RESERVE STUDY GUIDELINES

STATE OF NEVADA
DEPARTMENT OF BUSINESS AND INDUSTRY
REAL ESTATE DIVISION
OFFICE OF THE OMBUDSMAN

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Introduction

The purpose of this booklet

This booklet is designed to help homeowners associations and other common-interest communities conduct reserve studies. A reserve study is a tool that allows such communities to estimate and provide for the funding necessary to repair or replace components of common areas as they wear out. Proper funding of reserve accounts help protect, maintain and enhance the value of common-interest communities, making them more desirable places in which to live. These guidelines have been developed as a collaborative effort by a number of industry professionals, as well as association board members, and Nevada Department of Real Estate managers.

This booklet contains six sections, three appendices and a glossary. Section I defines what a reserve study is, explains why one is necessary, discusses the legal requirements, and points out the advantages of a well-conducted study. Section II lays out the major steps necessary to conduct a thorough and high-quality reserve study. Sections III and IV go into further detail about the two most important components of a reserve study: the physical analysis and the funding analysis. Section V lists common deficiencies that can be addressed during the course of a reserve study. Section VI explores the option of hiring professional consultants to conduct a reserve study. The appendices list the most common components that should be included in a typical reserve study, and sources to consult for updated information on the inflation rate.

Each common-interest community includes its own unique features. Consequently, not all the suggestions in this booklet will apply to every community association. The information presented here should be used only as a guideline. We suggest that each association consult with its own attorney, accountant, or other advisors before proceeding with a reserve study.

Section I. Overview

1. Budgeting within a common-interest community

A common-interest community is a defined area of land and improvements, in which some of the property is owned in common and administered by an association composed of all the owners of individual parcels. Common-interest communities share both property and restrictions regarding use of the property.

Most of these communities are residential and are governed by *homeowners associations*, each of which is required by Nevada law to manage the property and compel observance of its rules and regulations. Each association is responsible for the maintenance of common areas, while individual owners are responsible for maintaining the structures and areas owned by them privately.

Every individual property owner within a common-interest community is a member of its homeowners association. Such an association is overseen by an elected Board of Directors. In many cases the association hires a management company to oversee most of the day-to-day operations.

Among its other duties, each Board of Directors must oversee its community's budget. Income from a typical community is derived from regular monthly assessments and special assessments. A community's shared expenses consist primarily of maintenance, repair, and replacement of facilities within the common area.

There are two principal components to the spending side of a common-interest community's budget. One of these components, the *operating budget*, is used for frequently recurring operating expenses, such as trash collection and routine maintenance of landscaping and pools. The other component, the *reserve budget*, is designated for recurring but less frequent (and often more costly) repair and replacement expenses, such as roof replacement and street resurfacing. A list of typical reserve budget components is provided in Appendix B.

For the operating budget, expenses are usually relatively level and predictable from one month to the next. Reserve expenditures, however, are more infrequent and variable. When they do occur, they can be very costly compared to normal monthly expenses. To pay these expenses, communities set up *reserve accounts* which, if properly designed, will pay for these major expenses without the need to levy costly special assessments on the individual owners.

2. Advantages of a reserve study

A periodic reserve study provides board members, owners and prospective owners with a means of anticipating upcoming major expenses and making sure that reserve accounts are adequately funded to meet such expenses. These studies permit associations to raise or lower periodic payments into the reserve

account to allow for changing circumstances within each community. *The most important goal of a reserve study is to calculate the monthly contributions required from each homeowner to provide adequate funds for reserve expenses*.

For potential buyers, understanding the reserve study is an important part of evaluating the value of property within a common-interest community. For association members, an adequately funded reserve account helps maintain property values by making funds available to replace aging components within the common areas. A good reserve study helps owners and potential buyers to form a more accurate and complete picture of a community's financial strength and market value. By requiring homeowners associations to address the long-term funding issue in detail, a reserve study also functions as a maintenance planning tool for a community.

3. Reference material

In addition to this handbook, the following documents contain information that can be useful for planning reserve studies and other activities necessary for the successful operation of community associations. They can be obtained from the issuing agencies, and in some cases are available on Internet websites.

Common Interest Communities in Nevada. State of Nevada, Research Division, Legislative Counsel Bureau, 2001.
http://www.leg.state.nv.us/lcb/research/library/CICBooklet.pdf

Common Interest Community Operating Cost Manual. State of Nevada, Department of Business and Industry, Real Estate Division, 2002 edition.

Handbook for Common-Interest Communities. State of Nevada, Department of Business and Industry, Real Estate Division, 2000 edition.

Operating Cost Manual for Homeowner Associations. State of California, Department of Real Estate, February 2000.
http://www.dre.ca.gov/pdf_docs/re8.pdf

Reserve Study Guidelines for Homeowner Association Budgets. State of California, Department of Real Estate, September 2000.
http://www.dre.ca.gov/pdf_docs/re25.pdf

Uniform Common-Interest Ownership Act. Nevada Revised Statutes, Chapter 116. http://www.leg.state.nv.us/NRS/NRS-116.html

4. Legal requirements for a reserve study

Nevada state law (NRS 116.31152) sets the legal requirements for reserve studies. This legislation, printed in its entirety below, is brief and largely self-explanatory. The "Commission" referred to in the legislation is the *Commission for Common-*

Interest Communities, which consists of five members appointed by the Governor.

Section 3 of the legislation (in italics, below) requires each association to submit the results of its reserve study to the Commission. These results should be submitted to the following address:

State of Nevada
Ombudsman for Common-Interest Communities
2501 E. Sahara Avenue, Suite 202
Las Vegas, NV 89104-4137
Telephone: (702) 486-4033

The legislation reads as follows:

1. The executive board of an association shall:

(a) Cause to be conducted at least once every 5 years, a study of the reserves required to repair, replace and restore the major components of the common elements;

(b) Review the results of that study at least annually to determine if those reserves are sufficient; and

(c) Make any adjustments it deems necessary to maintain the required reserves.

2. The study of the reserves required by subsection 1 must be conducted by a person who is qualified by training and experience to conduct such a study, including, without limitation, a member of the executive board, a unit's owner or a community manager who is so qualified. The study of the reserves must include, without limitation:

(a) A summary of an inspection of the major components of the common elements that the association is obligated to repair, replace or restore;

(b) An identification of the major components of the common elements that the association is obligated to repair, replace or restore which have a remaining useful life of less than 30 years;

(c) An estimate of the remaining useful life of each major component identified pursuant to paragraph (b);

(d) An estimate of the cost of repair, replacement or restoration of each major component identified pursuant to paragraph (b) during and at the end of its useful life; and

(e) An estimate of the total annual assessment that may be required to cover the cost of repairing, replacement or restoration of the major components identified pursuant to paragraph (b), after subtracting the reserves of the association as of the date of the study.

3. The results of the study of the reserves required by subsection 1 must be submitted to the Commission not later than 45 days after the date that the executive board of the association adopts the results of the study.

4. The Commission shall adopt by regulation the qualifications required for conducting the study of the reserves required by subsection 1.

5. If a common-interest community was developed as part of a planned unit development pursuant to chapter 278A of NRS and is subject to an agreement with a city or county to receive credit against the amount of the residential construction tax that is imposed pursuant to NRS 278.4983 and 278.4985, the association that is organized for the common-interest community may use the money from that credit for the repair, replacement or restoration of park facilities and related improvements if:

(a) The park facilities and related improvements are identified as major components of the common elements of the association; and

(b) The association is obligated to repair, replace or restore the park facilities and related improvements in accordance with the study of the reserves required by subsection 1.

Section II. Major Steps for a Reserve Study

There are five major steps involved in properly implementing a reserve study. This section will discuss how to go about each step. The two sections following this one will go into greater detail on ways to conduct two of the most important steps: a physical analysis and a funding analysis

Step 1: Identify the work products needed

Before formally proceeding with a reserve study, the association's Board of Directors should become knowledgeable regarding the elements that make up a reserve study. Board members who are unfamiliar with reserve studies will find it useful to examine studies that were previously prepared for other communities, perhaps by outside professional firms. Such studies typically include a physical analysis and a fiscal analysis, along with charts, tables, and other exhibits.

Step 2: Pass a resolution

The association's Board of Directors must next pass a resolution authorizing a reserve study. This resolution should spell out who will conduct the study; the estimated cost of the study (especially if done by an outside firm); the work that is to be performed in preparing the study; and the information that the study's final report should contain.

If the association chooses to hire an outside firm to assist in preparing the reserve study, some or all of the remaining steps will be performed by that firm.

Step 3: Develop a work plan

A work plan is a detailed "road map" of the tasks to be performed. It identifies the time frame covered by the reserve study, a budget for the money to be spent on performing the study, and the reports and other work products that should be delivered once the study has been completed.

There are varying opinions on the appropriate time frame for a reserve study. Many studies consider only items with a remaining useful life of more than one year. Nevada law requires that reserves be established for components with useful lives of 3 to 30 years. Building structures and foundations are usually not addressed in reserve studies, but included in such studies are any components that are likely to wear out before the buildings do. For example, the water in Las Vegas is extremely corrosive, and if the person preparing the reserve study sees deterioration in the pipes, he or she may recommend that these items be included.

If a community decides to hire an outside professional firm to conduct periodic reserve studies (which is preferable in most cases), the Board of Directors should budget an amount of money sufficient to fund such studies. Once the initial study

has been completed, later studies should cost less, as much of the information in the first study will be available for use in subsequent ones.

The Board of Directors may want to interview several firms before deciding which one will conduct the study. When doing so, the Board should pay particular attention to the structure and content of the reports that each company offers to provide. Such reports should be clear and understandable, and should fulfill all the legal requirements for a reserve study.

Step 4. Conduct the Physical Analysis and Funding Analysis

If good documentation is available, it will allow the study to proceed more quickly and with greater accuracy. Documents that would be helpful include the Declaration of Covenants, Conditions and Restrictions (abbreviated as CC&Rs), original drawings of the development, and a maintenance history (including cost) of common area components.

There are multiple steps to be followed for both the Physical Analysis and the Funding Analysis. These steps are detailed in the two sections that follow.

Step 5. Accept, disclose, and implement the results

Once the study has been completed to the Board's satisfaction, it should be disclosed to owners and prospective owners, and incorporated into the community's overall budget. If necessary, the monthly association assessments should be adjusted to reflect changes in the funding requirements for the reserve budget.

The results of a reserve study should be used in preparing the association's annual *pro forma* budget. This document is required to be distributed to all owners 30 to 60 days before the beginning of the association's next fiscal year. The *pro forma* budget is a planning tool that lays out projected expenses for the coming year, including long-term maintenance expenses that are intended to be paid out of the reserve account. It also reports on the current financial state of the reserve account. If the association is relying on a reserve study that was conducted in a previous year, any material changes that would affect that study's conclusions should be reflected in the current year's *pro forma* budget.

Section III. Conducting a physical analysis

1. Introduction

A physical analysis has three major objectives: to identify the major components that are the responsibility of the association (if this has not been done previously); to estimate the remaining useful life of these components; and to estimate the cost to replace them. The major steps in conducting a Physical Analysis are shown in Exhibit 3.1 at the end of this section.

Although a physical analysis can be performed by a member of the Board or a homeowner within the association, legal considerations may make it advisable to hire an outside firm to conduct this analysis. Board members can potentially be personally liable for major decisions that they make without reliance on professional advice. It is best for Board members to seek legal advice before undertaking such a project on their own.

2. Deciding which component types to include

The first step of a physical analysis is to take an inventory of the components that are the association's responsibility to maintain. If a previous reserve study has been done, the component list from that study can be used as a starting point. Even in that case, however, it is wise to verify the list from the previous study by conducting a physical inspection of the premises, especially if any significant alterations or upgrades to the common area have occurred since the previous reserve study was conducted.

If this is the community's first reserve study, further research will be necessary to make sure that it is clear which expenses are the responsibility of the association, and which are the responsibility of the individual owners. The division of these responsibilities varies from one community to another, and is usually specified in the association's CC&Rs, which are provided to each individual owner at the time of purchase.

For example, in a townhouse development, individual owners will typically be responsible for maintaining interior areas, doors, windows, patios and balconies, while associations will have responsibility for maintaining building exteriors (including periodic painting and roof repair), landscaping, sprinkler systems, swimming pools, clubhouses, and other common area amenities. In a condominium complex, the association will typically have more responsibilities and the individual owners correspondingly less than in a townhouse development. However, in planned developments containing detached homes, individual owners may be responsible for some of the exterior maintenance. Maintenance of streets and sidewalks will generally be the responsibility of either community associations or local governments.

Sometimes the CC&Rs do not fully document all the components within a community, making it unclear who is responsible for their maintenance. In such cases, the original developer's reserve budget may be able to resolve the issue by identifying the components that the builder designated as the community's responsibility when planning the project. Local governments and utility companies will usually be helpful in identifying their own areas of responsibility, which may be addressed in the plat maps on file in the County Recorder's office. If any issues still remain unresolved, the association may have to enlist help from an outside consultant or make the decisions itself.

Once an association has determined which components it is responsible for, it next must determine which of these components should be included in the reserve budget. The main criteria for such inclusion are cost and frequency of replacement. Any components with a useful life of one year or less should probably be included in the operating budget instead. At the other extreme, components not needing replacement within the next 30 years should be excluded, as it would be too early to begin saving for that purpose. In addition, components whose cost is below a certain threshold (such as $500 or 1% of the community's annual budget) might be better suited for the operating budget. The reason is that each item included in the reserve study must undergo a significant amount of analysis regarding its useful life, replacement cost, and the revenue flow necessary to meet this cost over time. Putting low-cost and frequently replaced items into the operating budget, perhaps under "miscellaneous maintenance costs," can save administrative overhead and decrease the time (and cost) of conducting the reserve study.

Appendix A provides a list of items that might be suitable for inclusion in a reserve budget. However, this list is not exhaustive, and should be used as a general guide only.

3. Specifying the Quantity of Each Component

Once the types of components have been determined, the next step is to establish the size, amount and quantity of each component that will be required. For this step, written documentation will be helpful, but (at least for the first reserve study) it must be supplemented with a careful on-site inspection.

Developer drawings can be helpful in identifying components to be included in the reserve study. However, drawings that were filed when the development was begun often do not accurately reflect the completed development, because changes to the specifications can occur as the development is being built. *As-built* drawings, if available, are more useful for this purpose.

Although existing maps and 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. An on-site inspection will reveal not only the size and quantity of the components, but also their quality.

For components such as streets, roofs, and fences, the square or linear footage must be measured in order to describe the quantity. For other items, such as sprinkler system components, it might be necessary to determine both the size and the quantity.

Some components, such as roofs and siding, are made up of multiple items. For such components, the nature and quantity of the constituent parts must be documented (such as the metal flashing for a shake roof as well as the square footage of shingles).

4. Determining the remaining useful life of each component

A component's useful life is the amount of time that it is designed to serve its intended purpose. Except in new communities, a reserve study should focus on each component's *remaining useful life,* or the amount of time left before it needs to be replaced.

Two methods can be used to arrive at a rough estimate of a component's remaining useful life. One is to take the amount of time left before the manufacturer's warranty expires. Another is to research professional estimates of a component's useful life, and subtract the amount of time that the component has been in service.[1] If published estimates are used, more than one manual should be consulted to avoid over-reliance on one author's estimates.

Exhibit 3.1. Sample Format for Replacement Schedule

Component	Age in Years (as of 7/1/2003)	Estimated Useful Life	Estimated Remaining Life	Year to Replace
Painting	3	5	2	2005
Paving (slurry coat)	4	7	3	2006
Roofing (wood shingle)	11	15	4	2007

(adapted from *Reserve Study Guidelines for Homeowner Association Budgets* , California Dept. of Real Estate)

Often, other factors must also be taken into consideration. The useful life of a component can be significantly shortened if it is not given proper maintenance. (Failure to properly install or maintain a component may also void the

[1] Some commercially available manuals contain estimates of useful life. Sources for these manuals include R.S. Means Company, Inc., F.W. Dodge, Lee Saylor, Inc., and Marshall & Swift.

manufacturer's warranty.) Use of inferior materials during construction can also reduce the expected life of components.

The current condition of a component can be evaluated by physical inspection by a knowledgeable person, and by comparing the maintenance history of that component with the manufacturer's recommendations. If the component has not received proper maintenance, it is important that a maintenance schedule be immediately established, so that the component's useful life is not shortened any further.

Variations in climate can affect the amount of wear and tear a component receives over a given time period, which in turn can lengthen or shorten its useful life. In certain cases, identical components in the same structure may wear out at different rates. For example, siding with a southern exposure may age more quickly than that with a northern exposure. A reserve study should take into account the variation in cost that will result from these differences.

An on-site inspection should take into consideration not only the size and quantity of the components, but also their quality. Issues of quality include considerations such the grade of paint and the thickness of roofs and asphalt streets. A difference in quality may greatly affect a the length of a component's useful life.

5. Determining the cost of replacement

There are three frequently used sources for obtaining information on replacement costs for components: manufacturers, cost estimate manuals, and professional reserve study consultants.

Manufacturers and their sales representatives are the best source for current pricing information on components. In addition to the price of the component, however, reserve studies must also take into account the labor cost of removing old components and replacing them with new ones.

Cost estimating manuals with general pricing information can be obtained from companies such as R.S. Means Company, Inc., F.W. Dodge, Lee Saylor, Inc., and Marshall & Swift. Many of these manuals use national averages to compute their published costs, so a reserve study must take into account regional and local variations in labor costs. Also, when using these manuals as a pricing source, it is important that they be as up to date as possible. For manuals more than one year old, prices should be adjusted by the percentage increase in the consumer price index that has occurred since the manual was published.

Professional consultants who conduct reserve studies generally maintain databases with cost estimates derived from their own experience. Homeowners associations that employ such consultants for reserve studies will be able to take advantage of the knowledge that the consultants bring to the process.

Exhibit 3.2. Physical Analysis Checklist

This checklist summarizes the major steps in developing the Physical Analysis and, under each step, suggests certain actions the Board or its designated reserve study preparer may wish to consider in performing each step.

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
____ the board has had a public discussion and has determined a policy stating its position on life-of-the-building, exclusive use, and quasi-structural components
____ the board has communicated the list 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 board has determined what level of maintenance is expected to achieve the remaining life estimated

Determining the cost of replacement:

____ a standard costing manual has been consulted or more than one tradesperson asked for a price for 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, if necessary
____ adjustments have been made for grade or quality of materials or levels of maintenance of materials

(adapted from *Reserve Study Guidelines for Homeowner Association Budgets* , California Dept. of Real Estate)

Section IV. Conducting a funding analysis

1. Introduction

A funding analysis has four major objectives: to calculate the cost for repair and replacement of major common-area components over an extended period of time (often 20 to 30 years); to develop a long-term funding plan that will generate sufficient cash flow to pay these costs as they come due; to incorporate this plan into the association's overall budget; and to document this plan in a way that is understandable to owners and potential buyers.

As with the physical analysis, a funding analysis can be performed by a member of the Board or other interested party within the association. However, legal considerations and the complexity of such an analysis may make it advisable to hire an outside firm. Board members can potentially be personally liable for major decisions that they make without reliance on professional advice. It is best for Board members to seek legal advice before undertaking such a project on their own.

2. What is involved in developing a funding analysis?

After the Board of Directors has decided on the time frame to be encompassed by the reserve study, a very rough preliminary estimate of annual contributions needed for the reserve account can be obtained by taking the total cost for that time frame and dividing it by the number of years that the study covers. For example, if $240,000 is needed over a period of 20 years, the annual contribution needed would be $12,000, or $1,000 per month.

However, many other factors enter into the picture, and these factors can substantially raise or lower the monthly contributions required by the reserve account. These include the timing of the needed maintenance, the assumed annual rate of inflation, the estimated amount of interest that can be generated by the reserve account, and the presence or absence of a contingency budget to account for unforeseen expenses. All assumptions and estimates of this type should be carefully documented by the association.

Because of the complexity of the calculations involved in reserve studies, a good funding analysis requires the aid of a computer. Spreadsheet programs can be used to prepare detailed reserve budgets with accompanying charts that are easy to understand. Spreadsheets also permit users to instantly discover how changes in assumptions can affect the budgeting process – for example, how much the monthly contribution will change if the assumed inflation rate is raised from 3% to 4%.

In addition to general-purpose spreadsheets, several companies sell custom software that generates reserve studies from information that an association enters into a form on the computer. This is similar in concept to the type of

software that people use to prepare their own taxes. However, the funding analysis that is generated by such software is only as good as the software itself and the information that is entered into its forms. Associations that employ such software should have the resulting study reviewed by a professional firm to insure that there are no major errors or omissions in either the input or the output.

Even with professional assistance, the Board of Directors must still make the ultimate decision on how to fund the association's reserve account. There are several ways to accomplish this, which will be examined below.

3. Funding methods for reserve accounts

There are two methods that a common-interest community can employ to pay for repair and replacement of major components: build up a reserve account for this purpose, or levy a special assessment on all owners within the community whenever a major maintenance expense occurs. Many communities employ a combination of these two methods. (A third alternative, deferring maintenance and continuing to use components beyond their intended lifetime, can prove more costly in the long run and can lower property values within the community.)

A well-funded reserve account has the advantage of providing money whenever it is needed to keep all community-owned assets in good repair. Conversely, a chronically underfunded reserve account will result in frequent calls for special assessments, often creating financial hardships on owners within the community. Although this alternative is clearly less attractive, it often occurs to communities that underestimate the cost of major common-area maintenance expenses, or that attempt to save money in the short run by keeping monthly assessments low.

4. Calculating needed contributions to the reserve account

The only way to keep payments to the reserve account level, and still have sufficient money to pay each expense as it comes due, is to use an *accrual* method of estimating fund contributions. This means saving for each expense at a constant rate until the money is needed. To oversimplify the concept, if it will cost $12,000 to replace a particular item in six years, then $2,000 should be added to the reserve account each year, so that by the sixth year the $12,000 will be available to replace the component.

Analyzing each component in this manner, and then adding up the total annual cost for all the components (with adjustments for interest rates and inflation, discussed below), should result in a ballpark estimate of the minimum annual contributions needed to keep the reserve account in balance. If current contributions are significantly below this amount, then the reserves are in deficit, and additional money will have to be raised sometime in the future to pay for replacement of major components.

New associations have the opportunity to avoid the need for special assessments if they practice good budgeting from the start. Older communities can also make up for lost time, but the process will be more difficult. Using the above example, if a community needs to replace the $12,000 component in two years, but has only $4,000 currently in the reserve account, adding an additional $2,000 a year will still leave a $4,000 deficit when it is time to replace the component. Thus, the association will have to either levy a one-time assessment to raise the remaining $4,000, or temporarily raise the monthly association assessments to cover the shortfall. However, the good news is that once the reserve account has been restored to solvency, monthly assessments can be stabilized (and perhaps reduced), and special assessments are less likely to be needed in the future.

It is also desirable to allocate some money in the reserve account for unexpected expenses, such as damage to common-area components or larger-than-expected cost increases. Such a contingency or "rainy-day" fund might add 5 to 10 percent to the monthly contribution to reserves. This money will make the reserve account more stable, decrease the likelihood of special assessments, and increase the attractiveness of the community to potential buyers.

Inflation and interest rates play a big role in determining whether a reserve account is able to meet its financial goals. For example, recent changes in the economic environment have adversely affected communities that anticipated their reserve accounts would earn 5% interest annually. As of this writing (2003), banks and money-market funds are paying less than 2% for short-term deposits. Consequently, many communities are faced with the need to increase their reserve account contributions to make up for the lower amount of interest being earned.

To minimize the consequences of such negative surprises, it is recommended that associations assume that inflation will be somewhat high and that interest rates will be somewhat low, and fund their reserve accounts accordingly. If these projections prove too pessimistic, a surplus will result. However, it is easier to deal with a surplus than with a deficit. Association assessments can be lowered or stabilized until the surplus disappears.

Information on inflation rates can be obtained from the sources listed in Appendix C. Information on interest rates paid on reserve accounts can be obtained from banks, savings and loans, and other financial institutions.

5. Estimating monthly contributions to the reserve account

Exhibit 4.1 shows how a computer spreadsheet can be set up to calculate the amount of money that should be assessed each year to maintain sufficient reserves to pay the necessary expenses as they come due.

For each component, the desired reserve account balance is calculated by multiplying the replacement cost by the age of the component (in years), and

then dividing this number by the component's useful life (in years). After all components have been accounted for, the desired balances for all components are added together to produce the approximate desired balance for the reserve account. (A professional firm will refine this estimate by taking projected inflation and interest rates into account.)

Next, the actual cash balance in the reserve account is subtracted from the desired balance calculated above. If the cash balance is less than the desired balance, the result of this subtraction is the reserve deficit.

Dividing the deficit by the number of units within the association gives the amount that each unit will need to pay to eliminate this deficit. This amount can be paid by means of a one-time assessment, a temporary surcharge on the monthly association assessments, or some combination of the two.

Exhibit 4.1. Calculating a Reserve Deficit

Component	Replacement Cost	Estimated 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				$36,000
Current Cash Reserves				$24,000
Current Reserve Deficit (Desired Balance minus Cash Reserves)				**$12,000**
Number of Units in Association				48
Reserve Deficit per Unit				**$250**

(adapted from *Reserve Study Guidelines for Homeowner Association Budgets* , California Dept. of Real Estate)

Once the deficit issue (if any) has been addressed, the remaining major issue is to calculate how much money needs to be added to the reserve account each month to keep it solvent. A method for accomplishing this is shown in Exhibit 4.2. Again, a professional firm will refine this estimate by taking projected inflation and interest rates into account. However, under normal economic circumstances the method shown in Exhibit 4.2 should yield a good approximation.

The Board of Directors is required by law to conduct an annual review of the financial assumptions used in the most recent reserve study. Changes in inflation and interest rates, or unusual changes in the price of components, may make it

Exhibit 4.2. Calculating Monthly Payments to the Reserve Fund

Component	Replacement Cost	Estimated Useful Life (Years)	Annual Contribution
Painting	$10,000	5	$2,000
Paving	$14,000	7	$2,000
Roofing	$30,000	15	$2,000
Total Annual Contribution			$6,000
Add 10% for Contingencies			$600
Total Annual Contribution			$6,600
Number of Units in Association			48
Annual Contribution per Unit			$138
Monthly Contribution per Unit			**$11.46**

advisable to raise or lower the monthly amount assessed to fund reserves. Such "mid-course corrections" promote the stability of the reserve account, and decrease the likelihood of major financial shocks when the next reserve study is performed.

Exhibit 4-3. Sample Reserve Account Projection Over 20-Year Period

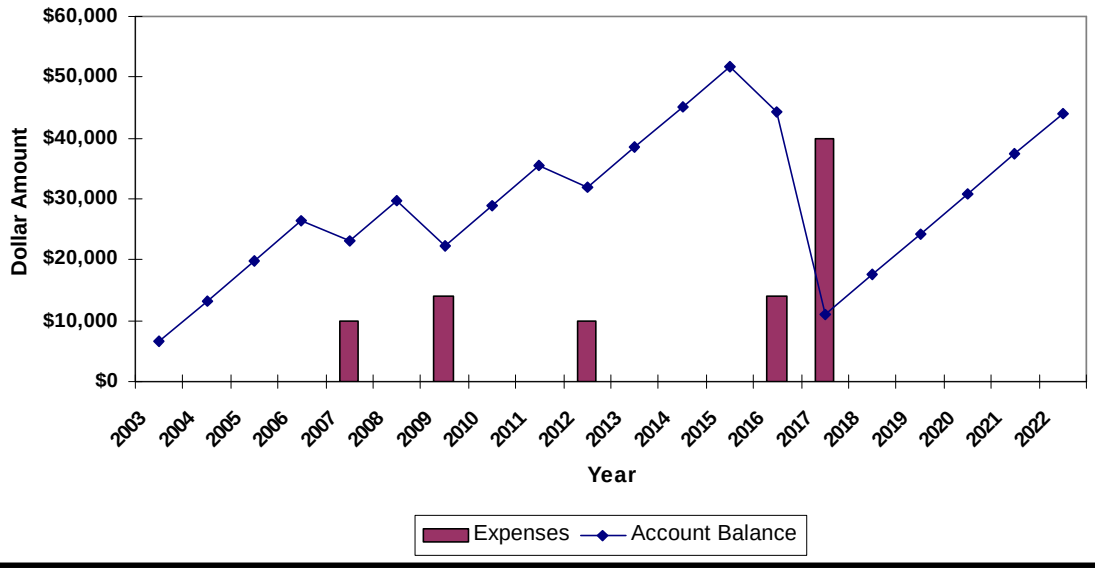

Exhibit 4.3 shows how applying this simplified model would affect reserve account balances over a 20-year period. Paving occurs in 2009 and 2016. Repainting occurs in 2007, 2012 and 2017. Roofing occurs only once, also in 2017. The balance in the reserve account fluctuates, but sufficient money is always available when scheduled maintenance is needed. In addition, the contributions added for contingencies build up over time, giving the reserve account a cushion that can be used when unexpected expenses occur.

Exhibit 4.4 – Funding Analysis Checklist

This checklist summarizes the major steps in developing the Funding Analysis and, under each step, suggests certain actions the Board or its designated reserve study preparer may wish to consider in performing each step:

Funding goal:
____ the association's funding goal for reserve replacement is clearly specified

Pro forma operating budget documentation:
____ the budget contains estimated revenue and expenses on an accrual basis
____ the budget identifies total cash reserves currently set aside
____ the budget shows funds set aside for reserves in a separate account(s)
____ the estimated remaining life of all major components is shown
____ the estimated current replacement cost of all major components is shown
____ the budget document includes identification of methods of funding for future repair, replacement or additions
____ the budget document includes a statement on methods used to develop estimates and 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 cost in future years
____ the interest rate applied to association cash reserves is reasonable, and is an after-tax estimate
____ needed 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 minus 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

(Source: *Reserve Study Guidelines for Homeowner Association Budgets* , California Dept. of Real Estate)

Section V. Identifying missing information

Many associations, especially if conducting a reserve study for the first time, may find that they are lacking certain information that is necessary to complete the study. If so, they will need to retrieve and document this information either before the study is begun, or during the study itself.

Here are some of the more common problems that can be addressed in the course of doing a reserve study:

1. There is no master list of major common-area components.
2. If a master list exists, it is missing some components mentioned in the CC&Rs or developer's drawings.
3. The Board lacks information on the remaining life and replacement cost of major components.
4. Major components are lacking a documented maintenance schedule.
5. No reserve funding goal has been established.
6. Reserve expenses and operating expenses are intermixed.
7. Reserve funds and operating funds are not in separate bank accounts.
8. A continuing deficit exists in the reserve account.
9. The dollar amount of component wear is greater than the amount used to replenish the reserve account.
10. Special assessments are employed to make up reserve account deficits.

Section VI. Hiring qualified professionals to conduct a reserve study

1. Overview

Members of each association's Board of Directors must decide whether to conduct a reserve study by themselves, or hire qualified outside professionals to accomplish the task. Some associations hire outside consultants to perform certain tasks, but not others.

In making this decision, the Board must consider several factors. These include:

1. The level of expertise within the Board or the community for this kind of study
2. Willingness of Board or community members to volunteer their time
3. Cost of hiring outside consultants to conduct the reserve study
4. Whether a previous reserve study is available for use as a guideline
5. Quality of existing documentation of components and replacement costs
6. The association's previous history regarding special assessments
7. The current financial state of the association's reserve account
8. The degree to which Board members can be held personally liable for a defective reserve study

If the Board wishes to have all or part of the study performed by outside professionals, the Board itself must still make certain major decisions. These include interviewing and hiring the consultants, assisting them in obtaining association data, reviewing the work product delivered by the consultants, and following up on the consultants' recommendations for funding the reserve account.

2. Determining who should perform the work

Associations will typically be able to choose among several different types of firms that conduct reserve studies. The physical analysis is often performed by an engineering or appraisal firm, or one that does cost estimating for construction projects. The funding analysis, along with the association's pro forma operating budget, can be performed by an accounting firm that has experience with community associations.

There are also firms specializing in reserve studies that can perform both the physical analysis and the funding analysis. In some cases the association's own management company will offer this service.

The recommendations of other community associations can often be helpful in deciding which company or companies to hire for the reserve study. The Board of Directors should interview several companies and obtain samples of their work to get a sense of each company's qualifications, experience, and pricing structures.

For a partial list of questions that the association should ask these companies, see Exhibits 6.1 and 6.2.

3. Information that the association should provide

Before it can provide a cost estimate for the reserve study, a consulting firm will need general information from the Board regarding the size of the development and the scope of work. Following is a checklist of information that will be useful to consulting firms in preparing their estimates:

1. The size of the community – area and number of units
2. Types of improvements in the common area – pools, clubhouses, etc.
3. Which portions of the reserve study the consulting firm is being asked to do
4. A list and definition of major components
5. Identification of components that are not to be included in the study
6. Maintenance records, warranties, and other information regarding the condition of major components
7. Information on planned changes or additions to major components
8. A copy of any portion of the reserve study that has already been completed
9. A copy of the previous reserve study, if one was conducted
10. Construction drawings, especially as-built drawings if available
11. Current cash balance in the reserve account
12. Current and/or proposed association budget
13. Anticipated reserve expenses remaining in the current fiscal year
14. Board estimate of interest rate that the cash balance in the reserve account will earn

In certain cases, a consulting firm might need further information to make its estimate. It will save time to ascertain a company's information requirements before the actual interview takes place.

Exhibit 6.1 – Interview Guide for Physical Analysis Preparers

1. Do you have any personal or professional ties to this association? (NOTE: Such a tie does not necessarily indicate a conflict of interest, but should be disclosed and considered.)

2. Do you have any personal or professional ties to the developer? (NOTE: Such a tie does not necessarily indicate a conflict of interest, but should be disclosed and considered.)

3. If hiring an individual or sole practitioner: Do you do all the work yourself, or will you use subcontractors? (The association should approve all subcontractors.) Are you a Professional Reserve Analyst (an Association of Reserve Analysts designation) or a Reserve Specialist (a Community Associations Institute designation) or do you hold other professional designations? What is your training (formal education and workshops)?

4. If hiring a firm: Will all work be done by employees of your firm? 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. What experience have you had in this locale?

8. May we see an example of a similar product 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? What percentage of components will you inspect for fences, walls, controllers, buildings, etc.?

13. How will you determine the cost of replacement?

14. What written sources will be used?

15. How long will it be before we have the final product?

16. Will the report provide the estimated useful life of each component?

17. Will the report provide the estimated remaining life of each component?

18. Will the report provide the current costs of repair or replacement for each component?

19. 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?

20. Will the report provide information on proper maintenance to help assure realization of the estimated remaining life of each component? Will the report include visuals such as photographs or video?

21. Do you have liability insurance?

22. Do you have workers. compensation insurance?

23. Please provide three references (name, phone, nature of work).

24. Cost for revisions and/or updates.

(Source: *Reserve Study Guidelines for Homeowner Association Budgets* , California Dept. of Real Estate)

Exhibit 6.2 – Interview Guide for Funding Analysis Preparers

1. Do you have any personal or professional ties to this association? (NOTE: Such a tie does not necessarily indicate a conflict of interest, but should be disclosed and considered.)

2. Do you have any personal or professional ties to the developer? (NOTE: Such a tie does not necessarily indicate a conflict of interest, but should be disclosed and considered.)

3. If hiring an individual or sole practitioner: Do you do all the work yourself, or will you use subcontractors? (The association should approve all subcontractors.) Are you a Professional Reserve Analyst (an Association of Reserve Analysts designation) or a Reserve Specialist (a Community Associations Institute designation) or do you hold other professional designations? What is your training (formal education and workshops)?

4. If hiring a firm: Will all work be done by employees of your firm? 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. How long will it be before 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).

(Source: *Reserve Study Guidelines for Homeowner Association Budgets* , California Dept. of Real Estate)

Glossary

(Note: The following definitions refer to words and phrases as they are used in reserve studies.)

Accrual method – a means of saving for an upcoming expense at a constant rate, so that all the money will be available when needed.
As-built drawings - drawings produced by the developer that show the actual characteristics of a community at the time when construction was completed. These drawings can be very useful in conducting a reserve study.
Assessment - monetary contribution required of each member of the homeowners association to meet the association's expenses. Assessments are typically due once a month.
Board of Directors - a group of people that oversees the operations of a common-interest community and enforces its rules. Typically the Board is composed of owners within the association, and its members are elected at the association's annual meetings.
Cash flow - the amount of money deposited into and withdrawn from a reserve account over a certain period of time.
Common area - the portion of a common-interest community that is owned jointly by all members of the homeowners association.
Common-interest community (CIC) - a defined area of land and improvements, in which some of the property is owned in common.
Contingency fund - the portion of reserves allocated for unanticipated expenses such as damage to components or unexpected cost increases.
Declaration of Covenants, Conditions and Restrictions (CC&Rs) - the governing documents of a common-interest community, which often provide details regarding the types, locations and quantities of community-owned components.
Deficit - the amount of money that a reserve account lacks to meet its funding obligations.
Developer drawings - drawings produced by the developer before or during construction of the community. Such drawings may or may not match the community's actual attributes. (Also see as-built drawings).
Funding analysis - the portion of a reserve study concerned with development of a funding plan to replace major community-owned components over an extended period of time.
Homeowners association - a legal entity that manages a residential common-interest community and enforces its rules. All owners within a community are members of its homeowners association.
Inflation - the rate at which the cost of components are expected to rise over time.
Interest - money earned from reserve funds deposited into an account at a financial institution.
Inventory - a list of community-owned components and their attributes, such as age, quality, manufacturer, degree of wear, and useful life.

Management company - an outside company hired by a homeowners association to perform some of the association's functions, such as landscape maintenance and collection of monthly assessments.
On-site inspection - physical inspection of one or more components to help determine their current physical state and remaining useful life.
Operating budget - the portion of a community's budget that is allocated for frequently-recurring or minor expenses.
Physical analysis - the portion of a reserve study that identifies major components, and estimates their remaining useful life and replacement costs.
Pro forma budget - a planning tool that estimates projected expenses and revenues for the coming year, including those impacting the reserve account.
Remaining useful life - the amount of time remaining before a component will need to be repaired or replaced (in other words, a component's useful life minus the time it has already been in service).
Replacement cost - the cost for replacing a component at the time such replacement is necessary. Inflation will increase this cost over time.
Reserve account - an account at a bank or other financial institution, containing funds intended solely to pay reserve expenses.
Reserve budget - the portion of a community's budget allocated for major expenses that occur infrequently (typically less than once a year), such as replacement and repair of community-owned components.
Reserve funds - the amount of money earmarked for reserves, usually placed in its own bank account known as the reserve account.
Reserve study - a periodic review of major community-owned components, designed to allow communities to estimate and provide for the funding necessary to repair or replace them as necessary.
Reserves - the amount of money set aside for a designated purpose, such as maintenance and replacement of major components within a common-interest community.
Special assessment - an amount of money beyond the normal monthly assessment, levied on all homeowners within the community to meet expenses that cannot be met using the community's budgeted funds.
Spreadsheet - computer software that can be used to calculate and document elements of reserve studies.
Useful life - the time frame for which a component is designed to operate properly before needing to be replaced or repaired.
Work product - the output from a reserve study, such as reports, tables, and charts.

Appendix A. Major Common Area Components Included in Reserve Studies

Alarm systems, fire and intrusion
Antennas, satellite dish and other
Asbestos encapsulation or removal
Awnings and other overhead coverings
Balconies (see also decks)
Benches
Boilers
Decks, pool and spa
Decks, residential
Display cases
Docks
Drainage systems
Electrical transformers
Electrical wiring and related fixtures in common area
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
Fans, exhaust, garage and other
Fences, chain link, wood, etc.
Fire sprinklers and related equipment
Floor covering, carpet, tile, vinyl, etc.
Floor covering, wood replacement and refinishing
Fountains
Furnishings, lobby, clubhouse, etc.
Garage doors and hardware
Garbage enclosures
Gates, iron, wood, etc.
Gutters and downspouts
HVAC, air conditioning
HVAC, heating systems
Irrigation system, controllers
Irrigation system, piping, valves and sprinkler heads
Kiosks and message/communication centers
Lakes, ponds and waterways
Landscaping, replacement of major plants
Light fixtures, exterior
Light fixtures, interior
Mailboxes and centers
Monitoring system, carbon monoxide

Paint and stain, exterior
Paint and stain, interior common area
Pathways (if paved)
Paving
Planter boxes
Plumbing fixtures, exterior
Plumbing, water piping system
Posts, deck, lamp, etc.
Pumps, lakes, ponds and waterways
Racquetball courts
Retaining wall
Roof
Security gates, gate operator and motor
Septic tanks
Sewage ejector equipment
Siding and trim
Skylights
Slopes
Solar heating system, pool and spa
Solar heating system, residential
Spas
Stables and tack rooms
Stairs
Streets and drives
Stucco, sandblasting and resurfacing
Sump pump equipment
Swimming pools
Tennis courts, resurfacing
Trees
Trellises
Vehicles
Ventilation systems, garage
Walkways, wood, brick, tile, etc.
Water heaters

(Adapted from *Reserve Study Guidelines for Homeowner Association Budgets,* California Dept. of Real Estate, September 2000.)

Appendix B. Sources for Inflation Rate Estimates

The U.S. Bureau of Labor Statistics (BLS) releases monthly updates to the Consumer Price Index. Detailed current and historical statistics are available on its website, http://www.bls.gov/.

The Western BLS Information Office in San Francisco services the states of Alaska, Arizona, California, Hawaii, Idaho, Nevada, Oregon, and Washington. The Economic Analysis & Information staff is available for phone assistance from 9:00 AM to 11:30 AM and 1:30 PM to 4:00 PM at (415) 975-4350.

Appendix C. Preparation and Authorship of this Manual

1. Background

From the outset of common-interest communities boom in the 1960s, proponents have argued that associations should maintain reserves for replacement of capital assets, and as working capital. Some courts and legislatures consider the maintenance of reserve accounts for major, contingent future expenses as among the most important obligations of common-interest communities management. This position is based upon two ideas. First, the large amount of money needed to repair a major asset or operational problem will be difficult to raise from sources other than existing reserve funds. Members inevitably resist sudden or substantial assessment increases, some because their own incomes are fixed, some because they plan on moving out of the community before realizing the benefit of the expenditure. Also, lenders may well consider the lack of reserve funds a financial weakness of associations seeking to borrow cash urgently needed for repair, replacement or operational reasons. Second, fairness would seem to require members to pay for the association's capital assets as they "consume" them. Unlike public governments, community associations should operate on a "pay as you go" basis. Unlike public governments, which often assume a perpetually expanding tax base as a municipality grows, common-interest communities are generally constituted to preclude future growth.

The Lied Institute for Real Estate Studies (Lied Institute) at the University of Nevada, Las Vegas (UNLV) assisted the State of Nevada Department of Business and Industry, Real Estate Division to develop the "Reserve Study Guidelines for Common-Interest Communities" in compliance with NRS 116.311512.

This proposal was developed with the knowledge that the regulations promulgated must address the unique and diverse needs of Nevada' varied common-interest communities' needs. The Lied Institute fully understands the importance of developing relevant, concise, and compliant rules for use by Nevada's common-interest communities.

2. Methodology

We based our approach to this task upon our understanding of the scope of the project, and our collective experience working on projects of this type. We recognized that for this undertaking to be successful, we had to be certain to consider the intent of the legislation and unique needs of the Nevada's common-interest communities. As such, our approach included the legal and practical considerations of complying with the statute. We organized our efforts by focusing on the development of a deliverable product that was both legally compliant and consumer-usable. It is critical to provide research that is usable at many levels.

Our methodology included the following activities:

1. We conducted a detailed literature search of recent regulations and administrative cases on "common-interest communities.

Several other states have begun to assess the implications of reserve account legislation. Additionally, there has been a limited amount of case law developing throughout the nation on this subject. Certain states have developed regulations that carefully address both the legal implications of their respective statutes within the framework of the state's unique needs. Our initial research suggested that regulations must be developed that adequately and practically addresses the state's unique topography and statutory framework. Although other state's regulations cannot be directly imported into Nevada, they can provide information and suggestions on the regulation development and direction.

2. We surveyed the State's common-interest communities to identify and evaluate statewide needs.

As of January 1, 2001 there were 1,060 common-interest communities registered with the State of Nevada Division of Real Estate. Although 709 of these entities are located in Clark County, a significant amount of common-interest communities are located in urban northern Nevada and rural Nevada. Not surprisingly, these entities often have different concerns. To provide assurances that each region's issues would be addressed; we conducted interviews in January 2003 with common-interest communities in urban southern, urban northern, and rural Nevada. The researchers summarized their findings as follows:

> Most respondents believe that the minimum education or training requirements to conduct a reserve study should involve some sort of industry-specific training.
>
> Overwhelmingly, respondents indicated that professional or performance insurance should be required of those conducting studies. Generally, the

larger the number of units managed, the more strongly they believed that insurance should be required.

Similarly, a clear majority of respondents believed that studies should be conducted by individuals or groups independent of the common interest community organization.

The same respondents that felt strongly that persons conducting reserve studies should have industry-specific training believed that association board members should not be required to take education courses related to reserve studies.

Only 7.6% of respondents felt that reserve studies should be conducted annually. Over half (53.2%) indicated that conducting reserve studies every five years would be sufficient.

Respondents are evenly split on whether the reserve studies should have the percent funded in all years of the study.

Entities responsible for larger number of units are more likely to believe that the State should require a detailed revenue summary for all components in the reserve study. Overall, however, respondents are opposed (53.2% to 44.3%) to such a requirement.

Similarly, larger entities are more likely to believe that the State should require detailed schedules of expenses over the life of the reserve study. Overall, however, respondents were evenly split on the issue of mandatory expense schedules.

Again, larger entities were more likely to support a requirement that the reserve fund be reported annually. Overall, respondents favored this requirement gy a 53.8% to 46.2% margin.

Large and small entities alike were opposed to the formation of a State board to monitor reports by reserve specialists that board members have inappropriately managed the reserve study.

3. We drafted Guidelines that address the needs of Nevada's common interest communities.

Regulatory guidelines are most useful when they adequately analyze the concerns of the legislature and the community at large. In the development of the Reserve Study regulations, we addressed these types of concerns. We asked our subjects:

What items must be included in a reserve study?
What are the steps in conducting a reserve study?
How do reserves fit into the overall financial plan?

How do I identify and categorize components?
How do I do cost estimates?
How do I determine cost of replacement/repairs?
How do I determine a replacement schedule?
How do I project expenditures?
How do I identify qualified consultants?

After drafting the preliminary guidelines, we reviewed them for statutory compliance, completeness, and adequacy. In addition we reviewed them with individual common-interest community managers, to insure that they were easy to understand.

3. Staffing

A project of this scope required several interrelated skills. The primary skills included working knowledge of real estate, residential development and management, public finance, facilities planning, legal, financial analysis, and cost and project management.

Ms. Debra March, Executive Director of the Lied Institute for Real Estate Studies served as administrative project manager and technical advisor. Debra has extensive experience in real estate.

Dr. Robert Schmidt holds advanced degrees in economics and urban sociology, and in addition holds a J.D. in Law. Bob has appointments in the graduate schools of Management, Public Administration, and Sociology at the University of Nevada, Las Vegas (UNLV) and is also a member of the visiting faculty at the Helsinki School of Business and Economics in Finland.

Dr. Alan Schlottmann is Professor of Economics at University of Nevada, Las Vegas, and serves as Director of Research, Lied Institute for Real Estate Studies.

Professor Richard Ansson served as legal advisor. Richard holds a J.D. and L.L.M. in law. Richard currently serves as a Law Professor at the Boyd School of Law specializing in Indian Law and Land Use Planning.

Charles Barr earned Masters degrees in both Economics and Liberal Studies from University of Nevada, Las Vegas. He has extensive experience in research and writing, and served on a homeowners association Board of Directors during the 1990s.