

# LEVEL 2 REPLACEMENT RESERVE REPORT FY 2022 MOORINGS CLUSTER



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MOORINGS CLUSTER

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# REPLACEMENT RESERVE REPORT

## MOORINGS CLUSTER

RESTON, VIRGINIA

May 27, 2021

Revised August 26, 2021

Revised March 11, 2022

Revised March 24, 2022



**Description.** Moorings Cluster is a homeowner's association located in Reston, Virginia. Constructed in 1971, the community consists of townhomes containing 48 units. The survey examined the common elements of the property, including:

- Asphalt roads within the community
- Concrete sidewalk, steps, aprons, curb and gutter
- Retaining walls, tot lot, and signs
- Waterlines and sanitary lines
- Stormwater management
- Boat dock and bulkhead

### EXECUTIVE SUMMARY

This Reserve Study has been prepared for the Moorings Cluster for the Fiscal Year 2022 covering the period from April 1, 2022 to March 31, 2023. The Replacement Reserves Starting Balance as of April 1, 2022 are reported to be \$152,954. The reported Current Annual Funding for Reserves is \$24,617. The Recommended Annual Reserve Funding level for 2022 is \$23,917.

MillerDodson welcomes the opportunity to answer questions or to discuss this Reserve Study in more detail should the Board so desire.

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**Current Funding.** The Starting Balance and Current Annual Reserve Funding figures have been supplied by the managing agent and/or Board of Directors. 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.

**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 Associates in 2017. 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.

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

**Purpose.** The purpose of this Replacement Reserve Study is to provide Moorings Cluster (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.

**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 May 27, 2021 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.

**Acknowledgment.** Miller+Dodson Associates would like to acknowledge the assistance and input of Mr. Craig Courtney and BOD members Ms. Deb Tally, Mr. Robert Marston, and Craig who provided very helpful insight into the current operations of the property.

**Analyst's Credentials.** Mr. Mark Haase holds a Bachelor's Degree in Economics from the State University of New York at Fredonia and an Associate's degree in Civil Engineering from Northern Virginia Community College. Mr. Haase has experience in all phases of construction, project design, initiation, administration, and inspection of facilities. As a project manager, he has managed all phases of commercial construction. He is currently a Reserve Specialist for Miller+Dodson Associates.

Respectfully Submitted,



*Mark Haase*

Mark Haase, RS

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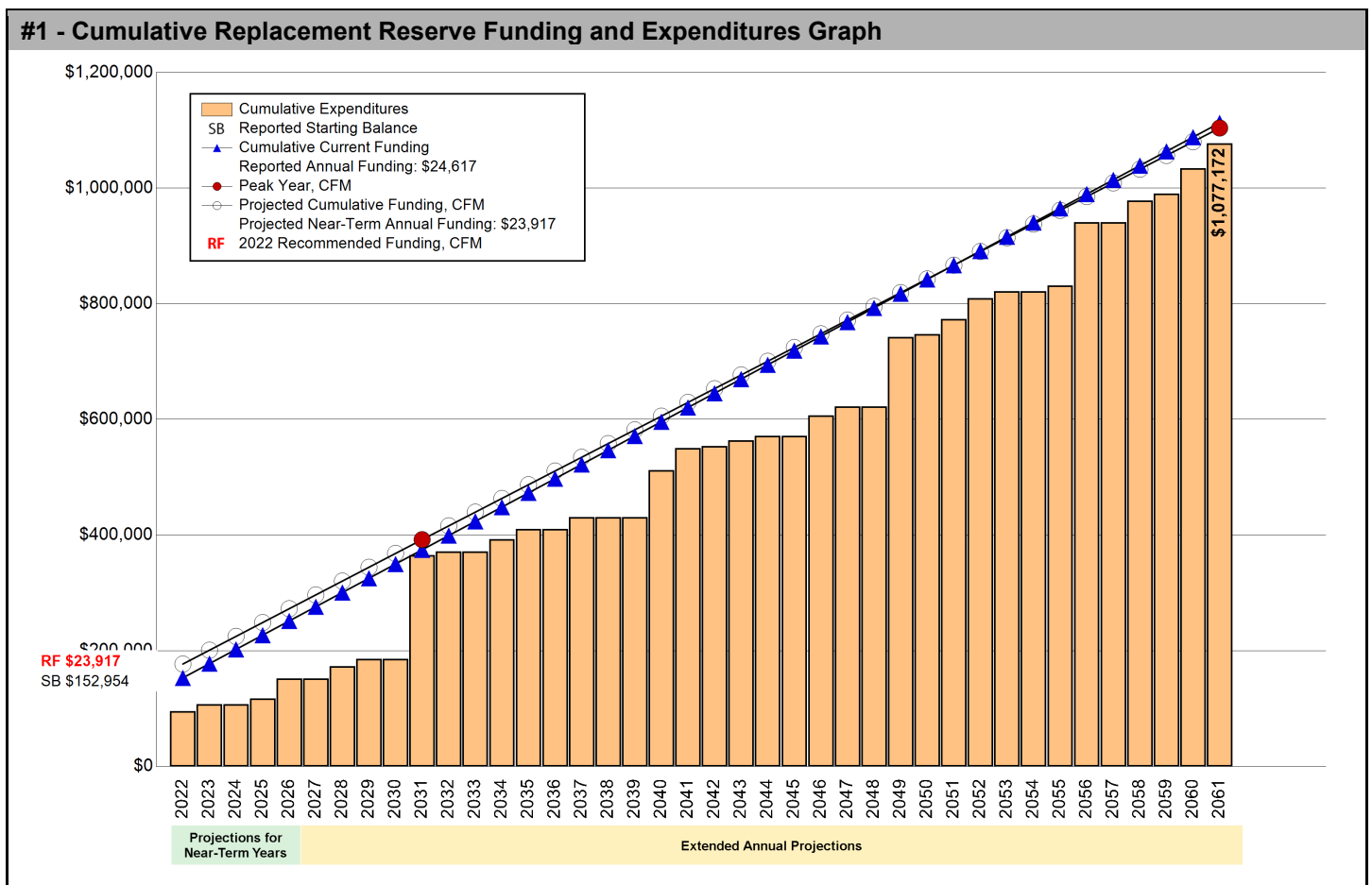
## SECTION A - FINANCIAL ANALYSIS

The Moorings Cluster Replacement Reserve Analysis uses the Cash Flow Method (CFM) to calculate Replacement Reserve funding for the periodic replacement of the 30 Projected Replacements identified in the Replacement Reserve Inventory.

**\$23,917** RECOMMENDED REPLACEMENT RESERVE FUNDING FOR THE STUDY YEAR, 2022  
\$41.52 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.

Moorings Cluster reports a Starting Balance of \$152,954 and Annual Funding totaling \$24,617, which adequately funds projected replacements for the near-term years. See Page A.3 for a more detailed evaluation.



**REPLACEMENT RESERVE ANALYSIS - GENERAL INFORMATION**

The Moorings Cluster 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.

**2022 | STUDY YEAR**

The Association reports that their accounting year begins on April 1, and the Study Year, the first year evaluated by the Replacement Reserve Analysis, begins on April 1, 2022.

**40 Years | STUDY PERIOD**

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

**\$152,954 | STARTING BALANCE**

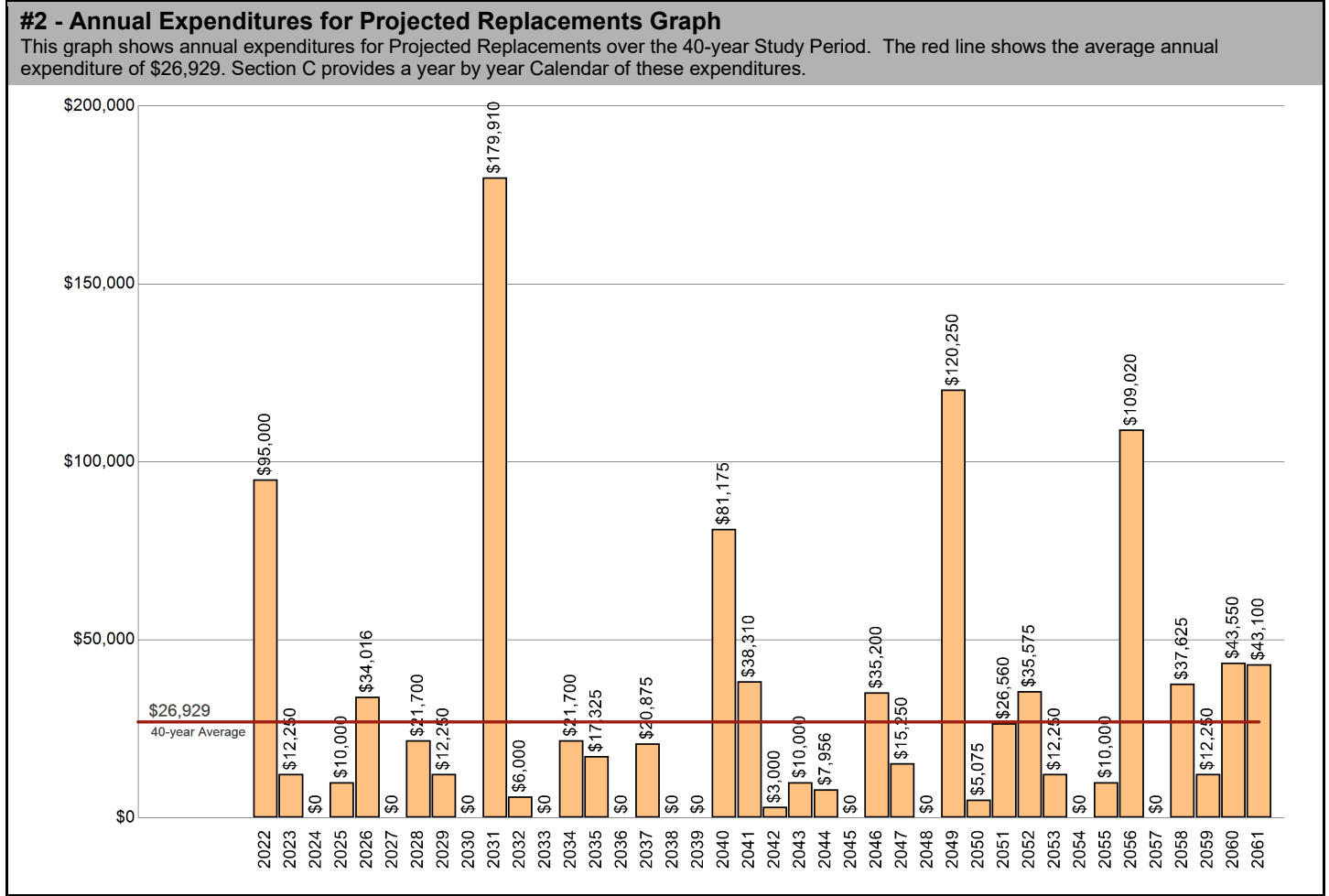
The Association reports Replacement Reserves on Deposit totaling \$152,954 at the start of the Study Year.

**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).

**\$1,077,172 | REPLACEMENT RESERVE INVENTORY - PROJECTED REPLACEMENTS**

The Moorings Cluster Replacement Reserve Inventory identifies 30 items that will require periodic replacement, which are to be funded from Replacement Reserves. We estimate the cost of these replacements will be \$1,077,172 over the 40-year Study Period. The Projected Replacements are divided into 1 major categories starting on Page B.3. Pages B.1-B.2 provide detailed information on the Replacement Reserve Inventory.





**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 \$1,077,172 of Projected Expenditures over the 40-year Study Period and the impact of the Association continuing to fund Replacement Reserves at the current level are detailed in Table 3.

<b>#3 - Table of Annual Expenditures and Current Funding Data - Years 1 through 40</b>										
Year	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Starting Balance	\$152,954									
Projected Replacements	(\$95,000)	(\$12,250)		(\$10,000)	(\$34,016)		(\$21,700)	(\$12,250)		(\$179,910)
Annual Deposit	\$24,617	\$24,617	\$24,617	\$24,617	\$24,617	\$24,617	\$24,617	\$24,617	\$24,617	\$24,617
End of Year Balance	\$82,571	\$94,938	\$119,555	\$134,172	\$124,773	\$149,390	\$152,307	\$164,674	\$189,291	\$33,998
Cumulative Expenditures	(\$95,000)	(\$107,250)	(\$107,250)	(\$117,250)	(\$151,266)	(\$151,266)	(\$172,966)	(\$185,216)	(\$185,216)	(\$365,126)
Cumulative Receipts	\$177,571	\$202,188	\$226,805	\$251,422	\$276,039	\$300,656	\$325,273	\$349,890	\$374,507	\$399,124
<b>Year</b>	<b>2032</b>	<b>2033</b>	<b>2034</b>	<b>2035</b>	<b>2036</b>	<b>2037</b>	<b>2038</b>	<b>2039</b>	<b>2040</b>	<b>2041</b>
Projected Replacements	(\$6,000)		(\$21,700)	(\$17,325)		(\$20,875)			(\$81,175)	(\$38,310)
Annual Deposit	\$24,617	\$24,617	\$24,617	\$24,617	\$24,617	\$24,617	\$24,617	\$24,617	\$24,617	\$24,617
End of Year Balance	\$52,615	\$77,232	\$80,149	\$87,441	\$112,058	\$115,800	\$140,417	\$165,034	\$108,476	\$94,783
Cumulative Expenditures	(\$371,126)	(\$371,126)	(\$392,826)	(\$410,151)	(\$410,151)	(\$431,026)	(\$431,026)	(\$431,026)	(\$512,201)	(\$550,511)
Cumulative Receipts	\$423,741	\$448,358	\$472,975	\$497,592	\$522,209	\$546,826	\$571,443	\$596,060	\$620,677	\$645,294
<b>Year</b>	<b>2042</b>	<b>2043</b>	<b>2044</b>	<b>2045</b>	<b>2046</b>	<b>2047</b>	<b>2048</b>	<b>2049</b>	<b>2050</b>	<b>2051</b>
Projected Replacements	(\$3,000)	(\$10,000)	(\$7,956)		(\$35,200)	(\$15,250)		(\$120,250)	(\$5,075)	(\$26,560)
Annual Deposit	\$24,617	\$24,617	\$24,617	\$24,617	\$24,617	\$24,617	\$24,617	\$24,617	\$24,617	\$24,617
End of Year Balance	\$116,400	\$131,017	\$147,678	\$172,295	\$161,712	\$171,079	\$195,696	\$100,063	\$119,805	\$117,662
Cumulative Expenditures	(\$553,511)	(\$563,511)	(\$571,467)	(\$571,467)	(\$606,667)	(\$621,917)	(\$621,917)	(\$742,167)	(\$747,242)	(\$773,802)
Cumulative Receipts	\$669,911	\$694,528	\$719,145	\$743,762	\$768,379	\$792,996	\$817,613	\$842,230	\$866,847	\$891,464
<b>Year</b>	<b>2052</b>	<b>2053</b>	<b>2054</b>	<b>2055</b>	<b>2056</b>	<b>2057</b>	<b>2058</b>	<b>2059</b>	<b>2060</b>	<b>2061</b>
Projected Replacements	(\$35,575)	(\$12,250)		(\$10,000)	(\$109,020)		(\$37,625)	(\$12,250)	(\$43,550)	(\$43,100)
Annual Deposit	\$24,617	\$24,617	\$24,617	\$24,617	\$24,617	\$24,617	\$24,617	\$24,617	\$24,617	\$24,617
End of Year Balance	\$106,704	\$119,071	\$143,688	\$158,305	\$73,902	\$98,519	\$85,511	\$97,878	\$78,945	\$60,462
Cumulative Expenditures	(\$809,377)	(\$821,627)	(\$821,627)	(\$831,627)	(\$940,647)	(\$940,647)	(\$978,272)	(\$990,522)	(\$1,034,072)	(\$1,077,172)
Cumulative Receipts	\$916,081	\$940,698	\$965,315	\$989,932	\$1,014,549	\$1,039,166	\$1,063,783	\$1,088,400	\$1,113,017	\$1,137,634

**EVALUATION OF CURRENT FUNDING**

The evaluation of Current Funding (Starting Balance of \$152,954 & annual funding of \$24,617) 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 30 Projected Replacements identified in the Replacement Reserve Inventory and that the Association will continue Annual Funding of \$24,617 throughout the 40-year Study Period.

Annual Funding of \$24,617 is approximately 103 percent of the \$23,917 recommended Annual Funding calculated by the Cash Flow Method for 2022, the Study Year.

See the Executive Summary for the Current Funding Statement.

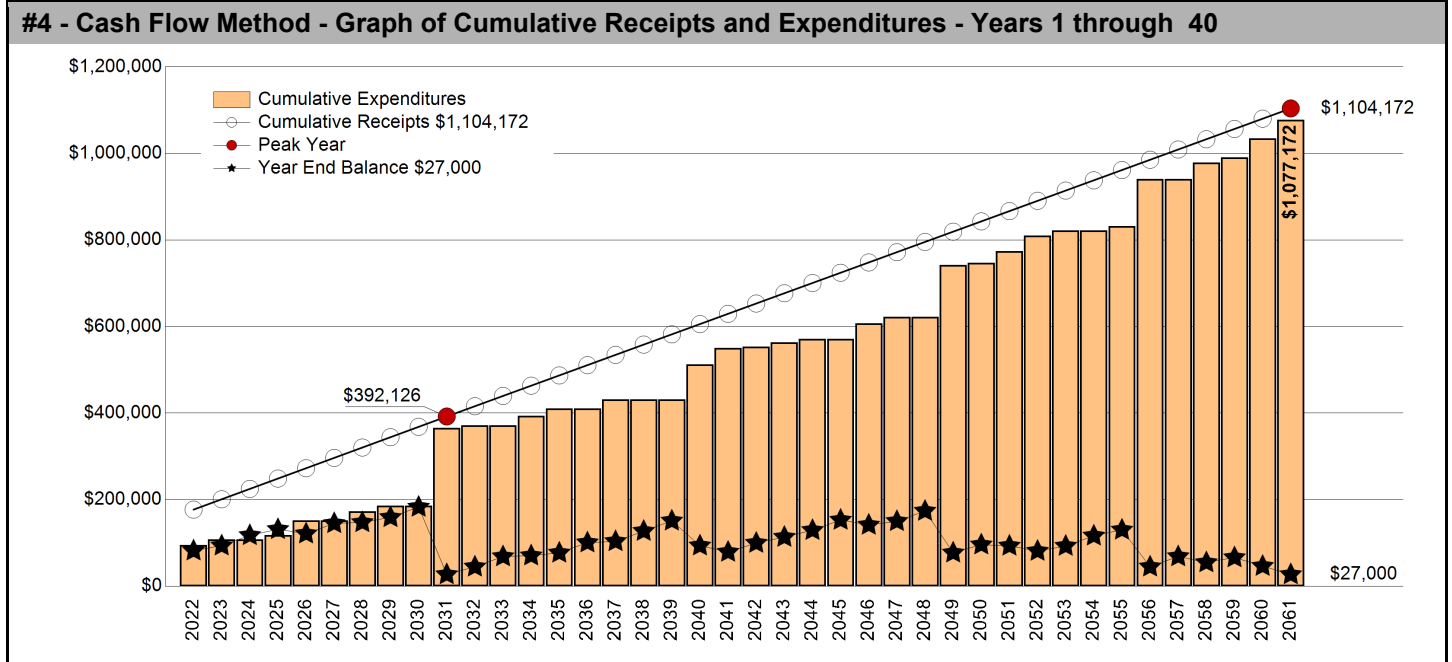
# CASH FLOW METHOD FUNDING

## \$23,917 RECOMMENDED REPLACEMENT RESERVE FUNDING FOR 2022

\$41.52 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 2031 with Replacement Reserves on Deposit dropping to the Minimum Balance after the completion of \$365,126 of replacements from 2022 to 2031. Recommended funding is projected to decline from \$23,917 in 2031 to \$23,735 in 2032. Peak Years are identified in Chart 4 and Table 5.
- Threshold (Minimum Balance).** The calculations assume a Minimum Balance of \$27,000 will always be held in reserve, which is calculated by rounding the 12-month 40-year average annual expenditure of \$26,929 as shown on Graph #2.
- Cash Flow Method Study Period.** Cash Flow Method calculates funding for \$1,077,172 of expenditures over the 40-year Study Period. It does not include funding for any projects beyond 2061 and in 2061, the end of year balance will always be the Minimum Balance.



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

Year	2022	2023	2024	2025	2026	2027	2028	2029	2030	1st Peak - 2031
Starting Balance	\$152,954									
Projected Replacements	(\$95,000)	(\$12,250)		(\$10,000)	(\$34,016)		(\$21,700)	(\$12,250)		(\$179,910)
Annual Deposit	\$23,917	\$23,917	\$23,917	\$23,917	\$23,917	\$23,917	\$23,917	\$23,917	\$23,917	\$23,917
End of Year Balance	\$81,871	\$93,538	\$117,456	\$131,373	\$121,274	\$145,191	\$147,408	\$159,076	\$182,993	\$27,000
Cumulative Expenditures	(\$95,000)	(\$107,250)	(\$107,250)	(\$117,250)	(\$151,266)	(\$151,266)	(\$172,966)	(\$185,216)	(\$185,216)	(\$365,126)
Cumulative Receipts	\$176,871	\$200,788	\$224,706	\$248,623	\$272,540	\$296,457	\$320,374	\$344,292	\$368,209	\$392,126
Year	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
Projected Replacements	(\$6,000)		(\$21,700)	(\$17,325)		(\$20,875)			(\$81,175)	(\$38,310)
Annual Deposit	\$23,735	\$23,735	\$23,735	\$23,735	\$23,735	\$23,735	\$23,735	\$23,735	\$23,735	\$23,735
End of Year Balance	\$44,735	\$68,470	\$70,505	\$76,914	\$100,649	\$103,509	\$127,244	\$150,979	\$93,539	\$78,964
Cumulative Expenditures	(\$371,126)	(\$371,126)	(\$392,826)	(\$410,151)	(\$410,151)	(\$431,026)	(\$431,026)	(\$431,026)	(\$512,201)	(\$550,511)
Cumulative Receipts	\$415,861	\$439,596	\$463,331	\$487,065	\$510,800	\$534,535	\$558,270	\$582,005	\$605,740	\$629,475
Year	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051
Projected Replacements	(\$3,000)	(\$10,000)	(\$7,956)		(\$35,200)	(\$15,250)		(\$120,250)	(\$5,075)	(\$26,560)
Annual Deposit	\$23,735	\$23,735	\$23,735	\$23,735	\$23,735	\$23,735	\$23,735	\$23,735	\$23,735	\$23,735
End of Year Balance	\$99,699	\$113,433	\$129,212	\$152,947	\$141,482	\$149,967	\$173,702	\$77,187	\$95,846	\$23,735
Cumulative Expenditures	(\$553,511)	(\$563,511)	(\$571,467)	(\$571,467)	(\$606,667)	(\$621,917)	(\$621,917)	(\$742,167)	(\$742,167)	(\$773,802)
Cumulative Receipts	\$653,210	\$676,944	\$700,679	\$724,414	\$748,149	\$771,884	\$795,619	\$819,354	\$843,088	\$866,823
Year	2052	2053	2054	2055	2056	2057	2058	2059	2060	2nd Peak - 2061
Projected Replacements	(\$35,575)	(\$12,250)		(\$10,000)	(\$109,020)		(\$37,625)	(\$12,250)	(\$43,550)	(\$43,100)
Annual Deposit	\$23,735	\$23,735	\$23,735	\$23,735	\$23,735	\$23,735	\$23,735	\$23,735	\$23,735	\$23,735
End of Year Balance	\$81,181	\$92,666	\$116,401	\$130,136	\$44,851	\$68,586	\$54,695	\$66,180	\$46,365	\$27,000
Cumulative Expenditures	(\$809,377)	(\$821,627)	(\$821,627)	(\$831,467)	(\$940,647)	(\$940,647)	(\$978,272)	(\$990,522)	(\$1,034,072)	(\$1,077,172)
Cumulative Receipts	\$890,558	\$914,293	\$938,028	\$961,763	\$985,498	\$1,009,233	\$1,032,967	\$1,056,702	\$1,080,437	\$1,104,172

## 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.

### **\$23,917** 2022 - CASH FLOW METHOD RECOMMENDED FUNDING

The 2022 Study Year calculations have been made using current replacement costs (see Page B.2), modified by the Analyst for any project specific conditions.

### **\$24,467** 2023 - INFLATION ADJUSTED FUNDING

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

- Replacement Reserves on Deposit totaling \$81,871 on April 1, 2023.
- All 2022 Projected Replacements listed on Page C.2 accomplished at a cost to Replacement Reserves less than \$95,000.
- Construction Cost Inflation of 2.30 percent in 2022.

The \$24,467 inflation adjusted funding in 2023 is a 2.30 percent increase over the non-inflation adjusted funding of \$23,917.

### **\$25,030** 2024 - INFLATION ADJUSTED FUNDING

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

- Replacement Reserves on Deposit totaling \$162,514 on April 1, 2024.
- All 2023 Projected Replacements listed on Page C.2 accomplished at a cost to Replacement Reserves less than \$12,250.
- Construction Cost Inflation of 2.30 percent in 2023.

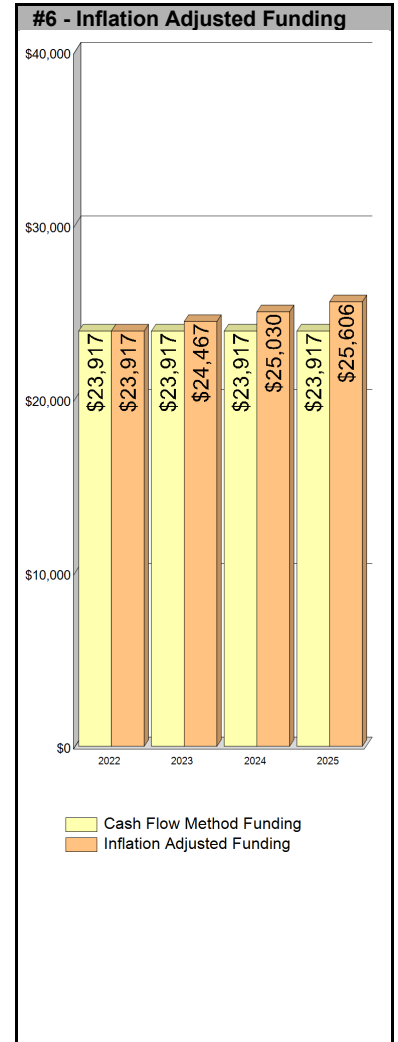
The \$25,030 inflation adjusted funding in 2024 is a 4.65 percent increase over the non-inflation adjusted funding of \$23,917.

### **\$25,606** 2025 - INFLATION ADJUSTED FUNDING

A new analysis calculates the 2025 funding based on three assumptions:

- Replacement Reserves on Deposit totaling \$175,600 on April 1, 2025.
- No Expenditures from Replacement Reserves in 2024.
- Construction Cost Inflation of 2.30 percent in 2024.

The \$25,606 inflation adjusted funding in 2025 is a 7.05 percent increase over the non-inflation adjusted funding of \$23,917.



### Year Four 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 2023, 2024 and 2025 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 2022, based on a 1.00 percent interest rate, we estimate the Association may earn \$1,174 on an average balance of \$117,413, \$1,222 on an average balance of \$122,192 in 2023, and \$1,691 on \$169,057 in 2024. The Association may elect to attribute 100 percent of the earned interest to Reserves, resulting in a reduction in the 2022 funding from \$23,917 to \$22,743 (a 4.90 percent reduction), \$24,467 to \$23,245 in 2023 (a 4.99 percent reduction), and \$25,030 to \$23,339 in 2024 (a 6.75 percent reduction).

REPLACEMENT RESERVE STUDY - SUPPLEMENTAL COMMENTS

6.25.2021: Per request, changed opening balance.

3.24.2022: Per request, changed Annual contribution.

## SECTION B - REPLACEMENT RESERVE INVENTORY

- **PROJECTED REPLACEMENTS.** Moorings Cluster - Replacement Reserve Inventory identifies 30 items which 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 \$511,761. Cumulative Replacements totaling \$1,077,172 are scheduled in the Replacement Reserve Inventory over the 40-year Study Period. Cumulative Replacements include those components that are replaced more than once during the period of the study.

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.** Some of the items contained 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 30 items included in the Moorings Cluster Replacement Reserve Inventory are divided into 1 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 Associates in 2017. 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 30 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.
- **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.
- **ACCURACY OF THE ANALYSIS.** The accuracy of the Replacement Reserve Analysis is dependent upon expenditures from Replacement Reserves being made ONLY for the 30 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.

SITE ITEMS						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 (\$)	
1	Asphalt pavement, mill and overlay	sf	49,000	\$2.25	18	9		\$110,250	
2	Asphalt pavement, repairs (10%)	sf	4,900	\$3.25	18	none		\$15,925	
3	Pavement, seal coat	sf	49,000	\$0.25	6	1		\$12,250	
4	Asphalt path, overlay	sf	1,360	\$5.85	18	4		\$7,956	
5	Concrete curb and gutter (6% allowance)	ft	222	\$40.00	6	none		\$8,880	
6	Concrete flatwork (6% allowance)	sf	120	\$12.00	6	none		\$1,440	
7	Concrete aprons (6% allowance)	sf	115	\$12.00	6	none		\$1,380	
8	Lake access steps, PTL w/ aggregate base	ft	60	\$145.00	15	none		\$8,700	
9	Lake access steps, PTL w/ aggregate base	ft	60	\$145.00	15	4		\$8,700	
10	Lake access steps, PTL w/ aggregate base	ft	60	\$145.00	15	9		\$8,700	
Replacement Costs - Page Subtotal								\$184,181	

COMMENTS
<ul style="list-style-type: none"> <li>Item #2: Asphalt pavement, repairs (10%) - 2022 updated added asphalt pavement repairs to address premature failures.</li> <li>Item #4: Asphalt path, overlay - 2022 update added quantity to include common path to the boat access and at the tot lot.</li> </ul>

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 (\$)	
11	Dock access steps, PTL w/ aggregate base	ft	35	\$145.00	15	13	\$5,075	
12	Wood boat dock, PTL structure	sf	650	\$45.00	20	18	\$29,250	
13	Wood boat dock, PTL deck	sf	650	\$22.00	20	18	\$14,300	
14	Bulkhead at boat dock, cap, PTL	ft	200	\$15.00	15	10	\$3,000	
15	Bulkhead at boat dock, replace, PTL	ft	200	\$300.00	50	45	\$60,000	
16	Bulkhead at common frontage, cap, PTL	ft	145	\$15.00	15	none	\$2,175	
17	Bulkhead at common frontage, replace, PTL	ft	145	\$300.00	50	none	\$43,500	
Replacement Costs - Page Subtotal							\$157,300	

COMMENTS
<ul style="list-style-type: none"> <li>Item #16: Bulkhead at common frontage, cap, PTL - 2022 update added bulkhead at common frontage.</li> <li>Item #17: Bulkhead at common frontage, replace, PTL - 2022 update added bulkhead at common frontage.</li> </ul>

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 (\$)	
18	Retaining wall, segmental block	sf	1,220	\$68.00	50	34	\$82,960	
19	Retaining wall, segmental block (reset)	ls	1	\$3,000.00	10	none	\$3,000	
20	Retaining wall at tot lot, PTL	sf	560	\$43.00	20	9	\$24,080	
21	Retaining wall steps, PTL	ea	1	\$1,500.00	20	9	\$1,500	
22	Bench	ea	2	\$880.00	15	4	\$1,760	
23	Tot lot, 5" arch-frame swing, 2 seat	ea	2	\$2,600.00	15	4	\$5,200	
24	Entrance monument, arch. wood sign	ea	1	\$5,000.00	15	4	\$5,000	
25	Entrance sign, synthetic wood sign	ea	3	\$1,800.00	15	4	\$5,400	
26	Sign and post, miscellaneous	ea	4	\$245.00	20	9	\$980	
27	Site light, standard single head	ea	8	\$600.00	15	9	\$4,800	
28	Site Light, 10' steel pole	ea	8	\$1,200.00	30	9	\$9,600	
	Domestic water laterals (allowance)						EXCLUDED	
	Sanitary laterals (allowance)						EXCLUDED	
29	Stormwater management (allowance)	ls	1	\$10,000.00	30	9	\$10,000	
30	Foundation plantings/trees (allowance)	ls	1	\$10,000.00	3	none	\$10,000	
Replacement Costs - Page Subtotal							\$164,280	

COMMENTS
<ul style="list-style-type: none"> <li>Domestic water laterals (allowance) - [03/11/2022] excluded per board water is unit owner responsibility.</li> <li>Sanitary laterals (allowance) - [03/11/2022] excluded per board sewer is unit owner responsibility.</li> <li>Item #30: Foundation plantings/trees (allowance) - 2022 update increased allowance to \$1,000 per acre to account for increase in aging and dying trees.</li> </ul>

VALUATION EXCLUSIONS							
Excluded Items							
ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	REPLACEMENT COST (\$)	UNIT REL	REL	REPLACEMENT COST (\$)
	Miscellaneous 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.



UNIT IMPROVEMENTS EXCLUSIONS								
Excluded Items								
ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	UNIT REPLACEMENT COST (\$)	NEL	REL	REPLACEMENT COST (\$)	
	Domestic water pipes serving one unit							EXCLUDED
	Sanitary sewers serving one unit							EXCLUDED
	Electrical wiring serving one unit							EXCLUDED
	Cable TV service serving one unit							EXCLUDED
	Telephone service serving one unit							EXCLUDED
	Gas service serving one unit							EXCLUDED
	Driveway on an individual lot							EXCLUDED
	Sidewalk on an individual lot							EXCLUDED
	Stairs on an individual lot							EXCLUDED
	Retaining wall on an individual lot							EXCLUDED
	Fence on an individual lot							EXCLUDED
	Dock on an individually lot							EXCLUDED
	Unit exterior							EXCLUDED
	Unit windows							EXCLUDED
	Unit doors							EXCLUDED
	Unit skylights							EXCLUDED
	Unit deck, patio, and/or balcony							EXCLUDED
	Unit mailbox							EXCLUDED
	Unit interior							EXCLUDED
	Unit HVAC system							EXCLUDED

**UNIT IMPROVEMENTS EXCLUSIONS**

**Comments**

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

MAINTENANCE AND REPAIR EXCLUSIONS								
Excluded Items								
ITEM #	ITEM DESCRIPTION	UNIT	NUMBER OF UNITS	REPLACEMENT COST (\$)	UNIT REL	REL	REPLACEMENT COST (\$)	
	Cleaning of asphalt pavement							EXCLUDED
	Crack sealing of asphalt pavement							EXCLUDED
	Painting of curbs							EXCLUDED
	Striping of parking spaces							EXCLUDED
	Landscaping and site grading							EXCLUDED
	Janitorial service							EXCLUDED
	Repair services							EXCLUDED
	Partial replacements							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.

## SECTION C - CALENDAR OF PROJECTED ANNUAL REPLACEMENTS

**GENERAL STATEMENT.** The 30 Projected Replacements in the Moorings Cluster 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

- **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.
- **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. We acknowledge that there are instances in which multiple revisions are necessary. However, unnecessary multiple revisions drain on our time and manpower resources. Therefore, Miller Dodson will exercise its sole discretion as to whether additional charges are incurred.
- **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.

**PROJECTED REPLACEMENTS**

Item	2022 - Study Year	\$	Item	2023 - YEAR 1	\$
2	Asphalt pavement, repairs (10%)	\$15,925	3	Pavement, seal coat	\$12,250
5	Concrete curb and gutter (6% allowance)	\$8,880			
6	Concrete flatwork (6% allowance)	\$1,440			
7	Concrete aprons (6% allowance)	\$1,380			
8	Lake access steps, PTL w/ aggregate base	\$8,700			
16	Bulkhead at common frontage, cap, PTL	\$2,175			
17	Bulkhead at common frontage, replace, PTL	\$43,500			
19	Retaining wall, segmental block (reset)	\$3,000			
30	Foundation plantings/trees (allowance)	\$10,000			
Total Scheduled Replacements		\$95,000	Total Scheduled Replacements		\$12,250

Item	2024 - YEAR 2	\$	Item	2025 - YEAR 3	\$
No Scheduled Replacements			30	Foundation plantings/trees (allowance)	\$10,000
No Scheduled Replacements			Total Scheduled Replacements		\$10,000

Item	2026 - YEAR 4	\$	Item	2027 - YEAR 5	\$
4	Asphalt path, overlay	\$7,956	No Scheduled Replacements		
9	Lake access steps, PTL w/ aggregate base	\$8,700			
22	Bench	\$1,760			
23	Tot lot, 5" arch-frame swing, 2 seat	\$5,200			
24	Entrance monument, arch. wood sign	\$5,000			
25	Entrance sign, synthetic wood sign	\$5,400			
Total Scheduled Replacements		\$34,016	No Scheduled Replacements		

Item	2028 - YEAR 6	\$	Item	2029 - YEAR 7	\$
5	Concrete curb and gutter (6% allowance)	\$8,880	3	Pavement, seal coat	\$12,250
6	Concrete flatwork (6% allowance)	\$1,440			
7	Concrete aprons (6% allowance)	\$1,380			
30	Foundation plantings/trees (allowance)	\$10,000			
Total Scheduled Replacements		\$21,700	Total Scheduled Replacements		\$12,250

Item	2030 - YEAR 8	\$	Item	2031 - YEAR 9	\$
No Scheduled Replacements			1	Asphalt pavement, mill and overlay	\$110,250
			10	Lake access steps, PTL w/ aggregate base	\$8,700
			20	Retaining wall at tot lot, PTL	\$24,080
			21	Retaining wall steps, PTL	\$1,500
			26	Sign and post, miscellaneous	\$980
			27	Site light, standard single head	\$4,800
			28	Site Light, 10' steel pole	\$9,600
			29	Stormwater management (allowance)	\$10,000
			30	Foundation plantings/trees (allowance)	\$10,000
No Scheduled Replacements			Total Scheduled Replacements		\$179,910

**PROJECTED REPLACEMENTS**

Item	2032 - YEAR 10	\$	Item	2033 - YEAR 11	\$
14	Bulkhead at boat dock, cap, PTL	\$3,000			
19	Retaining wall, segmental block (reset)	\$3,000			
Total Scheduled Replacements		\$6,000	No Scheduled Replacements		

Item	2034 - YEAR 12	\$	Item	2035 - YEAR 13	\$
5	Concrete curb and gutter (6% allowance)	\$8,880	3	Pavement, seal coat	\$12,250
6	Concrete flatwork (6% allowance)	\$1,440	11	Dock access steps, PTL w/ aggregate base	\$5,075
7	Concrete aprons (6% allowance)	\$1,380			
30	Foundation plantings/trees (allowance)	\$10,000			
Total Scheduled Replacements		\$21,700	Total Scheduled Replacements \$17,325		

Item	2036 - YEAR 14	\$	Item	2037 - YEAR 15	\$
No Scheduled Replacements			8	Lake access steps, PTL w/ aggregate base	\$8,700
			16	Bulkhead at common frontage, cap, PTL	\$2,175
			30	Foundation plantings/trees (allowance)	\$10,000
			Total Scheduled Replacements \$20,875		

Item	2038 - YEAR 16	\$	Item	2039 - YEAR 17	\$
No Scheduled Replacements			No Scheduled Replacements		

Item	2040 - YEAR 18	\$	Item	2041 - YEAR 19	\$
2	Asphalt pavement, repairs (10%)	\$15,925	3	Pavement, seal coat	\$12,250
5	Concrete curb and gutter (6% allowance)	\$8,880	9	Lake access steps, PTL w/ aggregate base	\$8,700
6	Concrete flatwork (6% allowance)	\$1,440	22	Bench	\$1,760
7	Concrete aprons (6% allowance)	\$1,380	23	Tot lot, 5" arch-frame swing, 2 seat	\$5,200
12	Wood boat dock, PTL structure	\$29,250	24	Entrance monument, arch. wood sign	\$5,000
13	Wood boat dock, PTL deck	\$14,300	25	Entrance sign, synthetic wood sign	\$5,400
30	Foundation plantings/trees (allowance)	\$10,000			
Total Scheduled Replacements		\$81,175	Total Scheduled Replacements \$38,310		



**PROJECTED REPLACEMENTS**

Item	2042 - YEAR 20	\$	Item	2043 - YEAR 21	\$
19	Retaining wall, segmental block (reset)	\$3,000	30	Foundation plantings/trees (allowance)	\$10,000
Total Scheduled Replacements		\$3,000	Total Scheduled Replacements		\$10,000

Item	2044 - YEAR 22	\$	Item	2045 - YEAR 23	\$
4	Asphalt path, overlay	\$7,956			
Total Scheduled Replacements		\$7,956	No Scheduled Replacements		

Item	2046 - YEAR 24	\$	Item	2047 - YEAR 25	\$	
5	Concrete curb and gutter (6% allowance)	\$8,880	3	Pavement, seal coat	\$12,250	
6	Concrete flatwork (6% allowance)	\$1,440	14	Bulkhead at boat dock, cap, PTL	\$3,000	
7	Concrete aprons (6% allowance)	\$1,380				
10	Lake access steps, PTL w/ aggregate base	\$8,700				
27	Site light, standard single head	\$4,800				
30	Foundation plantings/trees (allowance)	\$10,000				
Total Scheduled Replacements		\$35,200	Total Scheduled Replacements			\$15,250

Item	2048 - YEAR 26	\$	Item	2049 - YEAR 27	\$	
No Scheduled Replacements			1	Asphalt pavement, mill and overlay	\$110,250	
			30	Foundation plantings/trees (allowance)	\$10,000	
No Scheduled Replacements			Total Scheduled Replacements			\$120,250

Item	2050 - YEAR 28	\$	Item	2051 - YEAR 29	\$	
11	Dock access steps, PTL w/ aggregate base	\$5,075	20	Retaining wall at tot lot, PTL	\$24,080	
			21	Retaining wall steps, PTL	\$1,500	
			26	Sign and post, miscellaneous	\$980	
Total Scheduled Replacements		\$5,075	Total Scheduled Replacements			\$26,560

**PROJECTED REPLACEMENTS**

Item	2052 - YEAR 30	\$	Item	2053 - YEAR 31	\$
5	Concrete curb and gutter (6% allowance)	\$8,880	3	Pavement, seal coat	\$12,250
6	Concrete flatwork (6% allowance)	\$1,440			
7	Concrete aprons (6% allowance)	\$1,380			
8	Lake access steps, PTL w/ aggregate base	\$8,700			
16	Bulkhead at common frontage, cap, PTL	\$2,175			
19	Retaining wall, segmental block (reset)	\$3,000			
30	Foundation plantings/trees (allowance)	\$10,000			
Total Scheduled Replacements		\$35,575	Total Scheduled Replacements		\$12,250

Item	2054 - YEAR 32	\$	Item	2055 - YEAR 33	\$
No Scheduled Replacements			30	Foundation plantings/trees (allowance)	\$10,000
Total Scheduled Replacements			Total Scheduled Replacements		\$10,000

Item	2056 - YEAR 34	\$	Item	2057 - YEAR 35	\$
9	Lake access steps, PTL w/ aggregate base	\$8,700	No Scheduled Replacements		
18	Retaining wall, segmental block	\$82,960			
22	Bench	\$1,760			
23	Tot lot, 5" arch-frame swing, 2 seat	\$5,200			
24	Entrance monument, arch. wood sign	\$5,000			
25	Entrance sign, synthetic wood sign	\$5,400			
Total Scheduled Replacements		\$109,020	Total Scheduled Replacements		

Item	2058 - YEAR 36	\$	Item	2059 - YEAR 37	\$
2	Asphalt pavement, repairs (10%)	\$15,925	3	Pavement, seal coat	\$12,250
5	Concrete curb and gutter (6% allowance)	\$8,880			
6	Concrete flatwork (6% allowance)	\$1,440			
7	Concrete aprons (6% allowance)	\$1,380			
30	Foundation plantings/trees (allowance)	\$10,000			
Total Scheduled Replacements		\$37,625	Total Scheduled Replacements		\$12,250

Item	2060 - YEAR 38	\$	Item	2061 - YEAR 39	\$
12	Wood boat dock, PTL structure	\$29,250	10	Lake access steps, PTL w/ aggregate base	\$8,700
13	Wood boat dock, PTL deck	\$14,300	27	Site light, standard single head	\$4,800
Total Scheduled Replacements		\$43,550	28	Site Light, 10' steel pole	\$9,600
			29	Stormwater management (allowance)	\$10,000
			30	Foundation plantings/trees (allowance)	\$10,000
Total Scheduled Replacements		\$43,550	Total Scheduled Replacements		\$43,100

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## SECTION D - CONDITION ASSESSMENT

**General Comments.** Miller+Dodson Associates conducted a Reserve Study at Moorings Cluster in May 2021. Moorings Cluster is in generally fair condition for a homeowner's association constructed in 1971. 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.

**IMPORTANT NOTE:** This Condition Assessment is based upon visual and apparent conditions of the common elements of the community which were observed by the Reserve Analyst at the time of the site visit. This Condition Assessment does not constitute, nor is it a substitute for, a professional Structural Evaluation of the buildings, amenities, or systems.

### 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

**Asphalt Pavement.** The Association manages the asphalt pavement roadways and parking areas within the community. The pavement is in good to fair condition with areas of deterioration near the gutters in some areas.





The Defects noted include the following:

- **Open Cracks.** There are multiple locations where open cracks are allowing water to penetrate to the asphalt base and the bearing soils beneath. Over time, water will erode the base and accelerate the deterioration of the asphalt pavement. If cracks extend to the base and bearing materials, remove the damaged areas, and replace defective materials. As a part of normal maintenance, clean and fill all other cracks.
- **Alligatoring.** There are multiple locations where the asphalt has developed a pattern of cracking known as alligatoring. The primary cause of alligatoring is an unstable base. Once these cracks extend through the asphalt, they will allow water to penetrate to the base, accelerating the rate of deterioration, and eventually leading to potholes. The only solution is to remove the defective asphalt, compact the base, and install new base materials and asphalt.
- **Potholes.** Potholes have formed as the result of full-depth pavement failure, including base materials. The repair will require removal of the asphalt and base materials, installation and compaction of new base materials, and asphalt resurfacing.

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

As a rule of thumb, asphalt should be overlaid when approximately 5% of the surface area is cracked or otherwise deteriorated. The normal service life of asphalt pavement is typically 18 to 20 years.

In an effort to maintain the condition of the pavement throughout the community and ensure the longest life of the asphalt, we recommend the Association adopt a systematic and comprehensive maintenance program that includes:

- **Cleaning.** Long-term exposure to oil or gas breaks down asphalt. Because this asphalt pavement is generally not used for long-term parking, it is unlikely that frequent cleaning will be necessary. When necessary, spill areas should be cleaned or patched if deterioration has penetrated the asphalt. This is a maintenance activity, and we have assumed that it will not be funded from Reserves.
- **Crack Repair.** All cracks should be repaired with an appropriate compound to prevent water infiltration through the asphalt into the base. This repair should be done annually. Crack repair is normally considered a maintenance activity and is not funded from Reserves. Areas of extensive cracking or deterioration that cannot be made watertight should be cut out and patched.
- **Seal Coating.** The asphalt should be seal coated every five to seven years. For this maintenance, activity to be effective in extending the life of the asphalt, cleaning, and crack repair should be performed first.

The pricing used is based on recent contracts for a two-inch overlay, which reflects the current local market for this work.

For seal coating, several different products are available. The older, more traditional seal coating product is paint. They coat the surface of the asphalt and are minimally effective. However, the newer coating materials, such as those from Total Asphalt Management, Asphalt Restoration Technologies, Inc., and others, are penetrating. They are engineered, so to speak, to 'remoisturize' the pavement. Asphalt pavement is intended to be flexible. Over time, the volatile chemicals in



the pavement dry, the pavement becomes brittle, and degradation follows in the forms of cracking and potholes. Remoisturizing the pavement can return its flexibility and extend the life of the pavement.

**Asphalt Paths.** The Association is responsible for some of the paths throughout the community. The Association paths are in good to fair condition with some ruts that should be repaired.



Asphalt paths are typically constructed on native soil. As a result, defects can begin to develop in a few years, leading to costly repairs, early replacement, and tripping hazards. Additionally, paths typically do not have proper edge confinement and support resulting in longitudinal cracking along the edges of the path. Compacted soil or gravel along the edges of the path can mitigate this problem. Lastly, tree root damage is a common issue with asphalt paths, and some communities have had success with a process called root trimming.

As a rule of thumb, asphalt should be overlaid when approximately 5% of the surface area is cracked or otherwise deteriorated.

In order to maintain the condition of the pavement throughout the community and to ensure the longest life of the asphalt, we recommend a systematic and comprehensive maintenance program that includes:

- **Cleaning.** Long-term exposure to oil or gas breaks down asphalt. Because this asphalt pavement is generally not used for long-term parking, it is unlikely that frequent cleaning will be necessary. When necessary, spill areas should be cleaned or patched if deterioration has penetrated the asphalt. This is a maintenance activity, and we have assumed that it will not be funded from Reserves.
- **Crack Repair.** All cracks should be repaired with an appropriate compound to prevent water infiltration through the asphalt into the base. This repair should be done annually. Crack repair is normally considered a maintenance activity and is not funded from Reserves. Areas of extensive cracking or deterioration that cannot be made watertight should be cut out and patched.
- **Seal Coating.** The asphalt should be seal coated every five to seven years. For this maintenance, activity to be effective in extending the life of the asphalt, cleaning, and crack repair should be performed first.

**Concrete Work.** The concrete work includes the community sidewalks (specific areas), curb and gutter, and driveway aprons. The Reston Association is responsible for the majority of the sidewalks. We have modeled for curb replacement when the asphalt pavement is overlaid. The overall condition of the concrete work is fair with areas of defects consistent with the age of the installation.

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.

- Tree root damage.

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.





**Steps.** The Association maintains the right of ways to the lake. These right of ways include terraced steps which are in good to fair condition.



The association should maintain these right-of-way passages in a safe manner. This is meant to facilitate Association member use while discouraging public access.

**Boat Dock.** The Association maintains a boat dock constructed of Pressure Treated Lumber (PTL). The dock and structure are new and in good condition.



We have included the following in the reserve study for the boat dock:

- **Structure.** The dock features a lumber structure that supports the length, width, and suspension system. The structure should be replaced when is deteriorated to the point that it doesn't maintain the deck.
- **Decking.** The deck boards will experience weathering due to sun, wind, and rain. The deck boards should be replaced when the boards are sufficiently weathered.



**Waterline Bulkhead.** The Association maintains a bulkhead at the boat dock and at the common area of lake frontage. The bulkhead is in good to fair condition with areas of defects consistent with the age of the installation. The Association plans to replace the common area frontage bulkhead in the near future.



**Segmental Block Retaining Walls.** The Association maintains multiple sections of segmental block retaining walls. The retaining walls are in good condition. We noted a few sections with displaced blocks and some areas where the soil and mulch were washing over the walls.



Retaining walls, in general, are designed to provide slope stabilization and soil retention by means of a structural system. Typically, walls that are three feet high or more require some level of design.



The movement and displacement of any retaining wall is a sign of general settlement or failure. This typically is in the form of leaning and bowing and can involve the entire wall or localized sections of the wall. Typically, these types of movements are gradual and may require the replacement of the wall. The movement of retaining walls located near other buildings or structures may negatively affect the stability of the adjacent structure. These conditions can become extremely costly if not properly identified, monitored, and addressed.

Segmental block retaining walls can have an extended useful life, and if stable, are likely to only require localized resetting of displaced blocks, typically near the top of the wall. This study assumes that resetting will be performed incrementally as needed. Segmental block retaining walls can have a service life of 80 years or more.

Retaining wall replacement can be costly, and early planning on the part of the Association can help to reduce the impact of this work on the community's budget in the future. We, therefore, recommend having a Professional Engineer inspect the walls and develop preliminary replacement alternatives and recommendations based on the site conditions, replacement costs, and recommended replacement wall types. This information can then be incorporated into future updates to the Reserve Study.

**Exterior Wood Stairs.** The exterior stairs consist of wood treads and landings with wood stringers. The stairs are in good condition.

The wood in the exterior stairs expands and contracts with changes in temperature and moisture levels within the wood, leading to cracks. Untreated, these cracks will expand and can lead to the development of rot within the wood.

It is recommended that the Association inspect all stairs at least once each year. All areas with moderate cracking or rot should be replaced. Areas covered with mold should be cleaned and treated.

**Retaining Walls.** The Association maintains a section of PTL retaining wall at the tot lot. The retaining walls are in good condition with defects consistent with the age of the installation.



Retaining walls, in general, are designed to provide slope stabilization and soil retention by means of a structural system. Typically, walls that are three feet high or more require some level of design.

The movement and displacement of any retaining wall is a sign of general settlement or failure. This typically is in the form of leaning and bowing and can involve the entire wall or localized sections of the wall. Typically, these types of movements are gradual and may require the replacement of the wall. The movement of retaining walls located near other buildings or structures may negatively affect the stability of the adjacent structure. These conditions can become extremely costly if not properly identified, monitored, and addressed.

**Wood.** Wood retaining walls will experience rot and decay over time and partial replacement of defective wooden members is often possible in the early stages of decay. Eventually, however, these walls will require replacement. Wood retaining walls can have a useful life of 25 to 35 years.

Retaining wall replacement can be costly, and early planning on the part of the Association can help to reduce the impact of this work on the community's budget in the future. We, therefore, recommend having a Professional Engineer inspect the walls and develop preliminary replacement alternatives and recommendations based on the site conditions, replacement costs, and recommended replacement wall types. This information can then be incorporated into future updates to the Reserve Study.

**Site Lighting.** The Association is responsible for the operation of the facility's walkway lights. The lights are in fair condition.

This study assumes replacement of the light fixtures every 15 to 20 years, and pole replacement every 30 to 40 years. When the light poles are replaced, we assume that the underground wiring will also be replaced.

When a whole-scale lighting replacement project is called for, we recommend consulting with a lighting design expert. Many municipalities such as The Reston Association have design codes, guidelines, and restrictions when it comes to exterior illumination.

Additionally, new technology such as LED and LIFI, among others, is considered. The Association should consider factors such as environmental sustainability, longevity, and cost when they look at the replacement of their lighting.



**Stormwater Management.** Stormwater can be problematic in areas with high runoff water or dramatic changes in elevation. Typically, the majority of stormwater management systems are maintained by the county or municipality. This study attempts to include the portions of the system are considered common property. The shared line between municipality and community responsibility is often obscure and subject to the judgment of the county authority. The county recently reviewed the condition at Moornings Cluster and made recommendations to this community and neighboring communities to mitigate stormwater concerns.



Stormwater management components include: the entire network of underground piping, runoff beds, detention ponds, swales, drains, French drains, curb inlets, drop inlets, riprap, geo fabric (or geotextile fabric), silt fence, and site grading. Many installations have a service life equal to or greater to the life of the community and will not require replacement.

Various authorities are involved with and have oversight of runoff water. There are historic, newly developed, and ongoing improvements in protection of the water table. Regulations on runoff water are established to reduce sediment in the watershed, eliminate contamination of the water table, and retain freshwater within the watershed. Sanctions on tributaries will expand upstream to all possible sources of collection. Communities are responsible for the volume of water produced within their boundaries until it reaches the end of the watershed.



We have included an allowance for stormwater management. This allowance is for situations where systems fail or do not meet the current code and require replacement. This study includes a review of the visible stormwater management components that are considered common and observations of system failure when evident.

A thorough review of engineering plans, codes, system functioning, and applicable regulations was not performed as part of this study. Our estimate considers likely replacements and practical costs from communities of similar size and complexity. Inspection and evaluation of underground lines and structures are beyond the scope of work for this study.

Additional information is available on our website at: <http://mdareserves.com/resources/links/site-components>

**Foundation Plantings.** The community features rooted woody plants that are designed to support soil integrity, provide shade, add to the aesthetic appeal of the community, and at times conceal utilities.



Proper selection of foundation plants will allow nature to do its thing and fill the space without the negative effects of overgrowing. The concept of the foundation plantings is to remain for 20 – 30 years. Periodic assessment of the function of plantings in the community should be conducted with a landscape specialist or arborist. In some areas, the municipality has oversight on trees and regulates what can be removed entirely. Listed below are a few of the conditions that will require the removal and replacement of trees.

- Nuisance roots that lift sidewalk and pavement sections
- Large trees that grow too close to roofs and gutters
- Tree canopy hanging over parking spots
- Trunk and roots too close to building foundations
- Trunk and canopy that is taller than the building structures
- Dying and diseased trees
- Bushes and shrubs that are overgrown and cannot be trimmed back

This study includes an allowance to perform the replacement of individual trees or shrubs. The understanding that trees would be cut down, removed, stump ground, and a new tree planted in its place. The allowance is not intended for planting annuals, seasonal flowers, mulch, or landscaping services.

**Tot Lots.** The community maintains a tot lot. These tot lots include swings, benches, and a wood chip surface. The facility facilities are in generally good condition with minor wear. The wood chip surface appears to be adequate.



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 website at [www.mdareserves.com/resources/links/recreation](http://www.mdareserves.com/resources/links/recreation).

Our estimates for playground equipment are based on comparing photos of the existing equipment with equipment of a similar size in manufacturers' catalogs. We use the pricing that is quoted by manufacturers for comparable equipment and added an additional 30% for the disposal of the old equipment and installation of new equipment.

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 and limited common elements of the property to ascertain their remaining useful life and replacement cost. 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

## 1. COMMON INTEREST DEVELOPMENTS - AN OVERVIEW

Over the past 40 years, the responsibility for many services, facilities and infrastructure around 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 approximately 500 Community Associations in the United States. According to the 1990 U.S. Census, there were roughly 130,000 Community Associations. The Community Associations Institute (CAI), a national trade association, estimates in 2020 that there were more than 350,000 communities with over 75 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 issues. Although Community Associations have succeeded in solving many short-term issues, many Associations still fail to properly plan for the significant 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 invariably exposed to the burden of special assessments, major increases in Association fees, and often 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 major repair or replacement, a general view of the physical condition of these components, and an effective financial plan to fund projected periodic replacements or major repairs. The Replacement Reserve Study consists of the following:

**Replacement Reserve Study Introduction.** The introduction provides a description of the property, an Executive Summary of the Funding Recommendations, Level of Reserve Study service, and a statement of the Purpose of the Replacement Reserve Study. It also lists documents and site evaluations upon which the Replacement Reserve Study is based, and provides the Credentials of the Reserve Analyst.

**Section A Replacement Reserve Analysis.** Many components that are owned by the Association have a limited life and require periodic replacement. Therefore, it is essential that the Association have a financial plan that provides funding for the timely replacement of these components in order to protect the safety, appearance, and ultimately, the property value of the home in the community. In conformance with National Reserve Study Standards, a Replacement Reserve Analysis evaluates the current funding of Replacement Reserves as reported by the Association and recommends annual funding of Replacement Reserves using the Threshold Cash Flow Method. See definition below.

**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. Replacement Reserve Inventory includes estimates of the Normal Economic Life (NEL) and the Remaining Economic Life (REL) for those components whose replacement is scheduled for funding from Replacement Reserves.

The Replacement Reserve Inventory also provides information about those components which are excluded from the Replacement Reserve Inventory and whose replacement is not 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.** The observed condition of the major 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 at the time of 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.).



### 3. METHODS OF ANALYSIS

The Replacement Reserve industry generally recognizes two different methods of accounting for Replacement Reserve Analysis, the Cash Flow Method and the Component Method. Due to the difference in accounting methodologies, these methods lead to different calculated values for the Recommended Annual Funding to the Reserves. A brief description is included below:

**Cash Flow Threshold Method.** This Reserve Study uses the Threshold Cash Flow Method, sometimes referred to as the "Pooling Method." It calculates the minimum constant annual funding to reserves (Minimum Annual Deposit) required to meet projected expenditures without allowing total reserves on hand to fall below the predetermined Minimum Balance, or Threshold, in any year.

**Component Method.** The Component Method of calculating Reserve Funding needs is based upon an older mathematical model. Instead of calculating total funding based on yearly funding requirements, the Component method treats each component as its own "line item" budget that can only be used for that component. As a result, the Component Method is typically more conservative requiring greater Annual Reserve Funding levels.

### 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 parties responsible for maintaining the community after acceptance of our proposal. Upon submission of the initial Study, the Study should be reviewed by the Board of Directors and the individuals responsible for maintaining the community. We depend upon the Association for correct information, documentation, and drawings. We also look to the Association representative to help us fashion the Reserve Study so that it reflects what the community hopes to accomplish in the coming years.

**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 regular 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 Threshold Method, above.

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

**Contingency.** An allowance for unexpected requirements. The "Threshold" used in the Cash Flow Method is a predetermined minimum balance that serves the same purpose as a "contingency." However, IRS Guidelines do not allow for a "contingency" line item in the inventory. Therefore, it is built into the mathematical model as a "Threshold."

**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.

**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 Balance.** Otherwise referred to as the Threshold, this amount is used in the Cash Flow Threshold Method only. Normally derived using the average annual expenditure over the study period, this is the minimum amount held in reserves in the Peak Year.

**National Reserve Study Standards.** A set of Standards developed by the Community Associations Institute in 1995 (and updated in 2017) which establishes the accepted methods of Reserve Calculation and stipulates what data must be included in the Reserve Study for each component listed in the inventory. These Standards can be found at [CALonline.org](http://CALonline.org).

**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.)

**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. The Reserve Study must cover a minimum of 20 years to comply with the National Reserve Study Standards. However, your study covers a 40-year period.

**Peak Year.** In the Cash Flow Threshold Method, a year in which the reserves on hand are projected to fall to the established threshold level. See Minimum Balance, above.

**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.

**Replacement Reserve Study.** An analysis of all of the components of the common property of a Community Association for which 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, Normal Economic Life, and Remaining Economic Life. The objective of the study is to calculate a Recommended Annual Funding 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:

<b>ea</b>	each	<b>ls</b>	lump sum	<b>sy</b>	square yard
<b>ft or lf</b>	linear foot	<b>pr</b>	pair	<b>cy</b>	cubic yard
<b>sf</b>	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?



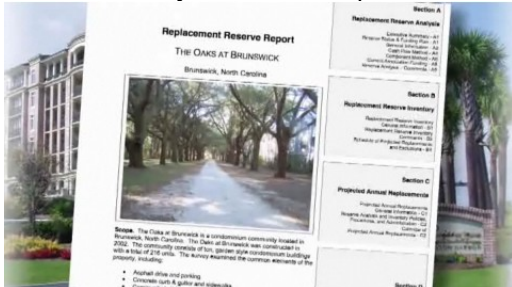
<https://youtu.be/aARD1B1Oa3o>

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



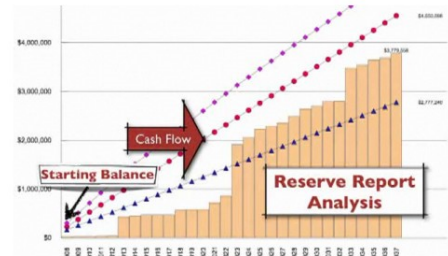
<https://youtu.be/diZfM1IyJYU>

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?



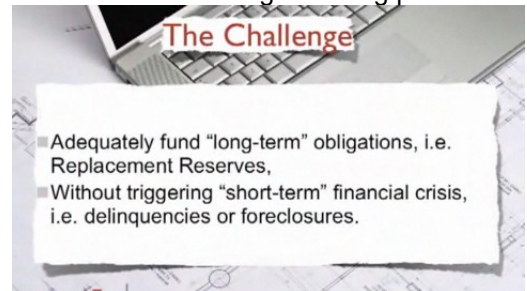
<https://youtu.be/SePdWVDvHWI>

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>