

LEVEL 2 REPLACEMENT RESERVE REPORT FY 2021 CORROTOMAN BY THE BAY ASSOCIATION



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REPLACEMENT RESERVE REPORT

CORROTOMAN BY THE BAY ASSOCIATION

MOLLUSK, VIRGINIA
July 22, 2020
Revised November 23, 2020
Revised December 1, 2020



Description. Corrotoman by the Bay Association is a Homeowner's Association located in Mollusk, Virginia. Constructed in 1967, the community consists of 591 Single-family Homes, Lots, and Community Center. The survey examined the common elements of the property, including:

- Entry Monument, Signage, All Roadways, and Parking Areas
- Sidewalks
- Fencing
- Storm Water Management and Bulkhead
- Exterior Main Pool, Tot Lot, Tennis Court, Picnic Areas, Boat Docks, and Boat Ramp
- Pool Building, Maintenance Shed, Pavilion Exteriors, and Interior Systems

Level of Service. This study has been performed as a Level 2 Update with Site Visit/On-Site Review as defined by the Community Associations Institute's, National Reserve Study Standards. As such, the component inventory is based on the study that was performed by Miller Dodson in 2011 and 2015. This inventory was adjusted to reflect changes provided by the Community Manager and/or the Board of Directors, or adjustments made based on the site visit and visual assessment performed by the Analyst. The analysis, including fund status and funding plan, is developed from the adjusted inventory.

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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.

Purpose. The purpose of this Replacement Reserve Study is to provide Corrotoman by the Bay Association (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 reported 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 July 22, 2020 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 2021 covering the period from March 1, 2020 to February 28, 2021. The Replacement Reserves on deposit as of March 1, 2020 are proposed to be \$183,419. The reported current annual funding for reserves is \$41,982.

The balance and contribution figures have been supplied by the managing 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.

Acknowledgment. Miller+Dodson Associates would like to acknowledge the assistance and input of Local members of the Board of Directors who provided very helpful insight into the current operations of the property.

Analyst's Credentials. Bill Conner holds a Bachelor of Science Degree in Economics from James Madison University. He has over forty years of experience in inspection services, residential construction, commercial construction, and architectural woodwork. Bill has personally inspected and evaluated over 3,000 properties and managed the inspection of many more throughout the eastern United States. Currently, Bill resides near Richmond, Virginia and is a reserve analyst for Miller+Dodson Associates.

Respectfully Submitted,



Bill Conner

William (Bill) J. Conner, Jr.

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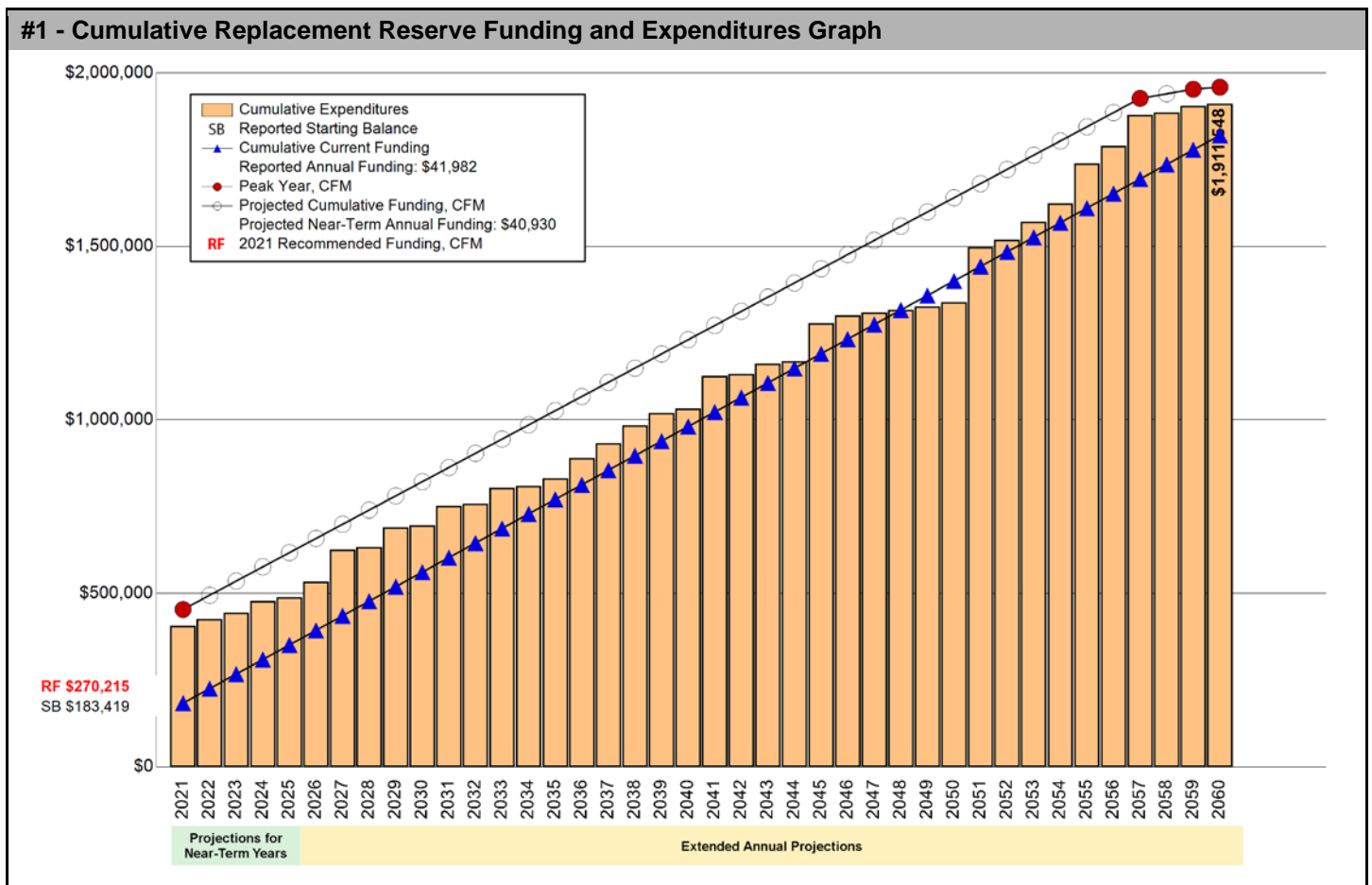
EXECUTIVE SUMMARY

The Corrotoman by the Bay Association Replacement Reserve Analysis uses the Cash Flow Method (CFM) to calculate Replacement Reserve funding for the periodic replacement of the 94 Projected Replacements identified in the Replacement Reserve Inventory.

\$270,215 **RECOMMENDED REPLACEMENT RESERVE FUNDING FOR THE STUDY YEAR, 2021**
 \$38.10 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 A.5.

Corrotoman by the Bay Association reports a Starting Balance of \$183,419 and Annual Funding totaling \$41,982. The reported Current Annual Funding of \$41,982 adequately funds projected replacements for the near-term years. See Page A.3 for a more detailed evaluation.



The Current Funding Objective as calculated by the Component Method (Fully Funded) is \$658,274 making the reserve account 27.9% funded. See the Appendix for more information on this method.

REPLACEMENT RESERVE ANALYSIS - GENERAL INFORMATION

The Corrotoman by the Bay Association Replacement Reserve Analysis calculations of recommended funding of Replacement Reserves by the Cash Flow Method (CFM) 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.

2021 | STUDY YEAR

The Association reports that their accounting year begins on March 1, and the Study Year, the first year evaluated by the Replacement Reserve Analysis, begins on March 1, 2021.

40 Years | STUDY PERIOD

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

\$183,419 | STARTING BALANCE

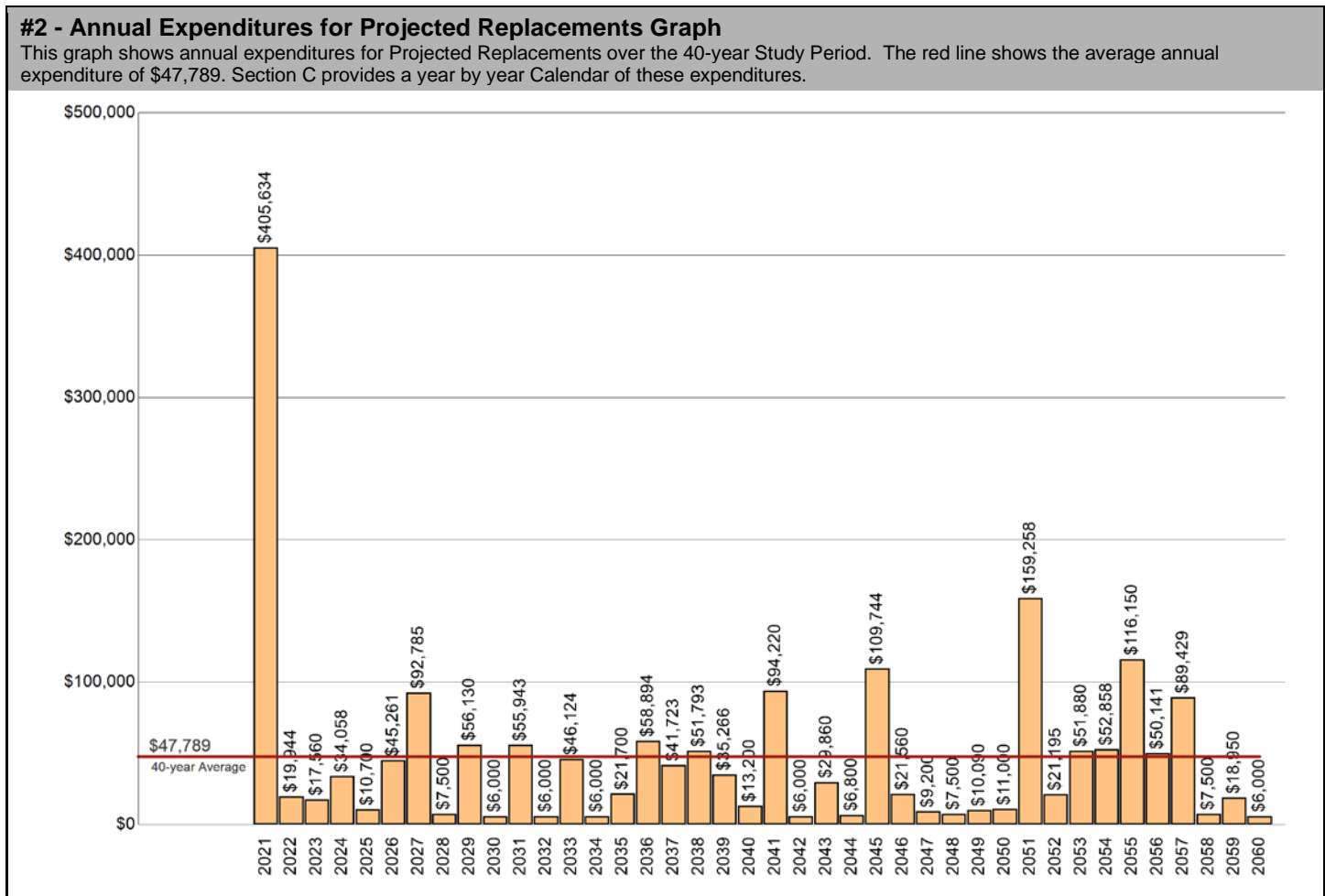
The Association reports Replacement Reserves on Deposit totaling \$183,419 at the start of the Study Year.

Level Two | LEVEL OF SERVICE

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

\$1,911,548 | REPLACEMENT RESERVE INVENTORY - PROJECTED REPLACEMENTS

The Corrotoman by the Bay Association Replacement Reserve Inventory identifies 94 items that will require periodic replacement, that are to be funded from Replacement Reserves. We estimate the cost of these replacements will be \$1,911,548 over the 40-year Study Period. The Projected Replacements are divided into 4 major categories starting on Page B.3. Pages B.1-B.2 provide detailed information on the Replacement Reserve Inventory.



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 A.4 and A.5. The Projected Replacements listed on Page C.2 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 A.5.

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 A.5.

ANNUAL EXPENDITURES AND CURRENT FUNDING

The annual expenditures that comprise the \$1,911,548 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.

#3 - Table of Annual Expenditures and Current Funding Data - Years 1 through 40										
Year	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Starting Balance	\$183,419									
Projected Replacements	(\$405,634)	(\$19,944)	(\$17,560)	(\$34,058)	(\$10,700)	(\$45,261)	(\$92,785)	(\$7,500)	(\$56,130)	(\$6,000)
Annual Deposit	\$41,982	\$41,982	\$41,982	\$41,982	\$41,982	\$41,982	\$41,982	\$41,982	\$41,982	\$41,982
End of Year Balance	(\$180,233)	(\$158,195)	(\$133,773)	(\$125,849)	(\$94,567)	(\$97,846)	(\$148,649)	(\$114,167)	(\$128,315)	(\$92,333)
Cumulative Expenditures	(\$405,634)	(\$425,578)	(\$443,138)	(\$477,196)	(\$487,896)	(\$533,157)	(\$625,942)	(\$633,442)	(\$689,572)	(\$695,572)
Cumulative Receipts	\$225,401	\$267,383	\$309,365	\$351,347	\$393,329	\$435,311	\$477,293	\$519,275	\$561,257	\$603,239
Year	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
Projected Replacements	(\$55,943)	(\$6,000)	(\$46,124)	(\$6,000)	(\$21,700)	(\$58,894)	(\$41,723)	(\$51,793)	(\$35,266)	(\$13,200)
Annual Deposit	\$41,982	\$41,982	\$41,982	\$41,982	\$41,982	\$41,982	\$41,982	\$41,982	\$41,982	\$41,982
End of Year Balance	(\$106,293)	(\$70,311)	(\$74,453)	(\$38,471)	(\$18,189)	(\$35,101)	(\$34,841)	(\$44,652)	(\$37,935)	(\$9,153)
Cumulative Expenditures	(\$751,514)	(\$757,514)	(\$803,638)	(\$809,638)	(\$831,338)	(\$890,232)	(\$931,954)	(\$983,747)	(\$1,019,012)	(\$1,032,212)
Cumulative Receipts	\$645,221	\$687,203	\$729,185	\$771,167	\$813,149	\$855,131	\$897,113	\$939,095	\$981,077	\$1,023,059
Year	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050
Projected Replacements	(\$94,220)	(\$6,000)	(\$29,860)	(\$6,800)	(\$109,744)	(\$21,560)	(\$9,200)	(\$7,500)	(\$10,090)	(\$11,000)
Annual Deposit	\$41,982	\$41,982	\$41,982	\$41,982	\$41,982	\$41,982	\$41,982	\$41,982	\$41,982	\$41,982
End of Year Balance	(\$61,391)	(\$25,409)	(\$13,287)	\$21,895	(\$45,867)	(\$25,445)	\$7,337	\$41,819	\$73,711	\$104,693
Cumulative Expenditures	(\$1,126,432)	(\$1,132,432)	(\$1,162,292)	(\$1,169,092)	(\$1,278,836)	(\$1,300,396)	(\$1,309,596)	(\$1,317,096)	(\$1,327,186)	(\$1,338,186)
Cumulative Receipts	\$1,065,041	\$1,107,023	\$1,149,005	\$1,190,987	\$1,232,969	\$1,274,951	\$1,316,933	\$1,358,915	\$1,400,897	\$1,442,879
Year	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060
Projected Replacements	(\$159,258)	(\$21,195)	(\$51,880)	(\$52,858)	(\$116,150)	(\$50,141)	(\$89,429)	(\$7,500)	(\$18,950)	(\$6,000)
Annual Deposit	\$41,982	\$41,982	\$41,982	\$41,982	\$41,982	\$41,982	\$41,982	\$41,982	\$41,982	\$41,982
End of Year Balance	(\$12,584)	\$8,203	(\$1,695)	(\$12,571)	(\$86,739)	(\$94,898)	(\$142,345)	(\$107,863)	(\$84,831)	(\$48,849)
Cumulative Expenditures	(\$1,497,445)	(\$1,518,640)	(\$1,570,520)	(\$1,623,378)	(\$1,739,528)	(\$1,789,669)	(\$1,879,098)	(\$1,886,598)	(\$1,905,548)	(\$1,911,548)
Cumulative Receipts	\$1,484,861	\$1,526,843	\$1,568,825	\$1,610,807	\$1,652,789	\$1,694,771	\$1,736,753	\$1,778,735	\$1,820,717	\$1,862,699

EVALUATION OF CURRENT FUNDING

The evaluation of Current Funding (Starting Balance of \$183,419 & annual funding of \$41,982), 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 94 Projected Replacements identified in the Replacement Reserve Inventory and that the Association will continue Annual Funding of \$41,982 throughout the 40-year Study Period.

Annual Funding of \$41,982 is approximately 16 percent of the \$270,215 recommended Annual Funding calculated by the Cash Flow Method for 2021, the Study Year.

The progression and effect of continued Current Annual Funding coupled with this studies Projected Replacements over the Study Period are evaluated in Table 3 above. Maintaining Current Annual Funding may result in inadequate End of Year Balances, noted in red.

See the Executive Summary for the Current Funding Statement.

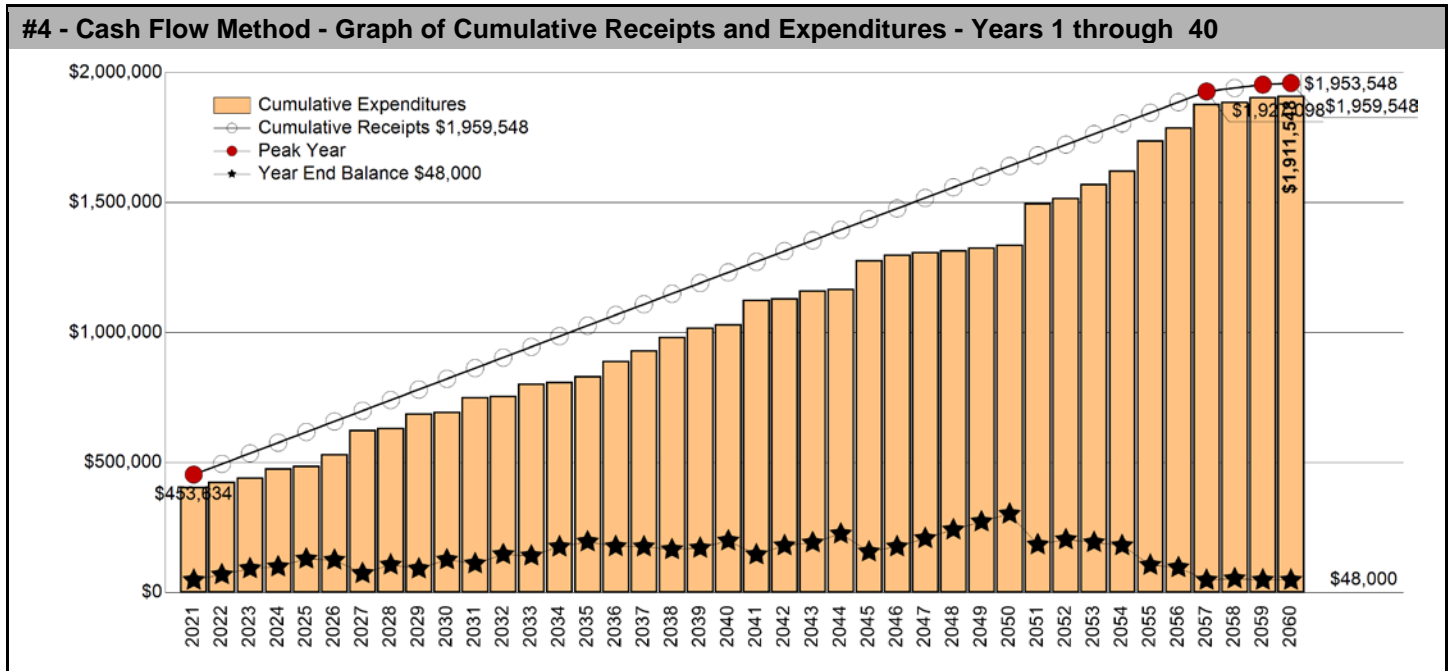
CASH FLOW METHOD FUNDING

\$270,215 RECOMMENDED REPLACEMENT RESERVE FUNDING FOR 2021

\$38.10 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 2021 with Replacement Reserves on Deposit dropping to the Minimum Balance after the completion of \$405,634 of replacements from 2021 to 2021. Recommended funding is projected to decline from \$270,215 in 2021 to \$40,930 in 2022. Peak Years are identified in Chart 4 and Table 5.
- **Minimum Balance.** The calculations assume a Minimum Balance of \$48,000 will always be held in reserve, which is calculated by rounding the 12-month 40-year average annual expenditure of \$47,789 as shown on Graph #2.
- **Cash Flow Method Study Period.** Cash Flow Method calculates funding for \$1,911,548 of expenditures over the 40-year Study Period. It does not include funding for any projects beyond 2060 and in 2060, the end of year balance will always be the Minimum Balance.



#5 - Cash Flow Method - Table of Receipts & Expenditures - Years 1 through 40											
Year	1st Peak - 2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Starting Balance	\$183,419										
Projected Replacements	(\$405,634)	(\$19,944)	(\$17,560)	(\$34,058)	(\$10,700)	(\$45,261)	(\$92,785)	(\$7,500)	(\$56,130)	(\$6,000)	
Annual Deposit	\$270,215	\$40,930	\$40,930	\$40,930	\$40,930	\$40,930	\$40,930	\$40,930	\$40,930	\$40,930	
End of Year Balance	\$48,000	\$68,986	\$92,355	\$99,227	\$129,457	\$125,125	\$73,270	\$106,699	\$91,499	\$126,428	
Cumulative Expenditures	(\$405,634)	(\$425,578)	(\$443,138)	(\$477,196)	(\$487,896)	(\$533,157)	(\$625,942)	(\$633,442)	(\$689,572)	(\$695,572)	
Cumulative Receipts	\$453,634	\$494,564	\$535,493	\$576,423	\$617,352	\$658,282	\$699,211	\$740,141	\$781,070	\$822,000	
Year	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	
Projected Replacements	(\$55,943)	(\$6,000)	(\$46,124)	(\$6,000)	(\$21,700)	(\$58,894)	(\$41,723)	(\$51,793)	(\$35,266)	(\$13,200)	
Annual Deposit	\$40,930	\$40,930	\$40,930	\$40,930	\$40,930	\$40,930	\$40,930	\$40,930	\$40,930	\$40,930	
End of Year Balance	\$111,415	\$146,345	\$141,150	\$176,080	\$195,309	\$177,345	\$176,552	\$165,689	\$171,353	\$199,083	
Cumulative Expenditures	(\$751,514)	(\$757,514)	(\$803,638)	(\$809,638)	(\$831,338)	(\$890,232)	(\$931,954)	(\$983,747)	(\$1,019,012)	(\$1,032,212)	
Cumulative Receipts	\$862,929	\$903,859	\$944,789	\$985,718	\$1,026,648	\$1,067,577	\$1,108,507	\$1,149,436	\$1,190,366	\$1,231,295	
Year	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	
Projected Replacements	(\$94,220)	(\$6,000)	(\$29,860)	(\$6,800)	(\$109,744)	(\$21,560)	(\$9,200)	(\$7,500)	(\$10,090)	(\$11,000)	
Annual Deposit	\$40,930	\$40,930	\$40,930	\$40,930	\$40,930	\$40,930	\$40,930	\$40,930	\$40,930	\$40,930	
End of Year Balance	\$145,793	\$180,722	\$191,792	\$225,921	\$157,107	\$176,476	\$208,206	\$241,635	\$272,475	\$302,404	
Cumulative Expenditures	(\$1,126,432)	(\$1,132,432)	(\$1,162,292)	(\$1,169,092)	(\$1,278,836)	(\$1,300,396)	(\$1,309,596)	(\$1,317,096)	(\$1,327,186)	(\$1,338,186)	
Cumulative Receipts	\$1,272,225	\$1,313,154	\$1,354,084	\$1,395,014	\$1,435,943	\$1,476,873	\$1,517,802	\$1,558,732	\$1,599,661	\$1,640,591	
Year	2051	2052	2053	2054	2055	2056	2nd Peak - 2057	2058	3rd Peak - 2059	4th Peak - 2060	
Projected Replacements	(\$159,258)	(\$21,195)	(\$51,880)	(\$52,858)	(\$116,150)	(\$50,141)	(\$89,429)	(\$7,500)	(\$18,950)	(\$6,000)	
Annual Deposit	\$40,930	\$40,930	\$40,930	\$40,930	\$40,930	\$40,930	\$40,930	\$13,225	\$13,225	\$6,000	
End of Year Balance	\$184,076	\$203,810	\$192,860	\$180,931	\$105,711	\$96,499	\$48,000	\$53,725	\$48,000	\$48,000	
Cumulative Expenditures	(\$1,497,445)	(\$1,518,640)	(\$1,570,520)	(\$1,623,378)	(\$1,739,528)	(\$1,789,669)	(\$1,879,098)	(\$1,886,598)	(\$1,905,548)	(\$1,911,548)	
Cumulative Receipts	\$1,681,520	\$1,722,450	\$1,763,379	\$1,804,309	\$1,845,239	\$1,886,168	\$1,927,098	\$1,940,323	\$1,953,548	\$1,959,548	

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.

\$270,215 2021 - CASH FLOW METHOD RECOMMENDED FUNDING

The 2021 Study Year calculations have been made using current replacement costs (see Page B.2), modified by the Analyst for any project specific conditions.

\$41,871 2022 - INFLATION ADJUSTED FUNDING

A new analysis calculates the 2022 funding based on three assumptions:

- Replacement Reserves on Deposit totaling \$48,000 on January 1, 2022.
- All 2021 Projected Replacements listed on Page C.2 accomplished at a cost to Replacement Reserves less than \$405,634.
- Construction Cost Inflation of 2.30 percent in 2021.

The \$41,871 inflation adjusted funding in 2022 is a 2.30 percent increase over the non-inflation adjusted funding of \$40,930.

\$42,834 2023 - INFLATION ADJUSTED FUNDING

A new analysis calculates the 2023 funding based on three assumptions:

- Replacement Reserves on Deposit totaling \$200,340 on January 1, 2023.
- All 2022 Projected Replacements listed on Page C.2 accomplished at a cost to Replacement Reserves less than \$20,247.
- Construction Cost Inflation of 2.30 percent in 2022.

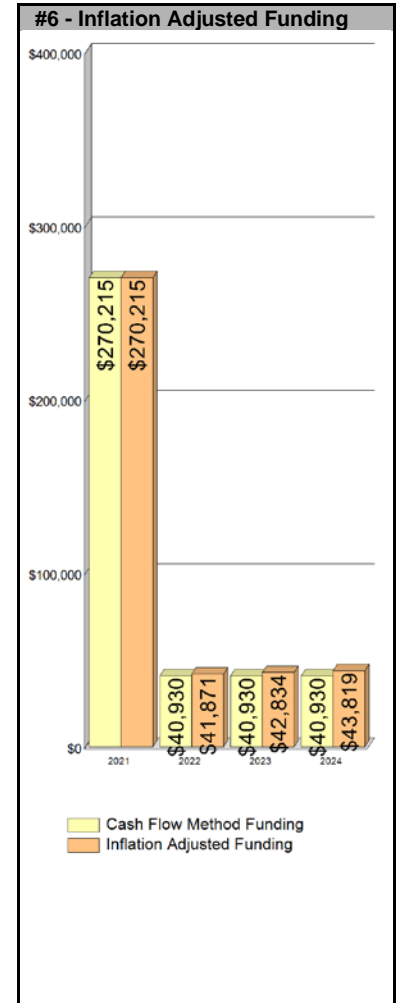
The \$42,834 inflation adjusted funding in 2023 is a 4.65 percent increase over the non-inflation adjusted funding of \$40,930.

\$43,819 2024 - INFLATION ADJUSTED FUNDING

A new analysis calculates the 2024 funding based on three assumptions:

- Replacement Reserves on Deposit totaling \$217,036 on January 1, 2024.
- All 2023 Projected Replacements listed on Page C.2 accomplished at a cost to Replacement Reserves less than \$9,829.
- Construction Cost Inflation of 2.30 percent in 2023.

The \$43,819 inflation adjusted funding in 2024 is a 7.05 percent increase over the non-inflation adjusted funding of \$40,930.



Year Five and 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 to be professionally updated every 3 to 5 years.

Inflation Adjustment

Prior to approving a budget based upon the 2022, 2023 and 2024 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 percentage point), 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 2021, based on a 1.00 percent interest rate, we estimate the Association may earn \$1,157 on an average balance of \$115,710, \$1,242 on an average balance of \$124,170 in 2022, and \$2,087 on \$208,688 in 2023. The Association may elect to attribute 100 percent of the earned interest to Reserves, resulting in a reduction in the 2021 funding from \$270,215 to \$269,058 (a 0.42 percent reduction), \$41,871 to \$40,629 in 2022 (a 2.96 percent reduction), and \$42,834 to \$40,747 in 2023 (a 4.87 percent reduction).

REPLACEMENT RESERVE STUDY - SUPPLEMENTAL COMMENTS

- The Cash Flow Method calculates the minimum annual funding necessary to prevent Replacement Reserves from dropping below the Minimum Balance, as defined on Page A4. 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 94 Projected Replacements specifically listed in the Replacement Reserve Inventory. The inclusion/exclusion of items from the Replacement Reserve Inventory is discussed on Page B.1.

REPLACEMENT RESERVE INVENTORY GENERAL INFORMATION

Corrotoman by the Bay Association - Replacement Reserve Inventory identifies 94 Projected Replacements.

- **PROJECTED REPLACEMENTS.** 94 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 \$998,279. Cumulative Replacements totaling \$1,911,548 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.** None of the items included in the Replacement Reserve Inventory are 'Excluded Items'. Multiple categories of items 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 \$1000 and/or a normal economic life of less than 3 years are typically excluded from funding from Replacement Reserves. This exclusion should reflect the 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 B.2.

Long-lived Items. Items are excluded from the Replacement Reserve Inventory when items are properly maintained and are assumed to have a life equal to the property.

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.

- **CATEGORIES.** The 94 items included in the Corrotoman by the Bay Association Replacement Reserve Inventory are divided into 4 major categories. Each category is printed on a separate page, beginning on page B.3.
- **LEVEL OF SERVICE.** This Replacement Reserve Inventory has been developed in compliance with the standards established for a Level 2 Update, as defined by the National Reserve Study Standards, established in 1998 by Community Associations Institute, which states:

This study has been performed as a Level 2 Update with Site Visit/On-Site Review as defined by the Community Associations Institute's, National Reserve Study Standards. As such, the component inventory is based on the study that was performed by Miller Dodson in 2011 and 2015. This inventory was adjusted to reflect changes provided by the Community Manager and/or the Board of Directors, or adjustments made based on the site visit and visual assessment performed by the Analyst. The analysis, including fund status and funding plan, is developed from the adjusted inventory.

REPLACEMENT RESERVE INVENTORY - GENERAL INFORMATION (CONT'D)

- **INVENTORY DATA.** Each of the 94 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 (Years). The number of years that a new and properly installed item should be expected to remain in service.
 - Remaining Economic Life (Years). 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.
- **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.

SITE ITEMS PROJECTED REPLACEMENTS						NEL- Normal Economic Life (yrs) REL- Remaining Economic Life (yrs)		
ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NEL	REL	REPLACEMENT COST (\$)	
1	Asphalt pavement, chip seal & patch	ls	1	\$6,000.00	2	1	\$6,000	
2	Asphalt pavement, road overlay	sf	59,450	\$1.30	30	6	\$77,285	
3	Asphalt pavement, parking overlay	sf	11,550	\$1.30	30	none	\$15,015	
4	Gravel road, power rake & replenish	ls	1	\$4,000.00	2	none	\$4,000	
5	Gravel road, reshape (25%)	sf	35,675	\$0.60	10	none	\$21,405	
6	Concrete sidewalk (6%)	sf	69	\$10.85	60	1	\$749	
7	Fence, 2-rail (vinyl) at clubhouse	ft	290	\$23.30	30	15	\$6,757	
8	Entry monument sign	ls	1	\$1,500.00	15	5	\$1,500	
9	Clubhouse message board	ea	1	\$1,200.00	25	5	\$1,200	
10	Septic tank & field, clubhouse	ls	1	\$8,600.00	40	3	\$8,600	
Replacement Costs - Page Subtotal							\$142,511	

COMMENTS
<ul style="list-style-type: none"> Item #7: Fence, 2-rail (vinyl) at clubhouse - 7/22/2020 Removed vinyl screen at clubhouse.

EXTERIOR ITEMS PROJECTED REPLACEMENTS						NEL- Normal Economic Life (yrs) REL- Remaining Economic Life (yrs)		
ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NEL	REL	REPLACEMENT COST (\$)	
11	CH - Shingle asphalt/fiberglass	sf	1,640	\$4.00	30	15	\$6,560	
12	CH - Gutter & downspout, 5" aluminum	ft	175	\$7.21	30	15	\$1,262	
13	CH - Membrane roof	sf	840	\$22.00	20	12	\$18,480	
14	CH - Siding & trim, vinyl	sf	1,575	\$7.80	35	20	\$12,285	
15	CH - Window, opening	sf	185	\$49.50	35	18	\$9,158	
16	CH - Entry door, solid wood, fan lite	ea	1	\$1,250.00	20	14	\$1,250	
17	CH - Entry door, metal, 1/2 glass	ea	1	\$950.00	20	14	\$950	
18	CH - Entry door, metal, 6-panel	ea	1	\$860.00	20	5	\$860	
19	CH - Entry door, wood, 6-panel	ea	2	\$900.00	20	5	\$1,800	
20	CH - Storm doors	ea	5	\$435.00	15	5	\$2,175	
21	SS - Shingle asphalt/fiberglass	sf	830	\$4.00	30	15	\$3,320	
22	SS - Siding & trim, vinyl	sf	750	\$7.80	35	20	\$5,850	
23	SS - Window, opening	sf	30	\$49.50	35	5	\$1,485	
24	SS - Entry door, wood, 1/2 glass	ea	1	\$675.00	20	5	\$675	
25	SS - Garage door, fiberglass, 7x12	ea	1	\$1,475.00	20	5	\$1,475	
26	P - Shingle asphalt/fiberglass	sf	1,090	\$4.00	30	15	\$4,360	
27	P - Siding & trim, wood	sf	425	\$7.50	30	10	\$3,188	
28	P - Concrete slab	sf	745	\$10.85	60	30	\$8,083	
Replacement Costs - Page Subtotal							\$83,215	

COMMENTS
<ul style="list-style-type: none"> CH = clubhouse, SS = storage shed, P = picnic shelter

INTERIOR ITEMS - CLUBHOUSE BUILDING INTERIOR						NEL- Normal Economic Life (yrs)		REPLACEMENT COST (\$)
PROJECTED REPLACEMENTS						REL- Remaining Economic Life (yrs)		
ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NEL	REL	REPLACEMENT COST (\$)	
29	Flooring, interior carpet	sf	1,400	\$4.90	10	2	\$6,860	
30	Flooring, vinyl sheet goods, kitchen	sf	200	\$7.20	20	8	\$1,440	
31	Flooring, ceramic, men's room	sf	125	\$37.50	30	16	\$4,688	
32	Flooring, ceramic, women's room	sf	120	\$37.50	30	19	\$4,500	
33	Interior lighting, general	ea	12	\$100.00	21	5	\$1,200	
34	Ceiling fan	ea	5	\$350.00	15	1	\$1,750	
35	Kitchen, cabinets	ft	22	\$235.00	30	5	\$5,170	
36	Kitchen, laminate countertop	ft	22	\$38.00	30	5	\$836	
37	Kitchen, appliances	ea	1	\$5,000.00	10	5	\$5,000	
38	Restroom, renovate, men's	sf	125	\$120.00	25	8	\$15,000	
39	Restroom, renovate, women's	sf	120	\$120.00	25	8	\$14,400	
40	Office furnishings, allowance	ls	1	\$1,000.00	12	5	\$1,000	
41	Office equipment, allowance	ls	1	\$1,500.00	5	2	\$1,500	
42	Exercise equipment, allowance	ls	1	\$3,000.00	15	none	\$3,000	
43	Security camera system	ls	1	\$650.00	10	8	\$650	
Replacement Costs - Page Subtotal							\$66,994	

COMMENTS
<ul style="list-style-type: none"> 07/22/2020 Removed wall tile men's room and included in Restroom, renovate, men's. Item #37: Kitchen, appliances - 07/22/2020 Removed individual kitchen appliances as some have been donated. Included replacement cost as lump sum for all appliances. Item #41: Office equipment, allowance - 07/22/2020 Removed computer desk top and included with office equipment. Item #42: Exercise equipment, allowance - 07/22/2020 Exercise equipment added to study. Item #43: Security camera system - 07/22/2020 Added security camera system.

INTERIOR ITEMS - CLUBHOUSE BUILDING INTERIOR (CONT.)						NEL- Normal Economic Life (yrs)		REPLACEMENT COST (\$)
PROJECTED REPLACEMENTS						REL- Remaining Economic Life (yrs)		
ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NEL	REL	REPLACEMENT COST (\$)	
44	Club room furniture replacement	ls	1	\$4,000.00	15	14	\$4,000	
45	Stack chair	ea	21	\$55.00	15	3	\$1,155	
46	Folding chair	ea	34	\$35.00	15	3	\$1,190	
47	Folding chair, upholstered	ea	11	\$175.00	15	3	\$1,925	
48	Table, laminate top	ea	10	\$200.00	15	3	\$2,000	
49	Misc. tables	ea	7	\$150.00	15	3	\$1,050	
50	TV	ea	1	\$800.00	15	8	\$800	
51	HVAC inside and outside units	ea	1	\$6,500.00	30	20	\$6,500	
52	Emergency generator	ea	1	\$6,000.00	30	22	\$6,000	
53	Water heater, electric, 30 Gal.	ea	2	\$600.00	15	2	\$1,200	
54	Interior painting	ls	1	\$7,500.00	8	6	\$7,500	
Replacement Costs - Page Subtotal								\$33,320

COMMENTS

- Item #44: Club room furniture replacement - 07/22/2020 Furniture replaced in 2019. Changed from individual items to lump sum per actual replacement cost in 2019.
- Item #51: HVAC inside and outside units - HVAC system recently failed and will be replaced soon. Cost based on actual estimate provided by BOD.

RECREATION ITEMS - SWIMMING POOL PROJECTED REPLACEMENTS						NEL- Normal Economic Life (yrs) REL- Remaining Economic Life (yrs)		
ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NEL	REL	REPLACEMENT COST (\$)	
55	Swimming pool, structure	sf	2,340	\$90.00	40	none	\$210,600	
56	Swimming pool, coping	ft	220	\$29.50	20	none	\$6,490	
57	Wading pool, structure	sf	182	\$90.00	40	none	\$16,380	
58	Wading pool, coping	ft	60	\$29.50	20	none	\$1,770	
59	Swimming pool, concrete deck	sf	4,160	\$11.50	30	none	\$47,840	
60	Swimming pool pump (5 hp)	ea	1	\$4,685.00	15	none	\$4,685	
61	Swimming pool filter	ea	2	\$1,800.00	20	none	\$3,600	
62	Chlorine / salinator system	ls	1	\$5,000.00	15	none	\$5,000	
63	Pool furniture, allowance	ls	1	\$2,000.00	7	3	\$2,000	
64	Perimeter fence - 4' (chain link)	ft	405	\$16.00	30	none	\$6,480	
65	Pool cover	sf	2,800	\$1.48	12	none	\$4,144	
66	Diving board	ea	1	\$1,100.00	10	none	\$1,100	
67	Diving board stand	ea	1	\$10,000.00	30	none	\$10,000	
68	Pool painting	ls	1	\$3,000.00	5	none	\$3,000	
Replacement Costs - Page Subtotal							\$323,089	

COMMENTS
<ul style="list-style-type: none"> Item #55: Swimming pool, structure - 07/22/2020 We have provided no remaining economic life for the pool and associated equipment as the BOD has indicated the intent to replace and possibly relocate the pool in the near future. This report may be updated with actual cost and time frame when provided.

RECREATION ITEMS - COURTS AND RECREATION EQUIPMENT						NEL- Normal Economic Life (yrs)		REPLACEMENT COST (\$)
PROJECTED REPLACEMENTS						REL- Remaining Economic Life (yrs)		
ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NEL	REL	REPLACEMENT COST (\$)	
69	Tennis court, color coat	sf	13,200	\$1.20	8	8	\$15,840	
70	Tennis court, resurface/overlay	ea	13,200	\$5.80	24	24	\$76,560	
71	Tennis court, post & footings	pr	2	\$1,600.00	24	24	\$3,200	
72	Tennis court, net	ea	2	\$375.00	5	5	\$750	
73	Tennis court backboard hitting wall	ea	1	\$1,200.00	15	15	\$1,200	
74	Tennis court, fence	ft	450	\$33.50	35	35	\$15,075	
75	Basketball court, concrete, replace	sf	400	\$10.85	30	5	\$4,340	
76	Basketball pole & backstop	ea	1	\$1,500.00	20	5	\$1,500	
77	Tot lot, arch climber	ea	1	\$1,050.00	15	1	\$1,050	
78	Tot lot, slide	ea	1	\$1,575.00	15	1	\$1,575	
79	Tot lot, swing	ea	1	\$1,890.00	15	1	\$1,890	
80	Tot lot, merry-go-round	ea	1	\$1,155.00	15	1	\$1,155	
81	Tot lot, spring toy	ea	5	\$1,155.00	15	1	\$5,775	
82	Picnic tables	ea	12	\$225.00	15	4	\$2,700	
83	B-B-Que grill	ea	1	\$500.00	20	5	\$500	
84	Gas grill, large	ea	1	\$1,500.00	25	10	\$1,500	
Replacement Costs - Page Subtotal							\$134,610	

COMMENTS

- 07/22/2020 We have included funding for only one more year remaining economic life as the BOD indicates all aspects of the tot lot / playground area will be replaced soon.
- Item #69: Tennis court, color coat - 07/22/2020 The tennis court was completely replaced in 2019 - 2020 and is in excellent condition. We added the tennis backboard hitting wall to this study.

RECREATION ITEMS - DOCKS AND BULKHEADS					NEL- Normal Economic Life (yrs)		
PROJECTED REPLACEMENTS					REL- Remaining Economic Life (yrs)		
ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NEL	REL	REPLACEMENT COST (\$)
85	Pier decking	sf	685	\$14.80	15	3	\$10,138
86	Pier structure	sf	685	\$38.50	30	17	\$26,373
87	Piling, freestanding	ea	14	\$980.00	30	17	\$13,720
88	Bulkhead, cap,	lf	350	\$13.70	15	5	\$4,795
89	Bulkhead, refurbish, 10% of repl.	ls	1	\$8,000.00	30	15	\$8,000
90	Bulkhead, replace	lf	350	\$295.00	40	34	\$103,250
91	Bulkhead, replace (across the cove)	lf	75	\$295.00	40	none	\$22,125
92	Boat ramp	sf	510	\$14.00	30	12	\$7,140
93	Channel dredging as needed	ls	1	\$15,000.00	10	none	\$15,000
Replacement Costs - Page Subtotal							\$210,541

COMMENTS

- Item #91: Bulkhead, replace (across the cove) - 07/22/2020 This item added per BOD request. The intent is to replace in the near future.
- Item #93: Channel dredging as needed - 07/22/2020 This item added per BOD request. Cost is an estimate and may be adjusted upon receiving additional information.

RECREATION ITEMS - GOLF COURSE						NEL- Normal Economic Life (yrs)		REPLACEMENT COST (\$)
PROJECTED REPLACEMENTS						REL- Remaining Economic Life (yrs)		
ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NEL	REL	REPLACEMENT COST (\$)	
94	GC Golf course repairs	ls	1	\$4,000.00	2	none	\$4,000	
Replacement Costs - Page Subtotal								\$4,000

COMMENTS

VALUATION EXCLUSIONS							
Excluded Items							
ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NEL	REL	REPLACEMENT COST (\$)
	Site lighting fixtures						EXCLUDED
	Property identification signage						EXCLUDED
	Miscellaneous signage						EXCLUDED
	Mailboxes						EXCLUDED
	Bench						EXCLUDED
	Picnic table						EXCLUDED
	Emergency lighting, exit light, etc.						EXCLUDED
	Signage						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 \$1000 have not been scheduled for funding from Replacement Reserve. Examples of items excluded 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	REPLACEMENT COST (\$)	UNIT REL	REL	REPLACEMENT COST (\$)
	Masonry features						EXCLUDED
	Miscellaneous culverts						EXCLUDED
	Building foundation(s)						EXCLUDED
	Concrete floor slabs (interior)						EXCLUDED
	Wall, floor, & roof structure						EXCLUDED
	Common element electrical services						EXCLUDED
	Electrical wiring						EXCLUDED
	Water piping at common facilities						EXCLUDED
	Waste piping at common facilities						EXCLUDED
	Stainless steel pool fixtures						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 (\$)	NEL	REL	REPLACEMENT COST (\$)
	All aspects of individual homes / units						EXCLUDED

UNIT IMPROVEMENTS EXCLUSIONS
Comments
<ul style="list-style-type: none"> • 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 (\$)	NEL	REL	REPLACEMENT COST (\$)
	Primary electric feeds						EXCLUDED
	Electric transformers						EXCLUDED
	Cable TV systems and structures						EXCLUDED
	Telephone cables and structures						EXCLUDED
	Water mains and meters						EXCLUDED
	Sanitary sewers						EXCLUDED
	Stormwater management system						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	REPLACEMENT COST (\$)	UNIT	NEL	REL	REPLACEMENT COST (\$)
	Landscaping and site grading							EXCLUDED
	Exterior painting							EXCLUDED
	Interior painting							EXCLUDED
	Janitorial service							EXCLUDED
	Repair services							EXCLUDED
	Capital improvements							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 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	REPLACEMENT COST (\$)	UNIT REL	REL	REPLACEMENT COST (\$)
	Government, roadways						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 rights-of-way, including adjacent properties and adjacent roadways.
- The list above exemplifies exclusions by the cited standard(s) and is not intended to be comprehensive.

PROJECTED ANNUAL REPLACEMENTS GENERAL INFORMATION

CALENDAR OF ANNUAL REPLACEMENTS. The 94 Projected Replacements in the Corrotoman by the Bay Association 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 C.2.

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 Study Period, 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 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

Item	2021 - Study Year	\$	Item	2022 - YEAR 1	\$
3	Asphalt pavement, parking overlay	\$15,015	1	Asphalt pavement, chip seal & patch	\$6,000
4	Gravel road, power rake & replenish	\$4,000	6	Concrete sidewalk (6%)	\$749
5	Gravel road, reshape (25%)	\$21,405	34	Ceiling fan	\$1,750
42	Exercise equipment, allowance	\$3,000	77	Tot lot, arch climber	\$1,050
55	Swimming pool, structure	\$210,600	78	Tot lot, slide	\$1,575
56	Swimming pool, coping	\$6,490	79	Tot lot, swing	\$1,890
57	Wading pool, structure	\$16,380	80	Tot lot, merry-go-round	\$1,155
58	Wading pool, coping	\$1,770	81	Tot lot, spring toy	\$5,775
59	Swimming pool, concrete deck	\$47,840			
60	Swimming pool pump (5 hp)	\$4,685			
61	Swimming pool filter	\$3,600			
62	Chlorine / salinator system	\$5,000			
64	Perimeter fence - 4' (chain link)	\$6,480			
65	Pool cover	\$4,144			
66	Diving board	\$1,100			
67	Diving board stand	\$10,000			
68	Pool painting	\$3,000			
91	Bulkhead, replace (across the cove)	\$22,125			
93	Channel dredging as needed	\$15,000			
94	GC Golf course repairs	\$4,000			
Total Scheduled Replacements		\$405,634	Total Scheduled Replacements		\$19,944

Item	2023 - YEAR 2	\$	Item	2024 - YEAR 3	\$
4	Gravel road, power rake & replenish	\$4,000	1	Asphalt pavement, chip seal & patch	\$6,000
29	Flooring, interior carpet	\$6,860	10	Septic tank & field, clubhouse	\$8,600
41	Office equipment, allowance	\$1,500	45	Stack chair	\$1,155
53	Water heater, electric, 30 Gal.	\$1,200	46	Folding chair	\$1,190
94	GC Golf course repairs	\$4,000	47	Folding chair, upholstered	\$1,925
			48	Table, laminate top	\$2,000
			49	Misc. tables	\$1,050
			63	Pool furniture, allowance	\$2,000
			85	Pier decking	\$10,138
Total Scheduled Replacements		\$17,560	Total Scheduled Replacements		\$34,058

PROJECTED REPLACEMENTS

2025 - YEAR 4			2026 - YEAR 5		
Item		\$	Item		\$
4	Gravel road, power rake & replenish	\$4,000	1	Asphalt pavement, chip seal & patch	\$6,000
82	Picnic tables	\$2,700	8	Entry monument sign	\$1,500
94	GC Golf course repairs	\$4,000	9	Clubhouse message board	\$1,200
			18	CH - Entry door, metal, 6-panel	\$860
			19	CH - Entry door, wood, 6-panel	\$1,800
			20	CH - Storm doors	\$2,175
			23	SS - Window, opening	\$1,485
			24	SS - Entry door, wood, 1/2 glass	\$675
			25	SS - Garage door, fiberglass, 7x12	\$1,475
			33	Interior lighting, general	\$1,200
			35	Kitchen, cabinets	\$5,170
			36	Kitchen, laminate countertop	\$836
			37	Kitchen, appliances	\$5,000
			40	Office furnishings, allowance	\$1,000
			68	Pool painting	\$3,000
			72	Tennis court, net	\$750
			75	Basketball court, concrete, replace	\$4,340
			76	Basketball pole & backstop	\$1,500
			83	B-B-Que grill	\$500
			88	Bulkhead, cap,	\$4,795
Total Scheduled Replacements		\$10,700	Total Scheduled Replacements		\$45,261

2027 - YEAR 6			2028 - YEAR 7		
Item		\$	Item		\$
2	Asphalt pavement, road overlay	\$77,285	1	Asphalt pavement, chip seal & patch	\$6,000
4	Gravel road, power rake & replenish	\$4,000	41	Office equipment, allowance	\$1,500
54	Interior painting	\$7,500			
94	GC Golf course repairs	\$4,000			
Total Scheduled Replacements		\$92,785	Total Scheduled Replacements		\$7,500

PROJECTED REPLACEMENTS

Item	2029 - YEAR 8	\$	Item	2030 - YEAR 9	\$
4	Gravel road, power rake & replenish	\$4,000	1	Asphalt pavement, chip seal & patch	\$6,000
30	Flooring, vinyl sheet goods, kitchen	\$1,440			
38	Restroom, renovate, men's	\$15,000			
39	Restroom, renovate, women's	\$14,400			
43	Security camera system	\$650			
50	TV	\$800			
69	Tennis court, color coat	\$15,840			
94	GC Golf course repairs	\$4,000			
Total Scheduled Replacements		\$56,130	Total Scheduled Replacements		\$6,000

Item	2031 - YEAR 10	\$	Item	2032 - YEAR 11	\$
4	Gravel road, power rake & replenish	\$4,000	1	Asphalt pavement, chip seal & patch	\$6,000
5	Gravel road, reshape (25%)	\$21,405			
27	P - Siding & trim, wood	\$3,188			
63	Pool furniture, allowance	\$2,000			
66	Diving board	\$1,100			
68	Pool painting	\$3,000			
72	Tennis court, net	\$750			
84	Gas grill, large	\$1,500			
93	Channel dredging as needed	\$15,000			
94	GC Golf course repairs	\$4,000			
Total Scheduled Replacements		\$55,943	Total Scheduled Replacements		\$6,000

PROJECTED REPLACEMENTS

Item	2033 - YEAR 12	\$	Item	2034 - YEAR 13	\$
4	Gravel road, power rake & replenish	\$4,000	1	Asphalt pavement, chip seal & patch	\$6,000
13	CH - Membrane roof	\$18,480			
29	Flooring, interior carpet	\$6,860			
41	Office equipment, allowance	\$1,500			
65	Pool cover	\$4,144			
92	Boat ramp	\$7,140			
94	GC Golf course repairs	\$4,000			
Total Scheduled Replacements		\$46,124	Total Scheduled Replacements		\$6,000

Item	2035 - YEAR 14	\$	Item	2036 - YEAR 15	\$
4	Gravel road, power rake & replenish	\$4,000	1	Asphalt pavement, chip seal & patch	\$6,000
16	CH - Entry door, solid wood, fan lite	\$1,250	7	Fence, 2-rail (vinyl) at clubhouse	\$6,757
17	CH - Entry door, metal, 1/2 glass	\$950	11	CH - Shingle asphalt/fiberglass	\$6,560
44	Club room furniture replacement	\$4,000	12	CH - Gutter & downspout, 5" aluminum	\$1,262
54	Interior painting	\$7,500	21	SS - Shingle asphalt/fiberglass	\$3,320
94	GC Golf course repairs	\$4,000	26	P - Shingle asphalt/fiberglass	\$4,360
			37	Kitchen, appliances	\$5,000
			42	Exercise equipment, allowance	\$3,000
			60	Swimming pool pump (5 hp)	\$4,685
			62	Chlorine / salinator system	\$5,000
			68	Pool painting	\$3,000
			72	Tennis court, net	\$750
			73	Tennis court backboard hitting wall	\$1,200
			89	Bulkhead, refurbish, 10% of repl.	\$8,000
Total Scheduled Replacements		\$21,700	Total Scheduled Replacements		\$58,894

PROJECTED REPLACEMENTS

Item	2037 - YEAR 16	\$	Item	2038 - YEAR 17	\$
4	Gravel road, power rake & replenish	\$4,000	1	Asphalt pavement, chip seal & patch	\$6,000
31	Flooring, ceramic, men's room	\$4,688	40	Office furnishings, allowance	\$1,000
34	Ceiling fan	\$1,750	41	Office equipment, allowance	\$1,500
69	Tennis court, color coat	\$15,840	53	Water heater, electric, 30 Gal.	\$1,200
77	Tot lot, arch climber	\$1,050	63	Pool furniture, allowance	\$2,000
78	Tot lot, slide	\$1,575	86	Pier structure	\$26,373
79	Tot lot, swing	\$1,890	87	Piling, freestanding	\$13,720
80	Tot lot, merry-go-round	\$1,155			
81	Tot lot, spring toy	\$5,775			
94	GC Golf course repairs	\$4,000			
Total Scheduled Replacements		\$41,723	Total Scheduled Replacements		\$51,793

Item	2039 - YEAR 18	\$	Item	2040 - YEAR 19	\$
4	Gravel road, power rake & replenish	\$4,000	1	Asphalt pavement, chip seal & patch	\$6,000
15	CH - Window, opening	\$9,158	32	Flooring, ceramic, women's room	\$4,500
43	Security camera system	\$650	82	Picnic tables	\$2,700
45	Stack chair	\$1,155			
46	Folding chair	\$1,190			
47	Folding chair, upholstered	\$1,925			
48	Table, laminate top	\$2,000			
49	Misc. tables	\$1,050			
85	Pier decking	\$10,138			
94	GC Golf course repairs	\$4,000			
Total Scheduled Replacements		\$35,266	Total Scheduled Replacements		\$13,200

PROJECTED REPLACEMENTS

Item	2041 - YEAR 20	\$	Item	2042 - YEAR 21	\$
4	Gravel road, power rake & replenish	\$4,000	1	Asphalt pavement, chip seal & patch	\$6,000
5	Gravel road, reshape (25%)	\$21,405			
8	Entry monument sign	\$1,500			
14	CH - Siding & trim, vinyl	\$12,285			
20	CH - Storm doors	\$2,175			
22	SS - Siding & trim, vinyl	\$5,850			
51	HVAC inside and outside units	\$6,500			
56	Swimming pool, coping	\$6,490			
58	Wading pool, coping	\$1,770			
61	Swimming pool filter	\$3,600			
66	Diving board	\$1,100			
68	Pool painting	\$3,000			
72	Tennis court, net	\$750			
88	Bulkhead, cap,	\$4,795			
93	Channel dredging as needed	\$15,000			
94	GC Golf course repairs	\$4,000			
Total Scheduled Replacements		\$94,220	Total Scheduled Replacements		\$6,000

Item	2043 - YEAR 22	\$	Item	2044 - YEAR 23	\$
4	Gravel road, power rake & replenish	\$4,000	1	Asphalt pavement, chip seal & patch	\$6,000
29	Flooring, interior carpet	\$6,860	50	TV	\$800
41	Office equipment, allowance	\$1,500			
52	Emergency generator	\$6,000			
54	Interior painting	\$7,500			
94	GC Golf course repairs	\$4,000			
Total Scheduled Replacements		\$29,860	Total Scheduled Replacements		\$6,800

PROJECTED REPLACEMENTS

2045 - YEAR 24			2046 - YEAR 25		
Item		\$	Item		\$
4	Gravel road, power rake & replenish	\$4,000	1	Asphalt pavement, chip seal & patch	\$6,000
63	Pool furniture, allowance	\$2,000	18	CH - Entry door, metal, 6-panel	\$860
65	Pool cover	\$4,144	19	CH - Entry door, wood, 6-panel	\$1,800
69	Tennis court, color coat	\$15,840	24	SS - Entry door, wood, 1/2 glass	\$675
70	Tennis court, resurface/overlay	\$76,560	25	SS - Garage door, fiberglass, 7x12	\$1,475
71	Tennis court, post & footings	\$3,200	37	Kitchen, appliances	\$5,000
94	GC Golf course repairs	\$4,000	68	Pool painting	\$3,000
			72	Tennis court, net	\$750
			76	Basketball pole & backstop	\$1,500
			83	B-B-Que grill	\$500
Total Scheduled Replacements		\$109,744	Total Scheduled Replacements		\$21,560

2047 - YEAR 26			2048 - YEAR 27		
Item		\$	Item		\$
4	Gravel road, power rake & replenish	\$4,000	1	Asphalt pavement, chip seal & patch	\$6,000
33	Interior lighting, general	\$1,200	41	Office equipment, allowance	\$1,500
94	GC Golf course repairs	\$4,000			
Total Scheduled Replacements		\$9,200	Total Scheduled Replacements		\$7,500

PROJECTED REPLACEMENTS

Item	2049 - YEAR 28	\$	Item	2050 - YEAR 29	\$
4	Gravel road, power rake & replenish	\$4,000	1	Asphalt pavement, chip seal & patch	\$6,000
30	Flooring, vinyl sheet goods, kitchen	\$1,440	40	Office furnishings, allowance	\$1,000
43	Security camera system	\$650	44	Club room furniture replacement	\$4,000
94	GC Golf course repairs	\$4,000			
Total Scheduled Replacements		\$10,090	Total Scheduled Replacements		\$11,000

Item	2051 - YEAR 30	\$	Item	2052 - YEAR 31	\$
3	Asphalt pavement, parking overlay	\$15,015	1	Asphalt pavement, chip seal & patch	\$6,000
4	Gravel road, power rake & replenish	\$4,000	34	Ceiling fan	\$1,750
5	Gravel road, reshape (25%)	\$21,405	63	Pool furniture, allowance	\$2,000
9	Clubhouse message board	\$1,200	77	Tot lot, arch climber	\$1,050
28	P - Concrete slab	\$8,083	78	Tot lot, slide	\$1,575
42	Exercise equipment, allowance	\$3,000	79	Tot lot, swing	\$1,890
54	Interior painting	\$7,500	80	Tot lot, merry-go-round	\$1,155
59	Swimming pool, concrete deck	\$47,840	81	Tot lot, spring toy	\$5,775
60	Swimming pool pump (5 hp)	\$4,685			
62	Chlorine / salinator system	\$5,000			
64	Perimeter fence - 4' (chain link)	\$6,480			
66	Diving board	\$1,100			
67	Diving board stand	\$10,000			
68	Pool painting	\$3,000			
72	Tennis court, net	\$750			
73	Tennis court backboard hitting wall	\$1,200			
93	Channel dredging as needed	\$15,000			
94	GC Golf course repairs	\$4,000			
Total Scheduled Replacements		\$159,258	Total Scheduled Replacements		\$21,195

PROJECTED REPLACEMENTS

Item	2053 - YEAR 32	\$	Item	2054 - YEAR 33	\$
4	Gravel road, power rake & replenish	\$4,000	1	Asphalt pavement, chip seal & patch	\$6,000
13	CH - Membrane roof	\$18,480	38	Restroom, renovate, men's	\$15,000
29	Flooring, interior carpet	\$6,860	39	Restroom, renovate, women's	\$14,400
41	Office equipment, allowance	\$1,500	45	Stack chair	\$1,155
53	Water heater, electric, 30 Gal.	\$1,200	46	Folding chair	\$1,190
69	Tennis court, color coat	\$15,840	47	Folding chair, upholstered	\$1,925
94	GC Golf course repairs	\$4,000	48	Table, laminate top	\$2,000
			49	Misc. tables	\$1,050
			85	Pier decking	\$10,138
Total Scheduled Replacements		\$51,880	Total Scheduled Replacements		\$52,858

Item	2055 - YEAR 34	\$	Item	2056 - YEAR 35	\$
4	Gravel road, power rake & replenish	\$4,000	1	Asphalt pavement, chip seal & patch	\$6,000
16	CH - Entry door, solid wood, fan lite	\$1,250	8	Entry monument sign	\$1,500
17	CH - Entry door, metal, 1/2 glass	\$950	20	CH - Storm doors	\$2,175
82	Picnic tables	\$2,700	35	Kitchen, cabinets	\$5,170
90	Bulkhead, replace	\$103,250	36	Kitchen, laminate countertop	\$836
94	GC Golf course repairs	\$4,000	37	Kitchen, appliances	\$5,000
			68	Pool painting	\$3,000
			72	Tennis court, net	\$750
			74	Tennis court, fence	\$15,075
			75	Basketball court, concrete, replace	\$4,340
			84	Gas grill, large	\$1,500
			88	Bulkhead, cap,	\$4,795
Total Scheduled Replacements		\$116,150	Total Scheduled Replacements		\$50,141

PROJECTED REPLACEMENTS

Item	2057 - YEAR 36	\$	Item	2058 - YEAR 37	\$
2	Asphalt pavement, road overlay	\$77,285	1	Asphalt pavement, chip seal & patch	\$6,000
4	Gravel road, power rake & replenish	\$4,000	41	Office equipment, allowance	\$1,500
65	Pool cover	\$4,144			
94	GC Golf course repairs	\$4,000			
Total Scheduled Replacements		\$89,429	Total Scheduled Replacements		\$7,500

Item	2059 - YEAR 38	\$	Item	2060 - YEAR 39	\$
4	Gravel road, power rake & replenish	\$4,000	1	Asphalt pavement, chip seal & patch	\$6,000
43	Security camera system	\$650			
50	TV	\$800			
54	Interior painting	\$7,500			
63	Pool furniture, allowance	\$2,000			
94	GC Golf course repairs	\$4,000			
Total Scheduled Replacements		\$18,950	Total Scheduled Replacements		\$6,000

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CONDITION ASSESSMENT

General Comments. Miller+Dodson Associates conducted a Reserve Study at Corrotoman by the Bay Association in July 2020. Corrotoman by the Bay Association is in generally good condition for a homeowner's association constructed in 1967. A review of the Replacement Reserve Inventory will show that we are anticipating most of the components achieving their normal economic lives.

The following comments pertain to the larger, more significant components in the Replacement Reserve Inventory and to those items that are unique or deserving of attention because of their condition or the manner in which they have been treated in the Replacement Reserve Analysis or Inventory.

General Condition Statements.

Excellent. 100% to 90% of Normal Economic Life expected, with no appreciable wear or defects.

Good. 90% to 60% of Normal Economic Life expected, minor wear or cosmetic defects found. Normal maintenance should be expected. If performed properly, normal maintenance may increase the useful life of a component. Otherwise, the component is wearing normally.

Fair. 60% to 30% of Normal Economic Life expected, moderate wear with defects found. Repair actions should be taken to extend the life of the component or to correct repairable defects and distress. Otherwise, the component is wearing normally.

Marginal. 30% to 10% of Normal Economic Life expected, with moderate to significant wear or distress found. Repair actions are expected to be cost effective for localized issues, but normal wear and use are evident. The component is reaching the end of the Normal Economic Life.

Poor. 10% to 0% of Normal Economic Life expected, with significant distress and wear. Left unattended, additional damage to underlying structures is likely to occur. Further maintenance is unlikely to be cost effective.

SITE ITEMS

Road Pavement. The Association is responsible for the roadways and parking areas within the community. In general, the Association's roads are in good to fair condition. Some edge deterioration, ponding, vegetation, and drainage issues were noted. The gravel roads are in the process of being replenished at this time. We have continued to allocate \$6,000.00 every two years for paved road repairs and \$4,000.00 every two years for gravel road replenishment.





A more detailed summary of pavement distress can be found at <http://www.asphaltinstitute.org/engineering/maintenance-and-rehabilitation/pavement-distress-summary/>.

Concrete Work. The concrete work includes the community sidewalks and other flatwork at the clubhouse area. The overall condition of the concrete work is good with some cracking noted. There were no trip hazards.



The standards we use for recommending replacement are as follows:

- Trip hazard, ½ inch height difference.
- Severe cracking.
- Severe spalling and scale.

- Uneven riser heights on steps.
- Steps with risers in excess of 8¼ inches.

Because it is highly unlikely that all of the concrete components will fail and require replacement in the period of the study, we have programmed funds for the replacement of these inventories and spread the funds over an extended timeframe to reflect the incremental nature of this work.

Fencing. The Association maintains vinyl rail and post fencing in the clubhouse area. The fencing was in good condition. Fencing systems have a large number of configurations and finishes that can usually be repaired as a maintenance activity by replacing individual components as they become damaged or weathered.

Protection from string machine damage during lawn maintenance can extend the useful life of some fence types. Protection from this type of damage is typically provided by applying herbicides around post bases or installing protective sheathing.

Vinyl fencing made of 100% virgin material can last 30 to 35 years, and periodic cleaning will keep the fence looking attractive.



Signage and message board. The community signage and message board were in good condition.



EXTERIOR ITEMS

Building Roofing. The asphalt shingle roofing on the common area buildings appeared to be in good condition and no leaking was reported. We could not access or see the flat roofing on the rear of the clubhouse.



Asphalt shingle roofs can have a useful life of 20 to 40 years depending on numerous factors. Flat roofing systems typically have a useful life of 15 to 25 years.

Annual inspections are recommended, with cleaning, repair, and mitigation of vegetation performed as needed. Access, inspection, and repair work should be performed by contractors and personnel with the appropriate access equipment who are experienced in the types of roofing used for the facility.

Siding and Trim. The siding and trim on the buildings was in good condition.



Wooden exterior materials are typically repaired as needed during normal painting cycles. Painting cycles for wooden exteriors vary between five and ten years depending on the grade of wood and the quality of the materials and finish work. In this study, we have modeled for an incremental wood material replacement to coincide with the painting cycle of the facility.

Vinyl/Aluminum Siding and Trim can have an extended useful life if not damaged by impact, heat, or other physical reasons. However, the coatings and finishes typically have a useful life and over time begin to weather, chalk, and show their age. For these reasons, we have modeled for the replacement of the siding and trim every 35 years.

Windows and Doors. The Association is responsible for the common windows and exterior doors of the facility. The windows and doors are in generally good condition.



In general, we recommend coordinating the replacement of these units with other exterior work, such as siding and roof replacements. The weather tightness of the building envelope often requires transitional flashing and caulking that should be performed in coordination with each other. Warranties and advantages in 'economy of scale' can often result in lower overall replacement costs and results that are more reliable. Lastly, coordinated replacements offer the opportunity to correct initial construction defects and improve the effectiveness of details with improved construction techniques and materials.

Storage building. We noticed a significant crack/opening at the concrete entrance to the storage building in front of the doors. This appears to be an old settlement and does not show evidence of recent movement. This opening should be sealed and covered to prevent water penetration below the slab causing further damage and to prevent a trip hazard.



Picnic Shelter. The picnic shelter was in generally good condition with the exception of broken glass in a storage area door. We noted a structural issue that should be addressed. There is separation at the center posts where horizontal beams are bolted to the post. The bearing is inadequate. This is typically due to settlement/movement in the structure. We suggest repairs by a qualified contractor.



INTERIOR ITEMS

HVAC System The clubhouse heating and air conditioning system was not operating at the time of our visit. We understand it is scheduled for replacement in August 2020.



Emergency generator. The community has an emergency Generac generator for the clubhouse building. We assume this is maintained in good operating condition. We have allocated funding for replacement after a typical 30 year lifespan.

Common Interiors. The Association maintains the clubhouse interior space which is in good condition. The furniture was replaced in 2019 and should have a lifespan of 15 years. We have allocated funding for kitchen, office, and restroom renovations and have added funding for exercise equipment replacement.



We have assumed that the Association will want to maintain these areas in a commercially acceptable condition. Typically, replacement cycles for common interior spaces vary between 10 to 15 years depending on the aesthetic tastes of the community, usage, and construction. Material selection and the community's preferences are the major factors in setting the reserve components for items such as refurbishing and interior refurbishment. The Association will need to establish these cycles as these facilities age. Maintaining historical records and incorporating these trends and preferences into a future Reserve Study update is the best way to adjust for these cycles.





RECREATION ITEMS

Swimming Pool. The community operates an outdoor pool and wading pool of concrete construction. Listed below are the major components of the pool facilities:

The pool was winterized at the time of inspection and is reported to be in poor condition. We understand the community plans to replace the pool in the near future. This report can be updated with firm cost when estimates for this project are obtained.

Pool Shell. The shell for the swimming pool was not visible. Condition is unknown.

Pool Deck. The pool has a concrete deck. The overall condition of the deck is poor with numerous cracks.

Whitecoat. The pool whitecoat was not visible. Reportedly in poor condition.

Waterline Tile. The waterline tile was not visible. Reportedly in poor condition.

Coping. Not visible. Reportedly in poor condition.

Pump and Filter System. The filter system is reportedly in good operating condition having undergone recent repairs.

Pool Fence. The swimming pool is enclosed by a metal chain link fence that is in fair condition.





Tennis Courts. The community maintains two tennis courts which have recently been completely renovated. The overall condition of the courts is excellent.

Listed below are the major components of the tennis court facilities:

- Asphalt Pavement (base layer). We have assumed a service life of 20 to 30 years for the asphalt base layer.
- Color Coat (surface layer). Annual cleaning is recommended to maintain the surface of the court. The base of a tennis court is subject to cracking and low spots known as “birdbaths” that can occur from weather and earth movement. A program to address cracks as they appear will help to prolong the useful life of the color coat. We have assumed a service life of five to ten years for the color coat.

- Fencing. We have assumed that the fencing will be replaced when the asphalt pavement is replaced. Posts and fencing should be inspected, repaired, and painted as needed to prolong their economic life. Periodic inspection of the posts, gates, hinges, and latches is also recommended, and it is important that posts and footings be protected to prevent soil erosion. In addition, care should be taken so that damage from string trimmers is minimized.
- Net Posts. We have assumed that the new posts will be replaced when the asphalt pavement is replaced.



Basketball Court. The basketball court is older but remains in good to fair condition.

Tot Lots. The community maintains a playground spread over a large area. This includes play structures and miscellaneous play equipment. The facilities are outdated and in generally poor condition. There is no border around the area and no surface material. We understand the community plans to replace this with an updated tot lot in the near future. This report should be updated when actual replacement estimates are obtained.





The safety of each individual piece of playground equipment, as well as the layout of the entire play area, should be considered when evaluating a playground for safety. The installation and maintenance of the protective surfacing under and around all equipment are crucial. Please note that the evaluation of the equipment and these facilities for safety is beyond the scope of this work.

Information for playground design and safety can be found in the "Public Playground Safety Handbook", U.S. Consumer Product Safety Commission (Pub Number 325). For a link to this handbook, please see our web site at www.mdareserves.com/resources/links/recreation.

Waterfront/boating area. The Association maintains wood piers, boat slips, a boat ramp, and pilings on the Corrotoman River. The piers are constructed from pressure-treated lumber supported by wood pilings and were replaced in 2012. The piers, boat slips, pilings, and boat ramp are in good condition at this time. Bulkheads are also present.



Wood Pier Decking. The wood decking on the piers, the finger piers, and the wood walk is exposed to harsh extremes of sun and weather. It will typically require replacement before the heavier members of the underlying structure. This decking will also be removed and replaced in its entirety when the underlying structure is replaced. To model this replacement pattern, we have provided for a complete replacement incident to the replacement of the structure, and we have included an additional replacement interval for the wood pier decking at the midpoint of the service life of the underlying structure.

Pier Structure. The structure consists of pressure-treated woodpiles on 10-foot centers with stringers spanning the distance between piles. We have assumed that when the pier structure requires replacement, all pilings will also be replaced.

Freestanding Pilings. Freestanding pilings are those pilings that are installed at the outside limit of each slip. These pilings provide mooring points to secure the stern of the boat within the slip. They are not a part of the pier structure. Because these pilings can be replaced individually when required without affecting other elements of the pier structure, we have treated them separately in the analysis and spread the cost of their replacement over time.

It is recommended that all piers be inspected at least once each year to identify damage to pilings, structural members, and surface boards.

Bulkhead. The main bulkhead appears to be in good condition with the exception of some erosion taking place. The main bulkhead cap is showing wear. This item is usually the first to require replacement. There is a second bulkhead across the cove which is reportedly owned by the Association and is in disrepair. Quotes are being obtained for replacement costs. This report should be updated accordingly when the estimates are available.





Boat Ramp. The concrete boat ramp appeared to be in good condition with no significant cracking or settlement noted.



Dredging. We have informed the channel area where boats enter the slips are in need of dredging. Sediment has accumulated to the point of restricting boat entry. We have included funding for this activity in this 2020 study. The study should be updated when specific estimates for dredging the channel are obtained.

Golf area. The community maintains an area for golfing. This is primarily a large open grassy area suitable for some golf activities. We understand the community is considering an upgrade. We have continued the funding provided in the previous study for upkeep.



This Condition Assessment is based upon our visual survey of the property. The sole purpose of the visual survey was an evaluation of the common elements of the property to ascertain the remaining useful life and the replacement costs of these common elements. Our evaluation assumed that all components met building code requirements in force at the time of construction. Our visual survey was conducted with care by experienced persons, but no warranty or guarantee is expressed or implied.

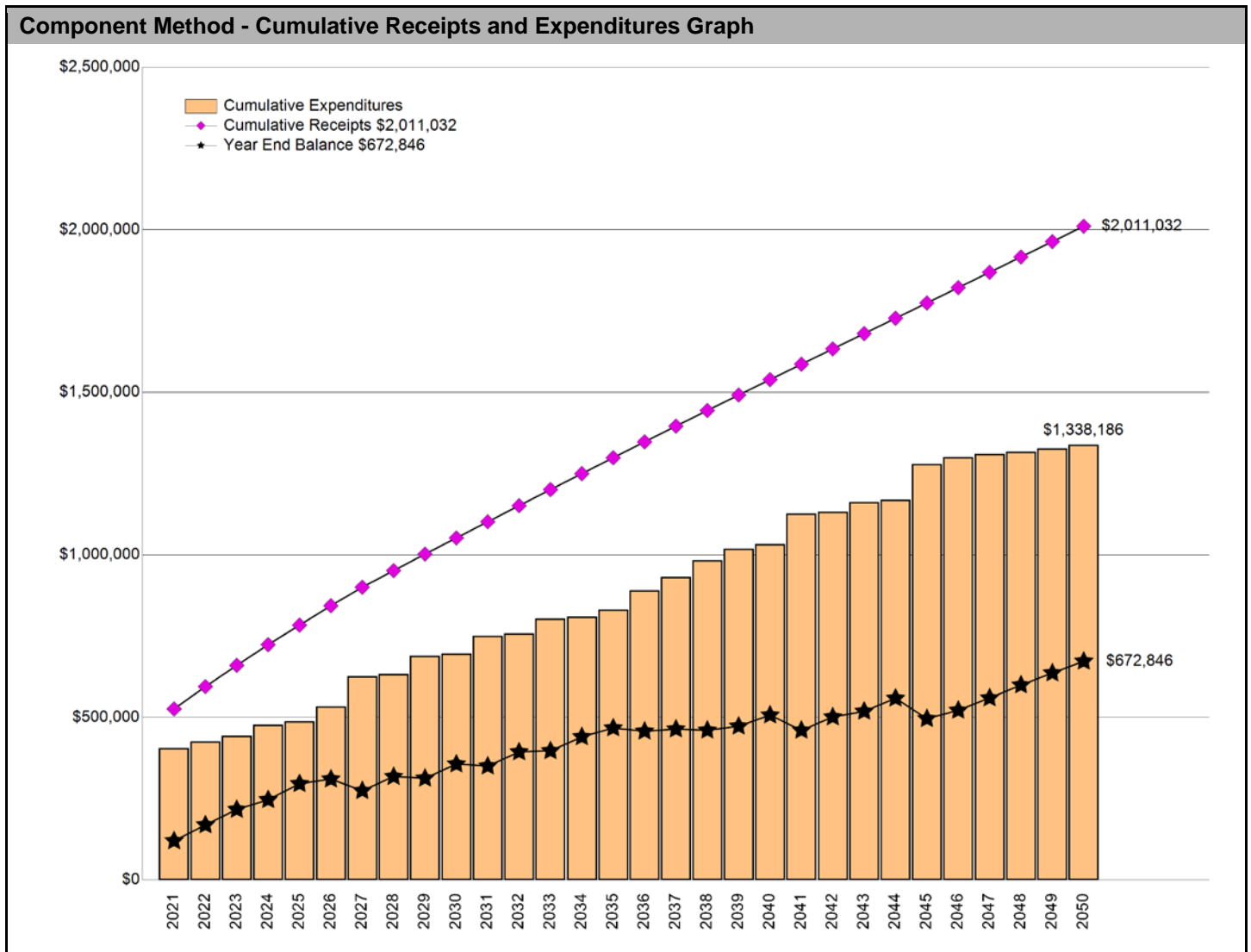
End of Condition Assessment

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COMPONENT METHOD

\$342,454 | **COMPONENT METHOD RECOMMENDED ANNUAL FUNDING OF REPLACEMENT RESERVES IN THE STUDY YEAR, 2021.** \$48.29 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 94 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 CM.2.



COMPONENT METHOD (CONT.)

- **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 94 Projected Replacements. The total, \$658,274, is the Current Funding Objective.

For an example, consider a 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 (\$183,419) by the Current Funding Objective (\$658,274). At Corrotoman by the Bay Association the Funding Percentage is 27.9%
- **Allocation of the Beginning Balance.** The Beginning Balance is divided among the 94 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 27.9 percent funded, there is \$223 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 \$342,454, the Component Method Recommended Annual Funding of Replacement Reserves in the Study Year (2021).

In our fence example, the \$223 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 \$389. Next year, the deposit remains \$389, 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	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Beginning Balance	\$183,419									
Recommended Annual Funding	\$342,454	\$68,999	\$65,158	\$63,729	\$59,987	\$59,738	\$57,023	\$50,964	\$50,964	\$49,686
Expenditures	\$405,634	\$19,944	\$17,560	\$34,058	\$10,700	\$45,261	\$92,785	\$7,500	\$56,130	\$6,000
Year End Balance	\$120,239	\$169,295	\$216,893	\$246,564	\$295,851	\$310,328	\$274,566	\$318,030	\$312,863	\$356,549
Cumulative Expenditures	\$405,634	\$425,578	\$443,138	\$477,196	\$487,896	\$533,157	\$625,942	\$633,442	\$689,572	\$695,572
Cumulative Receipts	\$525,873	\$594,872	\$660,031	\$723,760	\$783,747	\$843,485	\$900,508	\$951,471	\$1,002,435	\$1,052,121
Year	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
Recommended Annual Funding	\$49,686	\$49,502	\$49,502	\$48,944	\$48,944	\$48,925	\$48,313	\$48,229	\$47,607	\$47,452
Expenditures	\$55,943	\$6,000	\$46,124	\$6,000	\$21,700	\$58,894	\$41,723	\$51,793	\$35,266	\$13,200
Year End Balance	\$350,292	\$393,795	\$397,173	\$440,117	\$467,362	\$457,393	\$463,983	\$460,419	\$472,761	\$507,013
Cumulative Expenditures	\$751,514	\$757,514	\$803,638	\$809,638	\$831,338	\$890,232	\$931,954	\$983,747	\$1,019,012	\$1,032,212
Cumulative Receipts	\$1,101,806	\$1,151,309	\$1,200,811	\$1,249,756	\$1,298,700	\$1,347,625	\$1,395,937	\$1,444,166	\$1,491,774	\$1,539,226
Year	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050
Recommended Annual Funding	\$47,400	\$47,094	\$47,094	\$47,053	\$47,053	\$47,223	\$47,223	\$47,223	\$47,223	\$47,223
Expenditures	\$94,220	\$6,000	\$29,860	\$6,800	\$109,744	\$21,560	\$9,200	\$7,500	\$10,090	\$11,000
Year End Balance	\$460,194	\$501,288	\$518,522	\$558,774	\$496,083	\$521,746	\$559,768	\$599,491	\$636,623	\$672,846
Cumulative Expenditures	\$1,126,432	\$1,132,432	\$1,162,292	\$1,169,092	\$1,278,836	\$1,300,396	\$1,309,596	\$1,317,096	\$1,327,186	\$1,338,186
Cumulative Receipts	\$1,586,626	\$1,633,720	\$1,680,814	\$1,727,867	\$1,774,919	\$1,822,142	\$1,869,365	\$1,916,587	\$1,963,810	\$2,011,032

2021 - COMPONENT METHOD CATEGORY FUNDING REPORT

Each of the 94 Projected Replacements included in the Corrotoman by the Bay Association Replacement Reserve Inventory has been assigned to one of the 4 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 \$183,419 as of the first day of the Study Year, March 1, 2021.
- Total reserve funding (including the Beginning Balance) of \$525,873 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 2021 being accomplished in 2021 at a cost of \$405,634.

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 CM1							
CATEGORY	NORMAL ECONOMIC LIFE	REMAINING ECONOMIC LIFE	ESTIMATED REPLACEMENT COST	2021 BEGINNING BALANCE	2021 RESERVE FUNDING	2021 PROJECTED REPLACEMENTS	2021 END OF YEAR BALANCE
SITE ITEMS - Page 1	2 to 60 years	0 to 15 years	\$142,511	\$33,278	\$42,890	\$40,420	\$35,748
EXTERIOR ITEMS - Page 1	15 to 60 years	5 to 30 years	\$83,215	\$11,305	\$4,986		\$16,291
Clubhouse Building Interior	5 to 30 years	0 to 19 years	\$66,994	\$12,512	\$10,075	\$3,000	\$19,588
Clubhouse Building Interior (cont.)	8 to 30 years	2 to 22 years	\$33,320	\$3,677	\$3,583		\$7,259
Swimming Pool	5 to 40 years	0 to 3 years	\$323,089	\$89,903	\$231,925	\$321,089	\$739
Courts and Recreation Equipment	5 to 35 years	1 to 35 years	\$134,610	\$6,875	\$11,053		\$17,928
Docks and Bulkheads	10 to 40 years	0 to 34 years	\$210,541	\$24,992	\$35,059	\$37,125	\$22,926
Golf Course	2 to 2 years	0 to 0 years	\$4,000	\$1,116	\$2,884	\$4,000	

2022 - COMPONENT METHOD CATEGORY FUNDING REPORT

Each of the 94 Projected Replacements included in the Corrotoman by the Bay Association Replacement Reserve Inventory has been assigned to one of the 4 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 \$120,239 on January 1, 2022.
- Total reserve funding (including the Beginning Balance) of \$594,872 from 2021 to 2022.
- 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 2022 being accomplished in 2022 at a cost of \$19,944.

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.

2022 - COMPONENT METHOD CATEGORY FUNDING - TABLE CM2							
CATEGORY	NORMAL ECONOMIC LIFE	REMAINING ECONOMIC LIFE	ESTIMATED REPLACEMENT COST	2022 BEGINNING BALANCE	2022 RESERVE FUNDING	2022 PROJECTED REPLACEMENTS	2022 END OF YEAR BALANCE
SITE ITEMS - Page 1	2 to 60 years	0 to 29 years	\$142,511	\$35,748	\$18,388	\$6,749	\$47,388
EXTERIOR ITEMS - Page 1	15 to 60 years	4 to 29 years	\$83,215	\$16,291	\$4,986		\$21,276
Clubhouse Building Interior	5 to 30 years	0 to 18 years	\$66,994	\$19,588	\$8,112	\$1,750	\$25,950
Clubhouse Building Interior (cont.)	8 to 30 years	1 to 21 years	\$33,320	\$7,259	\$3,583		\$10,842
Swimming Pool	5 to 40 years	2 to 39 years	\$323,089	\$739	\$10,533		\$11,272
Courts and Recreation Equipment	5 to 35 years	0 to 34 years	\$134,610	\$17,928	\$11,053	\$11,445	\$17,537
Docks and Bulkheads	10 to 40 years	2 to 39 years	\$210,541	\$22,926	\$10,345		\$33,270
Golf Course	2 to 2 years	1 to 1 years	\$4,000		\$2,000		\$2,000

2023 - COMPONENT METHOD CATEGORY FUNDING REPORT

Each of the 94 Projected Replacements included in the Corrotoman by the Bay Association Replacement Reserve Inventory has been assigned to one of the 4 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 \$169,295 on January 1, 2023.
- Total reserve funding (including the Beginning Balance) of \$660,031 from 2022 to 2023.
- 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 2023 being accomplished in 2023 at a cost of \$17,560.

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.

2023 - COMPONENT METHOD CATEGORY FUNDING - TABLE CM3							
CATEGORY	NORMAL ECONOMIC LIFE	REMAINING ECONOMIC LIFE	ESTIMATED REPLACEMENT COST	2023 BEGINNING BALANCE	2023 RESERVE FUNDING	2023 PROJECTED REPLACEMENTS	2023 END OF YEAR BALANCE
SITE ITEMS - Page 1	2 to 60 years	0 to 59 years	\$142,511	\$47,388	\$18,547	\$4,000	\$61,935
EXTERIOR ITEMS - Page 1	15 to 60 years	3 to 28 years	\$83,215	\$21,276	\$4,986		\$26,262
Clubhouse Building Interior	5 to 30 years	0 to 17 years	\$66,994	\$25,950	\$7,582	\$8,360	\$25,172
Clubhouse Building Interior (cont.)	8 to 30 years	0 to 20 years	\$33,320	\$10,842	\$3,583	\$1,200	\$13,225
Swimming Pool	5 to 40 years	1 to 38 years	\$323,089	\$11,272	\$10,533		\$21,805
Courts and Recreation Equipment	5 to 35 years	2 to 33 years	\$134,610	\$17,537	\$7,584		\$25,120
Docks and Bulkheads	10 to 40 years	1 to 38 years	\$210,541	\$33,270	\$10,345		\$43,615
Golf Course	2 to 2 years	0 to 0 years	\$4,000	\$2,000	\$2,000	\$4,000	

TABLE CM4 below details the allocation of the \$183,419 Beginning Balance, as reported by the Association and the \$476,612 of Replacement Reserve Funding calculated by the Component Method from 2021 to 2023, to the 94 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 CF.1. The accuracy of the allocations is dependent upon many factors including the following critical financial data:

- Replacement Reserves on Deposit totaling \$183,419 on January 1, 2021.
- Replacement Reserves on Deposit totaling \$120,239 on January 1, 2022.
- Replacement Reserves on Deposit totaling \$169,295 on January 1, 2023.
- Total Replacement Reserve funding (including the Beginning Balance) of \$660,031 from 2021 to 2023.
- 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 2021 to 2023 being accomplished as scheduled in the Replacement Reserve Inventory at a cost of \$443,138.

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	2021 Reserve Funding	2021 Projected Replacements	2021 End of Year Balance	2022 Reserve Funding	2022 Projected Replacements	2022 End of Year Balance	2023 Reserve Funding	2023 Projected Replacements	2023 End of Year Balance
SITE ITEMS -												
1	Asphalt pavement, chip seal &	6,000	837	2,582		3,419	2,582	(6,000)		3,000		3,000
2	Asphalt pavement, road overlay	77,285	17,250	8,576		25,826	8,576		34,403	8,576		42,979
3	Asphalt pavement, parking overlay	15,015	4,189	10,826	(15,015)		501		501	501		1,001
4	Gravel road, power rake & replenish	4,000	1,116	2,884	(4,000)		2,000		2,000	2,000	(4,000)	
5	Gravel road, reshape (25%)	21,405	5,972	15,433	(21,405)		2,141		2,141	2,141		4,281
6	Concrete sidewalk (6%)	749	205	272		477	272	(749)		12		12
7	Fence, 2-rail (vinyl) at clubhouse	6,757	943	363		1,306	363		1,669	363		2,033
8	Entry monument sign	1,500	279	204		483	204		686	204		890
9	Clubhouse message board	1,200	268	155		423	155		579	155		734
10	Septic tank & field, clubhouse	8,600	2,219	1,595		3,815	1,595		5,410	1,595		7,005
EXTERIOR ITEMS -												
11	CH - Shingle asphalt/fiberglass	6,560	915	353		1,268	353		1,621	353		1,974
12	CH - Gutter & downspout, 5"	1,262	176	68		244	68		312	68		380
13	CH - Membrane roof	18,480	2,062	1,263		3,325	1,263		4,588	1,263		5,851
14	CH - Siding & trim, vinyl	12,285	1,469	515		1,984	515		2,499	515		3,014
15	CH - Window, opening	9,158	1,241	417		1,658	417		2,074	417		2,491
16	CH - Entry door, solid wood, fan lite	1,250	105	76		181	76		257	76		334
17	CH - Entry door, metal, 1/2 glass	950	80	58		138	58		196	58		254
18	CH - Entry door, metal, 6-panel	860	180	113		293	113		407	113		520
19	CH - Entry door, wood, 6-panel	1,800	377	237		614	237		851	237		1,088
20	CH - Storm doors	2,175	405	295		700	295		995	295		1,290
21	SS - Shingle asphalt/fiberglass	3,320	463	179		642	179		820	179		999
22	SS - Siding & trim, vinyl	5,850	699	245		945	245		1,190	245		1,435
23	SS - Window, opening	1,485	355	188		543	188		732	188		920
24	SS - Entry door, wood, 1/2 glass	675	141	89		230	89		319	89		408
25	SS - Garage door, fiberglass, 7x12	1,475	309	194		503	194		697	194		892
26	P - Shingle asphalt/fiberglass	4,360	608	234		843	234		1,077	234		1,312
27	P - Siding & trim, wood	3,188	593	236		829	236		1,065	236		1,301
28	P - Concrete slab	8,083	1,128	224		1,352	224		1,576	224		1,801
INTERIOR ITEMS - Clubhouse												
29	Flooring, interior carpet	6,860	1,531	1,776		3,307	1,776		5,084	1,776	(6,860)	
30	Flooring, vinyl sheet goods, kitchen	1,440	241	133		374	133		507	133		641
31	Flooring, ceramic, men's room	4,688	610	240		850	240		1,090	240		1,330
32	Flooring, ceramic, women's room	4,500	460	202		662	202		864	202		1,066
33	Interior lighting, general	1,200	255	157		413	157		570	157		728
34	Ceiling fan	1,750	456	647		1,103	647	(1,750)		117		117
35	Kitchen, cabinets	5,170	1,202	661		1,863	661		2,525	661		3,186
36	Kitchen, laminate countertop	836	194	107		301	107		408	107		515
37	Kitchen, appliances	5,000	698	717		1,415	717		2,132	717		2,849
38	Restroom, renovate, men's	15,000	2,846	1,350		4,196	1,350		5,547	1,350		6,897
39	Restroom, renovate, women's	14,400	2,732	1,296		4,028	1,296		5,325	1,296		6,621
40	Office furnishings, allowance	1,000	163	140		302	140		442	140		581

COMPONENT METHOD - THREE-YEAR REPLACEMENT FUNDING - TABLE CM4 (cont.)

Item #	Description of Projected Replacement	Estimated Replacement Costs	Allocation of Beginning Balance	2021 Reserve Funding	2021 Projected Replacements	2021 End of Year Balance	2022 Reserve Funding	2022 Projected Replacements	2022 End of Year Balance	2023 Reserve Funding	2023 Projected Replacements	2023 End of Year Balance
41	Office equipment, allowance	1,500	251	416		667	416		1,084	416	(1,500)	
42	Exercise equipment, allowance	3,000	837	2,163	(3,000)		200		200	200		400
43	Security camera system	650	36	68		104	68		173	68		241
INTERIOR ITEMS - Clubhouse												
44	Club room furniture replacement	4,000	74	262		336	262		598	262		860
45	Stack chair	1,155	258	224		482	224		706	224		931
46	Folding chair	1,190	266	231		497	231		728	231		959
47	Folding chair, upholstered	1,925	430	374		803	374		1,177	374		1,551
48	Table, laminate top	2,000	446	388		835	388		1,223	388		1,612
49	Misc. tables	1,050	234	204		438	204		642	204		846
50	TV	800	104	77		181	77		259	77		336
51	HVAC inside and outside units	6,500	604	281		885	281		1,166	281		1,447
52	Emergency generator	6,000	446	241		688	241		929	241		1,171
53	Water heater, electric, 30 Gal.	1,200	290	303		593	303		897	303	(1,200)	
54	Interior painting	7,500	523	997		1,520	997		2,517	997		3,513
RECREATION ITEMS - Swimming												
55	Swimming pool, structure	210,600	58,757	151,843	(210,600)		5,265		5,265	5,265		10,530
56	Swimming pool, coping	6,490	1,811	4,679	(6,490)		325		325	325		649
57	Wading pool, structure	16,380	4,570	11,810	(16,380)		410		410	410		819
58	Wading pool, coping	1,770	494	1,276	(1,770)		89		89	89		177
59	Swimming pool, concrete deck	47,840	13,347	34,493	(47,840)		1,595		1,595	1,595		3,189
60	Swimming pool pump (5 hp)	4,685	1,307	3,378	(4,685)		312		312	312		625
61	Swimming pool filter	3,600	1,004	2,596	(3,600)		180		180	180		360
62	Chlorine / salinator system	5,000	1,395	3,605	(5,000)		333		333	333		667
63	Pool furniture, allowance	2,000	319	420		739	420		1,159	420		1,580
64	Perimeter fence - 4' (chain link)	6,480	1,808	4,672	(6,480)		216		216	216		432
65	Pool cover	4,144	1,156	2,988	(4,144)		345		345	345		691
66	Diving board	1,100	307	793	(1,100)		110		110	110		220
67	Diving board stand	10,000	2,790	7,210	(10,000)		333		333	333		667
68	Pool painting	3,000	837	2,163	(3,000)		600		600	600		1,200
RECREATION ITEMS - Courts and												
69	Tennis court, color coat	15,840	552	1,699		2,251	1,699		3,950	1,699		5,648
70	Tennis court, resurface/overlay	76,560	890	3,027		3,917	3,027		6,944	3,027		9,970
71	Tennis court, post & footings	3,200	37	127		164	127		290	127		417
72	Tennis court, net	750	42	118		160	118		278	118		396
73	Tennis court backboard hitting wall	1,200	22	74		96	74		170	74		243
74	Tennis court, fence	15,075	120	415		536	415		951	415		1,366
75	Basketball court, concrete, replace	4,340	1,009	555		1,564	555		2,119	555		2,675
76	Basketball pole & backstop	1,500	314	198		512	198		709	198		907
77	Tot lot, arch climber	1,050	273	388		662	388	(1,050)		70		70
78	Tot lot, slide	1,575	410	582		993	582	(1,575)		105		105
79	Tot lot, swing	1,890	492	699		1,191	699	(1,890)		126		126
80	Tot lot, merry-go-round	1,155	301	427		728	427	(1,155)		77		77
81	Tot lot, spring toy	5,775	1,504	2,136		3,639	2,136	(5,775)		385		385
82	Picnic tables	2,700	552	430		982	430		1,411	430		1,841
83	B-B-Que grill	500	105	66		171	66		236	66		302
84	Gas grill, large	1,500	251	114		365	114		478	114		592
RECREATION ITEMS - Docks and												
85	Pier decking	10,138	2,263	1,969		4,232	1,969		6,200	1,969		8,169
86	Pier structure	26,373	3,188	1,288		4,476	1,288		5,764	1,288		7,052
87	Piling, freestanding	13,720	1,659	670		2,329	670		2,999	670		3,669
88	Bulkhead, cap,	4,795	892	651		1,542	651		2,193	651		2,843
89	Bulkhead, refurbish, 10% of repl.	8,000	1,116	430		1,546	430		1,976	430		2,407
90	Bulkhead, replace	103,250	4,321	2,827		7,148	2,827		9,974	2,827		12,801
91	Bulkhead, replace (across the cove)	22,125	6,173	15,952	(22,125)		553		553	553		1,106
92	Boat ramp	7,140	1,195	457		1,653	457		2,110	457		2,567
93	Channel dredging as needed	15,000	4,185	10,815	(15,000)		1,500		1,500	1,500		3,000
RECREATION ITEMS - Golf												
94	GC Golf course repairs	4,000	1,116	2,884	(4,000)		2,000		2,000	2,000	(4,000)	

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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. The Community Associations Institute (CAI), a national trade association, estimates in 2018 that there were more than 347,000 communities with over 73.5 million residents.

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 Normal Economic Life (NEL). 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 Remaining Economic Life (REL). 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 Balance. Shown on the Summary Sheet A4, this amount is used in the Cash Flow Method only. Normally derived using the average annual expenditure over the study period, this is the minimum amount held in reserves for every year in the study period.

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	ls	lump sum	sy	square yard
ft or lf	linear foot	pr	pair	cy	cubic yard
sf	square foot				

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/40SodajTW1q>

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's in a Reserve Study and what's out?
Improvement/Component, what's the difference?



<https://youtu.be/ZfBoAEhtf3E>

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



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

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



<https://youtu.be/aARD1B1Oa3o>

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



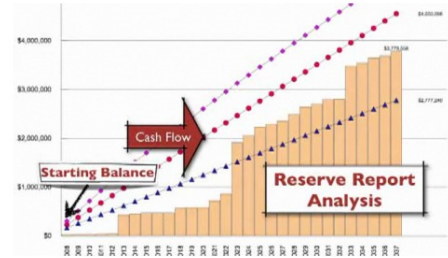
<https://youtu.be/diZfM1IyJYU>

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?



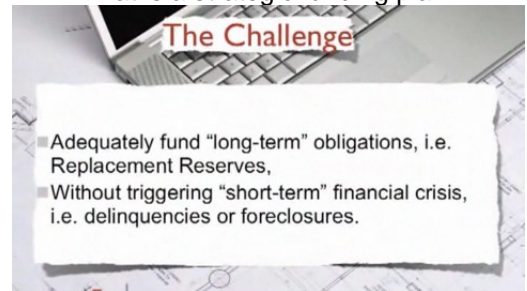
<https://youtu.be/SePdwVDvHWI>

How are interest and inflation addressed?
Inflation, what should we consider?



<https://youtu.be/W8CDLwRlv68>

A community needs more help, where do we go?
What is a strategic funding plan?



<https://youtu.be/hIxV9X1tlcA>