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Patrick Square Owners Association, Inc.

2022 Townhomes Reserve Study Revised

205 S. Academy St. #3851, Cary, NC 27519 ReserveStudyCarolinas.com 919-758-9788

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November 24, 2021

Dear Shannon,

Please find attached our final reserve study draft for the townhomes portion of Patrick Square Owners Association, Inc. The reserve level on 1/1/22, the beginning of the fiscal year is anticipated to be $19,950.00, which constitutes 21.7% of full funded reserves, a weak level of reserves.

We have removed site drainage from the study, adjusted roof costs, and adjusted that anticipated 2022 reserve balance.

We have the following observations:

1. As directed, we have lowered the cost of the roof shingle to the figure that the client has requested, but as discussed previously, we don't feel that the initial install price should be used since renovation work is always more expensive than new construction. At a minimum, demolition and disposal costs must be added.

Since original construction costs were for 3 tab shingle instead of an architectural shingle, which we originally had budgeted for, we have lowered the useful life accordingly.

2. The townhomes have just a minimum of gutters and downspouts. It has become less common to find homes lacking a robust roof drainage system. The buildings' ability to shed water away from the building is reduced and over time becomes more vulnerable to water penetration. We have not included funds for installing additional gutter and downspouts.

Since you may not be familiar with a reserve study, or at least our reserve studies, we felt it important to explain some fundamental assumptions that shape, in part, our strategy in developing a plan for your community's capital reserves.

- The reserve study is funded with the goal of reaching 75**%** full funding in 30 years. This is a moderately conservative financial approach. If the board wishes, we can adjust the funding up (more conservative, not needed in your case) or down (less conservative). Additionally, we can adjust some of the underlying assumptions to further alleviate the financial burden. We are happy to discuss in more detail how the study can be customized to your community's particular circumstances.

- We assume your community will continue operating indefinitely into the future. In some areas of the country, where land prices are high, mature communities are occasionally redeveloped. However, we don't anticipate this occurring with your community.

- Most reserve providers would likely acknowledge that accuracy in predicting replacement/repair dates 30 years into the future is low. Assigned replacement dates are rough estimates and are often influenced more by aesthetics, reserve fund levels, and board whims than necessity. Fortunately, as long as predicted replacement dates are relatively close, a reserve study will have saved most of the money required for the project. A reserve study is more a guide than a set of instructions.

- The costs that we provide are meant to be budgetary. Contractors' estimates will vary significantly. As these estimates are projected into the future they can be profoundly affected by the global commodities market, economic conditions, inflation, etc. Thus, the numbers that we assign will vary, sometimes higher, sometimes lower. While there may be discrepancies for individual components, the aggregation of all your community's assets help to balance these discrepancies. Thus, any money saved by completing a capital project performed for less than the projected estimate will most likely be needed for other reserve items and should not be spent on a lavish luau.

- A condition analysis is not an inspection. A site visit's purpose is to review the condition of the community's assets to estimate the remaining service life only. There is no forensic or destructive testing. Construction and design defects as well as unsafe conditions maybe noted, but their discovery is incidental and not the purpose of the site visit.

- Since a reserve analysis includes only visual observation it is impossible to accurately identify, measure or quantify estimate useful lives or costs for any assets that are partially or fully concealed or buried. Examples include, but are not limited to water, sewer, and storm lines, manholes, and storm boxes. Although these items may be included in the reserve analysis, discrepancies may exist between the study and actual conditions. For this same reason an omission of such items may also exist.

- A reserve study is a budgeting tool for replacement of assets that have a reliable useful life. A reserve study may include funds for repairs for defective construction or other conditions that fall outside the reserve, but these are

speculative in nature. We don't diagnose defects or specify repairs required, so the cost of these repairs is essentially unknown.

- If no changes are requested within 90 days of issuance of the first draft, this first draft will be considered a final draft, despite the draft watermark on the report. No final draft will be sent, unless requested.

This report represents our best attempt to accurately represent the future financial needs of the association based upon the information available to us at the time of preparation. We hope that you find our report format both informative and useful. All of us at Reserve Professional have enjoyed serving you and providing the most detailed, comprehensive and useful reserve analysis study available.

Thank you for utilizing our services and please consider referring us to your colleagues and friends. We do not advertise and rely on referrals, which helps to keep your costs down.

We rely on referrals, not advertising. We believe in solid work at fair prices.

Respectfully,

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Professional Designations:

Professional Reserve Analyst (PRA): Ass. of Professional Reserve Analysts, Certificate #2333

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Reserve Specialist (RS): Community Associations Institute, Certification # 276
Stormwater BMP Inspection & Maintenance Professional, NC Coop Ext, Certification # 3164
BS, Construction Management: East Carolina University
NC Home Inspector, License # 2972 (inactive)
NC General Contractor, License # 66871
HOA Board President, 12 years (Retired)

Patrick Square Owners Association, Inc.

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Patrick Square Owners Association, Inc.

Preface

This preface is intended to provide an introduction to the enclosed reserve analysis as well as detailed information regarding the reserve analysis report format and reserve fund calculation methods. The following sections are included in this preface:

>> Introduction to Reserve Budgeting
>> Understanding the Reserve Analysis
>> Reserve Budget Calculation Methods
>> Glossary of Key Terms

INTRODUCTION TO RESERVE BUDGETING

The Board of Directors of an association has a legal and fiduciary duty to maintain the community in a good state of repair. Individual unit property values are significantly impacted by the level of maintenance and upkeep provided by the association as well as the amount of the regular assessment charged to each owner.

A prudent plan must be implemented to address the issues of long-range maintenance, repair and replacement of the common areas. Additionally, the plan should recognize that the value of each unit is affected by the amount of the regular assessment charged to each unit.

There is a fine line between "not enough," "just right" and "too much." Each member of an association should contribute to the reserve fund for their proportionate amount of "depreciation" (or "use") of the reserve components. Through time, if each owner contributes his "fair share" into the reserve fund for the depreciation of the reserve components, then the possibility of large increases in regular assessments or special assessments will be minimized.

An accurate reserve analysis and a "healthy" reserve fund are essential to protect and maintain the association's common areas and the property values of the individual unit owners. A comprehensive reserve analysis is one of the most significant elements of any association's long-range plan and provides the critical link between sound business judgment and good fiscal planning. The reserve analysis provides a "financial blueprint" for the future of an association.

Patrick Square Owners Association, Inc.

Preface

UNDERSTANDING THE RESERVE ANALYSIS

In order for the reserve analysis to be useful, it must be understandable by a variety of individuals. Board members (from seasoned, experienced Board members to new Board members), property managers, accountants, attorneys and even homeowners may ultimately review the reserve analysis. The reserve analysis must be detailed enough to provide a comprehensive analysis, yet simple enough to enable less experienced individuals to understand the results.

There are four key bits of information that a comprehensive reserve analysis should provide. These items include:

>> Budget: Amount recommended to be transferred into the reserve account each month of the fiscal year for which the reserve analysis was prepared. In some cases, the reserve analysis may present two or more funding plans based on different calculation models (i.e. Component Method, Minimum Cash Flow Method, etc.). The Board should have a clear understanding of the differences among these funding models prior to implementing one of them in the annual budget.

>> Percent Funded: Measure of the reserve fund "health" (expressed as a percentage) as of the beginning of the fiscal year for which the reserve analysis was prepared. Remember, "100% funded" means the association has accumulated the proportionately correct amount of money, to date, for the reserve components it maintains.

>> Projections: Indicate the "level of service" the association will provide the membership as well as a "road map" for the fiscal future of the association. The projections define the timetables for repairs and replacements, such as when the buildings will be painted or when the asphalt will be seal coated. The projections also show the financial plan for the association -- when an underfunded association will "catch up" or how a properly funded association will remain fiscally "healthy."

>> Inventory: Complete listing of the reserve components. Key bits of information are available for each reserve component, including placed-in-service date, useful life, remaining life, replacement year, quantity, current cost of replacement, future cost of replacement and analyst's comments.

In some cases, the reserve analysis may be a lengthy document of one hundred pages or more. A complete and thorough review of the reserve analysis is always a good idea. However, if time is limited, it is suggested that a thorough review of the summary pages be made. If a "red flag" is raised in this review, the reader should then check the detail information, of the component in question, for all relevant information.

Patrick Square Owners Association, Inc.

Preface

CALCULATION METHODS

There are only a few true reserve funding calculation methods used by reserve analysis firms. Some articles in trade publications seem to indicate that there are dozens of "unique" and different reserve calculation methods (i.e. component, cash flow, pooling, front-loading, splitting, etc.). Most "unique" calculation methods are actually hybrid derivatives of either the component method or the cash flow method.

The following sections describe the calculation methods available with WinReserve:

>> Component Calculation Method: This calculation method develops a funding plan for each individual reserve component included in the reserve analysis. The sum of the funding plans for each component equal the total funding plan for the association.

This calculation method is typically the most conservative. This method structures a funding plan that enables the association to pay all reserve expenditures as they come due, enables the association to achieve the ideal level of reserves in time, and then enables the association to maintain the ideal level of reserves through time.

One of the major benefits of using this calculation method is that for any single component (or group of components), the accumulated balance and reserve funding can be reported. For example, using this calculation method, the reserve analysis can indicate the amount of current reserve funds "in the bank" for the roofs and the amount of money being funded towards the roofs each month. Using other calculation methods, this information cannot be calculated and therefore, cannot be reported.

The following is a detailed description of the Component Calculation Method:

Step 1: Calculation of Theoretically Ideal Balance for each component. The theoretically ideal balance is calculated for each component based on its age, useful life and current cost. The actual formula is as follows:

Theoretically Ideal Balance = (Age / Useful Life) * Current Cost

Step 2: Distribution of current reserve funds. The association's current reserve funds are assigned to (or distributed amongst) the reserve components based on each component's remaining life and theoretically ideal balance as follows:

Pass 1: Components are organized in remaining life order, from least to greatest, and the current reserve funds are assigned to each component up to its theoretically ideal balance, until reserves are exhausted.

Pass 2: If all components are assigned their theoretically ideal balance and additional funds exist, they are assigned in a "second pass." Again, the components are organized in remaining life order, from least to greatest, and the remaining current reserve funds are assigned to each component up to its current cost, until reserves are exhausted.

Pass 3: If all components are assigned their current cost and additional funds exist, they are assigned in a "third pass." Components with a remaining life of zero years are assigned double their current cost.

Distributing, or assigning, the current reserve funds in this manner is the most efficient use of the funds on hand -- it defers the make-up period of any underfunded reserves over the lives of the components with the largest remaining lives.

Step 3: Developing a funding plan. After step 2, all components have a "starting" balance. A calculation is made to determine what funding would be required to get from the starting balance to the future cost over the number of years remaining until replacement. The funding plan incorporates the annual contribution increase parameter to develop "stair stepped" contribution.

For example, if an association needs to accumulate $100,000 in ten years, $10,000 could be contributed each year. Alternatively, the association could contribute $8,723 in the first year and increase the contribution by 3% each year thereafter until the tenth year.

In most cases, this rate should match the Inflation Parameter. Matching the Annual Contribution Increase Parameter to the Inflation Parameter indicates, in theory, that Member Contributions should increase at the same rate as the cost of living (Inflation Parameter). Due to the "time value of money," this creates the most equitable distribution of Member Contributions through time.

Using an Annual Contribution Increase Parameter that is greater that the Inflation Parameter will reduce the burden to the current membership at the expense of the future membership. Using an Annual Contribution Increase Parameter that is less than the Inflation Parameter will increase the burden to the current membership to the benefit of the future membership.

This parameter is used to develop a funding plan only; it does not mean that the reserve contributions must be raised each year. There are far more significant factors that will contribute to a Total Reserve Contribution increase or decrease from year to year than this parameter.

>> Minimum Cash Flow Method: This calculation method develops a funding plan based on current reserve funds and projected expenditures during a "window," typically 30 years.

This calculation method is not as conservative as the Component Method and will typically produce a lower monthly reserve contribution. This method structures a funding plan that enables the association to pay for all reserve expenditures as they come due, but is not concerned with the ideal level of reserves through time. Consequently, this funding method can allow an association to become increasingly underfunded, while never running completely out of money during the "window."

This calculation method structures a funding plan that is the "bare" minimum required to pay for all reserve expenditures as they come due during the "window." This method disregards components that do not have an expenditure associated with them during the "window." This method tests reserve contributions to determine the minimum contribution necessary, based on the association’s beginning reserve balance and anticipated expenses through time, so that the reserve balance in any one year does not drop below $0 (or some other threshold level).

>> Directed Cash Flow Method: This calculation method is a hybrid of the Minimum Cash Flow Method which enables the development of "custom" or "non-traditional" funding plans which may include deferred contributions or special assessments.

This method is similar to the Minimum Cash Flow Method in the sense that it is making calculations based on all reserve expenditures during the "window." This calculation method can be used to calculate a reserve contribution that enables the association to become "ideally funded" in time.

GLOSSARY OF KEY TERMS

>> Annual Contribution Increase Parameter: The rate used in the calculation of the funding plan developed by the Component Calculation Method and Minimum Cash Flow Method. This rate is used on an annual compounding basis. This rate represents, in theory, the rate the association expects to increase contributions each year.

In most cases, this rate should match the Inflation Parameter. Matching the Annual Contribution Increase Parameter to the Inflation Parameter indicates, in theory, that Member Contributions should increase at the same rate as the cost of living (Inflation Parameter). Due to the "time value of money," this creates the most equitable distribution of Member Contributions through time.

This parameter is used to develop a funding plan only; it does not mean that the reserve contributions must be raised each year. There are far more significant factors that will contribute to a Total Reserve Contribution increase or decrease from year to year than this parameter.

See the description of "Calculation Methods" in this preface for more detail on this parameter.

>> Anticipated Reserve Balance (or Reserve Funds): The amount of money, as of a certain point in time, held by the association to be used for the repair or replacement of Reserve Components.

This figure is "anticipated" because it is calculated based on the most current financial information available as of the analysis date, which is almost always prior to the Fiscal Year beginning date for which the reserve analysis is prepared.

>> Assigned Funds (and "Fixed" Assigned Funds): The amount of money, as of the Fiscal Year beginning date for which the reserve analysis is prepared, that a Reserve Component has been assigned based on the Component Calculation Method.

Assigned Funds do not apply to the Minimum Cash Flow Calculation Method or the Directed Cash Flow Calculation Method.

The Assigned Funds are considered "Fixed" when the normal calculation process is bypassed and a specific amount of money is assigned to a Reserve Component. For example, if the normal calculation process assigns $10,000 to the roofs, but the association would like to show $20,000 assigned to roofs, "fixed" funds of $20,000 can be assigned.

The Component Calculation Method assigns funds to each component in the most efficient manner possible; assigning "fixed" reserves in this manner can have a detrimental impact on the association's overall budget structure in the long run. A more detailed description of the actual calculation process is included in the "Calculation Methods" section of the preface.

>> Component Calculation Method (or Component Method): Reserve funding calculation method developed based on each individual component. A more detailed description of the actual calculation process is included in the "Calculation Methods" section of the preface.

>> Contingency Parameter: The rate used as a built-in buffer in the calculation of the funding plan developed by the Component Calculation Method. This rate will assign a percentage of the Reserve Funds, as of the Fiscal Year beginning, as contingency funds and will also determine the level of funding toward the contingency each month.

>> Current Replacement Cost: The amount of money, as of the Fiscal Year beginning date for which the reserve analysis is prepared, that a Reserve Component is expected to cost to replace.

>> Directed Cash Flow Calculation Method (or Directed Cash Flow Method): Reserve funding calculation method developed based on total annual expenditures. A more detailed description of the actual calculation process is included in the "Calculation Methods" section of the preface.

>> Fiscal Year: Indicates the budget year for the association for which the reserve analysis was prepared. The fiscal

year beginning (FYB) is the first day of the budget year; the fiscal year end (FYE) is the last day of the budget year.

>> Future Replacement Cost: The amount of money, as of the Fiscal Year during which replacement of a Reserve Component is scheduled, that a Reserve Component is expected to cost to replace. This cost is calculated using the Current Replacement Cost compounded annually by the Inflation Parameter.

>> Global Parameters: The financial parameters used to calculate the reserve analysis (see Inflation Parameter, Annual Contribution Increase Parameter, Investment Rate Parameter and Taxes on Investments Parameter).

>> Inflation Parameter: The rate used in the calculation of future costs for Reserve Components. This rate is used on an annual compounding basis. This rate represents the rate the association expects to the cost of goods and services relating to their Reserve Components to increase each year.

>> Interest Contribution: The amount of money contributed to the Reserve Fund by the interest earned on the Reserve Fund and Member Contributions.

>> Investment Rate Parameter: The gross rate used in the calculation of Interest Contribution (interest earned) from the Reserve Balance and Member Contributions. This rate (net of the Taxes on Investments Parameter) is used on a monthly compounding basis. This parameter represents the weighted average interest rate the association expects to earn on their Reserve Fund investments.

>> Membership Contribution: The amount of money contributed to the Reserve Fund by the association's membership.

>> Minimum Cash Flow Calculation Method (or Minimum Cash Flow Method): Reserve funding calculation method developed based on total annual expenditures. A more detailed description of the actual calculation process is included in the "Calculation Methods" section of the preface.

>> Monthly Contribution (and "Fixed" Monthly Contribution): The amount of money, for the Fiscal Year which the reserve analysis is prepared, that a Reserve Component will be funded based on the Component Calculation Method.

Monthly Contribution does not apply to the Minimum Cash Flow Calculation Method or the Directed Cash Flow Calculation Method.

The Monthly Contribution is considered "Fixed" when the normal calculation process is bypassed and a specific amount of money is funded to a Reserve Component. For example, if the normal calculation process funds $1,000 to the roofs each month, but the association would like to show $500 funded to roofs each month, a "fixed" contribution of $500 can be assigned.

The Component Calculation Method funds each component in the most efficient manner possible; assigning a "fixed" contribution in this manner can have a detrimental impact on the association's overall budget structure in the long run. A more detailed description of the actual calculation process is included in the "Calculation Methods" section of the preface.

>> Number of Units (or other assessment basis): Indicates the number of units for which the reserve analysis was prepared. In "phased" developments (see Phasing), this number represents the number of units, and corresponding common area components, that existed as of a certain point in time.

For some associations, assessments and reserve contributions are based on a unit of measure other than the number of units. Examples include time-interval weeks for timeshare resorts or lot acreage for industrial developments.

>> One-Time Replacement: Used for components that will be budgeted for only once.

>> Percent Funded: A measure (expressed as a percentage) of the association's reserve fund "health" as of a certain point in time. This number is the ratio of the Anticipated Reserve Fund Balance to the Theoretically Ideal Reserve Balance:

Percent Funded = Anticipated Reserve Fund Balance / Theoretically Ideal Reserve Balance

An association that is 100% funded does not have all of the Reserve Funds necessary to replace all of its Reserve Components immediately; it has the proportionately appropriate Reserve Funds for the Reserve Components is maintains, based on each component's Current Replacement Cost, age and Useful Life.

>> Percentage of Replacement: The percentage of the Reserve Component that is expected to be replaced.

For most Reserve Components, this percentage should be 100%. In some cases, this percentage may be more or less than 100%. For example, fencing which is shared with a neighboring community may be set at 50%.

>> Phasing: Indicates the number of phases for which the reserve analysis was prepared and the total number of phases expected at build-out (i.e. Phase 4 of 7). In phased developments, the first number represents the number of phases, and corresponding common area components, that existed as of a certain point in time. The second number represents the number of phases that are expected to exist at build-out.

>> Placed-In-Service Date: The date (month and year) that the Reserve Component was originally put into service or last replaced.

>> Remaining Life: The length of time, in years, until a Reserve Component is scheduled to be replaced.

>> Remaining Life Adjustment: The length of time, in years, that a Reserve Component is expected to last in excess (or deficiency) of its Useful Life for the current cycle of replacement.

If the current cycle of replacement for a Reserve Component is expected to be greater than or less than the "normal" life expectancy, the Reserve Component's life should be adjusted using a Remaining Life Adjustement.

For example, if wood trim is painted normally on a 4 year cycle, the Useful Life should be 4 years. However, when it comes time to paint the wood trim and it is determined that it can be deferred for an additional year, the Useful Life should remain at 4 years and a Remaining Life Adjustment of +1 year should be used.

>> Replacement Year: The Fiscal Year that a Reserve Component is scheduled to be replaced.

>> Reserve Components: Line items included in the reserve analysis.

>> Salvage Value: The amount of money that is expected to be received at the point in time that a Reserve Component is replaced.

For example, the "trade-in allowance" received at the time a security vehicle is replaced should be considered as its Salvage Value.

>> Taxes on Investments Parameter: The rate used to offset the Investment Rate Parameter in the calculation of the Interest Contribution. This parameter represents the marginal tax rate the association expects to pay on interest earned by the Reserve Funds and Member Contributions.

Theoretically Ideal Reserve Balance (or Ideal Reserves)
The amount of money that should theoretically have accumulated in the reserve fund as of a certain point in time. Ideal reserves are calculated for each Reserve Component based on the Current Replacement Cost, age and Useful Life:

Ideal Reserves = (Age / Useful Life) * Current Replacement Cost

The Theoretically Ideal Reserve Balance is the sum of the Ideal Reserves for each Reserve Component.

An association that has accumulated the Theoretically Ideal Reserve Balance does not have all of the funds necessary to replace all of its Reserve Components immediately; it has the proportionately appropriate Reserve Funds for the Reserve

Components is maintains, based on each component's Current Replacement Cost, age and Useful Life.

>> Total Contribution: The sum of the Membership Contribution and Interest Contribution.

>> Useful Life: The length of time, in years, that a Reserve Component is expected to last each time it is replaced. See also Remaining Life Adjustment.

Patrick Square Owners Association, Inc.

Executive Summary

Directed Cash Flow Calculation Method

Client Information:

Account Number	
Version Number	1
Analysis Date	11/24/2021
Fiscal Year	1/1/2022 to 12/31/2022
Number of Units	55
Phasing	1 of 1

Global Parameters:

Inflation Rate	2.50 %
Annual Contribution Increase	2.50 %
Investment Rate	1.01 %
Taxes on Investments	18.00 %
Contingency	3.00 %

Community Profile:

The community consists of 55 townhome units. Some units have garages.

Unless otherwise indicated, we have used the date 1/20018, as the basis for aging of all original components.
Level of Study: Full with Site Inspection
Calculation Method Used: Cash Flow
Funding Strategy: Funding Strategy can be found on in the Annual Projections page.
Site Inspection Date: 7/31/21
Revised 11/24/21

Adequacy of Reserves as of January 1, 2022:

Anticipated Reserve Balance	**$19,950.00**
Fully Funded Reserve Balance	**$91,947.94**
Percent Funded	**21.70%**

Recommended Funding for the 2022 Fiscal Year:	Annual	Monthly	Per Unit Per Month
Member Contribution	**$36,850**	**$3,070.83**	**$55.83**
Interest Contribution	**$306**	**$25.50**	**$0.46**
Total Contribution	**$37,156**	**$3,096.34**	**$56.30**

Patrick Square Owners Association, Inc.

Preparer's Disclosure Statement

Alexander Liu was awarded the Reserve Specialist (RS) designation from Community Associations Institute (CAI). The RS designation was developed by CAI for professional reserve analysts who wish to confirm to their peers and/or clients that they have demonstrated a basic level of competency within the industry. The RS designation is awarded to reserve analysts who are dedicated to the highest standards of professionalism and reserve analysis preparation. Additionally, he has been award the Professional Reserve Analyst (PRA) designation from the Association of Professional Reserve Analysts (APRA).

Consultant certifies that:

1) Consultant has no other involvement with association which could result in actual or perceived conflicts of interest.

2) Component inventories were developed by actual field inventory, representative sampling, take-offs of scaled plans, provided by the association's previous reserve analysis prepared by another firm or provided by the association.

3) Financial assumptions used in this analysis are listed on the Executive Summary and further explained in the Preface of this report.

4) Consultant is a Reserve Specialist (RS) designee with CAI and Professional Reserve Analyst (PRA) with APRA.

5) There are no material issues known to consultant at this time which would cause a distortion of the association's situation.

6) The scope of Reserve Professionals' service does not include forensic, invasive or destructive testing or analysis of an engineering or architectural nature. Reserve Component condition assessments are based on visual observation. The Reserve Professionals reserve study specifically is neither a Building Inspection nor an engineering or architectural evaluation of the suitability, quality or integrity of the design, construction or manufacture quality of the facilities, infrastructure and other components comprising Client's project. A reserve study is not intended to be used to perform an audit, an analysis of quality, a forensic study or a background check of historical records. A site visit conducted in conjunction with a reserve study should not be deemed to be a project audit or quality inspection. The physical analysis performed during this site visit is not intended to be exhaustive in nature and may include representative sampling.

7) Since a reserve analysis is limited to a visual observation it is impossible to accurately identify, measure or quantify, estimate useful life or cost for any assets that are partially or fully concealed or buried. Although such items may be included in the reserve analysis, Reserve Professionals is not responsible for any discrepancies in material quantities, unit costs, or total costs that may exist between the study and actual conditions or responsible for an omission of such item. Additionally, the extent of the future repairs can't be ascertained by a visual observation. Additionally predicting when the repairs will be needed is not possible by visual observation. A more detailed inspection maybe possible, but is not within the scope of this study. Therefore, it is important for the client to understand that the cost and timing of repairs or replacement is in fact, speculation. Assets include, but are not limited to irrigation, sprinkler, water, sewer, and storm piping, electrical wiring and equipment, building water damage, bodies of water, site and building drainage, tree removal, landscaping projects.

8) In many instances actual costs and timing for repairs may vary significantly. This reserve study may not fund for the worst case scenario. We believe this is to the benefit of the client by not tying up funds for repair/replacement events that may not happen for 20, 30 or more years than the worst case scenario.

9) We make every attempt to notify the Client when we notice a potential safety issue, however a reserve study is not intended to identify safety issues. We take no responsibility for identifying or communicating any safety issues including, but not limited to fall hazards of people or structures, structural concerns, electrical shock.

10) It is important to be aware that the useful life of an asset may not indicate that the repair/replacement date will occur at that date, but rather that a certain amount of fund might be expended by this date. In other words, an asset with a 20 year useful life may have had repairs performed 4 or 5 times in that 20 year period. A reserve study, which looks out 30 years is not flexible enough to take into account all the smaller activities that would fall outside of maintenance, but still

would occur outside a regular predictable schedule. Additionally, some assets fail unexpectedly without providing any sign of distress in advance. In these instances, a useful life would indicate not that a component should be replaced at the end of this period, but rather that funds should be accumulated by the end of this period for when the item will need to be replaced.

11) Often, similar components have differing ages or costs. In an effort to alleviate unnecessary complexity, the study may use an average or median useful life, age, or cost for all of similarly grouped components.

12) The projected life expectancy of the major components and the funding needs of the reserves of the association are based upon the association performing appropriate routine and preventative maintenance for each major component. Failure to perform such maintenance can negatively impact the remaining useful life of the major components and dramatically increase the funding needs of the reserves of the association.

13) The results of this study are based on the independent opinion of the preparer and his experience and research during the course of his career in preparing Reserve Studies. In addition the opinions of experts on certain components have been gathered through research within their industry and with client's actual vendors. There is no implied warranty or guarantee regarding our life and cost estimates/predictions. There is no implied warranty or guarantee in any of our work product. Our results and findings will vary from another preparer's results and findings. A Reserve Study is necessarily a work in progress and subsequent Reserve Studies will vary from prior studies.

14) This Reserve Study assumes that all construction assemblies and components identified herein are built properly and are free from defects in materials and/or workmanship. Defects can lead to reduced useful life and premature failure. It was not the intent of this Reserve Study to inspect for or to identify defects. If defects exist, repairs should be made so that the construction components and assemblies at the community reach their full and expected useful lives.

15) We have assumed any and all components have been properly built and will reach normal, typical life expectancies. In general, a reserve study is not intended to identify or fund for construction defects. A reserve study is a budgeting tool for replacement of assets that have a reliable useful life. A reserve study may include funds for repairs for defective construction or other conditions that fall outside the reserve, but these are speculative in nature. We don't diagnose defects or specify repairs required, so the cost of these repairs is essentially unknown.

16) The costs and timing associated with any repairs listed in the study are speculative. The extent of the repairs is unknown. How a repair will be performed can vary significantly, which will affect the cost. Additionally, costs have not taken into account upgrades required to bring the current construction up to current code.

17) A reserve study is based on the aggregate cost and replacement schedule of the client's assets. It would be inappropriate to consider any asset's funding in isolation. Aggregating costs creates a safety net for any cost discrepancies. It is highly likely that some assets will cost more than predicted, and others less. The differences between predicted and actual costs are meant to offset each other. Thus, any cost savings reaped when an asset is repaired or replaced should remain in reserves and not distributed for other purposes.

18) Maintenance responsibility of water, sewer, and storm systems varies by municipality. Even within individual municipalities this responsibility can vary significantly due to negotiations between a developer and planning developments. We have not contacted any government agency to confirm maintenance responsibility, nor have pertinent public records been reviewed. As a result, quantities of water, sewer, and storm lines and boxes may be inaccurate. Generally speaking, we include water and sewer mains when streets are private and simply measure the linear feet of the road as a basis for this quantity since actual location is unknown in most instances. If a community has public streets, we have excluded all items within the right of way.

19) Storm water systems are difficult to locate. Area drains located in the turfed or landscaped areas have been excluded, unless specifically noted. Unless noted, storm line quantities include only inflow and outflow pipe to retention ponds where roads are public, and also pipe in roads where roads are private. Any storm pipe located in other areas has not been accounted for. If such pipe does exist in your community the quantities may not be accurate. Culverts under public roads are assumed to be publicly maintained.

20) There maybe community assets listed in the study, like painting, that the IRS considers a non-capital expense. It is important to consult with an accountant since this will have tax implications. If the board wishes, these items can be removed from the reserve study. It is important to recognize that the reserve study simply is a budgeting tool for large future expenses, and doesn't differentiate between capital and non-capital expenses or account for IRS tax rules.

21) This reserve study follows the guidelines established by APRA Standards of Practice and CAI's National Reserve Study Standards. A copy of either is available upon request.

22) Substances such as asbestos, urea-formaldehyde foam insulation, other chemicals, toxic wastes, environmental mold, or other potentially hazardous materials could, if present, adversely affect the validity of this study. Unless otherwise noted in this report, the existence of hazardous substances, that may or may not be present on or in the property, was not considered. Our opinions are predicated on the assumption that there are no hazardous materials on or in the property. We assume no responsibility for any such conditions. We are not qualified to detect such substances, quantify the impact, or develop the remedial cost.

23) We did not make any soil analysis or geological study with this report; nor were any water, oil, gas, coal, or other subsurface mineral and use rights or conditions investigated.

24) Since no invasive testing was performed, we do not opine on, nor are we responsible for, the structural integrity of the property including its conformity to specific governmental code requirements, such as fire, building and safety, earthquake, and occupancy, or any physical defects that were not readily apparent during the inspection.

25) To the best of our knowledge, all data set forth in this report are true and accurate. Although gathered from reliable sources, we make no guarantee nor assume liability for the accuracy of any data, opinions, or estimates identified as furnished by others that we used in formulating this analysis.

26) Our inspection and analysis of the subject property is limited to visual observations and is noninvasive. We will inspect sloped roofs from the ground. We will inspect flat roofs where safe access (stairs or ladder permanently attached to the structure) is available. The report is based upon a "snapshot in time" at the moment of our observation. Conditions can change between the time of inspection and the issuance of the report. Reserve Professionals does not investigate, nor assume any responsibility for any existence or impact of any hazardous materials, structural, latent or hidden defects which may or may not be present on or within the property. Our opinions of estimated costs and remaining useful lives are not a guarantee of the actual costs of replacement, a warranty of the common elements or other property elements, or a guarantee of remaining useful lives.

27) We assume, without independent verification, the accuracy of all data provided to us. You agree to indemnify and hold us harmless against and from any and all losses, claims, actions, damages, expenses or liabilities, including reasonable attorneys' fees, to which we may become subject in connection with this engagement, because of any false, misleading or incomplete information which we have relied upon as supplied by you or others under your direction, or which may result from any improper use or reliance on the report by you or third parties under your control or direction. Your obligation for indemnification and reimbursement shall extend to any controlling person of Reserve Professionals, including any director, owners, officer, employee, affiliate, or agent. Liability of Reserve Professionals and its owners, employees, affiliates, and agents for errors and omissions, if any, in this work is limited to the amount of it compensation for the work performed in this engagement.

Site Visits: If a site visit has been performed during the preparation of this reserve study, no invasive testing was performed. The physical analysis performed during the site visit was not intended to be exhaustive in nature and may have included representative sampling.

Update Reserve Studies: Level II Studies: Quantities of major components as reported in previous reserve studies are deemed to be accurate and reliable. The reserve study relies upon the validity of previous reserve studies. Level III Studies: In addition to the above we have not visited the property when completing a Level III, No Site Visit, study. Therefore we have not verified the current condition of the common area components.

Patrick Square Owners Association, Inc.

Calculation of Percent Funded

Sorted by Category

	Remaining Life	Useful Life	Current Cost	Fully Funded Balance
060 Roofs				
Roofs - Aluminum	26	28	$80,482.50	$5,748.75
Roofs - Gutters and Downspouts, Thomas Green	26	30	$20,740.25	$2,765.37
Roofs - Gutters and Downspouts, Tuttle and Cadet	28	30	$65,872.69	$4,391.51
Roofs - Shingle, Thomas Green	13	17	$80,751.00	$19,000.23
Roofs - Shingle, Tuttle and Cadet	15	17	$123,877.75	$14,573.85
Sub Total	**13-28**	**17-30**	**$371,724.19**	**$46,479.72**
070 Exterior				
Painting - Exterior, Thomas Green	8	12	$72,301.53	$24,100.51
Painting - Exterior, Tuttle and Cadet	10	12	$112,137.70	$18,689.62
Sub Total	**8-10**	**12**	**$184,439.22**	**$42,790.13**
100 Miscellaneous				
EXCLUDED	n.a.	n.a.	$0.00	$0.00
Sub Total	**n.a.**	**n.a.**	**$0.00**	**$0.00**
Contingency	n.a.	n.a.	n.a.	$2,678.10
Total	**8-28**	**12-30**	**$556,163.41**	**$91,947.94**
Anticipated Reserve Balance				**$19,950.00**
Percent Funded				**21.70%**

Patrick Square Owners Association, Inc.

Management / Accounting Summary

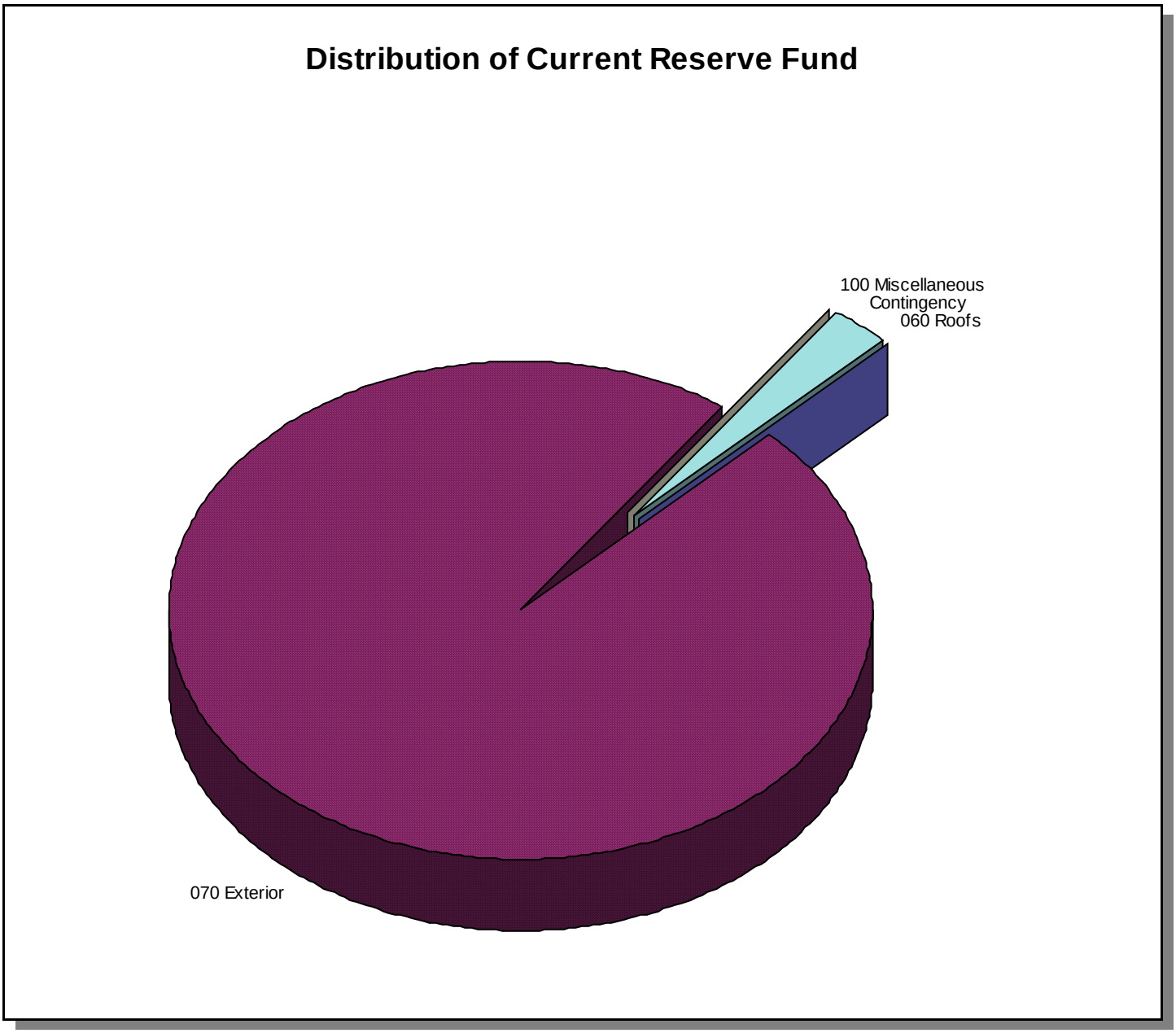
Directed Cash Flow Calculation Method; Sorted by Category

	Balance at Fiscal Year Beginning	Monthly Member Contribution	Monthly Interest Contribution	Total Monthly Contribution
060 Roofs				
Roofs - Aluminum	$0.00	$260.82	$1.10	$261.92
Roofs - Gutters and Downspouts, Thomas Gree	$0.00	$67.21	$0.28	$67.49
Roofs - Gutters and Downspouts, Tuttle and Ca	$0.00	$201.26	$0.85	$202.11
Roofs - Shingle, Thomas Green	$0.00	$473.10	$2.01	$475.10
Roofs - Shingle, Tuttle and Cadet	$0.00	$639.00	$2.70	$641.70
Sub Total	**$0.00**	**$1,641.39**	**$6.94**	**$1,648.33**
070 Exterior				
Painting - Exterior, Thomas Green	$19,368.93	$506.05	$14.28	$520.33
Painting - Exterior, Tuttle and Cadet	$0.00	$833.95	$3.53	$837.48
Sub Total	**$19,368.93**	**$1,340.00**	**$17.80**	**$1,357.81**
100 Miscellaneous				
EXCLUDED	$0.00	$0.00	$0.00	$0.00
Sub Total	**$0.00**	**$0.00**	**$0.00**	**$0.00**
Contingency	$581.07	$89.44	$0.74	$90.18
Total	**$19,950.00**	**$3,070.83**	**$25.50**	**$3,096.34**

Patrick Square Owners Association, Inc.

Management / Accounting Charts

Directed Cash Flow Calculation Method; Sorted by Category

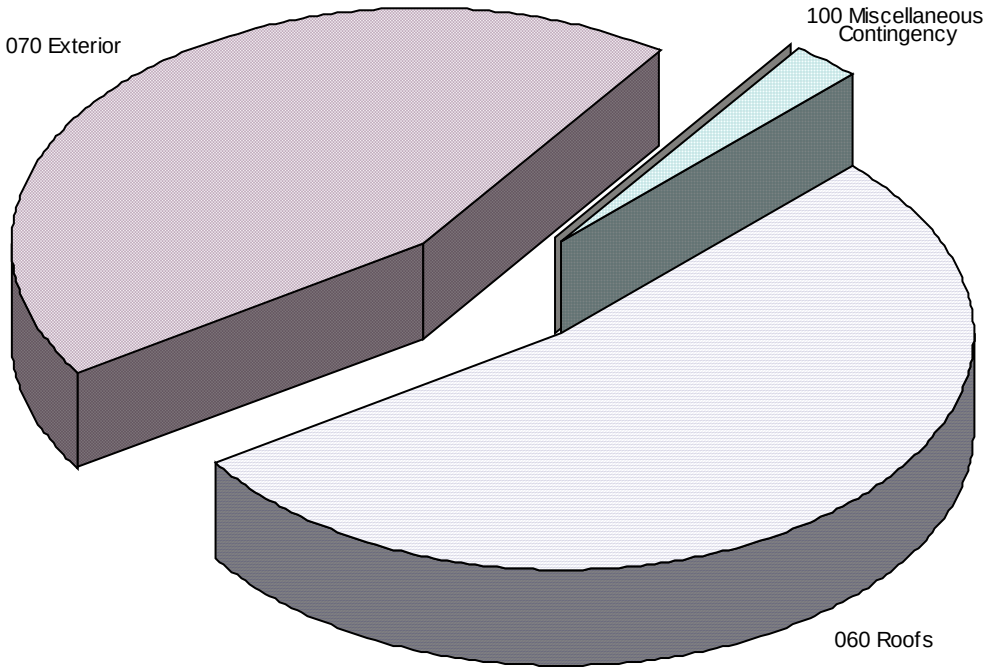


Patrick Square Owners Association, Inc.

Management / Accounting Charts

Directed Cash Flow Calculation Method; Sorted by Category

Monthly Member Contribution



Patrick Square Owners Association, Inc.

Annual Expenditure Detail

Sorted by Description

2030 Fiscal Year	
Painting - Exterior, Thomas Green	$88,092.39
Sub Total	**$88,092.39**
2032 Fiscal Year	
Painting - Exterior, Tuttle and Cadet	$143,545.73
Sub Total	**$143,545.73**
2035 Fiscal Year	
Roofs - Shingle, Thomas Green	$111,316.14
Sub Total	**$111,316.14**
2037 Fiscal Year	
Roofs - Shingle, Tuttle and Cadet	$179,411.92
Sub Total	**$179,411.92**
2042 Fiscal Year	
Painting - Exterior, Thomas Green	$118,474.47
Sub Total	**$118,474.47**
2044 Fiscal Year	
Painting - Exterior, Tuttle and Cadet	$193,053.05
Sub Total	**$193,053.05**
2048 Fiscal Year	
Roofs - Aluminum	$152,940.31
Roofs - Gutters and Downspouts, Thomas Green	$39,412.55
Sub Total	**$192,352.85**
2050 Fiscal Year	
Roofs - Gutters and Downspouts, Tuttle and Cadet	$131,514.50
Sub Total	**$131,514.50**

Patrick Square Owners Association, Inc.

Projections

Directed Cash Flow Calculation Method

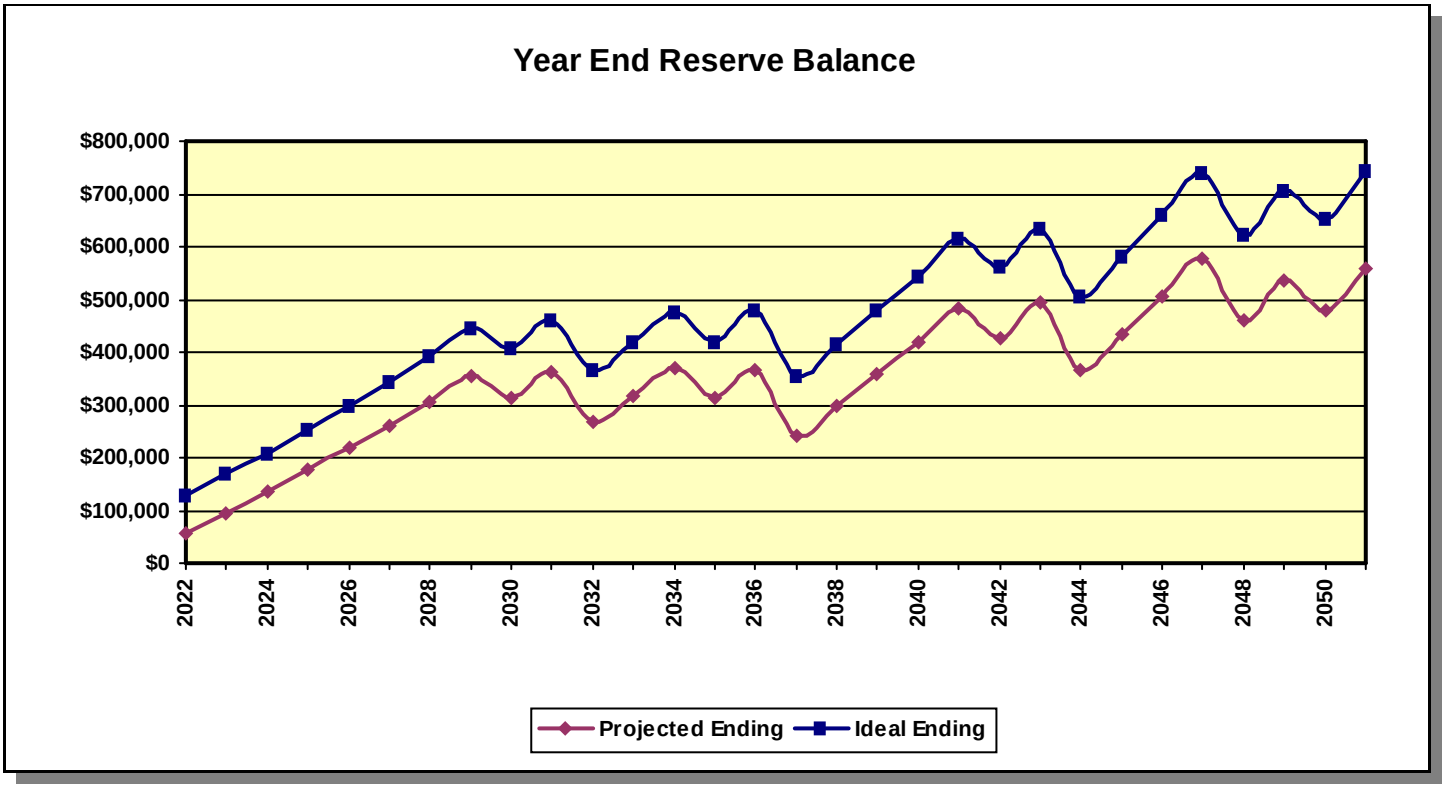
Fiscal Year	Beginning Balance	Member Contribution	Interest Contribution	Expenditures	Ending Balance	Fully Funded Ending Balance	Percent Funded
2022	$19,950	$36,850	$306	$0	$57,106	$129,264	44%
2023	$57,106	$37,771	$618	$0	$95,496	$168,389	57%
2024	$95,496	$38,716	$941	$0	$135,153	$209,389	65%
2025	$135,153	$39,683	$1,275	$0	$176,110	$252,334	70%
2026	$176,110	$40,676	$1,619	$0	$218,405	$297,295	73%
2027	$218,405	$41,692	$1,974	$0	$262,072	$344,346	76%
2028	$262,072	$42,735	$2,341	$0	$307,148	$393,564	78%
2029	$307,148	$43,803	$2,720	$0	$353,671	$445,028	79%
2030	$353,671	$44,898	$2,379	$88,092	$312,855	$405,816	77%
2031	$312,855	$46,021	$2,776	$0	$361,652	$459,693	79%
2032	$361,652	$47,171	$1,993	$143,546	$267,270	$364,463	73%
2033	$267,270	$48,350	$2,406	$0	$318,026	$419,520	76%
2034	$318,026	$49,559	$2,832	$0	$370,418	$477,103	78%
2035	$370,418	$50,798	$2,347	$111,316	$312,247	$419,781	74%
2036	$312,247	$52,068	$2,794	$0	$367,109	$479,754	77%
2037	$367,109	$53,370	$1,763	$179,412	$242,831	$353,050	69%
2038	$242,831	$54,704	$2,227	$0	$299,762	$413,860	72%
2039	$299,762	$56,072	$2,705	$0	$358,539	$477,489	75%
2040	$358,539	$57,473	$3,199	$0	$419,211	$544,042	77%
2041	$419,211	$58,910	$3,709	$0	$481,831	$613,624	79%
2042	$481,831	$60,383	$3,251	$118,474	$426,990	$561,265	76%
2043	$426,990	$61,893	$3,785	$0	$492,668	$634,112	78%
2044	$492,668	$63,440	$2,732	$193,053	$365,787	$506,434	72%
2045	$365,787	$65,026	$3,288	$0	$434,101	$580,887	75%
2046	$434,101	$66,652	$3,862	$0	$504,615	$658,746	77%
2047	$504,615	$68,318	$4,455	$0	$577,388	$740,136	78%
2048	$577,388	$70,026	$3,467	$192,353	$458,528	$622,106	74%
2049	$458,528	$71,776	$4,085	$0	$534,390	$705,866	76%
2050	$534,390	$73,571	$3,629	$131,514	$480,076	$654,578	73%
2051	$480,076	$75,410	$4,278	$0	$559,764	$742,603	75%

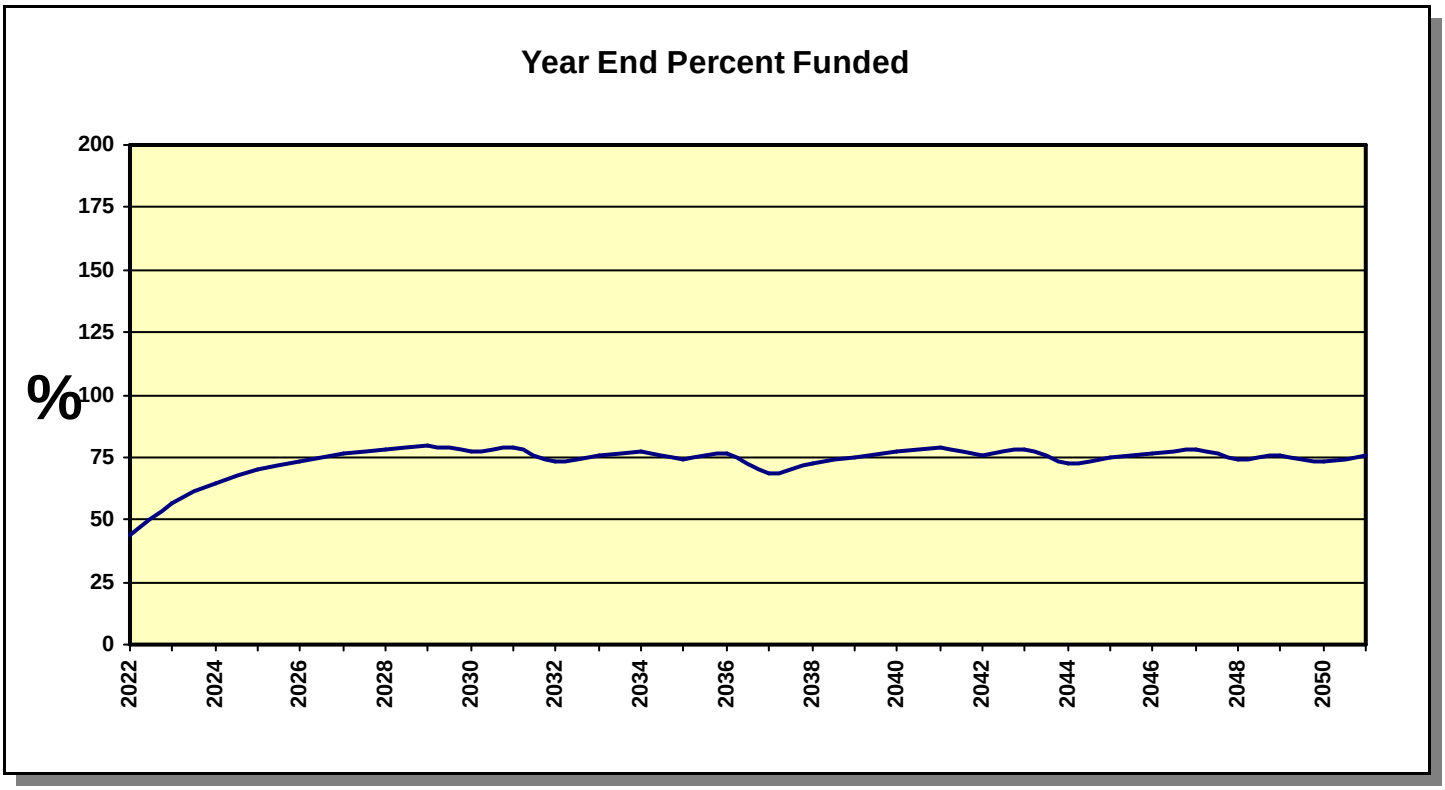
NOTE: In some cases, the projected Ending Balance may exceed the Fully Funded Ending Balance in years following high Expenditures. This is a result of the provision for contingency in this analysis, which in these projections is never expended. The contingency is continually adjusted according to need and any excess is redistributed among all components included.

Patrick Square Owners Association, Inc.

Projection Charts

Directed Cash Flow Calculation Method

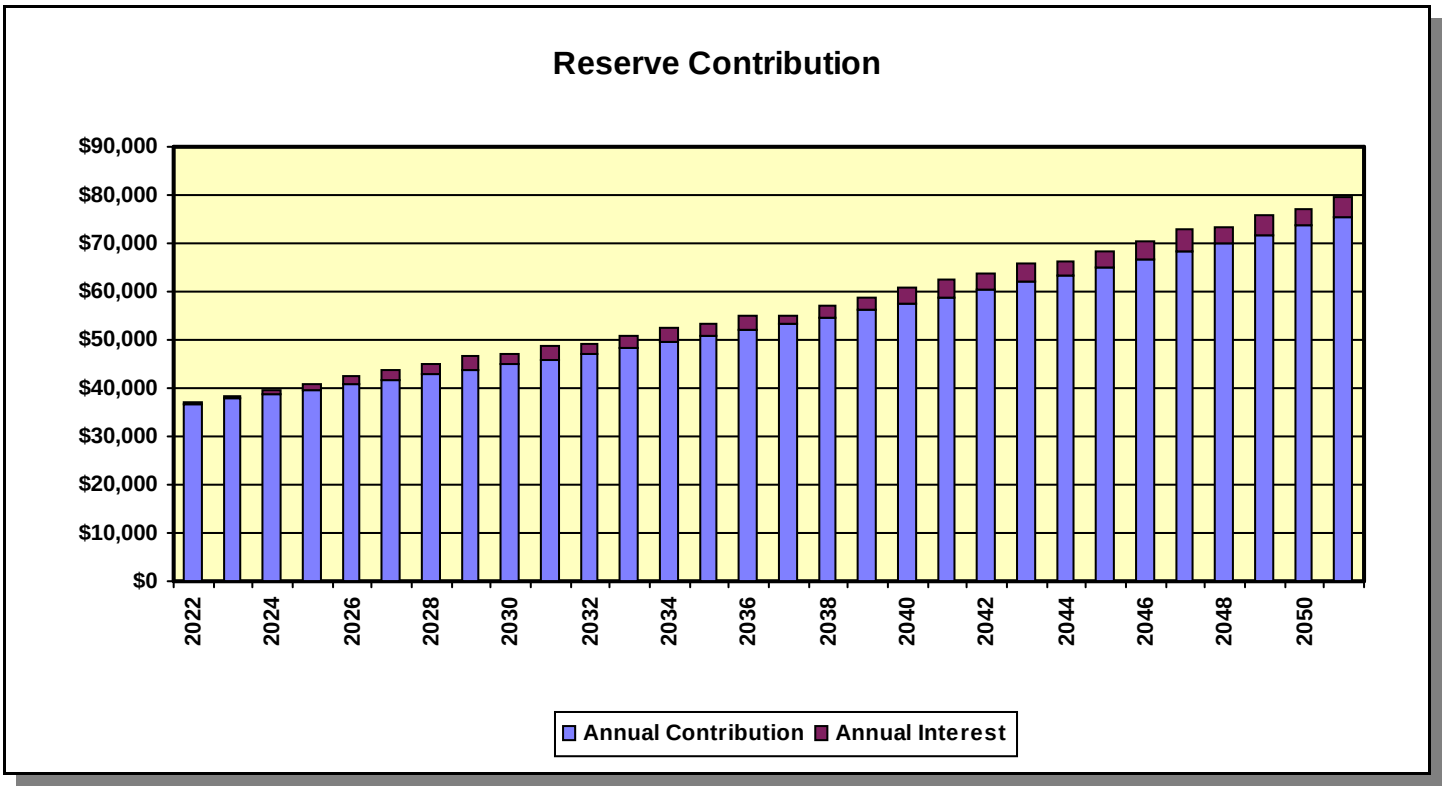


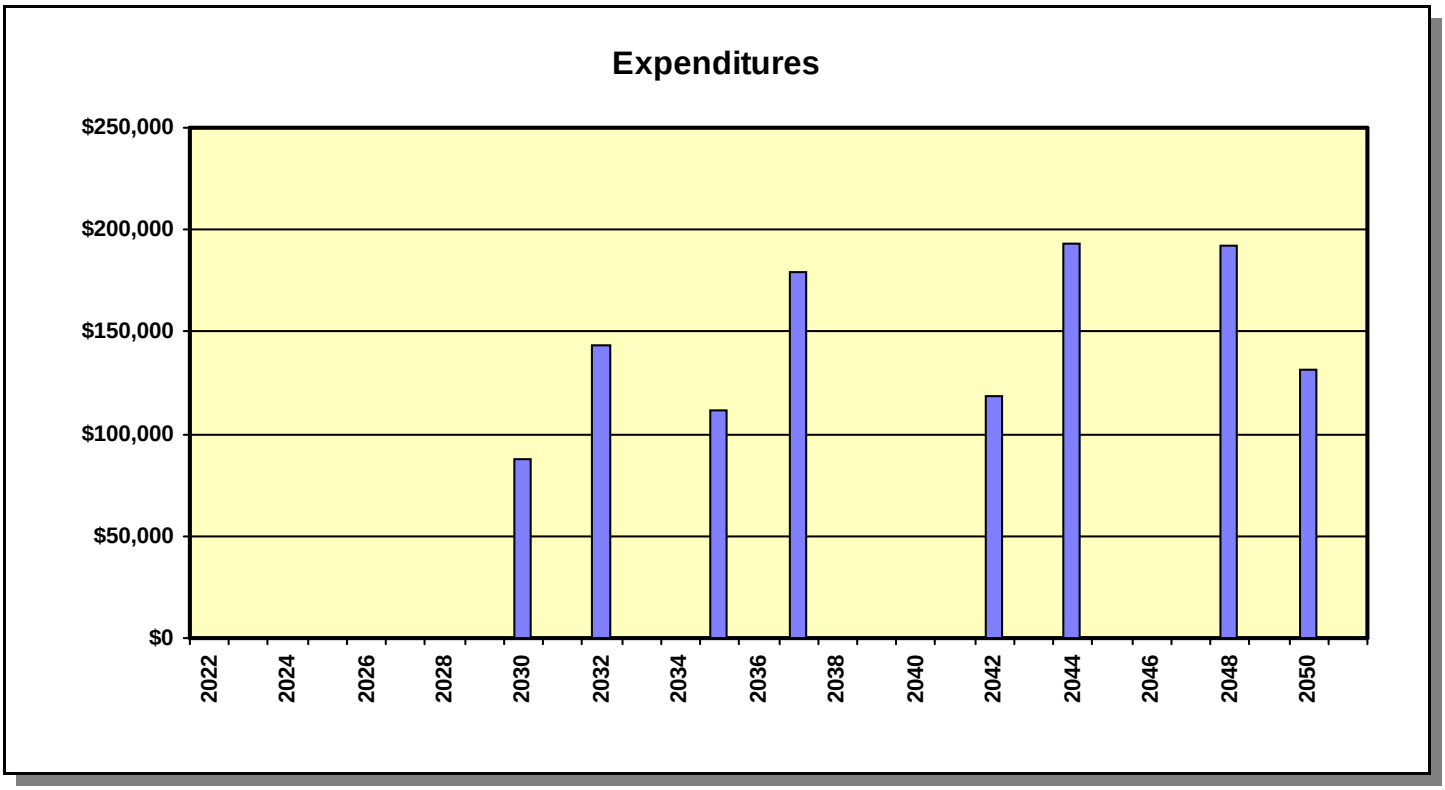


Patrick Square Owners Association, Inc.

Projection Charts

Directed Cash Flow Calculation Method





Patrick Square Owners Association, Inc.

Component Detail

Directed Cashflow Calculation Method; Sorted by Category

Roofs - Aluminum

Category	060 Roofs	Quantity	16,425 sq. ft.
		Unit Cost	$4.900
		% of Replacement	100.00%
		Current Cost	$80,482.50
Placed In Service	01/20	Future Cost	$152,940.31
Useful Life	28		
		Assigned Reserves at FYB	$0.00
Remaining Life	26	Monthly Member Contribution	$260.82
Replacement Year	2048	Monthly Interest Contribution	$1.10
		Total Monthly Contribution	$261.92

Comments:

As directed, we have lowered the price to what the client has specified. As discussed previously, we don't feel that the initial install price should be used since renovation work is always more expensive than new construction. At a minimum, demolition and disposal costs must be added. We have chosen to adjust the useful life of this item down since the lower unit cost reflects the quality and thickness of the roof's coatings.

In order to ensure a high quality installation, the client may wish to obtain the services of an independent roofing consultant to work with the client and the roofing contractor providing installation. Consultants are available for the preparation of installation specifications and, if desired, to work with the contractor during the installation process. Fees for these services vary based on the size of the project and detail required by the client, and have not been included in the cost used for this component. Should the client desire, a provision for a consultant can be incorporated into this analysis.

Thomas Green Blvd	2,136	sq. ft.
Tuttle and Cadet	14,289	sq. ft.
	16,425	sq. ft.

Roofs - Gutters and Downspouts, Thomas Green

Category	060 Roofs	Quantity	1 total
		Unit Cost	$20,740.250
		% of Replacement	100.00%
		Current Cost	$20,740.25
Placed In Service	01/18	Future Cost	$39,412.55
Useful Life	30		
		Assigned Reserves at FYB	$0.00
Remaining Life	26	Monthly Member Contribution	$67.21
Replacement Year	2048	Monthly Interest Contribution	$0.28
		Total Monthly Contribution	$67.49

Comments:

We have moved gutters and downspouts to a separate asset category since requested changes for roofs adjusted their useful life down, whereas gutters and downspouts can actually last close to 30 years despite frequently being replaced when roofs are replaced. The placed in service date has been averaged based on 2 or more different dates.

2 of the 3 garages have gutters and downspouts on1 side: facing the homes, but not on alleywayside. There was a limited amount of gutters and downspouts found on the homes. The lack of gutters may lead to a high possibility of water penetrating the building.

Asphalt shingles contain granules which reflect the sunlight. Over time shingles lose these granules leaving the asphalt vulnerable to the sun and oxidation. Shingles will begin to dry up and lose plasticity evidenced by growing gaps between shingle tabs. Edge will curl and lift. Valleys tend to see greater granule loss due to increased water erosion.

The installation process should begin with proper fall protection. Old shingles are slippery; underlayment is notoriously slippery. Falls involve not only people, but tools and materials. Areas below work should be properly cordoned off. Demolition should include removal of old underlayment and rubber flashing. The roof should be thoroughly inspected, especially at likely problem areas. Any existing roofing nails should be removed. Sheathing should be flush. New underlayment should be installed taut to the sheathing. Roofing shingles are very frequently loaded at the peak of the roof, sometimes referred to as "breaking the bundle". This is a very poor practice, since the shingles are left bent for sometimes extended time. Even short periods of time can result in stress fractures and separations of the shingle laminates, reducing the lifespan of the shingle.

It is always advisable to tear-off an old roof and apply a new roof, rather than simply reroofing over an existing. While initially cheaper, the life expectancy of a 2 layer roof is significantly shorter, 10 - 15 years because the roof is not as efficient in cooling and because the flashing and underlayment is not replaced. Performing a tear-off also allows inspection of the sheathing or substrate. Over time, a 2 layer shingle roof is actually more expensive. Additionally, there are numerous roofs that aren't structurally sound enough to carry the additional and unnecessary weight. Lastly, shingles may not lay flat affecting the appearance.

Leaks typically occur at penetrations of the roof (common examples include chimneys, plumbing vent stacks, and exhaust fans), intersections of wall and roof, and where 2 different planes of roof meet (such as valleys). Additionally, shingles along the gable ridge are bent typically at acute angles and are much more likely to tear than at other locations where shingles typically lay flat. Rubber flashing is most commonly used for pipe penetrations. Rubber flashing will eventually dry out and crack. During a reroofing process all pipe boots should be replaced. Although more expensive, lead flashing should be considered as this should never leak or deteriorate if installed properly. Drip edge flashing, installed along the rake and fascia edges of the roof, should be installed prior to shingle installation.

Never paint or coat a roof to change the color unless approved by the manufacturer. Keep roof surfaces and gutters clean using a leaf blower on low setting or soft-bristle broom so water will drain quickly and freely. The acidity that is created as the leaves rot will shorten the life of the roofing under it. Never allow water from a downspout to pour directly onto a roof below. Keep trees trimmed so they don't rub against the roof or any other building surface. Climbing plants should not reach the roof. Remove snow or ice carefully to prevent damage to the roof. Never climb onto a wet or snow covered roof. Walking on the roof should be kept to a minimum to limit liability and to preserve the roof granules. Antennas, satellite dishes, or anchors should be noncorrosive to prevent staining. Never pressure wash the roof. Each treatment will take three years off the life of the roof.

Attic ventilation is extremely important, but not something that can be inspected during a reserve study. Home inspections performed prior to a unit being purchased will be able to provide the best evidence of ventilation conditions. Ventilation items occurring on multiple inspections may be a good indicator of a community wide problem. Ventilation prevents the warm moist air from settling against the roof rafters and underside of sheathing, which will cause rot. Proper ventilation keeps the attic plenum cool in the summer preserving the useful life of shingles. In the winter, ventilation removes the heat that has escaped past the insulation from the building, keeping the roof cool. A warm roof under snow can cause ice dams, a buildup of water that has nowhere to go except under shingles and into the sheathing and structure. Vents are typically installed along the soffit and at the peaks of a building in the form of continuous ridge vent or louvers at top of the gable sides. It is beyond the scope of a reserve study to test the adequacy of ventilation, but most experts agree that continuous ridge vents are superior. The open vent area at the peak of a roof should equal the area of open vents at the soffit. Soffit vents are frequently buried under insulation, which is sometimes visible from the ground.

GUTTERS AND DOWNSPOUTS

Debris should be cleaned from gutters and downspouts frequently, especially in the spring and fall. In colder climates, clogged gutters with water will freeze. Strainers are available for downspouts to prevent debris being caught. There are several options to prevent debris from entering the gutter, all of which are relatively expensive. Replace or repair sagging or broken straps. Fill small holes epoxy resin and larger holds with adhesive back aluminum tape. Leaking joints can be sealed with silicone caulk.

	Thomas Green, Odd # units				
587	lin. ft. aluminum gutter	@	$10.12	=	$5,937.07
267	lin. ft. aluminum downspout	@	$11.56	=	$3,082.00
	Thomas Green, Even # units				
450	lin. ft. aluminum gutter	@	$10.12	=	$4,554.00
300	lin. ft. aluminum downspout	@	$11.56	=	$3,467.25
	Thomas Green, Odd # garages				
213	lin. ft. aluminum gutter	@	$10.12	=	$2,158.93
133	lin. ft. aluminum downspout	@	$11.56	=	$1,541.00
			TOTAL	=	$20,740.25

Roofs - Gutters and Downspouts, Tuttle and Cadet

Category	060 Roofs	Quantity	1 total
		Unit Cost	$65,872.690
		% of Replacement	100.00%
		Current Cost	$65,872.69
Placed In Service	01/20	Future Cost	$131,514.50
Useful Life	30		
		Assigned Reserves at FYB	$0.00
Remaining Life	28	Monthly Member Contribution	$201.26
Replacement Year	2050	Monthly Interest Contribution	$0.85
		Total Monthly Contribution	$202.11

Comments:

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	Homes				
2,824	lin. ft. aluminum gutter	@	$10.12	=	$28,578.88
2,290	lin. ft. aluminum downspout	@	$11.56	=	$26,466.68
	Garages				
693	lin. ft. aluminum gutter	@	$10.12	=	$7,013.16
330	lin. ft. aluminum downspout	@	$11.56	=	$3,813.98
			TOTAL	=	$65,872.69

Patrick Square Owners Association, Inc.

Component Detail

Directed Cashflow Calculation Method; Sorted by Category

Roofs - Shingle, Thomas Green

Category	060 Roofs	Quantity	1 total
		Unit Cost	$80,750.997
		% of Replacement	100.00%
		Current Cost	$80,751.00
Placed In Service	01/18	Future Cost	$111,316.14
Useful Life	17		
		Assigned Reserves at FYB	$0.00
Remaining Life	13	Monthly Member Contribution	$473.10
Replacement Year	2035	Monthly Interest Contribution	$2.01
		Total Monthly Contribution	$475.10

Comments:

As directed, we have lowered the cost of the roof shingle to the number the client has requested, but as discussed previously, we don't feel that the initial install price should be used since renovation work is always more expensive than new construction. At a minimum, demolition and disposal costs must be added.

Since original construction costs were for 3 tab shingle instead of an architectural shingle, which we originally had budgeted for, we have lowered the useful life accordingly.

The placed in service date has been averaged based on 2 or more different dates.

2 of the 3 garages have gutters and downspouts on1 side: facing the homes, but not on alleywayside. There was a limited amount of gutters and downspouts found on the homes. The lack of gutters may lead to a high possibility of water penetrating the building.

In order to ensure a high quality installation, the client may wish to obtain the services of an independent roofing consultant to work with the client and the roofing contractor providing installation. Consultants are available for the preparation of installation specifications and, if desired, to work with the contractor during the installation process. Fees for these services vary based on the size of the project and detail required by the client, and have not been included in the cost used for this component. Should the client desire, a provision for a consultant can be incorporated into this analysis.

Asphalt shingles contain granules which reflect the sunlight. Over time shingles lose these granules leaving the asphalt vulnerable to the sun and oxidation. Shingles will begin to dry up and lose plasticity evidenced by growing gaps between shingle tabs. Edge will curl and lift. Valleys tend to see greater granule loss due to increased water erosion.

The installation process should begin with proper fall protection. Old shingles are slippery; underlayment is notoriously slippery. Falls involve not only people, but tools and materials. Areas below work should be properly cordoned off. Demolition should include removal of old underlayment and rubber flashing. The roof should be thoroughly inspected, especially at likely problem areas. Any existing roofing nails should be removed. Sheathing should be flush. New underlayment should be installed taut to the sheathing. Roofing shingles are very frequently loaded at the peak of the roof, sometimes referred to as "breaking the bundle". This is a very poor practice, since the shingles are left bent for sometimes extended time. Even short periods of time can result in stress fractures and separations of the shingle laminates, reducing the lifespan of the shingle.

It is always advisable to tear-off an old roof and apply a new roof, rather than simply reroofing over an existing. While initially cheaper, the life expectancy of a 2 layer roof is significantly shorter, 10 - 15 years because the roof is not as efficient in cooling and because the flashing and underlayment is not replaced. Performing a tear-off also allows

inspection of the sheathing or substrate. Over time, a 2 layer shingle roof is actually more expensive. Additionally, there are numerous roofs that aren't structurally sound enough to carry the additional and unnecessary weight. Lastly, shingles may not lay flat affecting the appearance.

Leaks typically occur at penetrations of the roof (common examples include chimneys, plumbing vent stacks, and exhaust fans), intersections of wall and roof, and where 2 different planes of roof meet (such as valleys). Additionally, shingles along the gable ridge are bent typically at acute angles and are much more likely to tear than at other locations where shingles typically lay flat. Rubber flashing is most commonly used for pipe penetrations. Rubber flashing will eventually dry out and crack. During a reroofing process all pipe boots should be replaced. Although more expensive, lead flashing should be considered as this should never leak or deteriorate if installed properly. Drip edge flashing, installed along the rake and fascia edges of the roof, should be installed prior to shingle installation.

Never paint or coat a roof to change the color unless approved by the manufacturer. Keep roof surfaces and gutters clean using a leaf blower on low setting or soft-bristle broom so water will drain quickly and freely. The acidity that is created as the leaves rot will shorten the life of the roofing under it. Never allow water from a downspout to pour directly onto a roof below. Keep trees trimmed so they don't rub against the roof or any other building surface. Climbing plants should not reach the roof. Remove snow or ice carefully to prevent damage to the roof. Never climb onto a wet or snow covered roof. Walking on the roof should be kept to a minimum to limit liability and to preserve the roof granules. Antennas, satellite dishes, or anchors should be noncorrosive to prevent staining. Never pressure wash the roof. Each treatment will take three years off the life of the roof.

Attic ventilation is extremely important, but not something that can be inspected during a reserve study. Home inspections performed prior to a unit being purchased will be able to provide the best evidence of ventilation conditions. Ventilation items occurring on multiple inspections may be a good indicator of a community wide problem. Ventilation prevents the warm moist air from settling against the roof rafters and underside of sheathing, which will cause rot. Proper ventilation keeps the attic plenum cool in the summer preserving the useful life of shingles. In the winter, ventilation removes the heat that has escaped past the insulation from the building, keeping the roof cool. A warm roof under snow can cause ice dams, a buildup of water that has nowhere to go except under shingles and into the sheathing and structure. Vents are typically installed along the soffit and at the peaks of a building in the form of continuous ridge vent or louvers at top of the gable sides. It is beyond the scope of a reserve study to test the adequacy of ventilation, but most experts agree that continuous ridge vents are superior. The open vent area at the peak of a roof should equal the area of open vents at the soffit. Soffit vents are frequently buried under insulation, which is sometimes visible from the ground.

GUTTERS AND DOWNSPOUTS

Debris should be cleaned from gutters and downspouts frequently, especially in the spring and fall. In colder climates, clogged gutters with water will freeze. Strainers are available for downspouts to prevent debris being caught. There are several options to prevent debris from entering the gutter, all of which are relatively expensive. Replace or repair sagging or broken straps. Fill small holes epoxy resin and larger holds with adhesive back aluminum tape. Leaking joints can be sealed with silicone caulk.

	Thomas Green, Odd # units				
22,613	sq. ft. of 3 tab shingles	@	$1.75	=	$39,573.33
	Thomas Green, Even # units				
16,863	sq. ft. of 3 tab shingles	@	$1.75	=	$29,510.25
	Thomas Green, Odd # garages				
6,667	sq. ft. of 3 tab shingles	@	$1.75	=	$11,667.41
			TOTAL	=	$80,751.00

Roofs - Shingle, Tuttle and Cadet

Category	060 Roofs	Quantity	1 total
		Unit Cost	$123,877.754
		% of Replacement	100.00%
		Current Cost	$123,877.75
Placed In Service	01/20	Future Cost	$179,411.92
Useful Life	17		
		Assigned Reserves at FYB	$0.00
Remaining Life	15	Monthly Member Contribution	$639.00
Replacement Year	2037	Monthly Interest Contribution	$2.70
		Total Monthly Contribution	$641.70

Comments:

As directed, we have lowered the cost of the roof shingle to the number the client has requested, but as discussed previously, we don't feel that the initial install price should be used since renovation work is always more expensive than new construction. At a minimum, demolition and disposal costs must be added.

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	Homes				
50,865	sq. ft. of 3 tab shingles	@	$1.75	=	$89,012.92
	Garages				
19,369	sq. ft. of 3 tab shingles	@	$1.80	=	$34,864.83
			TOTAL	=	$123,877.75

Painting - Exterior, Thomas Green

Category	070 Exterior	Quantity	1 total
		Unit Cost	$72,301.527
		% of Replacement	100.00%
		Current Cost	$72,301.53
Placed In Service	01/18	Future Cost	$88,092.39
Useful Life	12		
		Assigned Reserves at FYB	$19,368.93
Remaining Life	8	Monthly Member Contribution	$506.05
Replacement Year	2030	Monthly Interest Contribution	$14.28
		Total Monthly Contribution	$520.33

Comments:

The placed in service date has been averaged based on 2 or more different dates.

Walls should be periodically power washed on a low setting by an experienced professional to remove dirt and debris buildup. Clean and touch up spots and stains as needed.

This paragraph is specifically for communities with hardboard, wood siding, cedar shingles or wood trim. Determining the extent of rot can be quite difficult, and rot may occur beneath the surface. The end grains of trim, head jambs that are flat, and bottom laps of siding tend to rot first. Modern windows sills are meant to drain water, but rotted window moulding is still quite common. Boards with sections that have swelled- typically at the bottom, nails that have pulled through the board leaving a small hole, and flaking paint are all signs of rot or water damage.

Bids for paint may vary considerably since labor costs predominate, and a contractor without work may bid low just to keep crews busy, although the best contractors always seem to be busy. Since the material cost of paint is relatively small, the association should select the highest quality paint it can afford. Higher quality paint looks better and lasts longer. Quality caulk, dry weather, and properly prepped surfaces are all required for a quality job.

The contractor should power wash the building, then walk the building with association representative to identify which boards to replace. Ideally, the entire rotten or damaged siding and trim piece should be replaced, although it is common to replace only the damaged or rotten section. Ensure that window and door trim are replaced entirely.

It is important for the Association to be aware that the IRS has specific rules in determining whether or not paint is considered a capital expense or is in fact part of maintenance. This is in part or wholly determined by how the association files its taxes; whether the association files an 1120 or 1120 H. Please discuss further with the association's CPA and/or attorney to ensure proper tax compliance.

	Thomas Green, odd # Homes				
19,090	sq. ft. 1 coat, siding	@	$1.24	=	$23,709.78
2,103	lin. ft. of painting eaves	@	$2.30	=	$4,837.67
	Thomas Green, odd # Garages				
6,607	sq. ft. 1 coat, siding & trim	@	$1.24	=	$8,205.89
513	lin. ft. of painting eaves	@	$2.30	=	$1,180.67
	Thomas Green, even # Homes				

24,210	sq. ft. 1 coat, siding & trim, T.G even # units	@	$1.24	=	$30,068.82
1,869	lin. ft. of painting eaves, T.G even # units	@	$2.30	=	$4,298.70
			TOTAL	=	$72,301.53

Patrick Square Owners Association, Inc.

Component Detail

Directed Cashflow Calculation Method; Sorted by Category

Painting - Exterior, Tuttle and Cadet

Category	070 Exterior	Quantity	1 total
		Unit Cost	$112,137.696
		% of Replacement	100.00%
		Current Cost	$112,137.70
Placed In Service	01/20	Future Cost	$143,545.73
Useful Life	12		
		Assigned Reserves at FYB	$0.00
Remaining Life	10	Monthly Member Contribution	$833.95
Replacement Year	2032	Monthly Interest Contribution	$3.53
		Total Monthly Contribution	$837.48

Comments:

Walls should be periodically power washed on a low setting by an experienced professional to remove dirt and debris buildup. Clean and touch up spots and stains as needed.

This paragraph is specifically for communities with hardboard, wood siding, cedar shingles or wood trim. Determining the extent of rot can be quite difficult, and rot may occur beneath the surface. The end grains of trim, head jambs that are flat, and bottom laps of siding tend to rot first. Modern windows sills are meant to drain water, but rotted window moulding is still quite common. Boards with sections that have swelled- typically at the bottom, nails that have pulled through the board leaving a small hole, and flaking paint are all signs of rot or water damage.

Bids for paint may vary considerably since labor costs predominate, and a contractor without work may bid low just to keep crews busy, although the best contractors always seem to be busy. Since the material cost of paint is relatively small, the association should select the highest quality paint it can afford. Higher quality paint looks better and lasts longer. Quality caulk, dry weather, and properly prepped surfaces are all required for a quality job.

The contractor should power wash the building, then walk the building with association representative to identify which boards to replace. Ideally, the entire rotten or damaged siding and trim piece should be replaced, although it is common to replace only the damaged or rotten section. Ensure that window and door trim are replaced entirely.

It is important for the Association to be aware that the IRS has specific rules in determining whether or not paint is considered a capital expense or is in fact part of maintenance. This is in part or wholly determined by how the association files its taxes; whether the association files an 1120 or 1120 H. Please discuss further with the association's CPA and/or attorney to ensure proper tax compliance.

	Homes				
58,028	sq. ft. 1 coat, siding & trim	@	$1.24	=	$72,070.78
5,192	lin. ft. of painting eaves	@	$2.30	=	$11,941.60
	Garages				
19,060	sq. ft. 1 coat, siding & trim	@	$1.24	=	$23,672.52
1,936	lin. ft. of painting eaves	@	$2.30	=	$4,452.80
			TOTAL	=	$112,137.70

Patrick Square Owners Association, Inc.

Component Detail

Directed Cashflow Calculation Method; Sorted by Category

EXCLUDED

Category	100 Miscellaneous	Quantity	
		Unit Cost	$0.000
		% of Replacement	0.00%
		Current Cost	$0.00
Placed In Service	01/21	Future Cost	$0.00
Useful Life	n.a.		
		Assigned Reserves at FYB	$0.00
Remaining Life	n.a.	Monthly Member Contribution	$0.00
Replacement Year	n.a.	Monthly Interest Contribution	$0.00
		Total Monthly Contribution	$0.00

Comments:

The following items have been excluded. Please let us know if the board would like any of these items incorporated into the study.

Replacement of entire irrigation system - Please advise if funding should be included for full or partial replacement of irrigation system.

Windows, doors, porches, decks, walkways, and garage aprons - Homeowner responsibility.

Repairs as a result of water related damage or replacement of improperly installed materials.

Adding additional gutters and sewers - Reserve studies aim to replace or repair existing commonly owned property, not for new or additional construction. The board may wish to add additional gutters and downspouts where they are currently missing, but this hasn't been included in the study.

Site drainage - Per client request.

Patrick Square Owners Association, Inc.

Detail Report Index

	Page
EXCLUDED	25
Painting - Exterior, Thomas Green	22
Painting - Exterior, Tuttle and Cadet	24
Roofs - Aluminum	13
Roofs - Gutters and Downspouts, Thomas Green	14
Roofs - Gutters and Downspouts, Tuttle and Cadet	16
Roofs - Shingle, Thomas Green	18
Roofs - Shingle, Tuttle and Cadet	20

Number of components included in this reserve analysis is 8.

Some butt joints have opened up and should be caulked whenever buildings are painted next.

A substantial number of eaves lack gutters and downspouts which help to shed water away from the building.

A substantial number of eaves lack gutters and downspouts which help to shed water away from the building.

Eaves exhibiting water staining.

This is an unusual layout of gutter system. It may be or become problematic over time.

This is an unusual layout of gutter system. It may be or become problematic over time.

The Association of Professional Reserve Analysts

STANDARDS OF PRACTICE

Table of Contents:

Introduction

Part I. Definitions and Scope

Part II. Standards of Practice
SECTION 1 – *Physical Analysis*
SECTION 2 – *Financial Analysis*

Part III. Limitations, Exceptions, and Exclusions
SECTION 1 – *Site Visit*
SECTION 2 – *Physical Analysis*
SECTION 3 – *Financial Analysis*

Part IV. Reserve Study Report Contents

Part V. Glossary of Terms

Introduction

These Standards of Practice provide guidelines for the Association of Professional *Reserve Analyst*s and define certain terms relating to Reserve Studies. It is the intention of these Standards to be viewed as a minimum standard and not as a limitation on the opinion, recommendations, or practice of the individual *Reserve Analyst*. Italicized words in these Standards are defined in Part V, Glossary of Terms.

Part I. Definitions and Scope

A. A *Reserve Study* is a budgeting tool intended to aid the directors of Community Associations or other entities responsible for maintaining residential property, retail property, special districts or any other physical plant/property for the future repair, replacement, and restoration of major components of the common areas during the *Economic Life* of a property.

B. A *Reserve Study* is a collaboration between the client and *Reserve Analyst* that brings together the client's unique firsthand knowledge with the Analyst's professional expertise.

C. A *Reserve Study* is comprised of two parts:

1) ***Physical Analysis***: Information about the physical condition and repair/replacement cost of the property *Component*s the client is obligated to maintain. The *Physical Analysis* comprises the *Component Inventory* and the *Component Assessment and Valuation*. The *Component Inventory* should be relatively "stable" over time while the results of the *Component Assessment and Valuation* will change over time.

2) ***Financial Analysis***: The evaluation and analysis of the client's reserve income and expenditures. The *Financial Analysis* opines on the *Funding Plan,* which recommends an appropriate reserve contribution, and the current *Reserve Fund* status measured as *Percent Funded* or cash balance.

D. A *Reserve Study Site Visit* is performed to determine the *Component Inventory* and the *Component Assessment and Valuation* subject to the limitations, exceptions, and exclusions outlined in Part III.

E. There are three standard Levels of Service

I. *Full Study*

II. *Update with Site Visit Study*

III. *Update without Site Visit Study*

Part II. Standards of Practice

SECTION 1 – *Physical Analysis*

A. Information within the *Physical Analysis* Section comes from either a *Site Visit* or a previous *Reserve Study* and from any research with the client, client's representatives, vendors, or other sources.

B. In general, construction defects, acts of God, environmental hazards, future code changes, and unpredictable events shall not be considered. The *Reserve Analyst* will assume that the *Reserve Component*s have been properly built and installed. The *Reserve Analyst* shall at minimum consider all major components that have a predictable remaining useful life of 30 years or less except when specifically contracted for or dictated otherwise by applicable statute.

C. A *Physical Analysis* is not intended to be exhaustive in nature and may include representative sampling.

D. The purpose of a *Physical Analysis* is to estimate the general condition of systems and components and their repair, replacement, or restoration needs beyond that which can be performed as an operating expense.

E. The condition assessment of like systems or components may be evaluated and funded for as a group. Individual failures within these groups need not be separately accounted for.

F. *In general a Reserve Component* is a physical asset that is:

1) *Association* responsibility

2) With limited *Useful Life* expectancy

3) Predictable *Remaining Useful Life* expectancy

4) Above a minimum threshold cost

5) Or where required by applicable statutes

SECTION 2 – *Financial Analysis*

A. The *Financial Analysis* is a function of the expenditures outlined in the *Physical Analysis* and the current financial condition of the *Association*.

B. The *Financial Analysis* portion of a *Reserve Study* shows the current status of the *Reserve Fund* measured as *Percent Funded*.

C. *Percent Funded* shall be the percentage of the actual or estimated cash balance versus the *Fully Funded Balance*.

D. The *Fully Funded Balance* (FFB) shall be calculated by either of the following two equations:

$$FFB = \left(\frac{Current\ Cost * Effective\ Age}{Useful\ Life}\right)$$

$$FFB = \left(\frac{Current\ Cost * Effective\ Age}{Useful\ Life}\right) * (1 + (1 + Interest\ Rate)^{-RUL} - (1 + Inflation\ Rate)^{-RUL})$$

E. The *Financial Analysis* portion of a *Reserve Study* recommends a *Funding Plan* based on the current fund status (measured as *Percent Funded* or cash balance) and the future financial needs of the projects within the *Component* list.

F. The *Funding Plan* shall be prepared using either the *Cash Flow Method* or *Component Method* and shall recommend a periodic Reserve Contribution.

G. The *Funding Plan* shall have one of the four following *Funding Goals*: Full Funding *(Fully Funded)*, *Threshold Funding*, *Statutory Funding*, or *Baseline Funding*.

H. In general any *Funding Plan* shall meet the following Funding Principles: Sufficient funds when required, stable contribution rate over the years, evenly distributed contributions over the years, and fiscally responsible.

I. The *Funding Plan* shall include a reasonable and fiscally responsible provision for inflation and interest. A general description of the method for which inflation and interest are calculated as well as the rates used shall be included in the report.

J. Future costs estimates are based on the current costs and the inflation provision.

K. *Financial Analysis* shall include a 30-year summary of the *Funding Plan*.

Part III. Limitations, Exceptions, and Exclusions

SECTION 1 – *Site Visit.*

The following are typically excluded from the *Site Visit*. Items excluded from the *Site Visit* are not necessarily excluded from the *Physical Analysis* or *Financial Analysis.*

A. Systems or components of a building, or portions thereof, which are not *Readily Accessible,* or are excluded due to circumstances beyond the control of the *Reserve Analyst* or which the Client has agreed or specified to be excluded.

B. Systems or components, or portions thereof, which are under ground, under water, or where the *Inspector* must come into contact with water.

C. Determining compliance with manufacturers' installation guidelines or specifications, building codes, accessibility standards, conservation or energy standards, regulations, ordinances, covenants, or other restrictions.

D. Structural, architectural, forensic, geological, environmental, hydrological, land surveying, or soils-related examinations.

E. Acoustical or other nuisance characteristics of any system or component of a building, complex, adjoining property, or neighborhood.

F. Conditions related to animals, insects, or other organisms, including fungus and mold, and any hazardous, illegal, or controlled substance, or the damage or health risks arising there from.

G. Risks associated with events or conditions of nature including, but not limited to; geological, seismic, wildfire, and flood.

H. Water testing any building, system, or component or determine leakage in shower pans, pools, spas, or any body of water.

I. Differentiating between original construction or subsequent additions or modifications.

J. Fire extinguishing and suppression systems and components or determining fire resistive qualities of materials or assemblies.

K. Elevators, lifts, and dumbwaiters.

L. Lighting pilot lights or activating or operating any system, component, or appliance that is shut down, unsafe to operate, or does not respond to normal user controls.

M. Operating shutoff valves or shutting down any system or component.

N. Dismantling any system, structure, or component or removing access panels.

Note:

The *Reserve Analysts* may, at his or her discretion:

1) Include in the *Site Visit* any building, system, component, appliance, or improvement not included or otherwise excluded by these Standards of Practice. Any such inclusion to the *Site Visit* shall comply with all other provisions of these Standards.

2) Include photographs in the written report or take photographs for *Inspector's* reference without inclusion in the written report. Photographs may not be used in lieu of written documentation.

Components excluded for the *Site Visit* may be included in the *Physical Analysis*, in part or in whole, if they meet the necessary qualifications to be a *Reserve Component* as outlined in Part II Section 1.F at the discretion of the *Reserve Analyst*.

SECTION 2 – *Physical Analysis.*

The following are typically excluded from the *Physical Analysis*:

A. Specifying repairs/replacement procedures or estimating cost to correct.

B. Systems or components that typically experience an *Extended Useful Life.*

C. Systems or components that do not have a predictable *Remaining Useful Life*.

D. Systems or components that the client has advised the *Reserve Analyst* to omit from the *Reserve Study*.

E. Systems or components provided for in whole under a maintenance contract.

F. Systems or components provided for in whole within another part of the budget.

G. Leased systems or components.

H. Services of a legal nature including legal interpretations or opinions of any documents, maps, etc.

SECTION 3 – *Financial Analysis*

The following are typically excluded from the *Financial Analysis*:

A. Expected rates of return on investments significantly beyond that of current savings rates.

B. Expected settlements or monies owed or to be transferred to reserves, before the final amount has been set and approved by the board.

C. Limitations to increases of the reserve contribution or assessments from Governing Documents.

D. Investment strategies or financial planning advice beyond that of the recommended reserve contribution.

E. Auditing or other accounting services, *Reserve Analyst* shall assume financial information provided by the client or client's representative is accurate.

IV. Reserve Study Report Contents

A *Reserve Study* shall conform to the *Reserve Study* Contents Checklist found within the APRA Application for Membership and Professional Reserve Analyst (PRA) Designation. In addition to these requirements, the *Reserve Study* shall disclose any deferral or exclusion that has a material impact to the results of the study.

V. Glossary of Terms

*Note: All definitions apply to derivatives of these terms when italicized in the text.
1. *Association:* For the purposes of this document *"Association"* shall encompass Community *Association*s, schools, commercial buildings, mutual utility properties, worship facilities, and any other entity interested in the long range planning for the maintenance and replacement of the major components.
2. *Cash Flow Method* - A method of calculating Reserve contributions where contributions to the Reserve Fund are designed to offset the variable annual expenditures from the Reserve Fund. Different *Reserve Funding Plan*s are tested against the anticipated schedule of Reserve expenses until the desired Funding Goal is achieved.
3. *Component* – or *Reserve Component*. An individual line item in the *Reserve Study* developed or updated in the *Physical Analysis*. These elements form the building blocks of the *Reserve Study*. *Components* typically are: 1) *Association* responsibility, 2) with limited *Useful Life* expectancies, 3) predictable *Remaining Useful Life* expectancies, 4) above a minimum threshold cost, and 5) as required by applicable statutes.
4. *Component Assessment and Valuation* - The task of estimating *Useful Life*, *Remaining Useful Life*, and Repair or Replacement Costs for the *Reserve Component*s. This task is accomplished either with or without onsite visual observations, based on Level of Service selected by the client.
5. *Component Inventory* - The task of selecting and quantifying *Reserve Component*s. This task is accomplished through any of the following: onsite visual observations, review of *Association* design and organizational documents, review of a previous *Reserve Study*, review of established *Association* precedents.
6. *Component Method* - A method of calculating Reserve contributions where the total reserve contribution is based on the sum of contributions for individual *Components.*
7. *Current Cost* – A component's current replacement cost as of the date of the financial analysis. Current cost may be less or greater than the total replacement cost depending on the defined replacement scope.
8. *Deficit* - An actual (or projected) *Reserve Balance* less than the *Fully Funded Balance*. The opposite would be a *Surplus*.
9. *Economic Life* – the portion of the total life of a property up until the infrastructure is no longer economically viable to maintain and a significant reinvestment, rebuilding, or renovation is necessary.
10. *Effective Age* - The difference between *Useful Life* and *Remaining Useful Life*. Not always equivalent to chronological age, since some *Components* age irregularly. Used primarily in computation.
11. *Extended Useful Life* – Systems or C*omponents* generally designed to last the life of the community or

for which the replacement cost would be economically impractical. Items generally excluded in this category include utility systems, building infrastructure, permanent structures, asphalt streets, swimming pools, tennis courts, etc.
12. *Financial Analysis* - The portion of a *Reserve Study* where current status of the Reserves (measured as cash or *Percent Funded*) and a recommended Reserve contribution rate (*Reserve Funding Plan*) are derived. The *Financial Analysis* is one of the two parts of a *Reserve Study*.
13. *Full Study* – Complete qualitative and quantitative study, includes site visit.
14. *Fully Funded* - 100% Funded. When the actual (or projected) *Reserve Balance* is equal to the *Fully Funded Balance*.
15. *Fully Funded Balance* (*FFB*) - Total Accrued Depreciation. An indicator against which Actual (or projected) *Reserve Balance* can be compared. In essence, it is the *Reserve Balance* that is proportional to the current Repair/replacement cost and the fraction of life "used up". This number is calculated for each *Component*, then summed together for an *Association* total. Two formulae can be utilized, depending on the provider's sensitivity to interest and inflation effects. Note: both yield identical results when interest and inflation are equivalent.
16. *Funding Goals* - Independent of *Methodology* utilized, the following represent the basic categories of *Funding Plan* goals.
16.1. *Baseline Funding* - Establishing a *Reserve Fund*ing goal of keeping the Reserve cash balance above zero.
16.2. *Fully Funded* - Setting a *Reserve Fund*ing goal of attaining and maintaining Reserves at or near 100% funded.
16.3. *Statutory Funding* - Establishing a *Reserve Funding Goal* of setting aside the specific minimum amount of funds required by applicable statutes.
16.4. *Threshold Funding* - Establishing a *Reserve Fund*ing goal of keeping the *Reserve Balance* above a specified dollar or *Percent Funded* amount. Depending on the threshold this may be more or less conservative than "*Fully Funded*".
17. *Funding Plan* - An *Association*'s plan to provide income to a *Reserve Fund* to offset anticipated expenditures from that fund.
18. *Inflated Expenditures* - The combined annual expenditures for a given year inflated to reflect their estimated future replacement cost.
19. *Inflationary Multiplier* - The number multiplies by the annual expenditures to estimate the future replacement cost. If inflation was currently projected at 3%, the initial year multiplier would be 1.00, Next Year 1.03, Next year 1.061, etc.
20. *Methodology* - A statement which addresses the procedures and methods used to prepare a *Reserve Study*
21. *Minimum Balance* - A minimum *Reserve Balance* established by the client or recommended within the *Financial Analysis*.
22. *Percent Funded* - The ratio, at a particular point of time (typically the beginning of the Fiscal Year), of the actual (or projected) *Reserve Balance* to the *Fully Funded Balance*, expressed as a percentage.
23. *Physical Analysis* - The portion of the *Reserve Study* where the *Component Inventory* and *Component Assessment and Valuation* adjustment tasks are performed. This represents one of the two parts of the *Reserve Study*.
24. *Quantity* - The total *Quantity* of each *Component.*
25. *Readily Accessible* - Can be reached, entered, or viewed without difficulty, moving obstructions, or requiring any action which may harm or endanger persons or property.
26. *Remaining Useful Life* (*RUL*) - Also referred to as *Remaining Life* (*RL*). The estimated time, in years, that a *Reserve Component* can be expected to continue to serve its intended function. Replacements anticipated to occur in the initial or base year have "zero" *Remaining Useful Life*.
27. *Reserve Analyst* – A person who prepares Reserve Studies.
28. *Reserve Assessment* - The portion of assessments contributed to the *Reserve Fund*.
29. *Reserve Balance* - Actual or projected funds as of a particular point in time that the *Association* has

identified for use to defray the future repair or replacement of those major *component*s which the *Association* is obligated to maintain. Also known as Reserves, Reserve Accounts, Cash Reserves.
30. *Reserve Component* – see *Component.*
31. *Reserve Fund* – Those funds set aside for the future repair, replacement, or restoration of the *Reserve Components*.
32. *Reserve Study* - A budgeting tool which identified the current status of the *Reserve Fund* and a stable and equitable *Funding Plan* to offset the anticipated future "major common area expenditures". The *Reserve Study* consists of two parts: the *Physical Analysis* and the *Financial Analysis*.
33. *Site Visit* – A visit to the common areas of the *Association* for the purposes of determining the *Component Inventory* and the *Component Assessment and Valuation.*
34. *Special Assessment* - An assessment levied on the members of an *Association* in addition to regular assessments. *Special Assessment*s are often regulated by Governing Documents or applicable statutes.
35. *Straight Line* - A formula used to calculate the annual *Reserve Fund* contribution for a specific *Component.* Projected replacement cost divided by the *Useful Life* equals the annual payment.
36. *Surplus* - An actual (or projected) *Reserve Balance* greater than the *Fully Funded Balance*. See "*Deficit*".
37. *Unit Cost* - The cost of a *Component*. The *Unit Cost* is multiplied by the *Component*'s *Quantity* to obtain the total estimated replacement cost for the *Component*.
38. *Unit of Measure* - Refers to the method of measurement applied to a particular *Component*. The following are examples:
38.1. *Square Feet*
38.2. *Lineal Feet* or *Linear Feet*
38.3. *Each*
38.4. *Square Yards*
38.5. *Lump Sum*
38.6. *Squares*
39. *Update with Site Visit* - Qualitative only update and review study, includes site visit.
40. *Update without Site Visit* – Financial only update study, does not include site visit.
41. *Useful Life* (*UL*) - *Total Useful Life* or *Depreciable Life*. The estimated time, in years, that a *Reserve Component* can be expected to serve its intended function in its present application or installation.