



Chapter 6: Reserve Study Basics: CAM Financial Management

4 CE Hours

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Learning Objectives

- ◆ Explain the function of a reserve study.
- ◆ Explain the role of funding reserves in the overall financial plan.
- ◆ Summarize the legal obligations of community association management in regard to reserve funding according to Chapter 718 Florida Statutes.
- ◆ Contrast pooled and straight-line (component) accounting methods.
- ◆ List three issues that prompted the International Capital Budgeting Institute (ICBI) to adopt new reserve study principles and standards for community associations.
- ◆ Describe the two main components of a reserve study.
- ◆ Describe the process used to document a common area's major components.
- ◆ List three frequently overlooked common area components.
- ◆ List three objectives of a financial analysis.
- ◆ List three red flags that signal potential problems in reserve funding.
- ◆ Calculate cost of replacement and remaining useful life.
- ◆ Explain how component data is used in the funding analysis.
- ◆ Determine the funding goal for replacement reserves.
- ◆ Estimate reserve fund income.
- ◆ Document reserve funds in the financial statements.
- ◆ List criteria for hiring a reserve study specialist.
- ◆ Describe the purpose and contents of a reserve study statement of disclosure.

Introduction

Community association managers have a fiduciary duty to manage association funds and property responsibly. Adequate reserve funding is central to this obligation and a critical part of community association financial management. It requires:

- Examination of the association's repair and replacement obligations.
- Determination of costs and timing for replacement.
- Determination of the availability of necessary (reserve) cash resources.

Because community associations differ in their management and decision-making authority, the terms "association" or "association leadership" are used to refer to the association's representative body which is responsible for administration of the association, according to the association's governing documents^[1]. In most cases, this is formally the duty of the association's board of directors (board), but many other individuals influence association policy, including skilled professionals like accountants, attorneys, and community association managers working for the association, or unit owners who are not board members. Associations may elect a member (or members) to act as the association's official representative and liaison to the reserve study specialist. This individual ensures that the reserve study professional has the information and resources to complete the study efficiently and expertly.

This course introduces the basic concepts, methods, and terminology of reserve studies. The topic is enormous, and the course is short, so it only touches briefly on key topics. This information is applicable to many types of community associations, but not all; each has its own unique policies, practices, and leadership. To ensure legal conformity, community association managers should consult attorneys, accountants, and other skilled professionals, as needed, for association-specific assistance.

Reserve study basics

Community association members share a collective responsibility for repairing, replacing, and maintaining common areas. Ideally, all major repair and replacement costs for common area property are covered by association reserves, which are funds specifically allocated for this purpose in the budget. The state of Florida requires community associations to designate an amount of reserve funds sufficient to cover

any future projects that will cost more than \$10,000. The reserve goal is an estimate of the funds needed to meet the association's financial obligations to maintain, replace, and repair components in the future.

A reserve study (or reserve funding study) is a formal, documented plan that estimates costs for the future replacement and repair of all major common area components (e.g., new roof, parking lot paving, large painting projects, etc.), and delineates the association's financial strategy for funding these expenses over the long term. Conducting a reserve study is one of the most effective ways for an association to assess reserve funding needs. Once complete, they are a documented and comprehensive evaluation of community association property that results in more precise predictions of future cost estimates and more accurate approximation of required reserves.

Many community associations conduct reserve studies, even if not legally required to, because the findings provide a more solid foundation for financial planning decisions, and increase the accuracy of long-term forecasting. Even a very basic reserve study provides valuable information by:

- Providing an accurate, complete picture of the association's financial strength and market value to owners and potential buyers.
- Ensuring that deferred maintenance or inability to keep up with aging components does not lead to declining property values.
- Scheduling and documenting maintenance and replacement activities.

While community association management should never conduct reserve studies for the associations they manage, they play an important role in a reserve study's development, review, and application in the real world. To effectively assess the quality of a reserve study analysis or its findings, community association management should have a working knowledge of:

- Common reserve planning concepts and terms.
- Proper methods used to calculate and document reserve funds in the financial statements.
- Steps in a physical analysis and funding analysis.
- Criteria used to select a reserve study professional.
- Common "red flags" that signal an inadequately performed study or insufficient reserves.

RESERVE STUDY REQUIREMENTS AND STANDARDS

Conducting a reserve study is one of the best ways to assess financial needs and establish a strong foundation for long-term planning. It increases the viability of an entity by assuring reserve funds will be there when needed in the future, making the association more financially secure. This benefit has encouraged a variety of public and private entities to demand reserve funding requirements in recent years. More states than ever, now mandate some form of reserve funding for community associations, and/or require an association to conduct reserve studies at specific intervals, and insurance companies and lenders now place greater emphasis on reserve study findings.

A reserve study is only as accurate and reliable as the information used to prepare it. Lack of uniformity, an unskilled or biased practitioner, incomplete information provided by the association, and countless other factors can greatly reduce the value of the reserve study as a planning tool. Without consistent standards and objectives, these types of errors are far more common. Many reserve study guidelines have been criticized as outdated or lacking uniformity and rigorous standards.

This absence of established criteria for community association reserve studies and their practitioners recently prompted the International Capital Budgeting Institute (ICBI) to develop new, more stringent guidelines specific to the community association and timeshare industries. The ICBI, an international organization dedicated to providing clarity and transparency in capital budgeting reporting, adopted the “Generally Accepted Reserve Study Principles and Generally Accepted Reserve Study Standard” (ICBI Standard) April 16, 2015. Its changes (characterized as the most comprehensive in two decades^[2]) have a strong potential to increase validity and reliability in reserve study findings. The intended audience includes reserve study professionals, community association managers, certified public accountants (CPAs), architects, engineers, construction contractors, and lawyers, among others.

The new ICBI Standard^{[2][3]}:

- Clarifies and expands the definition of common area components to reflect the association’s actual maintenance obligations.
- Defines three service levels that delineate the relationship of the reserve study professional and association: independent study, reserve management plan, and consulting.
- Specifies uniform terminology, calculation methodologies, analytical software, and reporting formats across all reserve studies.
- Requires consistent summary basis reporting with separate supplemental schedules that provide detail.

Among the concerns the ICBI identifies as most problematic is lack of qualifications in the individual performing the reserve study. In hiring a reserve study preparer, necessary skills, experience, and training are the most important criteria. The best candidates are those with advanced degrees in relevant fields and appropriate industry accreditations, such as Reserve Specialist (RS) from the Community Associations Institute (CAI), or Professional Reserve Analyst (PRA), awarded by the Association of Professional Reserve Analysts. An engineering professional should conduct the onsite inspection in a comprehensive reserve study.

Another serious concern is the practice of community association management is conducting reserve studies for the community associations they manage. The ICBI considers this practice unethical, and strongly condemns it. The individual preparing the association’s reserve study must be an independent, objective agent with no other relationship to the organization, and no financial stake in the association or benefits beyond payment for the specified services. It is generally best that management personnel and reserve study specialists maintain distinct duties and realms of influence, focusing on their separate areas of expertise.

A community association manager conducting his association’s reserve study is violating an ethical responsibility to avoid any practice that is in actual or apparent conflict with the interests of the association^[4]. In general, a community association’s management company should not provide any other vendor services beyond those in the management services agreement, due to the potentially unfair competitive advantage the CAM might have over other, more qualified vendors of a service. Additionally, using management company personnel to save money or time defeats the purpose of a reserve study by undermining its integrity as a planning tool.

Due to these ethical concerns and the need for specialized expertise, professional reserve study firms are primarily responsible for these final products:

- Professional engineering survey and comprehensive examination of property.
- Determination of maintenance and replacement needs for the next 30 years.
- Expected costs and the timeframe for completion of each project.
- A schedule of annual reserve contributions for each of the next 30 years that does not increase more than the estimated rate of inflation.

Reserve studies should be updated every few years. The first study should be a “full” reserve study. This is the most comprehensive form. It typically includes a formal engineering survey; full site inspection; photo inventory; and a listing of common components, including number, measurements, and condition of each item. The following reserve study may include a site inspection to confirm the findings of the most recent study and identify any changes to common elements. [NOTE: A new firm will usually want to confirm the findings of the preceding reserve study if it did not perform the work itself. This means switching to a new reserve study contractor will usually necessitate a more extensive study than if the same company completes both the preceding and current studies.

Reserve study data should be reviewed and reevaluated every few years to identify and correct errors in prior reserve funding estimates and projections. Site inspections are conducted if there has been some significant change to common elements (new construction, storm damage, etc.). Once a solid reserve funding plan is in place and a history of reserve studies is established, a reserve study primarily focuses on updating the information to ensure it is an accurate statement of the association’s financial status, condition of common elements, and estimated replacement costs and inflation rates, among other factors.

Community associations are primarily governed by state law. A number of states have enacted legislation that requires community associations to conduct reserve studies or fund reserves. More are likely to follow, with the current trend showing movement toward more stringent requirements. Private organizations are also increasing regulatory guidelines for association reserve studies because of their value for assessing its financial stability. The Department of Housing and Urban Development and the Federal National Mortgage Association, for example, recently modified their underwriting guidelines, making it difficult for a condominium to obtain mortgage financing without preparing a reserve study. Associations will likely face more stringent regulation in the future, with less latitude in the timing and frequency of their reserve studies.

Florida's reserve fund laws ^[5]

Florida law does not explicitly require a formal reserve study, but community associations are obligated to provide a good faith estimate of the amount required annually to fully fund reserves, and show amount of reserve funds in their financial statements; objectives greatly facilitated by a reserve study, and hindered without one.

The following excerpts are pertinent sections of laws found in Chapters 718 and 720 Florida Statutes (FS):

718-111(13) Association Rules Regarding Reserves

The rules must include, but not be limited to, standards for presenting a summary of association reserves, including a good faith estimate disclosing the annual amount of reserve funds that would be necessary for the association to fully fund reserves for each reserve item based on the straight-line accounting method. This disclosure is not applicable to reserves funded via the pooling method.

Section 718.112(f) (2) Reserve Account Requirements for Capital Expenditures and Deferred Maintenance

In addition to annual operating expenses, the budget must include reserve accounts for capital expenditures and deferred maintenance. These accounts must include, but are not limited to, roof replacement, building painting, and pavement resurfacing, regardless of the amount of deferred maintenance expense or replacement cost, and for any other item that has a deferred maintenance expense or replacement cost that exceeds \$10,000.

Calculating Required Reserve Amount

The amount to be reserved must be computed using a formula based upon estimated remaining useful life (a term that will be discussed in more detail later on in the course) and estimated replacement cost or deferred maintenance expense of each reserve item.

718.112(f) (3) Authorizing Reserve Fund Expenditures

Reserve funds and any interest accruing thereon shall remain in the reserve account or accounts, and may be used only for authorized reserve expenditures unless their use for other purposes is approved in advance by a majority vote at a duly called meeting of the association.

Waiving, Reducing, or Reallocating Reserve Funds

The only voting interests eligible to vote on questions that involve waiving or reducing the funding of reserves, or using existing reserve funds for purposes other than purposes for which the reserves were intended, are the voting interests of the units subject to assessment to fund the reserves in question.

All community associations must fully fund reserves unless there is a majority vote to reduce or waive that requirement. If obtained, the association proceeds with waived or reduced reserves for one annual budget. If not, the association is required to approve the budget with fully funded reserves. A new majority vote is required each year the association does not want to fully fund reserves. An association voting to waive or reduce reserves is required to print, on the face of the proxy ballot, a statement of potential unit owner

liability for special assessments, according to the wording and style specified in 718.112(f)(3) FS.

Since 2008, all condominium associations that contain buildings over three stories tall must be inspected by a licensed architect or engineer at least once every five years, according to Chapter 718.113(6) FS. The architect or engineer must provide a written report, under seal, attesting to the required maintenance, useful life, and replacement costs of the common elements. Many associations choose to perform the engineering study along with a reserve study for efficiency and cost-effectiveness. An association may waive the inspection requirement by majority vote, but any such waiver must occur before the end of the five-year period, and is only good for the five-year period in question. Every five years, the association would need another vote to waive the requirement again.

Prior to turnover of control of an association by a developer to unit owners other than the developer pursuant to s. 718.301, the developer-controlled association shall not vote to use reserves for purposes other than that for which they were intended without the approval of a majority of all non-developer voting interests, voting in person or by limited proxy at a duly called meeting of the association.

Proxy questions relating to waiving or reducing the funding of reserves or using existing reserve funds for purposes other than purposes for which the reserves were intended shall contain the following statement in capitalized, bold letters in a font size larger than any other used on the face of the proxy ballot: **WAIVING OF RESERVES, IN WHOLE OR IN PART, OR ALLOWING ALTERNATIVE USES OF EXISTING RESERVES MAY RESULT IN UNIT OWNER LIABILITY FOR PAYMENT OF UNANTICIPATED SPECIAL ASSESSMENTS REGARDING THOSE ITEMS.**

Chapter 720 FS addresses reserve funding requirements for homeowners associations. Homeowners associations are only obligated to maintain reserve funds to the extent the HOA governing documents require, and can waive reserves with proper notification:

Section 720.303(6) Homeowners Association Reserve Funding

- Homeowner associations may adopt a budget that includes reserve accounts for capital expenditures and deferred maintenance for which the association is responsible.
- If reserve accounts are not established, funding of such reserves is limited to the extent that the governing documents limit increases in assessments, including reserves.
- Homeowner associations may waive reserves with proper notification in their financial statement.

An association that fully funds reserves is more financially sound than one that does not. If that is not a feasible strategy, the association should fund the reserve account to the extent possible, and establish a separate reserve account to fund a professional reserve study. The study will help the association establish a long-term plan to increase reserve funds and financial stability.

Straight-line (component) vs. pooled accounting

There are two reserve fund accounting methods: straight-line (component) and pooled. Most associations use the straight-line method. Community associations are required to use the straight-line method for calculating the good faith estimate included in the financial statements, as specified in Ch.718-111(13) FS. Associations that currently use the straight-line accounting method must hold a majority vote of the membership for approval to switch to the pooled accounting method.

There are pros and cons to both accounting methods that depend largely on the characteristics of the association and its financial reporting needs: Does the association earn a material amount of interest annually? Will major components require repair or

replacement in the short term? Would easy reallocation of funds benefit or hinder the association in meeting its short- and long-term funding needs? The main points of each are outlined here:

The straight-line method of calculating reserves:

- Requires that each common component is separately funded. Reserve funding for each project (roof, paving, etc.) is calculated independently and funded with its own dedicated reserve account funds.
- Does not allow reallocation of reserve funds from one account to another (e.g., reserve funds designated for a new roof must be used for a new roof).

- Determines annual contributions to each reserve account by subtracting the current value in the reserve account from the current year's project cost, then dividing that number by the remaining useful life of the item.
- Uses current year project cost, instead of expected cost at the time of completion, which does not make allowances for inflation.
- Tends to underestimate costs; effects may be minimal for projects completed in the short term, but more significant for those 10 or 15 years down the road.
- Does not factor in potential income from reserve fund accounts bearing interest. The effects of interest income can be substantial, depending on the amount of interest generating funds held in association reserve accounts.

Using straight-line method reserve funding: consider a building with a roof that has a useful life of 25 years, is 15 years old, and will cost \$20,000 to replace. If the association has \$10,000 in the roofing reserve fund, the amount collected over the next 10 years must total at least \$10,000 for the roof reserve to be fully funded. This would mean the association would need to collect \$1,000 per year for 10 years. The same calculation is made for all community components that qualify for reserve funding.

The pooled method of calculating reserves:

- Maintains one reserve funding account with a pool of funds that can be used for costs associated with any reserve project (rather than each reserve item having its own reserve fund).

Reserve study preparation

A reserve study should be conducted as early in an association's life as possible, and revisited at regular intervals to revise any outdated or incorrect information. Although an association will hire a reserve study professional, association personnel can expedite the process by identifying, compiling, and organizing sources of data for the study. Those resources and the association's responsibilities for reserve study preparation are discussed here.

Initiating a reserve study requires only that the association pass a resolution to complete the project. Associations operating without a current reserve study, or other funding, plan should initiate this process as soon as possible. New associations should have a reserve study performed within one year of completing any significant construction, as initial budgets may not include a physical analysis of the new construction.

Developing a work plan

A work plan specifies the nature of each task required for the reserve study. It establishes:

- Types of components to include or exclude.
- Timeframe for funding common area components.
- Reserve study budget.
- Sources for association data.
- Responsibility for components.

Choosing what to include

Components can be excluded from the reserve study only if individual homeowners, not the association, are responsible for their replacement. In any association, there may be "exclusive-use common areas" that individual homeowners maintain. These are common area items used exclusively by individual units (e.g., decks and patios). Usually, these items and those responsible for their maintenance are identified in the association's Covenants, Conditions, and Restrictions (CC&Rs). If there is no specific list of exclusive-use common area components or designation of maintenance responsibilities for these areas, management should establish, guided by the association's existing CC&Rs, who is the responsible party for maintaining each item. Any item maintenance determined to be a responsibility of the association must be included in the list of major components, and have a designated line item in the reserve budget.

- Allows unit owners to allocate reserve funds from one reserve project to another without needing a majority vote, except for reserve funds reallocated to operating expenses.
- Determines annual contributions to the pooled reserve account using the cash flow method. This technique calculates an amount for reserve fund allocations and expenditures over a 30-year period, using an estimate that meets or exceeds the minimum funding goal requirements, while staying within membership budgets.
- Includes any interest (including anticipated future interest) earned from the pooled fund account. An association with a pooled reserve fund account of \$100,000, gathering interest at an annual rate of 2% would have an additional \$200 in the account at the end of the year. These additional funds can mean lower assessments which would contribute to the reserve funding goal but reduce the portion of reserves required from unit owners.
- Includes inflation: If a project is scheduled to begin in two years, and the current estimated cost of the project is \$50,000, and the annual inflation rate for each of the next two years is estimated at 1.5%, the reserve pool would need \$51,511.25 to complete the project.

$[(\$50,000 \times .015 = \$750) = \text{first year interest}]$.

$[(\$50,000 + \$750 = \$50,750) = \text{year one reserve fund plus interest}]$.

$[(\$50,750 \times .015 = \$761.25) = \text{second year interest}]$.

$[(\$50,750 + \$761.25 = \$51,511.25) = \text{year two reserve fund plus interest}]$.

Amount of reserve funds required in two years = \$51,511.25.

Establishing a timeframe

Generally, as a minimum, all components with a useful remaining life of less than 30 years are included in the study. Any components with a remaining useful life of more than 30 years that are not included should be noted, along with the reason for exclusion, in the reserve study report and any assessment disclosure statement. A good rule of thumb is to forecast a time period that will include the replacement year of the component with the longest estimated useful life.

Professionals generally recommend that the study include all components that will fail before the building itself. "Life-of-building" components (such as the building foundation and structure) are generally omitted from the reserve study budget. However, in cases where the item is likely to deteriorate before the building, and the units are of an age that suggests the item may stop functioning within the time span of the reserve study, then that item (e.g., the electrical or plumbing system in a condominium) should be included as a reserve study component.

A reserve study that does not cover the life of the longest-lived component is incomplete and may produce misleading findings. Because, however, estimates of costs in the near future are likely to be more accurate than forecasts for 20 to 30 years down the road, it is important that estimates be reviewed annually as a part of the association's regular budget cycle, and updated as necessary.

Establishing a budget

Preparing the reserve study requires sufficient funding. The association must determine and establish an appropriate budget for the reserve study, as well as study updates at appropriate intervals.

Collecting data sources

Primary data sources include the association's CC&Rs, the most accurate existing drawings of the development, and the maintenance history of major common area components. "As-built" drawings, if available, are the best source of information for major components. The maintenance history should include actual dollar costs for each item's maintenance. If the association does not already have a permanent maintenance history on file that lists each major component, it should establish one.

Project development reserve budget worksheets used to estimate monthly reserve contributions for an association's first-year budget should not be used to assess subsequent reserve requirements. These estimates may be prepared years before construction begins and units are sold. If not adjusted to address actual concerns and rising costs, these estimates:

- Will not provide sufficient funds for replacement or repair.
- May not accurately reflect the association's liability for the project, as actually constructed.
- May only contain information about certain major components (e.g., roofing, painting, paving, etc.), meaning some may not be listed even though the association is obligated to repair and/or replace them.
- May not reflect the estimated life shown for components under local conditions, and the costs shown may not be based on actual local prices.

Associations should always compare the reserve worksheet to their actual reserve responsibilities, and modify the worksheet figures accordingly. Community association managers should review any completed studies annually, consider adjustments based on their assessments, and implement changes accordingly.

Designating responsibility for components

Before any study begins, CAM should review the association's governing documentation to ensure it makes clear distinctions between the private property of individual owners in community associations and the common areas for which the association is responsible. In theory, an association's governing documents clearly distinguish each common area property that maintained by the association from each private property unit or area. In reality, information for existing components may be missing or in error. Documents should be amended to include all possible areas/components of the association, and their designation as common or private.

While community associations vary considerably in physical makeup, government, and policies, the division of labor for maintenance

and replacement responsibilities typically assigns the association responsibility for:

- Day-to-day maintenance of common areas.
- Non-annual maintenance and replacement in common areas.
- Improvements.

Individual homeowners are responsible for maintenance of their own units, including the interiors of the homes themselves (carpeting, interior paint, kitchen counters, etc.). In addition, owners have obligations to maintain any exclusive-use exterior features or common areas (such as private yards, decks, front doors, etc.) of the unit. Individual and association maintenance and replacement responsibilities are, by necessity, linked. For example, unit owners are responsible for periodic replacement of bathtub caulking; if the caulking is not replaced when necessary, the resulting moisture will damage nearby walls and subflooring, eventually causing damage to other units or common area components in the building.

An association maintains common area(s), which typically includes landscaping, recreation facilities, parking areas, drainage gutters, outdoor lighting, and other public or "common" areas. Day-to-day maintenance for these items is the responsibility of the association, and provision for this maintenance is frequently the largest category of expense in the operating budget. Individual owners, while not directly responsible for day-to-day maintenance, do have responsibility for obeying rules and regulations pertaining to the use and protection of common area property. The association should make clear that any damage to common area property can mean increased costs for all owners.

The long-term maintenance and replacement schedule for common area components is generally planned well in advance using industry data to estimate each component's longevity (expected useful life), along with periodic inspection of each component to assess current physical wear and tear. Common area additions (improvements) not part of the original development plans are a special category of expense. In cases where an association chooses to fund a common area addition (typically a one-time project), it must also make provisions to fund that area's day-to-day maintenance and replacements/repairs.

RESERVE STUDY FRAMEWORK

There are two main parts to a reserve study: the physical analysis and the financial (funding) analysis.

- The physical analysis provides information about the physical status and repair/replacement cost of the area components the association is obligated to maintain. The physical analysis requires a component inventory, condition evaluation, age adjustment [based on useful life (total) and remaining life of the components] and the costs to replace. Ideally, the component inventory will remain relatively stable year to year, while the condition evaluation, age adjustment and cost to replace, and valuation will show more variation.

- The financial analysis, also called a funding analysis, examines the association's reserve income and expenses. This analysis requires knowledge of the client's current reserve fund strength (measured in cash or as a percent funded), and a recommendation for an appropriate reserve contribution rate (funding plan).

New associations should ensure the initial physical analysis includes a component inventory consistent with what was actually built, and conduct a reserve study at least once every three years. Additionally, examinations for the purposes of adjustments must occur any year in which the community association experiences ongoing construction.

Part I: Physical analysis

This section provides guidelines for managing personnel conducting this portion of the reserve study for an association, as well as criteria for hiring a professional outside the association to serve as reserve study preparer. A number of firms perform these studies for community associations. Associations often choose not to perform their own physical analyses because they then do not have the same protection of personal indemnity that comes with professional assistance. Because of this, associations should seek legal advice before proceeding.

The goals of a physical analysis are:

- Estimating the useful and remaining life of major components.
- Estimating the current replacement cost of major components.

The physical analysis lists and estimates replacement costs and timing for replacement of the major components, with repair or replacement funded through association reserves. The study determines when such

repairs or replacements will be needed and what they will cost. The physical analysis process is outlined below. Familiarity with these steps is critical to contracting for the physical analysis, gathering data, and interpreting study results.

Steps in the physical analysis process include:

- Identifying components.
- Specifying quantities and features of components.
- Defining scope and methodology for on-site inspection of components.
- Determining useful life and documenting expected maintenance needs.
- Assessing remaining life and documenting expected replacement year.
- Determining cost of replacement.

For each association, the exact list of major common area components is unique. Although lists from other associations or industry publications may serve as a general guide, they require careful

modification, as using an inaccurate or incomplete list of components can materially distort the association's long-term funding plan.

Developing a component list

Unfortunately, there is often no single document with a comprehensive list of components for a specific association. The exact number and items that should be included depends upon the physical characteristics of the community and legal division of responsibility among the homeowners, the association, and the local government. While it is not an easy task to include and identify all components, it is essential that the association have an accurate list of all items that require a budget for repair or replacement.

Data may be pulled from a number of sources, including the association's CC&Rs, construction plans, developers reserve budget, and/or documentation from utility companies or local government, or site analysis, among other possibilities. The association's CC&Rs and condominium plans generally describe the common areas of the development, and can be used as a starting point for providing a list of components to include in the reserve study. Most CC&Rs classify internal or external components of each unit and specify how individual and association responsibilities divide.

In a formally defined condominium, the unit owned by the individual homeowner consists only of the air space within the common walls, although owners are generally responsible for the paint and non-structural fixtures inside, as well as the external doors, door hardware, windows, patios, balconies, and similar items. In some developments, however, owners are additionally responsible for some portion of the maintenance on the exterior and structure of their individual units.

The developer budget should list components that the builder identified while planning the project. Such items as streets, roofs, exterior paint, and recreation areas are usually included in the developer's original reserve budget. Many associations find that sometimes an existing item, such as a sidewalk or set of balconies, has not been mentioned in either the CC&Rs or the developer budget. A site analysis by knowledgeable persons should result in a comprehensive list of reserve items for which the association is, or might be, responsible.

Local governments and utility companies can often help define common area components by stating where their responsibility ends and that of the association begins. For example, the developer budget and the CC&Rs may be unclear about whether the sidewalks along the edge of a development belong to the association or the city. If the former, these sidewalks are components which, at some point in time, should be included in the reserve budget; if the latter, the association need not budget for their repair or replacement.

Criteria for components

Management should establish criteria for determining common area major components. Many professionals suggest that items be placed on the list of components for the reserve budget if:

- The item is the responsibility of the association to maintain or replace, rather than the responsibility of the individual homeowners.
- The item costs over a certain amount (to be determined by management) to replace. One possible guideline is to include items that cost 1% or more of the total annual association budget.
- The estimated useful life of the item is greater than one year, and the estimated useful life of the item is less than 30 years at the time of the study.

Another possible guideline is to include items that cost over a certain dollar amount (over \$500 or over \$1,000, for example) to replace, including groups of related items (e.g., all gates in the development) that cost over a specified dollar amount to replace, with the dollar amount or percentage determined by management. Items costing less than the specified amount may be included in the annual operating budget, rather than funded through the reserve budget.

Using the following checklist will help to ensure these common association components are included:

- ___ Awnings and other overhead coverings.
- ___ Balconies (see also decks).
- ___ Benches.
- ___ Boilers.
- ___ Decks, pool and spa.
- ___ Decks, residential.
- ___ Elevator, cab.
- ___ Elevator, hydraulic, traction, etc.
- ___ Equipment, cleaning and maintenance.
- ___ Equipment, communication and telephone.
- ___ Equipment, entertainment, music/video systems.
- ___ Equipment, exercise, recreational, etc.
- ___ Equipment, office.
- ___ Equipment, pool, pumps, motors and filters.
- ___ Fences, chain link, wood, etc.
- ___ Floor covering, carpet, tile, vinyl, etc.
- ___ Floor covering, wood replacement and refinishing.
- ___ Furnishings, lobby, clubhouse, etc.
- ___ Gates, iron, wood, etc.
- ___ HVAC, air conditioning.
- ___ HVAC, heating systems.
- ___ Light fixtures, exterior.
- ___ Light fixtures, interior.
- ___ Paint and stain, exterior.
- ___ Paint and stain, interior common area.
- ___ Paving.
- ___ Retaining wall.
- ___ Roof.
- ___ Siding and trim.
- ___ Solar heating system, pool and spa.
- ___ Solar heating system, residential.
- ___ Spas.
- ___ Streets and drives.
- ___ Swimming pools.
- ___ Tennis courts, resurfacing.
- ___ Vehicles.
- ___ Water heaters.

CAM should use the following checklist to ensure these frequently overlooked common area components are included:

- ___ Alarm systems, fire and intrusion.
- ___ Antennas, satellite dish and other.
- ___ Asbestos encapsulation or removal.
- ___ Display cases.
- ___ Docks.
- ___ Drainage systems.
- ___ Electrical transformers.
- ___ Electrical wiring and related fixtures in common area.
- ___ Fans, exhaust, garage, and other.
- ___ Fire sprinklers and related equipment.
- ___ Fountains.
- ___ Garage doors and hardware.
- ___ Garbage enclosures.
- ___ Gutters and downspouts.
- ___ Irrigation system, controllers.
- ___ Irrigation system, piping, valves, and sprinkler heads.
- ___ Kiosks and message/communication centers.
- ___ Lakes, ponds, and waterways.
- ___ Landscaping, replacement of major trees and plants.
- ___ Mailboxes and centers.
- ___ Monitoring system, carbon monoxide.
- ___ Planter boxes.
- ___ Plumbing fixtures, exterior.
- ___ Plumbing, water piping system.
- ___ Posts, decks, lamps, etc.

- ___ Pumps, lakes, ponds, and waterways.
- ___ Racquetball courts.
- ___ Security gates, gate operator and motor.
- ___ Septic tanks.
- ___ Sewage ejector equipment.
- ___ Skylights.
- ___ Slopes.
- ___ Stables and tack rooms.
- ___ Stairs.
- ___ Stucco, sandblasting and resurfacing.
- ___ Sump pump equipment.
- ___ Trellises.
- ___ Ventilation systems, garage.
- ___ Walkways, wood, brick, tile, etc.

Specifying the quantity of each component

Although existing maps and construction drawings of the development may serve as a guide to component quantities, a detailed site and building analysis is the best way to obtain an accurate count of these items. Some components (e.g., streets, roofs, fences) require quantity measured and provided in square or linear footage, while other items (e.g., utility room doors) may be adequately described by the total number and type. This information can be pulled from “as-built” drawings, if they exist. If not, accurate measurements should be documented. Any drawings filed when the development was started represent builder plans rather than the development as actually built. As such, they are useful but should be verified by physical inspection.

For components that are actually made up of a number of items, the nature and quantity of the constituent parts should be stated (e.g., the metal flashing for a shake roof as well as the square footage of shingles). It is common to neglect the “extra” pieces that are, in fact, necessary to the construction of such essential items as roofs, siding, and irrigation systems.

Once the number and constituent parts of each component are detailed, CAM must consider the quality and specifications of those parts. (Is the asphalt two inches thick or four inches? Is it a two-ply roof? What grade paint was used?) An accurate description of the materials is essential to proper reserves. While the association may wish to change the quality of the component at the time of replacement, this is a separate decision. If significant in dollar amount, quantities of the same type of component existing in very different conditions should be noted separately (e.g., the square footage of siding with western or southern exposure, as compared to the square footage with eastern or northern exposure).

Determining average useful life for each component

Useful life is typically defined as the number of years a component is expected to serve its intended purpose if given regular and proper maintenance. If the association fails to provide proper maintenance, such as dealing effectively with the presence of wood-destroying pests or organisms, for example, then it may become difficult to anticipate the useful life of components.

One estimate of useful life is the material manufacturer’s warranty. This estimate presumes (usually in the fine print of the warranty) that the product was actually installed with the purported quality of materials and according to the manufacturer’s specifications. (Some associations have found that their alleged “20-year roofs” were in fact

installed with other materials or with inferior workmanship, making the effective useful life shorter.) When no knowledgeable inspection is made of the materials and installation, the manufacturer’s warranty may not be an accurate description of the useful life of the component.

Estimates for useful life of major components can be found in commercially available manuals and statistical guides, as well as operating cost manuals, produced by real estate firms and government agencies, among other organizations. This published data may be misleading, however, as the location, exposure, or type of a particular component may not match. Useful life estimates vary considerably from manual to manual, so consulting more than one manual may minimize the risk of under- or over-estimating the life of a major component. In any case, the source(s) of component estimates should be identified and referenced so the sources can be found easily, if needed.

Paint weathers more rapidly in sunny climates and on surfaces with western or southern exposure, which can significantly reduce the years of useful life for exterior painting in Florida. The estimated life of a street or endurance of exterior surfaces in the state of Florida can vary enormously depending where the property is located (coastal, inland, island, etc.); and its specific exposure to wind, rain, sun, or storms. In using published estimates, managers must take any potential differences between the association’s component and the average case presented in the manual, and adjust accordingly.

Determining remaining life of each component

The remaining life is generally defined as the expected number of years a component will continue to serve its intended purpose prior to repair or replacement. If the development is new and the developer-prepared estimates are correct, the remaining life might be estimated simply by subtracting the age of the development from the useful life of each component. The older the components are, the less accurate this method will be.

Some of the factors that affect the estimate of remaining life of a component are the current age, apparent physical condition, and past maintenance record (or absence of maintenance). The current age of the component may be determined from association records. The apparent current condition must be determined through physical inspection by someone familiar with the component. Records of past maintenance must be compared with recommended maintenance in order to determine whether the item has been properly maintained or may wear out sooner than expected due to inadequate care.

CAM must assume a certain level of continued preventive maintenance when they are determining the remaining life of a component. They should state these maintenance assumptions explicitly so that proper maintenance can be continued throughout the component’s remaining life.

The remaining life of a component implicitly specifies the year in which it must be repaired or replaced. A budget timeline can be used to show the year of replacement for each component. This timeline can serve as a schedule for expected component replacements and can be updated or changed when the physical analysis is updated or as components last for shorter or longer periods than expected. Table 1: Determining the Replacement Schedule, shows the year of replacement for three components in a condominium complex that is five years old, as well as the information needed to determine the replacement year.

Table 1: Determining the Replacement Schedule

Component	Age in Years As of 12/31/2014	Estimated Useful Life	Estimated Remaining Life	Year to Replace
Painting	3	5	2	2016
Paving	4	7	3	2017
Roofing	11	15	4	2018

Determining the cost of replacement

The majority of professionals who perform reserve studies for homeowner associations use cost estimates drawn from their own personal experience as well as a company database. Replacement costs for some items can be obtained from manufacturers or their representatives, and others from local licensed contractors. In cases where an existing component would need removal, the cost of component replacement should also include any cost of removing or disposing of the original.

If using a manual, professionals must know the base year in which the manual's cost estimates were made. The current cost of replacement for association components is not the cost shown in the manual, but should be adjusted for inflation since the time the cost data were obtained. Cost estimates are generally comparable among manuals intended for the same geographic area, so there is less need to consult multiple manuals for cost estimates than for estimates of useful life, but caution is still the rule. It is essential to know the specific geographic area for which the manual offers a cost average. If the manual has national averages, it may underestimate or overestimate the cost of labor in many parts of Florida. If the manual has statewide or national averages, it may underestimate the cost of labor in urban areas by a significant factor.

Cost estimates derived from different data sources may vary significantly from estimates based on manuals alone. Associations that perform their own studies or collect supporting data for their manual cost estimates should refer to as many other sources, such as contractors, suppliers, etc., as possible. This collection of data, taken together with reliable inspection results, generally provides a sound final determination of replacement cost.

Documenting maintenance assumptions

An important adjunct to determining the useful life and remaining life of a component is to document the type and schedule of maintenance that is assumed for the component to survive that life. For example, if the 20-year life expectancy of a roof is based upon an annual cleaning of the roof and gutters, the association will be able to take action to help ensure that all the roofs will indeed last. Documentation of maintenance assumptions can lead to improved maintenance throughout the project, and thus, to lower costs of replacement. Ignoring maintenance assumptions, or improper maintenance, will put the replacement schedule and cost estimates in jeopardy.

The physical analysis is completed once the charts of replacement schedule and future replacement costs are done. Before moving on to the funding analysis, CAM should review the information and confirm completion using the following checklist.

Physical analysis checklist

This list summarizes essential tasks and objectives completed in the physical analysis:

Deciding which components to include:

- Relevant components mentioned in the developer budget have been reviewed.
- Components mentioned in the CC&Rs have been reviewed.
- An on-site inspection for possible additional components has been made.
- Relevant personnel have discussed and determined a policy stating a position on life-of-the-building, exclusive-use, and quasi-structural components.
- The list was communicated to the preparer of the physical analysis, and in the pro forma operating budget, to the homeowners.

Specifying quantities of each component:

- As-built drawings have been consulted, if possible.
- An on-site inspection of each component and an on-site count of each type of component have been made.
- The quality of each component has been determined and expressed in terms that identify a specific grade of material.

Determining the useful life of each component:

- Manufacturer warranties have been consulted whenever possible.
- Environmental factors that might affect useful life have been taken into account.
- Installation and materials have been determined to be consistent with each manufacturer's description; if not, an adjustment has been made to the remaining useful life estimated by the warranty or by the manuals.
- A standard manual has been consulted.
- Maintenance assumptions have been documented.

Assessing the remaining life of each component:

- An on-site inspection of each component has been made.
- Past maintenance has been taken into account.
- Individuals with knowledge of the components have participated in the assessment of remaining life.
- The association has determined what level of maintenance is expected to achieve the remaining life estimated.

Determining the cost of replacement:

- A standard costing manual and/or multiple vendors have been consulted about each component.
- If a manual is used, the "current" price of each component has been adjusted for the age of the data in the manual.
- If a manual is used, regional variations in price are taken into account.
- Cost of replacement includes cost of removing old component(s), if necessary.
- Adjustments have been made for grade or quality of materials or levels of maintenance of materials.

PART II: FUNDING ANALYSIS

The primary objectives of the funding analysis, also referred to as the financial analysis, are:

- Establishing funding goals.
- Identifying annual funding requirements.
- Disclosing limitations and assumptions.

The following steps are designed to meet these objectives. One of the first steps requires at least partial completion of the physical analysis portion of the reserve study, because component information will be used in the calculation of funding plan estimates.

- Develop a funding plan using findings from the physical analysis.
- Determine the funding goal of replacement reserves.
- Calculate replacement fund liability.
- Identify reserve account assets (cash balance).

- Estimate annual association reserve fund income from regular assessments.
- Estimate expenditures and reserve fund needs from regular and special assessments.
- Prepare statement of limitations and assumptions.
- Prepare the reserve study portion of the pro forma operating budget.

Funding plan

The first step in a funding analysis is to develop a specific cash flow forecast or projection, known as a funding plan, to estimate future reserve cash receipts and disbursements. This requires that the association have reliable values for estimated useful life, estimated remaining life, and estimated current replacement costs for each association component, according to estimates from the physical analysis. The primary goal of funding plan preparation is to determine if funds collected through current

assessments are sufficient to meet or exceed projected financial needs. If not, special assessments are necessary. This information is typically presented in a spreadsheet format, using the most accurate financial estimates available; all supporting assumptions and methodology should be carefully documented.

Once the association determines these variables, it can begin to develop a funding plan that specifies future reserve cash needs and develop a plan for funding the reserve account. While there is no legal requirement for the association to maintain or show funding reserves for all projected replacement costs, it is in the best financial interest to do so; an association's fiscal viability relies heavily on the ability of the association to replace components as they deteriorate, as well as promptly address maintenance concerns.

The funding goal

The pro forma operating budget should clearly indicate estimated revenues and expenses, describe the funding goal, and indicate current status in meeting the goal. Revenues and expenses are typically estimated on an accrual basis. The funding plan should show (1) the funds required to replace each component as it comes to the end of its useful life, and (2) indicate how the association will fund the replacements.

Many associations are underfunded in reserves, due to financial hardship, lack of attention to the budget, or underestimation of replacement costs. Ideally, associations should eliminate any underfunded reserves by increasing the reserve fund to a point where the amount of cash in the replacement reserve account is at least equal to the estimated value of accumulated wear of all major components. For many associations, this amount is not within reach in the short run, except through special assessments.

In developing the funding plan and the reserve study portion of the pro forma operating budget, the association leadership will be responsible for weighty policy decisions that affect all community members. Association members need to be alerted of these pending decisions and their consequences in fees, services, and investment value. Any new funding decision and its implications should be presented and discussed with owners. Their understanding and approval is key, because higher regular assessments or a need for special assessments have immediate and significant effects, increasing owners' costs and property values. Explanations should show, with examples, how each decision would contribute to a long-term funding plan. Professionals provide helpful advice in particularly complicated situations.

The association must decide:

- How much money should be raised through regular assessments for the reserve account each year.
- How much money should be raised by special assessment, if any.
- How much cash should remain in the reserve account at the end of the planning period relative to the projected balance needed at that date.

Funding models

Associations fund reserves at different levels depending on many financial factors. Calculations are typically based on one of the following:

- Fully Funded Model—Sets a reserve funding goal requiring reserves at or near 100%.
- Threshold Funded Model—Sets a reserve funding goal requiring the reserve balance to be above a specified threshold.
- Baseline, or Minimum Funded Model—Sets a reserve funding goal in the overall reserve funding projection that requires the reserve cash balance at the end of each year to be at or above \$0.

Community associations use a variety of funding models: The default for many associations today is the Unfunded and Special Assessment Model. This option does not require the existence of reserve balances to cover expected replacement costs. Instead, when funds are needed, these associations rely on special assessments to cover the costs of maintenance, repair, or replacement. This model carries significant risk for the financial viability of the association if assessments cannot be raised when needed. These unexpected costs put significant financial

stress on community association owners, many of whom likely chose association living to minimize expenses.

Another common option is the Mixed Model, which uses a combination of regular assessments and planned special assessments to meet cash needs for replacement. This model is preferable for many reasons, not the least of which is the indication of greater fiscal stability signaled by an association meeting its cash needs through regular (instead of special) assessments.

The amount assessed from each individual owner varies according to the funding goal or strategy and degree to which the association funds its reserves. An association should use the model that provides the most stability by reducing or eliminating its reserve deficit. Association management has a responsibility to document any consideration and choice of a funding strategy, and make details of the plan available to owners. This information is presented in the reserve study portion of the pro forma operating budget. A clear presentation of the pertinent financial information enables owners and buyers to more accurately anticipate potential costs and fees in the future. Similarly, insufficient reserve funds should be reflected in the form of lower unit prices; if an association shows a \$5,000 unfunded reserve deficit per unit, the sales price should be adjusted accordingly.

The ideal funding mechanism for building the replacement reserve account is the regular (usually monthly) assessments paid by association members. A specific dollar amount of regular association payments should be earmarked for reserves and deposited into the reserve account as soon as collected. Financing of replacement reserves from regular assessments is the most desirable option, as it distributes the responsibility for replacing major components over a longer period and greater number of owners, rather than allocating the bulk of the costs to owners who are unlucky enough to reside at the association during the year an expensive item needs replacement. Owners can benefit not only from the equitable distribution of aging components costs but also from access to more accurate information regarding property costs.

Income from regular assessments should be calculated for each year, based on the number of units and the level of assessment per unit. In associations with several rates for different types or sizes of units, the expected income should be calculated for each class of unit and then added. Assessment increases, if any, should be estimated by year. Some association boards have the authority to increase the regular annual assessment a certain percentage without membership approval. While this allows an association to "catch up" with reserve deficits over some period of years, it is strongly discouraged, as any decision to increase assessments should be carefully deliberated, with any thoughts or considerations of increasing assessments disclosed in the pro forma operating budget.

Reserve studies require annual disclosure of estimated revenue and expenses, calculated on an accrual basis. In the case of revenues, this estimate includes regular and special assessments, as well as the after-tax interest income earned on accumulated cash reserves. Expenses can be accrued by dividing the eventual replacement cost of each component over its total useful life, or obtaining an estimate of annual component wear. A component currently valued at \$10,000, with a useful life of 10 years, for example, would have an annual wear estimate, or annual provision for the replacement fund, of \$1,000. By year five, assuming no inflation, this component would have accrued a liability of \$5,000. A "fully funded" association would expect this \$5,000 to be back in the reserve account by the end of the fifth year.

Calculating the reserve deficit

Either of the two following formulas (see Tables 2A and 2B) can be used to calculate the required estimated reserves for components, and/or any deficit or shortage in the reserve fund, depending on the association's needs. Table 2A, Calculating a Reserve Deficit, presents the current unfunded portion of the estimated value of accumulated wear of all major components using the same values seen earlier in

Table 1. In this case, the 35-unit association will have an estimated \$22,000 in its reserve account at the beginning of the upcoming fiscal year. Given its liability of \$36,000 for the three components for which it is responsible, this association has a reserve deficit of \$14,000, or

a total of \$400 per unit. This formula [Reserve Deficit = Desired Balance - Cash Reserves] is appealing in its simplicity, but can easily provide misleading results, as it does not incorporate the effects of interest and inflation, which can be substantial.

Table 2A: Calculating a Reserve Deficit				
Component Replacement	Current Cost	Useful Life	Effective Age	Desired Balance
Painting	\$10,000	5	3	\$6,000
Paving	\$14,000	7	4	\$8,000
Roofing	\$30,000	15	11	\$22,000
Total Desired Balance (current)				\$36,000
Estimated Cash Reserves (current)				\$22,000
Reserve Deficit (current)				\$14,000
Reserve Deficit per unit (\$14,000 ÷ 35 units)				\$400
Percentage of Funding				61%

Table 2B presents a formula likely to be more accurate in predicting the reserve deficit amount, particularly if the estimated interest and inflation rates used in the calculation are reliable. Use of one over the other calculation may not be material unless an association is paying for a

number of major common components. Any errors or omissions, such as failure to include accurate interest and inflation rates in formulas, however, can produce misleading results, underestimating deficits or overestimating the capabilities of reserve funds to address association needs.

$$\text{Desired Balance} = \left(\frac{\text{Current Cost}}{\text{Useful Life}} \times \text{Effective Age} \right) + \left(\frac{\frac{\text{Current Cost}}{\text{Useful Life}} \times \text{Effective Age}}{(1 + \text{Interest Rate})^{\text{Remaining Life}}} \right) - \left(\frac{\frac{\text{Current Cost}}{\text{Useful Life}} \times \text{Effective Age}}{(1 + \text{Inflation Rate})^{\text{Remaining Life}}} \right)$$

Using the formula for each component yields the following results:

Table 2B: Calculating a Reserve Deficit ^[6]				
Component Replacement	Current Cost	Useful Life	Effective Age	Desired Balanc
Painting	\$10,000	5	3	\$5,787
Paving	\$14,000	7	4	\$7,590
Roofing	\$30,000	15	11	\$20,553
Total Desired Balance (current)				\$33,930
Estimated Cash Reserves (current)				\$22,000
Reserve Deficit (current)				\$11,930
Reserve Deficit per unit (\$14,000 ÷ 35 units)				\$340
Percentage of Funding				65%

Projecting funding needs

The physical analysis provides the estimates for anticipated expenditures by year for each component. Adding these component requirements together by year provides an estimate of needed funds over time. Any estimates may be based on inaccurate assumptions. Association members should be made aware of the limitations of expenditure forecasting and the knowledge that a funding plan is only as good as its initial estimates of replacement costs and the timing of replacement needs.

Another important policy decision is whether calculations will use current costs or estimated future costs. Use of an inflation rate will generally result in higher estimates of future costs. The annual cost for each component is calculated by dividing the unfunded replacement cost by the remaining useful life. If current costs are used, the plan must be revised annually using updated current replacement costs plus

currently required or anticipated expenditures. (Note: This approach is valid only if repeated each year.) To incorporate an inflation rate, an average annual long-term cost inflation rate is applied to all components, from the time of the study until the year of replacement (based on recent average component cost data). To keep this plan current, it is important to annually review and update projected expenditures, inflation factors, and any other assumptions. (Note: This approach too, is valid only if repeated each year.)

There are a number of ways to find an inflation rate for estimating component costs in future years. Some reliable sources for inflation factors in Florida are the U.S. Bureau of Labor Statistics Consumer Price Index, the State Allocation Board, certain construction companies specializing in cost estimates, and reports by private research organizations. Determining an interest rate that will project accurate

future costs is a policy decision that warrants careful review, and one that must be disclosed in the funding analysis. To increase the accuracy of future cost predictions, current cost and inflation rate values should be reviewed annually, with projections adjusted as necessary.

Table 3: Determining the Future Cost of Replacement, shows the calculation of future replacement costs for the same items that were

Table 3: Determining the Future Cost of Replacement					
Component	Quantity & Units	Unit Cost	Current Cost to Replace (2014)	Year to Replace	Future Cost to Replace
Painting, exterior stucco	15,875 sq. ft.	0.63	\$10,000	2016	\$10,941
Paving, slurry coat	35,000 sq. ft.	0.40	\$14,000	2017	\$16,022
Roofing, wood shingle	10,715 sq. ft.	2.80	\$30,000	2018	\$35,913

Interest earnings

Income from the reserve and operating accounts is taxable to an association, even if the association is established as a non-profit organization. Reserve funds deposited in certificates of deposit (CD) or money market accounts will generate interest income to increase the reserves, so it is necessary to establish an interest rate estimate for forecasting purposes. Estimates, which must take applicable federal and state taxes into account, can be pegged to current bank or CD rates or derived by other means. Obviously, a lower rate is more conservative than a higher rate. While difficult to predict future component cost increases or interest earned on reserve cash balances, estimates will be more accurate using funding analysis data that is updated each year. This is particularly true for associations that rely on special assessments.

Components requiring replacement in the future will draw against reserve funds. Ideally, the initial reserve account, augmented by regular contributions from routine homeowner assessment payments, provides enough of a financial cushion to pay for replacements as they are needed. In some cases, the reserve accounts will not be enough, and the cash flow analysis will identify instances where expenditure projections for a given year exceed projected reserve cash balances. In these cases, additional funds from special assessments (or other sources, if any) would be needed to increase the reserve accounts to desired levels.

Some replacement expenses will be almost impossible to predict or estimate in cases of unexpected breakage or destruction, failure in a life-of-project (LOP) system, or reduced useful life of a component for various reasons. Establishing a line item in the cost estimates as a contingency provides some security. A new association might limit this amount to 3-5% of the first-year budget, while a conversion or older association with minimal physical and financial documentation might require higher contingency levels if there is uncertainty the current condition of components.

listed in Table 2, projected forward from 2014. For each item, the years of inflation shown in Table 3 have been determined from the year of replacement shown in Table 1. In a real situation, it may be necessary to add additional years of inflation in order to account for old pricing information. In the example shown here, it is assumed that the pricing information on all components is up-to-date.

Reviewing prior year spending for contingency-type replacements or continuing repairs is one of the best ways to establish estimates for contingency funding in ongoing associations. Funds for any routine work completed annually on underground utilities, for example, should be budgeted into the estimate, as should any other expected annual expenses.

Table 4 summarizes these income and cost concepts in a spreadsheet that shows the results of the funding analysis, using the same components listed in Tables 1, 2, and 3. The rows in the spreadsheet show individual component costs and association income sources. The columns show the years included in the funding analysis. This case assumes (1) a funding plan period of 30 years, and (2) a mixed model using regular and special assessments to maintain a positive cash balance. Because the model is not fully funded, inflation factors are employed based on the method described under the section, Funding Goal.

The funding analysis should include a Statement of Limitations and Assumptions assessing the risk of reduced accuracy or reliability in the financial information due to possible errors or omissions, or the model upon which the estimates are based. The funding analysis is revised annually, concurrently with preparation of the operating budget, providing the opportunity to make any necessary adjustments within the original planning period. Assumptions in the reserve study for remaining life and cost of components should be reviewed and revised as necessary. If the original data and estimates are sound, updating will be less laborious and frequent.

Accurate, reliable data is a function of many factors, including the quality of original findings and estimates, the skill and recommendations of the preparer(s), the association's ability to maintain its components adequately, and the requirements of any state law or civil code. When both the physical and funding analyses are complete, the reserve study is done. This information is presented in the annual association pro forma operating budget, along with the funding plan and a statement of methods used to construct estimates.

Statements of disclosure, assumptions, and limitations [7]

The reserve study report includes:

- A Statement of Limitations and Assumptions, containing:
 - Description of the assumptions on which the estimated interest and inflation rates, taxes, and other external factors, are based.
 - Explanation that the validity and reliability of current data is dependent on the accuracy of prior reserve study findings, to the extent that it informed the current study.
 - Any other assumptions or limitations that potentially affect the findings.

A Statement of Disclosure, containing:

- Information regarding any individual or group associated with the reserve study that could result in actual or perceived conflicts of interest.
- Discussion of material issues which, if not disclosed, would present an inaccurate portrayal of the association's current financial status.
- Detailed description of the on-site inspection and methodology used in the physical analysis.
- Detailed description of the reserve study professional's qualifications.
- Assurance that the financial, physical, and historical information provided by the association's official representative is reliable.

Table 4: Funding study: Estimated cash requirements by year

[30-year plan with values for each of the three components at 1-5, 15, and 30 years]

Cash Flow Forecasts	End of Year 0	End of Year 1	End of Year 2	End of Year 3	End of Year 4	End of Year 5	End of Year 15	End of Year 30
Assessments, regular		\$1,500	\$1,800	\$2,160	\$2,592	\$3,110	\$10,906	\$30,515
Assessments, special		\$0	\$0	\$0	\$30,000	\$0	\$0	\$0
After-tax interest reserve account income, @ 5.775%		\$1,271	\$1,430	\$1,013	\$312	\$229	\$1,519	\$6,482
Total cash receipts		\$2,771	\$3,230	\$3,173	\$32,904	\$3,339	\$12,426	\$36,997
Major component costs (from total above)		\$0	\$10,460	\$15,318	\$34,333	\$0	\$0	\$0
Cash receipts – cash disbursements		\$2,771	(\$7,230)	(\$12,145)	(\$1,430)	\$3,339	\$12,426	\$36,997
Cash balance, beginning of year		\$22,000	\$24,771	\$17,541	\$5,396	\$3,967	\$26,311	\$112,241
Cash balance, end of year	\$22,000	\$24,771	\$17,541	\$5,396	\$3,967	\$7,306	\$38,737	\$149,238

Major Component	Estimated Useful Life	Estimated Remaining Life	Estimated Current Cost to Replace	End of Year 0	End of Year 1	End of Year 2	End of Year 3	End of Year 4	End of Year 5	End of Year 15	End of Year 30
Painting	5	2	\$10,000			\$10,000					
Paving	7	3	\$14,000				\$14,000				
Roofing	15	4	\$30,000					\$30,000			
Total Costs			\$54,000			\$10,000	\$14,000	\$30,000	\$0	\$0	\$0
Component cost increase factor @ 4.6% per annum					1.00	1.046	1.094	1.144	1.197	1.877	3.685
Estimated replacement cost, in scheduled year (apply cost factor to total replacement costs)				\$0	\$10,460	\$15,318	\$34,333	\$0	\$0	\$0	\$0

Summary	End of Year 0	End of Year 1	End of Year 2	End of Year 3	End of Year 4	End of Year 5	End of Year 15	End of Year 30
Estimated liability (total from next page)	\$36,000	\$43,932	\$52,518	\$50,461	\$43,095	\$15,026	\$74,602	\$154,173
Less cash balance	\$22,000	\$24,771	\$17,541	\$5,396	\$3,967	\$7,306	\$38,737	\$149,238
Estimated unfunded liability	\$14,000	\$19,162	\$34,977	\$45,065	\$39,128	\$7,720	\$35,865	\$4,935
Estimated unfunded liability per unit (35 units)	\$400	\$547	\$999	\$1,288	\$1,118	\$221	\$1,025	\$141

Table 4: Funding study: Computation of major component liability by year

(30-year plan – 3 components; values shown here for years 1-5, 15, and 30 only)

Major Component Replacement Liability	End of Year 0	End of Year 1	End of Year 2	End of Year 3	End of Year 4	End of Year 5	End of Year 15	End of Year 30
Painting Useful life	5	5	5	5	5	5	5	5
Remaining life	2	1	0	4	3	2	2	2
Replacement cost	\$10,000	\$10,460	\$10,941	\$11,971	\$11,971	\$12,522	\$19,632	\$38,543
Liability	\$6,000	\$8,368	\$10,941	\$2,394	\$4,788	\$7,513	\$11,779	\$23,126
Paving Useful life	7	7	7	7	7	7	7	7
Remaining life	3	2	1	0	6	5	2	1
Replacement cost	\$14,000	\$14,644	\$15,318	\$16,022	\$16,759	\$17,530	\$27,485	\$53,961
Liability	\$8,000	\$10,460	\$13,130	\$16,022	\$2,394	\$5,009	\$19,632	\$46,252
Roofing Useful life	15	15	15	15	15	15	15	15
Remaining life	4	3	2	1	0	14	4	4
Replacement cost	\$30,000	\$31,380	\$32,823	\$34,333	\$35,913	\$37,564	\$58,897	\$115,630
Liability	\$22,000	\$25,104	\$28,447	\$32,044	\$35,913	\$2,504	\$43,191	\$84,795

Funding analysis checklist

This checklist summarizes the major steps in developing the funding analysis:

Funding goal:

___ The association's funding goal for reserve replacement is clearly specified.

Pro forma operating budget should include the following:

- ___ Estimated revenue and expenses calculated on an accrual basis.
- ___ Total cash reserves currently set aside.
- ___ Funds set aside for reserves in a separate account(s).
- ___ Estimated remaining life of all major components.
- ___ Estimated current replacement cost of all major components.
- ___ Methods used to fund for future repair, replacement, or additions.
- ___ A statement on methods used to develop estimates and a funding plan.
- ___ The pro forma operating budget is distributed 45-60 days prior to the start of the association's next fiscal year.

Association income and expense estimates:

- ___ An appropriate component inflation factor has been used to estimate replacement costs in the future.
- ___ The interest rate applied to association cash reserves is reasonable.
- ___ The interest rate applied to association cash reserves is an after-tax estimate.
- ___ Necessary special assessments are clearly identified.
- ___ Assumptions about increases in the portion of regular assessments allocated to reserves are clearly specified.
- ___ Income and expenditures are shown annually for the plan period.

Association cash balances:

- ___ With reserve assessments, the cash balance (assets - planned reserve expenditures) is greater than zero in every year.
- ___ The reserve deficit is estimated for the current year.
- ___ The model shows a stable or decreasing reserve deficit (in constant dollars) over the plan period.

PART III—HIRING A RESERVE STUDY PROFESSIONAL

Association personnel may be capable of performing many of the tasks required for a reserve study, but should always hire an independent consultant or firm to direct it. Association leadership can (and should) designate knowledgeable association members and employees to assist the consultant by organizing needed materials and information.

Before there is any move to hire a consultant, the association should:

- Identify and distinguish among common area components, exclusive-use components, quasi-structural components, and life-of-project components.
- Establish the interest rate for estimating income earned on reserve balances.
- Establish a proposed funding goal for the reserve study, including the degree to which reserves are to be funded by annual assessments, and the need for special assessments.

The association should also provide, to the best of its ability, the following information on the components and the association's financial situation.

A list and detailed definition of the major components.

- A statement of board policy about major components for which it is not requesting an estimate of replacement costs.
- Any information on condition of the major components, including maintenance records.
- Directions about any desired changes or additions (new items) in the major components.
- Copy of as-built construction drawings, if they exist.
- Maintenance records, component warranties, or other documentation.
- Estimated replacement cash balance at beginning of next (nearest) fiscal year.
- A copy of current (and/or proposed) association budget(s).
- A copy of the final physical analysis report, if already prepared.
- Projected reserve expenses prior to year-end.

These policy decisions may require input from many parties—members of the board, management personnel, unit owners, and others. Those in the highest levels of authority are accountable for the quality of the study and utility of the findings. To ensure its value, association leadership must specify tasks and goals with as much detail as possible, develop an appropriate budget for professional assistance, and identify the skills and expertise necessary to find the right candidate and narrow the field when reviewing applications.

Interview guide

One possible way to find professionals to contact for performing reserve studies is through other community associations. Other sources of names are organizations of CAM and related professionals.

Some of the most common physical analysis tasks performed by consultants are:

- Quantification of components.
- Documentation of maintenance assumptions and recommendations.
- Identification of useful life and remaining life of components, and replacement year.
- Estimation of replacement cost in current and future dollars.

Some of the most common funding analysis tasks performed by consultants are:

- Spreadsheet modeling of reserve funding.
- Development of solution(s) that meet funding goals of the association.
- Calculation of cash balance of reserve account by year.
- Estimation and explanation of reserve deficit.
- Recommendation of needed increases in reserve portion of assessment.
- Recommendation of needed special assessments and timing of assessments.
- Preparation of statement of limitations and assumptions of reserve analysis.
- Preparation of reserve study information for the pro forma operating budget.

Association leadership must ensure that those performing the work have the appropriate estimating and accounting skills to make the reserve study a worthwhile venture. The type of assistance needed depends upon the nature of the product(s) desired, the budget, and the expertise available to the association leadership. In deciding whether to hire outside help or perform the tasks internally, the board should be aware that its members are ultimately responsible for the validity of reserve study disclosures, and consider their potential legal liability if the study does not meet the statutory information requirements.

Once the tasks are determined, association leadership must select the combination of consultants or contractors, if any, capable of performing all or part of the work. The association may, for example, hire an independent engineering, appraisal, or construction cost-estimating firm to perform the physical analysis, and an independent accountant experienced with community associations, for the funding analysis and pro forma operating budget; or outsource the entire project to a company that specializes in community association reserve studies, and use the personnel they recommend or employ.

CAM may also want to talk with people who have worked with any firm or consultant under consideration and to examine samples of related work.

The association and the contractor should mutually understand what is required of each. The interview guides below provide a partial list of questions the association representative should ask a reserve study preparer as part of the interview process and the information the board should provide. These questions might be used in interviews with potential consultants, or used in a written Request for Proposal (RFP), along with clear specifications for the performance of work-related tasks. Answers to these questions, as well as price, should help in the selection of any needed professionals.

These guides separate the physical analysis and funding analysis questions, so interviews of professionals offering to perform both studies will require the interviewer to eliminate duplications.

Interview guide for physical analysis preparers:

1. Do you have any personal or professional link to this association? (NOTE: A link does not necessarily indicate a conflict of interest, but should be disclosed and considered.)
2. Do you have any personal or professional links to the developer? (NOTE: A link does not necessarily indicate a conflict of interest, but should be disclosed and considered.)
3. If hiring an individual or sole practitioner:
 - a. Do you do all the work yourself, or will you use subcontractors? (The association should approve all subcontractors.)
 - b. Are you a Professional Reserve Analyst (an Association of Reserve Analysts designation), a Reserve Specialist (a Community Associations Institute designation), or do you hold another professional designation?
 - c. What is your training (formal education and experience)?
4. If hiring a firm:
 - a. Will all work be done by employees of your firm?
 - b. How do you train your employees?
5. With what professional associations are you actively involved?
6. What experience have you had with performing component studies?
7. Where in the vicinity have you worked?
8. May we see an example of a similar project done for another association?
9. What information do you require from the association in order to start?
10. When will you begin the study?
11. Will you be measuring the components or using drawings?
12. Will you make a physical inspection of each component?
13. What percentage of components will you inspect?
14. How will you determine the cost of replacement?
15. What written sources will be used?
16. How long will it be before we have the final product?
17. Will the report provide the estimated useful life of each component?
18. Will the report provide the estimated remaining life of each component?
19. Will the report provide the current costs of repair or replacement for each component?

20. Will the report provide the future costs of repair or replacement for each component and/or the inflation rate to be applied to each component?
21. Will the report provide information on proper maintenance to help assure realization of the estimated remaining life of each component?
22. Will the report include images, diagrams, or video?
23. Do you have liability insurance?
24. Do you have workers' compensation insurance?
25. Please provide three references (name, phone, nature of work).
26. What is the cost for revisions and/or updates?

Interview guide for funding analysis preparers:

1. Do you have any personal or professional links to this association? (NOTE: A link does not necessarily indicate a conflict of interest, but should be disclosed and considered.)
2. Do you have any personal or professional link to the developer? (NOTE: A link does not necessarily indicate a conflict of interest, but should be disclosed and considered.)
3. If hiring an individual or sole practitioner:
 - a. Do you do all the work yourself, or will you use subcontractors? (The association should approve all subcontractors.)
 - b. Are you a Professional Reserve Analyst (an Association of Reserve Analysts designation), a Reserve Specialist (a Community Associations Institute designation), or do you hold another professional designations?
 - c. What is your training (formal education and experience)?
4. If hiring a firm:
 - a. Will all work be done by employees of your firm?
 - b. How do you train your employees?
5. With what professional associations are you actively involved?
6. What experience have you had with community association budgeting?
7. May we see an example of a completed funding analysis?
8. What information do you require from the association in order to start?
9. When will you begin the study?
10. When will we have the final product?
11. Will the report provide current and future estimated liability computations?
12. Will the report provide current and future estimated cash balances by year?
13. Will the report provide current and future repair and replacement costs?
14. Will the report present alternative funding plans?
15. Will the report provide a description of assumptions and methodology, a narrative funding plan, and a graphic depiction for easier board and member understanding?
16. Will the report tell how much of a monthly contribution is needed for the reserves?
17. Do you have professional liability insurance?
18. Please provide three references (name, phone, nature of work).

Reporting reserves in the operating budget

Documentation of replacement reserves is an important part of an association's annual pro forma operating budget. The reserve study portion should include all pertinent findings from the physical and financial analyses and any supporting text and exhibits, at a level of detail sufficient for long-term association financial planning. The pro forma operating budget must also disclose to homeowners and potential homeowners any pertinent information about reserve funding and obligations.

This information is prepared and distributed to community association members. Best practices dictate distributing the pro forma operating budget 30-90 days prior to the start of the association's next fiscal year and should, at minimum, include:

- Estimated revenue and expenses on the accrual basis of accounting.
- Identification of total cash reserves currently set aside.

- Estimated remaining life of major components.
- Estimated current replacement cost of major components.
- Amount of any award or settlement and the disposition of such funds, if applicable.
- Total cash reserves expressed as a percentage of the current replacement cost, and the current deficiency in reserve funding on a per-unit basis.
- Identification of funding methods for future repair, replacement, or additions to major components (including notification of any deferred repairs or replacements, anticipated special assessments, or certain outstanding loans to the association).
- Statement of methods used to develop estimates and funding plan.

Red flags

The pro forma budget is an important tool used to assess a community association's financial resilience and address any potential vulnerability in the budget. Any incomplete data is a "red flag," indicating potential problems, such as the following:

- No established list of major components.
- No policy to distinguish reserve expenditures from operating expenses.
- No clear funding goal stated.
- No physical analysis conducted.
- No funding analysis conducted.
- Remaining life and current replacement cost is not available for all major components.

- No assumptions regarding estimates of component longevity are mentioned or included in the reserve budgeting.
- No reserve study information in the pro forma budget.
- No documented maintenance schedule mentioned included in reserve budgeting.
- Listing of major components in the reserve study is differs from the common area components listed in the CC&Rs.
- No separate bank account(s) for reserve funds.

Immediate changes are necessary if:

- The reserve deficit is staying constant or increasing over time.
- Special assessments are required to fund major repairs.
- Current income from assessments does not equal or exceed dollar value of annual component wear.

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ENDNOTES

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RESERVE STUDY BASICS: CAM FINANCIAL MANAGEMENT

Final examination questions

Select the best answer for each question and mark your answers on the Final Examination Answer Sheet found on page 116 or complete your test online at CAMS.EliteCME.com.

46. The state of Florida requires community associations to designate an amount of reserve funds sufficient to cover any future projects that will cost more than \$8,000.
 True False
47. More states than ever now mandate some form of reserve funding for community associations, and/or require an association to conduct reserve studies at specific intervals.
 True False
48. A community association manager conducting his association's reserve study is violating an ethical responsibility to avoid any practice that is in actual or apparent conflict with the interests of the association.
 True False
49. According to Florida law, community associations are not obligated to provide a good faith estimate of the amount required annually to fully fund reserves.
 True False
50. Community associations are required to use the pooled method for calculating the good faith estimate included in the financial statements.
 True False
51. New associations should have a reserve study performed within one year of completing any significant construction.
 True False
52. "As-built" drawings, if available, are the best source of information for major components.
 True False
53. The association's CC&Rs and condominium plans can be used as a starting point for providing a list of components to include in the reserve study.
 True False
54. The first step in a funding analysis is to develop a specific cash flow forecast or projection, known as a funding plan.
 True False
55. Income from the reserve and operating accounts is not taxable to an association if it is established as a non-profit organization.
 True False