



MASON & MASON
CAPITAL RESERVE ANALYSTS, INC.



(Final Report, Revised May 23, 2023)

Condition Assessment
&
Reserve Fund Plan
2022

WHEELWRIGHT

Reston, Virginia



Prepared for:

The Board of Directors



MASON & MASON
CAPITAL RESERVE ANALYSTS, INC.



P. O. Box 1 Fort Valley, Virginia 22652 352-447-0537 admin@masonreserves.com

May 23, 2023

Ms. Kelly Fairbank, Treasurer
Wheelwright Cluster Association
P. O. Box 9013
Reston, Virginia 20195

RE: **CONDITION ASSESSMENT AND RESERVE FUND PLAN 2022**
 Wheelwright Cluster Association
 (Final Report, Revised May 23, 2023)
 Reston, Virginia
 Project No. 9499

Dear Ms. Fairbank:

Mason & Mason Capital Reserve Analysts, Inc. has completed the final report for Wheelwright Cluster.

We have revised the report to reflect changes that you and the Board requested via email on May 9, 2023.

We genuinely appreciate the opportunity to work with you and the Association.

Sincerely,

Mason & Mason Capital Reserve Analysts, Inc.

James G. Mason III, R.S.
Vice President

James G. Mason, R.S.
Principal



TABLE OF CONTENTS

TABLE OF CONTENTS.....	1
FOREWORD.....	2
SUMMARY OF KEY ISSUES.....	3
VISUAL EVALUATION METHODOLOGY.....	4
1. INTRODUCTION.....	5
2. METHODS OF FUNDING	7
3. FINANCIAL ANALYSIS.....	9
4. TYPES OF RESERVE STUDIES.....	10
5. RESERVE PROGRAMMING	11
6. UPDATING THE RESERVE FUND PLAN.....	13
7. PREVENTIVE MAINTENANCE	13

RESERVE FUND PLAN

COMPONENT DATA AND ASSET REPLACEMENT SCHEDULE	TABLE 1
CALENDAR OF EXPENDITURES	TABLE 2
CURRENT FUNDING ANALYSIS, CASH FLOW METHOD	TABLE 3
ALTERNATIVE FUNDING ANALYSIS, CASH FLOW METHOD	TABLE 3.1
FUNDING ANALYSIS, COMPONENT METHOD	TABLE 4
PHOTOGRAPHS	#1 - #9

FOREWORD

PLEASE READ THIS FIRST

This report contains information the Board requires to fulfill its fiduciary responsibilities with respect to the financial health of the Association. Even if you are already familiar with the concepts of capital reserve planning, it requires some study. The information in this report is vital to your Association's financial health. Unless you understand it, your Association may not follow it. This may lead to underfunding and financial stress at some time in the future.

Our years of experience providing reserve analysis to both first-time and multi-update return clients have compelled us to develop a logical funding approach, which is based on generational equity and fairness to common-interest property owners that helps ensure realistic reserve funding levels.

Our approach is neither standard, nor is it necessarily easy to understand without first becoming familiar with some basic concepts. Section 2 explains these concepts in more detail. We want you to understand them because a well-informed Association makes the best decisions for its common-property owners.

SUMMARY OF KEY ISSUES

Different readers will look for different things from this report. Perhaps the homeowner will just be looking for the high points. A prospective buyer may be looking at the general financial condition of the Association's reserves. A Board member should probe deeper in order to understand the financial tools that will be helpful in fulfilling their fiduciary responsibilities to the Association.

The Summary of Key Issues presents a recapitulation of the most important findings of Wheelwright's Reserve Fund Plan. Each is discussed in greater detail in the body of the report. We encourage the reader to 'go deeper' into the report, and we have written it in a way that is understandable to a first-time reader.

Analyzing the capital reserves reveals that:

- The fund is approximately **73%** funded through 2021, **See Paragraph 2.1**. Our goal is to become fully funded by the end of the 20-year period (2041).

To achieve this goal, the Board should:

- Increase the annual contribution in **2023** from **\$9,000** to **\$21,100**, followed by annual adjustments of **4%** to reflect inflation thereafter.
- This represents a **2023** adjustment from **\$11.54** to **\$27.05** (a net adjustment of **\$15.51**) per residence, per month (based on **65** units).

Supporting data are contained in the body of this report, and we encourage the reader to take the time to understand it.

VISUAL EVALUATION METHODOLOGY

The first step in the process is collection of specific data on each of your community's commonly held components. This information includes quantity and condition of each included component. We collect most of this data during the on-site field survey. When this information is not available in the field, we may obtain it by discussion with those knowledgeable through management or service activities.

The field survey or condition assessment is visual and non-invasive. We do not perform destructive testing to uncover hidden conditions; perform operational testing of mechanical, electrical, plumbing, fire, and life safety protection; or perform code compliance analysis.

We make no warranty that every defect has been identified. Our scope of work does not include an evaluation of moisture penetration, mold, indoor air quality, or other environmental issues. While we may identify pedestrian hazards observed during the course of the field survey, this report should not be considered a safety evaluation of components.

Replacement costs are sometimes based on published references, such as R. S. Means. However, our opinions of replacement costs usually include removal and disposal and are usually based on experience with similar projects including information provided by local contractors and reported client experience. Actual construction costs can vary significantly due to seasonal considerations, material availability, labor, economy of scale, and other factors beyond our control.

Projected useful service lives are based on statistical data and our opinion of their current visual condition. No guarantee of component service life expectancies is expressed or implied and none should be inferred by this report. Your actual experience in replacing components may differ significantly from the projections in the report, because of conditions beyond our control or that were not visually apparent at the time of the survey.

Visual Condition Ratings Definitions

Excellent Condition - No problems noted, like new condition.

Good Condition - No deterioration.

Fair Condition - Minor deterioration, but still serviceable.

Poor Condition - Significant deterioration, reaching the end of its service life.

Failed Condition - Beyond repair, must be removed and replaced.

1. INTRODUCTION

1.1 Background: Wheelwright Cluster Association is comprised of 65 townhomes located on Wheelwright Court in Reston, Virginia. The community was constructed in 1974. One private street, Wheelwright Court, is within the community. The common elements of the community include asphalt driveways and parking areas, three asphalt footpaths, one entrance sign, street signage, mailboxes, one tot lot, and storm water drainage system. The street layout includes concrete sidewalks, curbs, and gutters, and 21 parking bays providing 132 spaces.

We are providing the Condition Assessment and Reserve Fund Plan based on Proposal Acceptance Agreement No. 9499 dated July 6, 2022. Our services are subject to all terms and conditions specified therein.

The final revisions include a correction to the reported financials and moving in of the asphalt restoration.

Mason & Mason did not review the declarations, covenants, or other organization documents pertaining to the establishment and governance of the Community Association. Ultimately, the establishment, management, and expenditure of reserves are within the discretion of the Association and its Board of Directors pursuant to their organizational documents and subject to the laws of the applicable jurisdiction. We are not otherwise financially associated with the Association, and we therefore do not have any conflicts of interest that would bias this report. Information provided by Wheelwright is deemed reliable. This report is not intended to be an audit or a forensic investigation. This report is not a mandate but is intended to be a guide for future planning.

James G. Mason III, R. S. and Maxamus G. Mason, R. S. I. T. conducted the field evaluation for this report on November 2, 2022. The sky was clear, and the temperature was approximately 65 degrees F. Precipitation had not occurred for several days prior to the site visit. The pavements, walkways, and grounds were generally dry and clean of debris.

1.2 Principal Findings: The common assets appear to be in overall fair to good condition. The community is nearing a 50-year benchmark in terms of replacement of major systems. The asphalt driveways and parking bays range from poor to fair condition. The pavements are exhibiting a moderate quantity of deflected asphalt (indicative of sub-base failure) for its age. Management requested that we set the restoration date for 2024, as part of the final report. Restoration should include full-width profile milling to a depth of three inches with new compacted asphalt. The asphalt footpaths appear to be in generally good condition. Any path tripping hazards, such as root heave should be mitigated expeditiously to prevent personal injury.

Although some new concrete sidewalk panels were observed, there continues to be a moderate quantity of cracked, settled, and/or heaved concrete sidewalks and/or courtyards, which are potential tripping hazards. The liability and costs associated with personal injury lawsuits resulting primarily from sidewalk and footpath tripping hazards are too great to defer repair. It is our opinion that deficiencies which pose a hazard to pedestrians should be corrected expeditiously.

Site features such as the community's name sign, street signage, mailbox modules, tot lot components, outdoor furniture, and the storm water drainage system appear to range from fair to good condition. A request to include the light poles and fixtures was presented to us, however, it appears that the light poles and fixtures are responsibility of VPCO and therefore we are not including them. We understand that the wood steps near 2263 Wheelwright Court were recently removed, as they were a hazard. New steps are ready to be constructed and materials were on-site for installation. We also understand that the Board/Volunteer homeowners are installing the new steps.

Currently, the reserve fund requires a reasonable single increase to get to the point where annual inflationary adjustments will eventually achieve the fully funded goal at the end of the 20-year period.

In order to maintain the physical attributes that preserve property values and provide a safe environment for occupants and guests, a series of capital expenditures should be anticipated. Consequently, we have scheduled near-, mid-, and late-term restoration and replacement projects based on anticipated need from our experience with similar properties.

Generally, our approach is to group appropriately related component replacement items into projects. This creates a more realistic model and allows a grouping timeline that is more convenient to schedule and logical to accomplish. Please see Table 1 Discussion, Column 18, for specific information.

2. METHODS OF FUNDING

Once the data are compiled, our proprietary software produces two distinct funding methods. These are the **Component Method** and **Cash Flow Method**. Each of these methods is used in analyzing your Association's reserve status and each plays a role in the Board's decision on how to fund reserves. While we provide the guidance, the choice of funding method is ultimately the prerogative of the Board. Considering the vulnerability of the Association's assets, its risk tolerance, and its ability to fund contributions, the Board should decide how the Association will fund its reserves and at what level.

2.1 Component Method: As reserve analysts, we recognize the value of Component Method calculations as they address both future replacement costs and the time remaining to fund them. **This is the foundation of the savings concept. You will see the term 'fully funded.'** This simply means you are on schedule, in any given year, to accrue sufficient funds by the component's replacement date. It does not mean you must have 100% of the funds ahead of time. Simplified Example: A component projected to cost \$1,000 at the end of its 10-year life cycle would require a \$100 annual contribution in each of the 10 years. As long as you follow this contribution plan, the component is 'fully funded.'

Prior to determining the actual required annual contribution, a complex calculation apportions the existing reserve fund to each component. Each component's remaining unfunded balance forms the basis for the required contribution going forward.

Funds set aside for replacement of individual components are not normally used for the replacement of other components, even though the funds reside in the same bank account. In rare cases where a reserve fund is actually overfunded, \$0 will be displayed on the Component Method tables, indicating that the component is fully funded for that cycle.

While the time basis for the report is a 20-year period, the Component Method allows for inclusion of long-life components that may require replacement after the specified period. **This allows for funding of long-life components contemporaneously, which is fundamentally fair if they are serving the current owners. This is in contrast to saying, 'if it doesn't require replacement within our 20-year period, we're going to ignore it.'**

Due to replacement cycle time and cost differentials, the Component Method typically results in annual contribution fluctuations, which often makes it difficult for a Board to implement. **However, its guidance is essential and invaluable for understanding funding liabilities and making informed recommendations.** Table 4 shows these calculations, as well as projects interest income, expenses with inflation, and yearly balances, which will be 'fully funded.'

2.2 Cash Flow Method: The Cash Flow Method is easier to implement. It is a simple 20-year spread sheet that includes the starting balance, current contribution, interest income, inflation rate, projected expenses, and resulting yearly balances. The Cash Flow Method pools the contributions allocated to each of the Association's common components into a single 'account.'

Table 3 shows these calculations. This table reflects the information you provided on your reserve fund balance and current contribution. It also shows projected yearly positive or negative balances. **The Cash Flow Method does not include replacement funding for anything beyond the 20-year period, thus leaving a potential shortfall in funding and failing to address generational equity if not specifically set to do so.** It does not provide any real guidance beyond the basic information. There are several variations on cash flow goals such as Threshold Funding (just enough to stay positive) and Percentage Funding (a predetermined level based on some arbitrary percentage), but these schemes don't address the reality of fully funding, and typically are just a way of passing the obligation on to the next generation.

2.3 Hybrid Approach: Please note that this is not a method, rather a way (approach) for us to utilize the Cash Flow Method, while ensuring the appropriate funding levels are achieved long-term. Our Hybrid Approach uses the projected fully funded balance at the end of the 20-year period from Table 4 as a funding goal. We then set up Cash Flow funding plans. Table 3 is your 'where we are now' Cash Flow spreadsheet modeling your reserve balance and current contribution. Table 3.1 (and possibly others) provides alternative(s) to this that meet the fully funded goal from Table 4.

We usually establish a new Cash Flow contribution that requires only small annual inflationary increases to reach the fully funded goal at the end of the 20-year period. This has the added effect of establishing a funding plan that addresses inflation. The contribution in the first year, adjusted for inflation, is equal to the contribution in the last year, based on inflated dollars (future value of money). This approach will also allow underfunded Associations the time to catch up, mitigating undue hardships. It balances the risk of temporary underfunding with the benefit of consistent predictable increasing contributions. The combination of the Component and Cash Flow Methods (Hybrid Approach) provides the advantages of both methods.

3. FINANCIAL ANALYSIS

We have tracked the annual inflation rate among our clients based on their reported costs for typical services for over 20 years. The average rate of inflation since the 2008 recession was 1.46% according to the U.S. Labor Department and is similar in our experience with clients. Substantially higher inflation rates did not materialize until recently. It is impossible to predict what these rates will do in the coming years, but the reported annual rate of 9.5% for the previous 12 months we are currently experiencing, in our opinion, is unsustainable, but may persist for a while. It appears that the Covid 19 impact on the world and U.S. economies, and a war in Europe are exerting significant upward pressure on inflation. We have programmed starting base costs in most cases higher than normal in anticipation that near-term high inflation will continue. Unless otherwise directed, we are using a **4.00% long-term annual rate of inflation**, with the assumption that higher inflation will not be too long lived. The next five years will be a critical time in this regard. Interest income is expected to rise as Federal Reserve rates rise to combat inflation. Unless otherwise directed, we are using a **2.0% long-term annual rate of return** on investments. However, unlike reserves, interest income can be taxable, which may reduce the net gain even further. Annual Administrative Updates are increasingly important to respond to rapidly changing inflationary pressures during these unprecedented times. It is prudent to keep a close watch on the economy and be ready to respond by updating the reserve fund plan as economic changes dictate.

3.1 Calculation Basics: The Association is on a calendar fiscal year. Management reported that the reserve fund balance, including cash and securities as of **December 31, 2021**, was projected to be **\$94,972**. We have used **4%** inflation factor and **2%** annual interest income in our calculations. The total expenditures for the twenty-year period for both the **Cash Flow Method** and **Component Method** are projected to be **\$310,859**.

3.2 Current Funding Analysis, Cash Flow Method (Table 3): The **2022** annual contribution to reserves has been set at **\$9,000** with a presumed **4%** annual increase. At this level, the total for all annual contributions for the twenty-year period would be **\$268,003**, and the total interest income is projected to be **\$9,963**. **This contribution level does not provide adequate funding.**

3.3 Alternative Funding Analysis, Cash Flow Method, Hybrid Approach (Table 3.1): This plan provides the annual contributions necessary to maintain balances more consistent with the **fully funded goal by increasing the annual contribution to \$21,100 in 2023 and providing annual adjustments of 4%, matching inflation thereafter. This plan allows for a gradual increase over time after the initial increase and addresses generational equity issues.** The total for all annual contributions for the twenty-year period would be **\$592,875**, and the total interest income is projected to be **\$68,565**. **The fully funded balance in 2041 is \$445,553.**

3.4 Funding Analysis, Component Method (Table 4): This method of funding would require variable annual contributions, averaging **\$28,736** over the twenty-year period. The total for all annual contributions would be **\$574,718**, and the total interest income is projected to be **\$86,722**. **The fully funded balance in 2041 is \$445,553.** The Component Method model considers the current reserve fund balance in computing individual component contributions for current cycles.

4. TYPES OF RESERVE STUDIES

4.1 Full Reserve Study, Level I, the analyst develops a component inventory and condition assessment which is based upon on-site visual observations and is the basis for the estimated remaining-useful-life of the components as well as their replacement cost. This information is used to develop the Financial Analysis which includes the fund status and funding plan.

4.2 Full Update, With-Site-Visit, Level II, the analyst conducts an onsite verification of the component inventory included within the study being updated (not quantification) as well as performing a condition assessment], which is the basis for the estimated remaining-useful-life of the components and their replacement costs. This information is used to develop the Financial Plan which includes the fund status and funding plan.

4.3 Administrative Update, Level III, the analyst updates the remaining-useful-life of the components based on information provided by Management and not condition as a site visit is not performed. The replacement costs and other pertinent information are also updated. This information is used to develop the Financial Plan which includes the fund status and funding plan.

4.4 Residential and Commercial Development Services, before construction an analyst develops budget estimates based on design documents such as the architectural and engineering plans, and developer founding documents.

5. RESERVE PROGRAMMING

The Mason & Mason proprietary software used to produce the financial tables (Tables 1 through 4) have been under continual refinement for over a decade. It is unique in the industry as it provides comprehensive modeling through Microsoft Access and Excel that addresses the many challenges of reserve funding, allows analysts and clients to run 'what if' scenarios, provides an easy-to-understand matrix of views and functions, and is easily provided to clients through e-mail.

5.1 Interest Income on Reserve Funds: Most Associations invest at least part of their reserve funds. Small Associations may simply use a savings account or certificates of deposit, while large Associations may have multiple investments with short-, medium-, and long-term instruments. One issue that is difficult to quantify is the percentage of funds invested. Some Associations invest a fairly substantial portion, while others hold back due to current cash outflow obligations. Some Associations do not reinvest the investment proceeds in their reserves; rather they divert the cash into their operations fund. We do not agree with this approach as it has the effect of requiring additional reserve contributions to make up for the difference. There is also the issue of changing rates over the 20-year period. In the recent past we have seen large swings in relatively short time periods. While reserve funds are not usually taxable by the IRS, the investment income generated by the reserve fund is taxable in most situations. Even with all these potential pitfalls, investment income still represents a substantial source of additional funds and for this reason should not be ignored. There is no way to make 'one size fits all' with any accuracy for the individual Association. Our approach to this dilemma is to use lower approximations that compensate for less than 100% of funds invested. We feel this is still better than not recognizing it, and periodic updates allow for adjustments based on experience. The rate can be set at any level, including zero, for Associations desiring to not recognize interest. **The rate should reflect, as accurately as possible, the actual composite rate of return on all securities and other instruments of investment including allowances for taxes.**

The interest income displayed on Table 3 and Table 4 is the summation of the beginning reserve fund interest accrual and the interest earned on the contributions minus the interest lost by withdrawing the capital expenditures. This method of calculation, while not exact, approximates the averages of the three principal components of a reserve fund for each twelve-month period.

5.2 Future Replacement Costs (Inflation): Inflation is a fact of life. In order to replicate future financial conditions as accurately as possible, inflation on replacement costs should be recognized. The financial tables have been programmed to calculate inflation based upon a pre-determined rate. This rate can be set at any level, including zero. **A plan that does not include inflation is a 1-year plan, and any data beyond that first year will not reflect reality.**

5.3 Simultaneous Funding: This is a method of calculating funding for multiple replacement cycles of a single component over a period of time from the same starting date. Simple Example: Funding for a re-roofing project, while, at the same time, funding for a second, subsequent re-roofing project. This method serves a special purpose if multiple-phase projects are all near-term but will result in higher annual contribution requirements and leads to generational equity issues otherwise. We use this type of programming only in special circumstances.

5.4 Sequential Funding: This is a method of calculating funding for multiple replacement cycles of a single component over a period of time where each funding cycle begins when the previous cycle ends. Simple Example: Funding for the second re-roofing project begins after the completion of the initial re-roofing project. This method of funding appears to be fundamentally equitable. We use this type of programming except in special circumstances.

5.5 Normal Replacement: Components are scheduled for complete replacement at the end of their useful service lives. Simple Example: An entrance sign is generally replaced all at once.

5.6 Cyclic Replacement: Components are replaced in stages over a period of time. Simple Example: Deficient sidewalk panels are typically replaced individually as a small percentage, rather than the complete system.

5.7 Minor Components: A minimum component value is usually established for inclusion in the reserve fund. Components of insignificant value in relation to the scale of the Association should not be included and should be deferred to the operations budget. A small Association might exclude components with aggregate values less than \$1,000, while a large Association might exclude components with aggregate values of less than \$10,000. Including many small components tends to over complicate the plan and does not provide any relative value or utility.

5.8 Long Life Components: Almost all Associations have some components with long or very long useful service lives typically ranging between thirty and sixty years. Traditionally, this type of component has been ignored completely. Simple Example: Single replacement components such as entrance monuments should be programmed for full replacement at their statistical service life. This allows for all common property owners to pay their fair share during the time the component serves them. This also has the added effect of reducing the funding burden significantly as it is carried over many years.

5.9 Projected Useful Service Life: Useful service lives of components are established using construction industry standards and our local experience as a guideline. Useful service lives can vary greatly due to initial quality and installation, inappropriate materials, maintenance practices or lack thereof, environment, parts attrition, and obsolescence. By visual observation, the projected useful service life may be shortened or extended due to the present condition. The projected useful service life is not a mandate, but a guideline, for anticipating when a component will require replacement and how many years remain to fund it.

5.10 Generational Equity: As the term applies to reserves, it is the state of fairness between and over the generations relating to responsibility for assets you are utilizing during your time of ownership. It is neither reasonable, nor good business to defer current liabilities to future owners. This practice is not only unfair; it can also have a very negative impact on future property values.

6. UPDATING THE RESERVE FUND PLAN

A reserve fund plan should be periodically updated to remain a viable planning tool. Changing financial conditions and widely varying aging patterns of components dictate that revisions should be undertaken periodically from one to five years, depending upon the complexity of the common assets and the age of the community. Weather, which is unpredictable, plays a large part in the aging process.

Full Updates (Level II) include a site visit to observe current conditions. These updates include adjustments to the component inventory, replacement schedules, annual contributions, balances, replacement costs, inflation rates, and interest income.

We encourage Associations that are undergoing multiple simultaneous or sequential costly restoration projects (usually high-rise buildings) to perform Level III Administrative Updates. Administrative updates do not include a condition assessment. They are accomplished by comparing original projections with actual experience during the interim period as reported by Management. These updates can be performed annually and include adjustments to the replacement schedules, contributions, balances, replacement costs, inflation rates, and interest income. The Level III Administrative Update can be a cost-effective way of keeping current between Level II Full Update cycles. Full Updates (Level II) and Administrative Updates (Level III) help to ensure the integrity of the reserve fund plan.

7. PREVENTIVE MAINTENANCE

The following preventive maintenance practices are suggested to assist the Association in the development of a routine maintenance program. The recommendations are not to be considered the only maintenance required but should be included in an overall program. The development of a maintenance checklist and an annual condition survey will help extend the useful service lives of the Association's assets.

This section includes best maintenance practices or life-extension maintenance for many, but not necessarily all, components in the report. Items for which no maintenance is necessary, appropriate or beyond the purview of this report are not included in this section. We typically include them for townhomes and garden condominiums while mid- and high-rise buildings are generally too complex.

7.1 Asphalt Pavement: Cyclic pavement maintenance is the routine work performed to keep a pavement, subjected to normal traffic and the ordinary forces of nature, as close as possible to its as-constructed condition. Asphalt overlays may be used to correct both surface deficiencies and structural deficiencies. Surface deficiencies in asphalt pavement usually are corrected by thin resurfacing, but structural deficiencies require overlays designed on factors such as pavement properties and traffic loading. Any needed full-depth repairs and crack filling should be accomplished prior to overlaying. The edgemoil and overlay process includes milling the edges of the pavement at the concrete gutter and feathering the depth of cut toward the center of the drive lane. Milling around meter heads and utility features is sometimes required. The typical useful life for an asphalt overlay is eighteen years.

7.2 Mill and Replace Asphalt: This method is employed when asphalt is in total or nearly total failure. Extensive alligator cracking, deflection, and potholes indicates that water infiltration has allowed clay and soil beneath the pavement to intrude into the sub-base gravel, causing it to lose its co-efficient of friction allowing the breakdown of the pavement structure. In this case, the pavement is completely milled off, the sub-base removed, replaced, and compacted, prior to installation of the sub-base layer of asphalt, followed by the wear course asphalt.

7.3 Asphalt Seal Coating: The purpose is to seal and add new life to a roadway surface. It protects the existing pavement but does not add significant structural strength. A surface treatment can range from a single, light application of emulsified asphalt as a 'fog' seal, to a multiple-surface course made up of alternate applications of asphalt and fine aggregate 'chip seal.' Seal coating of all asphalt pavements should be performed at approximately six-year intervals, or approximately twice during the service life of the asphalt pavement. Seal coating more often is generally not cost-effective. The material used should be impervious to petroleum products and should be applied after crack filling, oil-spot cleaning, and full-depth repairs have been accomplished. Seal coating is a cost-effective way of extending the life of asphaltic concrete pavement. Seal coating is generally not scheduled for up to five years after an asphalt restoration project.

7.4 Asphalt Full-Depth Repairs: In areas where significant alligator cracking, potholes, or deflection of the pavement surface develops, the existing asphalt surface should be removed to the stone base course and the pavement section replaced with new asphalt. Generally, this type of failure is directly associated with the strength of the base course. When the pavement is first constructed, the stone base consists of a specific grain size distribution that provides strength and rigidity to the pavement section. Over time, the stone base course can become contaminated with fine-grained soil particles from the supporting soils beneath the base course. The most positive repair to such an area is to remove the contaminated base course and replace it with new base stone to the design depth. It is appropriate to perform these types of repairs immediately prior to asphalt restoration projects. Generally, this type of repair should not be required for approximately five years after an asphalt restoration project.

7.5 Asphalt Crack Filling: Cracks that develop throughout the life of the asphalt should be thoroughly cleaned of plant growth and debris (lanced) and then filled with a rubberized asphalt crack sealant. If the crack surfaces are not properly prepared, the sealant will not adhere. Crack filling should be accomplished every three to six years to prevent infiltration of water through the asphalt into the sub-grade, causing damage to the road base. It is appropriate to perform these types of repairs immediately prior to edgemill and overlay. Generally, this type of repair should not be required for approximately five years after an edgemill and overlay project.

7.6 Asphalt Footpaths: Transverse and longitudinal cracks should be cleaned of debris and plant growth (lanced) and filled with a rubberized asphaltic compound to prevent water infiltration. Cracks and deflection of the asphalt pavement can develop in the areas where tree roots cross the path. Tree roots should be removed and damaged areas repaired. An additional maintenance issue with footpaths is vegetation control. In areas where vegetation encroaches on the paths, both underfoot and overhead, visibility is reduced, and personal injury can occur from low-growing branches. Vegetation control should be accomplished on a regular basis under the maintenance budget for safety considerations and to extend the useful service life of the pavement.

7.7 Concrete Sidewalks: When sidewalks are cracked or scaled or sections have settled, the resulting differential or 'tripping hazard' can present a liability problem for the Association if personal injury should occur as a result. Tripping hazards should be repaired expeditiously to promote safety and prevent liability problems for the community. Generally, where practical and appropriate, concrete element repairs and replacements are scheduled in the same years to promote cost efficiencies. Replacements are usually scheduled in cycles because the necessity of full replacement at one time is unlikely. Typically, damaged or differentially settled sections can be removed by saw cutting or jack hammer and re-cast. Concrete milling of the differential surfaces is sometimes an appropriate, cost-effective alternative to re-casting. Skim coating is not an effective repair for scaled or settled concrete surfaces and, over time, will usually worsen the problem. The use of ice melting chemicals may accelerate deterioration of concrete components.

7.8 Concrete Curbs and Gutters: Vehicle impacts, differential settlement, construction damage, and cracking and spalling of the concrete will eventually result in the need for replacement of some curb sections. A typical damaged or settled section, usually 10 feet in length, will be removed by saw cutting or jack hammer and re-cast.

7.9 Tot Lot Equipment and Outdoor Furniture: Little maintenance is necessary on the newer style, pre-finished or painted metal play modules other than periodic safety inspections and repair, re-finishing, or replacement of any worn or damaged components. Bare wood components, both non-treated and pressure-treated, generally will achieve a greater useful service life and improved appearance if preventative maintenance is performed. Periodic pressure washing and sealing with wood preservative is recommended on all wood components. Rough edges and splinters should be sanded prior to sealing. Damaged or deteriorated wood components should be replaced as necessary. Generally, securing or repairing wood components with screws will provide a better fastening method than nails. Tot lot equipment should be inspected frequently for loose components, rough edges, splinters, and safety hazards. Tot lot borders should be leveled periodically, and protruding border anchors should be made flush with the timber surface.

7.10 Street Signage: Metal perforated-post and pressure-treated wood post street signs generally require very little maintenance over their useful service life. Signage tends to fade due to environmental exposure. Cleaning of peeled paint, periodic cleaning of rust (metal posts) and repainting of wood and metal posts will maintain appearance. There is little that can be done with the signs except to replace them periodically. The wood components of entrance signs should be periodically cleaned of loose paint and repainted to maintain appearance. Out-of-plumb posts should be straightened and secured.

7.11 Entrance Signage: The wood components of entrance signs should be periodically cleaned of loose paint, lamination cracks should be re-sealed, and the sign repainted to maintain appearance. Out-of-plumb posts should be straightened and secured.

COMPONENT DATA AND ASSET REPLACEMENT SCHEDULE

TABLE 1 EXPLANATION

This table lists the common assets included in the reserve fund plan and provides details of the replacement schedules. A narrative discussion is provided adjacent to each component. Photo references and maintenance protocol reference numbers are also provided. An explanation of each column in the table follows:

Column 1	Component No. is consistent throughout all tables.
Column 2	Component is a brief description of the component.
Column 3	Quantity of the component studied, which may be an exact number, a rough estimate, or simply a (1) if the expenditure forecast is a lump sum allowance for replacement of an unquantified component.
Column 4	Unit of Measurement used to quantify the component: <div style="display: inline-block; vertical-align: top; margin-left: 20px;"> SY = Square Yards SF = Square Feet LF = Linear Feet EA = Each LS = Lump Sum PR = Pair CY = Cubic Yards </div>
Column 5	Unit Cost used to calculate the required expenditure. This unit cost includes removal of existing components and installation of new components, including materials, labor, and overhead and profit for the contractor.
Column 6	Total Asset Base is the total value of common assets included in the study in current dollars. In addition to capital assets, this figure includes one cycle of maintenance liability.
Column 7	Typical Service Life (Yrs) or Cycle is the typical life expectancy of similar components in average conditions or the length of years between replacement cycles, and does not necessarily reflect the conditions observed during the field evaluation. This number is furnished for reference and is not necessarily computed in the system.
Column 8	1st Cycle Year is the scheduled year of the first projected replacement or repair.
Column 9	Percentage of Replacement is the percentage of component value to be replaced in the first replacement cycle.
Column 10	Cost for 1st Cycle is the future cost (with inflation) of the replacement. It is the product of Column 6 times Column 9 in future dollars.
Column 11	2nd Cycle Year is the scheduled year of the second projected replacement or repair. If a second cycle is not listed, it is because the first cycle is beyond the end of the study.
Column 12	Percentage of Replacement is the percentage of component value to be replaced in the second replacement cycle. This can vary from the percentage of the first cycle for various reasons, such as the increased age of a component may require a larger amount of repair.
Columns 13 Through 16	Cycles, Percentage, and Cost repeat as itemized above. Although not shown on the tables, the cycles continue throughout the study period and beyond.
Column 18	Discussion is the description and observed condition of the component and the methodology employed in the decision-making process. Includes the photo reference, (Photo # 1, #2, etc.) and Maintenance Protocol reference numbers (7.1, 7.2 etc.) if applicable.

Reserve Fund Plan for
WHEELWRIGHT CLUSTER ASSOCIATION
Reston, Virginia

COMPONENT DATA AND
ASSET REPLACEMENT SCHEDULE
TABLE 1
2022 Through 2041

The cells within these Excel spreadsheets contain proprietary code and are intended only for the client and its management. Unauthorized use of the formulae for other clients or other purposes is strictly forbidden and will be considered piracy.

Component No.		Component		Quantity		Unit of Measurement		Unit Cost		Total Asset Base		Typical Service or Cycle Life in Yrs		1st Cycle Year		Percentage of Replacement		Cost For 1st Cycle		2nd Cycle Year		Percentage of Replacement		Cost For 2nd Cycle		3rd Cycle Year		Percentage of Replacement		Cost For 3rd Cycle		DISCUSSION	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18																	
1 ASPHALT COMPONENTS																																	
1.1	Asphalt Restoration Project	5,229	SY	\$20.00	\$104,580	18	2024	100%	\$113,114	2042	100%	\$229,148	2060	100%	\$464,211	This component includes asphalt drivelan es and parking bays of the community. Neither the depth nor the sub-base of the pavement could be visually determined. We understand that the pavement was milled with new compacted asphalt in 2009. It ranges from poor to fair condition. Major areas of deflected cracking (indicative of sub-base damage or insufficient asphalt depth) were observed on the drivelan es and parking bays. Management requested we set the next asphalt restoration project to 2024, as part of the final report. Restoration includes full-width profile milling to a possible depth of three inches with new compacted asphalt. Core sampling should be used to determine the depth and condition of the sub-base and pavement prior to restoration. Costs include striping, but not replacement of any inadequate sub-base.																	
1.2	Asphalt Seal Coat	5,229	SY	\$1.35	\$7,059	6	2030	100%	\$9,661	2036	100%	\$12,224	2048	100%	\$19,571	The pavement does not appear to have been seal coated since initial construction. Seal coating may help prevent water infiltration into the sub-base through micro-cracks, but is largely a cosmetic issue. To help improve curb appeal after repairs, we have scheduled seal coating projects every six years, except in the year of the pavement restoration project when it is not necessary. Crack filling and full-depth repairs should be completed prior to application to achieve maximum benefit from the seal coating. Seal coating projects include re-striping. It should be understood that coal-tar based seal coating products have been banned from use in many localities throughout the country due to heavy contamination of ground water.																	
1.3	Asphalt Repair Allowance	1	LS	\$18,000.00	\$18,000	6	2030	25%	\$6,159	2036	50%	\$15,585	2042	100%	\$39,440	Approximately 2,614 square yards of deflected pavement (indicative of sub-base damage), and about 1,850 linear feet of longitudinal or transverse cracking were observed. Repairs are essential in order to achieve the projected remaining service life of the pavement. Full-depth repairs and crack filling are scheduled every six years throughout the study period, including the year of the asphalt restoration project. See the Asphalt Pavement Report, Section 8, for additional details.																	
1.4	Asphalt Footpaths	303	SY	\$40.00	\$12,120	15	2028	100%	\$15,336	2043	100%	\$27,619			Three asphalt footpaths generally 5' in width are constructed throughout the community. The footpaths are in generally continuing good condition. We did not observe any major transverse cracking. Any trip hazards or hazardous surface deficiencies should be addressed expeditiously to prevent personal injury.																		
2 CONCRETE COMPONENTS																																	
2.1	Concrete Sidewalks	7,296	SF	\$13.00	\$94,848	5	2023	6%	\$5,919	2028	4%	\$4,801	2033	3%	\$4,380	Concrete sidewalks, generally 4' and 5' wide, are present on one or both sides of streets within the community. Their thickness could not be visually determined. They range from fair to generally good condition. About 425 square feet (5.8% of the total area) is either cracked, settled or heaved between sections. We have not scheduled replacement of all sections with lesser surface defects. Severely scaled sections will tend to deteriorate more quickly over time and should be replaced in each replacement cycle. Cyclic repairs are scheduled, as full replacement at one time is not appropriate or anticipated. Concrete repairs are scheduled to coincide with work on other concrete components to take advantage of economies of scale in packaging concrete restoration work. The Board should be aware that repairs to small quantities of concrete may be more costly because of the difficulty of attracting competitive bids for small projects, which may not meet contractor minimums. Any trip hazards or hazardous surface deficiencies should be addressed expeditiously to prevent personal injury.																	
2.2	Concrete Curbs & Gutters	3,110	LF	\$40.00	\$124,400	5	2023	3%	\$3,881	2028	2%	\$3,148	2033	2%	\$3,830	The drivelan es and parking bays are lined with standard-profile, cast-in-place, concrete curbs and gutters. They range from fair to generally good condition with about 2.2% of the length having transverse cracks or settlement. We observed approximately seven damaged sections, which should be replaced. Minor chips usually do not justify replacement. Cyclic repairs are scheduled, as full replacement at one time is not appropriate or anticipated. Curb repairs are scheduled to coincide with work on other concrete components to maximize economies of scale. Any trip hazards or hazardous surface deficiencies should be addressed expeditiously to prevent personal injury.																	

Reserve Fund Plan for
WHEELWRIGHT CLUSTER ASSOCIATION
Reston, Virginia

COMPONENT DATA AND
ASSET REPLACEMENT SCHEDULE
TABLE 1
2022 Through 2041

The cells within these Excel spreadsheets contain proprietary code and are intended only for the client and its management. Unauthorized use of the formulae for other clients or other purposes is strictly forbidden and will be considered piracy.

Component No.	Component	Quantity	Unit of Measurement	Unit Cost	Total Asset Base	Typical Service or Cycle Life in Yrs	1st Cycle Year	Percentage of Replacement	Cost For 1st Cycle	2nd Cycle Year	Percentage of Replacement	Cost For 2nd Cycle	3rd Cycle Year	Percentage of Replacement	Cost For 3rd Cycle	DISCUSSION
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18
3 SITE FEATURES																
3.1	Carved Wood Entrance Sign	1	EA	\$2,500.00	\$2,500	20	2032	100%	\$3,701	2052	100%	\$8,108				A painted, MDF (Medium Density Fiberboard) community name sign is installed at the entrance to the community. The sign is approximately five feet long and three feet tall and is attached to two 6 x 6 painted posts. We did not observe any irrigation systems or lighting. The sign is in fair condition.
3.2	Street and Informational Signage	5	EA	\$175.00	\$875	20	2032	100%	\$1,295	2052	100%	\$2,838				Standard metal traffic, parking and access control signs, typically 12" by 18" and mounted on perforated metal posts, are located throughout the community. Other signs, such as stop signs, are mounted on 4" by 4" timber posts. A total of approximately five signs are installed. Posts and signs appear to be in good to fair condition.
3.3	Mailbox Modules	5	EA	\$2,800.00	\$14,000	20	2031	100%	\$19,926	2051	100%	\$43,661				Five Salisbury Industries metal mailbox modules are installed throughout the community. The boxes were manufactured in 2011 and range from fair to good condition. They should be cleaned, primed, and painted to help maximize their service life.
3.4	Wood Steps	1	LS	\$4,000.00	\$4,000	20	2042	100%	\$8,764	2062	100%	\$19,204				A set of pressure-treated wood steps were in the process of being replaced near Unit 2263 Wheelwright Court. We understand that the original steps were at the end of their service life and are being replaced by the Board/homeowner volunteers in the community.
3.5	Tot Lot & Outdoor Furniture Allowance	1	LS	\$38,000.00	\$38,000	15	2030	100%	\$52,006	2045	100%	\$93,659				One tot lot is located within the community. Equipment consists of 124 linear feet of wood borders, two wood and metal benches, a trash receptacle, and a 10 post play module with climbing equipment and two plastic slides. All equipment appears to be in good condition. An additional seven wood benches are installed around the community, which also range from fair to good condition. Frequent, periodic safety checks of all components should be conducted to prevent personal injury. Replacement costs are based on replacement with U.S. Consumer Product Safety Commission (CPSC)-compliant play modules.
3.6	Storm Water Drainage System Allowance	1	LS	\$8,500.00	\$8,500	7	2029	100%	\$11,185	2036	100%	\$14,719	2043	100%	\$19,370	Storm water drainage is provided by concrete yard drains, curb drop inlets, and underground structures, leading storm water offsite. We understand that responsibility for some or parts of the system may rest with local government. Though storm water drainage systems are a long life component and catastrophic failure is not anticipated, it is prudent for the community to plan for localized repairs and repairs to ancillary damage, even if a public entity has primary responsibility. This category may also be used to address localized erosion issues. This line item addresses potential storm water collection, drainage, and erosion issues throughout the study period and does not represent a single expense or action already identified as necessary.

CALENDAR OF EXPENDITURES

TABLE 2 EXPLANATION

This table is a yearly plan of action of replacements and costs. A description of the columns in the table follows:

Column 1	Year is the year of the projected replacement and expenditure.
Column 2	Component No. itemizes the components and is consistent throughout the tables.
Column 3	Component is a brief description of the component.
Column 4	Present Cost is the cost for the cycle in today's dollars.
Column 5	Future Cost (Inflated) is the cost for the cycle in future dollars.
Column 6	Total Annual Expenditures gives the total expenditures by year.
Column 7	Action is an area provided for the Board to make notations as to action taken on each component.

Reserve Fund Plan for
WHEELWRIGHT CLUSTER ASSOCIATION
Reston, Virginia

CALENDAR OF EXPENDITURES
TABLE 2
2022 Through 2041



YEAR	COMPONENT NO.	COMPONENT	PRESENT COST 2022	FUTURE COST (INFLATED)	TOTAL ANNUAL EXPENDITURES	ACTION
1	2	3	4	5	6	7
2022					2022	
					NO EXPENDITURES	
2023					2023	
	2.1	Concrete Sidewalks	\$5,691	\$5,919	TOTAL EXPENDITURES	
	2.2	Concrete Curbs & Gutters	\$3,732	\$3,881		
					\$9,800	
2024					2024	
	1.1	Asphalt Restoration Project	\$104,580	\$113,114	TOTAL EXPENDITURES	
					\$113,114	
2025					2025	
					NO EXPENDITURES	
2026					2026	
					NO EXPENDITURES	
2027					2027	
					NO EXPENDITURES	
2028					2028	
	1.4	Asphalt Footpaths	\$12,120	\$15,336	TOTAL EXPENDITURES	
	2.1	Concrete Sidewalks	\$3,794	\$4,801		
	2.2	Concrete Curbs & Gutters	\$2,488	\$3,148		
					\$23,284	
2029					2029	
	3.6	Storm Water Drainage System Allowance	\$8,500	\$11,185	TOTAL EXPENDITURES	
					\$11,185	
2030					2030	
	1.2	Asphalt Seal Coat	\$7,059	\$9,661	TOTAL EXPENDITURES	
	1.3	Asphalt Repair Allowance	\$4,500	\$6,159		
	3.5	Tot Lot & Outdoor Furniture Allowance	\$38,000	\$52,006		
					\$67,825	
2031					2031	
	3.3	Mailbox Modules	\$14,000	\$19,926	TOTAL EXPENDITURES	
					\$19,926	
2032					2032	
	3.1	Carved Wood Entrance Sign	\$2,500	\$3,701	TOTAL EXPENDITURES	
	3.2	Street and Informational Signage	\$875	\$1,295		
					\$4,996	
2033					2033	
	2.1	Concrete Sidewalks	\$2,845	\$4,380	TOTAL EXPENDITURES	
	2.2	Concrete Curbs & Gutters	\$2,488	\$3,830		
					\$8,211	
2034					2034	
					NO EXPENDITURES	
2035					2035	
					NO EXPENDITURES	

Reserve Fund Plan for
WHEELWRIGHT CLUSTER ASSOCIATION
Reston, Virginia

CALENDAR OF EXPENDITURES
TABLE 2
2022 Through 2041

YEAR	COMPONENT NO.	COMPONENT	PRESENT COST 2022	FUTURE COST (INFLATED)	TOTAL ANNUAL EXPENDITURES	ACTION
1	2	3	4	5	6	7
2036					2036	
	1.2	Asphalt Seal Coat	\$7,059	\$12,224	TOTAL EXPENDITURES	
	1.3	Asphalt Repair Allowance	\$9,000	\$15,585		
	3.6	Storm Water Drainage System Allowance	\$8,500	\$14,719		
					\$42,529	
2037					2037	
					NO EXPENDITURES	
2038					2038	
	2.1	Concrete Sidewalks	\$2,845	\$5,329	TOTAL EXPENDITURES	
	2.2	Concrete Curbs & Gutters	\$2,488	\$4,660		
					\$9,989	
2039					2039	
					NO EXPENDITURES	
2040					2040	
					NO EXPENDITURES	
2041					2041	
					NO EXPENDITURES	

CURRENT FUNDING ANALYSIS CASH FLOW METHOD TABLE 3.0 EXPLANATION

and, if applicable,

ALTERNATIVE FUNDING ANALYSIS CASH FLOW METHOD TABLE 3.1, 3.2, 3.3 (etc.) EXPLANATION

Table 3.0 shows the financial picture over the twenty-year study period, using the current annual contribution and the reserve fund balance reported at the beginning of the study year. If the results of the study indicate a need to increase the annual contribution to maintain adequate balances throughout the study period, Table 3.1, and possibly, 3.2 will be provided for consideration. Alternatives might also be provided if a community is over-funded and desires to adjust the annual contribution downward.

Alternative funding may be achieved by increasing the annual contribution to a fixed yearly amount or by applying an annual escalation factor to increase contributions over time, or a combination of both methods. An inflation factor and interest income factor may be included in the calculations on this page.

A description of the columns in the table follows:

Column 1	Year
Column 2	Total Asset Base of all common capital assets included in the reserve fund with costs adjusted for inflation.
Column 3	Beginning Reserve Fund Balance is the reserve fund balance after all activity in the prior year is completed.
Column 4	Annual Contribution , on Table 3, is the amount contributed annually to the reserve fund as reported by the Board of Directors. On the Alternative Funding Analysis tables (3.1, 3.2, etc.), the annual contribution is projected to maintain positive balances throughout the study period.
Column 5	Interest Income , which is indicated in the heading of the table, is applied to the reserve fund balance and is accrued monthly throughout each year after the yearly expenditures are deducted. The interest income percentage may be varied to reflect actual experience of the community investments.
Column 6	Capital Expenditures are annual totals of expenditures for each year of the study period adjusted by the inflation percentage listed in the heading of the table.
Column 7	Ending Reserve Fund Balance is the result of the beginning reserve fund balance plus the annual contribution, plus interest income, less capital expenditures for the year.
Column 8	Balance to Asset Base Ratio , expressed as a percentage, is the ratio between the ending reserve fund balance and the total asset base for that year. The ratio is useful to the analysts in understanding general financial condition, but there is no standard ratio as each community's condition and complexity varies.

Reserve Fund Plan for
WHEELWRIGHT CLUSTER ASSOCIATION
Reston, Virginia

CURRENT FUNDING ANALYSIS
CASH FLOW METHOD
TABLE 3



Beginning Reserve Fund Balance: **94,972** Annual Contribution To Reserves: **9,000** Contribution Percentage Increase: **4.00%** Annual Inflation Factor: **4.00%** Annual Interest Income Factor: **2.00%**

In Dollars

YEAR	TOTAL ASSET BASE	BEGINNING RESERVE FUND BALANCE	ANNUAL CONTRIBUTION	INTEREST INCOME	CAPITAL EXPENDITURES	ENDING RESERVE FUND BALANCE
1	2	3	4	5	6	7
2022	428,882	94,972	9,000	2,015	0	105,987
2023	446,037	105,987	9,360	2,135	9,800	107,682
2024	463,879	107,682	9,734	1,050	113,114	5,353
2025	482,434	5,353	10,124	218	0	15,695
2026	501,731	15,695	10,529	432	0	26,655
2027	521,801	26,655	10,950	657	0	38,262
2028	542,673	38,262	11,388	643	23,285	27,009
2029	564,380	27,009	11,843	553	11,185	28,220
2030	586,955	28,220	12,317	0	67,826	(27,289)
2031	610,433	(27,289)	12,810	0	19,926	(34,405)
2032	634,850	(34,405)	13,322	0	4,996	(26,079)
2033	660,244	(26,079)	13,855	0	8,210	(20,434)
2034	686,654	(20,434)	14,409	0	0	(6,025)
2035	714,120	(6,025)	14,986	163	0	9,124
2036	742,685	9,124	15,585	0	42,528	(17,819)
2037	772,393	(17,819)	16,208	0	0	(1,610)
2038	803,288	(1,610)	16,857	75	9,989	5,333
2039	835,420	5,333	17,531	299	0	23,163
2040	868,837	23,163	18,232	666	0	42,061
2041	903,590	42,061	18,962	1,056	0	62,079

STUDY PERIOD TOTALS

268,003 9,963 310,859

Reserve Fund Plan for
WHEELWRIGHT CLUSTER ASSOCIATION
Reston, Virginia

ALTERNATIVE FUNDING ANALYSIS
CASH FLOW METHOD
HYBRID APPROACH
TABLE 3.1



Beginning Reserve Fund Balance: 94,972 Annual Contribution To Reserves: 9,000 Contribution Percentage Increase: 4.00% Annual Inflation Factor: 4.00% Annual Interest Income Factor: 2.00%

In Dollars

YEAR	TOTAL ASSET BASE	BEGINNING RESERVE FUND BALANCE	ANNUAL CONTRIBUTION	INTEREST INCOME	CAPITAL EXPENDITURES	ENDING RESERVE FUND BALANCE
1	2	3	4	5	6	7
2022	428,882	94,972	9,000	2,015	0	105,987
2023	446,037	105,987	21,100	2,263	9,800	119,550
2024	463,879	119,550	21,944	1,423	113,114	29,804
2025	482,434	29,804	22,822	850	0	53,476
2026	501,731	53,476	23,735	1,338	0	78,550
2027	521,801	78,550	24,685	1,855	0	105,089
2028	542,673	105,089	25,672	2,148	23,285	109,623
2029	564,380	109,623	26,699	2,382	11,185	127,519
2030	586,955	127,519	27,767	2,140	67,826	89,600
2031	610,433	89,600	28,877	1,907	19,926	100,458
2032	634,850	100,458	30,032	2,301	4,996	127,795
2033	660,244	127,795	31,234	2,831	8,210	153,649
2034	686,654	153,649	32,483	3,455	0	189,588
2035	714,120	189,588	33,782	4,195	0	227,565
2036	742,685	227,565	35,134	4,514	42,528	224,685
2037	772,393	224,685	36,539	4,933	0	266,158
2038	803,288	266,158	38,001	5,678	9,989	299,847
2039	835,420	299,847	39,521	6,483	0	345,851
2040	868,837	345,851	41,102	7,429	0	394,381
2041	903,590	394,381	42,746	8,426	0	445,553

STUDY PERIOD TOTALS

592,875

68,565

310,859

FULLY FUNDED BALANCE GOAL

FUNDING ANALYSIS COMPONENT METHOD

TABLE 4 EXPLANATION

Table 4 is a yearly list of annual contributions toward each component, which must be made to achieve 100% funding. The reserve fund balance is the balance at the beginning of the study year. The beginning reserve fund balance is applied, proportionately, to each component prior to calculating the yearly contribution for each component. Future costs (inflation) are factored into the replacement cycles. The annual contribution for each year is calculated in the bottom row of the study labeled **Annual Component Contribution Totals**. Interest and inflation are calculated at the same annual rates as the Cash Flow Method (Table 3).

Column 1	Component Number is consistent throughout the tables.
Column 2	Component is a brief description of the component.
Columns 3 - 22	Years lists the annual contribution amount toward each component throughout the twenty-year study period, which is totaled at the bottom of the component table.

COMPONENT METHOD SUMMARY

The component method summary computes the beginning reserve fund balance, the annual component contribution, the annual expenditures, and interest income. It then provides the ending reserve fund balance for each year of the study.

Beginning Reserve Fund Balance:

In Dollars94,972

Component Number	COMPONENT	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
1 ASPHALT COMPONENTS																					
1.1	Asphalt Restoration Project	24,438	24,438	10,569	10,569	10,569	10,569	10,569	10,569	10,569	10,569	10,569	10,569	10,569	10,569	10,569	10,569	10,569	10,569	10,569	10,569
1.2	Asphalt Seal Coat	1,113	1,113	1,113	1,113	1,113	1,113	1,113	1,113	1,916	1,916	1,916	1,916	1,916	1,916	1,442	1,442	1,442	1,442	1,442	1,442
1.3	Asphalt Repair Allowance	709	709	709	709	709	709	709	709	2,443	2,443	2,443	2,443	2,443	2,443	6,182	6,182	6,182	6,182	6,182	6,182
1.4	Asphalt Footpaths	1,390	1,390	1,390	1,390	1,390	1,390	1,578	1,578	1,578	1,578	1,578	1,578	1,578	1,578	1,578	1,578	1,578	1,578	1,578	1,578
2 CONCRETE COMPONENTS																					
2.1	Concrete Sidewalks	2,552	912	912	912	912	912	832	832	832	832	832	1,013	1,013	1,013	1,013	1,013	1,232	1,232	1,232	1,232
2.2	Concrete Curbs & Gutters	1,674	598	598	598	598	598	728	728	728	728	728	885	885	885	885	885	1,077	1,077	1,077	1,077
3 SITE FEATURES																					
3.1	Carved Wood Entrance Sign	213	213	213	213	213	213	213	213	213	213	330	330	330	330	330	330	330	330	330	330
3.2	Street and Informational Signage	75	75	75	75	75	75	75	75	75	75	115	115	115	115	115	115	115	115	115	115
3.3	Mailbox Modules	1,233	1,233	1,233	1,233	1,233	1,233	1,233	1,233	1,233	1,774	1,774	1,774	1,774	1,774	1,774	1,774	1,774	1,774	1,774	1,774
3.4	Wood Steps	356	356	356	356	356	356	356	356	356	356	356	356	356	356	356	356	356	356	356	356
3.5	Tot Lot & Outdoor Furniture Allowance	3,945	3,945	3,945	3,945	3,945	3,945	3,945	3,945	5,350	5,350	5,350	5,350	5,350	5,350	5,350	5,350	5,350	5,350	5,350	5,350
3.6	Storm Water Drainage System Allowance	1,488	1,488	1,488	1,488	1,488	1,488	1,488	1,957	1,957	1,957	1,957	1,957	1,957	1,957	2,576	2,576	2,576	2,576	2,576	2,576
ANNUAL COMPONENT CONTRIBUTION TOTALS		39,186	36,470	22,601	22,601	22,601	22,601	22,839	23,308	27,250	27,791	27,948	28,286	28,286	28,286	32,170	32,170	32,581	32,581	32,581	32,581

COMPONENT METHOD SUMMARY	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
BEGINNING RESERVE FUND BALANCE	94,972	136,502	166,325	79,415	103,866	128,809	154,257	157,173	172,723	135,930	146,842	173,062	196,940	229,509	262,736	258,032	295,760	324,677	364,167	404,453
PLUS ANNUAL COMPONENT CONTRIBUTION	39,186	36,470	22,601	22,601	22,601	22,601	22,839	23,308	27,250	27,791	27,948	28,286	28,286	28,286	32,170	32,170	32,581	32,581	32,581	32,581
CAPITAL EXPENDITURES	0	9,800	113,114	0	0	0	23,285	11,185	67,826	19,926	4,996	8,210	0	0	42,528	0	9,989	0	0	0
SUBTOTAL	134,158	163,172	75,812	102,016	126,467	151,410	153,811	169,296	132,147	143,795	169,794	193,138	225,226	257,795	252,378	290,202	318,352	357,258	396,748	437,034
PLUS INTEREST INCOME @ 2.00%	2,344	3,153	3,604	1,849	2,343	2,846	3,363	3,426	3,783	3,047	3,269	3,801	4,283	4,941	5,654	5,559	6,325	6,909	7,706	8,519
FULLY FUNDED RESERVE FUND BALANCE	136,502	166,325	79,415	103,866	128,809	154,257	157,173	172,723	135,930	146,842	173,062	196,940	229,509	262,736	258,032	295,760	324,677	364,167	404,453	445,553

PERCENT FUNDED FOR CURRENT CYCLE	73%
----------------------------------	-----

TOTAL EXPENDITURES	310,859
--------------------	---------

TOTAL CONTRIBUTIONS	574,718
---------------------	---------

STUDY PERIOD TOTAL INTEREST	86,722
-----------------------------	--------

AVERAGE ANNUAL CONTRIBUTION	28,736
-----------------------------	--------



**PHOTOGRAPHS
WITH
DESCRIPTIVE
NARRATIVES**



MASON & MASON
CAPITAL RESERVE ANALYSTS, INC.



PHOTO #1

The asphalt driveways and parking bays range from poor to fair condition. A moderate quantity of deflected asphalt (indicative of sub-base damage) was observed. Asphalt restoration, including milling and new compacted asphalt is scheduled mid-term.



PHOTO #2

The pavements have been crack filled in past pavement maintenance cycles, but it has been several years since the last time it was completed.



PHOTO #3

We have scheduled the next cycle of pavement maintenance near-term, which should include full-depth repair of the deflected asphalt (pictured left), crack filling, and seal coating. Pavement maintenance should be accomplished every six years.



PHOTO #4

The asphalt footpaths are in overall good condition. Any surface deficiency tripping hazards such as heaved roots, etc. should be mitigated expeditiously to prevent personal injury.



PHOTO #5

The concrete sidewalks, courtyard concrete, and the curbs and gutters range from fair to good or new condition. Any settled or heaved concrete sidewalk panels should be mitigated expeditiously to prevent personal injury.



PHOTO #6

The MDF (Medium Density Fiberboard) entrance sign is in fair condition. Repainting the sign and posts will improve appearance and help to maximize its service life.



PHOTO #7
The street and informational signage ranges from fair to good condition.



PHOTO #8
We understand that the set of wood steps in this location were removed and are currently being replaced. The Board and homeowner volunteers are rebuilding the steps.



PHOTO #9
The tot lot play module and outdoor furniture range from fair to good condition. We did not observe any major safety issues.