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## Reserve Study Primer

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Preparing the annual budget and overseeing the association's finances are perhaps the most important responsibilities of board members. The annual operating and reserve budgets reflect the planning and goals of the association and set the level and quality of service for all of the association's activities.

### ■ 1. Funding Options

When a major repair or replacement is required in a community, an association has essentially four options available to address the expenditure:

**The first option is to pass a "special assessment"** to the membership in an amount required to cover the expenditure. Although not commonplace, there have been special assessments in the amount of \$10,000 per member assessed in associations in Virginia and southern California. When a special assessment is passed, the association has the authority and responsibility to collect the assessments, even by means of foreclosure if necessary. However, an association operating on a special assessment basis cannot guarantee that an assessment, when needed, will be passed. Consequently, it cannot guarantee its ability to perform the required repairs or replacements to those major components for which the association is obligated to maintain when the need arises. Additionally, while relatively new communities require very little in the way of major "reserve" expenditures, associations reaching 12 to 15 years of age and older find many components reaching the end of their effective useful lives. These required expenditures, all accruing at the same time, can be devastating to an association's overall budget.

**The second option is for the association to acquire a loan** from a lending institution in order to effect the required repairs. In many cases, banks will lend money to an association using "future homeowner assessments" as collateral for the loan. With this method, not only is the current board of directors pledging the future assets of an association, they are also required to pay interest fees on the loan payback in addition to the original principal. In the case of a \$150,000 roofing replacement, the association may be required to pay back the loan over a three to five year period, with interest; whereas, if the association was setting aside reserves for this purpose, using the vehicle of the regularly assessed membership dues, it would have had the full term of the life of the roof in order to accumulate the necessary moneys. Additionally, those contributions would have been evenly distributed over the entire membership and would have earned interest as part of that contribution.

**The third option, too often used, is simply to defer the required repair or replacement.** This option can create an environment of declining property values due to the increasing deferred maintenance and the association's financial inability to keep pace with the normal aging process of the common area components. This, in turn, can have a seriously negative impact on sellers in the Association by making it difficult or even impossible for potential buyers to obtain financing from lenders. Increasingly, many lending institutions are requesting copies of the association's most recent reserve study before granting loans, either for the association, a prospective purchaser, or for an individual within such association.

**The fourth option is to collect an adequate level of reserves as part of the regular membership assessment.** It's the only logical means the board of directors has to ensure its ability to maintain the assets for which it is obligated. By collecting reserve contributions monthly, the board distributes the costs of the replacements over the entire membership in a uniform and equitable manner. The community is not only comprised of present members, but also future members. Any decision by the board of directors to adopt a calculation method or funding plan which would disproportionately burden future members in order to make up for past reserve deficits would be a breach of its fiduciary responsibility to those future members. Unlike individuals determining their own course of action, the board is responsible to the "community" as a whole.

## ■ 2. The Reserve Study

There are two components of a reserve study – a physical analysis and a financial analysis. During the **physical analysis**, a reserve provider evaluates information regarding the physical status and repair/replacement cost of the association's major common area components. To do so, the provider conducts a component inventory, a condition assessment, and assigns life and valuation estimates. During the **financial analysis** the preparer assesses the association's reserve balance or "fund status" (measured in cash or as percent funded) to determine a recommendation for an appropriate reserve contribution rate in the future known as the "funding plan."

Reserve studies fit into one of three categories: 1) Full Study; 2) Update - with site inspection; and 3) Update - without site inspection.

1. In a **Full reserve study**, the reserve provider conducts a component inventory, a condition assessment (based upon on-site visual observations), and life and valuation estimates to determine both a "fund status" and "funding plan."
2. In an **Update – with site inspection**, the reserve provider conducts a component inventory (verification only, not quantification), a condition assessment (based on on-site visual observations), and life and valuation estimates to determine both the "fund status" and "funding plan."

3. In an **Update – without site inspection**, the reserve provider conducts life and valuation estimates to determine the “fund status” and “funding plan.”

### ■ 3. Developing a Component List

The budget process begins with an accurate inventory of all the major components for which the association is responsible. The determination of whether an expense should be labeled as operational, reserve, or excluded altogether is sometimes subjective. Since this labeling may have a major impact on the financial plans of the association, subjective determinations should be minimized. We suggest the following considerations when labeling an expense:

**OPERATIONAL EXPENSES** occur at least annually, no matter how large the expense, and can be effectively budgeted for each year. They are characterized as being reasonably predictable both in terms of frequency and cost. Operational expenses include all minor expenses which would not otherwise adversely affect an operational budget from one year to the next. Examples of Operational Expenses include:

- |            |             |                       |
|------------|-------------|-----------------------|
| Utilities: | ï           | Operating Contingency |
| ï          | Electricity | ï                     |
| ï          | Gas         | ï                     |
| ï          | Water       | ï                     |
| ï          | Telephone   | ï                     |
| ï          | Cable TV    | ï                     |

- |           |                         |                  |   |                                 |
|-----------|-------------------------|------------------|---|---------------------------------|
| Services: | ï                       | Repair Expenses: | ï | Roof Repairs                    |
| ï         | Landscape Maintenance   | ï                | ï | Equipment Repairs               |
| ï         | Pool Maintenance        | ï                | ï | Minor Concrete Repairs          |
| ï         | Accounting & Management | ï                | ï | Street Cracks & Pothole Repairs |
| ï         | Reserve Study           |                  |   |                                 |

Administrative:

**RESERVE EXPENSES** are major expenses that occur other than annually and which must be budgeted for in advance in order to provide the necessary funds in time for their occurrence. Reserve expenses are reasonably predictable both in terms of frequency and cost. However, they may include significant assets which have an indeterminable but potential liability which may be demonstrated as a likely occurrence. They are expenses that when incurred would have a significant affect on the smooth operation of the budgetary process from one year to the next if they were not reserved for in advance. Examples of Reserve Expenses include:

- |                                 |                              |
|---------------------------------|------------------------------|
| ï Roof Replacements             | ï Pool Equipment Replacement |
| ï Painting                      | ï Pool Furniture Replacement |
| ï Deck Replacement              | ï Tennis Court Resurfacing   |
| ï Fencing Replacement           | ï Park & Play Equipment      |
| ï Street Slurry Coating         | ï Equipment Replacement      |
| ï Asphalt Overlays              | ï Interior Furnishings       |
| ï Pool Re-plastering            | ï Lighting Replacement       |
| ï Boiler Replace / Refurbishing | ï Elevator Cab Refurbishing  |
| ï Subterranean Utilities        | ï Siding Replacement         |
| ï Window & Door Replacement     | ï Landscape Refurbishment    |
| ï Retaining Wall Refurbishment  | ï Chiller Replacement        |

**BUDGETING IS NORMALLY EXCLUDED FOR** repairs or replacements of assets which are deemed to have an estimated useful life equal to or exceeding the estimated useful life of the facility or community itself, or exceeding the legal life of the community as defined in an association's governing documents. Examples include the complete replacement of elevators, tile roofs, wiring and plumbing. Also excluded are insignificant expenses which may be covered either by an operating or reserve contingency, or otherwise in a general maintenance fund. Costs which are caused by acts of God, accidents or other occurrences which are more properly insured for, rather than reserved for, are also excluded.

#### ■ 4. Preparing the Reserve Study

Once the reserve assets have been identified and quantified, their respective replacement costs, useful lives and remaining lives must be assigned so that a funding schedule can be constructed. Replacement costs and useful lives can be found in published manuals such as construction estimators, appraisal handbooks, and valuation guides. Remaining lives are calculated from the useful lives and ages of assets and adjusted according to conditions such as design, manufacture quality, usage, exposure to the elements and maintenance history.

By following the recommendations of an effective reserve study the association should avoid any major shortfalls. However, to remain accurate, the report should be updated on an annual basis to reflect such changes as shifts in economic parameters, additions of phases or assets, or expenditures of reserve funds. You can simplify the reserve analysis update process by keeping accurate records of these changes over time.

#### ■ 5. Funding Methods

From the simplest to most complex, reserve analysis providers use many different computational processes to calculate reserve requirements. However, there are two basic processes identified as industry standards: the cash-flow method and the component method.

**The cash flow method** develops a reserve-funding plan where contributions to the reserve fund are designed to offset the variable annual expenditures from the reserve fund. Different reserve funding plans are tested against the actual anticipated schedule of reserve expenses until the desired funding goal is achieved. This method sets up a “window” in which all future anticipated replacement costs are computed, based on the individual lives of the components under consideration.

**The component method** develops a reserve-funding plan where the total contribution is based on the sum of contributions for individual components. The funding is collected over the various respective useful lives. The segregated component method is the more conservative of the two funding options, and assures that the association will achieve and maintain an ideal level of reserves over time. This method also allows for computations on individual components in the analysis. The RDA Summary and RDA Projection Reports are based upon the component methodology.

## ■ 6. Funding Strategies

Once an association has established its funding goals, the association can select an appropriate funding plan. There are four basic strategies from which most associations select. It is recommended that associations consult professionals to determine the best strategy or combination of plans that best suit the association's need. Additionally, associations should consult with their financial advisor to determine the tax implications of selecting a particular plan. Further, consultation with the American Institute of Certified Public Accountants (AICPA) for their reporting requirements is advisable. The four funding plans and descriptions of each are detailed below. Associations will have to update their reserve studies more or less frequently depending on the funding strategy they select.

- **Proportionate Funding** — This strategy is often called *Full* or *Ideal* funding. Given that the basis of funding for reserves is to evenly distribute the costs of the replacements over the lives of the components in question, it follows that the ideal level of reserves would be **proportionately** related to those lives and costs. If an association has a component with an expected estimated useful life of ten years, it would set aside approximately one-tenth of the replacement cost each year. At the end of three years, one would expect that three-tenths of the replacement cost to have accumulated, and if so, that component would be "fully-funded." This model is important in that it is a measure of the adequacy of an association's reserves at any one point of time, and is independent of any particular method which may have been used for past funding or may be under consideration for future funding. The formula is

based on current replacement cost, and is a measure in time, independent of future inflationary or investment factors:

$$\text{Proportionate Funding} = \frac{\text{Age of Component}}{\text{Useful Life}} \times \text{Current Replacement Cost}$$

When an association's total accumulated reserves for all components meet this criteria, its reserves are Proportionately (or *Ideally*, or *fully*) funded."

- **Baseline Funding - (RDA Cash Flow Minimum Reports)** — The goal of this funding method is to keep the reserve cash balance above zero. This means that while each individual component may not be fully funded, the reserve balance overall does not drop below zero during the projected period. An association using this funding method must understand that even a minor reduction in a component's remaining useful life can result in a deficit in the reserve cash balance.

- **Threshold Funding - (RDA Cash Flow Minimum Reports)** — This method is based on the baseline funding concept. The minimum reserve cash balance in threshold funding, however, is set at a predetermined dollar amount. For example, a funding plan could be calculated to keep the reserve cash balance above, say, \$8,000.00. The "threshold" provides a bit of a safety margin in the year the reserve balance is projected to be at its lowest point.

- **Client Specified Funding - (RDA Cash Flow Specific Reports)** This method is used to measure the performance of any particular funding plan against the projected future expenditures. The RDA CFS funding plan is often included in a report to demonstrate the (in)adequacy of the client's current reserve funding level. There are no thresholds or minimum cash balance limits here.

- **Statutory Funding - (RDA Cash Flow Specific Reports)** This method is based on local statutes. To use it, associations set aside a specific minimum amount of reserves as required by statutes. As with the Client Specified Funding method, it measures the performance of the legally required funding plan against the projected future expenditures.

## ■ 7. Distribution of Accumulated Reserves

When calculating reserves based upon the **Component Methodology (proportionate funding)**, a beginning reserve balance must be allocated for each of the individual components considered in the analysis before the individual calculations can be completed. The methods used to determine the proportionate level of reserves and actual distributions for each asset, prior to completing calculations, are as follows:

- I The first step is to subtract from the total accumulated reserves the association has on hand any amounts for assets which have predetermined (fixed) reserve balances. If by error these amounts total more than the amount of funds available,

then the remaining assets are adjusted accordingly. A provision for a contingency reserve is then deducted by the determined percentage.

- ï The second step is to identify the proportionate level of reserves for each asset. This is accomplished by evaluating the component's age proportionate to its estimated useful life and current replacement cost.

$$\text{Proportionate Funding} = \frac{\text{Age of Component}}{\text{Useful Life}} \times \text{Current Replacement Cost}$$

**This formula, essentially, identifies the amount of accrued depreciation.**

*For example, an asset which is 3 years old, has a useful life of 5 years and current replacement cost of \$500, has an accrued depreciation of \$300 and should have a proportionate amount accumulated in the reserve fund. Here's the math:*

$$\begin{aligned} & \text{(3 divided by 5 is .6)} \\ & \mathbf{.6 \times \$500 = \$300.00} \end{aligned}$$

*This method of calculating the proportionate level of reserves does not consider future replacement cost, nor interest earned on the accumulated reserves, as most professionally prepared reports do when calculating the monthly allocation requirements for future replacements. However, the above formula is a reliable and accurate indicator of the adequacy of the Association's current reserves, based on current conditions and replacement cost.*

If any assets are assigned a zero remaining life (scheduled for replacement this fiscal year), then the amount assigned equals the current replacement cost and funding begins for the next cycle of replacement. If there are insufficient funds available to accomplish this, the remaining life should be adjusted to 1 year and funds should be collected accordingly.

- ï The third step in this process is to arrange all of the assets used in the study in ascending order by remaining life. These assets are then assigned their respective ideal level of reserves until the amount of funds available are depleted, or until all assets are appropriately funded. If at the completion of this task there are additional moneys which have not been distributed, the remaining reserves are then assigned in ascending order at a level equal to, but not exceeding, the current replacement cost for each component. If there are sufficient moneys available to fund all assets at their current replacement cost levels, then any excess funds are designated as such and are not factored into any of the report computations. If at the completion of this task there are additional moneys which have not been distributed, the remaining reserves are then assigned, in ascending order, to a level equal to, but not exceeding, the current replacement cost for each component. If there are sufficient moneys available to fund all assets at their current replacement cost levels, then any excess funds are designated as such and are not factored into any of the report computations. If at the end of this assignment process there are designated excess funds, they can be used to offset the monthly contribution requirements recommended, or used in any other legal manner the client may desire.

Assigning the reserves in this manner extends the recovery period for any underfunding over the longest remaining life of all the assets under consideration, thereby minimizing the impact of deficiency. For example, if the report indicates an underfunding of \$50,000, this underfunding will be assigned to components with the longest remaining life possible in order to give more time to "replenish" the account. If the \$50,000 underfunding were to be assigned to items with short remaining lives, the impact would be immediately felt.

The annual Reserve Budget Line Item Cost for a component may then be calculated:

*CURRENT COST minus the ASSIGNED RESERVES divided by the YEARS REMAINING until the expected replacement of the component.*

**Current Cost - Assigned Reserves / Remaining Life = Reserve Budget Line Item Cost**

Total the Line Item costs for all reserve components and that's your required Reserve Budget Contribution for the year, based upon the Segregated Component Methodology.

**If your reserves are underfunded, the initial monthly contribution requirements can be expected to be higher than normal. In future years, as individual assets are replaced, the funding requirements will return to their normal levels.**

**In the case of a large deficiency, a special assessment may be considered.**

**Many reserve specialists can easily generate revised reports outlining how the monthly contributions would be affected by such an adjustment, or by any other changes which may be under consideration.**

## ■ 8. Funding The Reserves

Two savings procedures are used when actually segregating your reserve funds:

1. The Monthly Membership Contribution Procedure. The association deposits the member contributions each month and the interest earned on the reserves is left in the reserve account as part of the contribution. When interest is earned on the reserves, that interest must be left in reserves and only amounts set aside for taxes should be removed.
2. The Net Monthly Allocation Procedure. The association deposits the member contribution plus the anticipated interest earnings. This method assumes that all interest earned will be assigned directly as operating income. This allocation takes into consideration the *anticipated* interest earned on accumulated reserves *regardless* of whether or not it is *actually* earned. Taxes are paid directly from the association's operating accounts since the reserve accounts are allocated only those moneys net of taxes.



## ■ 9. Users' Guide to Your Reserve Analysis Study

Whether preparing your own report or hiring a professional, your reserve study should comply with the National Reserve Study Standards. They are set and maintained by The Community Associations Institute ([www.caionline.org](http://www.caionline.org)) and are detailed in the CIRA Guide which is published by The American Association of Certified Public Accountants. It specifies what your auditor must examine to properly evaluate how you have set up your reserves. If he can't decipher your report he must 'qualify' your audit. This can send 'Red Flags' to lenders or prospective buyers.

There are several other "reports", details, and definitions you may wish to include within your full written report:

### REPORT SUMMARY

The **Report Summary** lists all of the parameters which were used in calculating the report as well as the summary of your reserve analysis study.

### INDEX REPORTS

The **Distribution of Accumulated Reserves** report lists all assets in remaining life order. It also identifies the ideal level of reserves which should have accumulated for the association, monthly contribution amounts, and the actual reserves available. (Used with proportionate funding plans)

The **Funding Status Report** lists all assets by category (i.e. roofing, painting, lighting, etc.) together with their Useful & remaining life, current cost, Fully Funded (or ideal) reserve level, and the assigned (actual) reserve level. (used with Cash Flow funding plans)

### DETAIL REPORTS

The **Detail Report** itemizes each asset and lists all measurements, current and future costs and calculations for that asset. Provisions for percentage replacements, salvage values and one-time replacements can also be utilized.

The numerical listings for each asset are enhanced by extensive narrative detailing factors such as design, manufacture quality, usage, exposure to elements and maintenance history.

The **Annual Expenditure Detail Report** is a year-by-year chronological listing of the assets according to their projected replacement year together with their corresponding projected replacement costs.

The **Detail Report Index** is an alphabetical listing of all assets together with the page number of the asset's individual detail report and asset number.

Any **Photographs** you may have taken in the course of your inventory and inspection

## **PROJECTIONS AND CHARTS**

**Twenty or Thirty-year Projections** as well as **Charts and Graphs** of projected data will add to the usefulness of your reserve analysis study.

**REPORT I.D.** - Includes the REPORT DATE (ex. November 15, 1992), VERSION (ex. 001), and ACCOUNT NUMBER (ex. 9773). Please use this information when referencing your report. (Displayed on the summary page.)

**BUDGET YEAR BEGINNING/ENDING** - The budgetary year for which the report is prepared. For associations with fiscal years ending December 31, the monthly contribution figures indicated are for the 12 month period beginning 1/1/20XX and ending 12/31/20XX.

**NUMBER OF UNITS/PHASES** - If applicable, the number of units and/or phases included in this version of the report.

**INFLATION** - This figure is used to approximate the future cost to repair or replace each component in the report. The current cost for each component is compounded on an annual basis by the number of remaining years to replacement and the total is used in calculating the monthly reserve contribution which will be necessary in order to accumulate the required funds in time for replacement.

**ANNUAL CONTRIBUTION INCREASE** - The percentage rate at which the association will increase its contribution to reserves at the end of each year until the year in which the asset is replaced. For example, in order to accumulate \$10,000 in 10 years, you could set aside \$1,000 per year. As an alternative, you could set aside \$795 the first year and increase that amount by 5% each year until the year of replacement. In either case you arrive at the same amount. The idea is that you start setting aside a lower amount and increase that number each year in accordance with the planned percentage. Ideally this figure should be equal to the rate of inflation. It can, however, be used to aid those associations that have not set aside appropriate reserves in the past by making the initial year's allocation less formidable.

**INVESTMENT YIELD** - The average interest rate anticipated by the association based upon its current investment practices.

**TAXES ON YIELD** - The estimated percentage of interest income which will be set aside for taxes.

**ACCUMULATED RESERVE BALANCE** - The anticipated reserve balance on the first day of the fiscal year for which this report has been prepared. Based upon information provided and not audited.

**PERCENT FULLY FUNDED** - The ratio, at the beginning of the fiscal year, of the actual (or projected) reserve balance to the calculated fully funded balance, expressed as a percentage.

**PHASE INCREMENT DETAIL/AGE** - Comments regarding aging of the components on the basis of construction date or date of acceptance by the association.

**MONTHLY CONTRIBUTION** - The contribution to reserves required by the association each month.

**INTEREST CONTRIBUTION** - The interest that should be earned on the reserves, net of taxes, based upon their beginning reserve balance and monthly contributions for one year. This figure is averaged for budgeting purposes.

**NET MONTHLY ALLOCATION** - The sum of the monthly contribution and interest contribution figures.

**GROUP OR FACILITY NUMBER/CATEGORY NUMBER** - The report may be prepared and sorted either by group or facility (location, building, phase, etc.) or by category (roofing, painting, etc.). Standard report printing format is by category.

**PERCENTAGE OF REPLACEMENT** - In some cases, an asset may not be replaced in its entirety or the cost may be shared with a second party. Examples are budgeting for a percentage of replacement of streets over a period of time, or sharing the expense to replace a common wall with a neighboring party.

**PLACED-IN-SERVICE** - The month and year that the asset was placed-in-service. - This may be the construction date, the first escrow closure date in a given phase, or the date of the last servicing or replacement.

**ESTIMATED USEFUL LIFE** - The estimated useful life of an asset based upon industry standards, manufacturer specifications, visual inspection, location, usage, association standards and prior history. All of these factors are taken into consideration when tailoring the estimated useful life to the particular asset. For example, the carpeting in a hallway or elevator (a heavy traffic area) will not have the same life as the identical carpeting in a seldom-used meeting room or office.

**ADJUSTMENT TO USEFUL LIFE** - Once the useful life is determined it may be adjusted +/- by this separate figure for the current cycle of replacement. This will

allow for a current period adjustment without affecting the estimated replacement cycles for future replacements.

**ESTIMATED REMAINING LIFE** - This calculation is completed internally based upon the report's fiscal year date and the date the asset was placed-in-service.

**REPLACEMENT YEAR** - The year that the asset is scheduled to be replaced. The appropriate funds will be available by the first day of the fiscal year for which replacement is anticipated.

**FIXED ACCUMULATED RESERVES** - An optional figure which, if used, will override the normal process of allocating reserves to each asset.

**FIXED MONTHLY CONTRIBUTION** - An optional figure which, if used, will override all calculations and set the contribution at this amount.

**SALVAGE VALUE** - The salvage value of the asset at the time of replacement, if applicable.

**ONE-TIME REPLACEMENT** - Notation if the asset is to be replaced on a one-time basis.

**CURRENT REPLACEMENT COST** - The estimated replacement cost effective as of the beginning of the fiscal year for which the report is being prepared.

**FUTURE REPLACEMENT COST** - The estimated cost to repair or replace the asset at the end of its estimated useful life based upon the current replacement cost and inflation.

**COMPONENT INVENTORY** - The task of selecting and quantifying reserve components. This task can be accomplished through on-site visual observations, review of association design and organizational documents, a review of established association precedents and discussion with appropriate association representative(s).