RESERVE DATA ANALYST

Sample Reserve Study

Acme City, USA

Level I Full Reserve Study (With Site-Visit)

Fiscal Year: 2022

Report#: Sample

Version: Final

Reserve Data Analyst, Inc.

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Report Date: November 27, 2021

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Introduction

Thank you for utilizing the services of Reserve Data Analyst for your reserve study. We strive to create a comprehensive report that can be utilized for your budgeting needs. If there are any questions, concerns, corrections, or revisions needed please do not hesitate to call or email us. While this study does have some explanations of the methodology used, we have kept it to a minimum for brevity. More detailed explanations of methodology & concepts are explained in our Reserve Study Guidebook available at the following link:

www.reservedataanalyst.com/guidebook

The recommendations for the allocation rates of the different funding models are only for the beginning year of this reserve study; all future years are projections which are educated guesses and have numerous assumptions (e.g., inflation, proper maintenance, proper installation, known reserve account balances, etc.) built into the models. The further out in time a reader of the study goes, the less reliable the projections are likely to be. Note that the recommendations for the first fiscal year in the study are based on current cost and current useful life estimate levels as opposed to future cost and future useful life projections which again are educated guesses.

From year to year the recommendations of the reserve analyst will typically change (sometimes significantly) based on variables such as what projects have been done, what projects has been deferred, changes to the allocation rate, changes to the starting balance, changes to the component list, actual inflation rate figure (versus projections), maintenance or lack of maintenance of components, etc. Annual updates to this report help to incorporate changes to these variables as they occur so revisions to the recommendations are less significant than if updates are done infrequently. .

There are a couple of tips to consider that will help you both navigate this study and understand the different sections within the study:

- ***Study Navigation*** - To navigate this study more easily, we recommend printing out the Table of Contents page at the beginning of the study and the Component Index page(s) at the rear of the study. We have found it easiest for most readers to have the PDF of this study open on their computer while referring to the printed-out Table of Contents and Component Index pages.

Within this reserve study you will find:

- A list of common questions that a typical reader of our reserve study will have, as well as links to additional information on the topics: (*Reserve Study Knowledge Base*)
- A list of the site and building components that are reportedly the Client's responsibility along with their respective costs and quantity: (*The Component List*)
- A timeline of the estimated dates that we recommend funds be allocated to the repair/replacement project. (*Projected Expenditures Report*)
- Various funding models with different goals in mind. (*Summary and Projections for each Funding Model*)

Sample Reserve Study
Executive Summary

Name	Sample Reserve Study
Location	Acme City, USA
Contributing Members	5
Base Year / Age	January 1, 2002
Fiscal Year Ends	December 31, 2022

Level of Service	Level I Full Reserve Study (With Site-Visit)
Prepared for Fiscal Year	2022
Last On-Site Inspection Date	October 14, 2021
Inflation Rate for Projections	3.50%
*Interest Rate for Projections	0.50%
*Tax Rate on Interest Earned	30.0%
Funding Plan Method	Inflation Adjusted Pooled Cash Flow Method

Reserve Account Summary

Current Percent Funded (as of January 1, 2022)		
41.6%	**Fiscal Year Beginning Fully Funded Balance**	$21,659
	***Estimated FY Start Balance**	$9,000
	Total Reserve Account Surplus or (Deficit)	($12,659)
	Avg. Surplus or (Deficit) Per Contributing Member	($2,532)
	***Current Annual Reserve Allocation Rate**	$1,050 per year
	***Approved Special Assessments**	None in fiscal year 2022.
	***Approved Loans**	None in fiscal year 2022.

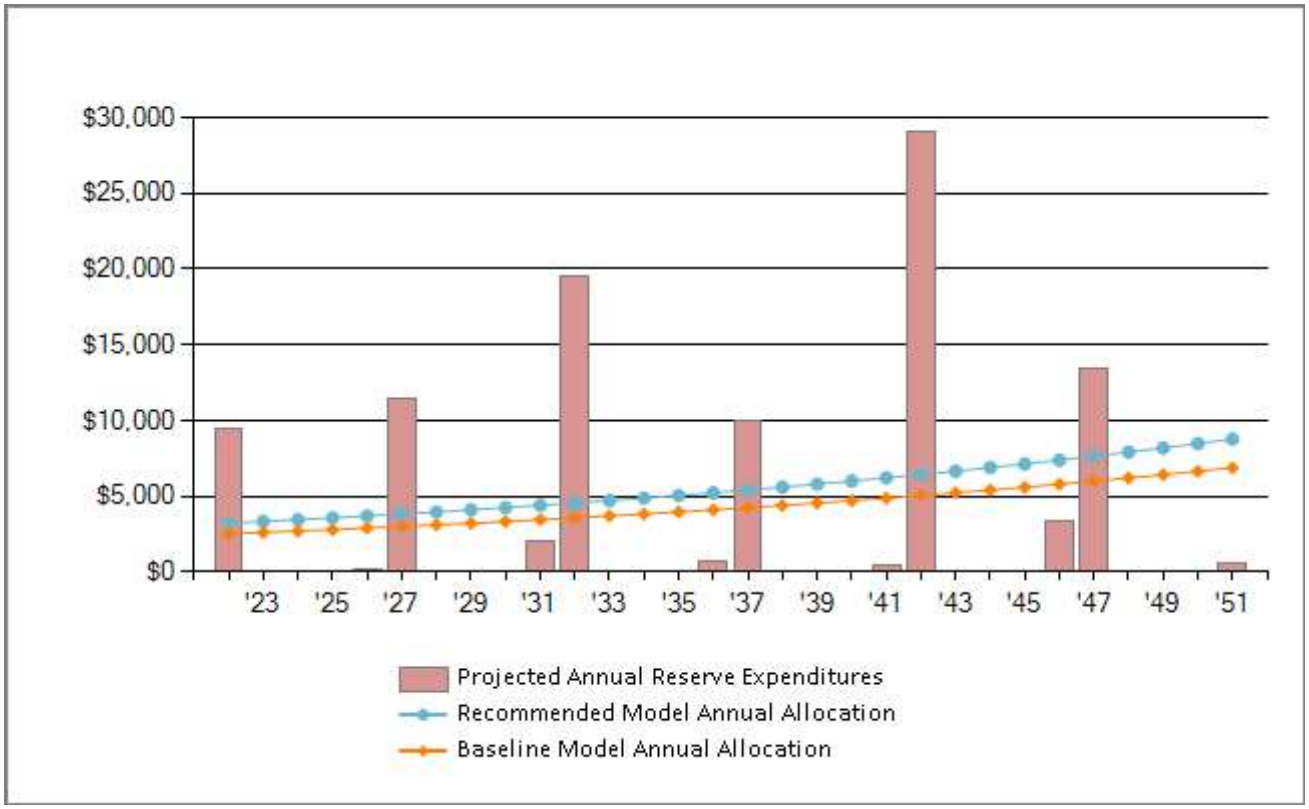
0-30% Low | 30-70% Fair | 70-100% Good

5-Year Summary - Annual Reserve Allocation Rates & Year End % Funded

	100% Funding Model		Recommended Funding Model		Baseline Funding Model		**Current Funding Model		
2022	$15,283	100%	$3,240	18%	$2,543	14%	$1,050	4%	***2022***
2023	$2,913	101%	$3,353	35%	$2,632	27%	$1,087	9%	***2023***
2024	$3,015	101%	$3,471	46%	$2,724	36%	$1,125	13%	***2024***
2025	$3,121	101%	$3,592	55%	$2,819	43%	$1,164	16%	***2025***
2026	$3,230	100%	$3,718	62%	$2,918	48%	$1,205	18%	***2026***
	Account is at least 100% funded each year.		*Achieve 100% funded within the timeframe of this study.*		*Reserve account above $0 within timeframe of study.*		*Current allocation rate has been supplied by the Client.*		

** Data supplied by the Client, assumed to be correct and not independently verified.*
***Any negative percent funded shown is for visual representation of deficiency.*

Sample Reserve Study
Projected Annual Expenditures - Chart



The above chart provides a visual of the reserve account projected expenditures over the 30 years covered in this study. We suggest making a note of large expenditure years (peak years) when there will be significant projected expenditures related to one or more component projects that will require repair/replacement. These large but infrequent component expenses during “peak” years are typically the most difficult to budget for as they are often overlooked or ignored due to the perception that the expenses are far in the future and there will be time to budget for them later.

One of the greatest challenges when planning for reserve budgeting is creating and implementing a funding model that is stable and fair while also adequate to cover reserve project expenditures that are typically infrequent and erratic. This is particularly true for reserve accounts that drop to low levels of funding; there will be a need to catch up the reserve account to a more suitable level while also being as fair and stable as possible as time progresses.

We have created numerous funding models in this reserve study with various goals; the above models (Recommended & Baseline) adhere to the prime principles of having stability and fairness going forward in time while also covering the projected annual reserve expenditures. Their respective annual allocation rates (lines) are shown compared to the annual reserve expenditures (columns) within the timeframe of this reserve study. Note the relative stableness of the annual funding model allocation rates versus the erratic nature of the reserve expenditures.

What is a Reserve Study?

A reserve study is a budgeting tool that can be utilized to make more informed budgeting decisions regarding a reserve account, it is an independent assessment of the adequacy of the reserve account balance and allocation rate utilizing a mathematical formula known as the "Percent Funded" calculation.

The Reserve Analyst develops funding models that:

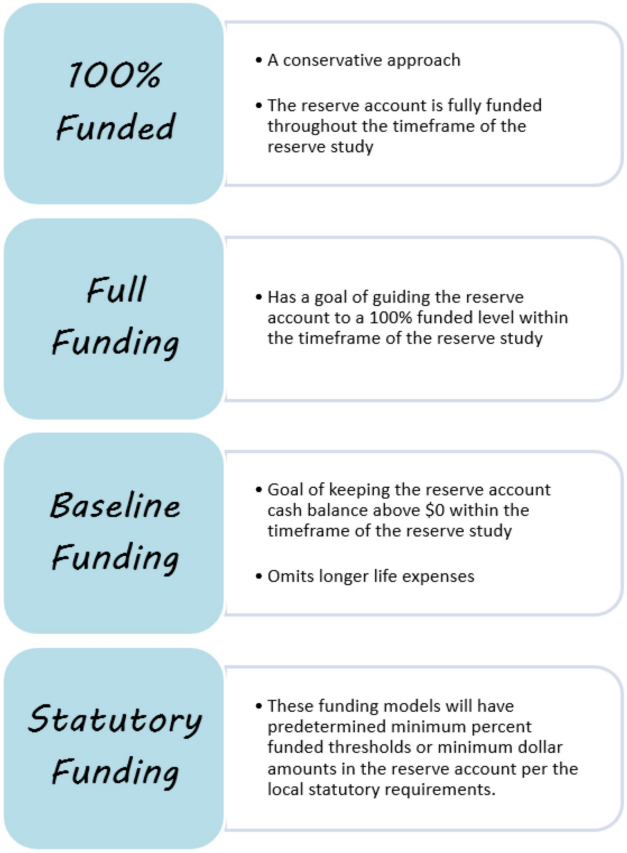
- Distribute the costs as fairly as possible over time
- Have stable budgets over time (i.e., limiting large fluctuations from one year to the next)
- Limit the risk for reliance on emergency financing or having to defer overdue projects

A Reserve Study is an independent assessment of the reserve account and is not the Budget ….

This study is not the budget, and it should not be revised to just reflect the budgeting decisions of the Client. An example of this is to push off overdue projects that the Client may not have the funds to complete. This report should reflect the replacement dates of the components utilizing average or historical records for the useful lives & costs for these projects; the useful lives can be updated to reflect actual on-site conditions as the components age and in updates to this report. Should the Client decide to make budgeting decisions such as deferring projects (typically due to a lack of funds) and that appear to be overdue carries its own risk with relation to scenarios like higher project costs later and marketability issues.

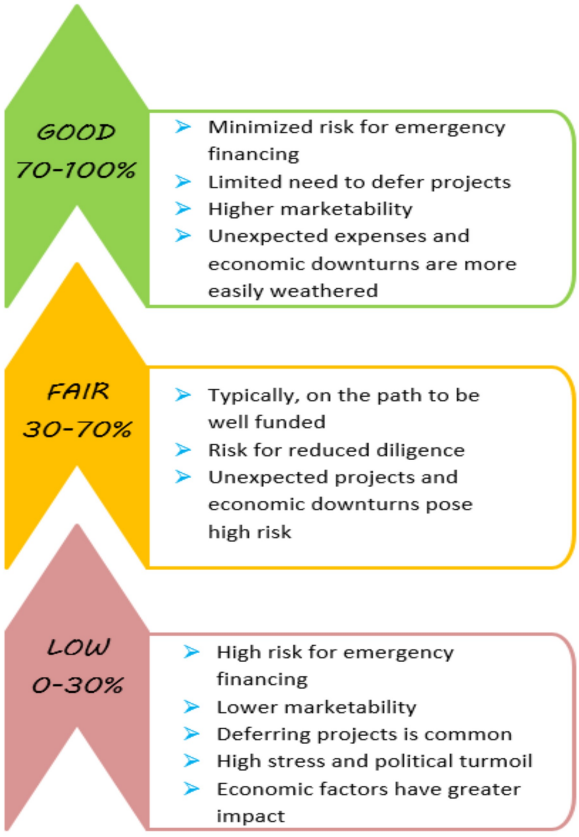
How Much Should We Reserve?

There is no right or wrong answer to the question of "How Much Should We Reserve?" as the reserve contributions in all the funding models in this study are based on different funding goals. It is more appropriate to consider the risk levels associated with different funding models as each Client has different risk tolerances and challenges in enacting whatever funding model is most appropriate to them. In our opinion any funding model that projects the reserve account balance to dip to zero would not be appropriate or fiscally responsible as future emergency financing or deferring projects are typically the outcome. Below are some of the more common funding models utilized:



About Percent Funded

Percent funded is a calculation of how much is in the reserve account versus an ideal amount known as the Fully Funded Balance. The different risk levels associated with the levels of funding are explained in more depth below.



The below video link explains the Percent Funded calculation in more detail:

www.reservedataanalyst.com/pf

About the Fully Funded Balance

The Fully Funded balance is a mathematical calculation that represents the accrued deterioration of a component or a group of components at a specific point in time. It is an answer to the question of "How much should be in a reserve account at a specific point in time?" When the reserve account balance is the same as the Fully Funded Balance the reserve account is considered Fully Funded (100% Funded) at that specific point in time.

The below video link provides a more in-depth explanation of the Fully Funded balance:

www.reservedataanalyst.com/ffb

Calculating Inflation in the Reserve Study

Inflationary factors impact the project costs over time and are the main driving force that must be overcome with diligent and steadfast budgeting towards reserves. Due to the compounding impact of inflation on costs, in a relatively short period of time, a reserve account can be become severely underfunded if it is not considered in the budgeting scenarios. Follow the below link to learn more about how we calculate inflationary factors (escalation of the prices) in the reserve study and some of the tools we use in the process:

www.reservedataanalyst.com/inf

Component Useful Life Estimates

The useful life of components in the reserve study are predominantly based on our experiences with many different types of organizations and their respective repair and replacement cycles with building and site components. In addition to our own experiences working with many organizations over the years there is ample data available online regarding useful life estimates of building and site components. It is important to note that the estimates in the reserve study are based on averages and are not specific to any one property. Follow the below link to view some of the various useful life tables that we utilize:

www.reservedataanalyst.com/ul

Determining Component Project Costs

We utilize many sources for determining what is an appropriate component project cost in the reserve study. These can include:

- Client invoices, bids, estimates
- Our in-house database that is based on the collection of many Client invoices, bids, and estimates
- Cost manuals that, when used correctly, are very accurate for average cost figures

It's important to understand that unless we are provided actual project costs based on a client invoice/bid or estimate we utilize average costs figures that are not specific to any one Client. In the bidding process you will find that there is a ... large difference in price from one vendor to the next for a variety of reasons. We aim to be in the middle of these estimates unless we have Client data to incorporate into the reserve study. Future costs (projections) for the component expenses are simply inflated from current cost based on the inflation assumption in the reserve study. It is important to remember that our current recommendations are based on current project costs and not the inflated number that is utilized in the projections portion of the reserve study. The below link goes into this topic in more detail:

www.reservedataanalyst.com/cost

National Reserve Study Standards

There are two recognized organizations that dictate national reserve study standards in the industry. The Community Association's Institute and the Association of Professional Reserve Analysts award designations to those reserve study professionals that meet education & work experience, adhere to the minimum report requirements, complete ongoing continuing education courses, and abide by ethical considerations in the field. The standards for both organizations can be viewed at the links below:

www.reservedataanalyst.com/CAI

www.reservedataanalyst.com/APRA

What Components to Include in the Study?

Reserve expenses for components are major expenses which must be budgeted for in advance to provide the necessary funds in time for their occurrence. Reserve expenses are reasonably predictable both in terms of frequency and cost. They are expenses that when incurred would have a significant impact on the smooth operation of the budgetary process from one year to the next if they were not reserved for in advance.

A common concern when beginning this process is what components are to be included and funded for in the Reserve Study. Nationally recognized CAI Reserve Study Standards as well as APRA Standards of Practice dictate that the reserve components need to meet the following criteria:

- It's not already covered in the Operating Budget
- The component has a limited life expectancy
- The component has a reasonably defined remaining useful life
- As required by local statutes

When to Complete Reserve Projects?

Components should be replaced when they are no longer functioning as designed. This is best determined by your component specific Vendor who can inspect and give their best professional advice on the condition assessment and timeframe on when/what needs to be done. Note that this reserve study is ***not*** a "to do list"; it is a budgeting document with recommendations for when we suggest having the funds allocated towards the projects ...

... If something fails earlier than projected than replace it, if it lasts longer (as determined by your component specific Vendor) then take their advice as they are the professionals in their specific field. Projects should be completed when they need to be completed regardless of our projections in the study. Note that this does not mean it would be appropriate to delay projects simply because funds are not available though as that is a budgeting decision not based on component specific Vendor recommendations. A common issue we see is the delay of projects simply because there is a lack of reserve funds available, only to have a much larger and more expensive project later due to collateral damage (e.g., not replacing a roof in a timely manner, which then leaks and causes siding damage).

Ongoing Component Maintenance

While this reserve study has been developed to disclose and inform the Client of the predictable larger long-term project costs related to site and building components, there is also a need to complete regular inspections and repairs to virtually all components on much shorter cycles. These costs would typically be covered in the annual and ongoing Operating Budget.

Virtually all the components should receive regular cycles of inspection and repairs by a qualified Vendor. Failure to complete ongoing maintenance typically leads to shorter useful lives and higher costs later. RSMeans provides a free link to common building and site component items to inspect at various corresponding time frames.

www.reservedataanalyst.com/RSmeans

Recommendations Versus Projections

In the reserve study the Reserve Analyst' *recommendations* for the allocation rates of the different funding models apply only to the year the reserve study is being developed for. All *projections* in the study are future educated guesses with assumptions about a significant number of variables (e.g., inflation rate, financials, component useful life, component remaining useful life, proper maintenance, etc.).

Projections can be accurate or extremely inaccurate based on these assumptions; because of this we do not suggest giving much consideration to projections in the decision making for overall reserve budgeting. This may sound counterintuitive, but this is due to recommendations for the allocation rates, in the initial year of the study, being based on predominantly current known factors (e.g., *current* costs, *current* inflation, *current* maintenance practices) versus projections which are based on future assumptions to a variety of variables (e.g., *future* costs, *future* inflation rates, and *future* maintenance practices). Follow the below link to our website to learn more about recommendations versus projections.

www.reservedataanalyst.com/projections

You Have a Study Now What?… Goal Setting

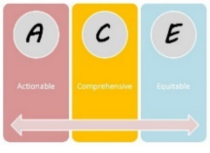
Adequately budgeting for reserves is often one of the more difficult tasks our clients face. Reserve component projects are infrequent and often years down the line, making it very easy to just "deal with it later". We have found those that are most successful with reserve budgeting goals typically follow these simple … rules when creating and implementing a reserve budget.

Actionable
Is your goal possible within the constraints & limitations of very important but often overlooked factors related to statutory requirements and the governing documents? What may seem very "Reasonable" to the Board may very well be illegal or against the governing documents.

Comprehensive
Your goal should be clear and specific, otherwise you won't be able to focus your efforts or feel truly motivated to achieve it. When drafting your goal, try to answer the four "W" questions - *What* do we want to accomplish? *Why* is this goal important? *Who* is involved? *When* is this goal set to occur?

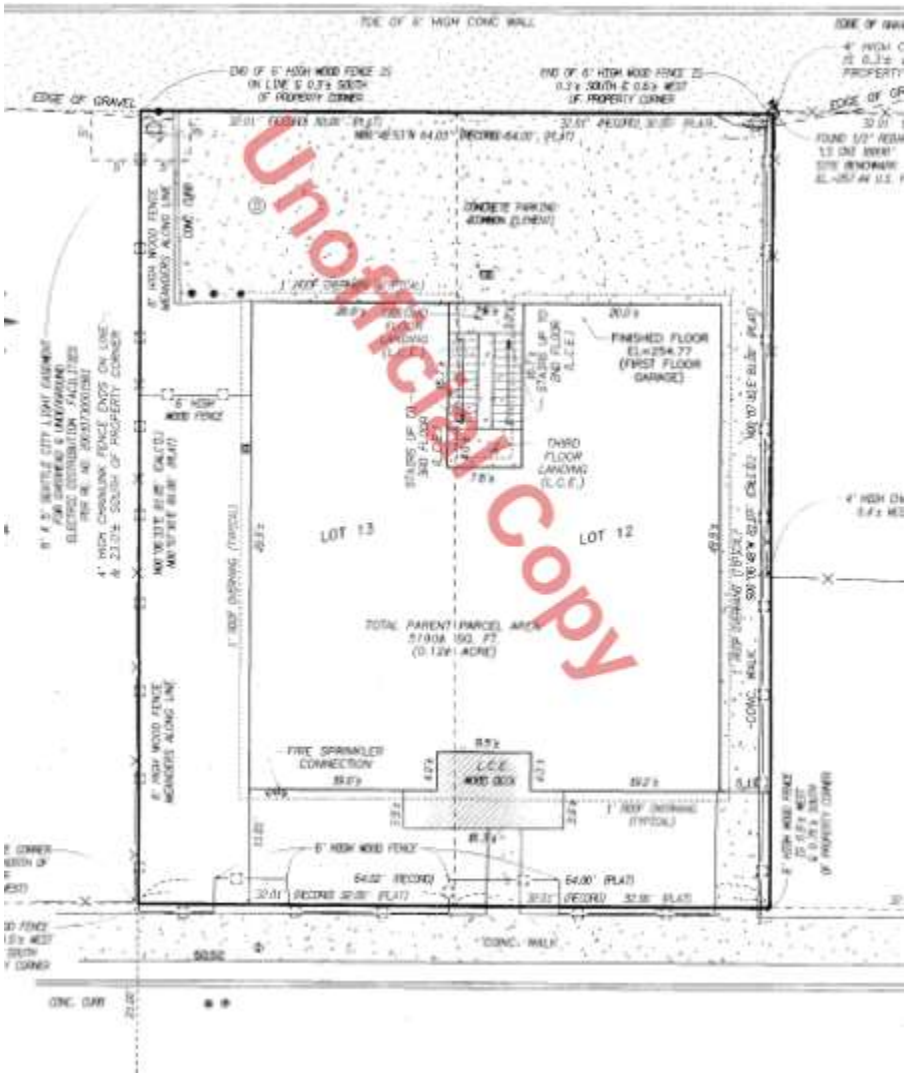
Equitable
Your goal should be reasonable and attainable to be successful. In other words, it should stretch your abilities but remain possible. When you set an achievable goal, you may be able to identify previously overlooked opportunities or resources that can bring you closer to it. This often means that transitioning to a more stable financial track will take years of smaller goals being obtained. Severely underfunded reserve accounts typically develop after many years or decades; it's usually not reasonable for the answers to come quick or easily.

Follow the below link to our website to learn more about the ACE way to reserve budgeting.



https://www.reservedataanalyst.com/ace

Sample Reserve Study
Site Plan



Comments on Fully Funded Balance Calculations (Fully Funded Balance Calculation Page)

The Fully Funded balance calculations for each component (age & useful life) have been adjusted if a component has been superseded by another component, received a positive or negative life adjustment, or been phased over a period of time. These adjustments are needed so that the fully funded balance mathematical calculation for each component is accurate and appropriately contributes to the total fully balance calculation (located on the executive summary & projection pages) for all components in this reserve study.

Excluded Components

Unless noted otherwise the below components have been excluded from funding in this reserve study. Note that the inclusion of any of these items later via a revision or update to this study will impact the funding strategies developed by the Reserve Analyst.

Long Life Components

If properly constructed the below components are long life components which, currently, have no predictable useful life, predictable remaining useful life, or predictable associated replacement costs. As these components age and a history of repair/replacement needs becomes evident or there are failures then we suggest reevaluating these systems and have them inspected by qualified vendors. Future updates to the reserve study should be revised accordingly.

1. Concrete Retaining Walls
2. Metal & Concrete Staircase (protected from the elements)
3. Interior Fire & Unit Entry Doors

Not Client's Responsibility

The below components are reportedly not the Client's responsibility per their interpretation of their governing documents. Note that the Reserve Analyst does not interpret governing documents and have excluded items based on the Client' s request and their interpretation of their own governing documents. If there is ambiguity or questions as to what specific wording means in the governing documents, we recommend consulting with a qualified and experienced attorney.

1. Utility Main Lines - Utility Companies / City

Operating Account Expense

The below components are reportedly paid from the Operating Account and have not been included in this reserve study.

1. Storm Sewer System Maintenance - We recommend setting up an annual contract with a qualified Vendor.
2. Ongoing Landscaping & Tree Care

Comments on Assessment & Disclosure Form

Included in the fee for this reserve study is an Assessment & Disclosure Form which complies with statutory requirements for common interest communities. Please follow the following link to complete the request form on our website: https://www.reservedataanalyst.com/rad/

Sample Reserve Study
The Component List

Report Date	November 27, 2021
Beginning Fiscal Year	January 01, 2022
Account Number	Sample

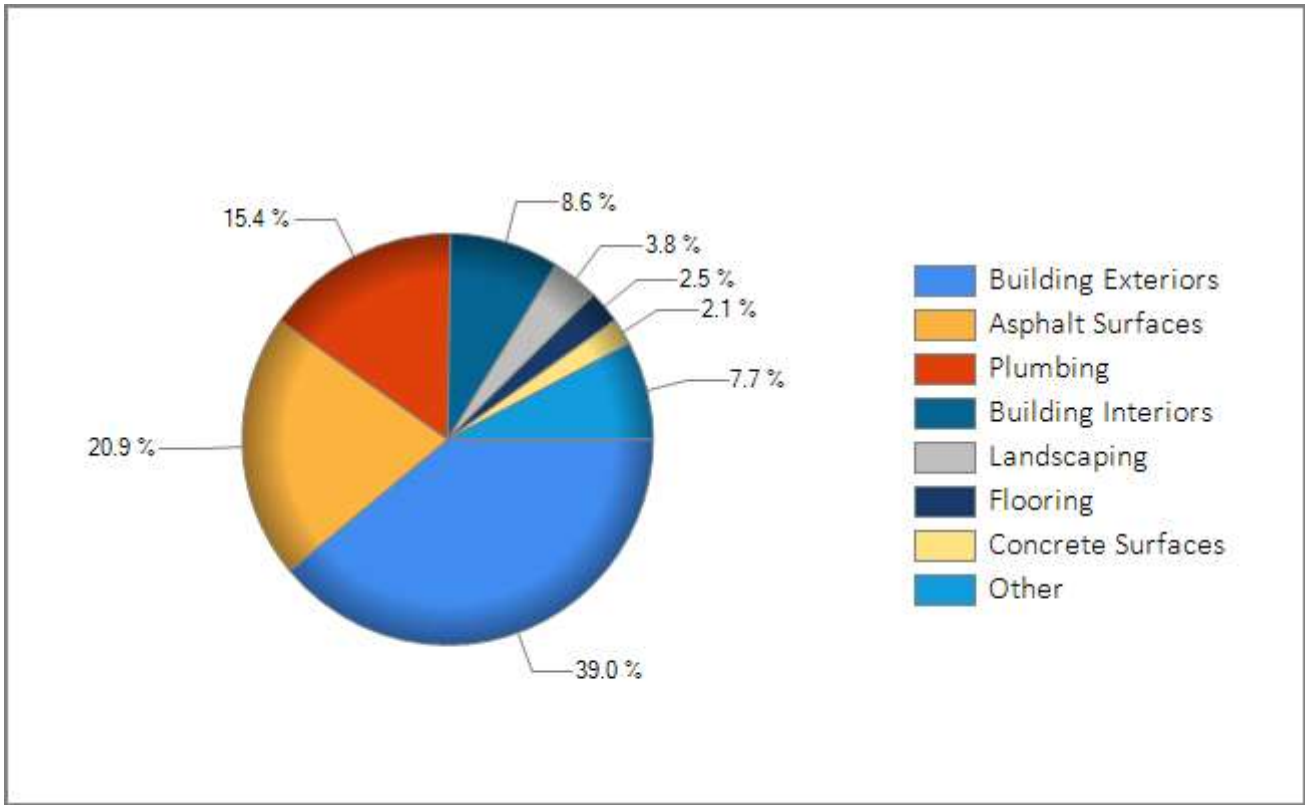
Version Number Final

ID	Description	Aprox. Year In Service	Replacement Year	Useful Life	Adjustment	Remaining Life	Units	Unit Cost & % Replace	Current Cost
Building Exterior Components									
1036	Building Exteriors (metal) - Paint & S...	2002	2032	10	20	10	4,885 sf	1.00	4,885
1037	Building Exteriors (metal) - Replace	2002	2052	50	0	30	4,885 sf	1.00	4,885
1039	Building Exteriors (wood) - 5% Minor...	2017	2022	5	0	0	1,612 sf	1.00 @5.0%	81
1040	Building Exteriors (wood) - Paint & S...	2017	2022	5	0	0	1,612 sf	1.00	1,612
1038	Building Exteriors (wood) - Replace	2002	2052	50	0	30	1,612 sf	1.00	1,612
1028	Deck Railings (metal) - Paint	2012	2022	10	0	0	208 lf	1.00	208
1029	Deck Railings (metal) - Replace	2002	2042	40	0	20	208 lf	1.00	208
1012	Decks (composite) - Rebuild	2002	2027	25	0	5	104 sf	1.00	104
1013	Decks (membrane) - Refurbish	2016	2036	20	0	14	208 sf	1.00	208
1014	Decks (membrane) - Topcoat & Non-...	2021	2026	5	0	4	208 sf	1.00	208
1041	Doors (entry/glass) - Paint	2012	2022	10	0	0	13 ea	1.00	13
1016	Doors (ext. solid core w/ glass) - Repl...	2002	2052	50	0	30	4 ea	1.00	4
1047	Doors (ext. solid core) - Replace	2002	2052	50	0	30	9 ea	1.00	9
1017	Doors (garage double) - Replace	2002	2037	35	0	15	2 ea	1.00	2
1046	Doors (garage) - Paint	2012	2022	10	0	0	13 ea	1.00	13
1043	Garage Floor (epoxy coat) - Recoat	2002	2022	20	0	0	841 sf	1.00	841
1049	Gate (pedestrian) - Replace	2002	2052	50	0	30	1 ea	1.00	1
1053	Gutters & Downs. - Replace	2002	2037	35	0	15	276 lf	1.00	276
1024	Lights (ext. fixture) - Replace	2002	2027	25	0	5	20 ea	1.00	20
1050	Lights (ext. security) - Replace	2002	2027	25	0	5	7 ea	1.00	7
1030	Roof (asph.shingle) - Replace	2002	2027	25	0	5	25 sq	1.00	25
1031	Roof (membrane) - Replace	2002	2022	20	0	0	3 sq	1.00	3
1033	Roof Skylights - Replace	2002	2027	25	0	5	8 sf	1.00	8
1052	Staircase Railings (metal) - Paint	2012	2022	10	0	0	66 lf	1.00	66
1055	Staircase Railings (metal) - Replace	2002	2052	50	0	30	66 lf	1.00	66
1035	Windows (vinyl) - Replace	2002	2052	50	0	30	515 sf	1.00	515
Building Exterior Components - Total:									$15,880
Building Interior Components									
1048	Doors (int. utility/strg) - Replace	2002	2032	30	0	10	9 ea	1.00	9
1054	Flooring (vinyl sheet) - Replace	2002	2027	25	0	5	12 sy	1.00	12
1044	Interior Surfaces - Paint	2012	2022	10	0	0	2,893 sf	1.00	2,893
1045	Lights (int. flourescent) - Replace	2002	2027	25	0	5	10 ea	1.00	10
1051	Lights (int. simple) - Replace	2002	2027	25	0	5	5 ea	1.00	5
Building Interior Components - Total:									$2,929

Sample Reserve Study
The Component List

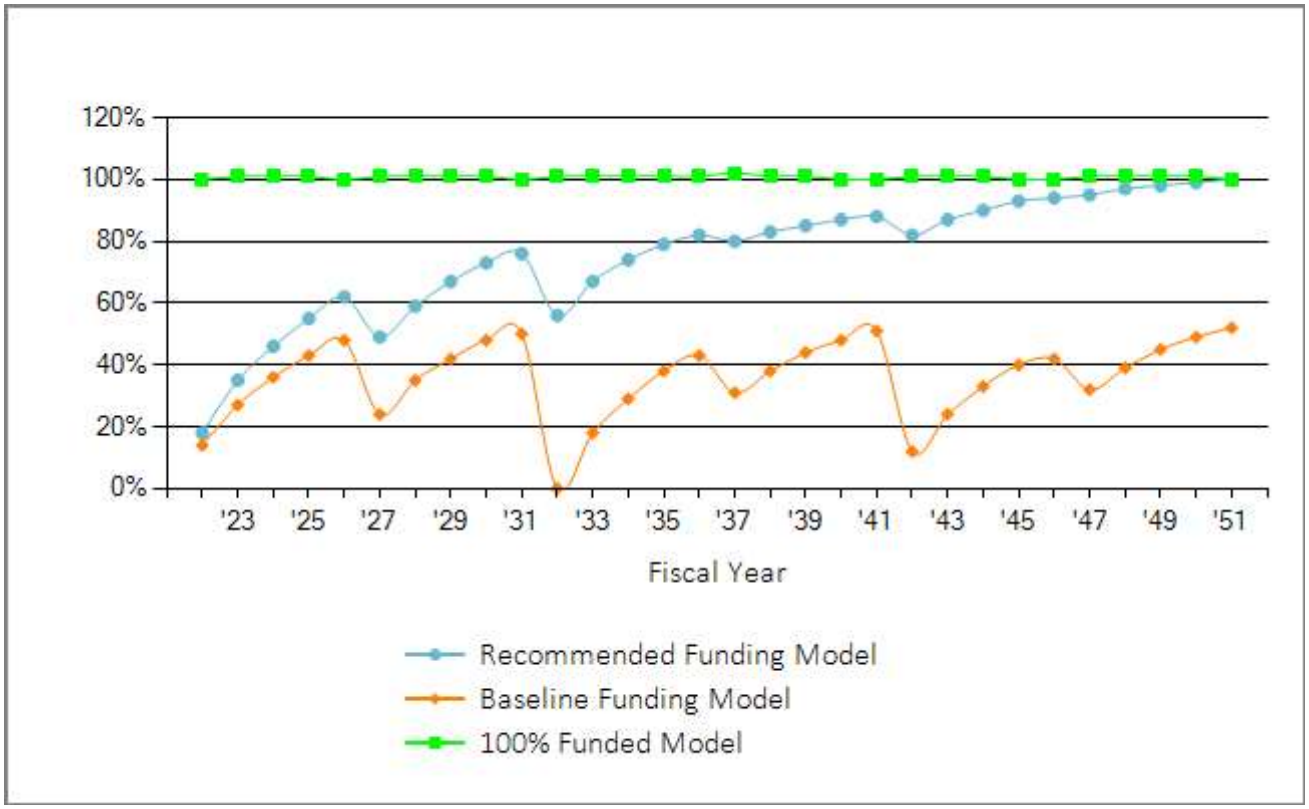
ID	Description	Aprox. Year In Service	Replacement Year	Useful Life	Adjustment	Remaining Life	Units	Unit Cost & % Replace	Current Cost
Electrical / Plumbing / Mechanical / Fire Components									
1007	Backflow Valve (domestic water) - Re...	2002	2027	25	0	5	1 ea	1.00	1
1025	Backflow Valve (fire system) - Replace	2002	2042	40	0	20	2 ea	1.00	2
1015	Door Operators (garage) - Replace	2002	2022	20	0	0	2 ea	1.00	2
1026	Drain/Waste/Supply/Sprinkler/Stand...	2002	2062	60	0	40	5,100 sf	1.00	5,100
1056	Electrical Meter Sockets - Replace	2002	2047	45	0	25	6 ea	1.00	6
1019	Entry Access Panel - Replace	2002	2022	20	0	0	1 ea	1.00	1
1020	Fire Annunciation Panel - Replace	2002	2032	30	0	10	1 ea	1.00	1
1021	Fire Control Panel - Replace	2002	2032	30	0	10	1 ea	1.00	1
1022	Fire Peripherals (interior) - Replace	2002	2032	30	0	10	30 ea	1.00	30
1023	Heaters (wall fan) - Replace	2002	2027	25	0	5	1 ea	1.00	1
1027	Hot Water Heaters - Replace	2002	2022	20	0	0	1 total	5.00	5
1008	Sewer Lateral Lines (side sewer) - Re...	2002	2052	50	0	30	35 lf	1.00	35
1009	Water Lateral Lines - Replace	2002	2052	50	0	30	35 lf	1.00	35
Electrical / Plumbing / Mechanical / Fire Components - Total:									$5,220
Site Components									
1057	Asphalt - Overlay	2002	2027	25	0	5	3,500 sf	1.00	3,500
1058	Asphalt - Seal Coat	2017	2022	5	0	0	3,500 sf	1.00	3,500
1010	Concrete Driveway - Replace	2016	2066	50	0	44	486 sf	1.00	486
1011	Concrete Sidewalks (public) - 15% Re...	2002	2027	5	20	5	304 sf	1.00 @15.0%	46
1002	Concrete Surfaces - 15% Repair	2002	2027	5	20	5	1,247 sf	1.00 @15.0%	187
1042	Fence (wood) - Paint/Stain	2012	2022	5	0	0	275 lf	1.00	275
1003	Fence (wood) - Replace	2002	2027	25	0	5	275 lf	1.00	275
1005	Landscaping - Refurbish	2016	2031	15	0	9	1,260 sf	1.00	1,260
1006	Mailboxes - Replace	2002	2027	25	0	5	5 ea	1.00	5
Site Components - Total:									$9,534
Total Asset Summary:									$33,562

Sample Reserve Study
Current Cost by Category Chart



The above chart illustrates the current cost breakdown percentage of the Component Categories in this reserve study (highest percentage components listed at top). Special attention should be given to those component categories which take up a bulk of the % of the current cost as these may require significant planning to adequately budget for their replacement. These large expenses may be well into the future during "Peak Year" cycles. Refer to the Cash Flow Projections and the Annual Expenditure Report for the projected timeline of expected expenditures.

Sample Reserve Study
Projected Percent Funded Chart



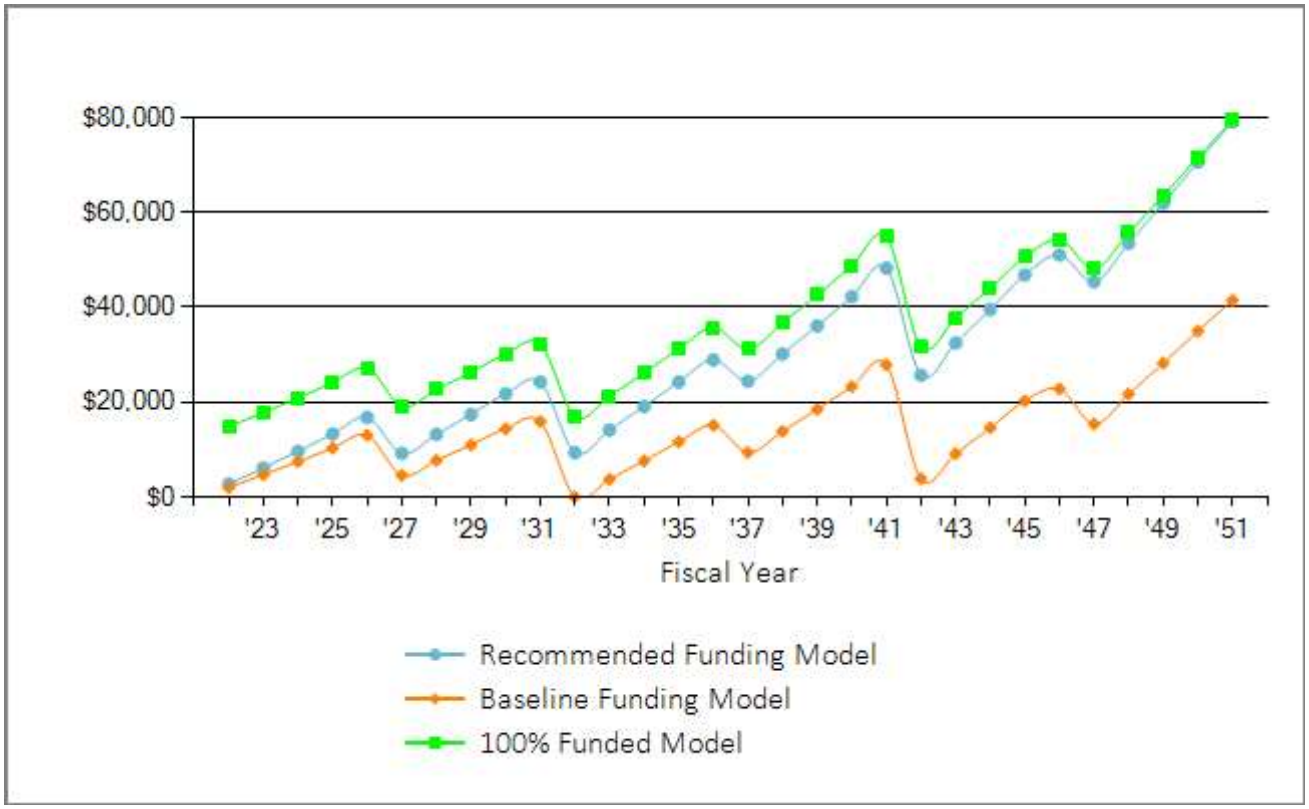
The above chart compares the funding models by the percentage funded levels over the timeframe of the projections, as calculated at the end of each fiscal year.

The *Recommended Funding Model* increases the Client's reserve account Percent Funded Level to 100% funding within the timeframe of the projections in this report. Once this 100% funded level is reached it is a good indicator that the Client is on track to meet its future obligations with minimal risk of reliance on emergency financing or having to defer projects that come due. Note that the Recommended Model is not necessarily a low risk, no risk or ideal model to follow. It simply has a goal of guiding the reserve account to a 100% funded level within the timeframe of projections.

The *Baseline Funding Model* has a goal of only keeping the reserve account cash positive within the timeframe of the projections (i.e., at some point within the timeframe of the projections the reserve account is depleted to near $0). This model carries significant risk for reliance on emergency financing and/or having to defer projects due to the common occurrence of components failing earlier than projected or costs increasing more rapidly than projected.

The *100% Funded Model* has a goal of maintaining the reserve account to a minimum of 100% Funded in each year of the projections. This model minimizes risk for reliance on emergency financing and deferred maintenance and places the reserve account on a low-risk path for budgeting of future reserve expenditures.

Sample Reserve Study
Projected Reserve Account Balance Chart



The chart above compares the annual year-end balance of the reserve account for the respective funding models over the timeframe covered in in the projections. Projected reserve account balances will often have large fluctuations from year to year due to projects occurring in any given year.

There is often an incorrect perception that the reserve account funds grow and just "sit" in the reserve account indefinitely. In actuality the reserve funds should be allowed to accumulate over time so that there are adequate funds when the reserve projects are projected to occur.

Sample Reserve Study
100% Funded - Summary

Report Date	November 27, 2021
Account Number	Sample
Version	Final
Budget Year Beginning	January 1, 2022
Budget Year Ending	December 31, 2022
Total Units	5

Report Parameters

Inflation	3.50%
Annual Contribution Increase	3.50%
Interest Rate on Reserve Deposit	0.35%
Tax Rate Included in Interest Rate	
2022 Beginning Balance	$9,000

This funding model has a goal of being a minimum of 100% funded, annually, over the timeframe of the projections. Allocation rates will fluctuate based on the expenditures projected in any given year. The initial year will have a higher allocation rate than subsequent years if the reserve account is underfunded and requires a cash injection to elevate the reserve account to a 100% funded track. While being at a 100% funded level is considered ideal it has been our experience that it is frequently not realistic due to a lack of funds that would need to be deposited into the reserve account to elevate it to a 100% funded level in the initial year of the projections.

The following page provides the 30-year projections for this funding model.

Full Funding Model 30 Year Summary of Calculations

Required Annual Contribution	$15,283.47
Average Net Annual Interest Earned	$51.70
Total Annual Allocation to Reserves	$15,335.16

Sample Reserve Study
100% Funded - Year End Projections

Begining Balance: $9,000

Year	Asset Cost	Inflation Rate	Reserve Allocation	Allocation % Change	Net Interest	Projected Expenditures	Year End Acct. Balance	Year End FFB	Year End % Funded
2022	33,562	3.5%	15,283		52	9,513	14,823	14,823	100%
2023	34,737	3.5%	2,913	-80.93%	62		17,798	17,671	101%
2024	35,953	3.5%	3,015	3.50%	73		20,886	20,701	101%
2025	37,211	3.5%	3,121	3.50%	84		24,091	23,922	101%
2026	38,513	3.5%	3,230	3.50%	95	239	27,177	27,096	100%
2027	39,861	3.5%	3,343	3.50%	67	11,489	19,098	18,873	101%
2028	41,257	3.5%	3,460	3.50%	79		22,637	22,348	101%
2029	42,701	3.5%	3,581	3.50%	92		26,310	26,043	101%
2030	44,195	3.5%	3,707	3.50%	105		30,122	29,970	101%
2031	45,742	3.5%	3,994	7.74%	112	2,001	32,227	32,069	100%
2032	47,343	3.5%	4,133	3.50%	59	19,493	16,926	16,704	101%
2033	48,981	3.5%	4,278	3.50%	74		21,278	21,106	101%
2034	50,695	3.5%	4,768	11.44%	91		26,137	25,796	101%
2035	52,470	3.5%	4,935	3.50%	109		31,181	30,788	101%
2036	54,306	3.5%	5,107	3.50%	125	673	35,739	35,401	101%
2037	56,207	3.5%	5,286	3.50%	109	10,016	31,118	30,655	102%
2038	58,174	3.5%	5,471	3.50%	128		36,717	36,262	101%
2039	60,210	3.5%	5,663	3.50%	148		42,528	42,223	101%
2040	62,317	3.5%	6,084	7.43%	170		48,782	48,558	100%
2041	64,498	3.5%	6,297	3.50%	191	400	54,871	54,871	100%
2042	66,756	3.5%	5,760	-8.52%	110	29,089	31,652	31,377	101%
2043	69,092	3.5%	5,961	3.50%	132		37,745	37,332	101%
2044	71,511	3.5%	6,170	3.50%	154		44,069	43,666	101%
2045	74,013	3.5%	6,386	3.50%	177		50,631	50,397	100%
2046	76,604	3.5%	6,865	7.49%	190	3,352	54,333	54,077	100%
2047	79,285	3.5%	7,105	3.50%	168	13,485	48,121	47,567	101%
2048	82,060	3.5%	7,354	3.50%	194		55,668	54,980	101%
2049	84,932	3.5%	7,611	3.50%	221		63,501	62,854	101%
2050	87,905	3.5%	7,877	3.50%	250		71,628	71,212	101%
2051	90,981	3.5%	8,153	3.50%	277	564	79,494	79,494	100%

Sample Reserve Study
Recommended Funding - Summary

Report Date	November 27, 2021
Account Number	Sample
Version	Final
Budget Year Beginning	January 1, 2022
Budget Year Ending	December 31, 2022
Total Units	5

Report Parameters

Inflation	3.50%
Annual Contribution Increase	3.50%
Interest Rate on Reserve Deposit	0.35%
Tax Rate Included in Interest Rate	
2022 Beginning Balance	$9,000

We have developed a funding plan which will help steer the reserve account into a high funded range within the 30-year projection timeframe. This Recommended Funding Model requires the Client allocate the recommended allocation amount into the reserve account with annual increases thereafter to offset inflationary factors.

This Recommended Funding Plan Considers 4 Basic Principles:

1. There are adequate reserves when needed.
2. The budget should remain stable but increasing to offset inflationary factors.
3. The costs are fairly distributed over time.
4. The funding plan must allow the Client to be fiscally responsible.

Note that the Recommended Model is not necessarily a low risk, no risk or ideal model to follow (especially if the reserve account is currently significantly underfunded). It simply has a goal of having the reserve account reach 100% funded by the end of a 30-year period. An “ideal” model to follow would be the 100% funded model as this model has the reserve account funded to a minimum 100% funded level each year of the study and there would be low risk for reliance on special assessments and/or loans even if unexpected occurrences came to fruition.

The following page provides the 30-year projections for this funding model.

Recommended Funding Model Summary of Calculations

Required Annual Contribution	$3,240.00
Average Net Annual Interest Earned	$9.55
Total Annual Allocation to Reserves	$3,249.55

Sample Reserve Study
Recommended Funding - Year End Projections

Begining Balance: $9,000

Year	Asset Cost	Inflation Rate	Reserve Allocation	Allocation % Change	Net Interest	Projected Expenditures	Year End Acct. Balance	Year End FFB	Year End % Funded
2022	33,562	3.5%	3,240		10	9,513	2,737	14,823	18%
2023	34,737	3.5%	3,353	3.50%	21		6,112	17,671	35%
2024	35,953	3.5%	3,471	3.50%	34		9,616	20,701	46%
2025	37,211	3.5%	3,592	3.50%	46		13,254	23,922	55%
2026	38,513	3.5%	3,718	3.50%	59	239	16,792	27,096	62%
2027	39,861	3.5%	3,848	3.50%	32	11,489	9,184	18,873	49%
2028	41,257	3.5%	3,983	3.50%	46		13,213	22,348	59%
2029	42,701	3.5%	4,122	3.50%	61		17,395	26,043	67%
2030	44,195	3.5%	4,266	3.50%	76		21,738	29,970	73%
2031	45,742	3.5%	4,416	3.50%	85	2,001	24,237	32,069	76%
2032	47,343	3.5%	4,570	3.50%	33	19,493	9,347	16,704	56%
2033	48,981	3.5%	4,730	3.50%	49		14,126	21,106	67%
2034	50,695	3.5%	4,896	3.50%	67		19,089	25,796	74%
2035	52,470	3.5%	5,067	3.50%	85		24,241	30,788	79%
2036	54,306	3.5%	5,245	3.50%	101	673	28,913	35,401	82%
2037	56,207	3.5%	5,428	3.50%	85	10,016	24,410	30,655	80%
2038	58,174	3.5%	5,618	3.50%	105		30,133	36,262	83%
2039	60,210	3.5%	5,815	3.50%	126		36,074	42,223	85%
2040	62,317	3.5%	6,018	3.50%	147		42,240	48,558	87%
2041	64,498	3.5%	6,229	3.50%	168	400	48,237	54,871	88%
2042	66,756	3.5%	6,447	3.50%	90	29,089	25,684	31,377	82%
2043	69,092	3.5%	6,673	3.50%	113		32,470	37,332	87%
2044	71,511	3.5%	6,906	3.50%	138		39,514	43,666	90%
2045	74,013	3.5%	7,148	3.50%	163		46,825	50,397	93%
2046	76,604	3.5%	7,398	3.50%	178	3,352	51,049	54,077	94%
2047	79,285	3.5%	7,657	3.50%	158	13,485	45,379	47,567	95%
2048	82,060	3.5%	7,925	3.50%	187		53,490	54,980	97%
2049	84,932	3.5%	8,202	3.50%	216		61,909	62,854	98%
2050	87,905	3.5%	8,489	3.50%	246		70,644	71,212	99%
2051	90,981	3.5%	8,786	3.50%	276	564	79,143	79,494	100%

Sample Reserve Study
Acme City, USA
Alternate Recommended Model - Higher Annual % Increase - Summary

Report Date	November 27, 2021
Account Number	Sample
Version	Final
Budget Year Beginning	January 1, 2022
Budget Year Ending	December 31, 2022
Total Units	5

Report Parameters

Inflation	3.50%
Interest Rate on Reserve Deposit	0.35%
Tax Rate Included in Interest Rate	
2022 Beginning Balance	$9,000

This funding model has been included as an alternative to the regular Recommended Model (which utilizes an annual reserve contribution percentage increase rate that is similar to the inflation rate). This alternative model has a goal of reaching 100% funded by the end of a 30-year period but starts with a higher or lower reserve allocation rate and increases at a significantly higher or lower annual percentage increase (i.e., the annual reserve allocation percentage change is significantly higher or lower than the projected inflation rate) until the reserve account reaches the 100% funded level by the end of the 30-years of projections.

It is important to note that there is not a "right or wrong" Recommended Funding Model as mathematically it is a sliding scale between the reserve contribution rate and the annual increase/decrease percent (i.e., a higher initial annual reserve allocation rate will require a lower annual percentage increase and vice versa - a lower initial annual reserve allocation rate will require a higher annual percentage increase rate to the model to meet the same goal, in this case to be 100% funded by the end of a 30-year period). This type of funding model does not necessarily consider fairness to the membership as a projected allocation rate significantly different than the projected inflation rate, over time, will not follow the actual purchasing power of the dollar in any specific period.

Difficulties in following a model with a higher annual percentage increase can include limitations on the percentage increase outlined in the governing documents, limitations on the percentage increase outlined in statutory laws, changing Boards (with different ideas) over time, and getting a community to agree to a higher increase to the reserve allocation rate for an extended period.

The following page provides the 30-year projections for this funding model.

Higher Annual % Allocation Model Summary of Calculations

Required Annual Contribution	$1,050.00
$210.00 per unit annually	
Average Net Annual Interest Earned	$1.88
Total Annual Allocation to Reserves	$1,051.88
$210.38 per unit annually	

Sample Reserve Study
Alternate Recommended Model - Higher Annual % Increase - Year End Projections

Begining Balance: $9,000

Year	Asset Cost	Inflation Rate	Reserve Allocation	Allocation % Change	Net Interest	Projected Expenditures	Year End Acct. Balance	Year End FFB	Year End % Funded
2022	33,562	3.5%	1,050		2	9,513	539	14,823	4%
2023	34,737	3.5%	1,377	31.15%	7		1,923	17,671	11%
2024	35,953	3.5%	1,806	31.15%	13		3,742	20,701	18%
2025	37,211	3.5%	2,369	31.15%	21		6,132	23,922	26%
2026	38,513	3.5%	3,106	31.15%	31	239	9,031	27,096	33%
2027	39,861	3.5%	4,074	31.15%	6	11,489	1,622	18,873	9%
2028	41,257	3.5%	4,217	3.50%	20		5,859	22,348	26%
2029	42,701	3.5%	4,364	3.50%	36		10,260	26,043	39%
2030	44,195	3.5%	4,517	3.50%	52		14,828	29,970	49%
2031	45,742	3.5%	4,675	3.50%	61	2,001	17,564	32,069	55%
2032	47,343	3.5%	4,839	3.50%	10	19,493	2,919	16,704	17%
2033	48,981	3.5%	5,008	3.50%	28		7,955	21,106	38%
2034	50,695	3.5%	5,183	3.50%	46		13,185	25,796	51%
2035	52,470	3.5%	5,365	3.50%	65		18,614	30,788	60%
2036	54,306	3.5%	5,553	3.50%	82	673	23,576	35,401	67%
2037	56,207	3.5%	5,747	3.50%	68	10,016	19,375	30,655	63%
2038	58,174	3.5%	5,948	3.50%	89		25,411	36,262	70%
2039	60,210	3.5%	6,156	3.50%	110		31,678	42,223	75%
2040	62,317	3.5%	6,372	3.50%	133		38,183	48,558	79%
2041	64,498	3.5%	6,595	3.50%	155	400	44,533	54,871	81%
2042	66,756	3.5%	6,826	3.50%	78	29,089	22,347	31,377	71%
2043	69,092	3.5%	7,064	3.50%	103		29,515	37,332	79%
2044	71,511	3.5%	7,312	3.50%	129		36,955	43,666	85%
2045	74,013	3.5%	7,568	3.50%	156		44,679	50,397	89%
2046	76,604	3.5%	7,832	3.50%	172	3,352	49,331	54,077	91%
2047	79,285	3.5%	8,107	3.50%	154	13,485	44,106	47,567	93%
2048	82,060	3.5%	8,390	3.50%	184		52,680	54,980	96%
2049	84,932	3.5%	8,684	3.50%	215		61,579	62,854	98%
2050	87,905	3.5%	8,988	3.50%	247		70,814	71,212	99%
2051	90,981	3.5%	9,302	3.50%	278	564	79,831	79,494	100%

Sample Reserve Study
Baseline Funding - Summary

Report Date	November 27, 2021
Account Number	Sample
Version	Final
Budget Year Beginning	January 1, 2022
Budget Year Ending	December 31, 2022
Total Units	5

Report Parameters

Inflation	3.50%
Annual Contribution Increase	3.50%
Interest Rate on Reserve Deposit	0.35%
Tax Rate Included in Interest Rate	
2022 Beginning Balance	$9,000

The Baseline Funding Model is considered a bare minimum approach which has a goal of keeping the reserve account balance above $0 within the 30-year timeframe of the projections and *does not* take into consideration projected expenses that fall outside of the 30-year timeframe of the projections (i.e., longer life components are simply ignored like they do not exist).

This funding model carries a higher risk for reliance on emergency financing specifically in years when large component expenses occur earlier than projected or costs see significant increases. Additionally, in the future when longer life components come into the 30-year timeframe of the projections their projected expenditures will have a significant impact on the allocation requirements to keep the reserve account cash positive going forward.

Should the Client have an interest in not funding for longer life component projects (i.e., projects that are set to occur after the 30-year projections) at this time then we suggest setting a goal of at least funding to the Baseline Funding Model which has the goal of only staying cash positive for the 30-year time-frame of the projections.

The following page provides the 30-year projections for this funding model.

Baseline Threshold Funding Model Summary of Calculations

Required Annual Contribution	$2,542.83
Average Net Annual Interest Earned	$7.11
Total Annual Allocation to Reserves	$2,549.94

Sample Reserve Study
Baseline Funding - Year End Projections

Begining Balance: $9,000

Year	Asset Cost	Inflation Rate	Reserve Allocation	Allocation % Change	Net Interest	Projected Expenditures	Year End Acct. Balance	Year End FFB	Year End % Funded
2022	33,562	3.5%	2,543		7	9,513	2,037	14,823	14%
2023	34,737	3.5%	2,632	3.50%	16		4,686	17,671	27%
2024	35,953	3.5%	2,724	3.50%	26		7,435	20,701	36%
2025	37,211	3.5%	2,819	3.50%	36		10,291	23,922	43%
2026	38,513	3.5%	2,918	3.50%	45	239	13,015	27,096	48%
2027	39,861	3.5%	3,020	3.50%	16	11,489	4,562	18,873	24%
2028	41,257	3.5%	3,126	3.50%	27		7,715	22,348	35%
2029	42,701	3.5%	3,235	3.50%	38		10,989	26,043	42%
2030	44,195	3.5%	3,348	3.50%	50		14,387	29,970	48%
2031	45,742	3.5%	3,466	3.50%	55	2,001	15,908	32,069	50%
2032	47,343	3.5%	3,587	3.50%		19,493	1	16,704	0%
2033	48,981	3.5%	3,712	3.50%	13		3,727	21,106	18%
2034	50,695	3.5%	3,842	3.50%	26		7,595	25,796	29%
2035	52,470	3.5%	3,977	3.50%	41		11,613	30,788	38%
2036	54,306	3.5%	4,116	3.50%	53	673	15,108	35,401	43%
2037	56,207	3.5%	4,260	3.50%	33	10,016	9,385	30,655	31%
2038	58,174	3.5%	4,409	3.50%	48		13,843	36,262	38%
2039	60,210	3.5%	4,564	3.50%	64		18,471	42,223	44%
2040	62,317	3.5%	4,723	3.50%	81		23,275	48,558	48%
2041	64,498	3.5%	4,889	3.50%	97	400	27,861	54,871	51%
2042	66,756	3.5%	5,060	3.50%	13	29,089	3,845	31,377	12%
2043	69,092	3.5%	5,237	3.50%	32		9,114	37,332	24%
2044	71,511	3.5%	5,420	3.50%	51		14,585	43,666	33%
2045	74,013	3.5%	5,610	3.50%	71		20,265	50,397	40%
2046	76,604	3.5%	5,806	3.50%	80	3,352	22,799	54,077	42%
2047	79,285	3.5%	6,009	3.50%	54	13,485	15,377	47,567	32%
2048	82,060	3.5%	6,220	3.50%	76		21,672	54,980	39%
2049	84,932	3.5%	6,437	3.50%	98		28,207	62,854	45%
2050	87,905	3.5%	6,663	3.50%	122		34,992	71,212	49%
2051	90,981	3.5%	6,896	3.50%	145	564	41,469	79,494	52%

Sample Reserve Study
Current Funding - Summary

Report Date	November 27, 2021
Account Number	Sample
Version	Final
Budget Year Beginning	January 1, 2022
Budget Year Ending	December 31, 2022
Total Units	5

Report Parameters

Inflation	3.50%
Annual Contribution Increase	3.50%
Interest Rate on Reserve Deposit	0.35%
Tax Rate Included in Interest Rate	
2022 Beginning Balance	$9,000

The Current Funding Model is based on the reserve allocation data supplied by the Client; it has not been independently verified and is assumed to be correct.

The following page provides the 30-year projections for this funding model. It is assumed the reserve allocation rate will have annual increases to offset inflationary factors.

Current Assessment Funding Model Summary of Calculations

Required Annual Contribution	$1,050.00
Average Net Annual Interest Earned	$1.88
Total Annual Allocation to Reserves	$1,051.88

Sample Reserve Study
Current Funding - Year End Projections

Begining Balance: $9,000

Year	Asset Cost	Inflation Rate	Reserve Allocation	Allocation % Change	Net Interest	Projected Expenditures	Year End Acct. Balance	Year End FFB	Year End % Funded
2022	33,562	3.5%	1,050		2	9,513	539	14,823	4%
2023	34,737	3.5%	1,087	3.50%	6		1,632	17,671	9%
2024	35,953	3.5%	1,125	3.50%	10		2,766	20,701	13%
2025	37,211	3.5%	1,164	3.50%	14		3,944	23,922	16%
2026	38,513	3.5%	1,205	3.50%	17	239	4,927	27,096	18%
2027	39,861	3.5%	1,247	3.50%		11,489	-5,314	18,873	
2028	41,257	3.5%	1,291	3.50%			-4,024	22,348	
2029	42,701	3.5%	1,336	3.50%			-2,688	26,043	
2030	44,195	3.5%	1,383	3.50%			-1,305	29,970	
2031	45,742	3.5%	1,431	3.50%		2,001	-1,875	32,069	
2032	47,343	3.5%	1,481	3.50%		19,493	-19,887	16,704	
2033	48,981	3.5%	1,533	3.50%			-18,354	21,106	
2034	50,695	3.5%	1,587	3.50%			-16,767	25,796	
2035	52,470	3.5%	1,642	3.50%			-15,125	30,788	
2036	54,306	3.5%	1,700	3.50%		673	-14,099	35,401	
2037	56,207	3.5%	1,759	3.50%		10,016	-22,355	30,655	
2038	58,174	3.5%	1,821	3.50%			-20,535	36,262	
2039	60,210	3.5%	1,884	3.50%			-18,650	42,223	
2040	62,317	3.5%	1,950	3.50%			-16,700	48,558	
2041	64,498	3.5%	2,019	3.50%		400	-15,081	54,871	
2042	66,756	3.5%	2,089	3.50%		29,089	-42,081	31,377	
2043	69,092	3.5%	2,162	3.50%			-39,919	37,332	
2044	71,511	3.5%	2,238	3.50%			-37,681	43,666	
2045	74,013	3.5%	2,316	3.50%			-35,364	50,397	
2046	76,604	3.5%	2,397	3.50%		3,352	-36,319	54,077	
2047	79,285	3.5%	2,481	3.50%		13,485	-47,323	47,567	
2048	82,060	3.5%	2,568	3.50%			-44,754	54,980	
2049	84,932	3.5%	2,658	3.50%			-42,096	62,854	
2050	87,905	3.5%	2,751	3.50%			-39,345	71,212	
2051	90,981	3.5%	2,847	3.50%		564	-37,062	79,494	

Sample Reserve Study
Projected Annual Expenditures - List

	Description	Expenditures
Replacement Year 2022		
1058	Asphalt - Seal Coat	3,500
1039	Building Exteriors (wood) - 5% Minor Repair	81
1040	Building Exteriors (wood) - Paint & Seal	1,612
1028	Deck Railings (metal) - Paint	208
1015	Door Operators (garage) - Replace	2
1041	Doors (entry/glass) - Paint	13
1046	Doors (garage) - Paint	13
1019	Entry Access Panel - Replace	1
1042	Fence (wood) - Paint/Stain	275
1043	Garage Floor (epoxy coat) - Recoat	841
1027	Hot Water Heaters - Replace	5
1044	Interior Surfaces - Paint	2,893
1031	Roof (membrane) - Replace	3
1052	Staircase Railings (metal) - Paint	66
Total for 2022		**$9,513**

No Replacement in 2023
No Replacement in 2024
No Replacement in 2025

Replacement Year 2026		
1014	Decks (membrane) - Topcoat & Non-skid	239
Total for 2026		**$239**

Replacement Year 2027		
1057	Asphalt - Overlay	4,157
1058	Asphalt - Seal Coat	4,157
1007	Backflow Valve (domestic water) - Replace	1
1039	Building Exteriors (wood) - 5% Minor Repair	96
1040	Building Exteriors (wood) - Paint & Seal	1,915
1011	Concrete Sidewalks (public) - 15% Repair	54
1002	Concrete Surfaces - 15% Repair	222
1012	Decks (composite) - Rebuild	124
1042	Fence (wood) - Paint/Stain	327
1003	Fence (wood) - Replace	327

Sample Reserve Study
Projected Annual Expenditures - List

	Description	Expenditures
Replacement Year 2027 continued...		
1054	Flooring (vinyl sheet) - Replace	14
1023	Heaters (wall fan) - Replace	1
1024	Lights (ext. fixture) - Replace	24
1050	Lights (ext. security) - Replace	8
1045	Lights (int. flourescent) - Replace	12
1051	Lights (int. simple) - Replace	6
1006	Mailboxes - Replace	6
1030	Roof (asph.shingle) - Replace	30
1033	Roof Skylights - Replace	10
Total for 2027		**$11,489**

No Replacement in 2028
No Replacement in 2029
No Replacement in 2030

Replacement Year 2031		
1014	Decks (membrane) - Topcoat & Non-skid	283
1005	Landscaping - Refurbish	1,717
Total for 2031		**$2,001**

Replacement Year 2032		
1058	Asphalt - Seal Coat	4,937
1036	Building Exteriors (metal) - Paint & Seal	6,891
1039	Building Exteriors (wood) - 5% Minor Repair	114
1040	Building Exteriors (wood) - Paint & Seal	2,274
1011	Concrete Sidewalks (public) - 15% Repair	64
1002	Concrete Surfaces - 15% Repair	264
1028	Deck Railings (metal) - Paint	293
1041	Doors (entry/glass) - Paint	18
1046	Doors (garage) - Paint	18
1048	Doors (int. utility/strg) - Replace	13
1042	Fence (wood) - Paint/Stain	388
1020	Fire Annunciation Panel - Replace	1
1021	Fire Control Panel - Replace	1
1022	Fire Peripherals (interior) - Replace	42

	Description	Expenditures
Replacement Year 2032 continued...		
1044	Interior Surfaces - Paint	4,081
1052	Staircase Railings (metal) - Paint	93
Total for 2032		**$19,493**
No Replacement in 2033		
No Replacement in 2034		
No Replacement in 2035		
Replacement Year 2036		
1013	Decks (membrane) - Refurbish	337
1014	Decks (membrane) - Topcoat & Non-skid	337
Total for 2036		**$673**
Replacement Year 2037		
1058	Asphalt - Seal Coat	5,864
1039	Building Exteriors (wood) - 5% Minor Repair	135
1040	Building Exteriors (wood) - Paint & Seal	2,701
1011	Concrete Sidewalks (public) - 15% Repair	76
1002	Concrete Surfaces - 15% Repair	313
1017	Doors (garage double) - Replace	3
1042	Fence (wood) - Paint/Stain	461
1053	Gutters & Downs. - Replace	462
Total for 2037		**$10,016**
No Replacement in 2038		
No Replacement in 2039		
No Replacement in 2040		
Replacement Year 2041		
1014	Decks (membrane) - Topcoat & Non-skid	400
Total for 2041		**$400**
Replacement Year 2042		
1058	Asphalt - Seal Coat	6,964
1025	Backflow Valve (fire system) - Replace	4

	Description	Expenditures
Replacement Year 2042 continued...		
1036	Building Exteriors (metal) - Paint & Seal	9,720
1039	Building Exteriors (wood) - 5% Minor Repair	160
1040	Building Exteriors (wood) - Paint & Seal	3,208
1011	Concrete Sidewalks (public) - 15% Repair	91
1002	Concrete Surfaces - 15% Repair	372
1029	Deck Railings (metal) - Replace	414
1015	Door Operators (garage) - Replace	4
1041	Doors (entry/glass) - Paint	26
1019	Entry Access Panel - Replace	2
1042	Fence (wood) - Paint/Stain	547
1043	Garage Floor (epoxy coat) - Recoat	1,673
1027	Hot Water Heaters - Replace	10
1044	Interior Surfaces - Paint	5,756
1031	Roof (membrane) - Replace	6
1052	Staircase Railings (metal) - Paint	131
Total for 2042		**$29,089**

No Replacement in 2043
No Replacement in 2044
No Replacement in 2045

Replacement Year 2046		
1014	Decks (membrane) - Topcoat & Non-skid	475
1005	Landscaping - Refurbish	2,877
Total for 2046		**$3,352**

Replacement Year 2047		
1058	Asphalt - Seal Coat	8,271
1039	Building Exteriors (wood) - 5% Minor Repair	190
1040	Building Exteriors (wood) - Paint & Seal	3,810
1011	Concrete Sidewalks (public) - 15% Repair	108
1002	Concrete Surfaces - 15% Repair	442
1056	Electrical Meter Sockets - Replace	14
1042	Fence (wood) - Paint/Stain	650
Total for 2047		**$13,485**

Sample Reserve Study
Projected Annual Expenditures - List

Description		Expenditures
No Replacement in 2048		
No Replacement in 2049		
No Replacement in 2050		
Replacement Year 2051		
1014	Decks (membrane) - Topcoat & Non-skid	564
Total for 2051		**$564**

Sample Reserve Study
Fully Funded Balance Calculations (Beginning Fiscal Year)

Asset ID	Description	Current Cost	x	Age	/	Useful Life	=	Fully Funded
Building Exterior Components								
1036	Building Exteriors (metal) - P...	$4,885	x	20	/	30	=	$3,257
1037	Building Exteriors (metal) - R...	$4,885	x	20	/	50	=	$1,954
1039	Building Exteriors (wood) - 5...	$81	x	5	/	5	=	$81
1040	Building Exteriors (wood) - P...	$1,612	x	5	/	5	=	$1,612
1038	Building Exteriors (wood) - R...	$1,612	x	20	/	50	=	$645
1028	Deck Railings (metal) - Paint	$208	x	10	/	10	=	$208
1029	Deck Railings (metal) - Replace	$208	x	20	/	40	=	$104
1012	Decks (composite) - Rebuild	$104	x	20	/	25	=	$83
1013	Decks (membrane) - Refurbish	$208	x	6	/	20	=	$62
1014	Decks (membrane) - Topcoat...	$208	x	1	/	5	=	$42
1041	Doors (entry/glass) - Paint	$13	x	10	/	10	=	$13
1016	Doors (ext. solid core w/ glas...	$4	x	20	/	50	=	$2
1047	Doors (ext. solid core) - Repl...	$9	x	20	/	50	=	$4
1017	Doors (garage double) - Repl...	$2	x	20	/	35	=	$1
1046	Doors (garage) - Paint	$13	x	10	/	10	=	$13
1043	Garage Floor (epoxy coat) - R...	$841	x	20	/	20	=	$841
1049	Gate (pedestrian) - Replace	$1	x	20	/	50	=	$0
1053	Gutters & Downs. - Replace	$276	x	20	/	35	=	$158
1024	Lights (ext. fixture) - Replace	$20	x	20	/	25	=	$16
1050	Lights (ext. security) - Replace	$7	x	20	/	25	=	$6
1030	Roof (asph.shingle) - Replace	$25	x	20	/	25	=	$20
1031	Roof (membrane) - Replace	$3	x	20	/	20	=	$3
1033	Roof Skylights - Replace	$8	x	20	/	25	=	$6
1052	Staircase Railings (metal) - P...	$66	x	10	/	10	=	$66
1055	Staircase Railings (metal) - R...	$66	x	20	/	50	=	$26
1035	Windows (vinyl) - Replace	$515	x	20	/	50	=	$206
Building Exterior Components - Total:								$9,428
Building Interior Components								
1048	Doors (int. utility/strg) - Repl...	$9	x	20	/	30	=	$6
1054	Flooring (vinyl sheet) - Replace	$12	x	20	/	25	=	$10
1044	Interior Surfaces - Paint	$2,893	x	10	/	10	=	$2,893
1045	Lights (int. flourescent) - Rep...	$10	x	20	/	25	=	$8
1051	Lights (int. simple) - Replace	$5	x	20	/	25	=	$4
Building Interior Components - Total:								$2,921

Sample Reserve Study
Fully Funded Balance Calculations (Beginning Fiscal Year)

Asset ID	Description	Current Cost	x	Age	/	Useful Life	=	Fully Funded
Electrical / Plumbing / Mechanical / Fire Components								
1007	Backflow Valve (domestic wa...	$1	x	20	/	25	=	$1
1025	Backflow Valve (fire system) ...	$2	x	20	/	40	=	$1
1015	Door Operators (garage) - Re...	$2	x	20	/	20	=	$2
1026	Drain/Waste/Supply/Sprinkl...	$5,100	x	20	/	60	=	$1,700
1056	Electrical Meter Sockets - Re...	$6	x	20	/	45	=	$3
1019	Entry Access Panel - Replace	$1	x	20	/	20	=	$1
1020	Fire Annunciation Panel - Re...	$1	x	20	/	30	=	$1
1021	Fire Control Panel - Replace	$1	x	20	/	30	=	$1
1022	Fire Peripherals (interior) - R...	$30	x	20	/	30	=	$20
1023	Heaters (wall fan) - Replace	$1	x	20	/	25	=	$1
1027	Hot Water Heaters - Replace	$5	x	20	/	20	=	$5
1008	Sewer Lateral Lines (side se...	$35	x	20	/	50	=	$14
1009	Water Lateral Lines - Replace	$35	x	20	/	50	=	$14
Electrical / Plumbing / Mechanical / Fire Components - Total:								$1,763
Site Components								
1057	Asphalt - Overlay	$3,500	x	20	/	25	=	$2,800
1058	Asphalt - Seal Coat	$3,500	x	5	/	5	=	$3,500
1010	Concrete Driveway - Replace	$486	x	6	/	50	=	$58
1011	Concrete Sidewalks (public) -...	$46	x	20	/	25	=	$36
1002	Concrete Surfaces - 15% Rep...	$187	x	20	/	25	=	$150
1042	Fence (wood) - Paint/Stain	$275	x	5	/	5	=	$275
1003	Fence (wood) - Replace	$275	x	20	/	25	=	$220
1005	Landscaping - Refurbish	$1,260	x	6	/	15	=	$504
1006	Mailboxes - Replace	$5	x	20	/	25	=	$4
Site Components - Total:								$7,547
Total Asset Summary:								$21,659

Sample Reserve Study
Projected Annual Expenditures - Spreadsheets

		2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Beginning Balance		9,000	2,737	6,112	9,616	13,254	16,792	9,184	13,213	17,395	21,738
Annual Reserve Account Contribution		3,240	3,353	3,471	3,592	3,718	3,848	3,983	4,122	4,266	4,416
Interest Earned		10	21	34	46	59	32	46	61	76	85
Expenditures		9,513				239	11,489				2,001
Fully Funded Balance		14,823	17,671	20,701	23,922	27,096	18,873	22,348	26,043	29,970	32,069
Percent Funded		18%	35%	46%	55%	62%	49%	59%	67%	73%	76%
Ending Reserve Account Balance		2,737	6,112	9,616	13,254	16,792	9,184	13,213	17,395	21,738	24,237
ID	**Description**										
1057	Asphalt - Overlay						4,157				
1058	Asphalt - Seal Coat	3,500					4,157				
1007	Backflow Valve (domestic water) - Replace						1				
1025	Backflow Valve (fire system) - Replace										
1036	Building Exteriors (metal) - Paint & Seal										
1037	Building Exteriors (metal) - Replace										
1039	Building Exteriors (wood) - 5% Minor Repair	81					96				
1040	Building Exteriors (wood) - Paint & Seal	1,612					1,915				
1038	Building Exteriors (wood) - Replace										
1010	Concrete Driveway - Replace										
1011	Concrete Sidewalks (public) - 15% Repair						54				
1002	Concrete Surfaces - 15% Repair						222				
1028	Deck Railings (metal) - Paint	208									
1029	Deck Railings (metal) - Replace										
1012	Decks (composite) - Rebuild						124				
1013	Decks (membrane) - Refurbish										
1014	Decks (membrane) - Topcoat & Non-skid					239					283
1015	Door Operators (garage) - Replace	2									
1041	Doors (entry/glass) - Paint	13									
1016	Doors (ext. solid core w/ glass) - Replace										
1047	Doors (ext. solid core) - Replace										
1017	Doors (garage double) - Replace										
1046	Doors (garage) - Paint	13									
1048	Doors (int. utility/strg) - Replace										

Sample Reserve Study
Projected Annual Expenditures - Spreadsheets

ID	Description	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
1026	Drain/Waste/Supply/Sprinkler/Standpipe Lin..										
1056	Electrical Meter Sockets - Replace										
1019	Entry Access Panel - Replace	1									
1042	Fence (wood) - Paint/Stain	275					327				
1003	Fence (wood) - Replace						327				
1020	Fire Annunciation Panel - Replace										
1021	Fire Control Panel - Replace										
1022	Fire Peripherals (interior) - Replace										
1054	Flooring (vinyl sheet) - Replace						14				
1043	Garage Floor (epoxy coat) - Recoat	841									
1049	Gate (pedestrian) - Replace										
1053	Gutters & Downs. - Replace										
1023	Heaters (wall fan) - Replace						1				
1027	Hot Water Heaters - Replace	5									
1044	Interior Surfaces - Paint	2,893									
1005	Landscaping - Refurbish										1,717
1024	Lights (ext. fixture) - Replace						24				
1050	Lights (ext. security) - Replace						8				
1045	Lights (int. flourescent) - Replace						12				
1051	Lights (int. simple) - Replace						6				
1006	Mailboxes - Replace						6				
1030	Roof (asph.shingle) - Replace						30				
1031	Roof (membrane) - Replace	3									
1033	Roof Skylights - Replace						10				
1008	Sewer Lateral Lines (side sewer) - Replace										
1052	Staircase Railings (metal) - Paint	66									
1055	Staircase Railings (metal) - Replace										
1009	Water Lateral Lines - Replace										
1035	Windows (vinyl) - Replace										
Year Total:		**9,513**				**239**	**11,489**				**2,001**

Sample Reserve Study
Projected Annual Expenditures - Spreadsheets

	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
Beginning Balance	24,237	9,347	14,126	19,089	24,241	28,913	24,410	30,133	36,074	42,240
Annual Reserve Account Contribution	4,570	4,730	4,896	5,067	5,245	5,428	5,618	5,815	6,018	6,229
Interest Earned	33	49	67	85	101	85	105	126	147	168
Expenditures	19,493				673	10,016				400
Fully Funded Balance	16,704	21,106	25,796	30,788	35,401	30,655	36,262	42,223	48,558	54,871
Percent Funded	56%	67%	74%	79%	82%	80%	83%	85%	87%	88%
Ending Reserve Account Balance	9,347	14,126	19,089	24,241	28,913	24,410	30,133	36,074	42,240	48,237
ID Description										
1057 Asphalt - Overlay										
1058 Asphalt - Seal Coat	4,937					5,864				
1007 Backflow Valve (domestic water) - Replace										
1025 Backflow Valve (fire system) - Replace										
1036 Building Exteriors (metal) - Paint & Seal	6,891									
1037 Building Exteriors (metal) - Replace										
1039 Building Exteriors (wood) - 5% Minor Repair	114					135				
1040 Building Exteriors (wood) - Paint & Seal	2,274					2,701				
1038 Building Exteriors (wood) - Replace										
1010 Concrete Driveway - Replace										
1011 Concrete Sidewalks (public) - 15% Repair	64					76				
1002 Concrete Surfaces - 15% Repair	264					313				
1028 Deck Railings (metal) - Paint	293									
1029 Deck Railings (metal) - Replace										
1012 Decks (composite) - Rebuild										
1013 Decks (membrane) - Refurbish					337					
1014 Decks (membrane) - Topcoat & Non-skid					337					400
1015 Door Operators (garage) - Replace										
1041 Doors (entry/glass) - Paint	18									
1016 Doors (ext. solid core w/ glass) - Replace										
1047 Doors (ext. solid core) - Replace										
1017 Doors (garage double) - Replace						3				
1046 Doors (garage) - Paint	18									
1048 Doors (int. utility/strg) - Replace	13									

Sample Reserve Study
Projected Annual Expenditures - Spreadsheets

ID	Description	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
1026	Drain/Waste/Supply/Sprinkler/Standpipe Lin..										
1056	Electrical Meter Sockets - Replace										
1019	Entry Access Panel - Replace										
1042	Fence (wood) - Paint/Stain	388					461				
1003	Fence (wood) - Replace										
1020	Fire Annunciation Panel - Replace	1									
1021	Fire Control Panel - Replace	1									
1022	Fire Peripherals (interior) - Replace	42									
1054	Flooring (vinyl sheet) - Replace										
1043	Garage Floor (epoxy coat) - Recoat										
1049	Gate (pedestrian) - Replace										
1053	Gutters & Downs. - Replace						462				
1023	Heaters (wall fan) - Replace										
1027	Hot Water Heaters - Replace										
1044	Interior Surfaces - Paint	4,081									
1005	Landscaping - Refurbish										
1024	Lights (ext. fixture) - Replace										
1050	Lights (ext. security) - Replace										
1045	Lights (int. flourescent) - Replace										
1051	Lights (int. simple) - Replace										
1006	Mailboxes - Replace										
1030	Roof (asph.shingle) - Replace										
1031	Roof (membrane) - Replace										
1033	Roof Skylights - Replace										
1008	Sewer Lateral Lines (side sewer) - Replace										
1052	Staircase Railings (metal) - Paint	93									
1055	Staircase Railings (metal) - Replace										
1009	Water Lateral Lines - Replace										
1035	Windows (vinyl) - Replace										
Year Total:		**19,493**				**673**	**10,016**				**400**

Sample Reserve Study
Projected Annual Expenditures - Spreadsheets

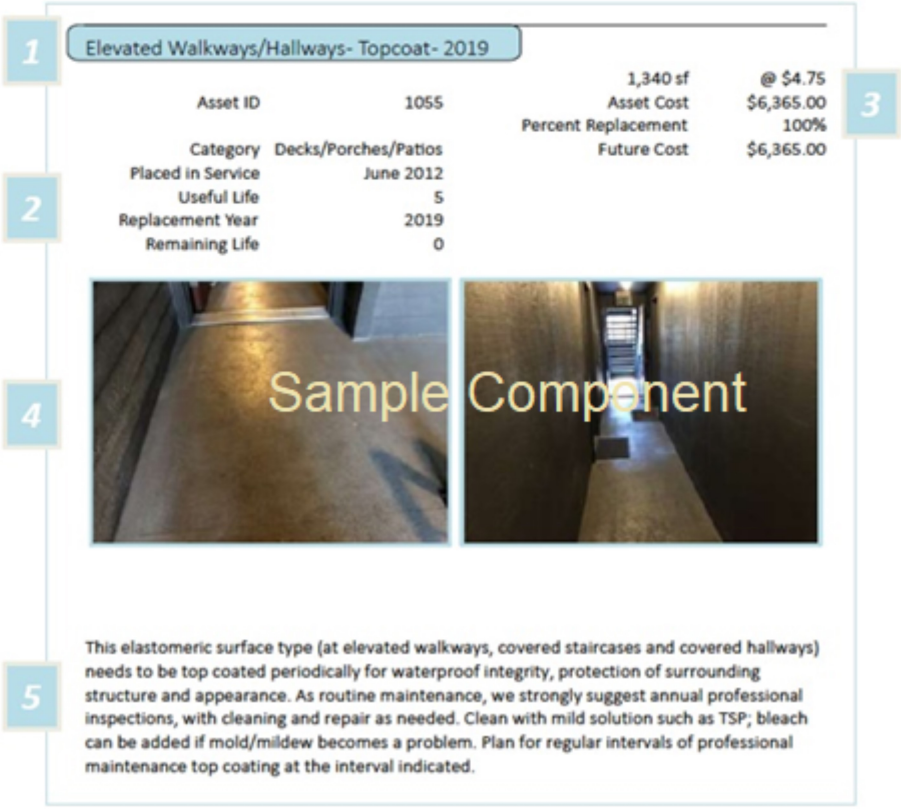
		2042	2043	2044	2045	2046	2047	2048	2049	2050	2051
Beginning Balance		48,237	25,684	32,470	39,514	46,825	51,049	45,379	53,490	61,909	70,644
Annual Reserve Account Contribution		6,447	6,673	6,906	7,148	7,398	7,657	7,925	8,202	8,489	8,786
Interest Earned		90	113	138	163	178	158	187	216	246	276
Expenditures		29,089				3,352	13,485				564
Fully Funded Balance		31,377	37,332	43,666	50,397	54,077	47,567	54,980	62,854	71,212	79,494
Percent Funded		82%	87%	90%	93%	94%	95%	97%	98%	99%	100%
Ending Reserve Account Balance		25,684	32,470	39,514	46,825	51,049	45,379	53,490	61,909	70,644	79,143
ID	**Description**										
1057	Asphalt - Overlay										
1058	Asphalt - Seal Coat	6,964					8,271				
1007	Backflow Valve (domestic water) - Replace										
1025	Backflow Valve (fire system) - Replace	4									
1036	Building Exteriors (metal) - Paint & Seal	9,720									
1037	Building Exteriors (metal) - Replace										
1039	Building Exteriors (wood) - 5% Minor Repair	160					190				
1040	Building Exteriors (wood) - Paint & Seal	3,208					3,810				
1038	Building Exteriors (wood) - Replace										
1010	Concrete Driveway - Replace										
1011	Concrete Sidewalks (public) - 15% Repair	91					108				
1002	Concrete Surfaces - 15% Repair	372					442				
1028	Deck Railings (metal) - Paint										
1029	Deck Railings (metal) - Replace	414									
1012	Decks (composite) - Rebuild										
1013	Decks (membrane) - Refurbish										
1014	Decks (membrane) - Topcoat & Non-skid					475					564
1015	Door Operators (garage) - Replace	4									
1041	Doors (entry/glass) - Paint	26									
1016	Doors (ext. solid core w/ glass) - Replace										
1047	Doors (ext. solid core) - Replace										
1017	Doors (garage double) - Replace										
1046	Doors (garage) - Paint										
1048	Doors (int. utility/strg) - Replace										

Sample Reserve Study
Projected Annual Expenditures - Spreadsheets

ID	Description	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051
1026	Drain/Waste/Supply/Sprinkler/Standpipe Lin..										
1056	Electrical Meter Sockets - Replace						14				
1019	Entry Access Panel - Replace	2									
1042	Fence (wood) - Paint/Stain	547					650				
1003	Fence (wood) - Replace										
1020	Fire Annunciation Panel - Replace										
1021	Fire Control Panel - Replace										
1022	Fire Peripherals (interior) - Replace										
1054	Flooring (vinyl sheet) - Replace										
1043	Garage Floor (epoxy coat) - Recoat	1,673									
1049	Gate (pedestrian) - Replace										
1053	Gutters & Downs. - Replace										
1023	Heaters (wall fan) - Replace										
1027	Hot Water Heaters - Replace	10									
1044	Interior Surfaces - Paint	5,756									
1005	Landscaping - Refurbish					2,877					
1024	Lights (ext. fixture) - Replace										
1050	Lights (ext. security) - Replace										
1045	Lights (int. flourescent) - Replace										
1051	Lights (int. simple) - Replace										
1006	Mailboxes - Replace										
1030	Roof (asph.shingle) - Replace										
1031	Roof (membrane) - Replace	6									
1033	Roof Skylights - Replace										
1008	Sewer Lateral Lines (side sewer) - Replace										
1052	Staircase Railings (metal) - Paint	131									
1055	Staircase Railings (metal) - Replace										
1009	Water Lateral Lines - Replace										
1035	Windows (vinyl) - Replace										
Year Total:		**29,089**				**3,352**	**13,485**				**564**

Sample Reserve Study
About the Component Detail Reports Section

In the following Component Details Section of this reserve study you will find each component that has been listed within the Component List. This section has more detailed information for each component and reviewing it will often answer questions that arise regarding specific components within this reserve study. Below you will find an explanation of what and where this information is located.



1. Component Name and next Replacement Year as well as a unique Asset ID to cross reference with other sections within this reserve study.

2. This area has the category of the component, estimated placed in-service date (when last installed), the estimated useful life of the component (estimate of how long the component will last), the next replacement year in this reserve study and the remaining useful life (how many years before replacement is estimated to occur).

3. The area has the total measurement/unit count of the component, the cost per unit, the total asset cost (unit count X unit cost), the percent replacement (amount funded to be replaced in a cycle), and the future cost (estimated cost at the next replacement date).

4. Pictures of the component are included for Level I studies unless the Client has requested fewer pages in the study in which case we will omit them.

5. Specific comments about this component which can include explanations for adjustments to the useful life, phasing, maintenance of the component, Vendor recommendations, etc.

Building Exteriors (metal) - Paint & Seal

		4,885 sf	@ $1.00
Asset ID	1036	Asset Actual Cost	$4,885.00
Building Exterior Components		Percent Replacement	100%
Building Exteriors		Future Cost	$6,890.77
Placed in Service	January 2002		
Useful Life	10		
Adjustment	20		
Replacement Year	2032		
Remaining Life	10		

Exterior paint appears to be deteriorating at a rate typical of its age. As routine maintenance, inspect regularly and touch up/repair locally as needed using operating funds. Removal and replacement of sealants where applicable with high quality product is important part of surface preparation. Repair areas as needed prior to painting.

To retain the aesthetic appeal and marketability of the building we recommend budgeting for painting of metal exterior surfaces after 30 years of age when metal will typically have faded and become chalky. Once the manufacture's paint has been coated we recommend budgeting for paint cycles of every 10 years thereafter as new site installed coatings will not typically last as long as the initial manufacturer's coating.

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Building Exteriors (metal) - Replace

		4,885 sf	@ $1.00
Asset ID	1037	Asset Actual Cost	$4,885.00
	Building Exterior Components	Percent Replacement	100%
	Building Exteriors	Future Cost	$13,711.19
Placed in Service	January 2002		
Useful Life	50		
Replacement Year	2052		
Remaining Life	30		

Metal siding appear to be deteriorating at a rate typical of its age. This component is included for replacement of the metal siding which will eventually deteriorate even though it is considered a long life exterior product; additionally, the underlying WRB (water resistant barrier / weather resistant barrier) will deteriorate and need replacement along with the siding. Larger replacement project should be anticipated and appropriately budgeted for.

Note that cost estimate does not take into account any underlying rot/mold issues that may be present and in need of repair before new siding can be installed.

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Building Exteriors (wood) - 5% Minor Repair

		1,612 sf	@ $1.00
Asset ID	1039	Asset Actual Cost	$80.60
	Building Exterior Components	Percent Replacement	5%
	Building Exteriors	Future Cost	$80.60
Placed in Service	June 2017		
Useful Life	5		
Replacement Year	2022		
Remaining Life	0		

Exterior wood building surfaces appear to be deteriorating at a rate typical of their age. This component is included for replacement of the wood siding and trim which will deteriorate and need replacement along with the underlying weather resistant barrier.

Regular paint cycles and sealing (caulking) where necessary will maximize the useful life of this component as paint/sealing prevents moisture intrusion.

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Building Exteriors (wood) - Paint & Seal

		1,612 sf	@ $1.00
Asset ID	1040	Asset Actual Cost	$1,612.00
	Building Exterior Components	Percent Replacement	100%
	Building Exteriors	Future Cost	$1,612.00
Placed in Service	June 2017		
Useful Life	5		
Replacement Year	2022		
Remaining Life	0		

Exterior paint appears to be deteriorating at a rate typical of its age. As routine maintenance, inspect regularly and touch up/repair locally as needed using operating funds. Typical paint cycles for wood surfaces are between five to seven years depending upon surface preparation, material quality, application methods, site and weather conditions. Removal and replacement of sealants where applicable with high quality product is important part of surface preparation. Repair areas as needed prior to painting.

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Building Exteriors (wood) - Replace

Asset ID	1038	1,612 sf	@ $1.00
	Building Exterior Components	Asset Actual Cost	$1,612.00
	Building Exteriors	Percent Replacement	100%
Placed in Service	January 2002	Future Cost	$4,524.55
Useful Life	50		
Replacement Year	2052		
Remaining Life	30		

Exterior wood building surfaces appear to be deteriorating at a rate typical of their age. This component is included for replacement of the wood siding and trim which will deteriorate and need replacement along with the underlying weather resistant barrier.

Regular paint cycles and sealing (caulking) where necessary will maximize the useful life of this component as paint/sealing prevents moisture intrusion.

Note that cost estimate does not take into account any underlying rot/mold issues that may be present and in need of repair before new siding can be installed.

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Deck Railings (metal) - Paint

		208 lf	@ $1.00
Asset ID	1028	Asset Actual Cost	$208.00
Building Exterior Components		Percent Replacement	100%
Railings		Future Cost	$208.00
Placed in Service	June 2012		
Useful Life	10		
Replacement Year	2022		
Remaining Life	0		

These metal rails should be inspected and monitored rails for safety, touch up paint annually & repair as needed from operating budget.

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Deck Railings (metal) - Replace

		208 lf	@ $1.00
Asset ID	1029	Asset Actual Cost	$208.00
	Building Exterior Components	Percent Replacement	100%
	Railings	Future Cost	$413.87
Placed in Service	January 2002		
Useful Life	40		
Replacement Year	2042		
Remaining Life	20		

Appear to be deteriorating at a rate typical of its age. As part of ongoing maintenance program, inspect regularly for any damage/deterioration and repair promptly as needed from operating budget. Clean regularly for appearance, maximum design life and to ensure adequate footing.

This component supersedes the metal railing paint component.

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Decks (composite) - Rebuild

		104 sf	@ $1.00
Asset ID	1012	Asset Actual Cost	$104.00
Building Exterior Components		Percent Replacement	100%
Deck Systems		Future Cost	$123.52
Placed in Service	January 2002		
Useful Life	25		
Replacement Year	2027		
Remaining Life	5		

Composite decks appear to be deteriorating at a rate typical of their age. As part of ongoing maintenance program, inspect regularly for any damage/deterioration and repair promptly as needed from operating budget. Clean regularly for appearance, maximum design life and to ensure adequate footing. We recommend budgeting for full replacement of these exposed decks due to constant exposure to the elements.

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Decks (membrane) - Refurbish

		208 sf	@ $1.00
Asset ID	1013	Asset Actual Cost	$208.00
Building Exterior Components		Percent Replacement	100%
Deck Systems		Future Cost	$336.69
Placed in Service	June 2016		
Useful Life	20		
Replacement Year	2036		
Remaining Life	14		

Resurfacing & refurbishing the decks involves removing the waterproof deck system and installing a new system, making any necessary repairs to the beams and sheathing. Local repairs to the deck sheathing and supports beams would also be included in this project as-needed and have been considered in this cost estimate.

*Cost Source: Client Historical Records – Inflated to Current Estimate

Decks (membrane) - Topcoat & Non-skid

		208 sf	@ $1.00
Asset ID	1014	Asset Actual Cost	$208.00
Building Exterior Components		Percent Replacement	100%
Deck Systems		Future Cost	$238.68
Placed in Service	June 2021		
Useful Life	5		
Replacement Year	2026		
Remaining Life	4		

This membrane surface with non-skid material needs to be top coated periodically for waterproof integrity, protection of surrounding structure, appearance and non-skid properties. As routine maintenance, we strongly suggest annual professional inspections, with cleaning and repair as needed. Clean with mild solution such as TSP; bleach can be added if mold/mildew becomes a problem. Plan for regular intervals of professional maintenance top coating at the interval indicated.

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Doors (entry/glass) - Paint

		13 ea	@ $1.00
Asset ID	1041	Asset Actual Cost	$13.00
Building Exterior Components		Percent Replacement	100%
Doors		Future Cost	$13.00
Placed in Service	June 2012		
Useful Life	10		
Replacement Year	2022		
Remaining Life	0		

Exterior door paint appears to be deteriorating at a rate typical of its age. As routine maintenance, inspect regularly and touch up locally as needed using operating funds.

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Doors (ext. solid core w/ glass) - Replace

		4 ea	@ $1.00
Asset ID	1016	Asset Actual Cost	$4.00
Building Exterior Components		Percent Replacement	100%
	Doors	Future Cost	$11.22
Placed in Service	January 2002		
Useful Life	50		
Replacement Year	2052		
Remaining Life	30		

Exterior glass doors at decks appear to be deteriorating at a rate typical of their age. Inspect regularly, repair hardware as needed from maintenance budget. Reserve funding recommended at level indicated.

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Doors (ext. solid core) - Replace

		9 ea	@ $1.00
Asset ID	1047	Asset Actual Cost	$9.00
Building	Exterior Components	Percent Replacement	100%
	Doors	Future Cost	$25.26
Placed in Service	January 2002		
Useful Life	50		
Replacement Year	2052		
Remaining Life	30		

Exterior doors appear to be deteriorating at a rate typical of their age. Inspect regularly, repair hardware as needed from maintenance budget. Reserve funding recommended at level indicated.

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Doors (garage double) - Replace

		2 ea	@ $1.00
Asset ID	1017	Asset Actual Cost	$2.00
Building Exterior Components		Percent Replacement	100%
Doors		Future Cost	$3.35
Placed in Service	January 2002		
Useful Life	35		
Replacement Year	2037		
Remaining Life	15		

Garage doors appear to be deteriorating at a rate typical of their age. If not damaged or abused garage doors will last the estimated useful life indicated; repair as needed from operating funds. Clean and paint along with other exterior building surfaces. Best to plan for eventual replacement due to constant usage and wear over time.

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Doors (garage) - Paint

		13 ea	@ $1.00
Asset ID	1046	Asset Actual Cost	$13.00
Building Exterior Components		Percent Replacement	100%
	Doors	Future Cost	$13.00
Placed in Service	June 2012		
Useful Life	10		
Replacement Year	2022		
Remaining Life	0		

Exterior door paint appears to be deteriorating at a rate typical of its age. As routine maintenance, inspect regularly and touch up locally as needed using operating funds.

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Garage Floor (epoxy coat) - Recoat

		841 sf	@ $1.00
Asset ID	1043	Asset Actual Cost	$841.00
	Building Exterior Components	Percent Replacement	100%
	Flooring	Future Cost	$841.00
Placed in Service	January 2002		
Useful Life	20		
Replacement Year	2022		
Remaining Life	0		

The garage coating appears to be deteriorating at a rate typical of its age. As routine maintenance, inspect regularly and touch up/repair locally as needed using operating funds. Typical coating cycles for these surfaces are between four to six years depending upon surface preparation, material quality, application methods, pedestrian traffic volume and site & weather conditions.

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Gate (pedestrian) - Replace

		1 ea	@ $1.00
Asset ID	1049	Asset Actual Cost	$1.00
Building Exterior Components		Percent Replacement	100%
Gate Systems		Future Cost	$2.80
Placed in Service	January 2002		
Useful Life	50		
Replacement Year	2052		
Remaining Life	30		

Pedestrian gate appears to be deteriorating at a rate typical of its age. Complete touch up paint, maintenance and repairs (paid from Operating Account) to help extend useful life cycles. These types of metal gates are typically durable, however, we recommend setting aside funding for regular intervals of replacement due to constant usage, wear exposure to the elements.

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Gutters & Downs. - Replace

		276 lf	@ $1.00
Asset ID	1053	Asset Actual Cost	$276.00
Building Exterior Components		Percent Replacement	100%
Roofing System		Future Cost	$462.40
Placed in Service	January 2002		
Useful Life	35		
Replacement Year	2037		
Remaining Life	15		

Appear to be deteriorating at a rate typical of their age based our limited scope visual inspection. As routine maintenance, inspect regularly, keep gutters and downspouts free of debris. Repair locally as needed from general operating funds.

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Lights (ext. fixture) - Replace

		20 ea	@ $1.00
Asset ID	1024	Asset Actual Cost	$20.00
Building Exterior Components		Percent Replacement	100%
Lighting		Future Cost	$23.75
Placed in Service	January 2002		
Useful Life	25		
Replacement Year	2027		
Remaining Life	5		

Exterior lights appear to be deteriorating at a rate typical of their age. Observed during daylight hours; assumed to be in functional operating condition. As routine maintenance, clean by wiping down with an appropriate cleaner, change bulbs and repair as needed. Best to plan for replacement at roughly the time frame indicated for periodic aesthetic updating, cost efficiency and consistent quality/appearance.

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Lights (ext. security) - Replace

		7 ea	@ $1.00
Asset ID	1050	Asset Actual Cost	$7.00
Building Exterior Components		Percent Replacement	100%
Lighting		Future Cost	$8.31
Placed in Service	January 2002		
Useful Life	25		
Replacement Year	2027		
Remaining Life	5		

Exterior lights appear to be deteriorating at a rate typical of their age. Observed during daylight hours; assumed to be in functional operating condition. As routine maintenance, clean by wiping down with an appropriate cleaner, change bulbs and repair as needed. Best to plan for replacement at roughly the time frame indicated for periodic aesthetic updating, cost efficiency and consistent quality/appearance.

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Roof (asph.shingle) - Replace

		25 sq	@ $1.00
Asset ID	1030	Asset Actual Cost	$25.00
Building Exterior Components		Percent Replacement	100%
Roofing System		Future Cost	$29.69
Placed in Service	January 2002		
Useful Life	25		
Replacement Year	2027		
Remaining Life	5		

Appears to be deteriorating at a rate typical of its age based on our limited scope visual inspection. As routine maintenance, we recommend professional inspections at least twice annually and after windstorms. Promptly replace any damaged/missing shingles or any other repair needed to ensure waterproof integrity of roof. Keep gutters and downspouts clear and free of debris. Plan for replacement at roughly the time frame indicated. Cost estimates include removal of old roofing materials and replacement of flashing.

1 square (sq) = 100 square feet

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Roof (membrane) - Replace

		3 sq	@ $1.00
Asset ID	1031	Asset Actual Cost	$3.00
Building Exterior Components		Percent Replacement	100%
Roofing System		Future Cost	$3.00
Placed in Service	January 2002		
Useful Life	20		
Replacement Year	2022		
Remaining Life	0		

Appears to be deteriorating at a rate typical of its age. Assumed to have been correctly installed per manufacturer's specifications, without defect. As routine maintenance, we recommend professional inspections at least twice annually and after wind storms, replacing any damaged or missing sections promptly out of operational/maintenance funds. Ensure positive drainage and ensure adequate waterproofing around drainage areas. Best to plan for replacement of these membranes on the time frame indicated.

Cost estimate includes only replacement of the membrane and not any underlying rot/mold issues that may be present. A common budgeting mistake we see is pushing out the membrane replacement project well past the recommended replacement date only to have a much higher cost related to moisture intrusion issues (e.g., mold, rot) and having to rebuild low slope roofing systems. With proper installation, regular inspections & maintenance and timely replacement (as recommended by the roof Vendor) we do not typically see the need to rebuild low slope roofing systems.

1 square (sq) = 100 square feet

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Roof Skylights - Replace

		8 sf	@ $1.00
Asset ID	1033	Asset Actual Cost	$8.00
Building	Exterior Components	Percent Replacement	100%
	Roofing System	Future Cost	$9.50
Placed in Service	January 2002		
Useful Life	25		
Replacement Year	2027		
Remaining Life	5		

Appear to be deteriorating at a rate typical of their age and no visible leaks readily apparent. No widespread problems indicated. Inspect regularly, repair/replace individually as needed to maintain water proof integrity of building envelope. Best to plan for widespread replacement at the same time as roof cycles to ensure quality weatherproofing is maintained.

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Staircase Railings (metal) - Paint

		66 lf	@ $1.00
Asset ID	1052	Asset Actual Cost	$66.00
Building Exterior Components		Percent Replacement	100%
Railings		Future Cost	$66.00
Placed in Service	June 2012		
Useful Life	10		
Replacement Year	2022		
Remaining Life	0		

These metal rails should be inspected and monitored rails for safety, touch up paint annually & repair as needed from operating budget.

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Staircase Railings (metal) - Replace

		66 lf	@ $1.00
Asset ID	1055	Asset Actual Cost	$66.00
	Building Exterior Components	Percent Replacement	100%
	Railings	Future Cost	$185.25
Placed in Service	January 2002		
Useful Life	50		
Replacement Year	2052		
Remaining Life	30		

Appear to be deteriorating at a rate typical of its age. As part of ongoing maintenance program, inspect regularly for any damage/deterioration and repair promptly as needed from operating budget. Clean regularly for appearance, maximum design life and to ensure adequate footing.

This component supersedes the railing paint component.

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Windows (vinyl) - Replace

		515 sf	@ $1.00
Asset ID	1035	Asset Actual Cost	$515.00
Building Exterior Components		Percent Replacement	100%
Windows		Future Cost	$1,445.50
Placed in Service	January 2002		
Useful Life	50		
Replacement Year	2052		
Remaining Life	30		

The vinyl windows appear to be deteriorating at a rate typical of their age. No reported problems such as water intrusion. As routine maintenance, we recommend regular professional inspections and prompt repair as needed to ensure building waterproofing and help prevent structural damage. If properly installed without defect, plan to replace at roughly the time frame indicated.

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Doors (int. utility/strg) - Replace

		9 ea	@ $1.00
Asset ID	1048	Asset Actual Cost	$9.00
	Building Interior Components	Percent Replacement	100%
	Doors	Future Cost	$12.69
Placed in Service	January 2002		
Useful Life	30		
Replacement Year	2032		
Remaining Life	10		

Interior storage/utility doors appear to be deteriorating at a rate typical of their age. Inspect regularly, repair hardware as needed from maintenance budget. Reserve funding recommended at level indicated.

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Flooring (vinyl sheet) - Replace

		12 sy	@ $1.00
Asset ID	1054	Asset Actual Cost	$12.00
	Building Interior Components	Percent Replacement	100%
	Flooring	Future Cost	$14.25
Placed in Service	January 2002		
Useful Life	25		
Replacement Year	2027		
Remaining Life	5		

Appears to be deteriorating at a rate typical of its age. As part of ongoing maintenance program mop and professionally clean as needed. Plan to replace at the time frame indicated, best timed after repainting. Wide variety of type and quality available; a mid-range funding allowance is factored for planning purposes.

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Interior Surfaces - Paint

		2,893 sf	@ $1.00
Asset ID	1044	Asset Actual Cost	$2,893.00
Building	Interior Components	Percent Replacement	100%
	Building Interiors	Future Cost	$2,893.00
Placed in Service	June 2012		
Useful Life	10		
Replacement Year	2022		
Remaining Life	0		

Interior paint appears to be deteriorating at a rate typical of its age. Keep touchup paint on site for minor touch ups between the larger repainting projects. Plan to paint these areas on roughly the time frame indicated.

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Lights (int. flourescent) - Replace

		10 ea	@ $1.00
Asset ID	1045	Asset Actual Cost	$10.00
	Building Interior Components	Percent Replacement	100%
	Lighting	Future Cost	$11.88
Placed in Service	January 2002		
Useful Life	25		
Replacement Year	2027		
Remaining Life	5		

Interior lights appear to be deteriorating at a rate typical of their age. Observed during daylight hours; assumed to be in functional operating condition. As routine maintenance, clean by wiping down with an appropriate cleaner, change bulbs and repair as needed. Best to plan for replacement at roughly the time frame indicated for periodic aesthetic updating, cost efficiency and consistent quality/appearance.

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Lights (int. simple) - Replace

		5 ea	@ $1.00
Asset ID	1051	Asset Actual Cost	$5.00
	Building Interior Components	Percent Replacement	100%
	Lighting	Future Cost	$5.94
Placed in Service	January 2002		
Useful Life	25		
Replacement Year	2027		
Remaining Life	5		

Interior lights appear to be deteriorating at a rate typical of their age. Observed during daylight hours; assumed to be in functional operating condition. As routine maintenance, clean by wiping down with an appropriate cleaner, change bulbs and repair as needed. Best to plan for replacement at roughly the time frame indicated for periodic aesthetic updating, cost efficiency and consistent quality/appearance.

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Backflow Valve (domestic water) - Replace

		1 ea	@ $1.00
Asset ID	1007	Asset Actual Cost	$1.00
Electrical / Plumbing / Mechanical / Fire Components	Plumbing	Percent Replacement	100%
		Future Cost	$1.19
Placed in Service	January 2002		
Useful Life	25		
Replacement Year	2027		
Remaining Life	5		

Reportedly in functional and in operating condition. As routine maintenance, inspect regularly, test system, repair as needed from operating budget. We recommend funding for this component at the time frame indicated.

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Backflow Valve (fire system) - Replace

Asset ID	1025
Electrical / Plumbing / Mechanical / Fire Components	Plumbing
Placed in Service	January 2002
Useful Life	40
Replacement Year	2042
Remaining Life	20

2 ea	@ $1.00
Asset Actual Cost	$2.00
Percent Replacement	100%
Future Cost	$3.98

Reportedly in functional and in operating condition. As routine maintenance, inspect regularly, test system, repair as needed from operating budget. We recommend funding for this component at the time frame indicated.

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Door Operators (garage) - Replace

		2 ea	@ $1.00
Asset ID	1015	Asset Actual Cost	$2.00
Electrical / Plumbing / Mechanical / Fire Components	Mechanical	Percent Replacement	100%
		Future Cost	$2.00
Placed in Service	January 2002		
Useful Life	20		
Replacement Year	2022		
Remaining Life	0		

Observed to be in functional condition with no evidence of damage or operational problems. As annual maintenance, regular professional inspections, maintenance and local repair as needed is recommended. Plan to replace at typical service life indicated.

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Drain/Waste/Supply/Sprinkler/Standpipe Lines - Replace

		5,100 sf	@ $1.00
Asset ID	1026	Asset Actual Cost	$5,100.00
Electrical / Plumbing / Mechanical / Fire Components		Percent Replacement	100%
	Plumbing	Future Cost	$20,192.22
Placed in Service	January 2002		
Useful Life	60		
Replacement Year	2062		
Remaining Life	40		

A condition evaluation of these systems is beyond the scope of a Reserve Study. We recommend that a qualified professional be consulted to evaluate these systems and determine the current condition and repair needs. Due to the age of the building and ongoing repair needs, a contingency has been included to supplement the Maintenance/Operating budget for larger repair needs. The repair contingency was determined using the RS Means Square Footage Cost Handbook for plumbing system install costs of similar style of buildings.

The useful life for fire plumbing piping is often reported to be between 45 and 60 years but we recommend having the funds available for this component project before 60 years of age as it has been our experience that rarely do these systems last past 60 years. Once a widespread replacement plan is implemented the reserve study will need to be adjusted to reflect scheduled repairs.

This component is for the common drain, waste and supply lines that service more than one unit.

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Electrical Meter Sockets - Replace

		6 ea	@ $1.00
Asset ID	1056	Asset Actual Cost	$6.00
Electrical / Plumbing / Mechanical / Fire Components		Percent Replacement	100%
	Electrical	Future Cost	$14.18
Placed in Service	January 2002		
Useful Life	45		
Replacement Year	2047		
Remaining Life	25		

Electrical meter sockets appear to be deteriorating at a rate typical of their age. We recommend that a qualified professional be consulted to evaluate these systems and determine the current condition and repair/modernization needs.

Note that this component is only for replacement of the exterior metal boxes/sockets at the meters as interior electrical panels are reportedly the Unit Owner's Responsibility. It is assumed that work will be completed by a licensed & qualified electrician.

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Entry Access Panel - Replace

		1 ea	@ $1.00
Asset ID	1019	Asset Actual Cost	$1.00
Electrical / Plumbing / Mechanical / Fire Components		Percent Replacement	100%
Security/Communication		Future Cost	$1.00
Placed in Service	January 2002		
Useful Life	20		
Replacement Year	2022		
Remaining Life	0		

Reportedly in operational condition. We recommend professional inspections and maintenance. Wipe down surfaces periodically with an appropriate cleaner, being careful to avoid control buttons. Plan for replacement at the typical life expectancy interval indicated, due to constant usage and exposure to weather elements.

Note that this component is only for replacement of the entry access panel. Should there be a desire or need to rewire the whole system at a later date (typically to upgrade to a more advanced system) the total cost can be incorporated into future reserve studies after a bid is obtained.

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Fire Annunciation Panel - Replace

		1 ea	@ $1.00
Asset ID	1020	Asset Actual Cost	$1.00
Electrical / Plumbing / Mechanical / Fire Components		Percent Replacement	100%
	Fire Systems	Future Cost	$1.41
Placed in Service	January 2002		
Useful Life	30		
Replacement Year	2032		
Remaining Life	10		

Reportedly operational and inspected annually. Regular testing and inspection indicated. No known problems at this time. Fire panels may last for extended period barring unforeseen electrical event. In our experience, however, design obsolescence, parts availability and code/ technology advances dictate the need to plan for periodic replacement.

This cost estimate does not include rewiring of the system which can be very costly should it be required due to code compliance issues. We suggest ongoing consultation with the Vendor so that future code compliance and ongoing industry equipment/parts alterations can be budgeted for in advance of system failures.

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Fire Control Panel - Replace

		1 ea	@ $1.00
Asset ID	1021	Asset Actual Cost	$1.00
Electrical / Plumbing / Mechanical / Fire Components		Percent Replacement	100%
	Fire Systems	Future Cost	$1.41
Placed in Service	January 2002		
Useful Life	30		
Replacement Year	2032		
Remaining Life	10		

Reportedly operational and inspected annually. Regular testing and inspection indicated. No known problems at this time. Fire control panels may last for extended period barring unforeseen electrical event. In our experience, however, design obsolescence, parts availability and code/ technology advances dictate the need to plan for periodic replacement.

This cost estimate does not include rewiring of the system which can be very costly should it be required due to code compliance issues. We suggest ongoing consultation with the Vendor so that future code compliance and ongoing industry equipment/parts alterations can be budgeted for in advance of system failures.

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Fire Peripherals (interior) - Replace

		30 ea	@ $1.00
Asset ID	1022	Asset Actual Cost	$30.00
Electrical / Plumbing / Mechanical / Fire Components		Percent Replacement	100%
	Fire Systems	Future Cost	$42.32
Placed in Service	January 2002		
Useful Life	30		
Replacement Year	2032		
Remaining Life	10		

This component is for the replacement of the interior peripherals (pull stations, strobes, sensors, horns, detectors) at the time frame indicated. This cost estimate does not include rewiring of the system which can be very costly should it be required due to code compliance issues. We suggest ongoing consultation with the Vendor so that future code compliance can be budgeted for in advance of system failures.

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Heaters (wall fan) - Replace

		1 ea	@ $1.00
Asset ID	1023	Asset Actual Cost	$1.00
Electrical / Plumbing / Mechanical / Fire Components		Percent Replacement	100%
	Mechanical	Future Cost	$1.19
Placed in Service	January 2002		
Useful Life	25		
Replacement Year	2027		
Remaining Life	5		

Wall heater are reportedly in functional condition. We recommend funding for replacement of this component at the timeframe indicated as these types of wall heaters will typically fail at roughly the timeframe estimated.

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Hot Water Heaters - Replace

		1 total	@ $5.00
Asset ID	1027	Asset Actual Cost	$5.00
Electrical / Plumbing / Mechanical / Fire Components		Percent Replacement	100%
	Mechanical	Future Cost	$5.00
Placed in Service	January 2002		
Useful Life	20		
Replacement Year	2022		
Remaining Life	0		

Hot water heaters/tanks are assumed to be in operation condition. We recommend budgeting for replacement at the timeframe indicated and before total failure which can lead to damage if a leak develops. Annual inspections by a qualified professional suggested.

1 - 30 gallon hot water heater	@	$1.00	$1.00
4 - 50 gallon hot water heaters	@	$1.00	$4.00
		Total =	$5.00

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Sewer Lateral Lines (side sewer) - Replace

		35 lf	@ $1.00
Asset ID	1008	Asset Actual Cost	$35.00
Electrical / Plumbing / Mechanical / Fire Components	Plumbing	Percent Replacement	100%
		Future Cost	$98.24
Placed in Service	January 2002		
Useful Life	50		
Replacement Year	2052		
Remaining Life	30		

Sewer lateral lines (piping connecting buildings to the main line also known as side sewer) on site are reportedly functioning as designed. We recommend budgeting for sewer lateral line replacement at the timeframe indicated due to the the likelihood that these lines will require replacement at approximately the timeframe indicated per our experiences with similar style pipes.

A condition evaluation of these systems is beyond the scope of a Reserve Study. We recommend that a qualified professional be consulted to evaluate these systems, after 30 years of age, to determine the condition and repair needs. Once a widespread replacement plan is implemented the reserve study will need to be adjusted to reflect scheduled repairs.

No as-builts have been provided of the lateral line locations or quantity; we have made an assumption regarding the linear feet based on the location of the nearby road.

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Water Lateral Lines - Replace

		35 lf	@ $1.00
Asset ID	1009	Asset Actual Cost	$35.00
Electrical / Plumbing / Mechanical / Fire Components	Plumbing	Percent Replacement	100%
		Future Cost	$98.24
Placed in Service	January 2002		
Useful Life	50		
Replacement Year	2052		
Remaining Life	30		

Water lateral lines (piping between main lines and the buildings) on site are reportedly functioning as designed. We recommend budgeting for water lateral line replacement at the timeframe indicated due to the age of the piping and the likelihood that these lines will require replacement at approximately the timeframe indicated per our experiences with similar style pipes.

A condition evaluation of these systems is beyond the scope of a Reserve Study. We recommend that a qualified professional be consulted to evaluate these systems, after 30 years of age to determine the condition and repair needs. Once a widespread replacement plan is implemented the reserve study will need to be adjusted to reflect scheduled repairs.

No as-builts have been provided of the lateral line locations or quantity; we have made an assumption regarding the linear feet based on the location of the nearby road.

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Asphalt - Overlay

		3,500 sf	@ $1.00
Asset ID	1057	Asset Actual Cost	$3,500.00
	Site Components	Percent Replacement	100%
	Asphalt Surfaces	Future Cost	$4,156.90
Placed in Service	January 2002		
Useful Life	25		
Replacement Year	2027		
Remaining Life	5		

Appears to be deteriorating at a rate typical of its age. As routine maintenance, keep surface clean, ensure that drains are clean and free flowing, repair cracks and clean oils stains promptly. Best to plan for eventual intervals of resurfacing (overlay).

If properly built, asphalt surfaces will deteriorate from the top down, which only requires the replacement of a layer of asphalt, or preferably the application of a layer on top of the existing asphalt (overlay). The asphalt overlay not only provides a new paving surface for a fraction of the cost of rebuilding the entire surface, but it is the only preventive maintenance technique that adds structural value while extending a pavement's service life. Cost estimate assumes a 2 inch overlay over existing surfaces.

Note that the most common mistake we see when budgeting for asphalt is pushing out the overlay project too far in time due to the high expense. The typical outcome of this scenario is that Vendors will no longer be able to complete an overlay project due to advanced deterioration and there must be a replacement project completed at approximately twice the expense of an overlay project. Deterioration to asphalt typically rapidly increases in the later years of its useful life so delaying an Overlay project is often an extremely costly budgeting mistake.

We also suggest consulting with the Asphalt Vendor to determine conclusively if an Overlay appropriate for these surfaces. Different Vendors will have different opinions as to the benefit of an Overlay versus Replacement of these areas which is often related to slope/drainage concerns with (replacement of the asphalt and aggregate base - which is typically considerably more expensive than an Overlay). Should the Client wish to budget for a Replacement project versus an Overlay (based on the Asphalt Vendor recommendations) this reserve study or a future update should be revised to reflect that decision.

Asphalt - Overlay continued...

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Asphalt - Seal Coat

		3,500 sf	@ $1.00
Asset ID	1058	Asset Actual Cost	$3,500.00
	Site Components	Percent Replacement	100%
	Asphalt Surfaces	Future Cost	$3,500.00
Placed in Service	June 2017		
Useful Life	5		
Replacement Year	2022		
Remaining Life	0		

The primary reason to seal coat is to protect the pavement from the deteriorating effects of sun and water, which causes the asphalt to harden, or oxidize; the pavement turns brittle. The seal coat provides a waterproof membrane which slows the oxidation process and helps the pavement shed water, preventing the water to infiltrate the base material.

Proper drainage is vital for the longevity of asphalt surfaces. Standing water can seep through the asphalt and get into the sub-base and sub-grade below, significantly weakening the structural integrity of the road and causing premature failure.

Oil spills eat through the asphalt seal and should be cleaned up between seal coats. Power washing is recommended annually where needed and treated as an operating expense.

Cost estimate includes crack filling and 2 coats are to be applied. In years when an Overlay/Replacement project is set to occur sealcoating will typically be applied as soon as possible to surfaces. We typically recommend funding for this component at the same time as the Overlay/Replacement project for cost efficiency with the Vendor.

*Cost Source: Client Historical Records – Inflated to Current Estimate

Concrete Driveway - Replace

		486 sf	@ $1.00
Asset ID	1010	Asset Actual Cost	$486.00
	Site Components	Percent Replacement	100%
	Concrete Surfaces	Future Cost	$2,208.06
Placed in Service	June 2016		
Useful Life	50		
Replacement Year	2066		
Remaining Life	44		

This component is for the replacement of the concrete driveway surfaces which was reportedly replaced in 2016. No widespread damage or deterioration noted at time of site visit. We recommend repairing trip hazards immediately to limit liability.

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Concrete Sidewalks (public) - 15% Repair

		304 sf	@ $1.00
Asset ID	1011	Asset Actual Cost	$45.60
	Site Components	Percent Replacement	15%
	Concrete Surfaces	Future Cost	$54.16
Placed in Service	January 2002		
Useful Life	5		
Adjustment	20		
Replacement Year	2027		
Remaining Life	5		

Repair contingency for the concrete public sidewalks. Amount and cycle to be reviewed annually. Several trip hazards and cracks noted during the site inspection. We recommend repairing trip hazards immediately to limit liability.

The City has determined that the public sidewalks are the responsibility of the adjacent lot owner.

This component has been set to cycle at 5 year increments after 25 years of age, typically when we see concrete surfaces requiring periodic repairs due to vehicle damage, root intrusion and deterioration.

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Concrete Surfaces - 15% Repair

		1,247 sf	@ $1.00
Asset ID	1002	Asset Actual Cost	$187.05
	Site Components	Percent Replacement	15%
	Concrete Surfaces	Future Cost	$222.16
Placed in Service	January 2002		
Useful Life	5		
Adjustment	20		
Replacement Year	2027		
Remaining Life	5		

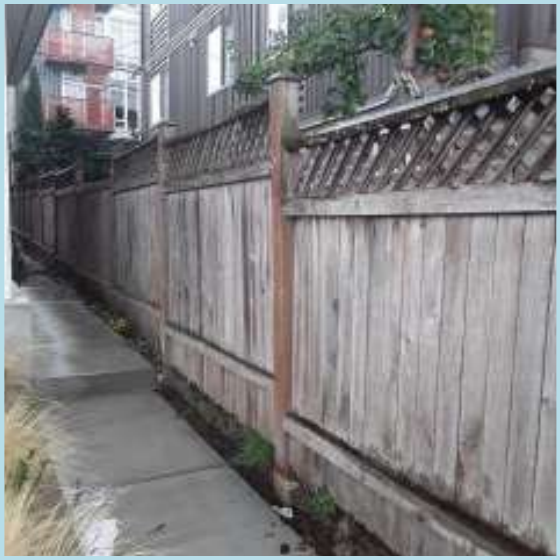
Repair contingency for the concrete surfaces on site. Amount and cycle to be reviewed annually. No widespread damage or deterioration noted at time of site visit. We recommend repairing trip hazards immediately to limit liability.

This component has been set to cycle at 5 year increments after 25 years of age, typically when we see concrete surfaces requiring periodic repairs due to damage, root intrusion and deterioration.

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Fence (wood) - Paint/Stain

		275 lf	@ $1.00
Asset ID	1042	Asset Actual Cost	$275.00
	Site Components	Percent Replacement	100%
	Fencing	Future Cost	$275.00
Placed in Service	June 2012		
Useful Life	5		
Replacement Year	2022		
Remaining Life	0		



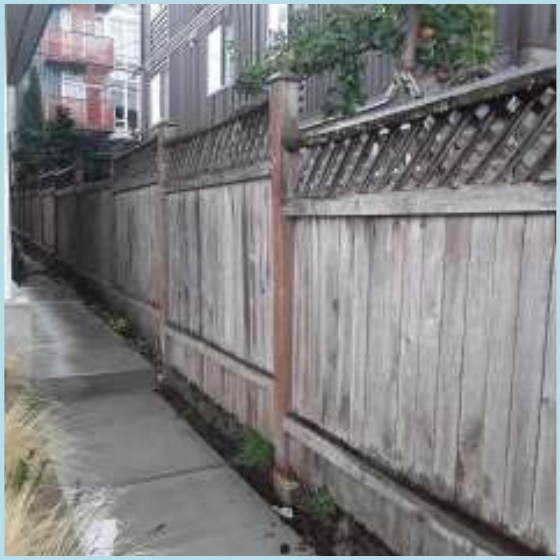
Regular sealer applications (stain/paint, etc.) on the timeline indicated are strongly recommended for appearance and protection of wood fencing. Remove any contact with ground and surrounding landscape and sprinkler patterns, repair as needed and clean prior to sealer application. Life of finish will vary depending upon surface preparation, material quality, application method and weather conditions.

Cost estimate assumes both sides of the fence will be coated to adequately protect from the elements.

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Fence (wood) - Replace

		275 lf	@ $1.00
Asset ID	1003	Asset Actual Cost	$275.00
	Site Components	Percent Replacement	100%
	Fencing	Future Cost	$326.61
Placed in Service	January 2002		
Useful Life	25		
Replacement Year	2027		
Remaining Life	5		



Wood fencing appears to be deteriorating at a rate typical of its age. As routine maintenance, inspect regularly for any damage, repair as needed. Avoid contact with ground and surrounding vegetation. Regular cycles of stain/paint will help to maintain appearance and maximize life. Plan to replace at roughly the time frame indicated.

There is no paint or stain present on the fence at this time. We assume the Client would like to let the wood surfaces age naturally with no paint/stain. We have taken this into account in the useful life of this component; bare wood typically does not last as long as painted wood surfaces however the cost of painting over time is also not incurred.

*Cost Source: Client Historical Records – Inflated to Current Estimate

Landscaping - Refurbish

		1,260 sf	@ $1.00
Asset ID	1005	Asset Actual Cost	$1,260.00
	Site Components	Percent Replacement	100%
	Landscaping	Future Cost	$1,717.25
Placed in Service	January 2016		
Useful Life	15		
Replacement Year	2031		
Remaining Life	9		

Although ongoing maintenance is funded from the Operating Account, this component may be utilized for setting aside funds for larger expenses that do not occur on an annual basis, such as: weed barrier replacement, large scale plantings, common area drainage projects, resodding lawn areas, landscape improvement projects, etc.

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Mailboxes - Replace

		5 ea	@ $1.00
Asset ID	1006	Asset Actual Cost	$5.00
	Site Components	Percent Replacement	100%
	Mailboxes	Future Cost	$5.94
Placed in Service	January 2002		
Useful Life	25		
Replacement Year	2027		
Remaining Life	5		

Appears to be deteriorating at a rate typical of its age based on our visual inspection of this component. As routine maintenance, inspect regularly, clean by wiping down for appearance, change lock cylinders, lubricate hinges and repair as needed from operating budget. Best to plan for total replacement at roughly the time frame indicated due to constant usage and wear over time.

*Cost Source: Reserve Data Analyst In-House Research & Cost Records

Definitions Index

Abbreviations

ea = each	FY = fiscal year	lf or lin ft = lineal feet	ls = lump sum
RL = remaining life	sf or sq ft = square feet	sy or sq yd= square yard	
UL = useful life	100 sq ft = 1 square)	% = percent	

1. **Allocation %**
   A percentage of the total Reserve Allocation. See - Calculations Appendix
2. **Allocation Increase Rate**
   Expressed as a percentage rate that reflects the increase of a given year's Reserve Allocation over the previous year's Reserve Allocation and utilized only in the Cash Flow Analysis.
3. **Base Year**
   The year in which the governing documents were recorded and/or the buildings constructed (average year may be used for phases built over a period) and utilized to determine the approximate complex age. This parameter is provided for information only.
4. **Common Interest Development (CID)**
   Defined by shared property and restrictions in the deed on use of the property. A CID is governed by a mandatory Association of homeowners which administers the property and enforces its restrictions. The following are two typical CID subdivision types:
   - Condominium- In general, the recorded owner has title to the unit (or airspace). They are typically responsible for the interior of their individual unit/garage, all utilities that service their unit and any exclusive use common area associated with their unit.
   - Planned Development- In general, the recorded owner has title to the lot. They are typically responsible for the maintenance and repair of any structure or improvement located on their respective lot.

   **Note- CIDs & subdivision types are general and may not apply or may vary, based on your local.*
5. **Component Inventory**
   The task of selecting and quantifying reserve items. This task can be accomplished through on-site visual observations, review of association design and organizational documents, review of established association precedents, and discussion with appropriate association representatives.
6. **Condition Assessment**
   The task of evaluating the current condition of the component based on observed or reported characteristics and normal documented in the field report for a Level 1 or Level 2 Reserve Study.
7. **Contingency Rate**
   Expressed as a percentage rate that reflects a factor added to the unit cost to prepare for an event that is liable to occur, but not with certainty.
8. **Current Cost**
   The current fiscal year's estimated cost to maintain, replace, repair, or restore a reserve component to its original functional condition. Sources utilized to obtain estimates may include: the association, its contractors, other contractors, specialists and independent consultants, the State department of Real Estate (or other state department as applicable), construction pricing and estimating manuals, and the preparer's own experience and/or database of costs formulated in the preparation of other reserve study reports. See - Calculations Appendix.
9. **Disbursement / Expenditures**
   The funds expected to be paid or expended from the Reserve Balance.
10. **Extended Cost**
    See - Calculations Appendix.
11. **Fiscal Year (FY)**
    A twelve-month period for which an organization plans the use of its funds. There are two distinct types:
    - Calendar Fiscal Year (ends December 31)
    - Non-Calendar Fiscal Year (does not end December 31)
12. **Full Funded Balance (FFB)**
    Total Accrued Depreciation. An indicator against which the FY Start Balance can be compared. The balance that is in direct proportion to the fraction of life "used up" of the cost. See - Calculations Appendix.
13. **Funding Goal**
    Independent of methodology utilized, the following represents the basic categories of funding plan goals:
    - Baseline Funding- Maintaining a Net Reserve Balance above zero for length of the study.
    - Full Funding- Maintaining a Reserve Balance at or near Percent Funded of 100%.
    - Statutory Funding- Maintaining a specified Reserve Balance/Percent Funded per statutes.
    - Threshold Funding- Establishing and maintaining a set predetermined Reserve Balance or Percent Funded.
14. **Funding Method (or Funding Plan)**
    An Association's plan to provide income to the reserve fund to offset expected disbursements from that fund. The following represents two (2) basic methodologies used to fund reserves:
    - Cash Flow Method- A method of developing a reserve funding plan where allocations 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 Method- The component method develops a reserve-funding plan where the total contribution is based on the sum of contributions for individual components. The component method is the more conservative (typically higher reserve account balance) of the two funding options and assures that the association will achieve and maintain an ideal level of reserves over time. This method also allows for computations on individual components in the analysis. However, this method has also limitations with respects to variations in actual useful life of components and is much more time intensive to accurately follow this funding strategy.

15. **Funding Plan**
The combined Funding Method & Funding Goal.
16. **FY End Balance (same as next FY Start Balance)**
The balance in reserves at end of applicable fiscal year. See - Calculations Appendix.
17. **FY Start Balance (same as prior year FY End Balance)**
The balance in reserves at start of applicable fiscal year.
18. **Inflation Rate**
Expressed as a percentage rate that reflects the increase of this year's costs over the previous year's costs. Also known as a 'cost increase factor'.
19. **Interest Earned**
The annual earning of reserve funds that have been deposited into certificates of deposit (CDs), money market accounts or other investment vehicles. See - Calculations Appendix.
20. **Interest Rate**
The ratio of the gain received from an investment and the investment over a period (usually one year), prior to any federal or state-imposed taxes.
21. **Interest Rate (net effective)**
The ratio of the gain received from an investment and the investment over a period (usually one year), after any federal or state-imposed taxes.
22. **Levels of Service**

Level 1 Reserve Study (Full or Comprehensive)- A Reserve Study in which the following five Reserve Study tasks are performed:

- Component Inventory
- Condition Assessment (based upon on-site visual observations)
- Life and Valuation Estimates
- Fund Status
- Funding Plan

Level 2 Reserve Study (Update, With-Site-Visit/On-Site Review)- A Reserve Study update in which the following five tasks are performed:

- Component Inventory (from prior study)
- Condition Assessment (based upon on-site visual observations)
- Life and Valuation Estimates
- Fund Status
- Funding Plan

*Note- Updates are reliant on the validity of prior Reserve Studies.

Level 3 Reserve Study (Update, No-Site-Visit/Off-Site Review)- A Reserve Study update with no on-site visual observations in which the following three tasks are performed:

- Component Inventory (from prior study)
- Condition Assessment (based upon on-site visual observations)
- Life and Valuation Estimates
- Fund Status
- Funding Plan

*Note- Updates are reliant on the validity of prior Reserve Studies.

23. **Percent Funded**
A comparison of the Fully Funded Balance (ideal balance) to the Fiscal Year Actual Start Balance expressed as a percentage and used to provide a 'general indication' of reserve strength. See Calculations Appendix.
24. **Quantity**
The number or amount of a reserve component or subcomponent.
25. **Remaining Life (RL)**
The estimated time, in years, that a reserve component can be expected to continue to serve its intended function.
26. **Replacement %**
A percentage of the total replacement for a reserve component or subcomponent. This parameter is normally 100%.
27. **Reserve Allocation**
The amount to be annually budgeted towards reserves based on a Funding Plan.
28. **Reserve Component (or subcomponent)**
The individual line items in the reserve study, developed or updated in the physical analysis that form the building blocks of the reserve study. They typically are:

- an association responsibility,
- with limited useful life expectancies,
- predictable remaining useful life expectancies,
- above a minimum threshold cost,
- and, as required by statutes.

29. **Restoration**
Defined as to bring back to an unimpaired or improved condition. General types follow:

- Building- In general, funding utilized to defray the cost (in whole or part) of major building components that are not necessarily included as line items and may include termite treatment.
- Irrigation System- In general, funding utilized to defray the cost (in whole or part) of sectional irrigation system areas including modernization to improve water management.
- Landscape- In general, funding utilized to defray the cost (in whole or part) of sectional landscape areas including modernization to improve water conservation & drainage.

30. **Risk Factor (Percent Funded)**
The associated risk of the availability of reserves to fund expenditures by interpreting the Percent Funded parameter as follows:

- 70% and above - LOW
- 30% to 70% - MODERATE
- 30% and below - HIGH

*High risk is associated with a higher risk for reliance on special assessments, loans and litigation.

31. **Unit Cost**
The current fiscal year's estimated cost to maintain, replace, repair, or restore an individual "unit of measure" of a reserve component or subcomponent to its original functional condition.
32. **Unit of Measure**
A system of units used in measuring a reserve component or subcomponent (i.e. each, lineal feet, square feet, etc.).
33. **Useful Life (UL)**
Total Useful Life or Depreciable Life. The estimated time, in years, that a reserve item can be expected to serve its intended function if properly constructed and maintained in its present application or installation.

Disclosures Index

The below disclosures are in accordance with reserve study standards developed by CAI, APRA and statutory requirements.

1. **Items Beyond the Scope of this Report**
   This reserve study has been conducted to outline a financial plan for the proper and adequate budgeting of the Association component repair and/or replacement. This report should not be utilized for any other purpose and should not be considered or deemed appropriate or reliable for, but not limited to, any of the following:

   - Building or land appraisals for any purpose
   - State or local zoning ordinance violations
   - Building code violations
   - Soils conditions, soils contamination or geological stability of site
   - Engineering analysis or structural stability of site
   - Air quality, asbestos, electromagnetic radiation, formaldehyde, lead, mercury, or radon
   - Water quality or other environmental hazards
   - Invasions by termites and any or all other destroying organisms or insects
   - Damage or destruction due to pests, birds, bats or animals to buildings or site
   - Adequacy or efficiency of any system or component on site
   - Specifically excluded reserve items
   - Septic systems and septic tanks
   - Buried or concealed portions of swing pools, pool liners, Jacuzzis/spas or similar items
   - Items concealed by signs, carpets or other things
   - Missing or omitted information supplied by the Association for the purposes of reserve study preparation
   - Hidden improvements such as sewer lines, water lines, or other buried or concealed items

2. **Qualifications**
   We are a professional business in the market to prepare Reserve Studies. Our Reserve Analysts' are either designated with or working towards the RS and/or PRA designations which are given by the two leading industry organizations which require peer review, continuing education and provide resources to stay on top of industry trends.
3. **Invasive Testing**
   Estimated life expectancies and life cycles are based upon conditions that were readily accessible and visible at the time of the site visit. We did not destroy any landscape work, building walls, or perform any methods of intrusive/invasive testing during the site visit. In these cases, information may have been obtained by contacting the contractor or vendor that has worked on the property. The physical analysis performed during this site visit is not intended to be exhaustive in nature and may include representative sampling.
4. **Conflicts of Interests**
   As the preparer of this reserve study; the Reserve Analyst certifies that we do not have any vested interests, financial interests, or other interests that would cause a conflict of interest in the preparation of this reserve study.
5. **Representative Sampling**
   This study and report is based on observations of the visible and apparent conditions of a reasonable representative sampling of the property's elements at the time of inspection. Although due diligence was performed during the inspection phase, we make no representations regarding latent or concealed defects that may exist. The inspection did not constitute any invasive investigations and was not intended to determine whether applicable building components, systems, or equipment are adequate or in compliance with any specific or commonly accepted design requirement, building code, or specification. Such tasks as material testing, engineering analysis, destructive testing, or performance testing of building systems, components, or equipment are not considered as part of the scope of work, nor are they considered by the reserve study industry standard.
6. **Reliance on Client & Vendor Data Provided**
   Information provided to the preparer of a reserve study by an official representative of the association regarding financial, historical, physical, quantitative or reserve project issues will be deemed reliable by the preparer. A reserve study will reflect information provided to the preparer of the reserve study. The total of actual or projected reserves required as presented in the reserve study is based upon information provided that was not audited. A reserve study is not intended to be used to perform an audit, an analysis of quality, a forensic study or a background check of historical records. A site visit conducted in conjunction with a reserve study should not be deemed to be a project audit or quality inspection. The results of this study are based on the independent opinion of the preparer and their experience and research during their career in preparing Reserve Studies. In addition, the opinions of experts on certain components have been gathered through research within their industry and with client's actual vendors. There is no implied warrantee or guarantee regarding our life and cost estimates/predictions. There is no implied warrantee or guarantee in any of our work product. Our results and findings will vary from another preparer's results and findings. A Reserve Study is necessarily a work in progress and subsequent Reserve Studies will vary from prior studies.
7. **Update to Prior Reserve Studies**
   Level II Studies: Quantities of major components as reported in previous reserve studies are deemed to be accurate and reliable. The reserve study relies upon the validity of previous reserve studies. Level III Studies: In addition to the above we have not visited the property when completing a Level III "No Site Visit" study. Therefore, we have not verified the current condition of the common area components. It is assumed all prior study component information related to quantities, condition assessments, useful life and remaining useful life are accurate.
8. **Assumption Regarding Ongoing Maintenance**
   The projected life expectancy of the major components and the funding needs of the reserves of the association are based upon the association performing appropriate routine and preventative maintenance for each major component. Failure to perform such maintenance can negatively impact the remaining useful life of the major components.

9. Assumptions Regarding Defect in Design or Construction

This Reserve Study assumes that all construction assemblies and components identified herein are built properly and are free from defects in materials and/or workmanship. Defects can lead to reduced useful life and premature failure. It was not the intent of this Reserve Study to inspect for or to identify defects. If defects exist, repairs should be made so that the construction components and assemblies at the community reach their full and expected useful lives. We have assumed all components have been properly built and will reach normal, typical life expectancies. In general, a reserve study is not intended to identify or fund for construction defects. We did not and will not look for or identify construction defects during our site visit.

10. Basis of Cost Estimates

Pricing used for the repair or replacement costs indicated in this report are derived from a variety of sources, e.g., recent contractor bids received by subject property HOA or prior clients, construction product vendor catalogs, internet, or national construction cost estimating publishers (RS Means / Marshall & Swift). The material and labor pricing provided are estimates and have been augmented, as necessary, to account for specific site conditions (i.e. material handling, scaffolding, etc.). The total expenses represent a useful guideline whereby reserve funds can be accumulated for future repairs and replacements. The estimated repair and replacement expenses, unless otherwise noted, do not include allowances for architectural, engineering, or permitting fees.

11. Limitations on Report Use

A reserve study is not intended to be used to perform an audit, an analysis of quality, a forensic study or a background check of historical records. A site visit conducted in conjunction with a reserve study should not be deemed to be a project audit or quality inspection. This Reserve Study is provided as an aid for planning purposes and not as an accounting tool. Since it deals with events yet to take place, there is no assurance that the results enumerated within it will, in fact, occur as described. Additionally, other unanticipated expenses may arise that are not included within this reserve study. This reserve study should be reviewed carefully. It may not include all common and limited common element components that will require major maintenance, repair, or replacement in future years, and may not include regular contributions to a reserve account for the cost of such maintenance, repair, or replacement. The failure to include a component in a reserve study, or to provide contributions to a reserve account for a component, may, under some circumstances, require you to pay on demand as a special assessment your share of common expenses for the cost of major maintenance, repair, or replacement of a reserve component.

12. State Specific Disclosures

Washington State

RCW 64.34.382 & WA State RCW 64.38.070

This reserve study includes all aspects required per WA State RCW requirements outlined in the Washington Condominium Act and the Homeowners' Association Act.

This reserve study should be reviewed carefully. It may not include all common and limited common element components that will require major maintenance, repair, or replacement in future years, and may not include regular contributions to a reserve account for the cost of such maintenance, repair, or replacement. The failure to include a component in a reserve study, or to provide contributions to a reserve account for a component, may, under some circumstances, require you to pay on demand as a special assessment your share of common expenses for the cost of major maintenance, repair, or replacement of a reserve component.

Washington State

Disclosures Required by RCW 64.90.550.

This Reserve Study meets all requirements of the Washington Uniform Common Interest Ownership Act.

a) This Reserve Study was prepared with the assistance of a reserve study professional and that professional was independent;
b) This Reserve Study includes all information required by RCW 64.90.550 Reserve Study – Contents; and
c) This reserve study should be reviewed carefully. It may not include all common and limited common element components that will require major maintenance, repair, or replacement in future years, and may not include regular contributions to a reserve account for the cost of such maintenance, repair, or replacement. The failure to include a component in a reserve study, or to provide contributions to a reserve account for a component, may, under some circumstances, require the association to (1) defer major maintenance, repair, or replacement, (2) increase future reserve contributions, (3) borrow funds to pay for major maintenance, repair, or replacement, or (4) impose special assessments for the cost of major maintenance, repair, or replacement.

Calculations Index

1. **Allocation % =**

   Reserve Allocation (Component Method) / Total Reserve Allocation (Component Method) x 100

2. **Current Cost =**

   Extended Cost (for a component without subcomponents)

   i. -or-

   Sum of subcomponent Extended Costs (for a component with subcomponents)

3. **Extended Cost =**

   Quantity x Unit Cost x Replacement % x (1+Contingency Rate)

4. **FY End Balance (same as Next FY Start Balance) =**

   Initial or current fiscal year-

   Current Reserve Balance + Interest Earned + Reserve Allocation to Fund + Special Assessment to Fund + Funds Due from Operating - Approved Funds to Disburse - Disbursements

   Subsequent fiscal years-

   FY Start Balance + Interest Earned + (Reserve Allocation (from previous year) x (1 + Reserve Allocation Rate) - Disbursements

5. **Interest Earned=**

   Initial fiscal year-

   Current Reserve Balance x (Interest Rate (net effective)/12 x Number of funding months remaining in current fiscal year)

   Subsequent fiscal years-

   FY Start Balance x Interest Rate (net effective)

   Accumulation Function and Amount Function

   https://www.reservedataanalyst.com/int

6. **Percent Funded =**

   (Reserve Account Balance / Fully Funded Balance) x 100

7. **Reserve Allocation (Component Method) =**

   Current Cost / Useful Life

8. **Fully Funded Balance (FFB) =**

   Basic Fully Funded

   Fully Funded = Age/Useful Life * Cost

   Note that "Age" is adjusted for each year of the study (e.g. one year later also equates to an Age which is one year greater). We do not use the age from the first year of the study for future FFB calculations as this would not appropriately address the deterioration of the component over time (i.e. when providing future projections one can make a valid assumption that a component will deteriorate by one year if providing projections for one year later).

   Cost (component project cost) is inflated for each year based on an annual inflation rate (compounding) given in this reserve study (e.g. a paint project "cost" may be $1,000 in Year 1 of the study but will have a "cost" of $1,030 in Year 2 of the study, and $1,060.90 in Year 3 of the study, when utilizing an annual 3% inflation rate. Note that we do not use the "cost" (current project cost) from the first year of the study for future year's FFB calculations as this approach does not consider the impact of inflation on the project cost and will usually result in a significantly underfunded reserve account over time. This is also known as the Inflation Adjusted Cost Method

   ***Unless specifically noted otherwise we have utilized the above FFB formula and methodology in this reserve study.*

   Community Association Institute FFB Formula

   The Community Association Institute published the below FFB formula to account for inflation and interest earned on deposit ("present value" is based on the current cost only - with no inflation of the project cost) the writers of 'RESERVE FUNDS: How & Why community Associations Invest Assets' published:

$$Basic\_FF = (\ Age/\ Useful\ Life\ ) * Present\ Value$$

$$\begin{aligned} CAI\_FF = {} & Basic\_FF \\ & + Basic\_FF/(1+interest)^{Remaining\ Life} \\ & - Basic\_FF/(1+inflation)^{Remaining\ Life} \end{aligned}$$

   More mathematical information can be found at the following link: www.reservedataanalyst.com/math

Sample Reserve Study
Component Index

Sample Reserve Study
Component Index

Total Funded Assets	53
Total Unfunded Assets	0
Total Assets	53