

# REPLACEMENT RESERVE REPORT FY 2019

## WATERS EDGE CONDOMINIUM



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# REPLACEMENT RESERVE REPORT

## WATERS EDGE

FALLS CHURCH, VIRGINIA

March 30, 2017

Revised October 17, 2017

Revised July 30, 2018

Revised September 20, 2018

Revised October 25, 2018

Revised November 15, 2018



**Scope.** Waters Edge is a condominium community located in Falls Church, Virginia. Waters Edge was constructed in 1984. The community consists of 20 garden-style buildings with a total of 119 units. The survey examined the common elements of the property, including:

- Asphalt drive and parking.
- Concrete sidewalks, steps, curb, and gutter.
- Retaining walls, fencing, and railings.
- Swimming pool and pool building.
- Building exteriors.

**Level of Service.** This study has been performed as a Level III Update, With Site Visit/On-Site Review as defined under the National Reserve Study Standards that have been adopted by the Community Associations Institute. As such, the component inventory is based on the study that was performed by Miller - Dodson on March 31, 2011.

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This information was adjusted to reflect changes to the inventory that were provided by the community manager, and the quantities were adjusted accordingly from field measurement and/or quantity takeoffs from to-scale drawings. The condition of all commonly owned components was ascertained from a site visit and the visual inspection of each component by the Analyst. The life expectancy and the value of components are provided based in part on these observations. The fund status and funding plan have been derived from analysis of this data.

To aid in the understanding of this report and its concepts and practices, on our web site, we have developed [videos](#) addressing frequently asked topics. In addition, there are posted [links](#) covering a variety of subjects under the resources page of our web site at [mdareserves.com](http://mdareserves.com).

**Purpose.** The purpose of this Replacement Reserve Study is to provide Waters Edge (hereinafter called the Association) with an inventory of the common community facilities and infrastructure components that require periodic replacement. The Study includes a general view of the condition of these items and an effective financial plan to fund projected periodic replacements.

- **Inventory of Items Owned by the Association.** Section B lists the Projected Replacements of the commonly owned items that require periodic replacement using funding from Replacement Reserves. The Replacement Reserve Inventory also provides information about excluded items, which are items whose replacements are not scheduled for funding from Replacement Reserves.
- **Condition of Items Owned by the Association.** Section B includes our estimates of the normal economic life and the remaining economic life for the projected replacements. Section C provides a year-by-year listing of the projected replacements. Section D provides additional detail for items that are unique or deserving of attention because of their condition or the manner in which they have been treated in this study.
- **Financial Plan.** The Association has a fiduciary responsibility to protect the appearance, value, and safety of the property and it is therefore essential the Association have a financial plan that provides funding for the projected replacements. In conformance with American Institute of Certified Public Accountant guidelines, Section A, Replacement Reserve Analysis evaluates the current funding of Replacement Reserves as reported by the Association and recommends annual funding of Replacement Reserves by the Cash Flow Method. Section A, Replacement Reserve Analysis includes graphic and tabular presentations of the Association's current funding and the recommended funding based on the Cash Flow Method. An Executive Summary of these calculations is provided on Page A1. The alternative Component Method of funding is provided in the Appendix.

**Basis.** The data contained in this Replacement Reserve Study is based upon the following:

- The Request for Proposal submitted and executed by the Association.
- Miller - Dodson performed a visual evaluation on March 30, 2017 to determine a remaining useful life and replacement cost for the commonly owned elements of this facility.
- This study contains additional recommendations to address inflation for the Cash Flow Method only. For this recommendation, Miller - Dodson uses the Producers Price Index (PPI), which gauges inflation in manufacturing and construction. Please see page A5 for further details.

**To-Scale Drawings.** Site and building plans were not used in the development of this study. We recommend the Association assemble and maintain a library of site and building plans of the entire facility. Record drawings should be scanned into an electronic format for safe storage and ease of distribution. Upon request for a nominal fee, Miller - Dodson can provide scanning services.

**Current Funding.** This reserve study has been prepared for Fiscal Year 2019 covering the period from January 1, 2019 to December 31, 2019. The Replacement Reserves on deposit as of January 2019 are projected to be \$1,042,986. This results in a Reserve Fund balance at the start of the fiscal year as follows:

January 2019	\$1,042,986
Loan	\$2,000,000
FY 2019 opening balance	\$3,042,796

The balance and contribution figures have been supplied by the property management agent and confirmation or audit of these figures is beyond the scope of the study. For the purposes of this study, it is assumed that the annual contribution will be deposited at the end of each month.

**Acknowledgement.** Miller - Dodson Associates would like to acknowledge the assistance and input of Ms. Kelly Lang. Ms. Lang provided very helpful insight into the current operations at the property.

**Analyst's Credentials.** This study has been performed by James E. Piper, who holds a Bachelors Degree and a Masters Degree in Mechanical Engineering from the University of Akron and a PhD from the University of Maryland. Dr. Piper is a Registered Professional Engineer in the State of Maryland, and the author of articles and books on the subject of the condition assessment of facilities. He has over 20 years experience in the evaluation and the management of the physical plant of the University of Maryland. He is currently a Reserve Specialist (RS) for Miller - Dodson Associates.

Respectfully Submitted,

**millerdodson**  
Capital Reserve Consultants

**James Piper**

James Piper  
Reserve Specialist

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## EXECUTIVE SUMMARY

The Waters Edge Replacement Reserve Analysis uses the Cash Flow Method (CFM) to calculate Replacement Reserve funding for the periodic replacement of the 128 Projected Replacements identified in the Replacement Reserve Inventory.

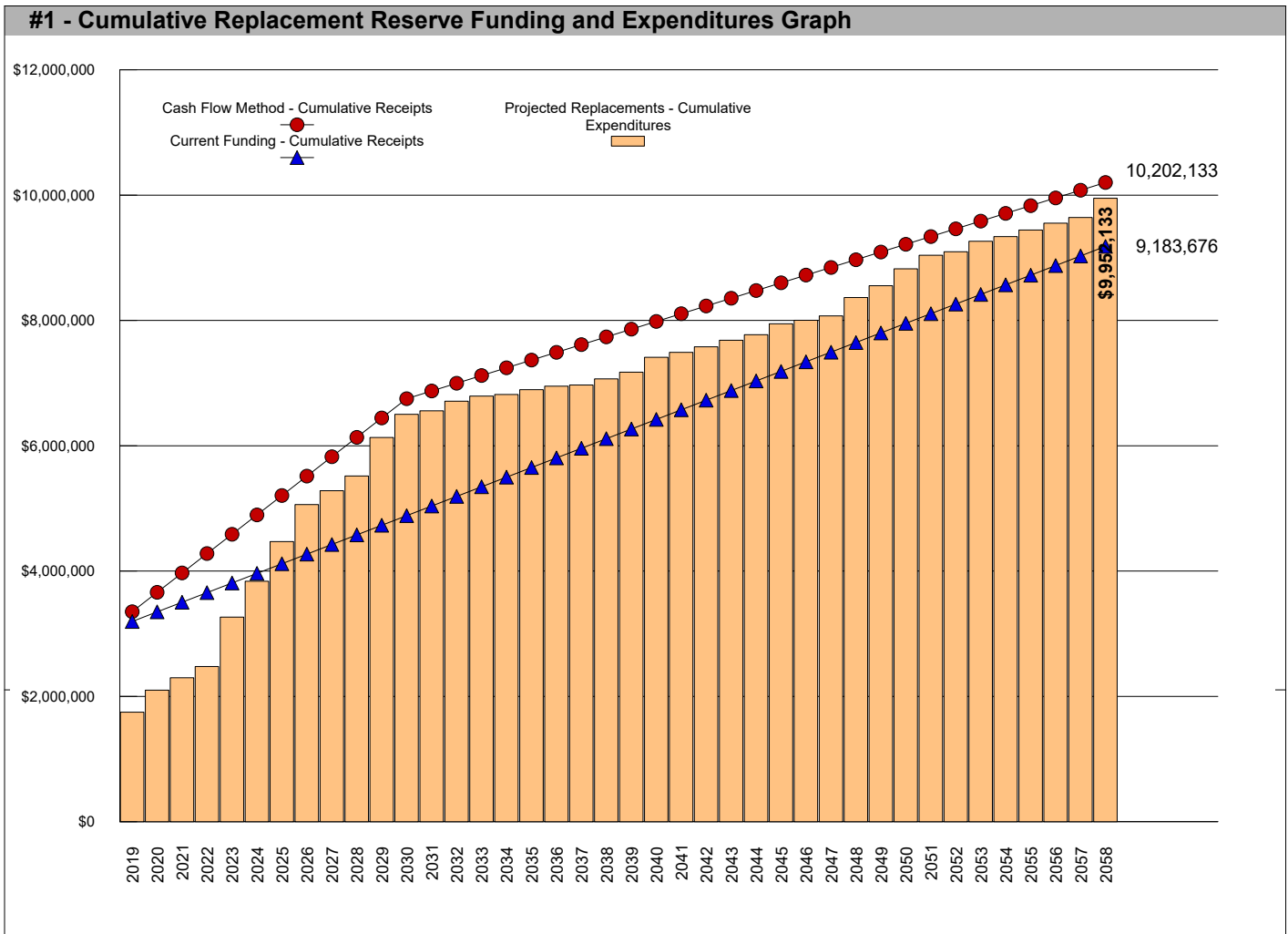
**\$309,148** **RECOMMENDED REPLACEMENT RESERVE FUNDING FOR THE STUDY YEAR, 2019**

\$216.49 Per unit (average), minimum monthly funding of Replacement Reserves

We recommend the Association adopt a Replacement Reserve Funding Plan based on the annual funding recommendation above. Inflation adjusted funding for subsequent years is shown on Page A5.

Waters Edge reports a Starting Balance of \$3,042,796 and Annual Funding totaling \$153,522.

Current funding is inadequate to fund the \$9,952,133 of Projected Replacements scheduled in the Replacement Reserve Inventory over the 40-year Study Period. See Page A3 for a more detailed evaluation.



The Current Funding Objective as calculated by the Component Method (Fully Funded) is \$5,753,199 making the reserve account 52.9% funded. See the Appendix for more information on this method.

## REPLACEMENT RESERVE ANALYSIS - GENERAL INFORMATION

The Waters Edge Replacement Reserve Analysis calculations of recommended funding of Replacement Reserves by the Cash Flow Method and the evaluation of the Current Funding are based upon the same Study Year, Study Period, Beginning Balance, Replacement Reserve Inventory and Level of Service.

### 2019 STUDY YEAR

The Association reports that their accounting year begins on January 1, and the Study Year, the first year evaluated by the Replacement Reserve Analysis, begins on January 1, 2019.

### 40 Years STUDY PERIOD

The Replacement Reserve Analysis evaluates the funding of Replacement Reserves over a 40-year Study Period.

### \$3,042,796 STARTING BALANCE

The Association reports Replacement Reserves on Deposit totaling \$3,042,796 at the start of the Study Year.

### Level Three LEVEL OF SERVICE

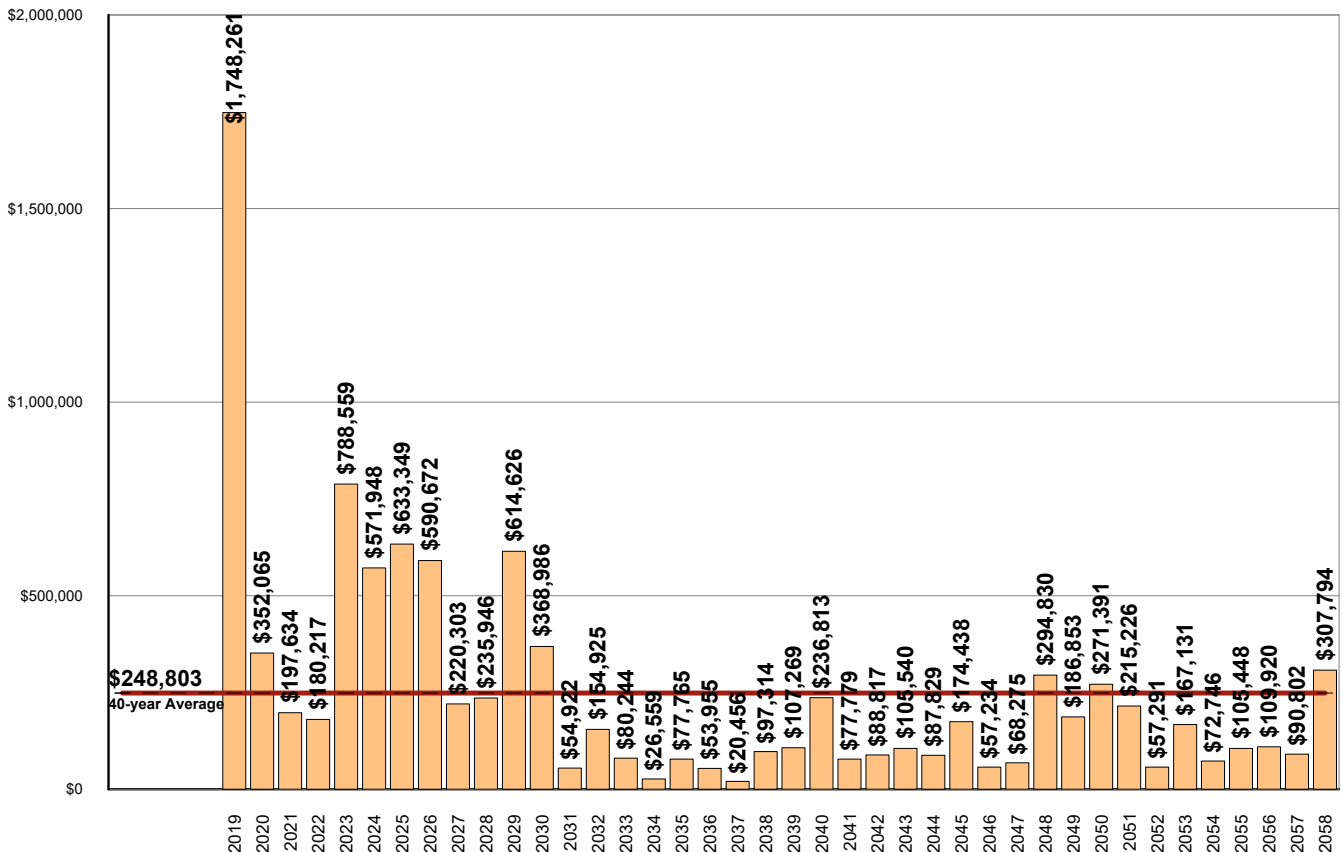
The Replacement Reserve Inventory has been developed in compliance with the National Reserve Study Standards for a Level Three Study, as defined by the Community Associations Institute (CAI).

### \$9,952,133 REPLACEMENT RESERVE INVENTORY - PROJECTED REPLACEMENTS

The Waters Edge Replacement Reserve Inventory identifies 128 items that will require periodic replacement, that are to be funded from Replacement Reserves. We estimate the cost of these replacements will be \$9,952,133 over the 40-year Study Period. The Projected Replacements are divided into 17 major categories starting on Page B3. Pages B1-B2 provide detailed information on the Replacement Reserve Inventory.

## #2 - Annual Expenditures for Projected Replacements Graph

This graph shows annual expenditures for Projected Replacements over the 40-year Study Period. The red line shows the average annual expenditure of \$248,803. Section C provides a year by year Calendar of these expenditures.





## UPDATING

### UPDATING OF THE FUNDING PLAN

The Association has a responsibility to review the Funding Plan annually. The review should include a comparison and evaluation of actual reserve funding with recommended levels shown on Page A4 and A5. The Projected Replacements listed on Page C2 should be compared with any replacements accomplished and funded from Replacement Reserves. Discrepancies should be evaluated and if necessary, the Reserve Study should be updated or a new study commissioned. We recommend annual increases in replacement reserve funding to account for the impact of inflation. Inflation Adjusted Funding is discussed on Page A5.

### UPDATING OF THE REPLACEMENT RESERVE STUDY

At a minimum, the Replacement Reserve Study should be professionally updated every three to five years or after completion of a major replacement project. Updating should also be considered if during the annual review of the Funding Plan, discrepancies are noted between projected and actual reserve funding or replacement costs. Updating may also be necessary if there is a meaningful discrepancy between the actual inflation rate and the inflation rate used for the Inflation Adjusted Funding of Replacement Reserves on Page A5.

### ANNUAL EXPENDITURES AND CURRENT FUNDING

The annual expenditures that comprise the \$9,952,133 of Projected Expenditures over the 40-year Study Period and the impact of the Association continuing to fund Replacement Reserves at the current level are detailed in Table 3.

<b>#3 - Table of Annual Expenditures and Current Funding Data - Years 1 through 40</b>										
Year	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Starting Balance	\$3,042,796									
Projected Replacements	(\$1,748,261)	(\$352,065)	(\$197,634)	(\$180,217)	(\$788,559)	(\$571,948)	(\$633,349)	(\$590,672)	(\$220,303)	(\$235,946)
Annual Deposit	\$153,522	\$153,522	\$153,522	\$153,522	\$153,522	\$153,522	\$153,522	\$153,522	\$153,522	\$153,522
End of Year Balance	\$1,448,057	\$1,249,514	\$1,205,402	\$1,178,707	\$543,669	\$125,244	<b>(\$354,584)</b>	<b>(\$791,734)</b>	<b>(\$858,515)</b>	<b>(\$940,939)</b>
Cumulative Expenditures	(\$1,748,261)	(\$2,100,326)	(\$2,297,960)	(\$2,478,177)	(\$3,266,737)	(\$3,838,684)	(\$4,472,034)	(\$5,062,706)	(\$5,283,009)	(\$5,518,955)
Cumulative Receipts	\$3,196,318	\$3,349,840	\$3,503,362	\$3,656,884	\$3,810,406	\$3,963,928	\$4,117,450	\$4,270,972	\$4,424,494	\$4,578,016
Year	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Projected Replacements	(\$614,626)	(\$368,986)	(\$54,922)	(\$154,925)	(\$80,244)	(\$26,559)	(\$77,765)	(\$53,955)	(\$20,456)	(\$97,314)
Annual Deposit	\$153,522	\$153,522	\$153,522	\$153,522	\$153,522	\$153,522	\$153,522	\$153,522	\$153,522	\$153,522
End of Year Balance	<b>(\$1,402,043)</b>	<b>(\$1,617,506)</b>	<b>(\$1,518,906)</b>	<b>(\$1,520,309)</b>	<b>(\$1,447,031)</b>	<b>(\$1,320,069)</b>	<b>(\$1,244,312)</b>	<b>(\$1,144,745)</b>	<b>(\$1,011,679)</b>	<b>(\$955,470)</b>
Cumulative Expenditures	(\$6,133,581)	(\$6,502,566)	(\$6,557,488)	(\$6,712,413)	(\$6,792,657)	(\$6,819,217)	(\$6,896,982)	(\$6,950,937)	(\$6,971,393)	(\$7,068,706)
Cumulative Receipts	\$4,731,538	\$4,885,060	\$5,038,582	\$5,192,104	\$5,345,626	\$5,499,148	\$5,652,670	\$5,806,192	\$5,959,714	\$6,113,236
Year	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
Projected Replacements	(\$107,269)	(\$236,813)	(\$77,779)	(\$88,817)	(\$105,540)	(\$87,829)	(\$174,438)	(\$57,234)	(\$68,275)	(\$294,830)
Annual Deposit	\$153,522	\$153,522	\$153,522	\$153,522	\$153,522	\$153,522	\$153,522	\$153,522	\$153,522	\$153,522
End of Year Balance	<b>(\$909,217)</b>	<b>(\$992,508)</b>	<b>(\$916,766)</b>	<b>(\$852,061)</b>	<b>(\$804,079)</b>	<b>(\$738,387)</b>	<b>(\$759,302)</b>	<b>(\$663,014)</b>	<b>(\$577,767)</b>	<b>(\$719,075)</b>
Cumulative Expenditures	(\$7,175,975)	(\$7,412,788)	(\$7,490,568)	(\$7,579,385)	(\$7,684,925)	(\$7,772,755)	(\$7,947,192)	(\$8,004,426)	(\$8,072,701)	(\$8,367,531)
Cumulative Receipts	\$6,266,758	\$6,420,280	\$6,573,802	\$6,727,324	\$6,880,846	\$7,034,368	\$7,187,890	\$7,341,412	\$7,494,934	\$7,648,456
Year	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058
Projected Replacements	(\$186,853)	(\$271,391)	(\$215,226)	(\$57,291)	(\$167,131)	(\$72,746)	(\$105,448)	(\$109,920)	(\$90,802)	(\$307,794)
Annual Deposit	\$153,522	\$153,522	\$153,522	\$153,522	\$153,522	\$153,522	\$153,522	\$153,522	\$153,522	\$153,522
End of Year Balance	<b>(\$752,406)</b>	<b>(\$870,275)</b>	<b>(\$931,979)</b>	<b>(\$835,748)</b>	<b>(\$849,357)</b>	<b>(\$768,581)</b>	<b>(\$720,507)</b>	<b>(\$676,905)</b>	<b>(\$614,185)</b>	<b>(\$768,457)</b>
Cumulative Expenditures	(\$8,554,384)	(\$8,825,775)	(\$9,041,001)	(\$9,098,292)	(\$9,265,423)	(\$9,338,169)	(\$9,443,617)	(\$9,553,537)	(\$9,644,339)	(\$9,952,133)
Cumulative Receipts	\$7,801,978	\$7,955,500	\$8,109,022	\$8,262,544	\$8,416,066	\$8,569,588	\$8,723,110	\$8,876,632	\$9,030,154	\$9,183,676

### EVALUATION OF CURRENT FUNDING

The evaluation of Current Funding (Starting Balance of \$3,042,796 & annual funding of \$153,522), is done in today's dollars with no adjustments for inflation or interest earned on Replacement Reserves. The evaluation assumes Replacement Reserves will only be used for the 128 Projected Replacements identified in the Replacement Reserve Inventory and that the Association will continue Annual Funding of \$153,522 throughout the 40-year Study Period.

**Annual Funding of \$153,522 is approximately 50 percent of the \$309,148 recommended** Annual Funding calculated by the Cash Flow Method for 2019, the Study Year.

Evaluation of the 128 Projected Replacements calculates an average annual expenditure over the next 40 years of \$248,803. Annual funding of \$153,522 is 62 percent of the average annual expenditure.

Our calculations identify funding shortfalls in 34 years of the Study Period with the initial shortfall in 2025. The largest shortfall, \$-1,617,506, occurs in 2030. All shortfalls can be seen and evaluated in Table 3 above.

In summary, Current Funding as reported by the Association and shown above, does not provide adequate funding for the \$9,952,133 of Projected Replacements scheduled in the Replacement Reserve Inventory over the Study Period.

### CASH FLOW METHOD FUNDING

**\$309,148**

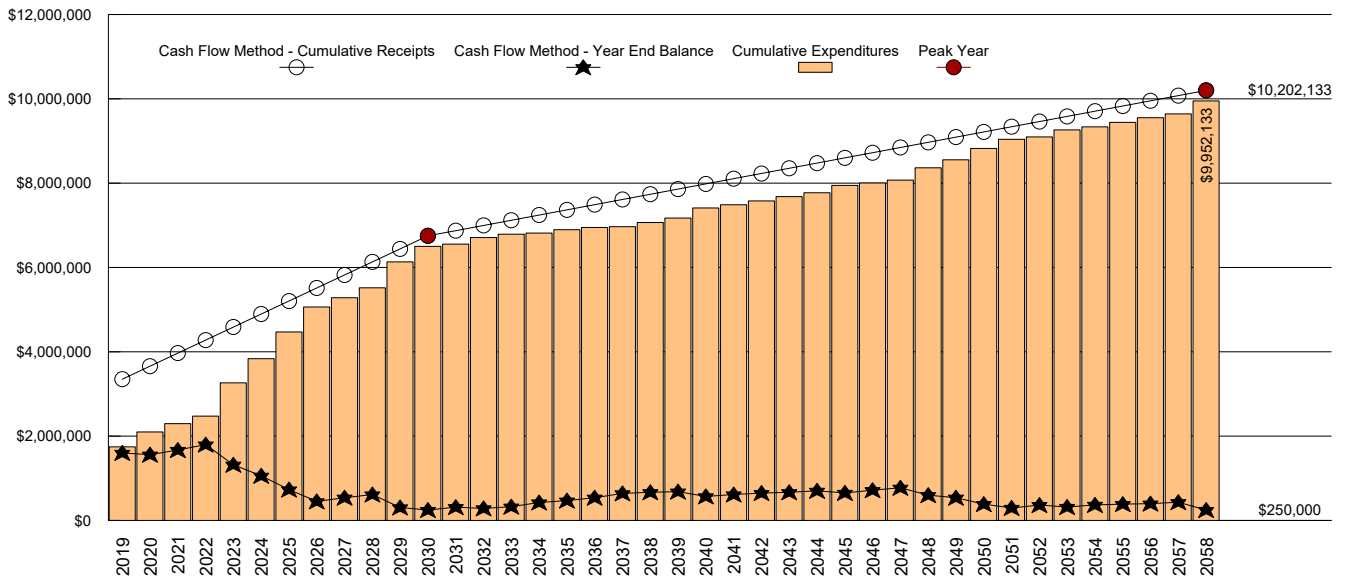
**RECOMMENDED REPLACEMENT RESERVE FUNDING FOR 2019**

\$216.49 Per unit (average), minimum monthly funding of Replacement Reserves

Recommended Replacement Reserve Funding has been calculated using the Cash Flow Method (also called the Straight Line or Threshold Method). This method calculates a constant annual funding between peaks in cumulative expenditures, while maintaining a Minimum Balance (threshold) in the Peak Years.

- **Peak Years.** The First Peak Year occurs in 2030 with Replacement Reserves on Deposit dropping to the Minimum Balance after the completion of \$6,502,566 of replacements from 2019 to 2030. Recommended funding declines from \$309,148 in 2030 to \$123,199 in 2031. Peak Years are identified in Chart 4 and Table 5.
- **Minimum Balance.** The calculations assume a Minimum Balance of \$250,000 in Replacement Reserves. This is approx. 12 months of average expenditures based on the \$248,803, 40-year average annual expenditure.
- **Cash Flow Method Study Period.** Cash Flow Method calculates funding for \$9,952,133 of expenditures over the 40-year Study Period. It does not include funding for any projects beyond 2058 and in 2058, the end of year balance will always be the Minimum Balance.

**#4 - Cash Flow Method - Graph of Cumulative Receipts and Expenditures - Years 1 through 40**



**#5 - Cash Flow Method - Table of Receipts & Expenditures - Years 1 through 40**

Year	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	
Starting Balance	\$3,042,796										
Projected Replacements	(\$1,748,261)	(\$352,065)	(\$197,634)	(\$180,217)	(\$788,559)	(\$571,948)	(\$633,349)	(\$590,672)	(\$220,303)	(\$235,946)	
Annual Deposit	\$309,148	\$309,148	\$309,148	\$309,148	\$309,148	\$309,148	\$309,148	\$309,148	\$309,148	\$309,148	
End of Year Balance	\$1,603,682	\$1,560,765	\$1,672,279	\$1,801,209	\$1,321,797	\$1,058,997	\$734,795	\$453,271	\$542,115	\$615,316	
Cumulative Expenditures	\$1,748,261	\$2,100,326	\$2,297,960	\$2,478,177	\$3,266,737	\$3,838,684	\$4,472,034	\$5,062,706	\$5,283,009	\$5,518,955	
Cumulative Receipts	\$3,351,944	\$3,661,091	\$3,970,239	\$4,279,386	\$4,588,534	\$4,897,681	\$5,206,829	\$5,515,976	\$5,825,124	\$6,134,271	
Year	2029	1st Peak - 2030		2031	2032	2033	2034	2035	2036	2037	2038
Projected Replacements	(\$614,626)	(\$368,986)	(\$54,922)	(\$154,925)	(\$80,244)	(\$26,559)	(\$77,765)	(\$53,955)	(\$20,456)	(\$97,314)	(\$97,314)
Annual Deposit	\$309,148	\$309,148	\$123,199	\$123,199	\$123,199	\$123,199	\$123,199	\$123,199	\$123,199	\$123,199	\$123,199
End of Year Balance	\$309,838	\$250,000	\$318,277	\$286,551	\$329,506	\$426,145	\$471,579	\$540,822	\$643,565	\$669,451	\$669,451
Cumulative Expenditures	(\$6,133,581)	(\$6,502,566)	(\$6,557,488)	(\$6,712,413)	(\$6,792,657)	(\$6,819,217)	(\$6,896,982)	(\$6,950,937)	(\$6,971,393)	(\$7,068,706)	(\$7,068,706)
Cumulative Receipts	\$6,443,419	\$6,752,566	\$6,875,765	\$6,998,964	\$7,122,163	\$7,245,362	\$7,368,561	\$7,491,759	\$7,614,958	\$7,738,157	\$7,738,157
Year	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	
Projected Replacements	(\$107,269)	(\$236,813)	(\$77,779)	(\$88,817)	(\$105,540)	(\$87,829)	(\$174,438)	(\$57,234)	(\$68,275)	(\$294,830)	
Annual Deposit	\$123,199	\$123,199	\$123,199	\$123,199	\$123,199	\$123,199	\$123,199	\$123,199	\$123,199	\$123,199	
End of Year Balance	\$685,381	\$571,766	\$617,186	\$651,567	\$669,226	\$704,595	\$653,357	\$719,322	\$724,245	\$602,614	
Cumulative Expenditures	(\$7,175,975)	(\$7,412,788)	(\$7,490,568)	(\$7,579,385)	(\$7,684,925)	(\$7,772,755)	(\$7,947,192)	(\$8,004,426)	(\$8,072,701)	(\$8,367,531)	
Cumulative Receipts	\$7,861,356	\$7,984,555	\$8,107,753	\$8,230,952	\$8,354,151	\$8,477,350	\$8,600,549	\$8,723,747	\$8,846,946	\$8,970,145	
Year	2049	2050	2051	2052	2053	2054	2055	2056	2057	2nd Peak - 2058	
Projected Replacements	(\$186,853)	(\$271,391)	(\$215,226)	(\$57,291)	(\$167,131)	(\$72,746)	(\$105,448)	(\$109,920)	(\$90,802)	(\$307,794)	
Annual Deposit	\$123,199	\$123,199	\$123,199	\$123,199	\$123,199	\$123,199	\$123,199	\$123,199	\$123,199	\$123,199	
End of Year Balance	\$538,960	\$390,768	\$298,741	\$364,648	\$320,716	\$371,169	\$388,919	\$402,198	\$434,595	\$250,000	
Cumulative Expenditures	(\$8,554,384)	(\$8,825,775)	(\$9,041,001)	(\$9,098,292)	(\$9,265,423)	(\$9,338,169)	(\$9,443,617)	(\$9,553,537)	(\$9,644,339)	(\$9,952,133)	
Cumulative Receipts	\$9,093,344	\$9,216,543	\$9,339,741	\$9,462,940	\$9,586,139	\$9,709,338	\$9,832,537	\$9,955,736	\$10,078,934	\$10,202,133	

## INFLATION ADJUSTED FUNDING

The Cash Flow Method calculations on Page A4 have been done in today's dollars with no adjustment for inflation. At Miller + Dodson, we believe that long-term inflation forecasting is effective at demonstrating the power of compounding, not at calculating appropriate funding levels for Replacement Reserves. We have developed this proprietary model to estimate the short-term impact of inflation on Replacement Reserve funding.

### **\$309,148** 2019 - CASH FLOW METHOD RECOMMENDED FUNDING

The 2019 Study Year calculations have been made using current replacement costs (see Page B2), modified by the Analyst for any project specific conditions.

### **\$316,361** 2020 - INFLATION ADJUSTED FUNDING

A new analysis calculates 2020 funding based on three assumptions;

- Replacement Reserves on Deposit totaling \$1,603,682 on January 1, 2020.
- All 2019 Projected Replacements listed on Page C2 accomplished at a cost to Replacement Reserves less than \$1,748,261.
- Construction Cost Inflation of 2.30 percent in 2019.

The \$316,361 inflation adjusted funding in 2020 is a 2.33 percent increase over the non-inflation adjusted 2020 funding of \$309,148.

### **\$326,719** 2021 - INFLATION ADJUSTED FUNDING

A new analysis calculates 2021 funding based on three assumptions;

- Replacement Reserves on Deposit totaling \$1,559,881 on January 1, 2021.
- All 2020 Projected Replacements listed on Page C2 accomplished at a cost to Replacement Reserves less than \$360,162.
- Construction Cost Inflation of 2.30 percent in 2020.

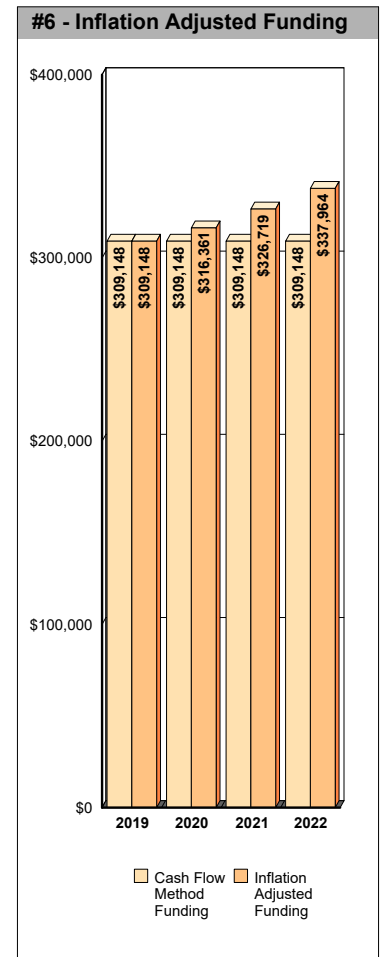
The \$326,719 inflation adjusted funding in 2021 is a 5.68 percent increase over the non-inflation adjusted 2021 funding of \$309,148.

### **\$337,964** 2022 - INFLATION ADJUSTED FUNDING

A new analysis calculates 2022 funding based on three assumptions;

- Replacement Reserves on Deposit totaling \$1,679,771 on January 1, 2022.
- All 2021 Projected Replacements listed on Page C2 accomplished at a cost to Replacement Reserves less than \$206,830.
- Construction Cost Inflation of 2.30 percent in 2021.

The \$337,964 inflation adjusted funding in 2022 is a 9.32 percent increase over the non-inflation adjusted funding of \$309,148.



## YEAR FIVE & BEYOND

The inflation adjusted funding calculations outlined above are not intended to be a substitute for periodic evaluation of common elements by an experienced Reserve Analyst. Industry Standards, lender requirements, and many state and local statutes require a Replacement Reserve Study be professionally updated every 3 to 5 years.

## INFLATION ADJUSTMENT

Prior to approving a budget based upon the 2020, 2021 and 2022 inflation adjusted funding calculations above, the 2.30 percent base rate of inflation used in our calculations should be compared to rates published by the Bureau of Labor Statistics. If there is a significant discrepancy (over 1 percent), contact Miller Dodson + Associates prior to using the Inflation Adjusted Funding.

## INTEREST ON RESERVES

The recommended funding calculations do not account for interest earned on Replacement Reserves.

In 2019, based on a 1.00 percent interest rate, we estimate the Association may earn \$23,232 on an average balance of \$2,323,239, \$15,818 on an average balance of \$1,581,782 in 2020, and \$16,198 on \$1,619,826 in 2021. The Association may elect to attribute 100 percent of the earned interest to Reserves, resulting in a reduction in the 2019 funding from \$309,148 to \$285,915 (a 7.51 percent reduction), \$316,361 to \$300,543 in 2020 (a 5.00 percent reduction), and \$326,719 to \$310,521 in 2021 (a 4.96 percent reduction).

## REPLACEMENT RESERVE STUDY - SUPPLEMENTAL COMMENTS

- Waters Edge has 119 units. The type of property is a Condominium Association.
- The Cash Flow Method calculates the minimum annual funding necessary to prevent Replacement Reserves from dropping below the Minimum Balance. Failure to fund at least the recommended levels may result in funding not being available for the Projected Replacements listed in the Replacement Reserve Inventory.
- The accuracy of the Replacement Reserve Analysis is dependent upon expenditures from Replacement Reserves being made ONLY for the 128 Projected Replacements specifically listed in the Replacement Reserve Inventory. The inclusion/exclusion of items from the Replacement Reserve Inventory is discussed on Page B1.

## REPLACEMENT RESERVE INVENTORY GENERAL INFORMATION

Waters Edge - Replacement Reserve Inventory identifies 171 items. Two types of items are identified, Projected Replacements and Excluded Items:

- **PROJECTED REPLACEMENTS.** 128 of the items are Projected Replacements and the periodic replacements of these items are scheduled for funding from Replacement Reserves. The Projected Replacements have an estimated one-time replacement cost of \$6,737,733. Replacements totaling \$9,952,133 are scheduled in the Replacement Reserve Inventory over the 40-year Study Period.

Projected Replacements are the replacement of commonly-owned physical assets that require periodic replacement and whose replacement is to be funded from Replacement Reserves.

- **EXCLUDED ITEMS.** 43 of the items are Excluded Items, and expenditures for these items are NOT scheduled for funding from Replacement Reserves. The accuracy of the calculations made in the Replacement Reserve Analysis is dependent on expenditures NOT being made for Excluded Items. The Excluded Items are listed in the Replacement Reserve Inventory to identify specific items and categories of items that are not to be funded from Replacement Reserves. There are multiple categories of items that are typically excluded from funding by Replacement Reserves, including but not limited to:

**Tax Code.** The United States Tax Code grants very favorable tax status to Replacement Reserves, conditioned on expenditures being made within certain guidelines. These guidelines typically exclude maintenance activities, minor repairs and capital improvements.

**Value.** Items with a replacement cost of less than \$1,000 and/or a normal economic life of less than 3 years are typically excluded from funding from Replacement Reserves. This exclusion should reflect Association policy on the administration of Replacement Reserves. If the Association has selected an alternative level, it will be noted in the Replacement Reserve Inventory - General Comments on Page B2.

**Long-lived Items.** Items that when properly maintained, can be assumed to have a life equal to the property as a whole, are typically excluded from the Replacement Reserve Inventory.

**Unit improvements.** Items owned by a single unit and where the items serve a single unit are generally assumed to be the responsibility of that unit, not the Association.

**Other non-common improvements.** Items owned by the local government, public and private utility companies, the United States Postal Service, Master Associations, state and local highway authorities, etc., may be installed on property that is owned by the Association. These types of items are generally not the responsibility of the Association and are excluded from the Replacement Reserve Inventory.

The rationale for the exclusion of an item from funding by Replacement Reserves is discussed in more detail in the 'Comments' sections of the Section B - Replacement Reserve Inventory.

- **CATEGORIES.** The 171 items included in the Waters Edge Replacement Reserve Inventory are divided into 17 major categories. Each category is printed on a separate page, Pages B3 to B19.
- **LEVEL OF SERVICE.** This Replacement Reserve Inventory has been developed in compliance with the standards established for a Level Three - Update (no site visit/offsite review), as defined by the National Reserve Study Standards, established in 1998 by Community Associations Institute, which states:

*Level III Studies are based entirely on the component inventory from a prior study. A site visit is not conducted to confirm this information, to verify the quantities that were used in the previous report or to make observations of the current condition of the inventory components. The estimates of value and remaining life that were used in the previous study are adjusted to reflect current pricing and the simple passage of time. The fund status and funding plan are derived from analysis of this data.*

## REPLACEMENT RESERVE INVENTORY - GENERAL INFORMATION (cont'd)

- **INVENTORY DATA.** Each of the 128 Projected Replacements listed in the Replacement Reserve Inventory includes the following data:

Item Number. The Item Number is assigned sequentially and is intended for identification purposes only.

Item Description. We have identified each item included in the Inventory. Additional information may be included in the Comments section at the bottom of each page of the Inventory.

Units. We have used standard abbreviations to identify the number of units including SF-square feet, LF-lineal feet, SY-square yard, LS-lump sum, EA-each, and PR-pair. Non-standard abbreviations are noted in the Comments section at the bottom of the page.

Number of Units. The methods used to develop the quantities are discussed in "Level of Service" above.

Unit Replacement Cost. We use four sources to develop the unit cost data shown in the Inventory; actual replacement cost data provided by the client, information provided by local contractors and suppliers, industry standard estimating manuals, and a cost database we have developed based upon our detailed interviews with contractors and service providers who are specialists in their respective lines of work.

Normal Economic Life (Yrs). The number of years that a new and properly installed item should be expected to remain in service.

Remaining Economic Life (Yrs). The estimated number of years before an item will need to be replaced. In "normal" conditions, this could be calculated by subtracting the age of the item from the Normal Economic Life of the item, but only rarely do physical assets age "normally". Some items may have longer or shorter lives depending on many factors such as environment, initial quality of the item, maintenance, etc.

Total Replacement Cost. This is calculated by multiplying the Unit Replacement Cost by the Number of Units.

Each of the 43 Excluded Items includes the Item Description, Units, and Number of Units. Many of the Excluded Items are listed as a 'Lump Sum' with a quantity of 1. For the Excluded Items, this indicates that all of the items identified by the 'Item Description' are excluded from funding by Replacement Reserves.

- **REVIEW OF EXPENDITURES.** This Replacement Reserve Study should be reviewed by an accounting professional representing the Association prior to implementation.
- **PARTIAL FUNDING.** Items may have been included in the Replacement Reserve Inventory at less than 100 percent of their full quantity and/or replacement cost. This is done on items that will never be replaced in their entirety, but which may require periodic replacements over an extended period of time. The assumptions that provide the basis for any partial funding are noted in the Comments section.
- **REMAINING ECONOMIC LIFE GREATER THAN 40 YEARS.** The calculations do not include funding for initial replacements beyond 40 years. These replacements are included in this Study for tracking and evaluation. They should be included for funding in future Studies, when they enter the 40-year window.

**LOAN PAYMENTS**  
**PROJECTED REPLACEMENTS**

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
1	Loan #1	ls	1	\$173,474.00	99	1	\$173,474
2	Loan #1	ls	1	\$173,474.00	99	2	\$173,474
3	Loan #1	ls	1	\$173,474.00	99	3	\$173,474
4	Loan #1	ls	1	\$173,474.00	99	4	\$173,474
5	Loan #1	ls	1	\$173,474.00	99	5	\$173,474
6	Loan #1	ls	1	\$173,474.00	99	6	\$173,474
7	Loan #1	ls	1	\$173,474.00	99	7	\$173,474
8	Loan #1	ls	1	\$173,474.00	99	8	\$173,474
9	Loan #1	ls	1	\$173,474.00	99	9	\$173,474
10	Loan #1	ls	1	\$173,474.00	99	10	\$173,474

LOAN PAYMENTS - Replacement Costs - Subtotal \$1,734,740

**LOAN PAYMENTS**  
**COMMENTS**

Empty area for comments.



**SITE COMPONENTS**  
**PROJECTED REPLACEMENTS**

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
11	Concrete flatwork, 3%	sf	656	\$9.38	6	2	\$6,156
12	Concrete curb & gutter, 3%	lf	121	\$36.21	6	5	\$4,381
13	Concrete steps, 3%	lf	15	\$67.58	6	5	\$1,014
14	Asphalt pavement	sf	68,418	\$1.68	20	1	\$115,147
15	Seal coat asphalt	sf	68,418	\$0.20	5	6	\$13,957
16	Asphalt patching, 5%	sf	3,421	\$4.08	5	6	\$13,957
17	Curb inlets	ea	1	\$5,610.00	20	9	\$5,610
18	Community sign	ea	2	\$2,040.00	20	17	\$4,080
19	Monument brick tuckpointing	sf	258	\$8.67	20	17	\$2,237
20	Flagpole	ea	1	\$1,530.00	40	5	\$1,530
21	Site lighting fixtures	ea	25	\$2,397.00	25	4	\$59,925
22	Cluster mailboxes	ea	9	\$1,836.00	25	6	\$16,524
23	Wood traffic posts	ea	9	\$312.12	30	11	\$2,809
24	Wood retaining walls	sf	356	\$37.94	20	9	\$13,507
25	Chain link fence, Leesburg Pike	lf	803	\$18.56	25	9	\$14,907
26	Chain link fence, north side	lf	691	\$24.48	25	6	\$16,916
27	Alternate board fence	lf	620	\$27.54	15	8	\$17,075

SITE COMPONENTS - Replacement Costs - Subtotal \$309,732

**SITE COMPONENTS**  
**COMMENTS**

- We have assumed that the Association will replace the asphalt pavement by the installation of a 2 inch thick overlay. The pavement will need to be milled prior to the installation of the overlay. Milling and the cost of minor repairs (5 to 10 percent of the total area) to the base materials and bearing soils beneath the pavement are included in the cost shown above.
- There are six curb inlets. We have assumed that one will require replacement every 20 years.



**SITE COMPONENTS (cont.)**  
**PROJECTED REPLACEMENTS**

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
28	Asphalt path	sf	3,660	\$4.74	15	7	\$17,359
29	Wood bridge surface	sf	72	\$11.48	15	3	\$826
30	Wood bridge structure	sf	72	\$53.45	30	17	\$3,848
31	Wood bridge railing	lf	24	\$29.07	15	9	\$698
32	Riprap	lf	1,900	\$30.60	50	26	\$58,140
33	Wood benches	ea	1	\$459.00	15	2	\$459
34	Pet stations	ea	7	\$265.20	15	5	\$1,856
35	Wood gazebo	ls	1	\$3,060.00	40	23	\$3,060
36	Gazebo roof	ls	1	\$1,224.00	20	4	\$1,224
37	Wood maintenance shed	ls	1	\$3,570.00	20	14	\$3,570
38	Brick wall tuckpointing	sf	420	\$8.93	30	none	\$3,749
39	HVAC Platforms	ls	1	\$8,670.00	30	14	\$8,670
40	Pond bubblers	ea	4	\$1,224.00	5	5	\$4,896

SITE COMPONENTS (cont.) - Replacement Costs - Subtotal \$108,355

**SITE COMPONENTS (cont.)**  
**COMMENTS**

- For concrete components and other roadway shoulder work, we have assumed that the Association will conduct concrete component replacement projects in conjunction with the asphalt pavement and other concrete or right-of-way replacement projects.
- 7.30.2018 - Change REL on Pond bubblers.

**BUILDING EXTERIORS (con't.)**  
**PROJECTED REPLACEMENTS**

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
41	Asphalt shingle roofs, 25%	sf	23,087	\$4.49	25	4	\$103,616
42	Asphalt shingle roofs, 25%	sf	23,087	\$4.49	25	5	\$103,616
43	Asphalt shingle roofs, 25%	sf	23,087	\$4.49	25	6	\$103,616
44	Asphalt shingle roofs, 25%	sf	23,087	\$4.49	25	7	\$103,616
45	Gutters and downspouts, 25%	lf	2,003	\$8.67	25	4	\$17,366
46	Gutters and downspouts, 25%	lf	2,003	\$8.67	25	5	\$17,366
47	Gutters and downspouts, 25%	lf	2,003	\$8.67	25	6	\$17,366
48	Gutters and downspouts, 25%	lf	2,003	\$8.67	25	7	\$17,366
49	Flat roofs	sf	924	\$11.22	20	4	\$10,367
50	Chimney caps, 25%	ea	30	\$198.90	25	none	\$5,917
51	Chimney caps, 25%	ea	30	\$198.90	25	1	\$5,917
52	Chimney caps, 25%	ea	30	\$198.90	25	2	\$5,917
53	Chimney caps, 25%	ea	30	\$198.90	25	3	\$5,917
54	Brick tuckpointing, 10%	sf	770	\$10.20	20	4	\$7,850
55	Wood trim, 10%	lf	2,547	\$11.02	5	1	\$28,053
56	Dryer vent covers	ls	1	\$5,100.00	25	14	\$5,100
<b>BUILDING EXTERIORS (con't.) - Replacement Costs - Subtotal</b>							<b>\$558,969</b>

**BUILDING EXTERIORS (con't.)**  
**COMMENTS**

- 09/20/18. Revised remaining life of asphalt shingle roofs and gutters/downspouts.

**BUILDING EXTERIORS (con't.)**

**PROJECTED REPLACEMENTS**

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
57	Vinyl siding, 25%	sf	32,521	\$7.34	35	4	\$238,834
58	Vinyl siding, 25%	sf	32,521	\$7.34	35	5	\$238,834
59	Vinyl siding, 25%	sf	32,521	\$7.34	35	6	\$238,834
60	Vinyl siding, 25%	sf	32,521	\$7.34	35	7	\$238,834
61	Vinyl soffit, 25%	sf	918	\$6.94	35	4	\$6,367
62	Vinyl soffit, 25%	sf	918	\$6.94	35	5	\$6,367
63	Vinyl soffit, 25%	sf	918	\$6.94	35	6	\$6,367
64	Vinyl soffit, 25%	sf	918	\$6.94	35	7	\$6,367
65	Wood steps, 20%	ea	52	\$116.08	20	1	\$6,036
66	Wood steps, 20%	ea	52	\$116.08	20	5	\$6,036
67	Wood steps, 20%	ea	52	\$116.08	20	9	\$6,036
68	Wood steps, 20%	ea	52	\$116.08	20	13	\$6,036
69	Wood steps, 20%	ea	52	\$116.08	20	17	\$6,036
70	Wood stair railing, 20%	lf	180	\$29.07	20	1	\$5,233
71	Wood stair railing, 20%	lf	180	\$29.07	20	5	\$5,233
72	Wood stair railing, 20%	lf	180	\$29.07	20	9	\$5,233
73	Wood stair railing, 20%	lf	180	\$29.07	20	13	\$5,233
74	Wood stair railing, 20%	lf	180	\$29.07	20	17	\$5,233

BUILDING EXTERIORS (con't.) - Replacement Costs - Subtotal \$1,037,149

**BUILDING EXTERIORS (con't.)**

**COMMENTS**

- 09/20/18. Revised remaining life of vinyl siding and soffit.

**BUILDING EXTERIORS (con't.)**  
**PROJECTED REPLACEMENTS**

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
75	Wood landing surface, 20%	sf	420	\$11.48	15	1	\$4,820
76	Wood landing surface, 20%	sf	420	\$11.48	15	4	\$4,820
77	Wood landing surface, 20%	sf	420	\$11.48	15	7	\$4,820
78	Wood landing surface, 20%	sf	420	\$11.48	15	10	\$4,820
79	Wood landing surface, 20%	sf	420	\$11.48	15	13	\$4,820
80	Wood landing structure, 20%	sf	420	\$29.07	30	1	\$12,209
81	Wood landing structure, 20%	sf	420	\$29.07	30	4	\$12,209
82	Wood landing structure, 20%	sf	420	\$29.07	30	7	\$12,209
83	Wood landing structure, 20%	sf	420	\$29.07	30	10	\$12,209
84	Wood landing structure, 20%	sf	420	\$29.07	30	13	\$12,209

BUILDING EXTERIORS (con't.) - Replacement Costs - Subtotal \$85,145

**BUILDING EXTERIORS (con't.)**  
**COMMENTS**

Empty comment box for additional notes.

**BUILDING EXTERIORS (con't.)**  
**PROJECTED REPLACEMENTS**

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
85	Deck replacement (Phase 1)	ls	1	\$1,716,342.00	99	none	\$1,716,342
86	Deck replacement (Phase 2)	ls	1	\$394,905.00	99	10	\$394,905
87	Deck replacement (Phase 3)	ls	1	\$289,468.00	99	11	\$289,468
88	Deck surface, 5%	sf	845	\$11.48	1	10	\$9,701
89	Deck structure, 5%	sf	845	\$29.93	1	20	\$25,291
90	Deck railing, 5%	lf	100	\$29.93	1	10	\$2,993
91	Deck pilings, 5%	ea	6	\$998.00	1	20	\$5,988

BUILDING EXTERIORS (con't.) - Replacement Costs - Subtotal \$2,444,687

**BUILDING EXTERIORS (con't.)**  
**COMMENTS**

Empty comment box for additional notes.

**BUILDING EXTERIORS (con't.)**

**PROJECTED REPLACEMENTS**

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
92	Exterior lights	ea	355	\$76.50	25	4	\$27,158
93	Privacy fence	lf	1,052	\$18.36	15	8	\$19,315
94	Electrical enclosures	ea	29	\$2,550.00	15	4	\$73,950

BUILDING EXTERIORS (con't.) - Replacement Costs - Subtotal \$120,422

**BUILDING EXTERIORS (con't.)**

**COMMENTS**

Empty area for comments.

**SWIMMING POOL  
PROJECTED REPLACEMENTS**

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
95	Swimming pool structure	sf	1,300	\$86.70	45	13	\$112,710
96	Swimming pool finish	sf	1,300	\$7.14	7	7	\$9,282
97	Swimming pool waterline tile	ft	154	\$10.56	15	none	\$1,626
98	Swimming pool coping	ft	154	\$28.05	15	9	\$4,320
99	Swimming pool cover	sf	1,300	\$2.04	7	4	\$2,652
100	Swimming pool filter/chlorinator	ls	1	\$6,630.00	20	17	\$6,630
101	Swimming pool valves & plumbing	sf	1,300	\$2.30	20	4	\$2,984
102	Swimming pool pump, 3 hp	ea	1	\$3,570.00	10	4	\$3,570
103	Swimming pool concrete deck, 25%	sf	529	\$11.07	30	4	\$5,849
104	Swimming pool concrete deck, 25%	sf	529	\$11.07	30	9	\$5,850
105	Swimming pool concrete deck, 25%	sf	529	\$11.07	30	14	\$5,850
106	Swimming pool concrete deck, 25%	sf	529	\$11.07	30	19	\$5,850
107	Swimming pool engr wood deck	sf	1,530	\$13.77	30	14	\$21,068
108	Pool building lights	ea	15	\$15.30	25	4	\$230
109	Swimming pool furniture (25%)	ls	1	\$4,284.00	8	none	\$4,284
110	Swimming pool furniture (25%)	ls	1	\$4,284.00	8	2	\$4,284
111	Swimming pool furniture (25%)	ls	1	\$4,284.00	8	4	\$4,284
112	Swimming pool furniture (25%)	ls	1	\$4,284.00	8	6	\$4,284
113	Wood picket fence	lf	64	\$18.36	20	1	\$1,175
114	Swimming pool railing	lf	420	\$30.60	20	4	\$12,852
SWIMMING POOL - Replacement Costs - Subtotal							\$219,634

**SWIMMING POOL  
COMMENTS**

**SWIMMING POOL  
 PROJECTED REPLACEMENTS**

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
115	Pool buildings roof	sf	1,369	\$4.49	25	none	\$6,145
116	Pool buildings gutters & downspouts	lf	94	\$8.67	25	none	\$815
117	Pool buildings vinyl siding	sf	860	\$7.34	35	9	\$6,312
118	Pool buildings exterior doors	ea	7	\$969.00	25	4	\$6,783
119	Pool building restroom fixtures	ls	1	\$8,160.00	20	none	\$8,160
120	Pool building water heater	ea	1	\$1,224.00	12	none	\$1,224

SWIMMING POOL - Replacement Costs - Subtotal \$29,439

**SWIMMING POOL  
 COMMENTS**

Empty comment box for project notes.



**TENNIS COURTS**  
**PROJECTED REPLACEMENTS**

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
121	Tennis court - base asphalt	ea	1	\$29,376.00	20	12	\$29,376
122	Tennis court - color coat	ea	1	\$7,344.00	5	2	\$7,344
123	Tennis court - posts	pr	1	\$1,224.00	20	13	\$1,224
124	Tennis court - base asphalt	ea	1	\$29,376.00	20	20	\$29,376
125	Tennis court - color coat	ea	1	\$7,344.00	5	5	\$7,344
126	Tennis court - posts	pr	1	\$1,224.00	20	20	\$1,224
127	Tennis court - fence	lf	424	\$28.76	20	4	\$12,196
128	Tennis court benches	ea	3	\$459.00	15	40	\$1,377

TENNIS COURTS - Replacement Costs - Subtotal \$89,461

**TENNIS COURTS**  
**COMMENTS**

Empty area for comments.

**VALUATION EXCLUSIONS**

**EXCLUDED ITEMS**

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
	Miscellaneous signage	ls	1				EXCLUDED
	Handrail	ls	1				EXCLUDED
	Electric heaters	ls	1				EXCLUDED
	Tennis court posts and nets	ls	1				EXCLUDED

**VALUATION EXCLUSIONS**

**COMMENTS**

- Valuation Exclusions. For ease of administration of the Replacement Reserves and to reflect accurately how Replacement Reserves are administered, items with a dollar value less than \$1,000.00 have not been scheduled for funding from Replacement Reserves. Examples of items excluded from funding by Replacement Reserves by this standard are listed above.
  
- The list above exemplifies exclusions by the cited standard(s) and is not intended to be comprehensive.

**LONG-LIFE EXCLUSIONS**

**EXCLUDED ITEMS**

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
	Exterior brick veneer	ls	1				EXCLUDED
	Building foundation(s)	ls	1				EXCLUDED
	Concrete floor slabs (interior)	ls	1				EXCLUDED
	Wall, floor, & roof structure	ls	1				EXCLUDED
	Common element electrical services	ls	1				EXCLUDED
	Water piping at common facilities	ls	1				EXCLUDED
	Waste piping at common facilities	ls	1				EXCLUDED
	Electrical wiring	ls	1				EXCLUDED
	Stainless steel pool fixtures	ls	1				EXCLUDED

**LONG-LIFE EXCLUSIONS**

**COMMENTS**

- Long Life Exclusions. Components that when properly maintained, can be assumed to have a life equal to the property as a whole, are normally excluded from the Replacement Reserve Inventory. Examples of items excluded from funding by Replacement Reserves by this standard are listed above.
- Exterior masonry is generally assumed to have an unlimited economic life but periodic repointing is required and we have included this for funding in the Replacement Reserve Inventory.
- The list above exemplifies exclusions by the cited standard(s) and is not intended to be comprehensive.

**UNIT IMPROVEMENTS EXCLUSIONS**

**EXCLUDED ITEMS**

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
	Domestic water pipes serving one unit	ls	1				EXCLUDED
	Sanitary sewers serving one unit	ls	1				EXCLUDED
	Electrical wiring serving one unit	ls	1				EXCLUDED
	Gas service serving one unit	ls	1				EXCLUDED
	Cable TV service serving one unit	ls	1				EXCLUDED
	Telephone service serving one unit	ls	1				EXCLUDED
	Windows and doors	ls	1				EXCLUDED
	Unit interior	ls	1				EXCLUDED

**UNIT IMPROVEMENTS EXCLUSIONS**

**COMMENTS**

- Unit improvement Exclusions. We understand that the elements of the project that relate to a single unit are the responsibility of that unit owner. Examples of items excluded from funding by Replacement Reserves by this standard are listed above.
  
- The list above exemplifies exclusions by the cited standard(s) and is not intended to be comprehensive.

**UTILITY EXCLUSIONS**

**EXCLUDED ITEMS**

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
	Primary electric feeds	ls	1				EXCLUDED
	Electric transformers	ls	1				EXCLUDED
	Sanitary sewers	ls	1				EXCLUDED
	Cable TV systems and structures	ls	1				EXCLUDED
	Telephone cables and structures	ls	1				EXCLUDED
	Gas mains and meters	ls	1				EXCLUDED
	Water mains and meters	ls	1				EXCLUDED

**UTILITY EXCLUSIONS**

**COMMENTS**

- Utility Exclusions. Many improvements owned by utility companies are on property owned by the Association. We have assumed that repair, maintenance, and replacements of these components will be done at the expense of the appropriate utility company. Examples of items excluded from funding Replacement Reserves by this standard are listed above.
  
- The list above exemplifies exclusions by the cited standard(s) and is not intended to be comprehensive.

**MAINTENANCE AND REPAIR EXCLUSIONS**

**EXCLUDED ITEMS**

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
	Cleaning of asphalt pavement	ls	1				EXCLUDED
	Crack sealing of asphalt pavement	ls	1				EXCLUDED
	Painting of curbs	ls	1				EXCLUDED
	Striping of parking spaces	ls	1				EXCLUDED
	Numbering of parking spaces	ls	1				EXCLUDED
	Landscaping and site grading	ls	1				EXCLUDED
	Exterior painting	ls	1				EXCLUDED
	Interior painting	ls	1				EXCLUDED
	Janitorial service	ls	1				EXCLUDED
	Repair services	ls	1				EXCLUDED
	Partial replacements	ls	1				EXCLUDED
	Capital improvements	ls	1				EXCLUDED

**MAINTENANCE AND REPAIR EXCLUSIONS**

**COMMENTS**

- Maintenance activities, one-time-only repairs, and capital improvements. These activities are NOT appropriately funded from Replacement Reserves. The inclusion of such component in the Replacement Reserve Inventory could jeopardize the special tax status of ALL Replacement Reserves, exposing the Association to significant tax liabilities. We recommend that the Board of Directors discuss these exclusions and Revenue Ruling 75-370 with a Certified Public Accountant.
- Examples of items excluded from funding by Replacement Reserves by this standard are listed above.
- The list above exemplifies exclusions by the cited standard(s) and is not intended to be comprehensive.

**GOVERNMENT EXCLUSIONS**

**EXCLUDED ITEMS**

ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NORMAL ECONOMIC LIFE (YRS)	REMAINING ECONOMIC LIFE (YRS)	REPLACEMENT COST (\$)
	Government, roadways & parking	ls	1				EXCLUDED
	Government, sidewalks & curbs	ls	1				EXCLUDED
	Government, lighting	ls	1				EXCLUDED

**GOVERNMENT EXCLUSIONS**

**COMMENTS**

- Government Exclusions. We have assumed that some of the improvements installed on property owned by the Association will be maintained by the state, county, or local government, or other association or other responsible entity. Examples of items excluded from funding by Replacement Reserves by this standard are listed above.
- Excluded right-of-ways, including LIST ROADS, and adjacent properties.
- The list above exemplifies exclusions by the cited standard(s) and is not intended to be comprehensive.

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## PROJECTED ANNUAL REPLACEMENTS GENERAL INFORMATION

CALENDAR OF ANNUAL REPLACEMENTS. The 128 Projected Replacements in the Waters Edge Replacement Reserve Inventory whose replacement is scheduled to be funded from Replacement Reserves are broken down on a year-by-year basis, beginning on Page C2.

### REPLACEMENT RESERVE ANALYSIS AND INVENTORY POLICIES, PROCEDURES, AND ADMINISTRATION

- **REVISIONS.** Revisions will be made to the Replacement Reserve Analysis and Replacement Reserve Inventory in accordance with the written instructions of the Board of Directors. No additional charge is incurred for the first revision, if requested in writing within three months of the date of the Replacement Reserve Study. It is our policy to provide revisions in electronic (Adobe PDF) format only.
- **TAX CODE.** The United States Tax Code grants favorable tax status to a common interest development (CID) meeting certain guidelines for their Replacement Reserve. If a CID files their taxes as a 'Corporation' on Form 1120 (IRC Section 277), these guidelines typically require maintenance activities, partial replacements, minor replacements, capital improvements, and one-time only replacements to be excluded from Reserves. A CID cannot co-mingle planning for maintenance activities with capital replacement activities in the Reserves (Revenue Ruling 75-370). Funds for maintenance activities and capital replacements activities must be held in separate accounts. If a CID files taxes as an "Exempt Homeowners Association" using Form 1120H (IRC Section 528), the CID does not have to segregate these activities. However, because the CID may elect to change their method of filing from year to year within the Study Period, we advise using the more restrictive approach. We further recommend that the CID consult with their Accountant and consider creating separate and independent accounts and reserves for large maintenance items, such as painting.
- **CONFLICT OF INTEREST.** Neither Miller - Dodson Associates nor the Reserve Analyst has any prior or existing relationship with this Association which would represent a real or perceived conflict of interest.
- **RELIANCE ON DATA PROVIDED BY THE CLIENT.** Information provided by an official representative of the Association regarding financial, physical conditions, quality, or historical issues is deemed reliable.
- **INTENT.** This Replacement Reserve Study is a reflection of the information provided by the Association and the visual evaluations of the Analyst. It has been prepared for the sole use of the Association and is not for the purpose of performing an audit, quality/forensic analyses, or background checks of historical records.
- **PREVIOUS REPLACEMENTS.** Information provided to Miller - Dodson Associates regarding prior replacements is considered to be accurate and reliable. Our visual evaluation is not a project audit or quality inspection.
- **EXPERIENCE WITH FUTURE REPLACEMENTS.** The Calendar of Annual Projected Replacements, lists replacements we have projected to occur over the next thirty years, begins on Page C2. Actual experience in replacing the items may differ significantly from the cost estimates and time frames shown because of conditions beyond our control. These differences may be caused by maintenance practices, inflation, variations in pricing and market conditions, future technological developments, regulatory actions, acts of God, and luck. Some items may function normally during our visual evaluation and then fail without notice.
- **REVIEW OF THE REPLACEMENT RESERVE STUDY.** For this study to be effective, it should be reviewed by the Waters Edge Board of Directors, those responsible for the management of the items included in the Replacement Reserve Inventory, and the accounting professionals employed by the Association.





**PROJECTED REPLACEMENTS - YEARS 13 TO 18**

Item	2031 - YEAR 13	\$
88	Deck surface, 5%	\$9,701
90	Deck railing, 5%	\$2,993
111	Swimming pool furniture (25	\$4,284
120	Pool building water heater	\$1,224
121	Tennis court - base asphalt	\$29,376
122	Tennis court - color coat	\$7,344
Total Scheduled Replacements		\$54,922

Item	2032 - YEAR 14	\$
68	Wood steps, 20%	\$6,036
73	Wood stair railing, 20%	\$5,233
79	Wood landing surface, 20%	\$4,820
84	Wood landing structure, 20%	\$12,209
88	Deck surface, 5%	\$9,701
90	Deck railing, 5%	\$2,993
95	Swimming pool structure	\$112,710
123	Tennis court - posts	\$1,224
Total Scheduled Replacements		\$154,925

Item	2033 - YEAR 15	\$
11	Concrete flatwork, 3%	\$6,156
37	Wood maintenance shed	\$3,570
39	HVAC Platforms	\$8,670
56	Dryer vent covers	\$5,100
88	Deck surface, 5%	\$9,701
90	Deck railing, 5%	\$2,993
96	Swimming pool finish	\$9,282
102	Swimming pool pump, 3 hp	\$3,570
105	Swimming pool concrete deck	\$5,850
107	Swimming pool engr wood deck	\$21,068
112	Swimming pool furniture (25	\$4,284
All Replacements not listed		\$80,244

Item	2034 - YEAR 16	\$
40	Pond bubblers	\$4,896
88	Deck surface, 5%	\$9,701
90	Deck railing, 5%	\$2,993
97	Swimming pool waterline tile	\$1,626
125	Tennis court - color coat	\$7,344
Total Scheduled Replacements		\$26,559

Item	2035 - YEAR 17	\$
15	Seal coat asphalt	\$13,957
16	Asphalt patching, 5%	\$13,957
55	Wood trim, 10%	\$28,053
75	Wood landing surface, 20%	\$4,820
88	Deck surface, 5%	\$9,701
90	Deck railing, 5%	\$2,993
109	Swimming pool furniture (25	\$4,284
Total Scheduled Replacements		\$77,765

Item	2036 - YEAR 18	\$
12	Concrete curb & gutter, 3%	\$4,381
13	Concrete steps, 3%	\$1,014
18	Community sign	\$4,080
19	Monument brick tuckpointing	\$2,237
30	Wood bridge structure	\$3,848
33	Wood benches	\$459
69	Wood steps, 20%	\$6,036
74	Wood stair railing, 20%	\$5,233
88	Deck surface, 5%	\$9,701
90	Deck railing, 5%	\$2,993
100	Swimming pool filter/chlorinator	\$6,630
122	Tennis court - color coat	\$7,344
Total Scheduled Replacements		\$53,955



**PROJECTED REPLACEMENTS - YEARS 25 TO 30**

2043 - YEAR 25			2044 - YEAR 26			2045 - YEAR 27		
Item		\$	Item		\$	Item		\$
31	Wood bridge railing	\$698	40	Pond bubblers	\$4,896	11	Concrete flatwork, 3%	\$6,156
36	Gazebo roof	\$1,224	50	Chimney caps, 25%	\$5,917	15	Seal coat asphalt	\$13,957
49	Flat roofs	\$10,367	66	Wood steps, 20%	\$6,036	16	Asphalt patching, 5%	\$13,957
54	Brick tuckpointing, 10%	\$7,850	71	Wood stair railing, 20%	\$5,233	32	Riprap	\$58,140
88	Deck surface, 5%	\$9,701	78	Wood landing surface, 20%	\$4,820	51	Chimney caps, 25%	\$5,917
89	Deck structure, 5%	\$25,291	88	Deck surface, 5%	\$9,701	55	Wood trim, 10%	\$28,053
90	Deck railing, 5%	\$2,993	89	Deck structure, 5%	\$25,291	88	Deck surface, 5%	\$9,701
91	Deck pilings, 5%	\$5,988	90	Deck railing, 5%	\$2,993	89	Deck structure, 5%	\$25,291
98	Swimming pool coping	\$4,320	91	Deck pilings, 5%	\$5,988	90	Deck railing, 5%	\$2,993
101	Swimming pool valves & plu	\$2,984	99	Swimming pool cover	\$2,652	91	Deck pilings, 5%	\$5,988
102	Swimming pool pump, 3 hp	\$3,570	115	Pool buildings roof	\$6,145	110	Swimming pool furniture (25	\$4,284
109	Swimming pool furniture (25	\$4,284	116	Pool buildings gutters & dow	\$815			
114	Swimming pool railing	\$12,852	125	Tennis court - color coat	\$7,344			
120	Pool building water heater	\$1,224						
127	Tennis court - fence	\$12,196						
Total Scheduled Replacements		\$105,540	Total Scheduled Replacements		\$87,829	Total Scheduled Replacements		\$174,438
2046 - YEAR 28			2047 - YEAR 29			2048 - YEAR 30		
Item		\$	Item		\$	Item		\$
52	Chimney caps, 25%	\$5,917	53	Chimney caps, 25%	\$5,917	12	Concrete curb & gutter, 3%	\$4,381
88	Deck surface, 5%	\$9,701	79	Wood landing surface, 20%	\$4,820	13	Concrete steps, 3%	\$1,014
89	Deck structure, 5%	\$25,291	88	Deck surface, 5%	\$9,701	17	Curb inlets	\$5,610
90	Deck railing, 5%	\$2,993	89	Deck structure, 5%	\$25,291	21	Site lighting fixtures	\$59,925
91	Deck pilings, 5%	\$5,988	90	Deck railing, 5%	\$2,993	24	Wood retaining walls	\$13,507
122	Tennis court - color coat	\$7,344	91	Deck pilings, 5%	\$5,988	41	Asphalt shingle roofs, 25%	\$103,616
			96	Swimming pool finish	\$9,282	45	Gutters and downspouts, 25	\$17,366
			111	Swimming pool furniture (25	\$4,284	67	Wood steps, 20%	\$6,036
						72	Wood stair railing, 20%	\$5,233
						88	Deck surface, 5%	\$9,701
						89	Deck structure, 5%	\$25,291
						90	Deck railing, 5%	\$2,993
						91	Deck pilings, 5%	\$5,988
						92	Exterior lights	\$27,158
						108	Pool building lights	\$230
						118	Pool buildings exterior doors	\$6,783
Total Scheduled Replacements		\$57,234	Total Scheduled Replacements		\$68,275	Total Scheduled Replacements		\$294,830

**PROJECTED REPLACEMENTS - YEARS 31 TO 36**

Item	2049 - YEAR 31	\$	Item	2050 - YEAR 32	\$	Item	2051 - YEAR 33	\$
38	Brick wall tuckpointing	\$3,749	15	Seal coat asphalt	\$13,957	11	Concrete flatwork, 3%	\$6,156
40	Pond bubblers	\$4,896	16	Asphalt patching, 5%	\$13,957	33	Wood benches	\$459
42	Asphalt shingle roofs, 25%	\$103,616	22	Cluster mailboxes	\$16,524	44	Asphalt shingle roofs, 25%	\$103,616
46	Gutters and downspouts, 25	\$17,366	26	Chain link fence, north side	\$16,916	48	Gutters and downspouts, 25	\$17,366
88	Deck surface, 5%	\$9,701	43	Asphalt shingle roofs, 25%	\$103,616	88	Deck surface, 5%	\$9,701
89	Deck structure, 5%	\$25,291	47	Gutters and downspouts, 25	\$17,366	89	Deck structure, 5%	\$25,291
90	Deck railing, 5%	\$2,993	55	Wood trim, 10%	\$28,053	90	Deck railing, 5%	\$2,993
91	Deck pilings, 5%	\$5,988	75	Wood landing surface, 20%	\$4,820	91	Deck pilings, 5%	\$5,988
97	Swimming pool waterline tile	\$1,626	80	Wood landing structure, 20%	\$12,209	99	Swimming pool cover	\$2,652
112	Swimming pool furniture (25	\$4,284	88	Deck surface, 5%	\$9,701	109	Swimming pool furniture (25	\$4,284
125	Tennis court - color coat	\$7,344	89	Deck structure, 5%	\$25,291	121	Tennis court - base asphalt	\$29,376
			90	Deck railing, 5%	\$2,993	122	Tennis court - color coat	\$7,344
			91	Deck pilings, 5%	\$5,988			
Total Scheduled Replacements			Total Scheduled Replacements			Total Scheduled Replacements		
\$186,853			\$271,391			\$215,226		
Item	2052 - YEAR 34	\$	Item	2053 - YEAR 35	\$	Item	2054 - YEAR 36	\$
29	Wood bridge surface	\$826	25	Chain link fence, Leesburg F	\$14,907	12	Concrete curb & gutter, 3%	\$4,381
68	Wood steps, 20%	\$6,036	37	Wood maintenance shed	\$3,570	13	Concrete steps, 3%	\$1,014
73	Wood stair railing, 20%	\$5,233	76	Wood landing surface, 20%	\$4,820	34	Pet stations	\$1,856
88	Deck surface, 5%	\$9,701	81	Wood landing structure, 20%	\$12,209	40	Pond bubblers	\$4,896
89	Deck structure, 5%	\$25,291	88	Deck surface, 5%	\$9,701	88	Deck surface, 5%	\$9,701
90	Deck railing, 5%	\$2,993	89	Deck structure, 5%	\$25,291	89	Deck structure, 5%	\$25,291
91	Deck pilings, 5%	\$5,988	90	Deck railing, 5%	\$2,993	90	Deck railing, 5%	\$2,993
123	Tennis court - posts	\$1,224	91	Deck pilings, 5%	\$5,988	91	Deck pilings, 5%	\$5,988
			94	Electrical enclosures	\$73,950	96	Swimming pool finish	\$9,282
			102	Swimming pool pump, 3 hp	\$3,570	125	Tennis court - color coat	\$7,344
			103	Swimming pool concrete dex	\$5,849			
			110	Swimming pool furniture (25	\$4,284			
Total Scheduled Replacements			All Replacements not listed			Total Scheduled Replacements		
\$57,291			\$167,131			\$72,746		

**PROJECTED REPLACEMENTS - YEARS 37 TO 42**

Item	2055 - YEAR 37	\$	Item	2056 - YEAR 38	\$	Item	2057 - YEAR 39	\$		
15	Seal coat asphalt	\$13,957	18	Community sign	\$4,080	11	Concrete flatwork, 3%	\$6,156		
16	Asphalt patching, 5%	\$13,957	19	Monument brick tuckpointing	\$2,237	27	Alternate board fence	\$17,075		
55	Wood trim, 10%	\$28,053	28	Asphalt path	\$17,359	88	Deck surface, 5%	\$9,701		
88	Deck surface, 5%	\$9,701	69	Wood steps, 20%	\$6,036	89	Deck structure, 5%	\$25,291		
89	Deck structure, 5%	\$25,291	74	Wood stair railing, 20%	\$5,233	90	Deck railing, 5%	\$2,993		
90	Deck railing, 5%	\$2,993	77	Wood landing surface, 20%	\$4,820	91	Deck pilings, 5%	\$5,988		
91	Deck pilings, 5%	\$5,988	82	Wood landing structure, 20%	\$12,209	93	Privacy fence	\$19,315		
111	Swimming pool furniture (25	\$4,284	88	Deck surface, 5%	\$9,701	112	Swimming pool furniture (25	\$4,284		
120	Pool building water heater	\$1,224	89	Deck structure, 5%	\$25,291					
			90	Deck railing, 5%	\$2,993					
			91	Deck pilings, 5%	\$5,988					
			100	Swimming pool filter/chlorine	\$6,630					
			122	Tennis court - color coat	\$7,344					
Total Scheduled Replacements			\$105,448	Total Scheduled Replacements			\$109,920	Total Scheduled Replacements		\$90,802

Item	2058 - YEAR 40	\$	Item	2059 (beyond Study Period)	\$	Item	2060 (beyond Study Period)	\$		
31	Wood bridge railing	\$698	40	Pond bubblers	\$4,896	12	Concrete curb & gutter, 3%	\$4,381		
56	Dryer vent covers	\$5,100	58	Vinyl siding, 25%	\$238,834	13	Concrete steps, 3%	\$1,014		
57	Vinyl siding, 25%	\$238,834	62	Vinyl soffit, 25%	\$6,367	14	Asphalt pavement	\$115,147		
61	Vinyl soffit, 25%	\$6,367	78	Wood landing surface, 20%	\$4,820	15	Seal coat asphalt	\$13,957		
88	Deck surface, 5%	\$9,701	83	Wood landing structure, 20%	\$12,209	16	Asphalt patching, 5%	\$13,957		
89	Deck structure, 5%	\$25,291	88	Deck surface, 5%	\$9,701	23	Wood traffic posts	\$2,809		
90	Deck railing, 5%	\$2,993	89	Deck structure, 5%	\$25,291	55	Wood trim, 10%	\$28,053		
91	Deck pilings, 5%	\$5,988	90	Deck railing, 5%	\$2,993	59	Vinyl siding, 25%	\$238,834		
98	Swimming pool coping	\$4,320	91	Deck pilings, 5%	\$5,988	63	Vinyl soffit, 25%	\$6,367		
99	Swimming pool cover	\$2,652	109	Swimming pool furniture (25	\$4,284	65	Wood steps, 20%	\$6,036		
104	Swimming pool concrete deck	\$5,850	119	Pool building restroom fixture	\$8,160	70	Wood stair railing, 20%	\$5,233		
			124	Tennis court - base asphalt	\$29,376	88	Deck surface, 5%	\$9,701		
			125	Tennis court - color coat	\$7,344	89	Deck structure, 5%	\$25,291		
			126	Tennis court - posts	\$1,224	90	Deck railing, 5%	\$2,993		
			128	Tennis court benches	\$1,377	91	Deck pilings, 5%	\$5,988		
						113	Wood picket fence	\$1,175		
Total Scheduled Replacements			\$307,794	Total Scheduled Replacements			\$362,864	Total Scheduled Replacements		\$480,937



## CASH FLOW METHOD ACCOUNTING SUMMARY

This Waters Edge - Cash Flow Method Accounting Summary is an attachment to the Waters Edge - Replacement Reserve Study dated Revised November 15, 2018 and is for use by accounting and reserve professionals experienced in Association funding and accounting principles. This Summary consists of four reports, the 2019, 2020, and 2021 Cash Flow Method Category Funding Reports (3) and a Three-Year Replacement Funding Report.

- CASH FLOW METHOD CATEGORY FUNDING REPORT, 2019, 2020, and 2021. Each of the 128 Projected Replacements listed in the Waters Edge Replacement Reserve Inventory has been assigned to one of 11 categories. The following information is summarized by category in each report:
  - Normal Economic Life and Remaining Economic Life of the Projected Replacements.
  - Cost of all Scheduled Replacements in each category.
  - Replacement Reserves on Deposit allocated to the category at the beginning and end of the report period.
  - Cost of Projected Replacements in the report period.
  - Recommended Replacement Reserve Funding allocated to the category during the report period as calculated by the Cash Flow Method.
- THREE-YEAR REPLACEMENT FUNDING REPORT. This report details the allocation of the \$3,042,796 Beginning Balance (at the start of the Study Year) and the \$927,443 of additional Replacement Reserve Funding in 2019 through 2021 (as calculated in the Replacement Reserve Analysis) to each of the 128 Projected Replacements listed in the Replacement Reserve Inventory. These allocations have been made using Chronological Allocation, a method developed by Miller Dodson Associates, Inc., and discussed below. The calculated data includes:
  - Identification and estimated cost of each Projected Replacement scheduled in years 2019 through 2021.
  - Allocation of the \$3,042,796 Beginning Balance to the Projected Replacements by Chronological Allocation.
  - Allocation of the \$927,443 of additional Replacement Reserve Funding recommended in the Replacement Reserve Analysis in years 2019 through 2021, by Chronological Allocation.
- CHRONOLOGICAL ALLOCATION. Chronological Allocation assigns Replacement Reserves to Projected Replacements on a "first come, first serve" basis in keeping with the basic philosophy of the Cash Flow Method. The Chronological Allocation methodology is outlined below.
  - The first step is the allocation of the \$3,042,796 Beginning Balance to the Projected Replacements in the Study Year. Remaining unallocated funds are next allocated to the Projected Replacements in subsequent years in chronological order until the total of Projected Replacements in the next year is greater than the unallocated funds. Projected Replacements in this year are partially funded with each replacement receiving percentage funding. The percentage of funding is calculated by dividing the unallocated funds by the total of Projected Replacements in the partially funded year.

At Waters Edge the Beginning Balance funds all Scheduled Replacements in the Study Year through 2022 and provides partial funding (72%) of replacements scheduled in 2023.
  - The next step is the allocation of the \$309,148 of 2019 Cash Flow Method Reserve Funding calculated in the Replacement Reserve Analysis. These funds are first allocated to fund the partially funded Projected Replacements and then to subsequent years in chronological order as outlined above.

At Waters Edge the Beginning Balance and the 2019 Replacement Reserve Funding, funds replacements through 2023 and partial funds (14.9%) replacements in 2024.
  - Allocations of the 2020 and 2021 Reserve Funding are done using the same methodology.
  - The Three-Year Replacement Funding Report details component by component allocations made by Chronological Allocation.

## 2019 - CASH FLOW METHOD CATEGORY FUNDING REPORT

Each of the 128 Projected Replacements included in the Waters Edge Replacement Reserve Inventory has been assigned to one of the 11 categories listed in TABLE CF1 below. This calculated data is a summary of data provided in the Three-Year Replacement Funding Report and Replacement Reserve Inventory. The accuracy of this data is dependent upon many factors including the following critical financial data:

- A Beginning Balance of \$3,042,796 as of the first day of the Study Year, January 1, 2019.
- Total reserve funding (including the Beginning Balance) of \$3,351,944 in the Study Year.
- No expenditures from Replacement Reserves other than those specifically listed in the Replacement Reserve Inventory.
- All Projected Replacements scheduled in the Replacement Reserve Inventory in 2019 being accomplished in 2019 at a cost of \$1,748,261.

If any of these critical factors are inaccurate, do not use the data and please contact Miller Dodson Associates to arrange for an update of the Replacement Reserve Study.

2019 - CASH FLOW METHOD CATEGORY FUNDING - TABLE CF1							
CATEGORY	NORMAL ECONOMIC LIFE	REMAINING ECONOMIC LIFE	ESTIMATED REPLACEMENT COST	2019 BEGINNING BALANCE	2019 RESERVE FUNDING	2019 PROJECTED REPLACEMENTS	2019 END OF YEAR BALANCE
LOAN PAYMENTS	99 years	1 to 10 years	\$1,734,740	\$644,632	\$75,108		\$719,740
SITE COMPONENTS	5 to 40 years	1 to 17 years	\$309,732	\$164,210	\$18,050		\$182,260
SITE COMPONENTS (cont.)	5 to 50 years	0 to 26 years	\$108,355	\$5,910	\$1,354	(\$3,749)	\$3,515
BUILDING EXTERIORS (cont.)	5 to 25 years	0 to 14 years	\$558,969	\$151,391	\$57,554	(\$5,917)	\$203,028
BUILDING EXTERIORS (cont.)	20 to 35 years	1 to 17 years	\$1,037,149	\$186,836	\$107,842		\$294,678
BUILDING EXTERIORS (cont.)	15 to 30 years	1 to 13 years	\$85,145	\$29,222	\$4,836		\$34,058
BUILDING EXTERIORS (cont.)	1 to 99 years	0 to 20 years	\$2,444,687	\$1,716,342		(\$1,716,342)	
BUILDING EXTERIORS (cont.)	15 to 25 years	4 to 8 years	\$120,422	\$72,394	\$28,713		\$101,108
SWIMMING POOL	7 to 45 years	0 to 19 years	\$219,634	\$34,582	\$9,207	(\$5,910)	\$37,879
SWIMMING POOL	12 to 35 years	0 to 9 years	\$29,439	\$21,200	\$1,926	(\$16,344)	\$6,783
TENNIS COURTS	5 to 20 years	2 to 40 years	\$89,461	\$16,076	\$4,558		\$20,634

## 2020 - CASH FLOW METHOD CATEGORY FUNDING REPORT

Each of the 128 Projected Replacements included in the Waters Edge Replacement Reserve Inventory has been assigned to one of the 11 categories listed in TABLE CF2 below. This calculated data is a summary of data provided in the Three-Year Replacement Funding Report and Replacement Reserve Inventory. The accuracy of this data is dependent upon many factors including the following critical financial data:

- Replacement Reserves on Deposit totaling \$1,603,682 on January 1, 2020.
- Total reserve funding (including the Beginning Balance) of \$3,661,091 from 2019 through 2020.
- No expenditures from Replacement Reserves other than those specifically listed in the Replacement Reserve Inventory.
- All Projected Replacements scheduled in the Replacement Reserve Inventory in 2020 being accomplished in 2020 at a cost of \$352,065.

If any of these critical factors are inaccurate, do not use the data and please contact Miller Dodson Associates to arrange for an update of the Replacement Reserve Study.

2020 - CASH FLOW METHOD CATEGORY FUNDING - TABLE CF2							
CATEGORY	NORMAL ECONOMIC LIFE	REMAINING ECONOMIC LIFE	ESTIMATED REPLACEMENT COST	2020 BEGINNING BALANCE	2020 RESERVE FUNDING	2020 PROJECTED REPLACEMENTS	2020 END OF YEAR BALANCE
LOAN PAYMENTS	99 years	0 to 9 years	\$1,734,740	\$719,740	\$93,766	(\$173,474)	\$640,031
SITE COMPONENTS	5 to 40 years	0 to 16 years	\$309,732	\$182,260	\$3,743	(\$115,147)	\$70,856
SITE COMPONENTS (cont.)	5 to 50 years	1 to 29 years	\$108,355	\$3,515	\$3,650		\$7,165
BUILDING EXTERIORS (cont.)	5 to 25 years	0 to 24 years	\$558,969	\$203,028	\$65,393	(\$33,971)	\$234,451
BUILDING EXTERIORS (cont.)	20 to 35 years	0 to 16 years	\$1,037,149	\$294,678	\$138,626	(\$11,269)	\$422,036
BUILDING EXTERIORS (cont.)	15 to 30 years	0 to 12 years	\$85,145	\$34,058		(\$17,029)	\$17,029
BUILDING EXTERIORS (cont.)	1 to 99 years	9 to 98 years	\$2,444,687				
BUILDING EXTERIORS (cont.)	15 to 25 years	3 to 7 years	\$120,422	\$101,108			\$101,108
SWIMMING POOL	7 to 45 years	0 to 18 years	\$219,634	\$37,879		(\$1,175)	\$36,704
SWIMMING POOL	12 to 35 years	3 to 24 years	\$29,439	\$6,783			\$6,783
TENNIS COURTS	5 to 20 years	1 to 39 years	\$89,461	\$20,634	\$3,970		\$24,604

## 2021 - CASH FLOW METHOD CATEGORY FUNDING REPORT

Each of the 128 Projected Replacements included in the Waters Edge Replacement Reserve Inventory has been assigned to one of the 11 categories listed in TABLE CF3 below. This calculated data is a summary of data provided in the Three-Year Replacement Funding Report and Replacement Reserve Inventory. The accuracy of this data is dependent upon many factors including the following critical financial data:

- Replacement Reserves on Deposit totaling \$1,560,765 on January 1, 2021.
- Total Replacement Reserve funding (including the Beginning Balance) of \$3,970,239 from 2019 to 2021.
- No expenditures from Replacement Reserves other than those specifically listed in the Replacement Reserve Inventory.
- All Projected Replacements scheduled in the Replacement Reserve Inventory in 2021 being accomplished in 2021 at a cost of \$197,634.

If any of these critical factors are inaccurate, do not use the data and please contact Miller Dodson Associates to arrange for an update of the Replacement Reserve Study.

2021 - CASH FLOW METHOD CATEGORY FUNDING - TABLE CF3							
CATEGORY	NORMAL ECONOMIC LIFE	REMAINING ECONOMIC LIFE	ESTIMATED REPLACEMENT COST	2021 BEGINNING BALANCE	2021 RESERVE FUNDING	2021 PROJECTED REPLACEMENTS	2021 END OF YEAR BALANCE
LOAN PAYMENTS	99 years	0 to 98 years	\$1,734,740	\$640,031	\$89,897	(\$173,474)	\$556,455
SITE COMPONENTS	5 to 40 years	0 to 19 years	\$309,732	\$70,856	\$14,894	(\$6,156)	\$79,594
SITE COMPONENTS (cont.)	5 to 50 years	0 to 28 years	\$108,355	\$7,165	\$2,097	(\$459)	\$8,803
BUILDING EXTERIORS (con't.)	5 to 25 years	0 to 24 years	\$558,969	\$234,451	\$68,522	(\$5,917)	\$297,056
BUILDING EXTERIORS (con't.)	20 to 35 years	2 to 19 years	\$1,037,149	\$422,036	\$130,567		\$552,603
BUILDING EXTERIORS (con't.)	15 to 30 years	2 to 29 years	\$85,145	\$17,029			\$17,029
BUILDING EXTERIORS (con't.)	1 to 99 years	8 to 97 years	\$2,444,687				
BUILDING EXTERIORS (con't.)	15 to 25 years	2 to 6 years	\$120,422	\$101,108			\$101,108
SWIMMING POOL	7 to 45 years	0 to 19 years	\$219,634	\$36,704	\$890	(\$4,284)	\$33,310
SWIMMING POOL	12 to 35 years	2 to 23 years	\$29,439	\$6,783			\$6,783
TENNIS COURTS	5 to 20 years	0 to 38 years	\$89,461	\$24,604	\$2,280	(\$7,344)	\$19,540



**CASH FLOW METHOD - THREE-YEAR REPLACEMENT FUNDING - TABLE CF4 cont'd**

Item #	Description of Projected Replacement	Estimated Replacement Costs	Allocation of Beginning Balance	2019 Reserve Funding	2019 Projected Replacements	2019 End of Year Balance	2020 Reserve Funding	2020 Projected Replacements	2020 End of Year Balance	2021 Reserve Funding	2021 Projected Replacements	2021 End of Year Balance
40	Pond bubblers	4,896		729		729	2,646		3,376	1,520		4,896
	BUILDING EXTERIORS (con't.)											
41	Asphalt shingle roofs, 25%	103,616	74,191	29,426		103,616			103,616			103,616
42	Asphalt shingle roofs, 25%	103,616		15,436		15,436	56,006		71,443	32,173		103,616
43	Asphalt shingle roofs, 25%	103,616								21,522		21,522
44	Asphalt shingle roofs, 25%	103,616										
45	Gutters and downspouts, 25%	17,366	12,434	4,932		17,366			17,366			17,366
46	Gutters and downspouts, 25%	17,366		2,587		2,587	9,387		11,974	5,392		17,366
47	Gutters and downspouts, 25%	17,366								3,607		3,607
48	Gutters and downspouts, 25%	17,366										
49	Flat roofs	10,367	7,423	2,944		10,367			10,367			10,367
50	Chimney caps, 25%	5,917	5,917		(5,917)							
51	Chimney caps, 25%	5,917	5,917			5,917		(5,917)				
52	Chimney caps, 25%	5,917	5,917			5,917			5,917		(5,917)	
53	Chimney caps, 25%	5,917	5,917			5,917			5,917			5,917
54	Brick tuckpointing, 10%	7,850	5,621	2,229		7,850			7,850			7,850
55	Wood trim, 10%	28,053	28,053			28,053		(28,053)		5,827		5,827
56	Dryer vent covers	5,100										
	BUILDING EXTERIORS (con't.)											
57	Vinyl siding, 25%	238,834	171,008	67,826		238,834			238,834			238,834
58	Vinyl siding, 25%	238,834		35,581		35,581	129,094		164,675	74,159		238,834
59	Vinyl siding, 25%	238,834								49,609		49,609
60	Vinyl siding, 25%	238,834										
61	Vinyl soffit, 25%	6,367	4,559	1,808		6,367			6,367			6,367
62	Vinyl soffit, 25%	6,367		949		949	3,442		4,390	1,977		6,367
63	Vinyl soffit, 25%	6,367								1,323		1,323
64	Vinyl soffit, 25%	6,367										
65	Wood steps, 20%	6,036	6,036			6,036		(6,036)				
66	Wood steps, 20%	6,036		899		899	3,263		4,162	1,874		6,036
67	Wood steps, 20%	6,036										
68	Wood steps, 20%	6,036										
69	Wood steps, 20%	6,036										
70	Wood stair railing, 20%	5,233	5,233			5,233		(5,233)				
71	Wood stair railing, 20%	5,233		780		780	2,828		3,608	1,625		5,233
72	Wood stair railing, 20%	5,233										
73	Wood stair railing, 20%	5,233										
74	Wood stair railing, 20%	5,233										
	BUILDING EXTERIORS (con't.)											
75	Wood landing surface, 20%	4,820	4,820			4,820		(4,820)				
76	Wood landing surface, 20%	4,820	3,451	1,369		4,820			4,820			4,820
77	Wood landing surface, 20%	4,820										
78	Wood landing surface, 20%	4,820										
79	Wood landing surface, 20%	4,820										
80	Wood landing structure, 20%	12,209	12,209			12,209		(12,209)				
81	Wood landing structure, 20%	12,209	8,742	3,467		12,209			12,209			12,209
82	Wood landing structure, 20%	12,209										
83	Wood landing structure, 20%	12,209										
84	Wood landing structure, 20%	12,209										
	BUILDING EXTERIORS (con't.)											
85	Deck replacement (Phase 1)	1,716,342	1,716,342		(1,716,342)							
86	Deck replacement (Phase 2)	394,905										
87	Deck replacement (Phase 3)	289,468										
88	Deck surface, 5%	9,701										
89	Deck structure, 5%	25,291										
90	Deck railing, 5%	2,993										
91	Deck pilings, 5%	5,988										
	BUILDING EXTERIORS (con't.)											
92	Exterior lights	27,158	19,445	7,712		27,158			27,158			27,158
93	Privacy fence	19,315										
94	Electrical enclosures	73,950	52,949	21,001		73,950			73,950			73,950
	SWIMMING POOL											
95	Swimming pool structure	112,710										
96	Swimming pool finish	9,282										
97	Swimming pool waterline tile	1,626	1,626		(1,626)							



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### COMPONENT METHOD



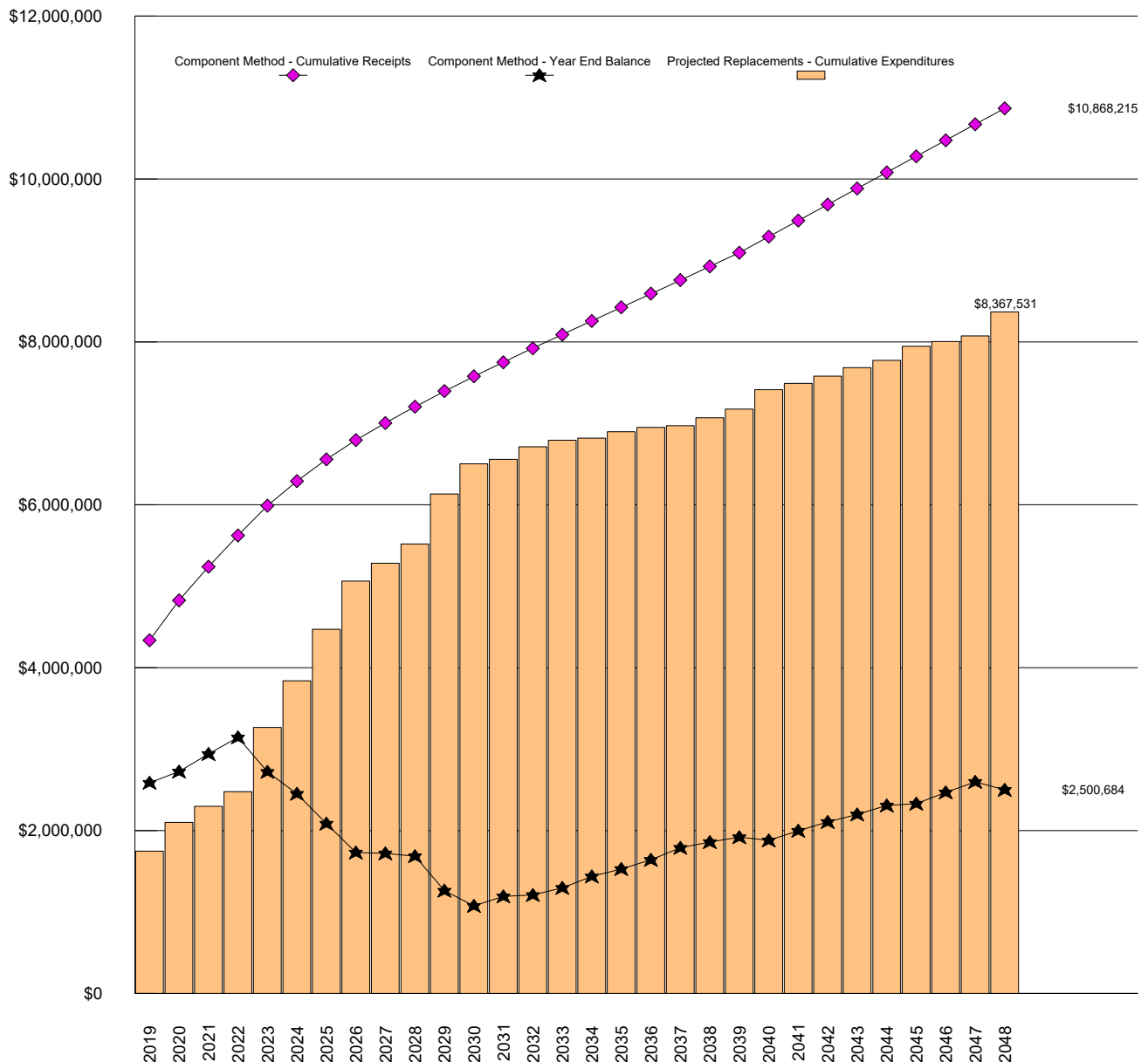
**\$1,293,809**

**COMPONENT METHOD RECOMMENDED ANNUAL FUNDING OF REPLACEMENT RESERVES IN THE STUDY YEAR, 2019.**

\$906.03 Per unit (average), recommended monthly funding of Replacement Reserves

General. The Component Method (also referred to as the Full Funded Method) is a very conservative mathematical model developed by HUD in the early 1980s. Each of the 128 Projected Replacements listed in the Replacement Reserve Inventory is treated as a separate account. The Beginning Balance is allocated to each of the individual accounts, as is all subsequent funding of Replacement Reserves. These funds are "locked" in these individual accounts and are not available to fund other Projected Replacements. The calculation of Recommended Annual Funding of Replacement Reserves is a multi-step process outlined in more detail on Page CM2.

**Component Method - Cumulative Receipts and Expenditures Graph**



**COMPONENT METHOD (cont'd)**

- **Current Funding Objective.** A Current Funding Objective is calculated for each of the Projected Replacements listed in the Replacement Reserve Inventory. Replacement Cost is divided by the Normal Economic Life to determine the nominal annual contribution. The Remaining Economic Life is then subtracted from the Normal Economic Life to calculate the number of years that the nominal annual contribution should have been made. The two values are then multiplied to determine the Current Funding Objective. This is repeated for each of the 128 Projected Replacements. The total, \$5,753,199, is the Current Funding Objective.

For an example, consider a very simple Replacement Reserve Inventory with one Projected Replacement, a fence with a \$1,000 Replacement Cost, a Normal Economic Life of 10 years, and a Remaining Economic Life of 2 years. A contribution to Replacement Reserves of \$100 (\$1,000 + 10 years) should have been made in each of the previous 8 years (10 years - 2 years). The result is a Current Funding Objective of \$800 (8 years x \$100 per year).

- **Funding Percentage.** The Funding Percentage is calculated by dividing the Beginning Balance (\$3,042,796) by the Current Funding Objective (\$5,753,199). At Waters Edge the Funding Percentage is 52.9%
- **Allocation of the Beginning Balance.** The Beginning Balance is divided among the 128 Projected Replacements in the Replacement Reserve Inventory. The Current Funding Objective for each Projected Replacement is multiplied by the Funding Percentage and these funds are then "locked" into the account of each item.

If we relate this calculation back to our fence example, it means that the Association has not accumulated \$800 in Reserves (the Funding Objective), but rather at 52.9 percent funded, there is \$423 in the account for the fence.

- **Annual Funding.** The Recommended Annual Funding of Replacement Reserves is then calculated for each Projected Replacement. The funds allocated to the account of the Projected Replacement are subtracted from the Replacement Cost. The result is then divided by the number of years until replacement, and the result is the annual funding for each of the Projected Replacements. The sum of these is \$1,293,809, the Component Method Recommended Annual Funding of Replacement Reserves in the Study Year (2019).

In our fence example, the \$423 in the account is subtracted from the \$1,000 Total Replacement Cost and divided by the 2 years that remain before replacement, resulting in an annual deposit of \$288. Next year, the deposit remains \$288, but in the third year, the fence is replaced and the annual funding adjusts to \$100.

- **Adjustment to the Component Method for interest and inflation.** The calculations in the Replacement Reserve Analysis do not account for interest earned on Replacement Reserves, inflation, or a constant annual increase in Annual Funding of Replacement Reserves. The Component Method is a very conservative method and if the Analysis is updated regularly, adequate funding will be maintained without the need for adjustments.

**Component Method Data - Years 1 through 30**

Year	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Beginning balance	\$3,042,796									
Recommended annual funding	\$1,293,809	\$489,312	\$413,310	\$384,653	\$364,390	\$302,744	\$266,376	\$236,400	\$210,055	\$201,038
Interest on reserves										
Expenditures	\$1,748,261	\$352,065	\$197,634	\$180,217	\$788,559	\$571,948	\$633,349	\$590,672	\$220,303	\$235,946
Year end balance	\$2,588,344	\$2,725,591	\$2,941,267	\$3,145,702	\$2,721,533	\$2,452,330	\$2,085,356	\$1,731,084	\$1,720,836	\$1,685,928
Cumulative Expenditures	\$1,748,261	\$2,100,326	\$2,297,960	\$2,478,177	\$3,266,737	\$3,838,684	\$4,472,034	\$5,062,706	\$5,283,009	\$5,518,955
Cumulative Receipts	\$4,336,605	\$4,825,917	\$5,239,227	\$5,623,880	\$5,988,270	\$6,291,014	\$6,557,390	\$6,793,790	\$7,003,845	\$7,204,883
Year	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Recommended annual funding	\$192,079	\$181,594	\$171,541	\$171,169	\$168,200	\$167,549	\$167,549	\$167,549	\$167,445	\$167,445
Interest on reserves										
Expenditures	\$614,626	\$368,986	\$54,922	\$154,925	\$80,244	\$26,559	\$77,765	\$53,955	\$20,456	\$97,314
Year end balance	\$1,263,381	\$1,075,990	\$1,192,610	\$1,208,854	\$1,296,810	\$1,437,799	\$1,527,583	\$1,641,177	\$1,788,167	\$1,858,298
Cumulative Expenditures	\$6,133,581	\$6,502,566	\$6,557,488	\$6,712,413	\$6,792,657	\$6,819,217	\$6,896,982	\$6,950,937	\$6,971,393	\$7,068,706
Cumulative Receipts	\$7,396,962	\$7,578,557	\$7,750,098	\$7,921,267	\$8,089,467	\$8,257,016	\$8,424,565	\$8,592,114	\$8,759,559	\$8,927,005
Year	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
Recommended annual funding	\$167,399	\$197,262	\$197,262	\$197,262	\$197,238	\$197,238	\$197,238	\$196,771	\$196,771	\$196,771
Interest on reserves										
Expenditures	\$107,269	\$236,813	\$77,779	\$88,817	\$105,540	\$87,829	\$174,438	\$57,234	\$68,275	\$294,830
Year end balance	\$1,918,429	\$1,878,877	\$1,998,360	\$2,106,804	\$2,198,501	\$2,307,910	\$2,330,710	\$2,470,247	\$2,598,743	\$2,500,684
Cumulative Expenditures	\$7,175,975	\$7,412,788	\$7,490,568	\$7,579,385	\$7,684,925	\$7,772,755	\$7,947,192	\$8,004,426	\$8,072,701	\$8,367,531
Cumulative Receipts	\$9,094,404	\$9,291,666	\$9,488,927	\$9,686,189	\$9,883,427	\$10,080,664	\$10,277,902	\$10,474,673	\$10,671,444	\$10,868,215

## COMPONENT METHOD ACCOUNTING SUMMARY

This Waters Edge - Component Method Accounting Summary is an attachment to the Waters Edge - Replacement Reserve Study dated Revised November 15, 2018 and is for use by accounting and reserve professionals experienced in Association funding and accounting principles. This Summary consists of four reports, the 2019, 2020, and 2021 Component Method Category Funding Reports (3) and a Three-Year Replacement Funding Report.

- COMPONENT METHOD CATEGORY FUNDING REPORT, 2019, 2020, and 2021. Each of the 128 Projected Replacements listed in the Waters Edge Replacement Reserve Inventory has been assigned to one of 11 categories. The following information is summarized by category in each report:
  - Normal Economic Life and Remaining Economic Life of the Projected Replacements.
  - Cost of all Scheduled Replacements in each category.
  - Replacement Reserves on Deposit allocated to the category at the beginning and end of the report period.
  - Cost of Projected Replacements in the report period.
  - Recommended Replacement Reserve Funding allocated to the category during the report period as calculated by the Component Method.
- THREE-YEAR REPLACEMENT FUNDING REPORT. This report details the allocation of the \$3,042,796 Beginning Balance (at the start of the Study Year) and the \$2,196,431 of additional Replacement Reserve funding from 2019 to 2021 (as calculated in the Replacement Reserve Analysis) to each of the 128 Projected Replacements listed in the Replacement Reserve Inventory. These allocations have been made using the Component Method as outlined in the Replacement Reserve Analysis. The calculated data includes:
  - Identification and estimated cost of each Projected Replacement schedule in years 2019 through 2021.
  - Allocation of the \$3,042,796 Beginning Balance to the Projected Replacements by the Component Method.
  - Allocation of the \$2,196,431 of additional Replacement Reserve Funding recommended in the Replacement Reserve Analysis in years 2019 through 2021, by the Component Method.

## 2019 - COMPONENT METHOD CATEGORY FUNDING REPORT

Each of the 128 Projected Replacements included in the Waters Edge Replacement Reserve Inventory has been assigned to one of the 11 categories listed in TABLE CM1 below. This calculated data is a summary of data provided in the Three-Year Replacement Funding Report and Replacement Reserve Inventory. The accuracy of this data is dependent upon many factors including the following critical financial data:

- A Beginning Balance of \$3,042,796 as of the first day of the Study Year, January 1, 2019.
- Total reserve funding (including the Beginning Balance) of \$4,336,605 in the Study Year.
- No expenditures from Replacement Reserves other than those specifically listed in the Replacement Reserve Inventory.
- All Projected Replacements scheduled in the Replacement Reserve Inventory in 2019 being accomplished in 2019 at a cost of \$1,748,261.

If any of these critical factors are inaccurate, do not use the data and please contact Miller Dodson Associates to arrange for an update of the Replacement Reserve Study.

**2019 - COMPONENT METHOD CATEGORY FUNDING - TABLE CM1**

CATEGORY	NORMAL ECONOMIC LIFE	REMAINING ECONOMIC LIFE	ESTIMATED REPLACEMENT COST	2019 BEGINNING BALANCE	2019 RESERVE FUNDING	2019 PROJECTED REPLACEMENTS	2019 END OF YEAR BALANCE
LOAN PAYMENTS	99 years	1 to 10 years	\$1,734,740	\$857,244	\$174,343		\$1,031,587
SITE COMPONENTS	5 to 40 years	1 to 17 years	\$309,732	\$109,838	\$50,989		\$160,827
SITE COMPONENTS (cont.)	5 to 50 years	0 to 26 years	\$108,355	\$26,350	\$7,378	\$3,749	\$29,979
BUILDING EXTERIORS (cont.)	5 to 25 years	0 to 14 years	\$558,969	\$217,998	\$64,628	\$5,917	\$276,709
BUILDING EXTERIORS (cont.)	20 to 35 years	1 to 17 years	\$1,037,149	\$437,299	\$94,354		\$531,653
BUILDING EXTERIORS (cont.)	15 to 30 years	1 to 13 years	\$85,145	\$29,625	\$9,847		\$39,472
BUILDING EXTERIORS (cont.)	1 to 99 years	0 to 20 years	\$2,444,687	\$1,227,945	\$843,167	\$1,716,342	\$354,770
BUILDING EXTERIORS (cont.)	15 to 25 years	4 to 8 years	\$120,422	\$41,651	\$14,401		\$56,052
SWIMMING POOL	7 to 45 years	0 to 19 years	\$219,634	\$68,925	\$17,795	\$5,910	\$80,811
SWIMMING POOL	12 to 35 years	0 to 9 years	\$29,439	\$13,899	\$8,875	\$16,344	\$6,430
TENNIS COURTS	5 to 20 years	2 to 40 years	\$89,461	\$12,023	\$8,031		\$20,055

## 2020 - COMPONENT METHOD CATEGORY FUNDING REPORT

Each of the 128 Projected Replacements included in the Waters Edge Replacement Reserve Inventory has been assigned to one of the 11 categories listed in TABLE CM2 below. This calculated data is a summary of data provided in the Three-Year Replacement Funding Report and Replacement Reserve Inventory. The accuracy of this data is dependent upon many factors including the following critical financial data:

- Replacement Reserves on Deposit totaling \$2,588,344 on January 1, 2020.
- Total reserve funding (including the Beginning Balance) of \$4,825,917 from 2019 through 2020.
- No expenditures from Replacement Reserves other than those specifically listed in the Replacement Reserve Inventory.
- All Projected Replacements scheduled in the Replacement Reserve Inventory in 2020 being accomplished in 2020 at a cost of \$352,065.

If any of these critical factors are inaccurate, do not use the data and please contact Miller Dodson Associates to arrange for an update of the Replacement Reserve Study.

### 2020 - COMPONENT METHOD CATEGORY FUNDING - TABLE CM2

CATEGORY	NORMAL ECONOMIC LIFE	REMAINING ECONOMIC LIFE	ESTIMATED REPLACEMENT COST	2020 BEGINNING BALANCE	2020 RESERVE FUNDING	2020 PROJECTED REPLACEMENTS	2020 END OF YEAR BALANCE
LOAN PAYMENTS	99 years	0 to 9 years	\$1,734,740	\$1,031,587	\$174,343	\$173,474	\$1,032,457
SITE COMPONENTS	5 to 40 years	0 to 16 years	\$309,732	\$160,827	\$50,989	\$115,147	\$96,669
SITE COMPONENTS (cont.)	5 to 50 years	1 to 29 years	\$108,355	\$29,979	\$5,737		\$35,716
BUILDING EXTERIORS (cont.)	5 to 25 years	0 to 24 years	\$558,969	\$276,709	\$62,077	\$33,971	\$304,815
BUILDING EXTERIORS (cont.)	20 to 35 years	0 to 16 years	\$1,037,149	\$531,653	\$94,354	\$11,269	\$614,738
BUILDING EXTERIORS (cont.)	15 to 30 years	0 to 12 years	\$85,145	\$39,472	\$9,847	\$17,029	\$32,290
BUILDING EXTERIORS (cont.)	1 to 99 years	9 to 98 years	\$2,444,687	\$354,770	\$51,914		\$406,683
BUILDING EXTERIORS (cont.)	15 to 25 years	3 to 7 years	\$120,422	\$56,052	\$14,401		\$70,452
SWIMMING POOL	7 to 45 years	0 to 18 years	\$219,634	\$80,811	\$15,655	\$1,175	\$95,291
SWIMMING POOL	12 to 35 years	3 to 24 years	\$29,439	\$6,430	\$1,964		\$8,394
TENNIS COURTS	5 to 20 years	1 to 39 years	\$89,461	\$20,055	\$8,031		\$28,086

## 2021 - COMPONENT METHOD CATEGORY FUNDING REPORT

Each of the 128 Projected Replacements included in the Waters Edge Replacement Reserve Inventory has been assigned to one of the 11 categories listed in TABLE CM3 below. This calculated data is a summary of data provided in the Three-Year Replacement Funding Report and Replacement Reserve Inventory. The accuracy of this data is dependent upon many factors including the following critical financial data:

- Replacement Reserves on Deposit totaling \$2,725,591 on January 1, 2021.
- Total Replacement Reserve funding (including the Beginning Balance) of \$5,239,227 from 2019 to 2021.
- No expenditures from Replacement Reserves other than those specifically listed in the Replacement Reserve Inventory.
- All Projected Replacements scheduled in the Replacement Reserve Inventory in 2021 being accomplished in 2021 at a cost of \$197,634.

If any of these critical factors are inaccurate, do not use the data and please contact Miller Dodson Associates to arrange for an update of the Replacement Reserve Study.

### 2021 - COMPONENT METHOD CATEGORY FUNDING - TABLE CM3

CATEGORY	NORMAL ECONOMIC LIFE	REMAINING ECONOMIC LIFE	ESTIMATED REPLACEMENT COST	2021 BEGINNING BALANCE	2021 RESERVE FUNDING	2021 PROJECTED REPLACEMENTS	2021 END OF YEAR BALANCE
LOAN PAYMENTS	99 years	0 to 98 years	\$1,734,740	\$1,032,457	\$134,306	\$173,474	\$993,289
SITE COMPONENTS	5 to 40 years	0 to 19 years	\$309,732	\$96,669	\$26,578	\$6,156	\$117,091
SITE COMPONENTS (cont.)	5 to 50 years	0 to 28 years	\$108,355	\$35,716	\$5,737	\$459	\$40,994
BUILDING EXTERIORS (cont.)	5 to 25 years	0 to 24 years	\$558,969	\$304,815	\$56,830	\$5,917	\$355,728
BUILDING EXTERIORS (cont.)	20 to 35 years	2 to 19 years	\$1,037,149	\$614,738	\$91,965		\$706,703
BUILDING EXTERIORS (cont.)	15 to 30 years	2 to 29 years	\$85,145	\$32,290	\$6,179		\$38,468
BUILDING EXTERIORS (cont.)	1 to 99 years	8 to 97 years	\$2,444,687	\$406,683	\$51,914		\$458,597
BUILDING EXTERIORS (cont.)	15 to 25 years	2 to 6 years	\$120,422	\$70,452	\$14,401		\$84,853
SWIMMING POOL	7 to 45 years	0 to 19 years	\$219,634	\$95,291	\$15,406	\$4,284	\$106,413
SWIMMING POOL	12 to 35 years	2 to 23 years	\$29,439	\$8,394	\$1,964		\$10,358
TENNIS COURTS	5 to 20 years	0 to 38 years	\$89,461	\$28,086	\$8,031	\$7,344	\$28,774

### COMPONENT METHOD - THREE-YEAR REPLACEMENT FUNDING REPORT

TABLE CM4 below details the allocation of the \$3,042,796 Beginning Balance, as reported by the Association and the \$2,196,431 of Replacement Reserve Funding calculated by the Cash Flow Method from 2019 to 2021, to the 128 Projected Replacements listed in the Replacement Reserve Inventory. These allocations have been made by Chronological Allocation, a method developed by Miller Dodson Associates, Inc., and outlined on Page CF1. The accuracy of the allocations is dependent upon many factors including the following critical financial data:

- Replacement Reserves on Deposit totaling \$3,042,796 on January 1, 2019.
- Replacement Reserves on Deposit totaling \$2,588,344 on January 1, 2020.
- Replacement Reserves on Deposit totaling \$2,725,591 on January 1, 2021.
- Total Replacement Reserve funding (including the Beginning Balance) of \$5,239,227 from 2019 to 2021.
- No expenditures from Replacement Reserves other than those specifically listed in the Replacement Reserve Inventory.
- All Projected Replacements scheduled in the Replacement Reserve Inventory from 2019 to 2021 being accomplished as scheduled in the Replacement Reserve Inventory at a cost of \$2,297,960.

If any of these critical factors are inaccurate, do not use the data and please contact Miller Dodson Associates, Inc., to arrange for an update of the Replacement Reserve Study.

#### COMPONENT METHOD - THREE-YEAR REPLACEMENT FUNDING - TABLE CM4

Item #	Description of Projected Replacement	Estimated Replacement Costs	Allocation of Beginning Balance	2019 Reserve Funding	2019 Projected Replacements	2019 End of Year Balance	2020 Reserve Funding	2020 Projected Replacements	2020 End of Year Balance	2021 Reserve Funding	2021 Projected Replacements	2021 End of Year Balance
LOAN PAYMENTS												
1	Loan #1	173,474	89,895	41,790		131,684	41,790	(173,474)		1,752		1,752
2	Loan #1	173,474	88,968	28,169		117,137	28,169		145,305	28,169	(173,474)	
3	Loan #1	173,474	88,041	21,358		109,399	21,358		130,758	21,358		152,116
4	Loan #1	173,474	87,115	17,272		104,386	17,272		121,658	17,272		138,930
5	Loan #1	173,474	86,188	14,548		100,735	14,548		115,283	14,548		129,831
6	Loan #1	173,474	85,261	12,602		97,863	12,602		110,465	12,602		123,067
7	Loan #1	173,474	84,334	11,142		95,477	11,142		106,619	11,142		117,762
8	Loan #1	173,474	83,408	10,007		93,415	10,007		103,422	10,007		113,430
9	Loan #1	173,474	82,481	9,099		91,580	9,099		100,679	9,099		109,779
10	Loan #1	173,474	81,554	8,356		89,910	8,356		98,267	8,356		106,623
SITE COMPONENTS												
11	Concrete flatwork, 3%	6,156	1,628	1,509		3,137	1,509		4,647	1,509	(6,156)	
12	Concrete curb & gutter, 3%	4,381		730		730	730		1,460	730		2,191
13	Concrete steps, 3%	1,014		169		169	169		338	169		507
14	Asphalt pavement	115,147	54,810	30,169		84,979	30,169	(115,147)		5,757		5,757
15	Seal coat asphalt	13,957		1,994		1,994	1,994		3,988	1,994		5,982
16	Asphalt patching, 5%	13,957		1,994		1,994	1,994		3,988	1,994		5,982
17	Curb inlets	5,610	1,484	413		1,896	413		2,309	413		2,721
18	Community sign	4,080	216	215		430	215		645	215		860
19	Monument brick tuckpointing	2,237	118	118		236	118		354	118		471
20	Flagpole	1,530	688	140		828	140		969	140		1,109
21	Site lighting fixtures	59,925	25,355	6,914		32,269	6,914		39,183	6,914		46,097
22	Cluster mailboxes	16,524	6,292	1,462		7,754	1,462		9,216	1,462		10,677
23	Wood traffic posts	2,809	891	160		1,051	160		1,211	160		1,371
24	Wood retaining walls	13,507	3,572	993		4,565	993		5,559	993		6,552
25	Chain link fence, Leesburg Pike	14,907	4,730	1,018		5,748	1,018		6,766	1,018		7,783
26	Chain link fence, north side	16,916	6,441	1,496		7,938	1,496		9,434	1,496		10,930
27	Alternate board fence	17,075	3,612	1,496		5,108	1,496		6,604	1,496		8,100
SITE COMPONENTS (cont.)												
28	Asphalt path	17,359	4,285	1,634		5,919	1,634		7,553	1,634		9,188
29	Wood bridge surface	826	320	126		447	126		573	126		700
30	Wood bridge structure	3,848	814	169		983	169		1,151	169		1,320
31	Wood bridge railing	698	123	57		180	57		238	57		295
32	Riprap	58,140	14,145	1,629		15,774	1,629		17,404	1,629		19,033
33	Wood benches	459	194	88		282	88		371	88	(459)	
34	Pet stations	1,856	589	211		800	211		1,012	211		1,223
35	Wood gazebo	3,060	647	101		748	101		848	101		949
36	Gazebo roof	1,224	486	148		633	148		781	148		929
37	Wood maintenance shed	3,570	472	207		679	207		885	207		1,092
38	Brick wall tuckpointing	3,749	1,983	1,766	(3,749)		125		125	125		250
39	HVAC Platforms	8,670	2,293	425		2,718	425		3,143	425		3,568

COMPONENT METHOD - THREE-YEAR REPLACEMENT FUNDING - TABLE CM4 cont'd												
Item #	Description of Projected Replacement	Estimated Replacement Costs	Allocation of Beginning Balance	2019 Reserve Funding	2019 Projected Replacements	2019 End of Year Balance	2020 Reserve Funding	2020 Projected Replacements	2020 End of Year Balance	2021 Reserve Funding	2021 Projected Replacements	2021 End of Year Balance
40	Pond bubblers	4,896		816		816	816		1,632	816		2,448
	BUILDING EXTERIORS (cont.)											
41	Asphalt shingle roofs, 25%	103,616	43,841	11,955		55,796	11,955		67,751	11,955		79,706
42	Asphalt shingle roofs, 25%	103,616	41,649	10,328		51,977	10,328		62,305	10,328		72,633
43	Asphalt shingle roofs, 25%	103,616	39,457	9,166		48,623	9,166		57,788	9,166		66,954
44	Asphalt shingle roofs, 25%	103,616	37,265	8,294		45,559	8,294		53,853	8,294		62,147
45	Gutters and downspouts, 25%	17,366	7,348	2,004		9,351	2,004		11,355	2,004		13,359
46	Gutters and downspouts, 25%	17,366	6,980	1,731		8,711	1,731		10,442	1,731		12,173
47	Gutters and downspouts, 25%	17,366	6,613	1,536		8,149	1,536		9,685	1,536		11,221
48	Gutters and downspouts, 25%	17,366	6,246	1,390		7,636	1,390		9,026	1,390		10,416
49	Flat roofs	10,367	4,112	1,251		5,363	1,251		6,614	1,251		7,865
50	Chimney caps, 25%	5,917	3,130	2,788		1,519	237		237	237		473
51	Chimney caps, 25%	5,917	2,879	1,519	(5,917)	4,398	1,519	(5,917)	237	237		237
52	Chimney caps, 25%	5,917	2,754	1,054		3,808	1,054		4,863	1,054	(5,917)	
53	Chimney caps, 25%	5,917	2,629	822		3,451	822		4,273	822		5,095
54	Brick tuckpointing, 10%	7,850	3,114	947		4,061	947		5,008	947		5,955
55	Wood trim, 10%	28,053	8,902	9,576		18,478	9,576	(28,053)		5,611		5,611
56	Dryer vent covers	5,100	1,079	268		1,347	268		1,615	268		1,883
	BUILDING EXTERIORS (cont.)											
57	Vinyl siding, 25%	238,834	108,271	26,113		134,384	26,113		160,496	26,113		186,609
58	Vinyl siding, 25%	238,834	104,662	22,362		127,024	22,362		149,386	22,362		171,748
59	Vinyl siding, 25%	238,834	101,053	19,683		120,736	19,683		140,419	19,683		160,102
60	Vinyl siding, 25%	238,834	97,444	17,674		115,118	17,674		132,792	17,674		150,465
61	Vinyl soffit, 25%	6,367	2,886	696		3,583	696		4,279	696		4,975
62	Vinyl soffit, 25%	6,367	2,790	596		3,386	596		3,983	596		4,579
63	Vinyl soffit, 25%	6,367	2,694	525		3,219	525		3,744	525		4,268
64	Vinyl soffit, 25%	6,367	2,598	471		3,069	471		3,540	471		4,011
65	Wood steps, 20%	6,036	2,873	1,581		4,455	1,581	(6,036)		302		302
66	Wood steps, 20%	6,036	2,235	634		2,868	634		3,502	634		4,135
67	Wood steps, 20%	6,036	1,596	444		2,040	444		2,484	444		2,928
68	Wood steps, 20%	6,036	958	363		1,320	363		1,683	363		2,046
69	Wood steps, 20%	6,036	319	318		637	318		954	318		1,272
70	Wood stair railing, 20%	5,233	2,491	1,371		3,862	1,371	(5,233)		262		262
71	Wood stair railing, 20%	5,233	1,937	549		2,486	549		3,036	549		3,585
72	Wood stair railing, 20%	5,233	1,384	385		1,769	385		2,154	385		2,538
73	Wood stair railing, 20%	5,233	830	314		1,145	314		1,459	314		1,774
74	Wood stair railing, 20%	5,233	277	275		552	275		827	275		1,103
	BUILDING EXTERIORS (cont.)											
75	Wood landing surface, 20%	4,820	2,209	1,305		3,514	1,305	(4,820)		321		321
76	Wood landing surface, 20%	4,820	1,699	624		2,323	624		2,947	624		3,571
77	Wood landing surface, 20%	4,820	1,190	454		1,643	454		2,097	454		2,551
78	Wood landing surface, 20%	4,820	680	376		1,056	376		1,432	376		1,809
79	Wood landing surface, 20%	4,820	170	332		502	332		834	332		1,166
80	Wood landing structure, 20%	12,209	6,027	3,091		9,118	3,091	(12,209)		407		407
81	Wood landing structure, 20%	12,209	5,381	1,366		6,747	1,366		8,112	1,366		9,478
82	Wood landing structure, 20%	12,209	4,735	934		5,670	934		6,604	934		7,538
83	Wood landing structure, 20%	12,209	4,090	738		4,828	738		5,566	738		6,304
84	Wood landing structure, 20%	12,209	3,444	626		4,070	626		4,696	626		5,322
	BUILDING EXTERIORS (cont.)											
85	Deck replacement (Phase 1)	1,716,342	907,752	808,590	(1,716,342)		17,337		17,337	17,337		34,674
86	Deck replacement (Phase 2)	394,905	185,654	19,023		204,677	19,023		223,699	19,023		242,722
87	Deck replacement (Phase 3)	289,468	134,539	12,911		147,450	12,911		160,360	12,911		173,271
88	Deck surface, 5%	9,701		882		882	882		1,764	882		2,646
89	Deck structure, 5%	25,291		1,204		1,204	1,204		2,409	1,204		3,613
90	Deck railing, 5%	2,993		272		272	272		544	272		816
91	Deck pilings, 5%	5,988		285		285	285		570	285		855
	BUILDING EXTERIORS (cont.)											
92	Exterior lights	27,158	11,491	3,133		14,624	3,133		17,757	3,133		20,891
93	Privacy fence	19,315	4,086	1,692		5,778	1,692		7,470	1,692		9,162
94	Electrical enclosures	73,950	26,074	9,575		35,649	9,575		45,224	9,575		54,800
	SWIMMING POOL											
95	Swimming pool structure	112,710	41,065	5,117		46,183	5,117		51,300	5,117		56,418
96	Swimming pool finish	9,282		1,160		1,160	1,160		2,321	1,160		3,481
97	Swimming pool waterline tile	1,626	860	766	(1,626)		108		108	108		217



COMPONENT METHOD - THREE-YEAR REPLACEMENT FUNDING - TABLE CM4 cont'd												
Item #	Description of Projected Replacement	Estimated Replacement Costs	Allocation of Beginning Balance	2019 Reserve Funding	2019 Projected Replacements	2019 End of Year Balance	2020 Reserve Funding	2020 Projected Replacements	2020 End of Year Balance	2021 Reserve Funding	2021 Projected Replacements	2021 End of Year Balance
98	Swimming pool coping	4,320	762	356		1,117	356		1,473	356		1,829
99	Swimming pool cover	2,652	401	450		851	450		1,301	450		1,751
100	Swimming pool filter/chlorinator	6,630	351	349		700	349		1,048	349		1,397
101	Swimming pool valves & plumbing	2,984	1,183	360		1,543	360		1,903	360		2,263
102	Swimming pool pump, 3 hp	3,570	944	525		1,469	525		1,994	525		2,520
103	Swimming pool concrete deck, 25%	5,849	2,578	654		3,232	654		3,886	654		4,540
104	Swimming pool concrete deck, 25%	5,850	2,063	379		2,442	379		2,820	379		3,199
105	Swimming pool concrete deck, 25%	5,850	1,547	287		1,834	287		2,121	287		2,408
106	Swimming pool concrete deck, 25%	5,850	1,031	241		1,272	241		1,513	241		1,754
107	Swimming pool engr wood deck	21,068	5,571	1,033		6,604	1,033		7,638	1,033		8,671
108	Pool building lights	230	97	26		124	26		150	26		177
109	Swimming pool furniture (25%)	4,284	2,266	2,018	(4,284)		536		536	536		1,071
110	Swimming pool furniture (25%)	4,284	1,416	956		2,372	956		3,328	956	(4,284)	
111	Swimming pool furniture (25%)	4,284	850	687		1,537	687		2,223	687		2,910
112	Swimming pool furniture (25%)	4,284	283	572		855	572		1,426	572		1,998
113	Wood picket fence	1,175	559	308		867	308	(1,175)		59		59
114	Swimming pool railing	12,852	5,098	1,551		6,649	1,551		8,200	1,551		9,750
SWIMMING POOL												
115	Pool buildings roof	6,145	3,250	2,895	(6,145)		246		246	246		492
116	Pool buildings gutters & downspouts	815	431	384	(815)		33		33	33		65
117	Pool buildings vinyl siding	6,312	2,385	393		2,777	393		3,170	393		3,563
118	Pool buildings exterior doors	6,783	2,870	783		3,653	783		4,435	783		5,218
119	Pool building restroom fixtures	8,160	4,316	3,844	(8,160)		408		408	408		816
120	Pool building water heater	1,224	647	577	(1,224)		102		102	102		204
TENNIS COURTS												
121	Tennis court - base asphalt	29,376	5,438	1,841		7,279	1,841		9,121	1,841		10,962
122	Tennis court - color coat	7,344	1,554	1,930		3,484	1,930		5,414	1,930	(7,344)	
123	Tennis court - posts	1,224	194	74		268	74		341	74		415
124	Tennis court - base asphalt	29,376		1,399		1,399	1,399		2,798	1,399		4,197
125	Tennis court - color coat	7,344		1,224		1,224	1,224		2,448	1,224		3,672
126	Tennis court - posts	1,224		58		58	58		117	58		175
127	Tennis court - fence	12,196	4,838	1,472		6,309	1,472		7,781	1,472		9,253
128	Tennis court benches	1,377		34		34	34		67	34		101

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## 1. COMMON INTEREST DEVELOPMENTS - AN OVERVIEW

Over the past 40 years, the responsibility for community facilities and infrastructure around many of our homes has shifted from the local government to Community Associations. Thirty years ago, a typical new town house abutted a public street on the front and a public alley on the rear. Open space was provided by a nearby public park and recreational facilities were purchased ala carte from privately owned country clubs, swim clubs, tennis clubs, and gymnasiums. Today, 60% of all new residential construction, i.e. townhouses, single-family homes, condominiums, and cooperatives, is in Common Interest Developments (CID). In a CID, a homeowner is bound to a Community Association that owns, maintains, and is responsible for periodic replacements of various components that may include the roads, curbs, sidewalks, playgrounds, streetlights, recreational facilities, and other community facilities and infrastructure.

The growth of Community Associations has been explosive. In 1965, there were only 500 Community Associations in the United States. According to the 1990 U.S. Census, there were 130,000 Community Associations. Community Associations Institute (CAI), a national trade association, estimates there were more than 200,000 Community Associations in the year 2000, and that the number of Community Associations will continue to multiply.

The shift of responsibility for billions of dollars of community facilities and infrastructure from the local government and private sector to Community Associations has generated new and unanticipated problems. Although Community Associations have succeeded in solving many short-term problems, many Associations have failed to properly plan for the tremendous expenses of replacing community facilities and infrastructure components. When inadequate replacement reserve funding results in less than timely replacements of failing components, home owners are exposed to the burden of special assessments, major increases in Association fees, and a decline in property values.

## 2. REPLACEMENT RESERVE STUDY

The purpose of a Replacement Reserve Study is to provide the Association with an inventory of the common community facilities and infrastructure components that require periodic replacement, a general view of the condition of these components, and an effective financial plan to fund projected periodic replacements. The Replacement Reserve Study consists of the following:

- **Replacement Reserve Study Introduction.** The introduction provides a description of the property, reviews the intent of the Replacement Reserve Study, and lists documents and site evaluations upon which the Replacement Reserve Study is based.
- **Section A Replacement Reserve Analysis.** Many components owned by the Association have a limited life and require periodic replacement. Therefore, it is essential the Association have a financial plan that provides funding for the timely replacement of these components in order to protect the safety, appearance, and value of the community. In conformance with American Institute of Certified Public Accountant guidelines, a Replacement Reserve Analysis evaluates the current funding of Replacement Reserves as reported by the Association and recommends annual funding of Replacement Reserves by two generally accepted accounting methods; the Cash Flow Method and the Component Method. Miller - Dodson provides a replacement reserve recommendation based on the Cash Flow Method in Section A, and the Component Method in the Appendix of the report.
- **Section B Replacement Reserve Inventory.** The Replacement Reserve Inventory lists the commonly owned components within the community that require periodic replacement using funding from Replacement Reserves. The Replacement Reserve Inventory also provides information about components excluded from the Replacement Reserve Inventory whose replacement is not scheduled for funding from Replacement Reserves.

Replacement Reserve Inventory includes estimates of the normal economic life and the remaining economic life for those components whose replacement is scheduled for funding from Replacement Reserves.

- **Section C Projected Annual Replacements.** The Calendar of Projected Annual Replacements provides a year-by-year listing of the Projected Replacements based on the data in the Replacement Reserve Inventory.
- **Section D Condition Assessment.** Several of the items listed in the Replacement Reserve Inventory are discussed in more detail. The Condition Assessment includes a narrative and photographs that document conditions at the property observed during our visual evaluation.
- **The Appendix is provided as an attachment to the Replacement Reserve Study.** Additional attachments may include supplemental photographs to document conditions at the property and additional information specific to the property cited in the Conditions Assessment (i.e. Consumer Product Safety Commission, Handbook for Public Playground Safety, information on segmental retaining walls, manufacturer recommendations for asphalt shingles or siding, etc). The Appendix also includes the Accounting Summary for the Cash Flow Method and the Component Method.

### 3. METHODS OF ANALYSIS

The Replacement Reserve industry generally recognizes two different methods of accounting for Replacement Reserve Analysis. Due to the difference in accounting methodologies, these methods lead to different calculated values for the Minimum Annual Contribution to the Reserves. The results of both methods are presented in this report. The Association should obtain the advice of its accounting professional as to which method is more appropriate for the Association. The two methods are:

- **Cash Flow Method.** The Cash Flow Method is sometimes referred to as the "Pooling Method." It calculates the minimum constant annual contribution to reserves (Minimum Annual Deposit) required to meet projected expenditures without allowing total reserves on hand to fall below the specified minimum level in any year.

First, the Minimum Recommended Reserve Level to be Held on Account is determined based on the age, condition, and replacement cost of the individual components. The mathematical model then allocates the estimated replacement costs to the future years in which they are projected to occur. Based on these expenditures, it then calculates the minimum constant yearly contribution (Minimum Annual Deposit) to the reserves necessary to keep the reserve balance at the end of each year above the Minimum Recommended Reserve Level to be Held on Account. The Cash Flow Analysis assumes that the Association will have authority to use all of the reserves on hand for replacements as the need occurs. This method usually results in a Minimum Annual Deposit that is less than that arrived at by the Component Method.

- **Component Method.** This method is a time tested mathematical model developed by HUD in the early 1980s, but has been generally relegated to a few States that require it by law. For the vast majority of Miller - Dodson's clients, this method is not used.

The Component Method treats each item in the replacement schedule as an individual line item budget. Generally, the Minimum Annual Contribution to Reserves is higher when calculated by the Component Method. The mathematical model for this method works as follows:

First, the total Current Objective is calculated, which is the reserve amount that would have accumulated had all of the items on the schedule been funded from initial construction at their current replacement costs. Next, the Reserves Currently on Deposit (as reported by the Association) are distributed to the components in the schedule in proportion to the Current Objective. The Minimum Annual Deposit for each component is equal to the Estimated Replacement Cost, minus the Reserves on Hand, divided by the years of life remaining.

### 4. REPLACEMENT RESERVE STUDY DATA

- **Identification of Reserve Components.** The Reserve Analyst has only two methods of identifying Reserve Components; (1) information provided by the Association and (2) observations made at the site. It is important that the Reserve Analyst be provided with all available information detailing the components owned by the Association. It is our policy to request such information prior to bidding on a project and to meet with the individuals responsible for maintaining the community after acceptance of our proposal. After completion of the Study, the Study should be reviewed by the Board of Directors, individuals responsible for maintaining the community, and the Association's accounting professionals. We are dependent upon the Association for correct information, documentation, and drawings.
- **Unit Costs.** Unit costs are developed using nationally published standards and estimating guides and are adjusted by state or region. In some instances, recent data received in the course of our work is used to modify these figures.

Contractor proposals or actual cost experience may be available as part of the Association records. This is useful information, which should be incorporated into your report. Please bring any such available data to our attention, preferably before the report is commenced.

- **Replacement vs. Repair and Maintenance.** A Replacement Reserve Study addresses the required funding for Capital Replacement Expenditures. This should not be confused with operational costs or cost of repairs or maintenance.

## 5. DEFINITIONS

**Adjusted Cash Flow Analysis.** Cash flow analysis adjusted to take into account annual cost increases due to inflation and interest earned on invested reserves. In this method, the annual contribution is assumed to grow annually at the inflation rate.

**Annual Deposit if Reserves Were Fully Funded.** Shown on the Summary Sheet A1 in the Component Method summary, this would be the amount of the Annual Deposit needed if the Reserves Currently on Deposit were equal to the Total Current Objective.

**Cash Flow Analysis.** See Cash Flow Method, above.

**Component Analysis.** See Component Method, above.

**Contingency.** An allowance for unexpected requirements. Roughly the same as the Minimum Recommended Reserve Level to be Held on Account used in the Cash Flow Method of analysis.

**Critical Year.** In the Cash Flow Method, a year in which the reserves on hand are projected to fall to the established minimum level. See Minimum Recommended Reserve Level to be Held on Account.

**Current Objective.** This is the reserve amount that would have accumulated had the item been funded from initial construction at its current replacement cost. It is equal to the estimated replacement cost divided by the estimated economic life, times the number of years expended (the difference between the Estimated Economic Life and the Estimated Life Left). The Total Current Objective can be thought of as the amount of reserves the Association should now have on hand based on the sum of all of the Current Objectives.

**Cyclic Replacement Item.** A component item that typically begins to fail after an initial period (Estimated Initial Replacement), but which will be replaced in increments over a number of years (the Estimated Replacement Cycle). The Reserve Analysis program divides the number of years in the Estimated Replacement Cycle into five equal increments. It then allocates the Estimated Replacement Cost equally over those five increments. (As distinguished from Normal Replacement Items, see below)

**Estimated Economic Life.** Used in the Normal Replacement Schedules. This represents the industry average number of years that a new item should be expected to last until it has to be replaced. This figure is sometimes modified by climate, region, or original construction conditions.

**Estimated Economic Life Left.** Used in the Normal Replacement Schedules. Number of years until the item is expected to need replacement. Normally, this number would be considered to be the difference between the Estimated Economic Life and the age of the item. However, this number must be modified to reflect maintenance practice, climate, original construction and quality, or other conditions. For the purpose of this report, this number is determined by the Reserve Analyst based on the present condition of the item relative to the actual age.

**Estimated Initial Replacement.** For a Cyclic Replacement Item (see above), the number of years until the replacement cycle is expected to begin.

**Estimated Replacement Cycle.** For a Cyclic Replacement Item, the number of years over which the remainder of the component's replacement occurs.

**Minimum Annual Deposit.** Shown on the Summary Sheet A1. The calculated requirement for annual contribution to reserves as calculated by the Cash Flow Method (see above).

**Minimum Deposit in the Study Year.** Shown on the Summary Sheet A1. The calculated requirement for contribution to reserves in the study year as calculated by the Component Method (see above).

**Minimum Recommended Reserve Level to be Held on Account.** Shown on the Summary Sheet A1, this number is used in the Cash Flow Method only. This is the prescribed level below which the reserves will not be allowed to fall in any year. This amount is determined based on the age, condition, and replacement cost of the individual components. This number is normally given as a percentage of the total Estimated Replacement Cost of all reserve components.

**Normal Replacement Item.** A component of the property that, after an expected economic life, is replaced in its entirety. (As distinguished from Cyclic Replacement Items, see above.)

Normal Replacement Schedules. The list of Normal Replacement Items by category or location. These items appear on pages designated.

Number of Years of the Study. The numbers of years into the future for which expenditures are projected and reserve levels calculated. This number should be large enough to include the projected replacement of every item on the schedule, at least once. This study covers a 40-year period.

One Time Deposit Required to Fully Fund Reserves. Shown on the Summary Sheet A1 in the Component Method summary, this is the difference between the Total Current Objective and the Reserves Currently on Deposit.

Reserves Currently on Deposit. Shown on the Summary Sheet A1, this is the amount of accumulated reserves as reported by the Association in the current year.

Reserves on Hand. Shown in the Cyclic Replacement and Normal Replacement Schedules, this is the amount of reserves allocated to each component item in the Cyclic or Normal Replacement schedules. This figure is based on the ratio of Reserves Currently on Deposit divided by the total Current Objective.

Replacement Reserve Study. An analysis of all of the components of the common property of the Association for which a need for replacement should be anticipated within the economic life of the property as a whole. The analysis involves estimation for each component of its estimated Replacement Cost, Estimated Economic Life, and Estimated Life Left. The objective of the study is to calculate a recommended annual contribution to the Association's Replacement Reserve Fund.

Total Replacement Cost. Shown on the Summary Sheet A1, this is total of the Estimated Replacement Costs for all items on the schedule if they were to be replaced once.

Unit Replacement Cost. Estimated replacement cost for a single unit of a given item on the schedule.

Unit (of Measure). Non-standard abbreviations are defined on the page of the Replacement Reserve Inventory where the item appears. The following standard abbreviations are used in this report:

EA: each    FT: feet    LS: lump sum    PR: pair    SF: square feet    SY: square yard

What is a Reserve Study?  
Who are we?



<https://youtu.be/m4BcOE6q3Aw>

What kind of property uses a Reserve Study?  
Who are our clients?



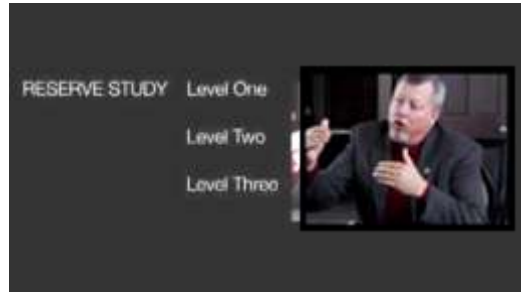
<https://youtu.be/40SodajTW1g>

Who conducts a Reserve Study?  
Reserve Specialist (RS) what does this mean?



<https://youtu.be/pYSMZ013VjQ>

When should a Reserve Study be updated?  
What are the different types of Reserve Studies?



<https://youtu.be/Qx8WHB9Cgnc>

What is in a Reserve Study and what is out?  
Improvement vs Component, is there a difference?



<https://youtu.be/ZfBoAEhtf3E>

What is my role as a Community Manager?  
Will the report help me explain Reserves to my clients?



<https://youtu.be/1J2h7FIU3qw>



What is my role as a Board Member?  
Will a Reserve Study meet my community's needs?



<https://youtu.be/aARD1B1Oa3o>

Community dues, how can a Reserve Study help?  
Will a study help keep my property competitive?



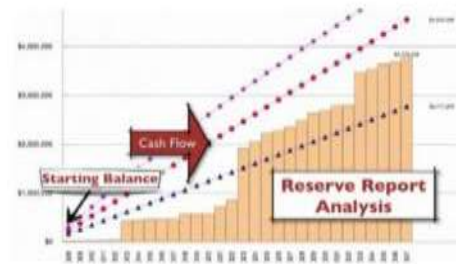
<https://youtu.be/diZfM1lyJYU>

How do I read the report?  
Will I have a say in what the report contains?



<https://youtu.be/qCeVJhFf9ag>

Where do the numbers come from?  
Cumulative expenditures and funding, what?



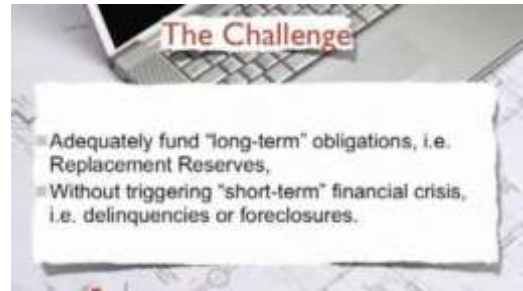
<https://youtu.be/SePdwVDvHWI>

How are interest and inflation addressed?  
What should we look at when considering inflation?



<https://youtu.be/W8CDLwRlv68>

A community needs more help, where do we go?  
What is a Strategic Funding Plan?



<https://youtu.be/hIxV9X1tlcA>