Reserve Analysis Report

Capital Repair Requirements 2010 – 2040

Beverly Oaks Homeowners' Association, Inc.
c/o Guardian Association Management, LLC.
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Dallas, Texas 75230
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Original Report 2010
Revised Report 2018

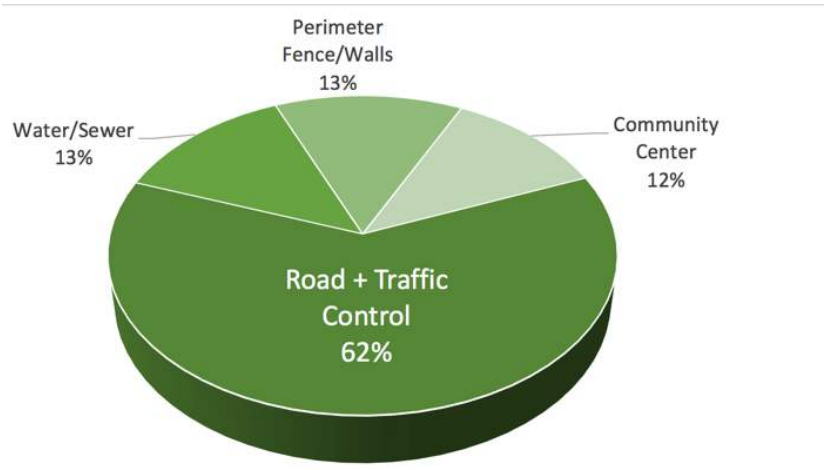
Fund Reserve Balance Summary

Fully Funded Replacement Reserve Balance (The amount that should have been reserved by Dec 31, 2016)	$145,000
Actual Funded Reserve Balance (does not include emergency reserve)	$113,000
Under Funding of the Reserve	$32,000
Percent Funded (100% is optimal)	78%

Annual collection rate per home to be at least $126 In 2018 (156 was recommended in 2010) with a 6.0% increase each year thereafter.

The community will need to collect an average of $10.50 per month ($126 per year) per household starting in 2018, increasing to $16 by 2024.

Note: Sixty–two percent (62%) of the future repair costs are associated with the roadway, 14% with the exterior concrete and wood fences, 13% with the water and sewer lines, and 12% with the community center.



If there are concerns regarding the accuracy of these projects, the authors recommend that the Association set aside funds in 2018 for an independent engineering analysis (estimated to cost of $3,000) from one of the following engineering consultants:

RITERIUM-DOTSON ENGINEERS, 808 South College Street, Suite 225A, McKinney, Texas, 75069
FISHER-SMOUCHA CONSULTING, 18208 Preston Road, Suite D-9, #205, Dallas, Texas 75252
LM CONSULTANTS, INC., 2625 North Josey Lane, Suite 305, Carrollton, Texas 75007
FACILITY ENGINEERING ASSOCIATES, P.C., 16800 North Dallas Parkway, Suite 290, Dallas, Texas 75248

Introduction

The Community Associations Institute (CAI) recommends that Homeowners' Associations conduct reserve studies and set aside adequate reserves so that sufficient funds are available when required. It is noted that several states such as California, Colorado, Michigan, New York, Florida, and Washington require homeowners' associations to perform reserve studies as a matter of law. Attached to this report is a copy of Reserve Study Guidelines.

The Beverly Oaks Association is a Texas Corporations that owns and maintains the common area assets of the Beverly Oaks subdivision which include the incoming water mains and outgoing sewer lines (from Carl Road to the curb in front of your house), the storm drains running under the subdivision, the Brentwood and Wilshire roadways, the 2023 Wilshire building, the irrigation system, the exit alley, traffic spikes and traffic warning lights, the concrete screening walls separating the subdivision from the multifamily property to the west and commercial properties to the north, and the fire hydrants and mailboxes.

The Association maintains these assets in accordance with standards set by the US Environmental Protection Agency, US Postal Service, and Irving's departments of Code Enforcement, Water, Environmental Compliance, and the Fire Marshall. Failure to meet these standards can result in community fines, discontinuation of services, evacuations, or condemnation of the property.

It is the Association's responsibility to (1) set aside reserves (savings) to fund future maintenance and keep the properties up to standards, to (2) have a formal long-term maintenance plan and budget, and (3) to purchase insurance and have emergency plans in place to respond to unexpected failures. As part of this effort the Association conducts engineering studies to determine the funding needed for future repairs, such as roadway repairs.

Emergency planning is an important responsibility. For example, a water main break would result in the shut-off of water service to the community by the city until the line was repaired by the Association. Because water mains are not insurable, the community must have a cash on hand to pay for this type of repair. The complicated nature of these repairs (concrete excavation, high pressure water, etc.), relationships with specialized utility contractors such as TDIndustries (Dallas, Tx.) or Batson Contracting (Lancaster, Tx. 972 227-6888) need to be maintained. Having cash on hand, phone contacts in place and easily accessible site drawings could make the difference between having a water line repair taking 3-5 days and one taking weeks or even months if there were no funds reserved.

2010 Summary

This report was initially prepared in 2010 by the volunteer board members (Robert Bauer, Randy Ranew, Brenda Madison, Rodney Lehman, Laurie Waldrum) for capital reserve budgeting purposes. It was approved by the owners in 2011 by a vote of 96% to 04% with 72% of owners voting.

2010 Recommendation: The conclusion of this analysis is that the Beverly Oaks Homeowners' Association is under funding its capital reserve and if not corrected, the Association will not have the funds to make necessary repairs and replacements to the streets, water and sewer and other infrastructure when needed. The situation is serious but recoverable if prudent and responsible actions are untaken in the near term. The authors point out that the sooner the corrective action is initiated, the less of a monthly burden it will be.

This effort focused on understanding the long-term costs facing the owners. The next step is for the owners to develop a specific reserve recovery plan.

It is recommended that in the interim, that the reserve rate be raised from the current $4.39 per month to $13.00 per month (next year or over the next two years) and that all reserve funds be held in a separate bank or brokerage account so that operating funds (e.g. landscaping, painting, etc.) are not mistaken as reserves – a problem that, in part, contributed to the current problem.

2010 Findings: Based the standard formulas used by reserve engineers, a conventional reserve plan using a stable contribution over the years would have been $13.00 per month per home starting in 1983. This would have resulted in a reserve of $400,000 by 2010 and enough money to make the anticipated capital repairs as they come due in the future.

The actual reserves will be $20,000 at the end of 2010 – only 5% of the $400,000.

2010 Additional Comments: This report is a first formal attempt by the Association to quantify the amount of money that needs to be reserved to maintain the community infrastructure consistent with the standards set forth in the City of Irving code and in a manner that has a positive/neutral effect on real estate values (not a negative effect). It is also an attempt to raise awareness of this fiduciary responsibility and to start the dialogue among owners on how to address the underfunding. Action is necessary if the owners are to avoid a situation where the condition of the infrastructure or disputes/lawsuits about the condition of the infrastructure or the reserve depress real estate values such as had occurred at Las Brisas in Irving, a similarly structured Association, and The Club.

2018 Summary

This report update was prepared in 2018 by the volunteer board members (Robert Bauer, David Schneider, Joel Kern, Jesse Mitchell). A community review and vote is pending.

2018 Recommendations: It is recommended that the monthly rate of saving be set at $10.50 for 2018 with annual increases of 6.0% each year through 2024, and then reassessing. A lower collection rate or annual increase will result in the need for special assessments.

2018 Findings: The Beverly Oaks Homeowners' Association has made progress in its ability to save for and make capital repairs. Since 2010 there have been major road repairs, renovations to the mail facilities, renovations to the community center, repairs to the perimeter concrete walls and fences, and repairs to the traffic spikes.

The capital reserves were $113,000 at the end of 2016 – 78% of the $145,000 needed to date.

These repairs were made paid with reserves that began in 2010, a windfall income of $25,000 for the sale of land to TxDOT for the Highway 183 Diamond Exchange expansion, a $2,100 insurance claim, and an $1,800 personal donation.

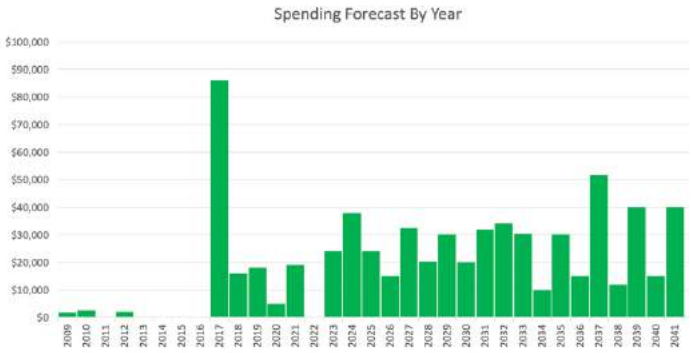
The 2010 report reasonably accurately predicted the type and amount of upcoming expenses and showed that the spending rate would increase significantly as the community continued to age. The 2010 report, however, consistently projected these expenses to occur later than they were actually needed. For example, the 2010 report did not anticipate road repairs until 2027. Road repairs were needed in 2017. The report did not anticipate mail box replacement until 2023. The mail boxes were barely functional in 2016. In other words, the 2010 report was too conservative and this revision anticipates earlier replacements.

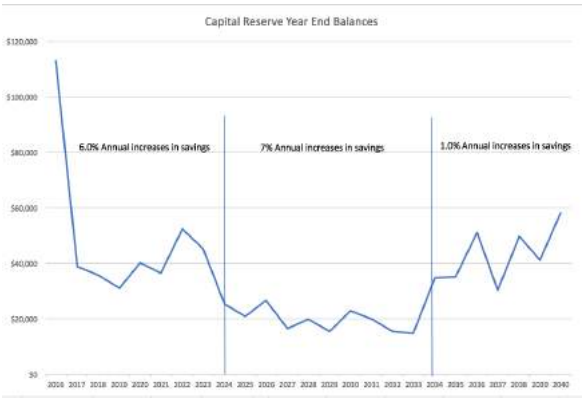
The 2010 report projected that $933,000 in replacement costs for the water, sewer, storm drains and community walls. In this revision that estimate has been reduced to $165,000 for repairs (not replacement).

Lastly, the 2010 report had $42,000 for lamp post and water meter encasement replacement. It has been determined that the former is a homeowner expense and the latter is a City of Irving expense and these items have been eliminated from the 2018 forecast.

Component Inventory Repair and Replacement Plan

	Age	Useful Life	Replacement Cost	30 years of repairs	Percent of Total
Road	34	40	$700,000	$387,000	60%
Entry Traffic Control	27	10	$12,000		
Exit Traffic Control	27	12	$12,000	$21,929	3%
Speed Bumps	11	7	$1,200		
Community Center Roof	4	20	$2,100	$4,000	1%
Community Center Foundation /Brick Repair	34	50	$33,000	$19,200	3%
Community Center Interior	10	15	$10,000	$8,000	1%
Community Center Doors	1	10	$9,000	$18,500	3%
Community Center Mail boxes	1	20	$10,500	$14,121	2%
Community Package Management System		10	$6,000		
Community Center Security System		5	$2,000		
Residential/Commercial Screening Wall at Exit	34	50	$125,000	$60,000	9%
Residential/Commercial Screening Wall at West Side	34	50	$60,000	$20,000	3%
Entry Brick Wall	34	40	$20,000	$10,000	2%
Storm Drain	34	60	$500,000	$27,000	4%
Water Lines, Valves, Fire Hydrants	34	50	$100,000	$30,000	5%
Sanitary Sewer lines	34	40	$325,000	$30,000	5%
Exterior Lamp Posts	34	10	$24,000		
Meter Boxes	27	30	$6,500		
Irrigation	--- Paid from operting budget ---				
Exterior Siding / Piant					
Total			**$1,927,800**	**$649,750**	





Roadway – The standard life on a roadway is 40 years. The Beverly Oaks roadway is in very good condition for its age but is breaking down. The subdivision has 190 panels of concrete roadway and as of 2017, 49 of them were in various stages of deterioration (25%). It is noted that the deterioration process advanced rapidly since 2010 when this report was originally written and there were 3 areas with early signs of deterioration.

4,000 square ft. of surface and curb were replaced in 2017 which is the equivalent of 7 panels.

It is recommended that the community adopt an ongoing repair program, targeting 1,000 square ft. of repairs every other year. 1,000 sq. ft. is an economic minimum. The committee recommends full and half panel replacements only given the improved strength and much greater life of a full panel vs patches. Cutting out damaged areas and putting a patch inside a panel has a shorter life span and often accelerates the aging and deterioration of the panel it is cut into.

Using the full "panel" approach, the community can slowly replace the entire roadway over time. A 2017 estimate for the demolition, removal and replacement of the entire 64,000 square ft. (3,000 linear ft.) of concrete roadway and curb was $700,000. The following forecast is based on replacing 1,000 + square ft. every other year, only as needed, of course. It is already clear that additional roadwork will be needed in 2019 for panels that are in the later stages of deterioration.

~~Expense Estimated in 2010 ($438,330)~~
~~2027: $90,326~~
~~2033: $104,751~~
~~2037: $115,625~~
~~2041: $127,628~~

Expense Estimated in 2018 ($387,000)

2017:	$49,000 (actual)	2031:	$30,000
2019:	$18,000	2033:	$30,000
2021:	$18,000	2035:	$30,000
2023:	$24,000	2037:	$30,000
2025:	$24,000	2039:	$40,000
2027:	$24,000	2041:	$40,000
2029:	$30,000		

Entry Traffic Control – There is no upkeep planned for the entry gate other than to maintain gate arms and the cabinets. The activation of a community gate was defeated in a homeowner vote in 2017 by a vote of 58% to 42%. The front gate has been inactive since he mid-1900s. If a gate activation is approved by a vote of owners, this section will be amended.

~~Expense Estimated in 2010 ($00)~~

Expense Estimated in 2018 ($00)

Exit Traffic Control – The exit traffic controls include 12 ft. of traffic spikes, electric warning signs and lighting, and a chain to lock the alley. Treadles require routine cleaning and repair to insure a full life cycle and to avoid tire damage. This forecast is based on near term need to make changes required to integrate with the 183 Diamond Interchange road expansion and the prior wear cycles of the equipment which was originally installed in 1988. The 183 expansion was not considered in the 2010 plan.
Note: The community secured $25,000 from the state for Integration with the 183 Diamond Interchange road.

~~Expense Estimated in 2010 ($11,228)~~
~~2011: $3,900~~
~~2020: $937~~
~~2031: $6,391~~

Expense Estimated in 2018 ($21,929)
2010: $2,500 (actual)
2017: $2,429 (actual)
2018: $12,000
2027: $2,500
2037: $2,500

Speed bumps - the use of speed bumps to control traffic was defeated in 2009 by a vote of the owners (69% to 31%). At the time, there had been a five-year controversy in the community in which speed bumps had been put down been taken up several times by different boards. At the time, three speed bumps were in place on Brentwood and none were in place on Wilshire (removed by disgruntled residents). Following the vote, the existing speed bumps were left in place until they required servicing in 2015. At that time, they were retired.

~~Expense Estimated in 2010 ($00)~~

Expense Estimated in 2018 ($00)

Community Center Roof Replacement - 2023 Wilshire Drive, 800 square feet with a 12/12 pitch in run; 12 squares (36 bundles of shingles), 12 rolls of roll roofing, 3 rolls of 15 lb. felt, 6 rolls of 30 lb. felt. The roof was leaking in some areas and is missing shingles in 2009.

~~Expense Estimated in 2010 ($2,318)~~
~~2015: $2,318~~

Expense Estimated in 2018 ($6,100)
2012: $2,100 (insurance claim)
2032: $4,000

Community Center Foundation /Brick Repair – The community garage had significant and visible foundation issues on the West and North side. Inside the large garage the floor sloped downward in the Northwest corner where the foundation slab had dropped 4.1 inches. This was not listed in the 2010 forecast. Additionally, the building has damage to the brick veneer which will need to be repaired/replaced and the concrete foundation in the main garage is breaking down and will eventually need to be re-poured.

~~Expense Estimated in 2010~~
~~Not listed~~

Expense Estimated in 2018 ($10,992)
2017: $1,992 (actual)
2018: $3,000
2027: $6,000

Community Center Interior– replacement and repair of internal drywall in 800 square foot garage located at 2023 Wilshire Drive, Irving. The large garage wall was repaired and repainted in 2009. The middle garage was walled with HardiePanel® and Internet service installed in 2017. In 2017, drywall replacement and painting was needed to make replies related to the foundation failure and the lifting of the building on piers.

~~Expense Estimated in 2010 ($5,943)~~
~~2018: $5,943~~

Expense Estimated in 2018 ($19,200)
2009: $1,800 (donated by Robert Bauer))
2017: $11,400 (actual)
2024: $2,000
2031: $2,000
2038: $2,000

Community Center Doors - 2023 Wilshire Drive; replace one 16 ft. rollup, two 8 ft. 4 panel doors, and two garage door openers.

~~Expense Estimated in 2010 ($3,747)~~
~~2020: $3,747~~

Expense Estimated in 2018 ($18,540)
2017: $3,540 (actual)
2018: $1,000
2024: $1,000
2028: $5,000
2037: $7,000

Community Center Mail boxes – eight 35-year old outdoor multifamily cluster mail boxes and three package lockers located at the Brentwood and Wilshire cul-de-sac were retired in 2017 and the mail service was relocated to a secure location in the community center. The forecast includes the replacement of the mail boxes in 2017 and again in 2037.

~~Expense Estimated in 2010 ($14,121)~~
~~2023: $14,121~~

Expense Estimated in 2018 ($22,500)
2017: $10,500 (actual)
2037: $12,000

Community Package Management System - if approved by a vote of the owners, a VoIP security system will be maintained by the Association.

Expense Estimated in 2018 ($00)

Community Center Security System - if approved by a vote of the owners, a VoIP security system will be maintained by the Association.

Expense Estimated in 2018 ($00)

Residential/Commercial Screening Wall at Exit - demolition, removal and replacement of 6,750 square ft. of 6' concrete wall on the east and west side of the Brentwood exit alley (1126 linear feet). The wall is currently leaning and in poor cosmetic condition. The wall was inspected by the firm that designed the process for the walls (Concrete Wall 809 Lavon Drive , Garland, TX 75040) . The company recommended sealing the wall and monitoring the lean. It was speculated that the driveway to the west of the wall was poured on top of the footer and is causing the lean. It is important to measure the lean annually to estimate replacement.

~~Expense Estimated in 2010 ($275,469)~~
~~2043: $275,469~~

Expense Estimated in 2018 ($60,000)
2024: $30,000
2032: $30,000

Residential/Commercial Screening Wall at West Side - demolition, removal and replacement of 3,600 square ft. of 6' concrete wall on the west side of the subdivision between separating the community from the apartment complex. The wall is currently leaning and in poor cosmetic condition.

~~Expense Estimated in 2010 ($132,225)~~
~~2043: $132,225~~

Expense Estimated in 2018 ($20,000)
2028: $10,000
2038: $10,000

Entry Brick Wall – repairs of 1000 square ft. of 10' decorative brick wall with planters and lot adjacent to 1500 – 1501 Brentwood Drive (92 linear ft.).

~~Expense Estimated in 2010 ($52,391)~~
~~2050: $52,391~~

Expense Estimated in 2018 ($10,000)
2024: $5,000
2034: $5,000

Storm drain – Repair of surface water runoff problems corrections and maintenance of 2,000 linear ft. of sewer lines running north to south across the property. Replacement cost of the sewer is estimated to be $500,000. Currently it is not believed that a full replacement will be needed in the next 40 years, but repairs will be required. The drains were visibly inspected at the 4 manhole openings and no deterioration was noted. Drainage in the Wilshire cul-de-sac during heavy rain is insufficient and has resulted in temporary standing water of over 12 inches in 2010. An engineering analysis should be conducted to qualify the condition, suggest a service plan, and estimate the costs.

~~Expense Estimated in 2010 ($112,703)~~
~~2020: $18,733~~ ~~2040: $30,696~~
~~2030: $23,980~~ ~~2050: $39,294~~

Expense Estimated in 2018 ($25,100)
2017: $7,000
2030: $20,000

Water Lines, Valves, Fire Hydrants - demolition, removal and replacement of 6,500 linear ft. of 6" high pressure asbestos concrete water line and valves located beneath the roadway including the exit alley at the same time that the street is removed is estimated to cost $325,000. An engineering analysis should be conducted to qualify the condition, suggest a service plan, and estimate the costs.

~~Expense Estimated in 2010 ($180,098)~~
~~2027: $37,113~~
~~2033: $43,039~~
~~2037: $47,507~~
~~2041: $52,439~~

Expense Estimated in 2018 ($30,000)
2026: $15,000
2036: $15,000

Sanitary Sewer lines - demolition, removal and replacement of 6,500 linear ft. of sewer line located beneath the roadway including the exit alley (excluding those on the individual lots) at the same time that the street is removed is estimated to cost $325,000. An engineering analysis should be conducted to qualify the condition, suggest a service plan, and estimate the costs.

~~Expense Estimated in 2010 ($180,098)~~
~~2027: $37,113~~
~~2033: $43,039~~
~~2037: $47,507~~
~~2041: $52,439~~

Expense Estimated in 2018 ($30,000)
2020: $5,000
2028: $5,000
2034: $5,000
2040: $15,000

Exterior Lamp Posts - Replace 95 exterior lamp posts and heads located on the individual lots. Most of the poles have rotted at the base and many have been replanted or have make shift braces or other repairs. The poles are now of various heights from 4-8 feet and many learn or show physical damage. It is recommended that any replacement use translucent light cover so that the variation in light bulbs from home to home is not so obvious.

~~Expense Estimated in 2010 ($24,113)~~
~~2011 $2,760~~
~~2012: $2,829~~
~~2013: $2,900~~
~~2014: $2,972~~
~~2015: $3,047~~
~~2016: $3,123~~
~~2017: $3,201~~
~~2018: $3,281~~

Expense Estimated in 2018 ($00)

This expense is a homeowner's responsibility. The Association has aided owners with two group purchase programs (year? year?)

Meter Boxes – Replacement of 100 concrete meter boxes. It is possible that the City would replace this at no expense and that should be investigated.

~~Expense Estimated in 2010 ($17,453)~~
~~2051: $17,453~~

Expense Estimated in 2018 ($00)
This expense is an obligation of the Irving Water Department

Irrigation - Repairs and improvements to be expensed annually

Exterior Siding and Paint - Repairs to be expensed annually.

Definitions

CASH FLOW METHOD: A method of developing a Reserve Funding Plan where contributions to the Reserve fund are designed to offset the variable annual expenditures from the Reserve fund. Different Reserve Funding Plans are tested against the anticipated schedule of Reserve expenses until the desired Funding Goal is achieved.

COMPONENT: The individual line items in the Reserve Study, developed or updated in the Physical Analysis. These elements form the building blocks for the Reserve Study. Components typically are: 1) Association responsibility, 2) with limited Useful Life expectancies, 3) predictable Remaining Useful Life expectancies, 4) above a minimum threshold cost, and 5) as required by local codes.

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

COMPONENT METHOD: A method of developing a Reserve Funding Plan where the total contribution is based on the sum of contributions for individual components. See "Cash Flow Method."

CONDITION ASSESSMENT: The task of evaluating the current condition of the component based on observed or reported characteristics.

CURRENT REPLACEMENT COST: See "Replacement Cost."

DEFICIT: An actual (or projected) Reserve Balance less than the Fully Funded Balance. The opposite would be a Surplus.

EFFECTIVE AGE: The difference between Useful Life and Remaining Useful Life. Not always equivalent to chronological age, since some components age irregularly. Used primarily in computations.

FINANCIAL ANALYSIS: The portion of a Reserve Study where current status of the Reserves (measured as cash or Percent Funded) and a recommended Reserve contribution rate (Reserve Funding Plan) are derived, and the projected Reserve income and expense over time is presented. The Financial Analysis is one of the two parts of a Reserve Study.

FULLY FUNDED: 100% Funded. When the actual (or projected) Reserve balance is equal to the Fully Funded Balance.

FULLY FUNDED BALANCE (FFB): Total Accrued Depreciation. An indicator against which Actual (or projected) Reserve balance can be compared. The Reserve balance that is in direct proportion to the

fraction of life "used up" of the current Repair or Replacement cost. This number is calculated for each component, then summed together for an association total. Two formulas can be utilized, depending on the provider's sensitivity to interest and inflation effects. Note: Both yield identical results when interest and inflation are equivalent. FFB = Current Cost X Effective Age / Useful Life or FFB = (Current Cost X Effective Age / Useful Life) + [(Current Cost X Effective Age / Useful Life) / (1 + Interest Rate) ^ Remaining Life] - [(Current Cost X Effective Age / Useful Life) / (1 + Inflation Rate) ^ Remaining Life]

FUND STATUS: The status of the reserve fund as compared to an established benchmark such as percent funding.

FUNDING GOALS: Independent of methodology utilized, the following represent the basic categories of Funding Plan goals: · Baseline Funding: Establishing a Reserve funding goal of keeping the Reserve cash balance above zero. · Full Funding: Setting a Reserve funding goal of attaining and maintaining Reserves at or near 100% funded. · Statutory Funding: Establishing a Reserve funding goal of setting aside the specific minimum amount of Reserves required by local statues. · Threshold Funding: Establishing a Reserve funding goal of keeping the Reserve balance above a specified dollar or Percent Funded amount. Depending on the threshold, this may be more or less conservative than "Fully Funding."

FUNDING PLAN: An association's plan to provide income to a Reserve fund to offset anticipated expenditures from that fund.

FUNDING PRINCIPLES:
· Sufficient Funds When Required
· Stable Contribution Rate over the Years
· Evenly Distributed Contributions over the Years
· Fiscally Responsible

LIFE AND VALUATION ESTIMATES: The task of estimating Useful Life, Remaining Useful Life, and Repair or Replacement Costs for the Reserve components.

PERCENT FUNDED: The ratio, at a particular point of time (typically the beginning of the Fiscal Year), of the actual (or projected) Reserve Balance to the Fully Funded Balance, expressed as a percentage.

PHYSICAL ANALYSIS: The portion of the Reserve Study where the Component Inventory, Condition Assessment, and Life and Valuation Estimate tasks are performed. This represents one of the two parts of the Reserve Study.

REMAINING USEFUL LIFE (RUL): Also referred to as "Remaining Life" (RL). The estimated time, in years, that a reserve component can be expected to continue to serve its intended function. Projects anticipated to occur in the initial year have "zero" Remaining Useful Life.

REPLACEMENT COST: The cost of replacing, repairing, or restoring a Reserve Component to its original functional condition. The Current Replacement Cost would be the cost to replace, repair, or restore the component during that particular year.

RESERVE BALANCE: Actual or projected funds as of a particular point in time that the association has identified for use to defray the future repair or replacement of those major components which the association is obligated to maintain. Also known as Reserves, Reserve Accounts, Cash Reserves. Based upon information provided and not audited.

RESERVE PROVIDER: An individual that prepares Reserve Studies.

RESERVE STUDY: A budget planning tool which identifies the current status of the Reserve fund and a stable and equitable Funding Plan to offset the anticipated future major common area expenditures. The Reserve Study consists of two parts: The Physical Analysis and the Financial Analysis. "Our budget and finance committee is soliciting proposals to update our Reserve Study for next year's budget."

RESPONSIBLE CHARGE: A reserve specialist in responsible charge of a reserve study shall render regular and effective supervision to those individuals performing services which directly and materially affect the quality and competence rendered by the reserve specialist. A reserve specialist shall maintain such records as are reasonably necessary to establish that the reserve specialist exercised regular and effective supervision of a reserve study of which he was in responsible charge. A reserve specialist engaged in any of the following acts or practices shall be deemed not to have rendered the regular and effective supervision required herein: 1. The regular and continuous absence from principal office premises from which professional services are rendered; expect for performance of field work or presence in a field office maintained exclusively for a specific project; 2. The failure to personally inspect or review the work of subordinates where necessary and appropriate; 3. The rendering of a limited, cursory or perfunctory review of plans or projects in lieu of an appropriate detailed review; 4. The failure to personally be available on a reasonable basis or with adequate advance notice for consultation and inspection where circumstances require personal availability.

SPECIAL ASSESSMENT: An assessment levied on the members of an association in addition to regular assessments. Special Assessments are often regulated by governing documents or local statutes.

SURPLUS: An actual (or projected) Reserve Balance greater than the Fully Funded Balance. See "Deficit."

USEFUL LIFE (UL): Total Useful Life or Depreciable Life. The estimated time, in years, that a reserve component can be expected to serve its intended function if properly constructed in its present application or installation.

State of California
Department of Real Estate

RESERVE STUDY GUIDELINES
for Homeowner Association Budgets

August 2010

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This independent research report was developed under contract for the California Department of Real Estate by Eva Eagle, Ph.D., and Susan Stoddard, Ph.D., AICP, Institute for the Study of Family, Work and Community and David H. Levy, M.B.A., C.P.A. Janet Andrews, MBA, was responsible for the original design, layout, and typography. The Department of Real Estate revised this publication in August 2010. It includes updates by Roy Helsing PRA, RS to insure it aligns with current California Law and the guidelines of the Association of Professional Reserve Preparers (APRA) and the Community Associations Institute (CAI).," The report does not necessarily reflect the position of the Administration of the State of California.

NOTE: Before a homeowners' association decides to prepare its own Reserve Study, it should consider seeking professional advice on that issue. There are issues concerning volunteer board member indemnification, reliance on expert advice, and other factors that should be considered in that decision. The goal of this manual is to help the reader better understand Reserve Studies. It is not the intent of this manual to define the "standard of care" for Reserve Studies or to interpret the California Civil Code.

Department of Real Estate ▪ Publications ▪ 2201 Broadway ▪ Sacramento, CA 95818 ▪ Web site: www.dre.ca.gov

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List of Exhibits

Preface

California's Common Interest Development Act requires that associations prepare and distribute financial information, including a plan for funding future replacement of major components (roofs, exterior paint, and so on). "Reserve Study Guidelines for Homeowners' Association Budgets" has been developed to assist boards of directors of California common interest developments (CIDs) to better understand the preparation of the reserve study portion of the association's annual *pro forma* operating budget, as this document is defined in California Civil Code Section 1365, and to assist buyers in understanding the financial implications of an association's replacement reserve funding. The term "reserves" as used in this context refers to the funds set aside to cover these replacement costs. The board of directors must make decisions about the funding goals of the association. These guidelines should enable readers to answer the following questions:

- How do reserves fit into the overall financial plan?
- What are the steps in doing a reserve study?
- What are the steps in conducting a Physical Analysis of common area major components?
- What is involved in developing a Funding Analysis?
- How do boards hire qualified professionals to perform reserve studies?
- What are the "red flags" that signal potential problems?

These guidelines were developed with the assistance of numerous industry professionals, association board members and managers and the Department of Real Estate. The approach described in these pages has been developed from examples of current reserve studies, and from the comments and suggestions of industry leaders. In following the suggestions presented here, a board should consult with the association's own attorney, accountant, or other advisors, as necessary.

1. Introduction

Common interest developments (CIDs) are defined by shared property and restrictions in the deed on use of the property. A CID is governed by a mandatory association which administers the property and enforces its restrictions. The association is responsible for repairing, replacing, or maintaining the common areas. The owner of each separate interest is responsible for maintaining that separate interest and any exclusive use common area appurtenant to the separate interest. (California Civil Code Section 1364)

Importance of Reserve Studies

A reserve study provides a current estimate of the costs of repairing and replacing major common area components (such as roofs or pavement) over the long term. Ideally, all major repair and replacement costs will be covered by funds set aside by the association as reserves, so that funds are there when needed. This requires:

- examination of the association's repair and replacement obligations;
- determination of costs and timing of replacement; and
- determination of the availability of necessary (reserve) cash resources.

Because the board has a fiduciary duty to manage association funds and property, a replacement reserve budget is very important. Not only does this information supplement the annual pro forma operating budget in providing owners with financial information; the reserve study is also an important management information tool as the association strives to balance and optimize long-term property values and costs for the membership.

For buyers, understanding the reserve study is an important part of evaluating the value of a CID property. For association members, reserve planning helps assure property values by protecting against declining property values due to deferred maintenance and inability to keep up with the aging of components.

A good reserve study shows owners and potential buyers a more accurate and complete picture of the association's financial strength and market value. The reserve study should disclose to buyers, lenders, and others the manner in which management of the association (i.e., the board and outside management, if any) is making provisions for non-annual maintenance requirements. Preparing a reserve study calls for explicit association decisions on how to provide for long-term funding, and on the extent to which the association will set aside funds on a regular basis for non-annual maintenance requirements. A good reserve study may also function as a maintenance planning tool for the association.

Content of Reserve Studies

California's Common Interest Development Act sets forth California's legal requirements for reserve study information to be included in the annual association budget. California Civil Code Section 1365 requires that homeowner associations prepare and distribute certain financial information, including a pro forma operating budget, 30-90 days prior to the start of the association's next fiscal year.

Thus, the pro forma operating budget must contain, at a minimum, the following items:

- 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;
- If applicable, the amount of any construction defect related award or settlement and the disposition of such funds;
- The 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 methods of funding 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); and
- statement of methods used to develop estimates and funding plan.

The Civil Code requires a specific form to be used in disclosing the above items pursuant to Civil Code Section 1365.2.5.

Since the time when these requirements were established, a number of California CIDs have assembled data and produced reports in response to the law. Many CIDs, however, still have not developed required component information or funding plans. This is particularly true in smaller, self-managed associations. Even in larger associations with extensive professional support, there is often conflicting advice on what is required.

The law calls for disclosure of specific information from the "reserve study." The law does not specify the funding goal to be achieved by an association, nor does it dictate the exact form of the reserve study. While a study alone, containing the elements prescribed by Civil Code Section 1365.5, is sufficient to constitute legal compliance, an association will be stronger financially if regular assessments are collected to help assure funding of replacement requirements as they occur.

This report is the result of a project that gathered information on current reserve study practices in California, including interviews with board members and industry professionals concerning their experiences with, opinions on, and appropriate responses to the reserve study provisions of Section 1365.5. This document sets forth several decision points necessary for the board to respond to the reserve study requirements. By following the procedures set forth in this document, it should be possible for reserve studies to be produced that include the information called for in Section 1365.5 and that comply with good business practice in the management of association property.

The texts of Civil Code Sections 1365 and 1365.5 are included next as Exhibit 1.1.

Exhibit 1.1 - California Civil Code Sections 1365 and 1365.5

Section 1365

1365. Unless the governing documents impose more stringent standards, the association shall prepare and distribute to all of its members the following documents:

(a) A pro forma operating budget, which shall include all of the following:

(1) The estimated revenue and expenses on an accrual basis.

(2) A summary of the association's reserves based upon the most recent review or study conducted pursuant to Section 1365.5, based only on assets held in cash or cash equivalents, which shall be printed in boldface type and include all of the following:

(A) The current estimated replacement cost, estimated remaining life, and estimated useful life of each major component.

(B) As of the end of the fiscal year for which the study is prepared:

(i) The current estimate of the amount of cash reserves necessary to repair, replace, restore, or maintain the major components.

(ii) The current amount of accumulated cash reserves actually set aside to repair, replace, restore, or maintain major components.

(iii) If applicable, the amount of funds received from either a compensatory damage award or settlement to an association from any person or entity for injuries to property, real or personal, arising out of any construction or design defects, and the expenditure or disposition of funds, including the amounts expended for the direct and indirect costs of repair of construction or design defects. These amounts shall be reported at the end of the fiscal year for which the study is prepared as separate line items under cash reserves pursuant to clause (ii). Instead of complying with the requirements set forth in this clause, an association that is obligated to issue a review of their financial statement pursuant to subdivision (b) may include in the review a statement containing all of the information required by this clause.

(C) The percentage that the amount determined for purposes of clause (ii) of subparagraph (B) equals the amount determined for purposes of clause (i) of subparagraph (B).

(D) The current deficiency in reserve funding expressed on a per unit basis. The figure shall be calculated by subtracting the amount determined for purposes of clause (ii) of subparagraph (B) from the amount determined for purposes of clause (i) of subparagraph (B) and then dividing the result by the number of separate interests within the association, except that if assessments vary by the size or type of ownership interest, then the association shall calculate the current deficiency in a manner that reflects the variation.

(3) A statement as to all of the following:

(A) Whether the board of directors of the association has determined to defer or not undertake repairs or replacement of any major component with a remaining life

of 30 years or less, including a justification for the deferral or decision not to undertake the repairs or replacement.

(B) Whether the board of directors of the association, consistent with the reserve funding plan adopted pursuant to subdivision (e) of Section 1365.5, has determined or anticipates that the levy of one or more special assessments will be required to repair, replace, or restore any major component or to provide adequate reserves therefor.

If so, the statement shall also set out the estimated amount, commencement date, and duration of the assessment.

(C) The mechanism or mechanisms by which the board of directors will fund reserves to repair or replace major components, including assessments, borrowing, use of other assets, deferral of selected replacements or repairs, or alternative mechanisms.

(D) Whether the association has any outstanding loans with an original term of more than one year, including the payee, interest rate, amount outstanding, annual payment, and when the loan is scheduled to be retired.

(4) A general statement addressing the procedures used for the calculation and establishment of those reserves to defray the future repair, replacement, or additions to those major components that the association is obligated to maintain. The report shall include, but need not be limited to, reserve calculations made using the formula described in paragraph (4) of subdivision (b) of Section 1365.2.5, and may not assume a rate of return on cash reserves in excess of 2 percent above the discount rate published by the Federal Reserve Bank of San Francisco at the time the calculation was made.

The summary of the association's reserves disclosed pursuant to paragraph (2) shall not be admissible in evidence to show improper financial management of an association, provided that other relevant and competent evidence of the financial condition of the association is not made inadmissible by this provision.

Notwithstanding a contrary provision in the governing documents, a copy of the operating budget shall be annually distributed not less than 30 days nor more than 90 days prior to the beginning of the association's fiscal year.

(b) Commencing January 1, 2009, a summary of the reserve funding plan adopted by the board of directors of the association, as specified in paragraph (4) of subdivision (e) of Section 1365.5. The summary shall include notice to members that the full reserve study plan is available upon request, and the association shall provide the full reserve plan to any member upon request.

(c) A review of the financial statement of the association shall be prepared in accordance with generally accepted accounting principles by a licensee of the California Board of Accountancy for any fiscal year in which the gross income to the association exceeds seventy-five thousand dollars ($75,000). A copy of the review of the financial statement shall be distributed within 120 days after the close of each fiscal year.

(d) Instead of the distribution of the pro forma operating budget required by subdivision (a), the board of directors may elect to distribute a summary of the pro forma operating budget to all

of its members with a written notice that the pro forma operating budget is available at the business office of the association or at another suitable location within the boundaries of the development, and that copies will be provided upon request and at the expense of the association. If any member requests that a copy of the pro forma operating budget required by subdivision (a) be mailed to the member, the association shall provide the copy to the member by first-class United States mail at the expense of the association and delivered within five days. The written notice that is distributed to each of the association members shall be in at least 10-point boldface type on the front page of the summary of the budget.

(e) A statement describing the association's policies and practices in enforcing lien rights or other legal remedies for default in payment of its assessments against its members shall be annually delivered to the members not less than 30 days nor more than 90 days immediately preceding the beginning of the association's fiscal year.

(f) (1) A summary of the association's property, general liability, earthquake, flood, and fidelity insurance policies, which shall be distributed not less than 30 days nor more than 90 days preceding the beginning of the association's fiscal year, that includes all of the following information about each policy:

(A) The name of the insurer.

(B) The type of insurance.

(C) The policy limits of the insurance.

(D) The amount of deductibles, if any.

(2) The association shall, as soon as reasonably practicable, notify its members by first-class mail if any of the policies described in paragraph (1) have lapsed, been canceled, and are not immediately renewed, restored, or replaced, or if there is a significant change, such as a reduction in coverage or limits or an increase in the deductible, as to any of those policies. If the association receives any notice of nonrenewal of a policy described in paragraph (1), the association shall immediately notify its members if replacement coverage will not be in effect by the date the existing coverage will lapse.

(3) To the extent that any of the information required to be disclosed pursuant to paragraph (1) is specified in the insurance policy declaration page, the association may meet its obligation to disclose that information by making copies of that page and distributing it to all of its members.

(4) The summary distributed pursuant to paragraph (1) shall contain, in at least 10-point boldface type, the following statement:

"This summary of the association's policies of insurance provides only certain information, as required by subdivision (f) of Section 1365 of the Civil Code, and should not be considered a substitute for the complete policy terms and conditions contained in the actual policies of insurance. Any association member may, upon request and provision of reasonable notice, review the association's insurance policies and, upon request and payment of reasonable duplication charges, obtain copies of those policies. Although the association maintains the policies of insurance specified in this summary, the association's policies of insurance may not cover your

property, including personal property or, real property improvements to or around your dwelling, or personal injuries or other losses that occur within or around your dwelling. Even if a loss is covered, you may nevertheless be responsible for paying all or a portion of any deductible that applies. Association members should consult with their individual insurance broker or agent for appropriate additional coverage."

1365.5. (a) Unless the governing documents impose more stringent standards, the board of directors of the association shall do all of the following:

(1) Review a current reconciliation of the association's operating accounts on at least a quarterly basis.

(2) Review a current reconciliation of the association's reserve accounts on at least a quarterly basis.

(3) Review, on at least a quarterly basis, the current year's actual reserve revenues and expenses compared to the current year's budget.

(4) Review the latest account statements prepared by the financial institutions where the association has its operating and reserve accounts.

(5) Review an income and expense statement for the association's operating and reserve accounts on at least a quarterly basis.

(b) The signatures of at least two persons, who shall be members of the association's board of directors, or one officer who is not a member of the board of directors and a member of the board of directors, shall be required for the withdrawal of moneys from the association's reserve accounts.

(c) (1) The board of directors shall not expend funds designated as reserve funds for any purpose other than the repair, restoration, replacement, or maintenance of, or litigation involving the repair, restoration, replacement, or maintenance of, major components that the association is obligated to repair, restore, replace, or maintain and for which the reserve fund was established.

(2) However, the board may authorize the temporary transfer of moneys from a reserve fund to the association's general operating fund to meet short-term cashflow requirements or other expenses, if the board has provided notice of the intent to consider the transfer in a notice of meeting, which shall be provided as specified in Section 1363.05. The notice shall include the reasons the transfer is needed, some of the options for repayment, and whether a special assessment may be considered. If the board authorizes the transfer, the board shall issue a written finding, recorded in the board's minutes, explaining the reasons that the transfer is needed, and describing when and how the moneys will be repaid to the reserve fund. The transferred funds shall be restored to the reserve fund within one year of the date of the initial transfer, except that the board may, after giving the same notice required for considering a transfer, and, upon making a finding supported by documentation that a temporary delay would be in the best interests of the common interest development, temporarily delay the restoration. The board shall exercise prudent fiscal management in maintaining the integrity of the reserve account, and shall, if necessary, levy a special assessment to recover the full amount of the expended funds within the time limits required by this section. This special assessment is subject to the limitation imposed

by Section 1366. The board may, at its discretion, extend the date the payment on the special assessment is due. Any extension shall not prevent the board from pursuing any legal remedy to enforce the collection of an unpaid special assessment.

(d) When the decision is made to use reserve funds or to temporarily transfer moneys from the reserve fund to pay for litigation, the association shall notify the members of the association of that decision in the next available mailing to all members pursuant to Section 5016 of the Corporations Code, and of the availability of an accounting of those expenses. Unless the governing documents impose more stringent standards, the association shall make an accounting of expenses related to the litigation on at least a quarterly basis. The accounting shall be made available for inspection by members of the association at the association's office.

(e) At least once every three years, the board of directors shall cause to be conducted a reasonably competent and diligent visual inspection of the accessible areas of the major components that the association is obligated to repair, replace, restore, or maintain as part of a study of the reserve account requirements of the common interest development, if the current replacement value of the major components is equal to or greater than one-half of the gross budget of the association, excluding the association's reserve account for that period. The board shall review this study, or cause it to be reviewed, annually and shall consider and implement necessary adjustments to the board's analysis of the reserve account requirements as a result of that review.

The study required by this subdivision shall at a minimum include:

(1) Identification of the major components that the association is obligated to repair, replace, restore, or maintain that, as of the date of the study, have a remaining useful life of less than 30 years.

(2) Identification of the probable remaining useful life of the components identified in paragraph (1) as of the date of the study.

(3) An estimate of the cost of repair, replacement, restoration, or maintenance of the components identified in paragraph (1).

(4) An estimate of the total annual contribution necessary to defray the cost to repair, replace, restore, or maintain the components identified in paragraph (1) during and at the end of their useful life, after subtracting total reserve funds as of the date of the study.

(5) A reserve funding plan that indicates how the association plans to fund the contribution identified in paragraph (4) to meet the association's obligation for the repair and replacement of all major components with an expected remaining life of 30 years or less, not including those components that the board has determined will not be replaced or repaired. The plan shall include a schedule of the date and amount of any change in regular or special assessments that would be needed to sufficiently fund the reserve funding plan. The plan shall be adopted by the board of directors at an open meeting before the membership of the association as described in Section 1363.05. If the board of directors determines that an assessment increase is necessary to fund the reserve funding plan, any increase shall be approved in a separate action of the board that is consistent with the procedure described in Section 1366.

(f) As used in this section, "reserve accounts" means both of the following:

(1) Moneys that the association's board of directors has identified for use to defray the future repair or replacement of, or additions to, those major components that the association is obligated to maintain.

(2) The funds received, and not yet expended or disposed of, from either a compensatory damage award or settlement to an association from any person or entity for injuries to property, real or personal, arising from any construction or design defects. These funds shall be separately itemized from funds described in paragraph (1).

(g) As used in this section, "reserve account requirements" means the estimated funds that the association's board of directors has determined are required to be available at a specified point in time to repair, replace, or restore those major components that the association is obligated to maintain.

(h) This section does not apply to an association that does not have a "common area" as defined in Section 1351.

2. How Do Reserves Fit into the Overall Financial Plan?

The reserves are an important part of the association's annual pro forma operating budget. The replacement reserves relate to association budgeting in two important ways:

- The pro forma operating budget will include planned replacement reserve funding and the accrual-basis expense for the year.
- The reserve estimates depend on assumptions about the association's maintenance program, and maintenance expense is a part of the operations budget.

It is important that association members understand the difference between operations and replacement reserve activities. Boards should establish policy to distinguish between reserve expenses (funded from the replacement reserve account) and operating expenses (funded through the non-reserve operating budget).

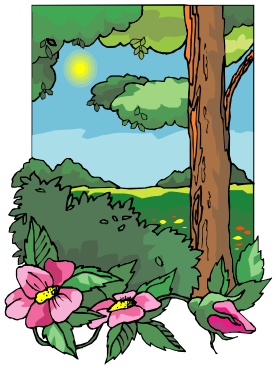
In common interest developments, the following division of maintenance and replacement responsibility is typical, although actual items included in each category will vary according to each association's physical plan and governing documents:

- individual responsibility for maintenance;
- association responsibility for day-to-day maintenance of common area;
- association responsibility for non-annual maintenance and replacement of common area; and
- association responsibility for improvements.

Individual homeowners are usually responsible for maintenance of their own units. Certainly, this includes maintenance of interiors of the homes themselves. The carpeting, interior paint, kitchen counters, etc. are typically the separate responsibility of the unit owner. In addition, the owner may

have explicit maintenance responsibility for exclusive use common area (such as private yards, decks, front doors, etc.), or for some exterior features of the unit (such as siding, roofs, etc.).

Individual and association maintenance and replacement responsibilities can interrelate. For instance, individuals in their private units are responsible for periodic replacement of the caulking around the bathtub. Failure to replace caulking may result in moisture intrusion into walls and subflooring, and could eventually cause damage to the common area structure of the building, or another unit.



The association usually maintains the common area, which typically includes landscaping, recreation facilities, parking areas, drainage gutters, outdoor lighting, and other public or "common" property. 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. Unfortunately, some owners do not realize their community responsibilities or the fact that damage to common area property can result in direct costs to all homeowners through assessments.

The association is responsible for the long-term maintenance and replacement of common area components as they end their useful lives. Usually, this type of replacement can be planned well in advance, based on industry information about the expected life of the various components and periodic physical inspection of wear.

Association improvements can be considered a special category of expense. If there is an addition to the common area, not planned in the original development, the association may elect to fund and make the addition. Improvements are typically onetime additions; once a part of the common area, the improvements require both day-to-day maintenance and provision for repair and replacement.

Clear distinctions must be made between the private property of individual owners in CID projects and the common areas for which the association is responsible. Ideally, association governing documents are very explicit in distinguishing that which is private property from that which is common area property maintained by the association. However, sometimes the status of component is not identified, or is identified erroneously. We have seen association governing documents that specify responsibility for components that are not in the complex (e.g., interior hallways) or that fail to define the responsibility for other important components. If the governing instruments don't allocate these responsibilities clearly, the association may wish to consider amending the documents.

3. What Are the Steps in Doing a Reserve Study?

A Reserve Study is made up of two parts: the Physical Analysis, and the Financial Analysis.

1. 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 is comprised of the Component Inventory, Condition Evaluation, Age Adjustment [based on useful life (total) and remaining life of the components] and the Costs to Replace. The Component Inventory should remain relatively "stable" from year to year, while the

Condition Evaluation, Age Adjustment and Cost to Replace and Valuation will clearly change from year to year.

2. The Financial Analysis is the analysis of the association's Reserve income and expenses. The Financial Analysis is made up of a finding 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).

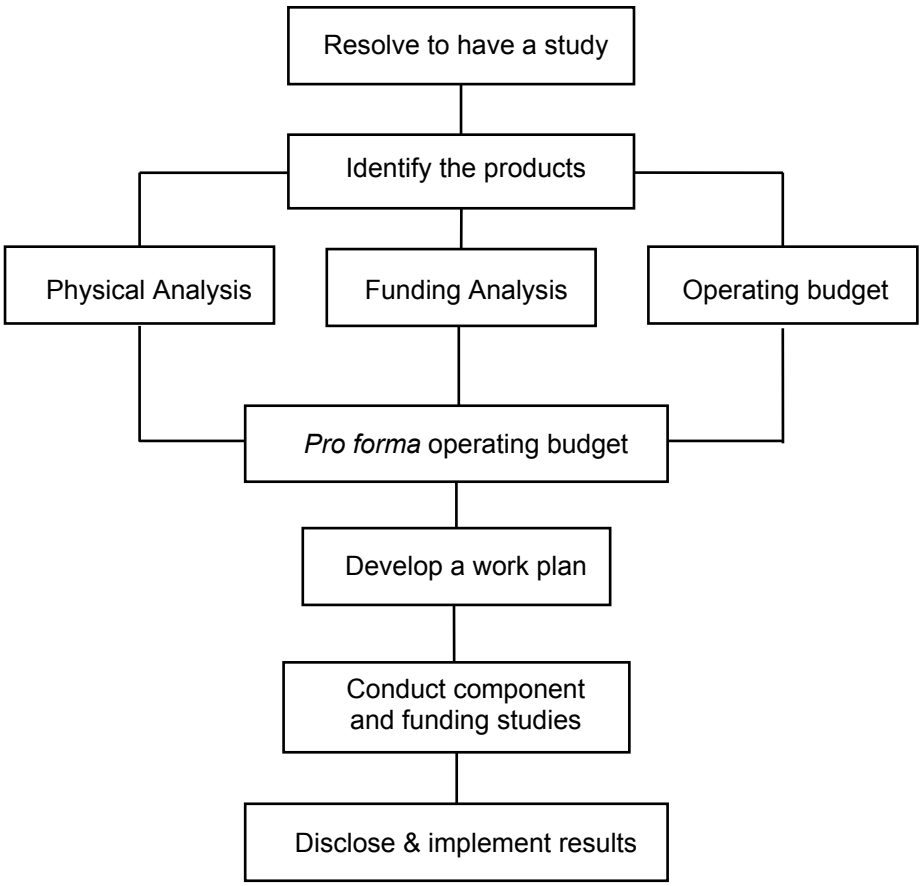
Many CID homeowners or home buyers assume that their reserve requirements have been adequately established because developers prepare a reserve budget worksheet as part of the project approval process. This worksheet is filed with the California Department of Real Estate (DRE) along with other information in order to obtain a Final Subdivision Public Report that allows the developer to begin selling homes in the project. The reserves worksheet is used to estimate the monthly reserve contribution in the association's first-year budget. Developer estimates may have been prepared one, two, or more years before the project is actually constructed. As a result, they may be dated by the time the first unit is sold, unless they have been subsequently adjusted for changes in replacement costs. More seriously, since the information was assembled at the planning stage, the reserve worksheet may not reflect the association's true liability for the project as actually constructed.

Another possible shortcoming is that the standard preprinted reserves worksheet contains only certain major components (e.g., roofing, painting, paving, etc.).

Consequently, some components may not be listed even though the association must repair and/or replace them. In addition, the estimated life shown for components may not reflect local conditions, and the costs shown may not be based on actual local prices. When associations compare the reserve worksheet to their reserve responsibilities, they may find that the worksheet needs modification.

Consequently, a new association should conduct its own reserve study before the project is more than a few years old. Exhibit 3.1 shows the major decisions an association board should make to produce reserve information.

Exhibit 3.1 – Steps in Providing for Adequate Reserves



Resolve to Have a Reserve Study

The board should pass a resolution that a reserve study shall be performed and that the association is committed to taking the necessary steps. Older associations that have been operating without a reserve study, or funding plan, should initiate this process as soon as possible. New associations should have a Reserve Study done in a timely manner and certainly by the end of the first year of any significant construction, as initial budgets may not include a physical analysis of the new construction. The California Civil Code requires the Board of Directors of existing associations that have completed a study to review the study annually and consider and implement any necessary adjustments as a result of that review. For new associations it may not be possible to make that analysis without including a Physical Analysis and ensuring the Component Inventory is consistent with what was actually built. Additionally, the Civil Code requires that a Physical Analysis be conducted at least every three years. With ongoing construction, it may well be necessary to do such analysis annually in order to adjust for changes during construction. The Board of Directors should carefully consider these factors for new homeowners associations.

Identify the Work Products

The board should identify the reserve study products needed and who is to produce them. A Physical Analysis, a Financial Analysis, and the text and exhibits to be included in the reserve study portion of the annual pro forma operating budget will cover the statutory requirements and also provide sufficient detail for long-term association financial planning. As discussed in Chapter 5, the pro forma operating budget must also disclose to homeowners and potential homeowners other important information about reserve funding and obligations.

An association board may contract for the preparation of Physical Analysis, Funding Analysis, and operating budget by professionals, or it may decide to produce one or more of these products by itself. Another option is for the board to perform part of the work and hire a professional to do the rest. Chapter 6 will discuss the option of hiring professionals for some or all of the reserve study tasks.

Develop a Work Plan

Before conducting a reserve study, an association board should develop a work plan, specifying the nature of the tasks to be performed. The work plan should establish:

- the types of components to be included or excluded
- the timeframe for funding common area components
- the budget available for conducting the study

Choosing which components 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 usually maintain. Defined by California statute as common area items used exclusively by individual units (e.g., decks and patios), these areas are usually identified in the association governing documents known as the Covenants, Conditions, and Restrictions (CC&Rs). The CC&Rs should also make clear the maintenance responsibility of the association and homeowners for these items.

With the guidance of their CC&Rs, the board should make a separate list of exclusive use common area components and decide who should bear the responsibility for maintaining these items. If the association has responsibility for maintaining these items, they should be included in the list of major components and be given a line item in the reserve budget.

Whatever the board decides, the documentation of the reserves and the assumptions that are an integral part of the study should include appropriate disclosure of such specifications. Any information distributed to homeowners, or prospective homeowners, should disclose which of these items were included and which excluded.

Timeframe. Professionals do not always agree on the appropriate timeframe for a reserve study. The California Civil Code requires, as a minimum, all components with a useful remaining life of less than 30 years be included in the study. However, pursuant to Civil Code Section 1365.2.5, any components with a remaining useful life of more than 30 years that are not included must be reported in the reserve study report and the Assessment and Reserve Funding Disclosure Summary. It should be noted that a component with a long useful remaining life, that may have been excluded in earlier studies, could be included in a later study if its useful remaining life drops to within the time

parameters of a later study. A good rule of thumb is to forecast for 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-the building" components (such as the building foundation and structure) are generally omitted from the reserve study budget. However, if there is reason to expect the item to wear out before the building does and if, due to the age of the units, the item may wear out 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.

Obviously, the ability to estimate accurately is best in the near term. Estimates of costs that are 20 to 40 years away are at best an educated guess. However, a reserve study is incomplete and may be misleading unless it covers the life of the longest-lived component. Since studies should be reviewed annually as a part of the association's regular budget cycle, estimates can be updated as necessary.

Budget available for conducting the study. The third consideration will be the amount of money available to conduct the initial study. All associations required to perform a reserve study under the California Civil Code should, on an annual basis, adequately fund their budget to enable them to either conduct a study or hire outside professionals to complete the study, if need be, and/or pay for study updates at least once every three years.

Conduct the Component and Funding Studies

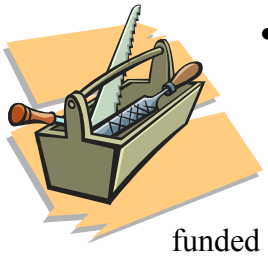
The board should identify some documents, including the CC&Rs, the most accurate existing drawings of the development, and the maintenance history of major common area components. If "as-built" drawings exist, these are the best source of information about the nature of the major components. The maintenance history obtained should include the actual dollar cost figures of that maintenance. If the association does not already do so, it may wish to create a "permanent" maintenance history file for each major component. Chapters 4 and 5 describe the conduct of the component and funding studies in detail.

Accept, Disclose, and Implement the Results

The board reviews and accepts the reserve study and incorporates a summary of the long-term funding plan, and certain other information, in the pro forma operating budget, as provided in Civil Code Section 1365.

4. What Are the Steps in Conducting a Physical Analysis?

The goals of a Physical Analysis are to:



- estimate useful and remaining life of major components; and
- estimate current replacement cost of major components.

The Physical Analysis lists and estimates replacement costs and timing for replacement of the major components whose repair or replacement is to be funded through association reserves. The study determines when such repairs or replacements will be needed and what they will cost. The major steps in conducting a Physical Analysis are shown in Exhibit 4.1.

There are a number of firms that perform these studies for community associations. This explanation of how to perform a Physical Analysis will help associations to contract for this service and to interpret the study results. For associations who cannot, or do not wish to, hire a Reserve Study preparer, this explanation will provide guidelines for board members who decide to perform their own Physical Analysis. (See Chapter 6 for additional discussion on hiring professionals.) Boards of Directors should consider the fact that they could lose the personal indemnity that comes from relying on professional advice if they choose to undertake their own study. Because of this, you should consider seeking legal advice before proceeding.

Exhibit 4.1 – Steps in the Physical Analysis Process

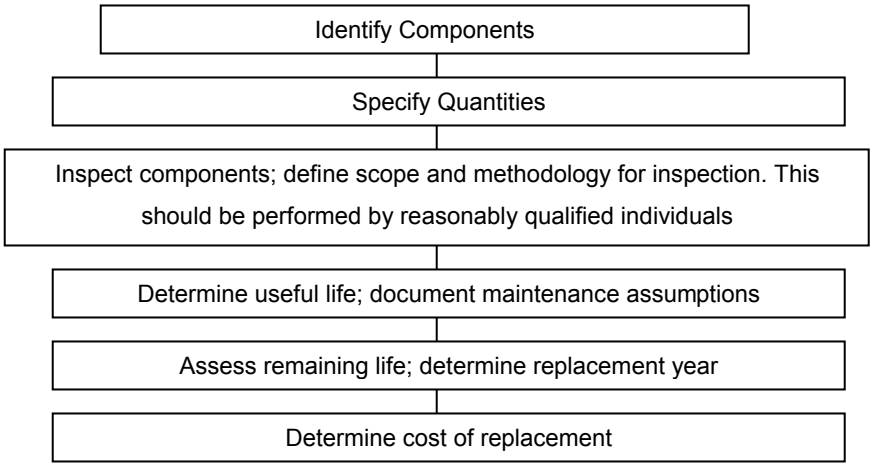


Exhibit 4.1 – Steps in the Physical Analysis Process

For each association, the exact list of major common area components is unique. Although lists from other associations or industry publications (including this one) may serve as a general guide, they are rarely usable without modifications and additions. **An inaccurate or incomplete list of components can materially distort the association's long-term funding plan.**

Criteria for Components

The board 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 they meet all of the following criteria:

- 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 replace (amount to be determined by the board);[1]
- the estimated useful life of the item is greater than one year; and the estimated useful life of the item is less than thirty years at the time of the study.

[1] One possible guideline is to include items that cost 1% or more of the total annual association budget. Another possible guideline is to include items that cost over $500 or over $1000 to replace, including groups of related items (e.g., all gates in the development) that cost over $1000 to replace. The dollar amount or percentage to use as the guideline should be discussed and adopted by the board. Items costing less than this amount may be included in the annual operating budget rather than funded through the reserve budget.

Developing a Component List

Unfortunately, there is often no one document with a comprehensive list of components for a development. As a result, it is not easy to identify components accurately, although it is essential that the association develop an accurate list of all items for whose repair or replacement it must budget.

The exact list of components to include depends upon the physical characteristics of the project as well as upon the legal division of responsibility among the homeowner, the association, and the local government. Appendix A provides a list of items that might be listed as components for association reserves. This list is not exhaustive of all possible items, but does include many of those that would commonly be found.

The association's "CC&Rs" and condominium plans generally describe the common areas of the development and so can help to provide a list of components. Most CC&Rs describe what is a part of each "unit" and what is outside the unit. In a true 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, and are generally also responsible for external doors, door hardware, windows, patios, balconies, and similar items (see Civil Code Sections 1351 and 1634). However, in planned developments (PDs), the owners are usually responsible for some portion of the maintenance on the exterior and structure of their individual units as well. The CC&Rs usually specify the division between individual and association responsibility, and will serve as a guide to the components to be included in the reserve study.

The developers reserve 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 an association has found that, despite its existence, an 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. (For a list of items that are often overlooked in the CC&Rs and the developer budget, see Appendix B.)

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.

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. For some components (e.g., streets, roofs, fences) the square or linear footage must be measured in order to describe the quantity, while for other items (e.g., utility room doors) it may be sufficient to know the number required. "As-built" drawings are an excellent source of information for these quantities, but in their absence the items should be accurately measured. [2]

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[2] The drawings filed when the development was begun 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, it is necessary to give some consideration to 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. [3] 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 the Useful and Remaining Life of Each Component

"Useful life" is typically defined as the number of years the 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 as provided in Civil Code Section 1364, 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 writing, 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 "twenty-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.

The Department of Real Estate publishes an ***Operating Cost Manual for Homeowner Associations*** which includes the average useful life for a number of major components. Some commercially available manuals also have estimates of useful life.[4] Published data may not be consistent with the location, exposure, or type of a particular component. The estimated life of a street as predicted from national data may well be lower than that of a street in the comparatively mild climate of California, but the estimated life of exterior paint as predicted from national averages may be higher than that of paint on buildings in windy or coastal areas. Similarly, paint on western or southern exposures weathers faster in sunny climates, reducing the useful life of a paint job in California and particularly reducing it for certain walls. In using published estimates, it is necessary to consider how the specific case in question may differ from the average case considered by the manual's author.

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 specifically.

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3 While the association may wish to change the quality of the component at the time of replacement, this is a separate decision.

4 For example, manuals are distributed by R.S. Means Company, Inc., F.W. Dodge, Lee Saylor, Inc., and Marshall & Swift.

The remaining life is generally defined as the expected number of years the 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, the less accurate this method will be.

Some of the factors that affect the estimate of remaining life of a component are its 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, preferably 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.

In determining the remaining life of a component, a certain level of continued preventive maintenance is assumed. These maintenance assumptions should be stated 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. Exhibit 4.2 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.

Exhibit 4.2 – Determining the Replacement Schedule

Component	***Age in Years as of 12/31/95***	***Estimated Useful Life***	***Estimated Remaining Life***	***Year to Replace***
Painting	*3*	*5*	*2*	*1998*
Paving (slurry coat)	*4*	*7*	*3*	*1999*
Roofing (wood shingle)	*11*	*15*	*4*	*2000*

Determining the Cost of Replacement

Replacement costs can be obtained from manufacturers or their representatives on some items and from local licensed contractors on others. It is important to remember that the cost of component replacement should also include the cost of removing the existing component, if appropriate.

There are a number of recognized cost estimating manuals available with pricing information that can be used (e.g., R.S. Means Company, Inc., F.W. Dodge, Lee Saylor, Inc., Marshall & Swift). 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. However, there are some cautions to be observed in using these manuals to determine costs. The majority of professionals performing reserve studies for homeowner associations obtain their cost estimates from a data base gathered from their experience. Cost estimates derived from this data could vary significantly from estimates based on manuals alone. Therefore, it may be prudent for associations performing their own study to obtain additional supporting data for their manual cost estimates from other sources, such as contractors, suppliers, etc. This collection of data should then be considered in conjunction with the results of an inspection by a reasonably qualified person when making a final determination of replacement cost.

It is important to determine the specific geographic area for which the manual offers a cost average. If the manual has national averages, it probably underestimates the cost of labor in many parts of California. If the manual has statewide or national averages, it may underestimate the cost of labor in urban areas by a significant factor.

It is also important to determine 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.

Using Component Data to Develop the Funding Analysis

Once the charts of replacement schedule and future replacement costs are completed, the Physical Analysis is finished. The next step is to figure out how much will be spent in each year for all components, and that step is a part of the Funding Analysis.

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 twenty-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.

Thus, a properly prepared Physical Analysis will lead to a better maintenance program for the association. Clear and concise maintenance suggestions are a useful supplement to a professionally prepared Physical Analysis. These suggestions may save more than the cost of the original study on future repairs and replacements.

Exhibit 4.3 – 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

5. What is Involved in Developing a Funding Analysis?

The goals of a Funding Analysis are to:

- establish funding goals
- identify annual funding requirements
- disclose limitations and assumptions

Once the components' estimated useful life, estimated remaining life, and estimated current replacement costs are identified, the association is ready to develop a plan for funding the reserve account. This funding plan specifies future reserve cash needs and planned methods for funding.

In preparing the funding plan, the association will have to make decisions about the amount of current assessments and the need for special assessments, balanced against projected liability. The law does not require the funding of projected replacement costs, only an explicit description of the plan for such funding, among other specific disclosures. Clearly, however, the financial viability of the association will depend a great deal on the ability of the association to replace components as they wear out and not to defer major maintenance items.

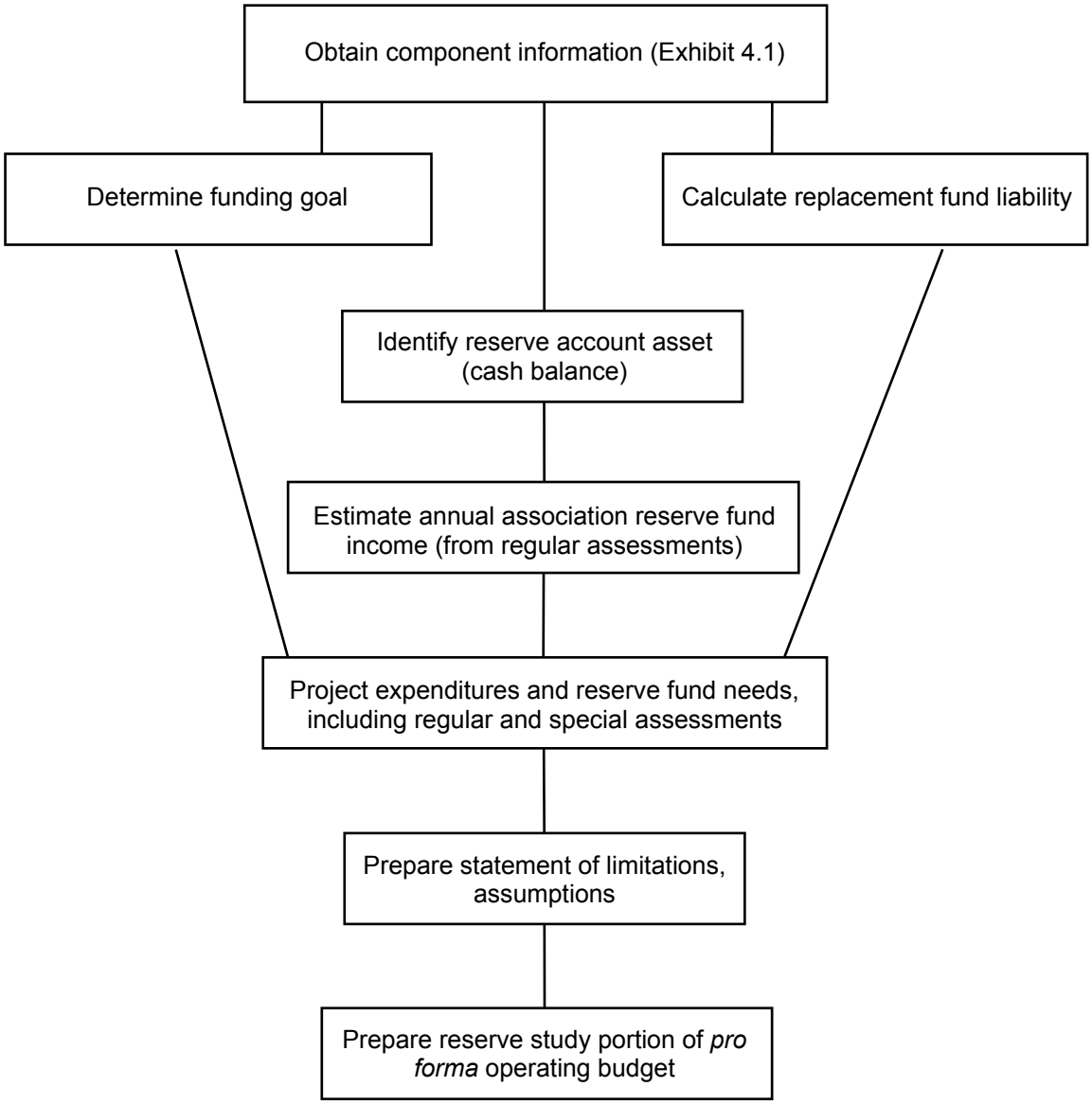
A product of the Funding Analysis process is the development of a funding plan (cash flow forecast or projection) to estimate future reserve cash receipts and disbursements. This is most easily presented in a spreadsheet format. All supporting assumptions and methodology should be carefully documented.

Exhibit 5.1 shows the major steps in the development of the funding plan and the reserve study portion of the *pro forma* operating budget. As an association completes these steps, the board will make major policy decisions. Professionals may be able to advise the board on key decisions, but it is important for the board to understand each of these decisions, since they independently affect the overall results of the funding plan. Since the amount of regular assessments and the need for any special assessments should be indicated in the plan, these decisions will affect the owners' monthly costs and property values. Because of their importance, each decision is discussed in turn, with an example showing how these decisions contribute to a long-term funding plan.

Determining the Funding Goal for Replacement Reserves

Section 1365(a)(4) of the California Civil Code calls for identification of the methods of funding used to defray future repair, replacement, or additions to major components. Revenues and expenses are to be estimated on an accrual basis. However, a specific funding goal is not indicated in the law. In preparing these guidelines, we have identified several major funding strategies followed by associations. Determination of the funding strategy, including establishment of the funding goal, is one of the most important fiscal decisions to be made by an association board. The *pro forma* operating budget should clearly indicate estimated revenues and expenses, describe the funding goal, and indicate current status in meeting the goal.

Exhibit 5.1 – Steps in the Funding Analysis Process



The funding plan should show the funds required to replace each component as it comes to the end of its useful life and indicate how the association will fund the replacements. The association should decide how much should be raised through regular assessments for the reserve account each year and how much should be raised by special assessment, if any. In addition, the association should consider how much cash will remain in the reserve account at the end of the planning period relative to the projected balance needed at that date.

Associations will have to make difficult policy choices in determining the funding goal. Many associations are currently underfunded in reserves. This is due to a lack of attention to reserve budgets in the past and underestimation of replacement costs. An ideal goal for an association is to eliminate this under funded reserves deficit or shortage. That is, to build up the reserve fund to a

level where the cash in the replacement reserve account is at least equal to the estimated value of accumulated wear of all major components. However, this goal may not be within reach of many associations in the short run, except through special assessments.

We can identify at least three basic funding goal models. Depending on current association finances and financial health, one of these models may be currently operating. The three models identified are:

- Fully Funded Model -- setting a Reserve funding goal of keeping the Reserves at or near 100% funded.
- Threshold Funded Model -- setting a Reserve funding goal of keeping the Reserve balance above some threshold. Depending on the mix of common area major components this model may be more or less conservative than the fully funded model. The only way to tell is to compare the two models closely.
- Baseline Funded Model -- "Minimum Funded Model - setting a reserve funding goal of keeping the reserve cash balance at the end of each year in the overall reserve funding projection at or above $-0-."

Each of these models depends on an analysis of cash flows into and out of the reserve fund over the next thirty years. Assessment calculations are then made sufficient to reach the Board of Director's funding goals.

Calculating the Reserve Deficit: The law establishing the reserve study requirements calls for annual disclosure of "estimated revenue and expenses" 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 spreading the eventual replacement cost of each component over its total useful life or obtaining an estimate of annual component wear. After that is done, there are several methods which may be used to calculate the required estimated reserves for components and to calculate any deficit or shortage in the reserve fund, two of which are shown below.

If a component currently valued at $10,000 has a useful life of ten years, then we can estimate the annual wear, or the annual provision for the replacement fund, at $1,000. By year five, this component, then, would have accrued a liability of $5,000, assuming no inflation. (If an association is "fully funded," we would expect that this $5,000 would already be in the reserve account by the end of the fifth year.)

Exhibit 5.2 shows how to calculate a deficit in the reserve fund which can also be thought of as the current unfunded portion of the estimated value of accumulated wear of all major components. The example uses the same components shown in Exhibit 4.2. It assumes that the association, consisting of 35 units, 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, a total of $400 per unit.

Exhibit 5.2 – Calculating A Reserve Deficit

Desired Balance = Current Cost/Useful Life x Effective Age

The Reserve Deficit = Desired Balance - cash reserves

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%

The problem with the above model is that it does not take into account the impact of interest and inflation. An alternative model, which does take interest and inflation into account is as follows:

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

While the formula looks complicated, using it for each component yields the following results (assuming 3% inflation and 5% interest after taxes):

Component Replacement	***Current Cost***	***Useful Life***	***Effective Age***	***Remaining Life***	***Desired Balance***
Painting	*$10,000*	*5*	*3*	*2*	*$5,787*
Paving	*$14,000*	*7*	*4*	*3*	*$7,590*
Roofing	*$30,000*	*15*	*11*	*4*	*$20,553*
Total Desired Balance (current)					*$33,930*
Estimated cash reserves (current)					*$22,000*
Reserve Deficit (current)					*$11,930*
Reserve Deficit per unit ($11,930 ÷ 35 units)					*$340*
Percentage of Funding					65%

While this formula takes a bit more work, assuming the interest and inflation rate estimates are accurate, it may be more reflective of the true amount of the Reserve Deficit. In most cases, the difference between the two methods is not material. However, with some mixes of common area major components the difference can be quite noticeable and failure to properly take interest and inflation into account can unfairly lead to unrealistically high calculations of the reserve deficit.

Unfunded & Special Assessment Model: This is the default model in place in many associations today. The association does not have reserve balances that will cover expected replacement costs, and the only recourse is to schedule special assessments to cover these costs when they are due. Lack of information about needed special assessments is a real problem for some common interest development owners. One-time costs impose an additional financial burden on owners who often have chosen CIDs for cost reasons. This is the riskiest of the models, and could jeopardize the financial viability of the association if assessments cannot be raised when needed.

Mixed Model: This is also a common model, with a combination of regular and planned special assessments to meet the cash needs of replacement. The degree to which an association can meet its cash needs through regular as opposed to special assessments may be an indicator of the association's fiscal stability.

Obviously, the choice of the funding goal or strategy will have a direct impact on the cash required of each individual owner. The strategy, and the degree to which the association has funded its reserves, should affect property value as well. (If an association shows a $5,000 unfunded reserve deficit per unit, this amount reasonably should be reflected in the sales price.)

California law currently does not specify one model for funding, but obviously the model that reduces or eliminates the Reserve Deficit provides the most stability and is the most conservative. Association boards should carefully consider and document the choice of a funding plan and make the details of the plan available to owners in the reserve study portion of the *pro forma* operating budget. If the information is adequate and clearly presented, owners and buyers should be in a better position to evaluate the value of the unit and the development.

Estimating Association Reserve Fund Income

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 they are collected. Financing of replacement reserves from regular assessments is desirable. First, it spreads the responsibility for replacements over time, rather than allocating costs to owners who happen to be in the association in the year a particular component comes due for repair or replacement. This funding mechanism provides a more equitable distribution of the costs of aging components. Second, it provides individual owners with more certainty as to the true costs of the property.

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.

Section 1366 of the Civil Code provides association boards with the power to increase the regular annual assessment up to 20% per year without membership approval. However, automatic

compounding at these rates would double the assessments in just four years and triple them in six. At this rate, assessments would be 32 times as large by the twentieth year! Clearly, even though automatic increases allow an association to "catch up" with reserve deficits over some period of years, the decision to increase assessments should not be an automatic one, but rather should be a careful decision by the board. Assumptions about assessment increases should be fully disclosed in the *pro forma* operating budget.

Projecting Expenditures and Reserve Funding Needs

The Physical Analysis provides the estimates for expected expenditures by year for each component. Adding these component requirements together, by year, gives the estimate of needed funds over time. We have seen how these estimates should be developed and the assumptions upon which they rely. Association members should be aware of the limitations of expenditure forecasting and of the fact that the overall funding plan is only as good as the initial estimates of replacement costs and the timing of replacement needs. Data similar to that shown in Exhibit 4.2 will be a direct input to the Funding Analysis.

An important policy issue for the board is the decision to use current costs, or estimated future costs. Use of an inflation rate will generally result in higher estimates of future costs.

If the board uses current costs, it is essential that the board revise the plan annually based upon updated current replacement costs plus currently required or anticipated expenditures. The annual cost for each component would be calculated by dividing the unfunded replacement cost by the remaining useful life. THIS APPROACH IS VALID ONLY IF REPEATED EACH YEAR.

If the board chooses to use an inflation rate, it would apply an average annual long-term cost inflation rate 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 other assumptions. Here also, THIS APPROACH IS VALID ONLY IF REPEATED EACH YEAR.

There are a number of ways to select an inflation rate for estimating component costs in future years. Four reliable sources of information for inflation factors in California are the following:

- the Federal Bureau of Labor Statistics
- published information from construction cost estimating companies such as R.S. Means Company, Inc.
- the State Allocation Board
- Marshall & Swift

Any of these four sources will provide a reasonable estimate that can be used to project future costs. The interest rate assumption is an important board policy decision, and should be explicitly disclosed in the Funding Analysis. Because of their affect on estimating future costs, current cost information and inflation rate assumptions should be reviewed annually, and the projections adjusted as necessary. The examples in this report use an estimated increase in the Consumer Price Index for urban United States over the year. This information is available free of charge through the Bureau of Labor Statistics' 24-hour hotlines. See Appendix C.

Exhibit 5.3 shows the calculation of future replacement costs for the same items that were listed in Exhibit 5.2, projected forward from 1996. For each item, the years of inflation shown in Exhibit 5.3 have been determined from the year of replacement shown in Exhibit 4.2. 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.

Exhibit 5.3 – Determining the Future Cost of Replacement

Component	*Qty & Units*	*Unit Cost*	*Current Cost to Replace (1996)*	*Year to Replace*	*Future Cost to Replace*
Painting, exterior stucco	*15,875 sq. ft.*	*0.63*	*$10,000*	*1998*	*$10,941*
Paving, slurry coat	*35,000 sq. ft.*	*0.40*	*$14,000*	*1999*	*$16,022*
Roofing, wood shingle	*10,715 sq. ft.*	*2.80*	*$30,000*	*2000*	*$35,913*

(Future replacement cost was calculated with an annual 4.6% inflation rate.)

Estimating Interest Earnings of Reserve Account Over Funding Analysis Period

Reserve funds deposited in certificates of deposit or money market accounts will generate interest income to increase the reserves. For forecasting purposes, it is necessary to choose an interest rate. Obviously, a lower rate is more conservative, for planning purposes, than a higher rate. Interest rates can be pegged to current bank rates or CD rates. Income from the reserve and operating accounts is taxable to an association, even if the association is established as a non-profit organization. A board must adjust the interest rate assumption to account for applicable federal and state taxes. (The examples in this report assume a before-tax interest rate of 7.5% and an after-tax rate of 5.8%.)

While it is difficult to accurately project future component cost increases or future interest earned on reserve cash balances, it is important to use these factors for calculations in the Funding Analysis and to update them each year. This is particularly true for associations that have chosen to rely in part on special assessments.

As component replacement comes due in future years, it will draw against reserve funds. Hopefully, the initial reserve account, augmented by regular contributions from routine homeowner assessment payments, will provide enough "cushion" to pay for replacements as they are needed. In some cases, the reserve accounts will not be enough. 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 impossible to estimate. This might be due to unexpected breakage or destruction, failure in a "life-of-the-project" system, reduced useful life of a component, or other unexpected component cost. A line item in the cost estimates might be established as a contingency. This amount might be limited to 3% to 5% of the first-year budget in a new association. In a conversion, or in older associations with incomplete component documentation, larger contingency levels may be necessary. One useful way to establish estimates for contingency funding in on-going associations is to review prior year spending for contingency-type replacements or continuing repairs. For instance, if there is routine work done annually on underground utilities, then some funds for expected annual levels might be budgeted under the contingency category.

Exhibit 5.4 summarizes these income and cost concepts in a spreadsheet showing the results of the Funding Analysis, using the same components listed in Exhibits 4.2, 5.2, and 5.3. The rows in the spreadsheet show individual component costs and association income sources. The columns show the years included in the Funding Analysis. In this case, we have assumed a funding plan period of thirty years and a mixed model which uses 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 "Determining the Funding Goal for Replacement Reserves".

Statement of Limitations and Assumptions

Limitations to the estimates, assumptions made in order to conduct the estimates, and the model used to make the estimates should all be documented in the Funding Analysis. A statement of the methods used to construct the estimates and the funding plan is a required part of the annual association *pro forma* operating budget.

Updating

Once an association has successfully produced a reserve study (both component and funding studies), the resulting information can be used in the *pro forma* operating budget, which is produced annually. How often does the reserve study need to be updated?

Annual updates of the Funding Analysis can be carried out at the same time as the preparation of the operating budget and can call for required adjustments within the original planning period. The assumptions in the reserve study (e.g., remaining life and cost of components) should be reviewed and updated as necessary. The frequency of updates of component data will depend on the soundness of the original data and estimates, the preparer's recommendations, the association's ability to maintain its components adequately, and the requirements of Civil Code Section 1365.5. Even though the methodology calls for a financial study covering a time frame of twenty years or more, annual planning and periodic reviews of the reserve study can rely on updated estimates.

Exhibit 5.4 – FUNDING STUDY: Estimated Cash Requirements by Year
(30 year plan – 3 components; values shown here for years 1-5, 15, and 30 only)

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

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

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 liablility (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 unt (35 units)	$400	$547	$999	$1,288	$1,118	$221	$1,025	$141

Exhibit 5.4 – FUNDING STUDY: Computation of Major Component Liability by Year (continued)

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
Total liability		$36,000	$43,932	$52,518	$50,461	$43,095	$15,026	$74,602	$154,173

Exhibit 5.5 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 - 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

6. How Do Boards Hire Qualified Professionals to Perform Reserve Studies?

While the individual tasks involved in reserve studies are relatively straightforward, an association board may not have the time or the expertise to carry out the work. The estimating and accounting skills required may not be present either in the board membership or in the association's management. Most of the steps described in Chapters 4 and 5 may be performed by consultants under contract to the association. To carry out the reserve study using consultants, the following should be established by the board:

- identification of common area components, exclusive use components, quasi-structural components, and life-of-the-project components (with the assistance of association management);
- the interest rate for estimating income earned on reserve balances; and
- the funding goal of the reserve study, including the degree to which reserves are to be funded by annual assessments and the need for special assessments.

These are policy decisions, to be made by the board of directors. In addition, the board is accountable for the quality of the study itself. The board should carefully specify the work tasks and carefully review potential consultants with respect to previous experience, price, and recommendations from other associations. Some or all of the work tasks that may be performed by consultants are listed below.

Physical Analysis Products for Consultants

- 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

Funding Analysis Products for Consultants

- spreadsheet modeling of reserve funding, and development of solution(s) meeting the 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

Once the work tasks have been determined, the board must select the consultants or contractors, if any, who will perform all or part of the work. Possible outcomes of this decision-making process include the following:

- hiring an independent engineering, appraisal, or construction cost-estimating firm to perform the Physical Analysis and hiring an independent accountant experienced with community associations to produce the Funding Analysis and *pro forma* operating budget;
- hiring an organization with staff expertise to perform an integrated component and Funding Analysis;

- having the board or manager prepare these studies in cooperation with independent construction contractors and accountants, as needed;
- hiring the current management company to perform both studies and incorporate the results into the *pro forma* operating budget; and
- using any of the above in conjunction with additional work tasks performed by the board.

The type of assistance that will be needed depends upon the nature of the product(s) desired, the budget, and expertise available to the association board. The board is ultimately responsible for the reserve study disclosures. In deciding whether to hire outside help or to perform the reserve study tasks internally, the board should consider potential legal liability if the study does not meet the statutory information requirements.

One possible way to find professionals to contact for performing reserve studies is through other community associations. Other sources of names are organizations of CIDs and related professionals. It is helpful to talk with people who have worked with any firm or consultant under consideration and to examine samples of related work.

It is important that the association and the contractor understand what is required of each. Exhibits 6.1 and 6.2 provide a partial list of questions the board should ask a reserve study preparer as part of the interview process and also 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 a clear specification of the work tasks to be performed. Answers to these questions, as well as price, should help in the selection of any needed professionals. These guides treat the Physical Analysis and Funding Analysis preparers separately, so interviews of professionals offering to perform both studies could be designed by combining the two interview guides, thereby eliminating duplications.

Information the Board Should Provide

In addition to asking questions of reserve study preparers, the association must provide information on the components and the association's financial situation. Specifically, the reserve study process should start with this information from the board and/or management:

- a list and 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 record, 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 board estimate of long-term interest rate to be earned on reserve account cash balance;
- a copy of the final Physical Analysis report, if already prepared, and
- projected reserve expenses prior to year end.

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.

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).

7. What Are the Red Flags that Signal Potential Problems?

This report has explained the important elements of the reserve study portion of the *pro forma* operating budget. In reviewing an association's current status in responding to the requirements of California Civil Code Sections 1365 and 1365.5 and in performing responsibly in the management of association assets, the following indicators may suggest problems that call for remedial action. The list starts with very basic elements of the reserve study requirements and ends with "red flag" items to be identified in reserve study data when they are available.

Study Data

Reserve study data is incomplete if:

- the association has no established list of major components;
- there is no policy to distinguish reserve expenditures from operating expenses;
- there is no clear funding goal stated;
- a Physical Analysis has not been conducted;
- a Funding Analysis has not been conducted;
- information on remaining life and current replacement cost has not been prepared for all major components;
- "life of the project" components are not mentioned in assumptions, or included in the reserve budgeting;
- the *pro forma* operating budget does not contain reserve study information or assumptions;
- the association does not have a documented maintenance schedule and related assumptions for each major component;
- the list of major components in the reserve study does not include all significant common area components listed in the CC&Rs; or
- there is no separate bank account(s) for reserve funds.

Replacement Funds

Reserve study data suggest replacement funding problems if:

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

Appendix A Major Common Area Components Usually 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

Appendix B Major Common Area Components Frequently Overlooked

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, deck, lamp, 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.

Appendix C Sources for Inflation Rate Estimates

U.S. Bureau of Labor Statistics
Consumer Price Index 24-hour hotlines:
Los Angeles (310) 235-6884
San Diego (619) 557-6538
San Francisco (415) 625-2270

These hotlines provide the national U.S. Consumer Price Index (CPI). The San Francisco hotline provides information specific to the San Francisco Bay Area, while the Los Angeles and San Diego numbers provide information specific to the Greater Los Angeles Metropolitan Area. Directory assistance in other parts of California may provide additional, local hotline numbers. However, no separate CPI is calculated for other regions of California.

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