grouted areas will likely occur. One purpose of a mortar joint is to protect the masonry by relieving stresses within the wall caused by expansion, contraction, moisture migration and settlement. Repointed mortar joints are more effective if the mortar is softer and more permeable than the masonry units, and no harder or less permeable than the existing mortar. The masonry contractor should address these issues within the proposed scope of work.

The following diagram details a typical masonry façade system and may not reflect the actual configuration at the Association:

### MASONRY WALL, METAL LINTEL AND WEEP SYSTEM DETAIL



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**Priority/Criticality:** Defer only upon opinion of independent professional or engineer

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. Our cost includes the following activities:

- Complete inspection of the masonry
- Repointing of up to five percent (5%) of the masonry
- Replacement of a limited amount of the masonry (The exact amount of area in need of replacement will be discretionary based on the actual future conditions and the desired appearance.)

### Walls, Siding, Fiber Cement and Wood Trim

**Line Items:** 1.840, 1.845 and 1.865

**Quantity:** Approximately 140,000 square feet of lap profile fiber cement siding comprises the exterior walls at 97 units. This quantity includes the wood fascia, soffit and trim.

**History:**

- Siding: 1999
- Paint finishes: 2015



**Condition:** The siding and wood trim are in fair overall condition and the paint finishes are in fair to poor overall condition with inconsistent finishes, damage, trim in contact with roof and deterioration evident.



**Wood trim deterioration**



**Fiber cement siding overview**



**Siding deterioration evident**



**Inconsistent finishes**



**Siding damage**



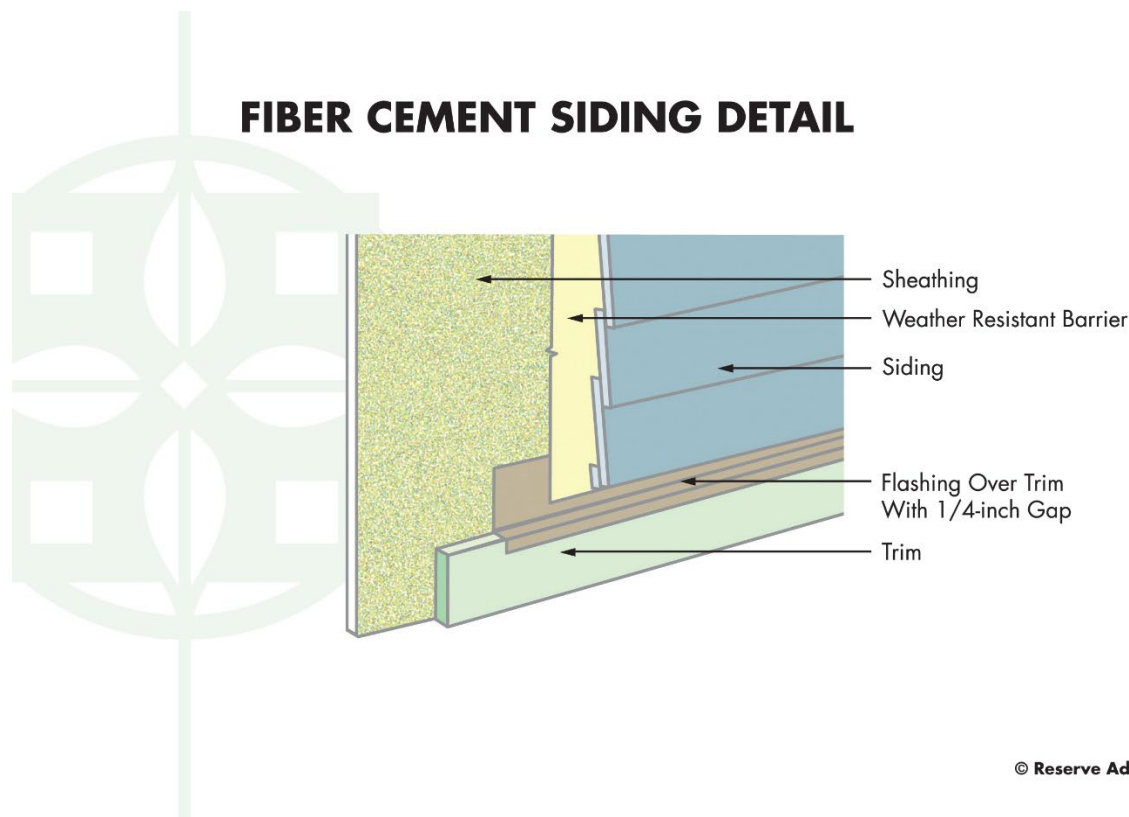
**Fiber cement siding overview**

**Useful Life:** With the benefit of periodic maintenance, applications of this type of material can have a useful life of up to 50 years. This useful life is based on a high-grade pre-finish applied in the factory. This useful life is also dependent upon paint applications and partial replacements to the fiber cement siding up to every 8- to 12-years and to the wood trim every four- to six-years.

**Component Detail Notes:** Fiber cement siding is made from a combination of cement, sand and cellulose fiber. Manufacturing of the siding utilizes a steam curing process to increase strength and dimensional stability. The siding is also manufactured in layers forming a sheet of desired thickness. A wood grain imprint is typically applied to the exposed surface. Fiber cement siding offers many advantages over other types of siding. These advantages include:

- Capable of withstanding salt spray and ultraviolet rays
- Dimensional stability (will not buckle or warp as easily as other materials)
- Paint applications last longer compared to wood siding
- Resistant to insects, birds and fire

The following diagram details a typical fiber cement siding system at the interface with other building components although it may not reflect the actual configuration at Stonewall:



For wood trim correct and complete preparation of the surface before application of the paint finish maximizes the useful life of the paint finish and surface. The contractor should remove all loose, peeled or blistered paint before application of the new paint finish. The



contractor should then power wash the surface to remove all dirt or chalking of the prior paint finish.

**Preventative Maintenance Notes:** We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Annually:
  - Inspect and repair damage, loose boards and finish stains
  - Periodic pressure cleaning at areas with organic growth
  - Touch-up paint finish applications as needed and sealing of butt joints and field cut end joints

**Priority/Criticality:** Defer only upon opinion of independent professional or engineer

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. We defer initial refinishing of the siding and trim until after roof replacements. We recommend the Association conduct interim touch-ups as needed through the operating budget.

For **Line Item 1.840**, paint finish applications to the fiber cement siding we anticipate the following during each paint application cycle:

- Paint finish applications to the fiber cement siding
- Replacement of 2,600 square feet, or up to two percent (2%), of the siding (The exact amount of material in need of replacement will depend on the actual future conditions and desired appearance. We recommend replacement wherever cracks, delamination and deterioration impair the ability of the material to prevent water infiltration.)

For **Line Item 1.865**, paint finish applications to the wood trim we assume the following activities per event:

- Paint finish applications to the wood trim, soffit and fascia
- Replacement of 2,500 square feet, or up to ten percent (10%), of the wood trim and two percent (2%) of the wood soffit and fascia (The exact amount of material in need of replacement will depend on the actual future conditions and desired appearance. We recommend replacement wherever holes, cracks and deterioration impair the ability of the material to prevent water infiltration.)
- Replacement of sealants as needed

## Property Site Elements

### Asphalt Pavement, Repaving

---

**Line Items:** 4.020, 4.041, 4.045 and 4.046



**Quantity:** Approximately 12,300 square yards with 8,400 square yards at the parking areas and 3,900 square yards at Stonewall Dr.

**History:**

- Repaving: The parking area pavement age is unknown. Stonewall Dr was overlaid in 2018
- Repairs: Repaired and seal coat application in 2022.

**Condition:** The pavement at Stonewall Dr is in good to fair condition with minor surface wear evident. The parking area pavement is in fair to poor condition overall with systemic cracks, pavement deterioration and previous overlayment evident.



**Pavement cracks near clubhouse**



**Pavement overlay evident**



**Parking area pavement overview**



**Pavement cracks**



**Pavement cracks**



**Stonewall Dr pavement overview**



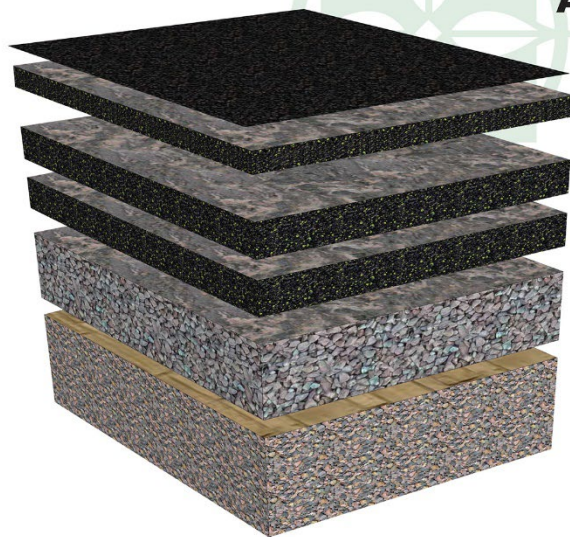
**Parking area pavement overview**

**Useful Life:** 15- to 20-years with the benefit of crack repair and patch events every three- to five-years

**Component Detail Notes:** Proposals should include mechanically routing and filling all cracks with hot emulsion. Crack repair minimizes the chance of the cracks transmitting through the pavement. Patch repairs are conducted at areas exhibiting settlement, potholes, or excessive cracking. These conditions typically occur near high traffic areas, catch basins, and pavement edges.

The initial installation of asphalt uses at least two lifts, or two separate applications of asphalt, over the base course. The first lift is the binder course. The second lift is the wearing course. The wearing course comprises a finer aggregate for a smoother more watertight finish. The following diagram depicts the typical components although it may not reflect the actual configuration at Stonewall:





## ASPHALT DIAGRAM

### Sealcoat or Wearing Surface

**Asphalt Overlay** Not to Exceed 1.5 inch Thickness per Lift or Layer

**Original Pavement** Inspected and milled until sound pavement is found, usually comprised of two layers

### Compacted Crushed Stone or Aggregate Base

**Subbase of Undisturbed Native Soils** Compacted to 95% dry density

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The manner of repaving is either a mill and overlay or total replacement. A mill and overlay is a method of repaving where cracked, worn and failed pavement is mechanically removed or milled until sound pavement is found. A new layer of asphalt is overlaid atop the remaining base course of pavement. Total replacement includes the removal of all existing asphalt down to the base course of aggregate and native soil followed by the application of two or more new lifts of asphalt. We recommend mill and overlayment on asphalt pavement that exhibits normal deterioration and wear. We recommend total replacement of asphalt pavement that exhibits severe deterioration, inadequate drainage, pavement that has been overlaid multiple times in the past or where the configuration makes overlayment not possible. Based on the apparent visual condition and configuration of the asphalt pavement, we recommend the mill and overlay method for initial repaving followed by the total replacement method for subsequent repaving at Stonewall.

**Preventative Maintenance Notes:** We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Annually:
  - Inspect for settlement, large cracks and trip hazards, and ensure proper drainage
  - Repair areas which could cause vehicular damage such as potholes
- As needed:
  - Perform crack repairs and patching

**Priority/Criticality:** Defer only upon opinion of independent professional or engineer

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. Our cost includes an allowance for crack repairs and patching of up to two percent (2%) of the pavement. Our cost for milling and overlayment includes area patching of up to ten percent (10%).

## Catch Basins

---

**Line Item:** 4.100

**Quantity:** Six catch basins<sup>3</sup>

**History:** Original

**Condition:** Good overall with no deterioration evident from our visual inspection.



Catch basin

**Useful Life:** The useful life of catch basins is up to 65 years. However, achieving this useful life usually requires interim capital repairs or partial replacements every 15- to 20-years.

**Component Detail Notes:** Erosion causes settlement around the collar of catch basins. Left unrepaired, the entire catch basin will shift and need replacement.

**Preventative Maintenance Notes:** We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Annually:
  - Inspect and repair any settlement and collar cracks
  - Ensure proper drainage and inlets are free of debris
  - If property drainage is not adequate in heavy rainfall events, typically bi-annual cleaning of the catch basins is recommended

<sup>3</sup> We utilize the terminology catch basin to refer to all storm water collection structures including curb inlets.

**Priority/Criticality:** Defer only upon opinion of independent professional or engineer

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. We recommend the Association plan for inspections and capital repairs to the catch basins in conjunction with repaving.

## Concrete Curbs

---

**Line Items:** 4.110 and 4.111

**Quantity:** Approximately 2,500 linear feet at Stonewall Dr. and 3,700 linear feet at the parking areas.

**Condition:** Fair overall with periodic cracks and spalled concrete evident.



Concrete curb



Concrete spalls and cracks

**Useful Life:** Up to 65 years although interim deterioration of areas is common

**Preventative Maintenance Notes:** We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Annually:
  - Inspect and repair major cracks, spalls and trip hazards
  - Mark with orange safety paint prior to replacement or repair
  - Repair or perform concrete leveling in areas in immediate need of repair or possible safety hazard

**Priority/Criticality:** Per Board discretion

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. We estimate that up to 1,480 linear feet of curbs, or forty percent (40%) of the total, will require replacement during the next 30 years.



## Concrete Sidewalks

---

**Line Item:** 4.140

**Quantity:** Approximately 17,000 square feet

**Condition:** Fair overall with periodic cracks, settlement, trip hazards and previous repairs evident.



**Concrete sidewalk - cracks and previous repairs evident**



**Concrete sidewalk**



**Sidewalk cracks**



**Sidewalk settlement at concrete steps**



**Sidewalk overview**



**Sidewalk settlement at concrete steps**

**Useful Life:** Up to 65 years although interim deterioration of areas is common

**Preventative Maintenance Notes:** We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Annually:
  - Inspect and repair major cracks, spalls and trip hazards
  - Mark with orange safety paint prior to replacement or repair
  - Repair or perform concrete leveling in areas in immediate need of repair or possible safety hazard

**Priority/Criticality:** Per Board discretion

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. We estimate that up to 5,100 square feet of concrete sidewalks, or thirty percent (30%) of the total, will require replacement during the next 30 years.

## **Fences, Aluminum**

---

**Line Item:** 4.200

**Quantity:** 290 linear feet

**History:** Constructed in 2020

**Condition:** Good overall





**Aluminum fence**



**Aluminum fence**

**Useful Life:** Up to 25 years (The useful life of the finish is indeterminate. Future updates of this Reserve Study will again consider the need to refinish the railings based on condition.)

**Preventative Maintenance Notes:** We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Annually:
  - Inspect and repair loose fasteners or sections, and damage
  - Repair leaning sections and clear vegetation from fence areas which could cause damage

**Priority/Criticality:** Per Board discretion

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.

## **Landscape and Drainage Improvements**

---

**Line Item:** 4.500

**Component Detail Notes:** The Association contains a large quantity of trees, shrubbery and other landscape elements. Replacement of these elements is an ongoing need. Many associations budget for these replacements as normal maintenance. Other associations fund ongoing replacements from reserves. Large amounts of landscape may need replacement due to disease, drought or other forces of nature. If the cost of removal and replacement is substantial, funding from reserves is logical. The Association may also desire to periodically update the appearance of the community through major improvements to the landscape.

**Useful Life:** At the request of Management and the Board, we include a landscape allowance for partial replacements every five years.

**Priority/Criticality:** Per Board discretion



**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.

## **Pipes, Subsurface Utilities**

---

**Line Item:** 4.650

**Quantity:** Unknown quantity

**History:** Conducted partial replacements in 2023. The Board has requested to budget \$80,000 in 2024 and \$60,000 in 2025 for additional partial replacements.

**Condition:** Reported unsatisfactory with a history of recent repairs

**Useful Life:** Up to and likely beyond 85 years

**Component Detail Notes:** The Association maintains the sanitary sewer and water main subsurface utility pipes throughout the property. The exact amounts and locations of the subsurface utility pipes were not ascertained due to the nature of the underground construction and the non-invasive nature of the inspection.

**Preventative Maintenance Notes:** We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- As-needed:
  - Video inspect waste pipes for breaks and damaged piping
  - Monitor for water and gas leaks through pressure losses and present odors
  - Partially replace damaged section of pipes

**Priority/Criticality:** Defer only upon opinion of independent professional or engineer

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. At this time we do not anticipate replacement of continuous lengths of subsurface utility pipes. Rather we recommend the Association budget for repairs to isolated occurrences of breached utilities. Although it is likely that the times of replacement and extent of repair costs may vary from the budgetary allowance, Stonewall could budget sufficient reserves for these utility repairs and have the opportunity to adjust its future reserves up or down to meet any changes to these budgetary estimates. Updates of this Reserve Study would incorporate changes to budgetary costs through a continued historical analysis of the rate of deterioration and actual repairs to budget sufficient reserves.

## **Playground Equipment**

---

**Line Item:** 4.660

**Quantity:** Playground equipment includes the following elements:

- Playsets and swings
- Wood surface with a timber border
- Site furniture including a picnic table and benches

**History:** Constructed in 2021

**Condition:** Good overall



**Playground equipment**



**Playground equipment**

**Useful Life:** 15- to 20-years

**Component Detail Notes:** Safety is the major purpose for maintaining playground equipment. We recommend an annual inspection of the playground equipment to identify and repair as normal maintenance loose connections and fasteners or damaged elements. We suggest the Association learn more about the specific requirements of playground equipment at [PlaygroundSafety.org](http://PlaygroundSafety.org). We recommend the use of a specialist for the design or replacement of the playground equipment environment.

**Preventative Maintenance Notes:** We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Annually:
  - Inspect and repair loose connections and fasteners or damaged elements
  - Inspect for safety hazards and adequate coverage of ground surface cover

**Priority/Criticality:** Defer only upon opinion of independent professional or engineer

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. We include an allowance in the unit cost for replacement of the safety surface and border.



## Railings, Handrails, Steel

---

**Line Item:** 4.733

**Quantity:** 160 linear feet

**History:** The age is unknown

**Condition:** The handrails area in good to fair overall condition with no significant deterioration evident



**Steel railing**

**Useful Life:** Up to 35 years for replacement

**Component Detail Notes:** Steel components at grade and key structural connections are especially prone to failure if not thoroughly maintained. Secure and rust-free fasteners and connections will prevent premature deterioration. Preparation of the steel before application of the paint finish is critical to maximize the useful life of the finish.

**Preventative Maintenance Notes:** We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Annually:
  - Inspect for damage, and excessive finish deterioration or corrosion
  - Test security of railings and inspect connection fasteners

**Priority/Criticality:** Per Board discretion

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.

## Retaining Walls, Masonry

---

**Line Item:** 4.740

**Quantity:** Approximately 1,570 square feet of masonry block retaining walls throughout the community

**History:** Constructed from 2020 through 2023

**Condition:** Good overall with no significant deterioration evident.



Masonry retaining wall



Masonry retaining wall



Masonry retaining wall



Masonry retaining wall





**Masonry retaining walls overview**

**Useful Life:** Masonry retaining walls have indeterminate useful lives. However, we recommend the Association plan for inspections and capital repairs every 10- to 15-years to forestall deterioration.

**Priority/Criticality:** Defer only upon opinion of independent professional or engineer

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. Our cost includes an allowance for an inspection, partial resetting and replacement of up to ten percent (10%). Updates of this Reserve Study will continue to monitor the rate of deterioration and incorporate any available inspection reports.

## **Retaining Walls, Stone**

---

**Line Item:** 4.750

**Quantity:** Approximately 1,870 square feet of stone retaining walls throughout the community

**History:** Original

**Condition:** Good overall with no significant deterioration evident





**Stone retaining wall at pool**



**Stone retaining wall**



**Stone retaining wall at pool**



**Stone retaining wall**



**Stone retaining wall**



**Stone retaining wall**

**Useful Life:** Stone retaining walls have indeterminate useful lives. However, we recommend the Association plan for inspections and capital repairs every 10- to 15-years to forestall deterioration.

**Priority/Criticality:** Defer only upon opinion of independent professional or engineer



**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.

## Retaining Wall, Timber

---

**Line Item:** 4.760

**Quantity:** Approximately 1,200 square feet of timber retaining walls throughout the community

**History:** Varies. Significant replacements made in 2023 and remaining timber retaining walls age unknown.

**Condition:** Good to fair overall with minor isolated wood rot and leaning sections at timber retaining walls of unknown age.



Timber retaining wall overview



Timber retaining wall - wood rot and leaning sections evident



Timber retaining wall overview



Timber retaining wall overview





**Timber retaining wall overview**



**Timber retaining wall overview**

**Useful Life:** 15- to 20-years for timber retaining walls

**Component Detail Notes:** We advise Stonewall replace with a modular, interlocking dry-set masonry retaining wall system. The cost of dry-set masonry retaining walls is similar to the cost of timber walls. However, dry-set masonry retaining walls offer a longer useful life of up to 35 years and lower total maintenance costs.

**Preventative Maintenance Notes:** We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Annually:
  - Inspect and repair leaning sections or damaged areas
  - Inspect and repair erosion at the wall base and backside

**Priority/Criticality:** Defer only upon opinion of independent professional or engineer

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.

## **Clubhouse Elements**

### **Air Handling and Condensing Units, Split System**

---

**Line Item:** 5.070

**Quantity:** One Rheem split system

**History:** Replaced in 2020.

**Condition:** Reported satisfactory without operational deficiencies.



**Condensing unit**



**Condensing unit details**

**Useful Life:** 15- to 20-years

**Component Detail Notes:** A split system air conditioner consists of an outside condensing unit, an interior evaporator coil, refrigerant lines and an interior electric air handling unit. The condensing unit has a cooling capacity of five-tons. The split system uses R-410A refrigerant.

**Preventative Maintenance Notes:** We recommend the Association obtain and adhere to the manufacturer's recommended maintenance plan. We also recommend the Association maintain a maintenance contract with a qualified professional. The required preventative maintenance may vary in frequency and scope based on the unit's age, operational condition, or changes in technology. We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Semi-annually:
  - Lubricate motors and bearings
  - Change or clean air filters as needed
  - Inspect condenser base and piping insulation
  - Inspect base pan, coil, cabinet and clear obstructions as necessary
- Annually:
  - Clean coils and drain pans, clean fan assembly, check refrigerant charge, inspect fan drive system and controls
  - Inspect and clean accessible ductwork as needed
  - Clean debris from inside cabinet, inspect condenser compressor and associated tubing for damage

**Priority/Criticality:** Defer only upon opinion of independent professional or engineer

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. The condensing unit may require replacement prior to replacement of the related interior forced air unit. For purposes of this Reserve Study, we assume coordination of replacement of the interior forced air unit, evaporator coil, refrigerant lines and exterior condensing unit.

## Ceilings, Acoustical Tiles, Grid and Lighting

---

**Line Item:** 5.480

**Quantity:** 550 square feet at the clubhouse

**History:** Unknown

**Condition:** Good to fair overall with no significant deterioration evident.



ACT overview



ACT overview

**Useful Life:** Up to 30 years

**Priority/Criticality:** Per Board discretion

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.

## Clubhouse, Renovations

---

**Line Items:** 5.500 and 5.510

**Quantity:** The clubhouse interior components include:

- Vinyl floor coverings
- Paint finishes at the walls
- Acoustical ceiling tiles and grid and paint finishes
- Plumbing fixtures
- Light fixtures including exit and emergency lights
- Furnishings
- Kitchen cabinets, countertops, and appliances

**History:** Partial renovations in 2015 with paint finish applications in 2020.



**Condition:** Good to fair overall with no significant deterioration evident.



**Clubhouse interior**



**Clubhouse furnishings**



**Clubhouse projector**



**Wood laminate floors**



**Clubhouse kitchen overview**



**Clubhouse kitchen overview**



**Clubhouse kitchen overview**

**Useful Life:** Complete renovation up to every 20 years and partial renovation up to every 10 years

**Priority/Criticality:** Per Board discretion

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. The complete renovation should include replacement of all components listed above and the partial renovations should include the following:

- Application of paint finishes
- Replacement of up to fifty percent (50%) of the furnishings

## **Rest Rooms**

---

**Line Item:** 5.580

**Quantity:** The rest room components include:

- Vinyl floor coverings
- Paint finishes at the walls
- Paint finishes at the ceilings
- Light fixtures
- Plumbing fixtures

**History:** The age was unavailable at the time of our inspection.

**Condition:** Good to fair overall. Minor paint finish deterioration and finish deterioration at restroom partitions



**Floor coverings overview**



**Paint finish and light fixtures overview**



**Rest room fixtures**



**Partition finish deterioration**



**Paint finish deterioration**

**Useful Life:** Renovation up to every 25 years

**Priority/Criticality:** Per Board discretion

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.



## Windows and Doors

---

**Line Item:** 5.800

**Quantity:** Approximately 270 square feet

**History:** The age was unavailable at the time of our inspection.

**Condition:** Fair overall with sliding door deterioration evident



Sliding doors



Hinged doors and fixed windows

**Useful Life:** Up to 40 years

**Component Detail Notes:** Construction of the windows and doors at the clubhouse includes the following:

- Aluminum frames
- Single pane glass
- Fixed windows
- Sliding and hinged doors

**Priority/Criticality:** Not recommended to defer

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.

## Pool Elements

### Concrete Deck

---

**Line Item:** 6.200

**Quantity:** Approximately 3,600 square feet

**History:** Inspected and repaired in 2012.

**Condition:** Good to fair overall with isolated cracks and concrete spalls evident.



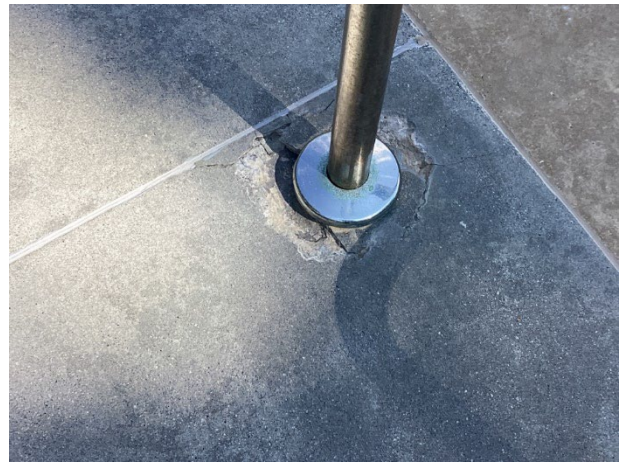
**Concrete pool deck overview**



**Concrete pool deck overview**



**Concrete cracks**



**Concrete spalls**

**Useful Life:** The useful life of a concrete pool deck is up to 60 years or more with timely repairs. We recommend the Association conduct inspections, partial replacements and repairs to the deck every 8- to 12-years.

**Preventative Maintenance Notes:** We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Semi-annually:
  - Inspect and repair large cracks, trip hazards, and possible safety hazards
  - Inspect and repair pool coping for cracks, settlement, heaves or sealant deterioration
  - Repair concrete spalling
  - Schedule periodic pressure cleanings as needed

**Priority/Criticality:** Defer only upon opinion of independent professional or engineer



**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. We recommend the Association budget for the following per event:

- Selective cut out and replacements of up to ten percent (10%) of concrete
- Crack repairs as needed
- Mortar joint repairs
- Caulk replacement

## Fence, Aluminum

---

**Line Item:** 6.400

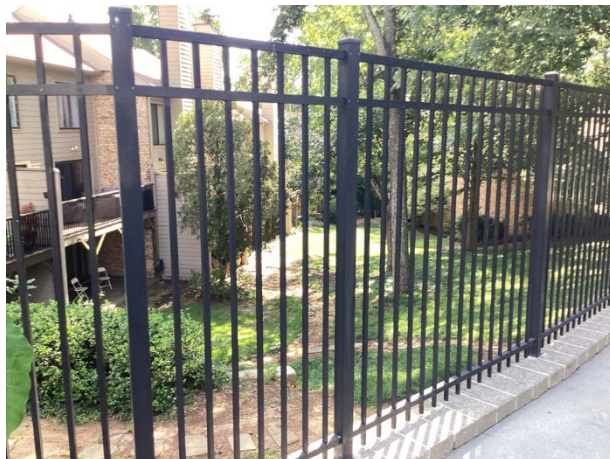
**Quantity:** 270 linear feet

**History:** Replaced in 2012.

**Condition:** Good overall



Aluminum pool fence



Aluminum pool fence

**Useful Life:** Up to 25 years

**Preventative Maintenance Notes:** We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Annually:
  - Inspect and repair loose fasteners or sections, and damage
  - Repair leaning sections and clear vegetation from fence areas which could cause damage

**Priority/Criticality:** Not recommended to defer

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.



## Furniture

---

**Line Item:** 6.500

**Quantity:** The pool furniture includes the following:

- Chairs
- Lounges
- Tables
- Ladders and life safety equipment

**History:** Varies

**Condition:** Good overall



Pool furniture



Pool furniture

**Useful Life:** Up to 12 years

**Priority/Criticality:** Per Board discretion

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. We recommend interim re-strapping, refinishing, cushion replacements, reupholstering and other repairs to the furniture as normal maintenance to maximize its useful life.

## Mechanical Equipment

---

**Line Item:** 6.600

**Quantity:** The mechanical equipment includes the following:

- Controls
- Electrical panel
- Interconnected pipe, fittings and valves
- Pump and filters

**History:** Varies. The pool pump was replaced in 2023.

**Condition:** Reported satisfactory without operational deficiencies



**Pool mechanical equipment**



**Pool mechanical equipment**



**Pool mechanical equipment**

**Useful Life:** Up to 15 years

**Preventative Maintenance Notes:** The informs us preventative maintenance is conducted on a regular basis. We recommend the Association maintain a maintenance contract with a qualified professional and follow the manufacturer's specific recommended maintenance and local, state and/or federal inspection guidelines.

**Priority/Criticality:** Defer only upon opinion of independent professional or engineer

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the *Reserve Expenditures* table in Section 3. Failure of the pool mechanical equipment as a single event is unlikely. Therefore, we include replacement of up to fifty percent (50%) of the equipment per event. We consider interim replacement of motors and minor repairs as normal maintenance.

## Pool Finishes, Plaster and Tile

---

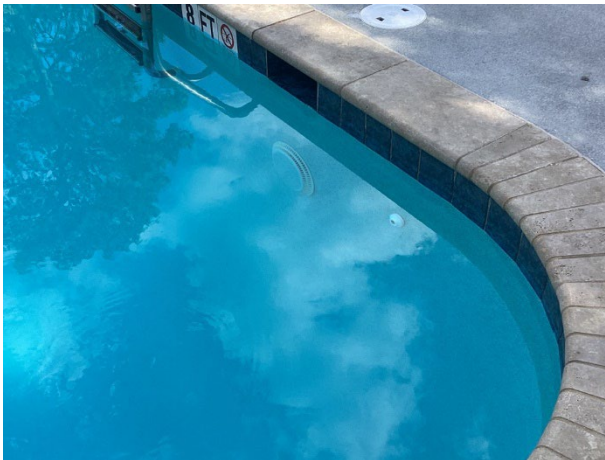
**Line Items:** 6.800 and 6.801

**Quantity:** 1,380 square feet of plaster based on the horizontal surface area and approximately 170 linear feet of tile and coping

**History:**

- Plaster finish: Replaced in 2012.
- Tile: Unknown

**Condition:** Reported satisfactory



**Pool plaster finish with tile perimeter**



**Pool plaster overview**

**Useful Life:** 8- to 12-years for the plaster and 15- to 25-years for the tile

**Preventative Maintenance Notes:** We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Semi-annually:
  - Inspect and patch areas of significant plaster delamination, coping damage and structure cracks
  - Inspect main drain connection and anti-entrapment covers, pressure test circulation piping and valves
  - Test handrails and safety features for proper operation

**Priority/Criticality:** Defer only upon opinion of independent professional or engineer

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. We recommend the Association budget for full tile replacement every other plaster replacement event. Removal and replacement of the finish provides the opportunity to inspect the pool structure and to allow for partial repairs of the underlying concrete surfaces as needed. To maintain the integrity of the pool structure, we recommend the Association budget for the following:

- Removal and replacement of the plaster finish



- Partial replacements of the scuppers and coping as needed
- Replacement of tiles as needed
- Replacement of joint sealants as needed
- Concrete structure repairs as needed

## **Pool Structure**

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**Line Item:** 6.900

**Quantity:** 1,380 square feet of horizontal surface area

**History:** Original

**Conditions:** Visually appears in good condition. The concrete floors and walls have a plaster finish. This finish makes it difficult to thoroughly inspect the concrete structure during a noninvasive visual inspection.

**Useful Life:** Up to 60 years

**Component Detail Notes:** The need to replace a pool structure depends on the condition of the concrete structure, the condition of the embedded or concealed water circulation piping, possible long term uneven settlement of the structure, and the increasing cost of repair and maintenance. Deterioration of any one of these component systems could result in complete replacement of the pool. For example, deferral of a deteriorated piping system could result in settlement and cracks in the pool structure. This mode of failure is more common as the system ages and deterioration of the piping system goes undetected. For reserve budgeting purposes, we recommend Stonewall plan to replace the following components:

- Concrete deck
- Pool structure
- Subsurface piping and mechanical equipment

**Priority/Criticality:** Defer only upon opinion of independent professional or engineer

**Expenditure Detail Notes:** Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.

## **Reserve Study Update**

An ongoing review by the Board and an Update of this Reserve Study are necessary to ensure an equitable funding plan since a Reserve Study is a snapshot in time. Many variables change after the study is conducted that may result in significant overfunding or underfunding the reserve account. Variables that may affect the Reserve Funding Plan include, but are not limited to:

- Deferred or accelerated capital projects based on Board discretion
- Changes in the interest rates on reserve investments



- Changes in the *local* construction inflation rate
- Additions and deletions to the Reserve Component Inventory
- The presence or absence of maintenance programs
- Unusually mild or extreme weather conditions
- Technological advancements

Periodic updates incorporate these variable changes since the last Reserve Study or Update. We recommend the Board budget for an Update to this Reserve Study every three years. Budgeting for an Update demonstrates the Board's objective to continue fulfilling its fiduciary responsibility to maintain the commonly owned property and to fund reserves appropriately.

## 5. METHODOLOGY

Reserves for replacement are the amounts of money required for future expenditures to repair or replace Reserve Components that wear out before the entire facility or project wears out. Reserving funds for future repair or replacement of the Reserve Components is also one of the most reliable ways of protecting the value of the property's infrastructure and marketability.

Stonewall can fund capital repairs and replacements in any combination of the following:

1. Increases in the operating budget during years when the shortages occur
2. Loans using borrowed capital for major replacement projects
3. Level monthly reserve assessments annually adjusted upward for inflation to increase reserves to fund the expected major future expenditures
4. Special assessments

We do not advocate special assessments or loans unless near term circumstances dictate otherwise. Although loans provide a gradual method of funding a replacement, the costs are higher than if the Association were to accumulate reserves ahead of the actual replacement. Interest earnings on reserves also accumulate in this process of saving or reserving for future replacements, thereby defraying the amount of gradual reserve collections. We advocate the third method of *Level Monthly Reserve Assessments* with relatively minor annual adjustments. The method ensures that Owners pay their "fair share" of the weathering and aging of the commonly owned property each year. Level reserve assessments preserve the property and enhance the resale value of the homes.

This Reserve Study is in compliance with and exceeds the National standards<sup>1</sup> set forth by the Association of Professional Reserve Analysts (APRA) fulfilling the requirements of a "Level I Full Reserve Study." These standards require a Reserve Component to have a "predictable remaining Useful Life." Estimating Remaining Useful Lives and Reserve Expenditures beyond 30 years is often indeterminate. Long-Lived Property Elements are necessarily excluded from this analysis. We considered the following factors in our analysis:

- The Cash Flow Method to compute, project and illustrate the 30-year Reserve Funding Plan
- Local<sup>2</sup> costs of material, equipment and labor
- Current and future costs of replacement for the Reserve Components
- Costs of demolition as part of the cost of replacement
- Local economic conditions and a historical perspective to arrive at our estimate of long-term future inflation for construction costs in Atlanta, Georgia at an annual inflation rate<sup>3</sup>. Isolated or regional markets of

<sup>1</sup> Identified in the APRA "Standards - Terms and Definitions" and the CAI "Terms and Definitions".

<sup>2</sup> See Credentials for additional information on our use of published sources of cost data.

<sup>3</sup> Derived from Marshall & Swift, historical costs and the Bureau of Labor Statistics.



greater construction (development) activity may experience slightly greater rates of inflation for both construction materials and labor.

- The past and current maintenance practices of Stonewall and their effects on remaining useful lives
- Financial information provided by the Association pertaining to the cash status of the reserve fund and budgeted reserve contribution
- The anticipated effects of appreciation of the reserves over time in accord with a return or yield on investment of your cash equivalent assets. (We did not consider the costs, if any, of Federal and State Taxes on income derived from interest and/or dividend income).
- The Funding Plan excludes necessary operating budget expenditures. It is our understanding that future operating budgets will provide for the ongoing normal maintenance of Reserve Components.

Updates to this Reserve Study will continue to monitor historical facts and trends concerning the external market conditions.



## 6. CREDENTIALS

### HISTORY AND DEPTH OF SERVICE

Founded in 1991, Reserve Advisors is the leading provider of reserve studies, insurance appraisals, developer turnover transition studies, expert witness services, and other engineering consulting services. Clients include community associations, resort properties, hotels, clubs, non-profit organizations, apartment building owners, religious and educational institutions, and office/commercial building owners in 48 states, Canada and throughout the world.

The **architectural engineering consulting firm** was formed to take a leadership role in helping fiduciaries, boards, and property managers manage their property like a business with a long-range master plan known as a Reserve Study.

Reserve Advisors employs the **largest staff of Reserve Specialists** with bachelor's degrees in engineering dedicated to Reserve Study services. Our founders are also founders of Community Associations Institute's (CAI) Reserve Committee that developed national standards for reserve study providers. One of our founders is a Past President of the Association of Professional Reserve Analysts (APRA). Our vast experience with a variety of building types and ages, on-site examination and historical analyses are keys to determining accurate remaining useful life estimates of building components.

**No Conflict of Interest** - As consulting specialists, our **independent opinion** eliminates any real or perceived conflict of interest because we do not conduct or manage capital projects.

### TOTAL STAFF INVOLVEMENT

Several staff members participate in each assignment. The responsible advisor involves the staff through a Team Review, exclusive to Reserve Advisors, and by utilizing the experience of other staff members, each of whom has served hundreds of clients. We conduct Team Reviews, an internal quality assurance review of each assignment, including: the inspection; building component costing; lifing; and technical report phases of the assignment. Due to our extensive experience with building components, we do not have a need to utilize subcontractors.

### OUR GOAL

To help our clients fulfill their fiduciary responsibilities to maintain property in good condition.

### VAST EXPERIENCE WITH A VARIETY OF BUILDINGS

Reserve Advisors has conducted reserve studies for a multitude of different communities and building types. We've analyzed thousands of buildings, from as small as a 3,500-square foot day care center to a 2,600,000-square foot 98-story highrise. We also routinely inspect buildings with various types of mechanical systems such as simple electric heat, to complex systems with air handlers, chillers, boilers, elevators, and life safety and security systems.

We're familiar with all types of building exteriors as well. Our well-versed staff regularly identifies optimal repair and replacement solutions for such building exterior surfaces such as adobe, brick, stone, concrete, stucco, EIFS, wood products, stained glass and aluminum siding, and window wall systems.

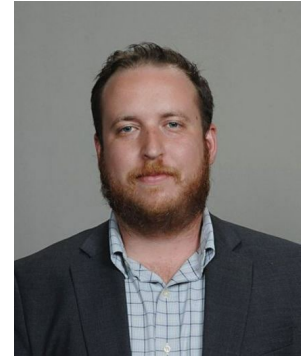
### OLD TO NEW

Reserve Advisors' experience includes ornate and vintage buildings as well as modern structures. Our specialists are no strangers to older buildings. We're accustomed to addressing the unique challenges posed by buildings that date to the 1800's. We recognize and consider the methods of construction employed into our analysis. We recommend appropriate replacement programs that apply cost effective technologies while maintaining a building's character and appeal.

**JEFFREY D. LEWIS, P.E., RS**  
**Responsible Advisor**

**CURRENT CLIENT SERVICES**

Jeffrey “Dylan” Lewis, a Civil Engineer, is an Engineer for Reserve Advisors. Mr. Lewis is responsible for the inspection and analysis of the condition of clients' properties, and recommending engineering solutions to prolong the lives of the components. He also forecasts capital expenditures for the repair and/or replacement of the property components and prepares technical reports on assignments. He is responsible for conducting Life Cycle Cost Analyses and Capital Replacement Forecast services and the preparation of Reserve Study Reports for condominiums, townhomes and homeowner associations.



The following is a partial list of clients served by Dylan Lewis demonstrating his breadth of experiential knowledge of community associations in construction and related buildings systems.

**The Gates at Ansley Homeowners Association, Inc.** - This high end planned unit development located in Charlotte, North Carolina is responsible for the common elements shared by 53 single family homes. Construction of the development began in 2007 and contains asphalt pavement streets, ponds, masonry pavers and entrance monument signage.

**Yellowtop Mountain Property Owners Association** – Settled in the Appalachian Mountains near Bostic, North Carolina, this homeowners association is responsible for the common elements currently shared by 95 single family homes with 269 planned at total buildout. The community infrastructure was built from 2004 to 2009 and contains over ten miles of street networks, storm drainage components and an entry gate with security systems.

**Little Oak Island Community Association** – Located on a small coastal island next to Folly Beach, South Carolina, this homeowners association was established in 1985 and is responsible for the common elements shared by 68 single family homes. The community contains a pool house, pool, asphalt pavement streets, community docks and timber bulkheads.

**Lake Norman Cove at Jetton Owners Association, Inc.** - A townhome style development located on the shoreline of Lake Norman near Charlotte, North Carolina, which consists of 171 units in 32 buildings and was constructed from 2004 to 2007. The buildings are comprised of vinyl siding, masonry siding and asphalt shingle roofs with metal roof accents. The community contains a clubhouse, pool, communal docks, and a storm water detention pond.

**Aston Condominium Association** – Originally built in 1928, this iconic masonry building was converted to condominiums in 2002 and sits in the heart of downtown Asheville, North Carolina. The building includes masonry siding, concrete patios, a rooftop lounge area and an elevator for access to all five floors.

**PRIOR RELEVANT EXPERIENCE**

Before joining Reserve Advisors, Mr. Lewis successfully completed the bachelors program in Civil Engineering at the University of North Carolina at Charlotte with a concentration in land development. In the past, he has worked for multiple engineering companies covering a wide variety of roles and has designed various residential, commercial, and industrial projects across the southeastern United States. Dylan has experience in the design, construction, and management of retention ponds, subsurface utility networks and street systems. He also has experience in the design and implementation of erosion control and storm water management projects.

**EDUCATION**

University of North Carolina at Charlotte - B.S. in Civil Engineering.





**KEARY D. WASS, PE, RS**  
**Regional Quality Assurance Engineer**



**CURRENT CLIENT SERVICES**

Keary D. Wass, a Civil Engineer, is the Director of Product Development for Reserve Advisors. Mr. Wass has been with Reserve Advisors since 2014 and is responsible for the inspection and analysis of the condition of clients' property, and recommending engineering solutions to prolong the lives of the components. He also forecasts capital expenditures for the repair and/or replacement of the property components and prepares technical reports on assignments. He is responsible for conducting Life Cycle Cost Analysis and Capital Replacement Forecast services and the preparation of Reserve Study Reports for apartments, high rises, condominiums, townhomes and homeowners associations. Mr. Wass frequently serves as the Quality Assurance Review Coordinator for all types of developments.

The following is a partial list of clients served by Keary Wass demonstrating his breadth of experiential knowledge of community associations in construction and related buildings systems.

**Frisco Stonewater Crossing Homeowners Association** is a 243 unit homeowners association located in Frisco, Texas. This development boasts an impressive in-ground pool, pool house and large playground. It also has two ponds surrounded by decorative concrete retaining walls.

**1301 Canyon Condominium Association** is a 31 unit mixed use midrise condominium building located in Boulder, Colorado. This building comprises of a shared underground parking structure, hydraulic elevators and building mechanical systems. The Association maintains the common area hallways and flat roof system.

**311 Superior Homeowners' Association** is a 33 unit mixed use midrise condominium building located in Duluth, Minnesota. Located in downtown Duluth, this building comprises of on-grade and elevated parking structures, lobbies, flat roofs, building mechanical systems, elevators and common area hallways.

**Woods at Elk River Station** is a townhome style development comprising of 298 units in 41 buildings located in Elk River, Minnesota. This townhome style development maintains the asphalt shingle roof systems, driveway pavement and siding. Additionally they provide amenities including playground equipment, a community gazebo and a common area pond.

**PRIOR RELEVANT EXPERIENCE**

Before joining Reserve Advisors, Mr. Wass worked as a civil engineer for a construction engineering firm specializing in the repair and construction of underground structures. He was responsible for soil condition analysis, inspection of existing structures, repair and new construction design, and construction oversight of a variety of municipal and private engineering projects. Mr. Wass attended the University of Minnesota in Minneapolis, Minnesota where he attained his Bachelor of Science degree in Civil Engineering. At the University of Minnesota, Mr. Wass performed undergraduate research in the field of non-destructive testing of rigid pavements.

**EDUCATION**

University of Minnesota - B.S. Civil Engineering

**PROFESSIONAL AFFILIATIONS**

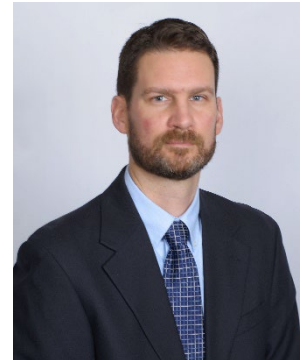
Professional Engineer (PE) - Minnesota Board of Architecture, Engineering, Land Surveying  
Landscape Architecture, Geoscience and Interior Design (AELSLAGID)  
Reserve Specialist (RS) - Community Associations Institute

**ALAN M. EBERT, P.E., PRA, RS**  
**Director of Quality Assurance**

**CURRENT CLIENT SERVICES**

Alan M. Ebert, a Professional Engineer, is the Director of Quality Assurance for Reserve Advisors. Mr. Ebert is responsible for the management, review and quality assurance of reserve studies. In this role, he assumes the responsibility of stringent report review analysis to assure report accuracy and the best solution for Reserve Advisors' clients.

Mr. Ebert has been involved with thousands of Reserve Study assignments. The following is a partial list of clients served by Alan Ebert demonstrating his breadth of experiential knowledge of community associations in construction and related buildings systems.



**Brownsville Winter Haven** Located in Brownsville, Texas, this unique homeowners association contains 525 units. The Association maintains three pools and pool houses, a community and management office, landscape and maintenance equipment, and nine irrigation canals with associated infrastructure.

**Rosemont Condominiums** This unique condominium is located in Alexandria, Virginia and dates to the 1940's. The two mid-rise buildings utilize decorative stone and brick masonry. The development features common interior spaces, multi-level wood balconies and common asphalt parking areas.

**Stillwater Homeowners Association** Located in Naperville, Illinois, Stillwater Homeowners Association maintains four tennis courts, an Olympic sized pool and an upscale ballroom with commercial-grade kitchen. The community also maintains three storm water retention ponds and a detention basin.

**Birchfield Community Services Association** This extensive Association comprises seven separate parcels which include 505 townhome and single family homes. This Community Services Association is located in Mt. Laurel, New Jersey. Three lakes, a pool, a clubhouse and management office, wood carports, aluminum siding, and asphalt shingle roofs are a few of the elements maintained by the Association.

**Oakridge Manor Condominium Association** Located in Londonderry, New Hampshire, this Association includes 104 units at 13 buildings. In addition to extensive roads and parking areas, the Association maintains a large septic system and significant concrete retaining walls.

**Memorial Lofts Homeowners Association** This upscale high rise is located in Houston, Texas. The 20 luxury units include large balconies and decorative interior hallways. The 10-story building utilizes a painted stucco facade and TPO roof, while an on-grade garage serves residents and guests.

**PRIOR RELEVANT EXPERIENCE**

Mr. Ebert earned his Bachelor of Science degree in Geological Engineering from the University of Wisconsin-Madison. His relevant course work includes foundations, retaining walls, and slope stability. Before joining Reserve Advisors, Mr. Ebert was an oilfield engineer and tested and evaluated hundreds of oil and gas wells throughout North America.

**EDUCATION**

University of Wisconsin-Madison - B.S. Geological Engineering

**PROFESSIONAL AFFILIATIONS/DESIGNATIONS**

*Professional Engineering License* – Wisconsin, North Carolina, Illinois, Colorado

*Reserve Specialist (RS)* - Community Associations Institute

*Professional Reserve Analyst (PRA)* - Association of Professional Reserve Analysts



## RESOURCES

Reserve Advisors utilizes numerous resources of national and local data to conduct its Professional Services. A concise list of several of these resources follows:

**Association of Construction Inspectors**, (ACI) the largest professional organization for those involved in construction inspection and construction project management. ACI is also the leading association providing standards, guidelines, regulations, education, training, and professional recognition in a field that has quickly become important procedure for both residential and commercial construction, found on the web at [www.iami.org](http://www.iami.org).

**American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.**, (ASHRAE) the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc., devoted to the arts and sciences of heating, ventilation, air conditioning and refrigeration; recognized as the foremost, authoritative, timely and responsive source of technical and educational information, standards and guidelines, found on the web at [www.ashrae.org](http://www.ashrae.org). Reserve Advisors actively participates in its local chapter and holds individual memberships.

**Community Associations Institute**, (CAI) America's leading advocate for responsible communities noted as the only national organization dedicated to fostering vibrant, responsive, competent community associations. Their mission is to assist community associations in promoting harmony, community, and responsible leadership.

**Marshall & Swift / Boeckh**, (MS/B) the worldwide provider of building cost data, co-sourcing solutions, and estimating technology for the property and casualty insurance industry found on the web at [www.marshallswift.com](http://www.marshallswift.com).

**R.S. Means CostWorks**, North America's leading supplier of construction cost information. As a member of the Construction Market Data Group, Means provides accurate and up-to-date cost information that helps owners, developers, architects, engineers, contractors and others to carefully and precisely project and control the cost of both new building construction and renovation projects found on the web at [www.rsmeans.com](http://www.rsmeans.com).

Reserve Advisors' library of numerous periodicals relating to reserve studies, condition analyses, chapter community associations, and historical costs from thousands of capital repair and replacement projects, and product literature from manufacturers of building products and building systems.



## 7. DEFINITIONS

Definitions are derived from the standards set forth by the Community Associations Institute (CAI) representing America's 305,000 condominium and homeowners associations and cooperatives, and the Association of Professional Reserve Analysts, setting the standards of care for reserve study practitioners.

**Cash Flow Method** - A method of calculating Reserve Contributions where contributions to the reserve fund are designed to offset the variable annual expenditures from the reserve fund. Different Reserve Funding Plans are tested against the anticipated schedule of reserve expenses until the desired funding goal is achieved.

**Component Method** - A method of developing a Reserve Funding Plan with the total contribution is based on the sum of the contributions for individual components.

**Current Cost of Replacement** - That amount required today derived from the quantity of a *Reserve Component* and its unit cost to replace or repair a Reserve Component using the most current technology and construction materials, duplicating the productive utility of the existing property at current *local* market prices for *materials*, *labor* and manufactured equipment, contractors' overhead, profit and fees, but without provisions for building permits, overtime, bonuses for labor or premiums for material and equipment. We include removal and disposal costs where applicable.

**Fully Funded Balance** - The Reserve balance that is in direct proportion to the fraction of life "used up" of the current Repair or Replacement cost similar to Total Accrued Depreciation.

**Funding Goal (Threshold)** - The stated purpose of this Reserve Study is to determine the adequate, not excessive, minimal threshold reserve balances.

**Future Cost of Replacement** - *Reserve Expenditure* derived from the inflated current cost of replacement or current cost of replacement as defined above, with consideration given to the effects of inflation on local market rates for materials, labor and equipment.

**Long-Lived Property Component** - Property component of Stonewall responsibility not likely to require capital repair or replacement during the next 30 years with an unpredictable remaining Useful Life beyond the next 30 years.

**Percent Funded** - The ratio, at a particular point of time (typically the beginning of the Fiscal Year), of the actual (or projected) Reserve Balance to the Fully Funded Balance, expressed as a percentage.

**Remaining Useful Life** - The estimated remaining functional or useful time in years of a *Reserve Component* based on its age, condition and maintenance.

**Reserve Component** - Property elements with: 1) Stonewall responsibility; 2) limited Useful Life expectancies; 3) predictable Remaining Useful Life expectancies; and 4) a replacement cost above a minimum threshold.

**Reserve Component Inventory** - Line Items in *Reserve Expenditures* that identify a *Reserve Component*.

**Reserve Contribution** - An amount of money set aside or *Reserve Assessment* contributed to a *Reserve Fund* for future *Reserve Expenditures* to repair or replace *Reserve Components*.

**Reserve Expenditure** - Future Cost of Replacement of a Reserve Component.

**Reserve Fund Status** - The accumulated amount of reserves in dollars at a given point in time, i.e., at year end.

**Reserve Funding Plan** - The portion of the Reserve Study identifying the *Cash Flow Analysis* and containing the recommended Reserve Contributions and projected annual expenditures, interest earned and reserve balances.

**Reserve Study** - A budget planning tool that identifies the current status of the reserve fund and a stable and equitable Funding Plan to offset the anticipated future major common area expenditures.

**Useful Life** - The anticipated total time in years that a *Reserve Component* is expected to serve its intended function in its present application or installation.



## 8. PROFESSIONAL SERVICE CONDITIONS

**Our Services** - Reserve Advisors, LLC ("RA") performs its services as an independent contractor in accordance with our professional practice standards and its compensation is not contingent upon our conclusions. The purpose of our reserve study is to provide a budget planning tool that identifies the current status of the reserve fund, and an opinion recommending an annual funding plan, to create reserves for anticipated future replacement expenditures of the subject property. The purpose of our energy benchmarking services is to track, collect and summarize the subject property's energy consumption over time for your use in comparison with other buildings of similar size and establishing a performance baseline for your planning of long-term energy efficiency goals.

Our inspection and analysis of the subject property is limited to visual observations, is noninvasive and is not meant to nor does it include investigation into statutory, regulatory or code compliance. RA inspects sloped roofs from the ground and inspects flat roofs where safe access (stairs or ladder permanently attached to the structure) is available. Our energy benchmarking services with respect to the subject property is limited to collecting energy and utility data and summarizing such data in the form of an Energy Star Portfolio Manager Report or any other similar report, and hereby expressly excludes any recommendations with respect to the results of such energy benchmarking services or the accuracy of the energy information obtained from utility companies and other third-party sources with respect to the subject property. The reserve report and any energy benchmarking report (i.e., any Energy Star Portfolio Manager Report) (including any subsequent revisions thereto pursuant to the terms hereof, collectively, the "Report") are based upon a "snapshot in time" at the moment of inspection. RA may note visible physical defects in the Report. The inspection is made by employees generally familiar with real estate and building construction. Except to the extent readily apparent to RA, RA cannot and shall not opine on the structural integrity of or other physical defects in the property under any circumstances. Without limitation to the foregoing, RA cannot and shall not opine on, nor is RA responsible for, the property's conformity to specific governmental code requirements for fire, building, earthquake, occupancy or otherwise.

RA is not responsible for conditions that have changed between the time of inspection and the issuance of the Report. RA does not provide invasive testing on any mechanical systems that provide energy to the property, nor can RA opine on any system components that are not easily accessible during the inspection. RA does not investigate, nor assume any responsibility for any existence or impact of any hazardous materials, such as asbestos, urea-formaldehyde foam insulation, other chemicals, toxic wastes, environmental mold or other potentially hazardous materials or structural defects that are latent or hidden defects which may or may not be present on or within the property. RA does not make any soil analysis or geological study as part of its services, nor does RA investigate vapor, water, oil, gas, coal, or other subsurface mineral and use rights or such hidden conditions, and RA assumes no responsibility for any such conditions. The Report contains opinions of estimated replacement costs or deferred maintenance expenses and remaining useful lives, which are neither a guarantee of the actual costs or expenses of replacement or deferred maintenance nor a guarantee of remaining useful lives of any property element.

RA assumes, without independent verification, the accuracy of all data provided to it. Except to the extent resulting from RA's willful misconduct in connection with the performance of its obligations under this agreement, you agree to indemnify, defend, and hold RA and its affiliates, officers, managers, employees, agents, successors and assigns (each, an "RA Party") harmless from and against (and promptly reimburse each RA Party for) any and all losses, claims, actions, demands, judgments, orders, damages, expenses or liabilities, including, without limitation, reasonable attorneys' fees, asserted against or to which any RA Party may become subject in connection with this engagement, including, without limitation, as a result of any false, misleading or incomplete information which RA relied upon that was supplied by you or others under your direction, or which may result from any improper use or reliance on the Report by you or third parties under your control or direction or to whom you provided the Report. NOTWITHSTANDING ANY OTHER PROVISION HEREIN TO THE CONTRARY, THE AGGREGATE LIABILITY (IF ANY) OF RA WITH RESPECT TO THIS AGREEMENT AND RA'S OBLIGATIONS HEREUNDER IS LIMITED TO THE AMOUNT OF THE FEES ACTUALLY RECEIVED BY RA FROM YOU FOR THE SERVICES AND REPORT PERFORMED BY RA UNDER THIS AGREEMENT, WHETHER ARISING IN CONTRACT, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY OR OTHERWISE. YOUR REMEDIES SET FORTH HEREIN ARE EXCLUSIVE AND ARE YOUR SOLE REMEDIES FOR ANY FAILURE OF RA TO COMPLY WITH ITS OBLIGATIONS HEREUNDER OR OTHERWISE. RA SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, CONSEQUENTIAL, PUNITIVE OR EXEMPLARY DAMAGES OF ANY KIND, INCLUDING, BUT NOT LIMITED TO, ANY LOST PROFITS AND LOST SAVINGS, LOSS OF USE OR INTERRUPTION OF BUSINESS, HOWEVER CAUSED, WHETHER ARISING IN CONTRACT, TORT (INCLUDING NEGLIGENCE), BREACH OF WARRANTY, STRICT LIABILITY OR OTHERWISE, EVEN IF RA HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN NO EVENT WILL RA BE LIABLE FOR THE COST OF PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES. RA DISCLAIMS ALL REPRESENTATIONS AND WARRANTIES WHATSOEVER, EXPRESS OR IMPLIED OR OF ANY NATURE, WITH REGARD TO THE SERVICES AND THE REPORT, INCLUDING, WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

**Report** - RA will complete the services in accordance with the Proposal. The Report represents a valid opinion of RA's findings and recommendations with respect to the reserve study and is deemed complete. RA will consider any additional information made available to RA within 6 months of issuing the Report and issue a revised Report based on such additional information if a timely request for a revised Report is made by you. RA retains the right to withhold a revised Report if payment for services was not tendered in a timely manner. All information received by RA and all files, work papers or documents developed by RA during the course of the engagement shall remain the property of



RA and may be used for whatever purpose it sees fit. RA reserves the right to, and you acknowledge and agree that RA may, use any data provided by you in connection with the services, or gathered as a result of providing such services, including in connection with creating and issuing any Report, in a de-identified and aggregated form for RA's business purposes.

**Your Obligations** - You agree to provide us access to the subject property for an inspection. You agree to provide RA all available, historical and budgetary information, the governing documents, and other information that we request and deem necessary to complete the Report. Additionally, you agree to provide historical replacement schedules, utility bills and historical energy usage files that RA requests and deems necessary to complete the energy benchmarking services, and you agree to provide any utility release(s) reasonably requested by RA permitting RA to obtain any such data and/or information from any utility representative or other third party. You agree to pay actual attorneys' fees and any other costs incurred to collect on any unpaid balance for RA's services.

**Use of Our Report and Your Name** - Use of the Report is limited to only the purpose stated herein. You acknowledge that RA is the exclusive owner of all intellectual property rights in and relating to the Report. You hereby acknowledge that any use or reliance by you on the Report for any unauthorized purpose is at your own risk and that you will be liable for the consequences of any unauthorized use or distribution of the Report. Use or possession of the Report by any unauthorized third party is prohibited. The Report in whole or in part **is not and cannot be used as a design specification for design engineering purposes or as an appraisal**. You may show the Report in its entirety to the following third parties: members of your organization (including your directors, officers, tenants and prospective purchasers), your accountants, attorneys, financial institutions and property managers who need to review the information contained herein, and any other third party who has a right to inspect the Report under applicable law including, but not limited to, any government entity or agency, or any utility companies. Without the written consent of RA, you shall not disclose the Report to any other third party. By engaging our services, you agree that the Report contains intellectual property developed (and owned solely) by RA and agree that you will not reproduce or distribute the Report **to any party that conducts reserve studies without the written consent of RA**.

RA will include (and you hereby agree that RA may include) your name in our client lists. RA reserves the right to use (and you hereby agree that RA may use) property information to obtain estimates of replacement costs, useful life of property elements or otherwise as RA, in its sole discretion, deems appropriate.

**Payment Terms, Due Dates and Interest Charges** - If reserve study and energy benchmarking services are performed by RA, then the retainer payment is due upon execution of this agreement and prior to the inspection by RA, and any balance is due net 30 days from the Report shipment date. If only energy benchmarking services are performed by RA, then the retainer payment is due upon execution of this agreement and any balance is due net 30 days from the Report shipment date. In any case, any balance remaining 30 days after delivery of the Report shall accrue an interest charge of 1.5% per month. Unless this agreement is earlier terminated by RA in the event you breach or otherwise fail to comply with your obligations under this agreement, RA's obligations under this agreement shall commence on the date you execute and deliver this agreement and terminate on the date that is 6 months from the date of delivery of the Report by RA. Notwithstanding anything herein to the contrary, each provision that by its context and nature should survive the expiration or early termination of this agreement shall so survive, including, without limitation, any provisions with respect to payment, intellectual property rights, limitations of liability and governing law. We reserve the right to limit or decline refunds in our sole discretion. Refunds vary based on the applicable facts and circumstances.

**Miscellaneous** – Neither party shall be liable for any failures or delays in performance due to fire, flood, strike or other labor difficulty, act of God, act of any governmental authority, riot, embargo, fuel or energy shortage, pandemic, wrecks or delays in transportation, or due to any other cause beyond such party's reasonable control; provided, however, that you shall not be relieved from your obligations to make any payment(s) to RA as and when due hereunder. In the event of a delay in performance due to any such cause, the time for completion or date of delivery will be extended by a period of time reasonably necessary to overcome the effect of such delay. You may not assign or otherwise transfer this agreement, in whole or in part, without the prior written consent of RA. RA may freely assign or otherwise transfer this agreement, in whole or in part, without your prior consent. This agreement shall be governed by the laws of the State of Wisconsin without regard to any principles of conflicts of law that would apply the laws of another jurisdiction. Any dispute with respect to this agreement shall be exclusively venued in Milwaukee County Circuit Court or in the United States District Court for the Eastern District of Wisconsin. Each party hereto agrees and hereby waives the right to a trial by jury in any action, proceeding or claim brought by or on behalf of the parties hereto with respect to any matter related to this agreement.