

# WEHOA Reserve Study

## Final Report

20 Aug 2023

# Table of Contents

*Wateredge Estates Homeowners Association, Inc.*

<b>Background</b>	p.3
<b>Physical Analysis</b>	p.6
<b>Financial Analysis</b>	p.14
Fiscal Situation	p.18
Methodology & Assumptions	p.21
Replace All Scenario Results	p.26
Repair or Replace Scenario Results	p.32
Insights	p.38

# Guidelines for the Development of Reserve Studies

*Wateredge Estates Homeowners Association, Inc.*

- Guideline published by Virginia Dept. of Professional and Occupational Regulation, Common Interest Community Board in 2019
- Purpose – To provide guidance to those who manage owners' associations that are responsible for upkeep of common property
  - Defines Capital Components as real items that the association is obligated to maintain, repair, or replace
  - Specifies requirement to conduct Reserve Study
  - Discusses need to establish a Reserve Fund
  - Does not prescribe or regulate how to conduct Reserve Study or determine adequate funding for Reserve Fund

**Reserve Study required by Virginia Law**

# Definitions

*Wateredge Estates Homeowners Association, Inc.*

- Capital Components – items that the association is obligated to maintain, repair, and replace
  - WEHOA Components: e.g., fencing, signs, stone wall at entrance, etc.
- Reserve Study – study conducted to determine necessity and amount of reserves required to repair, replace, and restore capital components
  - Conduct at least once every 5 years
  - Review at least annually to determine if reserves are adequate
- Reserve Fund – funds in reserve set aside for the dedicated purpose of paying for cost to repair and replace capital components
  - Guard against financial shock when repair or replacement is needed
  - Reduce need to impose special assessments on members
  - Separate from operating funds

# Reserve Study – Two Components

*Wateredge Estates Homeowners Association, Inc.*

- Physical Analysis
  - Identify components and specify quantities
  - Inspect components
  - Determine useful life and assess remaining life / replacement year
  - Determine cost of replacement
- Financial Analysis
  - Determine funding goal
  - Calculate replacement fund liability
  - Project reserve fund income & expenditures over timeframe
  - Finalize Reserve Study to inform association budget

*“Communities operating without a reserve study are not in compliance with Virginia Law”*

# WEHOA Reserve Study

## Physical Analysis

# Physical Analysis Steps

*Wateredge Estates Homeowners Association, Inc.*

1. Identify component
2. Specify quantities
3. Inspect components
4. Determine useful life
5. Assess remaining life
6. Determine cost of replacement (current year \$)

Guidelines for the Development of Reserve Studies (5 Sep 2019)

# WEHOA Capital Components

*Wateredge Estates Homeowners Association, Inc.*

- Fences – white polyvinyl, crossbuck style fencing, 4ft tall

- |                             |          |
|-----------------------------|----------|
| 1. Abel Dr. NE corner       | 105.5 ft |
| 2. Abel Dr. SW corner       | 114.0 ft |
| 3. Mintleaf St. NE corner   | 60.5 ft  |
| 4. Mintleaf St. SW corner   | 60.5 ft  |
| 5. Fire Trail Ln. NE corner | 38.0 ft  |

Total Fencing ~380 ft
--------------------------

- Signs

- |                           |                                 |
|---------------------------|---------------------------------|
| 1. Abel Dr. SW corner     | 9'11" long x 5'9" high at crest |
| 2. Mintleaf St. NE corner | 6' long x 3'5" high at crest    |

- Stone Walls - Abel Dr. SW corner

- Two 14' long walls leading to pillars (36" x 22") on either side of sign
  - Walls slope gradually up toward sign with a 12" cap on top
- One low curved wall in front ~22' long x ~24" at highest point w/ 13" overhanging cap



# Fences

*Wateredge Estates Homeowners Association, Inc.*



- Date Installed: Sep 2000
- Original Cost: \$3502
- Age: 23 Years
- Expected Life: 30<sup>\*2</sup> – 100<sup>\*1</sup> years
- Remaining Life: 7 – 93 years
- Refurbish Cost \$1600<sup>\*4</sup>
- Replacement Cost: \$16,500<sup>\*3</sup>

Condition: Good

Repairs Needed: : Replace cracked post cap & hole on Fire Trail Ln; small hole on SW Abel

Comments: Requires quick cleaning at least annually

\*1 International Assoc of Certified Home Inspectors (IACHI)

\*2 Maintenance-Free Outdoor Solutions (MFOS)

\*3 Dan Dale Fence Estimate March 2023

\*4 Estimate replacing 32 ft x \$50 per ft, only as necessary

# Sign – Abel Dr.

*Wateredge Estates Homeowners Association, Inc.*



- Date Installed: Jul 2017
- Original Cost: \$3851\*<sup>7</sup>
- Age: 6 Years
- Expected Life: 5\*<sup>5</sup> years
- Date Refurbished: Apr 2023 at cost of \$3000\*<sup>8</sup>
- Remaining Life: 3\*<sup>6</sup> years
- Replacement Cost: \$9000\*<sup>9</sup>

Condition: Good, due to recent repairs

Repairs Needed: Small hole

Comments: Persistent problem, original materials below standard

\*5 Augusta Sign Company web site

\*6 Rough estimate based on recent refurbishment

\*7 75% of \$5134 original cost for both Mintleaf & Abel signs

\*8 75% of \$4000 repair cost for both Mintleaf & Abel signs

\*9 Sign Enterprise Estimate (w/ 5yr warranty) May 2023

# Sign - Mintleaf St.

*Wateredge Estates Homeowners Association, Inc.*



- Date Installed: Jul 2017
- Original Cost: \$1283<sup>\*7</sup>
- Age: 6 Years
- Expected Life: 5<sup>\*5</sup> years
- Date Refurbished: Apr 2023 at cost of \$1000<sup>\*8</sup>
- Remaining Life: 3<sup>\*6</sup> years
- Replacement Cost: \$4735<sup>\*9</sup>

Condition: Good, due to recent repairs

Repairs Needed: Recommend cutting off long screws in back

Comments: Persistent problem, original materials below standard

\*5 Augusta Sign Company web site

\*6 Rough estimate based on recent refurbishment

\*7 25% of \$5134 original cost for both Mintleaf & Abel signs

\*8 25% of \$4000 repair cost for both Mintleaf & Abel signs

\*9 Sign Enterprise Estimate (w/ 5yr warranty) May 2023

# Stone Walls

*Wateredge Estates Homeowners Association, Inc.*



- Date Installed: 1990
- Original Cost: Unknown, built by developer
- Age: 32 Years
- Expected Life: 25<sup>\*1</sup> years
- Date Refurbished: Apr 2023 at cost of \$3410
- Remaining Life: 12<sup>\*10</sup> years
- Replacement Cost: \$26,000<sup>\*11</sup>

Condition: Excellent

Repairs Needed: None – wall restored

Comments: Repairs look great and should last for several years

\*1 International Assoc of Certified Home Inspectors (IACHI)

\*10 Rough estimate, half of expected life when new

\*11 V Lee Enterprises rough estimate

# Physical Analysis Summary

*Wateredge Estates Homeowners Association, Inc.*

<b>Component</b>	<b>Date Installed</b>	<b>Original Cost</b>	<b>Refurbish Cost</b>	<b>Age (years)</b>	<b>Expected Life (years)</b>	<b>Remaining Life (years)</b>	<b>Replacement Cost</b>
<b>Polyvinyl Fences</b>	9/1/2000	\$3,502	\$1,600	23	30 - 100	7 - 93	\$16,500
<b>Sign - Abel Dr.</b>	7/1/2017	\$3,851	\$3,000	6	5	3	\$9,000
<b>Sign - Mintleaf St.</b>	7/1/2017	\$1,283	\$1,000	6	5	3	\$4,735
<b>Stone Walls</b>	1990	Unknown	\$3,410	32	25	12	\$26,000

Total Replacement Cost for all components \$56,235

# WEHOA Reserve Study

## Financial Analysis

# Financial Analysis Goals

*Wateredge Estates Homeowners Association, Inc.*

- Establish funding goals
- Identify annual funding requirements
- Disclose limitations and assumptions
- Develop a funding plan

Guidelines for the Development of Reserve Studies (5 Sep 2019)

# Financial Analysis Steps

*Wateredge Estates Homeowners Association, Inc.*

1. Obtain component information (from Physical Analysis)
2. Determine funding goal
3. Calculate Reserve Fund liabilities
4. Identify Reserve Fund account assets (cash balances)
5. Estimate annual association Reserve Fund income
6. Project expenditures and Reserve Fund needs
7. Identify limitations and assumptions
8. Disclose Reserve Study information to inform budget

Guidelines for the Development of Reserve Studies (5 Sep 2019)



# WEHOA Goals

*Wateredge Estates Homeowners Association, Inc.*

- Comply with state law and guidelines
- Inform entire community of our fiscal situation
- Establish and maintain a sufficient Reserve Fund for capital components (i.e., signs, stone walls, fences)
- Complete a valid, transparent, and repeatable Reserve Study
- Inform budget planning for 2024
- Improve long-range planning processes w/in HOA

Provide a sound fiscal foundation for our community

# WEHOA Fiscal Summary 2019-2023

*Wateredge Estates Homeowners Association, Inc.*

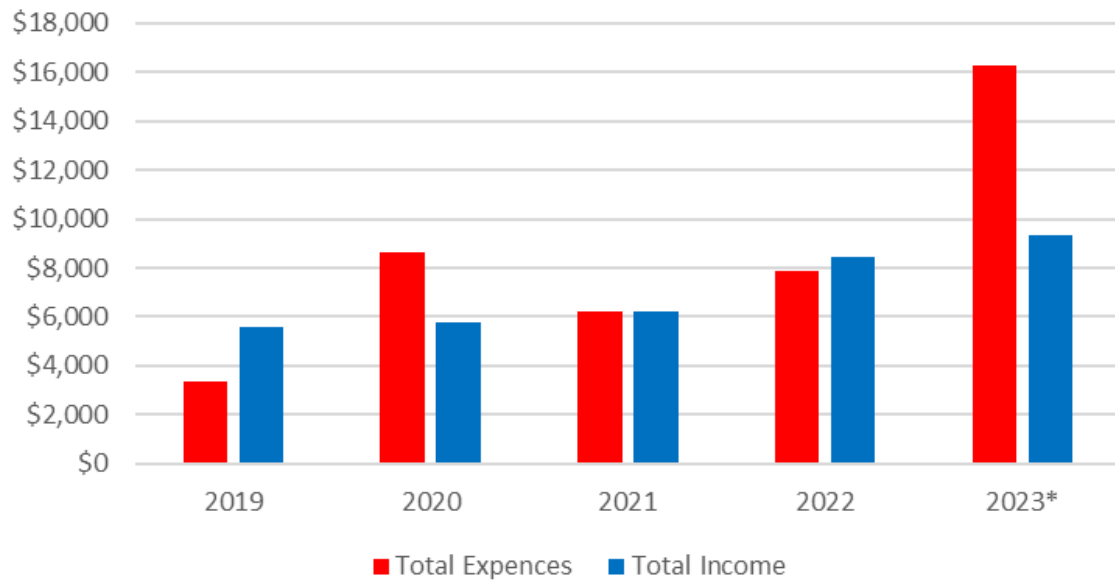
<b>Year</b>	<b>End Year Total Balance</b>	<b>Total Expenses</b>	<b>Total Income</b>	<b>Dues Per Lot</b>
<b>2019</b>	\$13,699	\$3,337	\$5,600	\$100
<b>2020</b>	\$10,831	\$8,619	\$5,750	\$100
<b>2021</b>	\$10,815	\$6,223	\$6,206	\$110
<b>2022</b>	\$11,398	\$7,867	\$8,451	\$150
<b>2023*</b>	\$4,448	\$16,295	\$9,345	\$165

\* 2023 estimated end of year data

# WEHOA Fiscal Summary 2019-2023

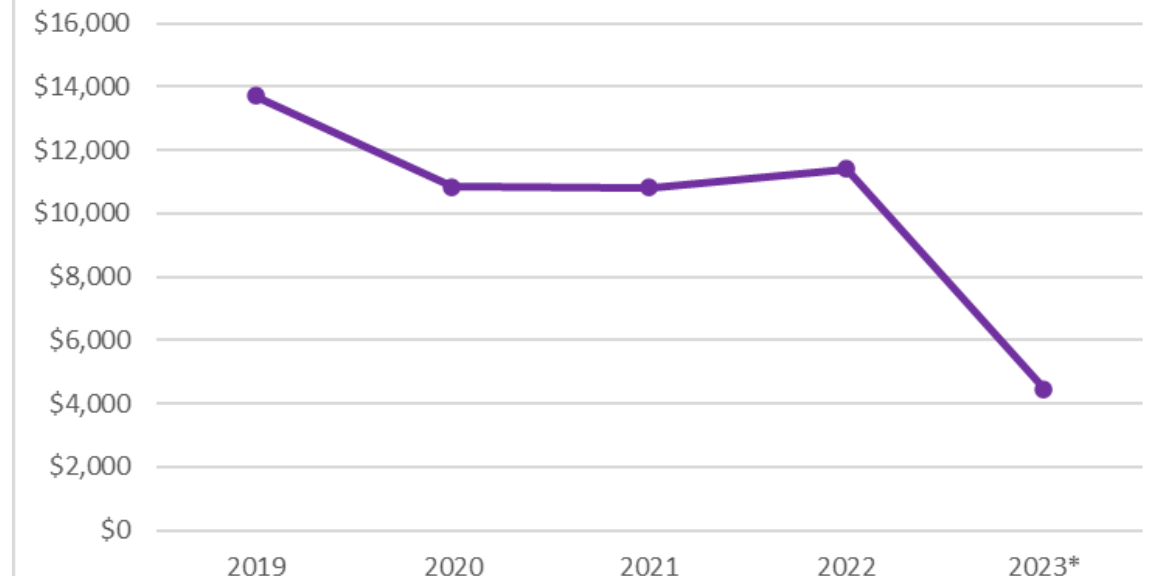
*Wateredge Estates Homeowners Association, Inc.*

Expenses vs. Income



- 2023 expenses significantly higher; includes \$1068 of FY22 expenses paid in FY23 & major repairs
- Projected FY23 end of year balance drops to \$4448

End Year Balance



\* 2023 estimated end of year data

# WEHOA Expenses 2021-2023

*Wateredge Estates Homeowners Association, Inc.*

	Operating Expenses	Capital Expenses
2021	\$6,223	\$0
2022	\$7,867	\$0
2023*	\$8,899	\$7,396

\* 2023 estimated end of year data

- Operating expenses include: activities, landscaping, insurance, IT, audit, fees, donations, taxes, misc. expenses
- Effects of inflation are apparent over recent years
- FY22-23 Ave Operating Expenses \$8,383
- Wall and sign repairs significant expenses in 2023, totaling \$7,396 - result of aging components and substandard sign materials

Capital Expenses (Reserve Fund)	2021	2022	2023
Fences	\$0	\$0	\$0
Signs	\$0	\$0	\$3,986
Stone Walls	\$0	\$0	\$3,410
Total	\$0	\$0	\$7,396

# Financial Analysis Methodology

*Wateredge Estates Homeowners Association, Inc.*

- Timeframe lasting 24 years from 2024 through 2047
- Develop deterministic cash-flow model in Excel
- Data sources are Physical Analysis and Treasurer reports & estimates
- Consider revenues only from dues levied on the 56 lots in our community
- Scenarios
  - A. Replace All (Worst Case) – replace all components at end of remaining life
  - B. Repair or Replace (Best Case) – repair walls and fences as needed; replace signs
- Goals
  - Initially, keep Reserve Fund balance above \$0 every year, and gradually establish a cushion for “rainy days”, ... or years
  - Always maintain Operating Reserves equal to 40% of projected annual operating expenses

# Funding Options

*Wateredge Estates Homeowners Association, Inc.*

1. Fix Dues at \$165 each year
2. Increase Dues 10% each year
3. Tailored Option to illustrate one feasible option (there exist infinite feasible options)
4. BOD Directed Option - \$135 Assessment in 2024
5. BOD Directed Option - \$ 65 Assessment in 2027

**Examine various revenue options in each scenario**

# Constraints & Limitations

*Wateredge Estates Homeowners Association, Inc.*

## Constraints

- Need to complete study by 1 Oct to inform 2024 budget planning

## Limitations

- Bylaws require 2/3 vote of quorum (60% of lots) to approve assessment or increase of dues greater than 10%
- Projected WEHOA fund balances total \$4,448 at end of FY23

# Assumptions

*Wateredge Estates Homeowners Association, Inc.*

- Ave annual inflation rate is 3%
- \$1,000 allocated to establish Reserve Fund at the end of FY23
- \$3400 allocated to Operating Reserves available to fund initial operating expenses at the start of FY24
- Landscaping maintenance and replacement are operating expenses
- Cost estimates and remaining life data from Physical Analysis are adequate
- When signs are replaced, the new signs will be higher quality & last for 8 years
- Only income from dues will be considered; other income sources are negligible
- Dues are received from all 56 lots every year



# Inflation Table at 3%

*Wateredge Estates Homeowners Association, Inc.*

Year	Fences		Sign - Abel Dr.		Sign - Mintleaf St.		Stone Walls		Operating Costs \$	
	Refurbish \$	Replace \$	Refurbish \$	Replace \$	Refurbish \$	Replace \$	Refurbish \$	Replace \$		
<b>Current Value</b>	2023	\$1,600	\$16,500	\$3,000	\$9,000	\$1,000	\$4,735	\$3,410	\$26,000	\$8,400
1	2024	\$1,648	\$16,995	\$3,090	\$9,270	\$1,030	\$4,877	\$3,512	\$26,780	\$8,652
2	2025	\$1,697	\$17,505	\$3,183	\$9,548	\$1,061	\$5,023	\$3,618	\$27,583	\$8,912
3	2026	\$1,748	\$18,030	\$3,278	\$9,835	\$1,093	\$5,174	\$3,726	\$28,411	\$9,179
4	2027	\$1,801	\$18,571	\$3,377	\$10,130	\$1,126	\$5,329	\$3,838	\$29,263	\$9,454
5	2028	\$1,855	\$19,128	\$3,478	\$10,433	\$1,159	\$5,489	\$3,953	\$30,141	\$9,738
6	2029	\$1,910	\$19,702	\$3,582	\$10,746	\$1,194	\$5,654	\$4,072	\$31,045	\$10,030
7	2030	\$1,968	\$20,293	\$3,690	\$11,069	\$1,230	\$5,823	\$4,194	\$31,977	\$10,331
8	2031	\$2,027	\$20,902	\$3,800	\$11,401	\$1,267	\$5,998	\$4,320	\$32,936	\$10,641
9	2032	\$2,088	\$21,529	\$3,914	\$11,743	\$1,305	\$6,178	\$4,449	\$33,924	\$10,960
10	2033	\$2,150	\$22,175	\$4,032	\$12,095	\$1,344	\$6,363	\$4,583	\$34,942	\$11,289
11	2034	\$2,215	\$22,840	\$4,153	\$12,458	\$1,384	\$6,554	\$4,720	\$35,990	\$11,628
12	2035	\$2,281	\$23,525	\$4,277	\$12,832	\$1,426	\$6,751	\$4,862	\$37,070	\$11,976
13	2036	\$2,350	\$24,231	\$4,406	\$13,217	\$1,469	\$6,954	\$5,008	\$38,182	\$12,336
14	2037	\$2,420	\$24,958	\$4,538	\$13,613	\$1,513	\$7,162	\$5,158	\$39,327	\$12,706
15	2038	\$2,493	\$25,706	\$4,674	\$14,022	\$1,558	\$7,377	\$5,313	\$40,507	\$13,087
16	2039	\$2,568	\$26,478	\$4,814	\$14,442	\$1,605	\$7,598	\$5,472	\$41,722	\$13,480
17	2040	\$2,645	\$27,272	\$4,959	\$14,876	\$1,653	\$7,826	\$5,636	\$42,974	\$13,884
18	2041	\$2,724	\$28,090	\$5,107	\$15,322	\$1,702	\$8,061	\$5,805	\$44,263	\$14,300
19	2042	\$2,806	\$28,933	\$5,261	\$15,782	\$1,754	\$8,303	\$5,979	\$45,591	\$14,729
20	2043	\$2,890	\$29,801	\$5,418	\$16,255	\$1,806	\$8,552	\$6,159	\$46,959	\$15,171
21	2044	\$2,976	\$30,695	\$5,581	\$16,743	\$1,860	\$8,808	\$6,344	\$48,368	\$15,626
22	2045	\$3,066	\$31,616	\$5,748	\$17,245	\$1,916	\$9,073	\$6,534	\$49,819	\$16,095
23	2046	\$3,158	\$32,564	\$5,921	\$17,762	\$1,974	\$9,345	\$6,730	\$51,313	\$16,578
24	2047	\$3,252	\$33,541	\$6,098	\$18,295	\$2,033	\$9,625	\$6,932	\$52,853	\$17,075

Note that costs double in 24 years at 3% inflation

# A. Replace All Scenario - Projected Expenses

*Wateredge Estates Homeowners Association, Inc.*

Year	Fences Cost \$	Sign-Abel Cost \$	Sign-Mint Cost \$	Walls Cost \$	Reserve Costs \$	Operating Costs \$	Operating Reserve	Operating Allot
<b>Current Values</b>								
2023	\$0	\$0	\$0	\$0	\$0	\$8,400	\$3,400	\$0
1 2024					\$0	\$8,652	\$3,461	\$61
2 2025					\$0	\$8,912	\$3,565	\$104
3 2026		\$9,835	\$5,174		\$15,009	\$9,179	\$3,672	\$107
4 2027					\$0	\$9,454	\$3,782	\$110
5 2028					\$0	\$9,738	\$3,895	\$113
6 2029					\$0	\$10,030	\$4,012	\$117
7 2030	\$20,293				\$20,293	\$10,331	\$4,132	\$120
8 2031					\$0	\$10,641	\$4,256	\$124
9 2032					\$0	\$10,960	\$4,384	\$128
10 2033					\$0	\$11,289	\$4,516	\$132
11 2034		\$12,458	\$6,554		\$19,012	\$11,628	\$4,651	\$135
12 2035				\$37,070	\$37,070	\$11,976	\$4,791	\$140
13 2036					\$0	\$12,336	\$4,934	\$144
14 2037					\$0	\$12,706	\$5,082	\$148
15 2038					\$0	\$13,087	\$5,235	\$152
16 2039					\$0	\$13,480	\$5,392	\$157
17 2040					\$0	\$13,884	\$5,554	\$162
18 2041					\$0	\$14,300	\$5,720	\$167
19 2042		\$15,782	\$8,303		\$24,084	\$14,729	\$5,892	\$172
20 2043					\$0	\$15,171	\$6,069	\$177
21 2044					\$0	\$15,626	\$6,251	\$182
22 2045					\$0	\$16,095	\$6,438	\$188
23 2046					\$0	\$16,578	\$6,631	\$193
24 2047				\$52,853	\$52,853	\$17,075	\$6,830	\$199

- All components replaced at end of estimated remaining life
- Need \$15K in 2026 to replace signs
- Assume replacement signs are high quality and will last 8 years
- Need \$19K to replace signs again in 2034 and another \$37K to replace walls the next year in 2035
- Total cost to Reserve Fund is \$168,321 over 24 years to replace all components

# Replace All Scenario – Fix dues at \$165 Option (A1)

*Wateredge Estates Homeowners Association, Inc.*

		Fix Dues = \$165		
	Year	Annual Revenue	Reserve Allot	Reserve Balance
Current Values	2023	\$9,240	\$1,000	\$1,000
1	2024	\$9,240	\$527	\$1,527
2	2025	\$9,240	\$225	\$1,752
3	2026	\$9,240	(\$46)	(\$13,303)
4	2027	\$9,240	(\$324)	(\$13,627)
5	2028	\$9,240	(\$611)	(\$14,238)
6	2029	\$9,240	(\$907)	(\$15,145)
7	2030	\$9,240	(\$1,211)	(\$36,650)
8	2031	\$9,240	(\$1,525)	(\$38,174)
9	2032	\$9,240	(\$1,848)	(\$40,022)
10	2033	\$9,240	(\$2,180)	(\$42,203)
11	2034	\$9,240	(\$2,523)	(\$63,738)
12	2035	\$9,240	(\$2,876)	(\$103,684)
13	2036	\$9,240	(\$3,239)	(\$106,923)
14	2037	\$9,240	(\$3,614)	(\$110,537)
15	2038	\$9,240	(\$3,999)	(\$114,536)
16	2039	\$9,240	(\$4,397)	(\$118,933)
17	2040	\$9,240	(\$4,806)	(\$123,739)
18	2041	\$9,240	(\$5,227)	(\$128,966)
19	2042	\$9,240	(\$5,661)	(\$158,711)
20	2043	\$9,240	(\$6,108)	(\$164,819)
21	2044	\$9,240	(\$6,569)	(\$171,388)
22	2045	\$9,240	(\$7,043)	(\$178,430)
23	2046	\$9,240	(\$7,531)	(\$185,962)
24	2047	\$9,240	(\$8,034)	(\$246,849)

## Results:

- Reserve fund goes negative in 2026
- Cannot afford to replace signs in 2026
- Operating expenses exceed revenues in 2027

**Option Not Feasible**

# Replace All Scenario – Increase dues 10% Option (A2)

*Wateredge Estates Homeowners Association, Inc.*

Year	Increase Dues			10%	
	Annual Revenue	Annual Dues	Reserve Allot	Reserve Balance	
Current Values	2023	\$9,240	\$165	\$1,000	\$1,000
1	2024	\$10,164	\$182	\$1,451	\$2,451
2	2025	\$11,180	\$200	\$2,165	\$4,616
3	2026	\$12,298	\$220	\$3,013	(\$7,380)
4	2027	\$13,528	\$242	\$3,964	(\$3,416)
5	2028	\$14,881	\$266	\$5,030	\$1,614
6	2029	\$16,369	\$292	\$6,222	\$7,836
7	2030	\$18,006	\$322	\$7,555	(\$4,902)
8	2031	\$19,807	\$354	\$9,042	\$4,140
9	2032	\$21,787	\$389	\$10,700	\$14,840
10	2033	\$23,966	\$428	\$12,546	\$27,385
11	2034	\$26,363	\$471	\$14,600	\$22,973
12	2035	\$28,999	\$518	\$16,883	\$2,786
13	2036	\$31,899	\$570	\$19,420	\$22,206
14	2037	\$35,089	\$627	\$22,235	\$44,441
15	2038	\$38,598	\$689	\$25,358	\$69,799
16	2039	\$42,458	\$758	\$28,821	\$98,620
17	2040	\$46,703	\$834	\$32,658	\$131,278
18	2041	\$51,374	\$917	\$36,907	\$168,184
19	2042	\$56,511	\$1,009	\$41,610	\$185,710
20	2043	\$62,162	\$1,110	\$46,814	\$232,524
21	2044	\$68,378	\$1,221	\$52,570	\$285,094
22	2045	\$75,216	\$1,343	\$58,933	\$344,027
23	2046	\$82,738	\$1,477	\$65,966	\$409,994
24	2047	\$91,012	\$1,625	\$73,737	\$430,878

## Results:

- Still cannot afford to replace signs in 2026, but much closer to the mark
- Lack funds to replace fences in 2030
- Dues become extremely high after 12 years, generating unnecessary revenue and excessive balances

Close to being Feasible, but undesirable in later years

# Replace All Scenario – Tailored Option (A3)

*Wateredge Estates Homeowners Association, Inc.*

		Tailored Option			
	Year	Annual Revenue	Annual Dues	Reserve Allot	Reserve Balance
<b>Current Values</b>	2023	\$9,240	\$165	\$1,000	\$1,000
1	2024	\$10,164	\$182	\$1,451	\$2,451
2	2025	\$11,180	\$200	\$2,165	\$4,616
3	2026	\$12,298	\$220	\$3,013	\$7,629
4	2027	\$13,528	\$242	\$3,964	\$11,593
5	2028	\$14,881	\$266	\$5,030	\$1,614
6	2029	\$16,369	\$292	\$6,222	\$7,836
7	2030	\$18,006	\$322	\$7,555	\$15,391
8	2031	\$19,807	\$354	\$9,042	\$4,140
9	2032	\$21,787	\$389	\$10,700	\$14,840
10	2033	\$23,966	\$428	\$12,546	\$27,385
11	2034	\$26,363	\$471	\$14,600	\$22,973
12	2035	\$28,999	\$518	\$16,883	\$2,786
13	2036	\$21,787	\$389	\$9,308	\$12,094
14	2037	\$21,787	\$389	\$8,934	\$21,028
15	2038	\$21,787	\$389	\$8,548	\$29,576
16	2039	\$21,787	\$389	\$8,151	\$37,727
17	2040	\$21,787	\$389	\$7,742	\$45,468
18	2041	\$21,787	\$389	\$7,320	\$52,789
19	2042	\$21,787	\$389	\$6,886	\$35,591
20	2043	\$21,787	\$389	\$6,439	\$42,030
21	2044	\$21,787	\$389	\$5,979	\$48,009
22	2045	\$21,787	\$389	\$5,505	\$53,514
23	2046	\$21,787	\$389	\$5,016	\$58,530
24	2047	\$21,787	\$389	\$4,513	\$10,190

## Results:

- Increased dues 10% a year for 12 years to \$518 in 2035
- Dues reduced to \$389 for next 12 years thru 2047 while maintaining adequate reserves
- Delayed replacing signs by 2 year until 2028
- Delayed replacing fences by 1 year until 2031

This is just one of many feasible options

# Replace All Scenario – Assessment 2024 (A4)

*Wateredge Estates Homeowners Association, Inc.*

		BOD Option 1 - Assessment in 2024				
Year		Dues	Annual		Reserve	Reserve
		Revenue	Dues	Assess	Allot	Balance
Current Values	2023	\$9,240	\$165	\$0	\$1,000	\$1,000
1	2024	\$10,164	\$182	\$135	\$1,451	\$10,011
2	2025	\$11,180	\$200	\$0	\$2,165	\$12,176
3	2026	\$12,298	\$220	\$0	\$3,013	\$180
4	2027	\$13,528	\$242	\$0	\$3,964	\$4,144
5	2028	\$14,881	\$266	\$0	\$5,030	\$9,174
6	2029	\$16,369	\$292	\$0	\$6,222	\$15,396
7	2030	\$18,006	\$322	\$0	\$7,555	\$2,658
8	2031	\$19,807	\$354	\$0	\$9,042	\$11,700
9	2032	\$21,787	\$389	\$0	\$10,700	\$22,400
10	2033	\$23,966	\$428	\$0	\$12,546	\$34,945
11	2034	\$26,363	\$471	\$0	\$14,600	\$30,533
12	2035	\$28,999	\$518	\$0	\$16,883	\$10,346
13	2036	\$21,787	\$389	\$0	\$9,308	\$19,654
14	2037	\$21,787	\$389	\$0	\$8,934	\$28,588
15	2038	\$21,787	\$389	\$0	\$8,548	\$37,136
16	2039	\$21,787	\$389	\$0	\$8,151	\$45,287
17	2040	\$21,787	\$389	\$0	\$7,742	\$53,028
18	2041	\$21,787	\$389	\$0	\$7,320	\$60,349
19	2042	\$21,787	\$389	\$0	\$6,886	\$43,151
20	2043	\$21,787	\$389	\$0	\$6,439	\$49,590
21	2044	\$21,787	\$389	\$0	\$5,979	\$55,569
22	2045	\$21,787	\$389	\$0	\$5,505	\$61,074
23	2046	\$21,787	\$389	\$0	\$5,016	\$66,090
24	2047	\$21,787	\$389	\$0	\$4,513	\$17,750

## Results:

- Increased dues 10% a year for 12 years to \$518 in 2035
- Dues reduced to \$389 for next 12 years thru 2047 while maintaining adequate reserves
- \$135 Assessment collected in 2024
- Provides funding to replace signs in 2026
- Enhances near-term financial flexibility

This option is feasible

# Replace All Scenario – Assessment 2027 (A5)

*Wateredge Estates Homeowners Association, Inc.*

		BOD Option 2 - Assessment in 2027				
Year		Dues	Annual		Reserve	Reserve
		Revenue	Dues	Assess	Allot	Balance
<b>Current Values</b>	2023	\$9,240	\$165	\$0	\$1,000	\$1,000
1	2024	\$10,164	\$182	\$0	\$1,451	\$2,451
2	2025	\$11,180	\$200	\$0	\$2,165	\$4,616
3	2026	\$12,298	\$220	\$0	\$3,013	\$7,629
4	2027	\$13,528	\$242	\$65	\$3,964	\$224
5	2028	\$14,881	\$266	\$0	\$5,030	\$5,254
6	2029	\$16,369	\$292	\$0	\$6,222	\$11,476
7	2030	\$18,006	\$322	\$0	\$7,555	\$19,031
8	2031	\$19,807	\$354	\$0	\$9,042	\$7,780
9	2032	\$21,787	\$389	\$0	\$10,700	\$18,480
10	2033	\$23,966	\$428	\$0	\$12,546	\$31,025
11	2034	\$26,363	\$471	\$0	\$14,600	\$26,613
12	2035	\$28,999	\$518	\$0	\$16,883	\$6,426
13	2036	\$21,787	\$389	\$0	\$9,308	\$15,734
14	2037	\$21,787	\$389	\$0	\$8,934	\$24,668
15	2038	\$21,787	\$389	\$0	\$8,548	\$33,216
16	2039	\$21,787	\$389	\$0	\$8,151	\$41,367
17	2040	\$21,787	\$389	\$0	\$7,742	\$49,108
18	2041	\$21,787	\$389	\$0	\$7,320	\$56,429
19	2042	\$21,787	\$389	\$0	\$6,886	\$39,231
20	2043	\$21,787	\$389	\$0	\$6,439	\$45,670
21	2044	\$21,787	\$389	\$0	\$5,979	\$51,649
22	2045	\$21,787	\$389	\$0	\$5,505	\$57,154
23	2046	\$21,787	\$389	\$0	\$5,016	\$62,170
24	2047	\$21,787	\$389	\$0	\$4,513	\$13,830

## Results:

- Increased dues 10% a year for 12 years to \$518 in 2035
- Dues reduced to \$389 for next 12 years thru 2047 while maintaining adequate reserves
- \$65 Assessment collected in 2027
- Provides funding to replace signs in 2027, a one year delay

This option is feasible

# B. Repair or Replace Scenario - Projected Expenses @ 3%

*Wateredge Estates Homeowners Association, Inc.*

Year	Fences Cost \$	Sign-Abel Cost \$	Sign-Mint Cost \$	Walls Cost \$	Reserve Costs \$	Operating Costs \$	Operating Reserve	Operating Allot
Current Year	2023	\$0	\$0	\$0	\$0	\$8,400	\$3,400	\$0
1	2024				\$0	\$8,652	\$3,461	\$61
2	2025				\$0	\$8,912	\$3,565	\$104
3	2026		\$9,835	\$5,174	\$15,009	\$9,179	\$3,672	\$107
4	2027				\$0	\$9,454	\$3,782	\$110
5	2028				\$0	\$9,738	\$3,895	\$113
6	2029				\$0	\$10,030	\$4,012	\$117
7	2030	\$1,968			\$1,968	\$10,331	\$4,132	\$120
8	2031				\$0	\$10,641	\$4,256	\$124
9	2032				\$0	\$10,960	\$4,384	\$128
10	2033				\$0	\$11,289	\$4,516	\$132
11	2034		\$12,458	\$6,554	\$19,012	\$11,628	\$4,651	\$135
12	2035			\$4,862	\$4,862	\$11,976	\$4,791	\$140
13	2036				\$0	\$12,336	\$4,934	\$144
14	2037	\$2,420			\$2,420	\$12,706	\$5,082	\$148
15	2038				\$0	\$13,087	\$5,235	\$152
16	2039				\$0	\$13,480	\$5,392	\$157
17	2040				\$0	\$13,884	\$5,554	\$162
18	2041				\$0	\$14,300	\$5,720	\$167
19	2042		\$15,782	\$8,303	\$24,084	\$14,729	\$5,892	\$172
20	2043				\$0	\$15,171	\$6,069	\$177
21	2044	\$2,976			\$2,976	\$15,626	\$6,251	\$182
22	2045				\$0	\$16,095	\$6,438	\$188
23	2046				\$0	\$16,578	\$6,631	\$193
24	2047			\$6,932	\$6,932	\$17,075	\$6,830	\$199

- Signs replaced at end of estimated remaining life
- Walls and fences repaired at end of estimated remaining life
- Need \$15K in 3 years to replace signs
- Assume replacement signs are high quality and will last 8 years
- Need \$19K to replace signs again in 2034 and another \$4.8K to repair walls the next year in 2035
- Total cost to Reserve Fund is \$77,264 over 24 years (45.9% of Replace All cost)



# Repair or Replace Scenario – Fix dues at \$165 Option (B1)

*Wateredge Estates Homeowners Association, Inc.*

		Fix Dues = \$165		
Year		Annual Revenue	Reserve Allot	Reserve Balance
Current Year	2023	\$9,240	\$1,000	\$1,000
1	2024	\$9,240	\$527	\$1,527
2	2025	\$9,240	\$225	\$1,752
3	2026	\$9,240	(\$46)	(\$13,303)
4	2027	\$9,240	(\$324)	(\$13,627)
5	2028	\$9,240	(\$611)	(\$14,238)
6	2029	\$9,240	(\$907)	(\$15,145)
7	2030	\$9,240	(\$1,211)	(\$18,324)
8	2031	\$9,240	(\$1,525)	(\$19,849)
9	2032	\$9,240	(\$1,848)	(\$21,697)
10	2033	\$9,240	(\$2,180)	(\$23,877)
11	2034	\$9,240	(\$2,523)	(\$45,413)
12	2035	\$9,240	(\$2,876)	(\$53,151)
13	2036	\$9,240	(\$3,239)	(\$56,390)
14	2037	\$9,240	(\$3,614)	(\$62,424)
15	2038	\$9,240	(\$3,999)	(\$66,423)
16	2039	\$9,240	(\$4,397)	(\$70,820)
17	2040	\$9,240	(\$4,806)	(\$75,626)
18	2041	\$9,240	(\$5,227)	(\$80,853)
19	2042	\$9,240	(\$5,661)	(\$110,598)
20	2043	\$9,240	(\$6,108)	(\$116,706)
21	2044	\$9,240	(\$6,569)	(\$126,251)
22	2045	\$9,240	(\$7,043)	(\$133,294)
23	2046	\$9,240	(\$7,531)	(\$140,825)
24	2047	\$9,240	(\$8,034)	(\$155,792)

## Results:

- Reserve fund goes negative in 2026
- Cannot afford to replace signs in 2026
- Operating expenses exceed revenues in 2027

**Option still Not Feasible  
even in “Best Case” scenario**

# Repair or Replace Scenario – Increase dues 10% Option (B2)

*Wateredge Estates Homeowners Association, Inc.*

Year	Increase Dues			10%	
	Annual Revenue	Annual Dues	Reserve Allot	Reserve Balance	
Current Year	2023	\$9,240	\$165	\$1,000	\$1,000
1	2024	\$10,164	\$182	\$1,451	\$2,451
2	2025	\$11,180	\$200	\$2,165	\$4,616
3	2026	\$12,298	\$220	\$3,013	(\$7,380)
4	2027	\$13,528	\$242	\$3,964	(\$3,416)
5	2028	\$14,881	\$266	\$5,030	\$1,614
6	2029	\$16,369	\$292	\$6,222	\$7,836
7	2030	\$18,006	\$322	\$7,555	\$13,423
8	2031	\$19,807	\$354	\$9,042	\$22,465
9	2032	\$21,787	\$389	\$10,700	\$33,165
10	2033	\$23,966	\$428	\$12,546	\$45,711
11	2034	\$26,363	\$471	\$14,600	\$41,298
12	2035	\$28,999	\$518	\$16,883	\$53,319
13	2036	\$31,899	\$570	\$19,420	\$72,739
14	2037	\$35,089	\$627	\$22,235	\$92,554
15	2038	\$38,598	\$689	\$25,358	\$117,912
16	2039	\$42,458	\$758	\$28,821	\$146,733
17	2040	\$46,703	\$834	\$32,658	\$179,391
18	2041	\$51,374	\$917	\$36,907	\$216,297
19	2042	\$56,511	\$1,009	\$41,610	\$233,823
20	2043	\$62,162	\$1,110	\$46,814	\$280,637
21	2044	\$68,378	\$1,221	\$52,570	\$330,230
22	2045	\$75,216	\$1,343	\$58,933	\$389,163
23	2046	\$82,738	\$1,477	\$65,966	\$455,130
24	2047	\$91,012	\$1,625	\$73,737	\$521,935

## Results:

- Still cannot afford to replace signs in 2026, but much closer to the mark
- Dues become unnecessarily high after 9 years, generating excess revenue and balances

Close to being Feasible, but even more undesirable in later years

# Repair or Replace Scenario – Tailored Option (B3)

*Wateredge Estates Homeowners Association, Inc.*

		Tailored Option			
Year		Annual Revenue	Annual Dues	Reserve Allot	Reserve Balance
Current V:	2023	\$9,240	\$165	\$1,000	\$1,000
1	2024	\$10,164	\$182	\$1,451	\$2,451
2	2025	\$11,180	\$200	\$2,165	\$4,616
3	2026	\$12,298	\$220	\$3,013	\$7,629
4	2027	\$13,528	\$242	\$3,964	\$11,593
5	2028	\$14,881	\$266	\$5,030	\$1,614
6	2029	\$14,881	\$266	\$4,734	\$6,348
7	2030	\$14,881	\$266	\$4,430	\$8,810
8	2031	\$14,881	\$266	\$4,116	\$12,926
9	2032	\$14,881	\$266	\$3,793	\$16,720
10	2033	\$14,881	\$266	\$3,461	\$20,180
11	2034	\$16,369	\$292	\$4,606	\$5,774
12	2035	\$16,369	\$292	\$4,253	\$5,166
13	2036	\$16,369	\$292	\$3,890	\$9,055
14	2037	\$16,369	\$292	\$3,515	\$10,151
15	2038	\$16,369	\$292	\$3,130	\$13,280
16	2039	\$16,369	\$292	\$2,733	\$16,013
17	2040	\$18,006	\$322	\$3,960	\$19,974
18	2041	\$19,807	\$354	\$5,340	\$25,313
19	2042	\$19,807	\$354	\$4,906	\$6,135
20	2043	\$19,807	\$354	\$4,459	\$10,593
21	2044	\$19,807	\$354	\$3,998	\$11,615
22	2045	\$19,807	\$354	\$3,524	\$15,139
23	2046	\$19,807	\$354	\$3,035	\$18,175
24	2047	\$19,807	\$354	\$2,532	\$13,775

## Results:

- Increased dues 10% a year for 5 years to \$266 in 2028, then hold steady for 6 years thru 2033
- Delayed replacing signs by 2 year until 2028
- Resume increasing dues as necessary to keep up with inflation, staying within 10% limit
- Dues never exceed \$354 per year

This is just one of many Feasible options

# Repair or Replace Scenario – Assessment 2024 (B4)

*Wateredge Estates Homeowners Association, Inc.*

		BOD Option 1 - Assessment in 2024				
Year		Dues	Annual		Reserve	Reserve
		Revenue	Dues	Assess	Allot	Balance
Current Year	2023	\$9,240	\$165	\$0	\$1,000	\$1,000
1	2024	\$10,164	\$182	\$135	\$1,451	\$10,011
2	2025	\$11,180	\$200	\$0	\$2,165	\$12,176
3	2026	\$12,298	\$220	\$0	\$3,013	\$180
4	2027	\$13,528	\$242	\$0	\$3,964	\$4,144
5	2028	\$14,881	\$266	\$0	\$5,030	\$9,174
6	2029	\$14,881	\$266	\$0	\$4,734	\$13,908
7	2030	\$14,881	\$266	\$0	\$4,430	\$16,370
8	2031	\$14,881	\$266	\$0	\$4,116	\$20,486
9	2032	\$14,881	\$266	\$0	\$3,793	\$24,280
10	2033	\$14,881	\$266	\$0	\$3,461	\$27,740
11	2034	\$16,369	\$292	\$0	\$4,606	\$13,334
12	2035	\$16,369	\$292	\$0	\$4,253	\$12,726
13	2036	\$16,369	\$292	\$0	\$3,890	\$16,615
14	2037	\$16,369	\$292	\$0	\$3,515	\$17,711
15	2038	\$16,369	\$292	\$0	\$3,130	\$20,840
16	2039	\$16,369	\$292	\$0	\$2,733	\$23,573
17	2040	\$18,006	\$322	\$0	\$3,960	\$27,534
18	2041	\$19,807	\$354	\$0	\$5,340	\$32,873
19	2042	\$19,807	\$354	\$0	\$4,906	\$13,695
20	2043	\$19,807	\$354	\$0	\$4,459	\$18,153
21	2044	\$19,807	\$354	\$0	\$3,998	\$19,175
22	2045	\$19,807	\$354	\$0	\$3,524	\$22,699
23	2046	\$19,807	\$354	\$0	\$3,035	\$25,735
24	2047	\$19,807	\$354	\$0	\$2,532	\$21,335

## Results:

- Increased dues 10% a year for 5 years to \$266 in 2028, then hold steady for 6 years thru 2033
- Resume increasing dues as necessary to keep up with inflation, staying within 10% limit
- Dues never exceed \$354 per year
- \$135 Assessment collected in 2024
- Provides funding to replace signs in 2026
- Enhances near-term financial flexibility

This option is Feasible

# Repair or Replace Scenario – Assessment 2027 (B5)

*Wateredge Estates Homeowners Association, Inc.*

BOD Option 2 - Assessment in 2027						
Year	Dues Revenue	Annual Dues	Assess	Reserve Allot	Reserve Balance	
Current Year	2023	\$9,240	\$165	\$0	\$1,000	\$1,000
1	2024	\$10,164	\$182	\$0	\$1,451	\$2,451
2	2025	\$11,180	\$200	\$0	\$2,165	\$4,616
3	2026	\$12,298	\$220	\$0	\$3,013	\$7,629
4	2027	\$13,528	\$242	\$65	\$3,964	\$224
5	2028	\$14,881	\$266	\$0	\$5,030	\$5,254
6	2029	\$14,881	\$266	\$0	\$4,734	\$9,988
7	2030	\$14,881	\$266	\$0	\$4,430	\$12,450
8	2031	\$14,881	\$266	\$0	\$4,116	\$16,566
9	2032	\$14,881	\$266	\$0	\$3,793	\$20,360
10	2033	\$14,881	\$266	\$0	\$3,461	\$23,820
11	2034	\$16,369	\$292	\$0	\$4,606	\$9,414
12	2035	\$16,369	\$292	\$0	\$4,253	\$8,806
13	2036	\$16,369	\$292	\$0	\$3,890	\$12,695
14	2037	\$16,369	\$292	\$0	\$3,515	\$13,791
15	2038	\$16,369	\$292	\$0	\$3,130	\$16,920
16	2039	\$16,369	\$292	\$0	\$2,733	\$19,653
17	2040	\$18,006	\$322	\$0	\$3,960	\$23,614
18	2041	\$19,807	\$354	\$0	\$5,340	\$28,953
19	2042	\$19,807	\$354	\$0	\$4,906	\$9,775
20	2043	\$19,807	\$354	\$0	\$4,459	\$14,233
21	2044	\$19,807	\$354	\$0	\$3,998	\$15,255
22	2045	\$19,807	\$354	\$0	\$3,524	\$18,779
23	2046	\$19,807	\$354	\$0	\$3,035	\$21,815
24	2047	\$19,807	\$354	\$0	\$2,532	\$17,415

## Results:

- Increased dues 10% a year for 5 years to \$266 in 2028, then hold steady for 6 years thru 2033
- Resume increasing dues as necessary to keep up with inflation, staying within 10% limit
- Dues never exceed \$354 per year
- \$65 Assessment collected in 2027
- Provides funding to replace signs in 2027, a one year delay

This option is Feasible

# Insights

*Wateredge Estates Homeowners Association, Inc.*

- Consider gradually raising dues 10% a year for the next 5 years, reaching annual dues of \$266 in 2028 (an increase of ~\$100 spread over 5 years).
- Options for replacing signs in 2026 (end of estimated remaining life):
  - Assessment of \$135 in 2024 (or any year up through 2026),
  - Assessment of \$65 in 2027, delaying replacement by 1 year, or
  - Delaying replacement by 2 years.
- There are feasible solutions within our 10% increase limit even in the worst case.

**Need to fully reassess components and finances in 2028**

# About the Author

*Wateredge Estates Homeowners Association, Inc.*

Al Sawyers is a retired Marine and military Operations Research Analyst. Al has 26 years combined experience as a military and government service analyst conducting numerous studies and analyses for various services, commands, and organizations across the Department of Defense. His research focused on defining requirements and identifying cost-effective solutions for future warfighting capabilities using analytic modeling and simulations. Al is a graduate of Duke University (1978) and has earned Master of Science degrees in Systems Management (1983), Computer Science (1986) and Operations Research (1995). Al and his wife Suzanne have lived in Wateredge Estates since 1998.