

*"By law, Home Owners' Associations, such as Road & Recreation and Water & Sewer, are required to complete reserve studies every three years. The following reserve study was completed by Association Reserves of Colorado, LLC, and the Association Boards will be addressing the needs identified in that reserve study through their budgetary process in the formulation of a reserve study policy."*

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## **“Full” Reserve Study**



### **Crystal Lakes Water and Sewer Assoc. Red Feather Lakes, CO**

**Report #: 20979-0**  
**For Period Beginning: June 1, 2011**  
**Ending: May 31, 2012**  
**Date Prepared: October 31, 2010**  
**Revised Date: November 18, 2010**

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## **Hello, and welcome to your Reserve Study!**

**T**his Report is a valuable budget planning tool, for with it you control the future of your association. It contains all the fundamental information needed to understand your current and future Reserve obligations, the most significant expenditures your association will face.

**W**ith respect to Reserves, this Report will tell you “where you are”, and “where to go from here”.

### **In this Report, you will find...**

- 1) A List of What you’re Reserving For**
- 2) An Evaluation of your Reserve Fund Size and Strength**
- 3) A Recommended Multi-Year Reserve Funding Plan**

### **More Questions?**

Visit our website at [www.ReserveStudy.com](http://www.ReserveStudy.com) or call us at:

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# 3- Minute Executive Summary

**Association:** Crystal Lakes Water and Sewer Assoc. #: 20979-0  
**Location:** Red Feather Lakes, CO  
**# of Units:** 1664  
**Report Period:** June 1, 2011 through May 31, 2012

**Results**

<b>Projected Starting Reserve Balance:</b> .....	<b>\$157,000</b>
<b>Fully Funded Reserve Balance:</b> .....	<b>\$287,421</b>
<b>Average Reserve Deficit (Surplus) Per Unit:</b> .....	<b>\$78</b>
<b>Percent Funded:</b> .....	<b>54.6%</b>
<b>Recommended 2011 annually Reserve Contribution:</b> .....	<b>\$37,790</b>
<b>Recommended Special Assessment this year:</b> .....	<b>\$0</b>
<b>Most Recent Reserve Contribution Rate:</b> .....	<b>\$3,975</b>

**Economic Assumptions:**

**Net Annual "After Tax" Interest Earnings Accruing to Reserves** .....0.06%  
**Annual Inflation Rate** .....3.00%

- This is a "Full" Reserve Study (original, created "from scratch").
- The information in this Reserve Study is based on our site inspection on August 23, 2010.
- This Reserve Study was prepared by, or under the supervision of, a credentialed Reserve Specialist (RS).
- Because your Reserve Fund is above 30%, at 54.6% Funded, this represents a mid-range/strong position. In perspective, associations 70% funded and above are less likely to experience any financial risk. Whereas, associations 30% funded and below are more likely to experience large increase to dues, special assessments or deferred maintenance issues. Your multi-year Funding Plan is designed to gradually bring you to the 100% level, or "Fully Funded".
- Based on this starting point, your anticipated future expenses, and your historical Reserve contribution rate, our recommendation is to increase your Reserve contributions.
- Minimum threshold amount was set at \$5,000.00 to segregate Reserve Study components to be included in the study from operational expenses.

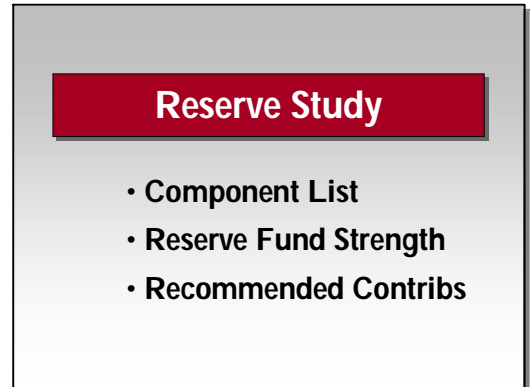
#	Component	Useful Life (yrs)	Rem. Useful Life (yrs)	Current Average Cost	Future Average Cost
398	Motors & Pumps - Replace (part)	5	3	\$5,000	\$5,464
725	Boat House - Replace	30	0	\$40,000	\$97,090
725	Boat Racks - Replace	25	20	\$35,000	\$63,214
1116	Wood Surfaces - Repair/Reseal	5	0	\$5,000	\$5,796
1311	Ponds - Repair/Dredge - 50%	5	2	\$7,000	\$7,426
1807	Septic System - Refurbish	30	5	\$87,500	\$101,436
1810	Backhoe - Replace	30	15	\$60,000	\$93,478
1810	Truck - Replace - 50%	12	3	\$15,250	\$16,664
1810	Vehicle - Replace 50%	12	4	\$17,500	\$19,696
1810	Water/Sewer Trucks - Replace	25	12	\$160,000	\$228,122
1811	Water Lines - Replace (part)	1	0	\$5,000	\$5,150
1850	Miscellaneous Contingency	10	4	\$25,000	\$28,138
12	Total Funded Components				

Note: a Useful Life of "N/A" means a one-time expense, not expected to repeat.

## Introduction

A Reserve Study is the art and science of anticipating, and preparing for, an association's major common area repair and replacement expenses. Partially art, because in this field we are making projections about the future. Partially science, because our work is a process of research and analysis along well defined methodologies.

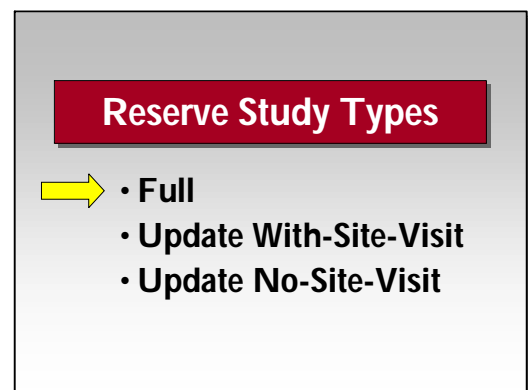
In this Report you will find the Reserve Component List (what you are reserving for). It contains our estimates for Useful Life, Remaining Useful Life, and the current repair or replacement cost for each major component the association is obligated to maintain. Based on that List and your starting balance we computed the association's Reserve Fund Strength (measured as "Percent Funded"), and created a recommended multi-year Reserve Funding Plan to offset future Reserve expenses.



As the physical assets age and deteriorate, it is important to accumulate financial assets to keep the two "in balance". A stable Reserve Funding Plan that offsets the irregular Reserve expenses will ensure that each owner pays their own "fair share" of ongoing common area deterioration.

## Methodology

First we establish what the projected expenses are, then we determine the association's financial status and create a Funding Plan. For this "Full" Reserve Study, we started with a review of your Governing Documents, recent Reserve expenditures, an evaluation of how expenditures are handled (ongoing maintenance vs. Reserves), and research into any well-established association precedents. We performed an on-site inspection to quantify and evaluate your common areas, creating your Reserve Component List "from scratch".



### *Which Physical Assets are Covered by Reserves?*

There is a national-standard four-part test to determine which expenses should be funded through Reserves. First, it must be a common area maintenance responsibility. Second, the component must have a limited life. Third, the limited life must be predictable (or it by definition is a “surprise” which cannot be accurately anticipated). Fourth, the component must be above a minimum threshold cost. This limits Reserve

#### **Reserve Components**

- **Common Area**
- **Limited Useful Life**
- **Predictable Life Limit**
- **Cost must be Significant**

Components to major, predictable expenses. Within this framework, it is inappropriate to include “lifetime” components, unpredictable expenses (such as damage due to fire, flood, or earthquake), and expenses more appropriately handled from the Operational Budget or as an insured loss.

### *How are Useful Life and Remaining Useful Life established?*

- 1) Visual Inspection (observed wear and age)
- 2) Association Reserves database of experience
- 3) Client Component History
- 4) Vendor Evaluation and Recommendation

### *How are Cost Estimates Established?*

Financial projections are based on the average of our Best Case and Worst Case estimates, which are established in this order...

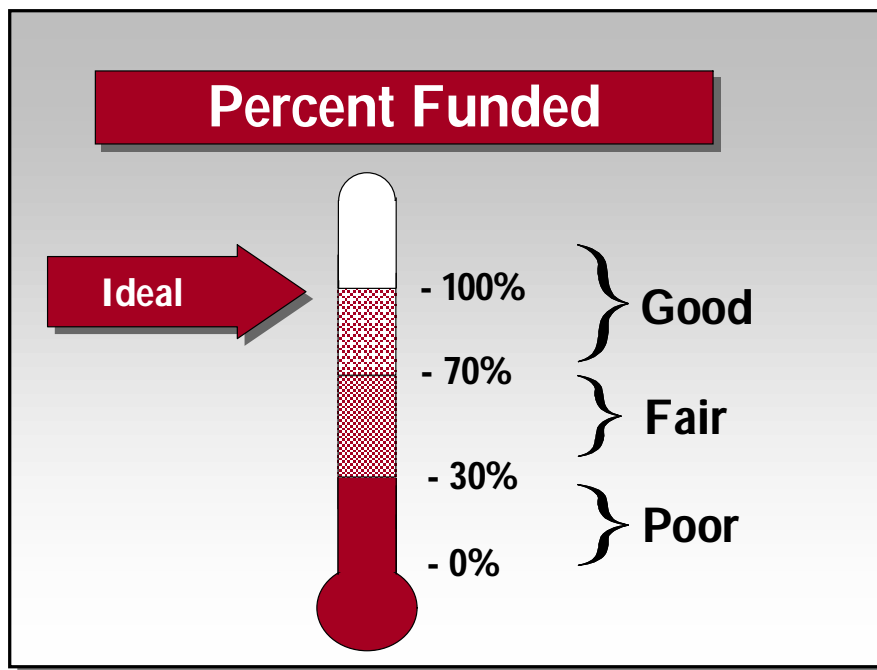
- 1) Client Cost History
- 2) Comparison to Association Reserves database of work done at similar associations
- 3) Vendor Recommendations
- 4) Reliable National Industry cost estimating guidebooks

### *How much Reserves are enough?*

Your Reserve cash Balance can measure reserves, but the true measure is whether the funds are adequate. Adequacy is measured in a two-step process:

- 1) Calculate the association's Fully Funded Balance (FFB).
- 2) Compare to the Reserve Fund Balance, and express as a percentage.

The FFB grows as assets age and the Reserve needs of the association increase, but shrinks when projects are accomplished and the Reserve needs of the association decrease. The Fully Funded Balance changes each year, and is a moving but predictable target.



Special assessments and deferred maintenance are common when the Percent Funded is below 30%. While the 100% point is Ideal, a Reserve Fund in the 70% -130% range is considered "strong" because in this range cash flow problems are rare.

Measuring your Reserves by Percent Funded tells how well prepared your association is for upcoming Reserve expenses. New buyers should be very aware of this important disclosure!

*How much should we contribute?*

There are four Funding Principles that we balance in developing your Reserve Funding Plan. Our first objective is to design a plan that provides you with sufficient cash to perform your Reserve projects on time. A stable contribution rate is desirable because it is a hallmark of a proactive plan.

Reserve contributions that are evenly distributed over the owners, over the years, enable each owner to pay their “fair share” of the association’s Reserve expenses (this means we recommend special assessments only when all other options have been exhausted). And finally, we develop a plan that is fiscally responsible and “safe” for Board members to recommend to their association.

Funding Principles

- Sufficient Cash
- Stable Contribution Rate
- Evenly Distributed
- Fiscally Responsible


*What is our Recommended Funding Goal?*

Maintaining the Reserve Fund at a level equal to the physical deterioration that has occurred is called “Full Funding” the Reserves (100% Funded). As each asset ages and becomes “used up”, the Reserve Fund grows proportionally. **This is simple, responsible, and our recommendation.** As stated previously, associations in the 100% range rarely experience special assessments or deferred maintenance.

Allowing the Reserves to fall close to zero, but not below zero, is called Baseline Funding. In these associations, deterioration occurs without matching Reserve contributions. With a low Percent Funded, special assessments and deferred maintenance are common.

Threshold Funding is the title of all other objectives randomly selected between Baseline Funding and Full Funding.

Funding Goals



- Full Funding
- Threshold Funding
- Baseline Funding

## Site Inspection Notes

During our site visit on August 23, 2010, we started the meeting with Jodean Sandquist – General Manager and Richard Crewdson – Operations Supervisor, and then started the site inspection beginning with the maintenance yard. We visually inspected all the components, and were able to see all areas.

At time of inspection no apparent issues were noted on the dams. However, this type of inspection goes beyond the scope of a Reserve Study. As reported the dams are inspected yearly. Also, reported is an agreement that the association is obligated by an augmentation plan to construct/increase water storage. Part of this money has already been reserved through a special assessment. Reserving money for any future repairs, maintenance or changes to increasing the water capacity should be based on a current engineer's report and feasibility study. Since all of the components for the dams (especially Panhandle) can be considered extended useful lives and go beyond what is typical in a Reserve Study, we recommend basing and updating any reserves on the engineer's report or feasibility study. Investigation should also include and determine how much dredging (if any) is required.

Currently the community is experiencing damage to several areas of water lines due to frozen pipes. Also reported, areas of filling 6 water pipes are near or above ground. Typically, water pipes do not meet the National Reserve Study standard to be included in a report. However, given the historical issues facing the community, we are recommending a yearly allowance to address this issue until future repairs can be addressed in the operational budget.



### Projected Expenses

The figure below shows the array of the projected future expenses at your association. As expenses are based on the average of our Best Case and Worst Case projections, inflated appropriately for future years. Note the large expense in approximately 2022, made up primarily of heavy equipment expenses.

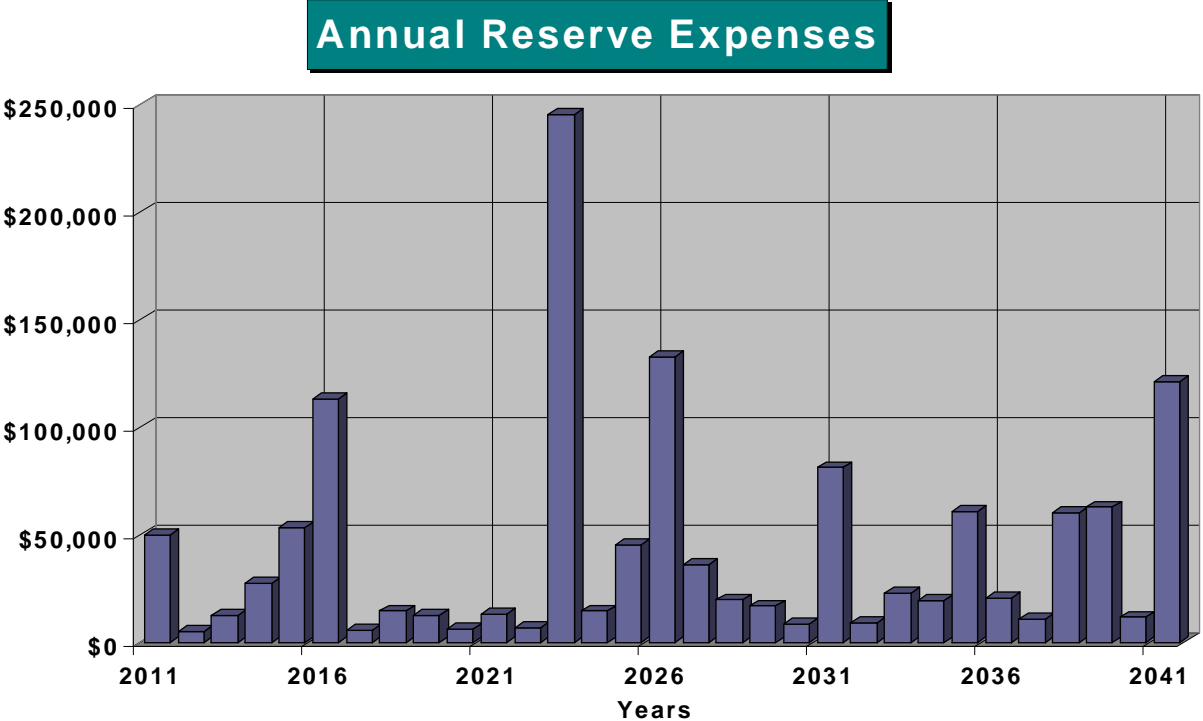


Figure 1

A summary of this information is shown in Table 4, while details of the projects that make up this information are shown in Table 5. Since this is a projection about future events that may or may not take place as anticipated, we feel more certain about “near-term” projects than those many years away. While this Reserve Study is a one-year document, it is based on 30 years worth of looking forward into the future.

### Reserve Fund Status

The starting point for our financial analysis is your Reserve Fund balance, projected to be \$157,000 as-of the start of your Fiscal Year on June 1, 2011. This is based on your actual balance on 5/31/10 of \$152,176.00 and anticipated Reserve contributions and expenses projected through the end of your Fiscal Year. As of June 1, 2011, your Fully Funded Balance is computed to be \$287,421 (see Table 3). This figure represents the deteriorated value of your common area components. Comparing your Reserve Balance to your Fully Funded Balance indicates your Reserves are 55% Funded. As indicated earlier in the Executive Summary, this represents a mid-range status.

### Recommended Funding Plan

Based on your current Percent Funded and your projected cash flow requirements, we are recommending Reserve contributions of \$37,790/annual this Fiscal Year. This represents the first year of the 30-year Funding Plan shown below. This same information is shown numerically in both Table 4 and Table 5.

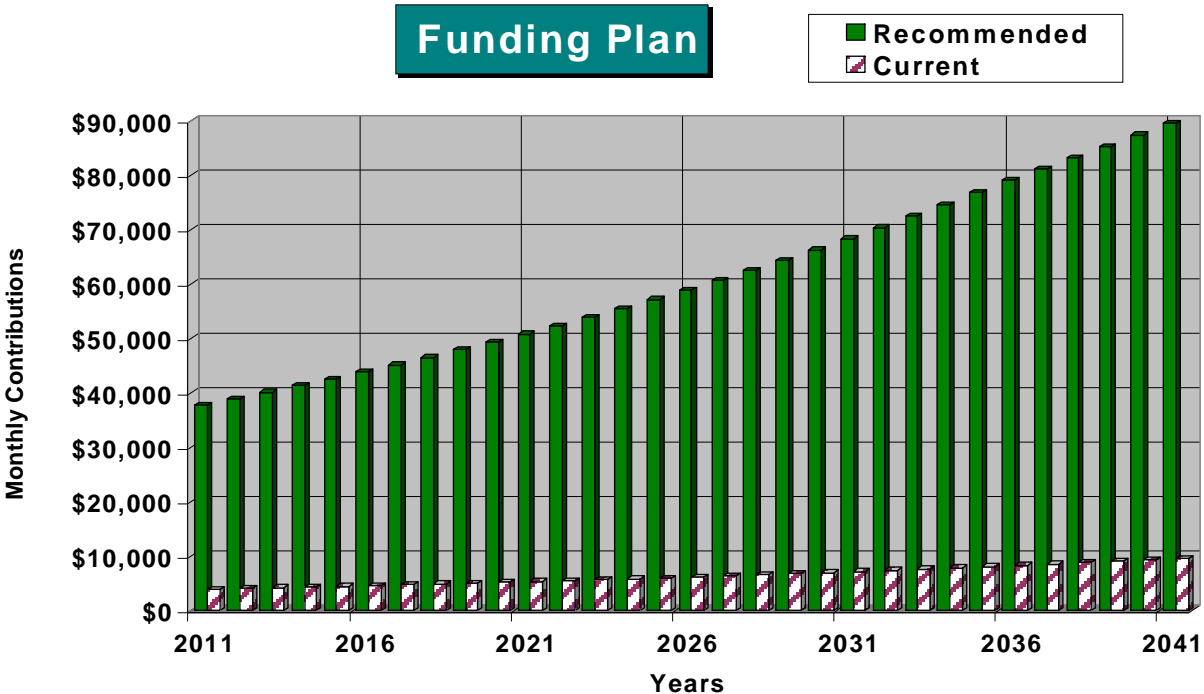


Figure 2

The following chart shows your Reserve balance under our recommended Funding Plan and your current Funding Plan, and your always-changing Fully Funded Balance target.

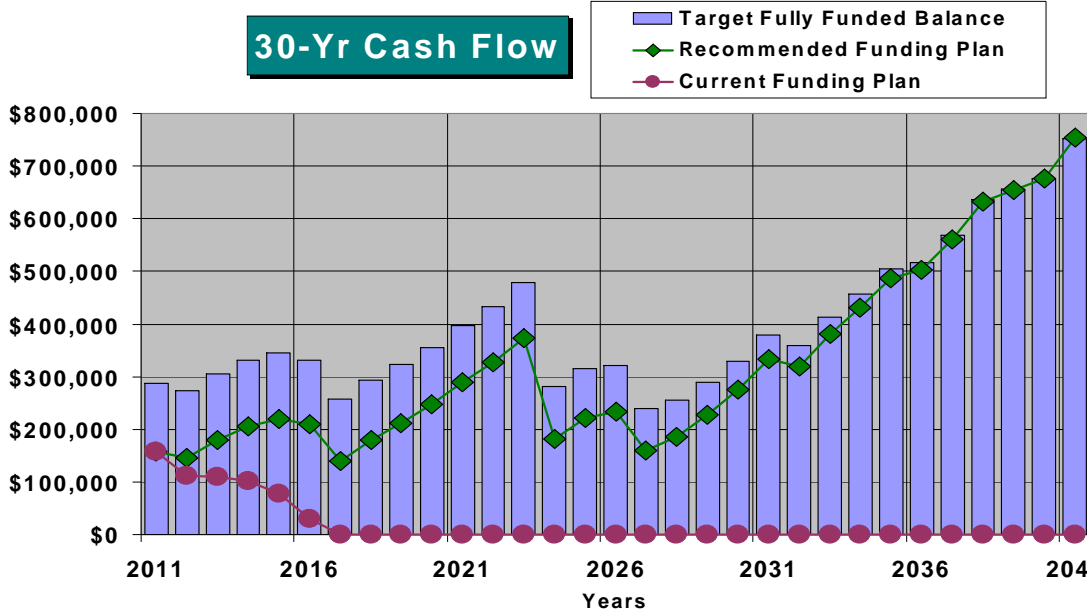


Figure 3

In this figure it is easy to see how your Reserve Fund gradually draws closer to the Fully Funded (100%) level.

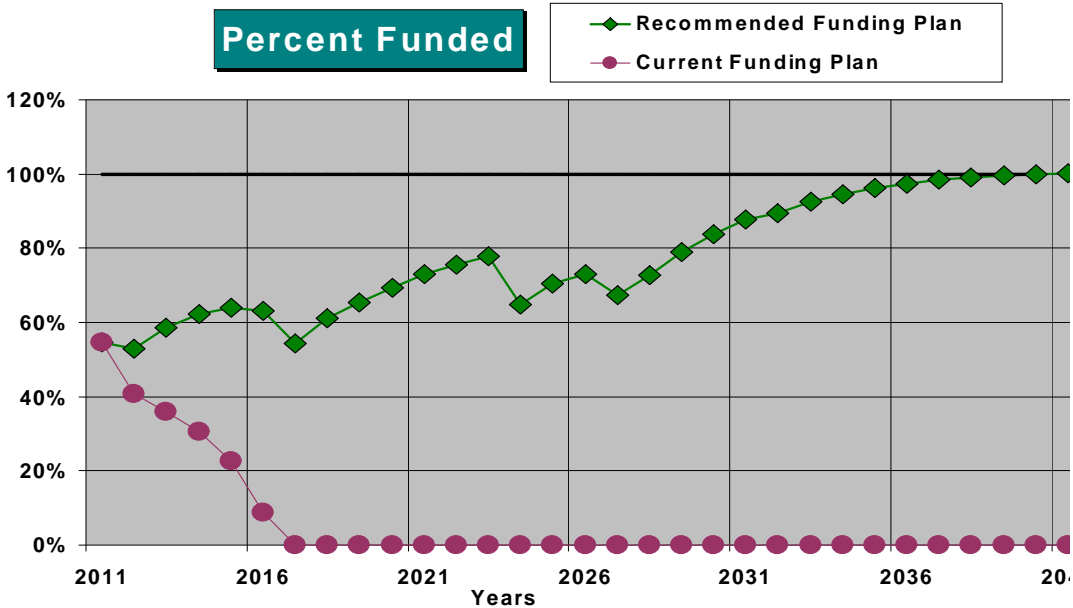


Figure 4

## Table Descriptions

The tabular information in this Report is broken down into five tables.

Table 1 summarizes your funded Reserve Components, and is part of the Executive Report summary that appeared earlier in this Report.

Table 2 provides the main component description, life, and cost factors for all components determined to be appropriate for Reserve designation. This table represents the core information from which all other tables are derived.

Table 3 is presented primarily as an accounting summary. The results of the individual line item Fully Funded Balance computations are shown. These individual quantities are summed to arrive at the Fully Funded Balance for the association as of the start date of the Report. The figures in the Current Fund Balance column and the Monthly Reserve Contribution column show our distribution throughout the line items. If the association is underfunded, Reserve Funds are distributed first to components with a short Remaining Useful Life. If the association's Reserve Balance is above 100% Funded, funds are distributed evenly for all components. Contribution rates for each component are a proportionate distribution of the total contribution on the basis of the component's significance to the association (current cost divided by useful life). This presentation is not meant to cause clients to redistribute association funds, it simply presents one way to evenly distribute the total among all the different line items.

Table 4: This table provides a one-page 30-year summary of the cash flowing into and out of the association, compared to the Fully Funded Balance for each year.

Table 5: This table shows the cash flow detail for the next 30 years. This table makes it possible to see what components are projected to require repair or replacement each year, and the size of those individual expenses.

**Table 2: Reserve Component List Detail****20979-0**

#	Component	Quantity	Use ful Life	Rem. Useful Life	Best Cost	Current Worst Cost
398	Motors & Pumps - Replace (part)	Several Pumps/Motors	5	3	\$4,000	\$6,000
725	Boat House - Replace	(1) Boat House 20 x 44	30	0	\$30,000	\$50,000
725	Boat Racks - Replace	(3) Boat Racks	25	20	\$30,000	\$40,000
1116	Wood Surfaces - Repair/Reseal	Apprx 2,625 GSF	5	0	\$4,000	\$6,000
1311	Ponds - Repair/Dredge - 50%	Apprx (5) Ponds/Lakes	5	2	\$6,000	\$8,000
1807	Septic System - Refurbish	Extensive	30	5	\$75,000	\$100,000
1810	Backhoe - Replace	(1) Cat 416C	30	15	\$50,000	\$70,000
1810	Truck - Replace - 50%	(1) Chevy Truck	12	3	\$12,500	\$18,000
1810	Vehicle - Replace 50%	(1) GMC Envoy	12	4	\$15,000	\$20,000
1810	Water/Sewer Trucks - Replace	(2) Freightliner FL 70	25	12	\$140,000	\$180,000
1811	Water Lines - Replace (part)	Numerous LF	1	0	\$4,000	\$6,000
1850	Miscellaneous Contingency	Numerous	10	4	\$20,000	\$30,000
12	Total Funded Components					

**Table 3: Contribution and Fund Breakdown****20979-0**

#	Component	Use ful Life	Rem. Useful Life	Current (Avg) Cost	Fully Funded Balance	Current Fund Balance	Reserve Contributions
398	Motors & Pumps - Replace (part)	5	3	\$5,000	\$2,000	\$2,000.00	\$1,365.29
725	Boat House - Replace	30	0	\$40,000	\$40,000	\$40,000.00	\$1,820.38
725	Boat Racks - Replace	25	20	\$35,000	\$7,000	\$0.00	\$1,911.40
1116	Wood Surfaces - Repair/Reseal	5	0	\$5,000	\$5,000	\$5,000.00	\$1,365.29
1311	Ponds - Repair/Dredge - 50%	5	2	\$7,000	\$4,200	\$4,200.00	\$1,911.40
1807	Septic System - Refurbish	30	5	\$87,500	\$72,917	\$62,695.83	\$3,982.09
1810	Backhoe - Replace	30	15	\$60,000	\$30,000	\$0.00	\$2,730.57
1810	Truck - Replace - 50%	12	3	\$15,250	\$11,438	\$11,437.50	\$1,735.05
1810	Vehicle - Replace 50%	12	4	\$17,500	\$11,667	\$11,666.67	\$1,991.04
1810	Water/Sewer Trucks - Replace	25	12	\$160,000	\$83,200	\$0.00	\$8,737.84
1811	Water Lines - Replace (part)	1	0	\$5,000	\$5,000	\$5,000.00	\$6,826.43
1850	Miscellaneous Contingency	10	4	\$25,000	\$15,000	\$15,000.00	\$3,413.22
12	Total Funded Components				\$287,421	\$157,000	\$37,790

**Table 4: 30-Year Reserve Plan Summary**

**20979-0**

**Fiscal Year Beginning: 06/01/11**

**Interest:**

**0.1%**

**Inflation:**

**3.0%**

Year	Starting Reserve Balance	Fully Funded Balance	Percent Funded	Rating	Annual Reserve Contribs.	Loans or Special Assmts	Interest Income	Projected Reserve Expenses
2011	\$157,000	\$287,421	54.6%	Fair	\$37,790	\$0	\$91	\$50,000
2012	\$144,881	\$273,053	53.1%	Fair	\$38,924	\$0	\$97	\$5,150
2013	\$178,751	\$305,305	58.5%	Fair	\$40,091	\$0	\$115	\$12,731
2014	\$206,227	\$331,597	62.2%	Fair	\$41,294	\$0	\$128	\$27,591
2015	\$220,058	\$344,279	63.9%	Fair	\$42,533	\$0	\$129	\$53,462
2016	\$209,258	\$331,630	63.1%	Fair	\$43,809	\$0	\$105	\$113,029
2017	\$140,143	\$258,209	54.3%	Fair	\$45,123	\$0	\$96	\$5,970
2018	\$179,392	\$293,848	61.0%	Fair	\$46,477	\$0	\$117	\$14,758
2019	\$211,227	\$322,525	65.5%	Fair	\$47,871	\$0	\$137	\$12,668
2020	\$246,568	\$355,268	69.4%	Fair	\$49,307	\$0	\$161	\$6,524
2021	\$289,512	\$396,405	73.0%	Strong	\$50,787	\$0	\$185	\$13,439
2022	\$327,045	\$432,769	75.6%	Strong	\$52,310	\$0	\$210	\$6,921
2023	\$372,644	\$478,087	77.9%	Strong	\$53,880	\$0	\$166	\$245,231
2024	\$181,459	\$280,490	64.7%	Fair	\$55,496	\$0	\$121	\$14,685
2025	\$222,390	\$315,646	70.5%	Strong	\$57,161	\$0	\$137	\$45,378
2026	\$234,310	\$321,500	72.9%	Strong	\$58,876	\$0	\$118	\$132,817
2027	\$160,488	\$238,760	67.2%	Fair	\$60,642	\$0	\$104	\$36,106
2028	\$185,127	\$254,483	72.7%	Strong	\$62,461	\$0	\$124	\$19,834
2029	\$227,878	\$288,811	78.9%	Strong	\$64,335	\$0	\$151	\$17,024
2030	\$275,340	\$328,476	83.8%	Strong	\$66,265	\$0	\$183	\$8,768
2031	\$333,020	\$379,291	87.8%	Strong	\$68,253	\$0	\$196	\$81,275
2032	\$320,194	\$358,448	89.3%	Strong	\$70,301	\$0	\$210	\$9,301
2033	\$381,403	\$412,657	92.4%	Strong	\$72,410	\$0	\$244	\$22,993
2034	\$431,063	\$455,981	94.5%	Strong	\$74,582	\$0	\$275	\$19,736
2035	\$486,184	\$505,598	96.2%	Strong	\$76,819	\$0	\$297	\$60,984
2036	\$502,316	\$515,907	97.4%	Strong	\$79,124	\$0	\$319	\$20,938
2037	\$560,821	\$569,511	98.5%	Strong	\$81,102	\$0	\$358	\$10,783
2038	\$631,498	\$636,973	99.1%	Strong	\$83,130	\$0	\$386	\$60,530
2039	\$654,483	\$657,064	99.6%	Strong	\$85,208	\$0	\$399	\$62,918
2040	\$677,172	\$677,198	100.0%	Strong	\$87,338	\$0	\$429	\$11,783

**Table 5: 30-Year Income/Expense Detail (yrs 0 through 4)**

**20979-0**

Fiscal Year	2011	2012	2013	2014	2015
Starting Reserve Balance	\$157,000	\$144,881	\$178,751	\$206,227	\$220,058
Annual Reserve Contribution	\$37,790	\$38,924	\$40,091	\$41,294	\$42,533
Planned Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$91	\$97	\$115	\$128	\$129
<b>Total Income</b>	<b>\$194,881</b>	<b>\$183,901</b>	<b>\$218,958</b>	<b>\$247,649</b>	<b>\$262,720</b>
<b># Component</b>					
398 Motors & Pumps - Replace (part)	\$0	\$0	\$0	\$5,464	\$0
725 Boat House - Replace	\$40,000	\$0	\$0	\$0	\$0
725 Boat Racks - Replace	\$0	\$0	\$0	\$0	\$0
1116 Wood Surfaces - Repair/Reseal	\$5,000	\$0	\$0	\$0	\$0
1311 Ponds - Repair/Dredge - 50%	\$0	\$0	\$7,426	\$0	\$0
1807 Septic System - Refurbish	\$0	\$0	\$0	\$0	\$0
1810 Backhoe - Replace	\$0	\$0	\$0	\$0	\$0
1810 Truck - Replace - 50%	\$0	\$0	\$0	\$16,664	\$0
1810 Vehicle - Replace 50%	\$0	\$0	\$0	\$0	\$19,696
1810 Water/Sewer Trucks - Replace	\$0	\$0	\$0	\$0	\$0
1811 Water Lines - Replace (part)	\$5,000	\$5,150	\$5,305	\$5,464	\$5,628
1850 Miscellaneous Contingency	\$0	\$0	\$0	\$0	\$28,138
<b>Total Expenses</b>	<b>\$50,000</b>	<b>\$5,150</b>	<b>\$12,731</b>	<b>\$27,591</b>	<b>\$53,462</b>
<b>Ending Reserve Balance:</b>	<b>\$144,881</b>	<b>\$178,751</b>	<b>\$206,227</b>	<b>\$220,058</b>	<b>\$209,258</b>

**Table 5: 30-Year Income/Expense Detail (yrs 5 through 9)**

**20979-0**

Fiscal Year	2016	2017	2018	2019	2020
Starting Reserve Balance	\$209,258	\$140,143	\$179,392	\$211,227	\$246,568
Annual Reserve Contribution	\$43,809	\$45,123	\$46,477	\$47,871	\$49,307
Planned Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$105	\$96	\$117	\$137	\$161
<b>Total Income</b>	<b>\$253,172</b>	<b>\$185,362</b>	<b>\$225,986</b>	<b>\$259,236</b>	<b>\$296,036</b>
# Component					
398 Motors & Pumps - Replace (part)	\$0	\$0	\$0	\$6,334	\$0
725 Boat House - Replace	\$0	\$0	\$0	\$0	\$0
725 Boat Racks - Replace	\$0	\$0	\$0	\$0	\$0
1116 Wood Surfaces - Repair/Reseal	\$5,796	\$0	\$0	\$0	\$0
1311 Ponds - Repair/Dredge - 50%	\$0	\$0	\$8,609	\$0	\$0
1807 Septic System - Refurbish	\$101,436	\$0	\$0	\$0	\$0
1810 Backhoe - Replace	\$0	\$0	\$0	\$0	\$0
1810 Truck - Replace - 50%	\$0	\$0	\$0	\$0	\$0
1810 Vehicle - Replace 50%	\$0	\$0	\$0	\$0	\$0
1810 Water/Sewer Trucks - Replace	\$0	\$0	\$0	\$0	\$0
1811 Water Lines - Replace (part)	\$5,796	\$5,970	\$6,149	\$6,334	\$6,524
1850 Miscellaneous Contingency	\$0	\$0	\$0	\$0	\$0
<b>Total Expenses</b>	<b>\$113,029</b>	<b>\$5,970</b>	<b>\$14,758</b>	<b>\$12,668</b>	<b>\$6,524</b>
Ending Reserve Balance:	\$140,143	\$179,392	\$211,227	\$246,568	\$289,512

**Table 5: 30-Year Income/Expense Detail (yrs 10 through 14)**

**20979-0**

Fiscal Year	2021	2022	2023	2024	2025
Starting Reserve Balance	\$289,512	\$327,045	\$372,644	\$181,459	\$222,390
Annual Reserve Contribution	\$50,787	\$52,310	\$53,880	\$55,496	\$57,161
Planned Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$185	\$210	\$166	\$121	\$137
<b>Total Income</b>	<b>\$340,484</b>	<b>\$379,565</b>	<b>\$426,690</b>	<b>\$237,076</b>	<b>\$279,688</b>
# Component					
398 Motors & Pumps - Replace (part)	\$0	\$0	\$0	\$7,343	\$0
725 Boat House - Replace	\$0	\$0	\$0	\$0	\$0
725 Boat Racks - Replace	\$0	\$0	\$0	\$0	\$0
1116 Wood Surfaces - Repair/Reseal	\$6,720	\$0	\$0	\$0	\$0
1311 Ponds - Repair/Dredge - 50%	\$0	\$0	\$9,980	\$0	\$0
1807 Septic System - Refurbish	\$0	\$0	\$0	\$0	\$0
1810 Backhoe - Replace	\$0	\$0	\$0	\$0	\$0
1810 Truck - Replace - 50%	\$0	\$0	\$0	\$0	\$0
1810 Vehicle - Replace 50%	\$0	\$0	\$0	\$0	\$0
1810 Water/Sewer Trucks - Replace	\$0	\$0	\$228,122	\$0	\$0
1811 Water Lines - Replace (part)	\$6,720	\$6,921	\$7,129	\$7,343	\$7,563
1850 Miscellaneous Contingency	\$0	\$0	\$0	\$0	\$37,815
<b>Total Expenses</b>	<b>\$13,439</b>	<b>\$6,921</b>	<b>\$245,231</b>	<b>\$14,685</b>	<b>\$45,378</b>
Ending Reserve Balance:	\$327,045	\$372,644	\$181,459	\$222,390	\$234,310

**Table 5: 30-Year Income/Expense Detail (yrs 15 through 19)****20979-0**

Fiscal Year	2026	2027	2028	2029	2030
Starting Reserve Balance	\$234,310	\$160,488	\$185,127	\$227,878	\$275,340
Annual Reserve Contribution	\$58,876	\$60,642	\$62,461	\$64,335	\$66,265
Planned Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$118	\$104	\$124	\$151	\$183
<b>Total Income</b>	<b>\$293,304</b>	<b>\$221,233</b>	<b>\$247,712</b>	<b>\$292,364</b>	<b>\$341,787</b>
# Component					
398 Motors & Pumps - Replace (part)	\$0	\$0	\$0	\$8,512	\$0
725 Boat House - Replace	\$0	\$0	\$0	\$0	\$0
725 Boat Racks - Replace	\$0	\$0	\$0	\$0	\$0
1116 Wood Surfaces - Repair/Reseal	\$7,790	\$0	\$0	\$0	\$0
1311 Ponds - Repair/Dredge - 50%	\$0	\$0	\$11,570	\$0	\$0
1807 Septic System - Refurbish	\$0	\$0	\$0	\$0	\$0
1810 Backhoe - Replace	\$93,478	\$0	\$0	\$0	\$0
1810 Truck - Replace - 50%	\$23,759	\$0	\$0	\$0	\$0
1810 Vehicle - Replace 50%	\$0	\$28,082	\$0	\$0	\$0
1810 Water/Sewer Trucks - Replace	\$0	\$0	\$0	\$0	\$0
1811 Water Lines - Replace (part)	\$7,790	\$8,024	\$8,264	\$8,512	\$8,768
1850 Miscellaneous Contingency	\$0	\$0	\$0	\$0	\$0
<b>Total Expenses</b>	<b>\$132,817</b>	<b>\$36,106</b>	<b>\$19,834</b>	<b>\$17,024</b>	<b>\$8,768</b>
Ending Reserve Balance:	\$160,488	\$185,127	\$227,878	\$275,340	\$333,020

**Table 5: 30-Year Income/Expense Detail (yrs 20 through 24)**

**20979-0**

Fiscal Year	2031	2032	2033	2034	2035
Starting Reserve Balance	\$333,020	\$320,194	\$381,403	\$431,063	\$486,184
Annual Reserve Contribution	\$68,253	\$70,301	\$72,410	\$74,582	\$76,819
Planned Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$196	\$210	\$244	\$275	\$297
<b>Total Income</b>	<b>\$401,469</b>	<b>\$390,705</b>	<b>\$454,056</b>	<b>\$505,920</b>	<b>\$563,300</b>
# Component					
398 Motors & Pumps - Replace (part)	\$0	\$0	\$0	\$9,868	\$0
725 Boat House - Replace	\$0	\$0	\$0	\$0	\$0
725 Boat Racks - Replace	\$63,214	\$0	\$0	\$0	\$0
1116 Wood Surfaces - Repair/Reseal	\$9,031	\$0	\$0	\$0	\$0
1311 Ponds - Repair/Dredge - 50%	\$0	\$0	\$13,413	\$0	\$0
1807 Septic System - Refurbish	\$0	\$0	\$0	\$0	\$0
1810 Backhoe - Replace	\$0	\$0	\$0	\$0	\$0
1810 Truck - Replace - 50%	\$0	\$0	\$0	\$0	\$0
1810 Vehicle - Replace 50%	\$0	\$0	\$0	\$0	\$0
1810 Water/Sewer Trucks - Replace	\$0	\$0	\$0	\$0	\$0
1811 Water Lines - Replace (part)	\$9,031	\$9,301	\$9,581	\$9,868	\$10,164
1850 Miscellaneous Contingency	\$0	\$0	\$0	\$0	\$50,820
<b>Total Expenses</b>	<b>\$81,275</b>	<b>\$9,301</b>	<b>\$22,993</b>	<b>\$19,736</b>	<b>\$60,984</b>
Ending Reserve Balance:	\$320,194	\$381,403	\$431,063	\$486,184	\$502,316

**Table 5: 30-Year Income/Expense Detail (yrs 25 through 29)**

**20979-0**

Fiscal Year	2036	2037	2038	2039	2040
Starting Reserve Balance	\$502,316	\$560,821	\$631,498	\$654,483	\$677,172
Annual Reserve Contribution	\$79,124	\$81,102	\$83,130	\$85,208	\$87,338
Planned Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$319	\$358	\$386	\$399	\$429
<b>Total Income</b>	<b>\$581,759</b>	<b>\$642,281</b>	<b>\$715,013</b>	<b>\$740,091</b>	<b>\$764,940</b>
<b># Component</b>					
398 Motors & Pumps - Replace (part)	\$0	\$0	\$0	\$11,440	\$0
725 Boat House - Replace	\$0	\$0	\$0	\$0	\$0
725 Boat Racks - Replace	\$0	\$0	\$0	\$0	\$0
1116 Wood Surfaces - Repair/Reseal	\$10,469	\$0	\$0	\$0	\$0
1311 Ponds - Repair/Dredge - 50%	\$0	\$0	\$15,549	\$0	\$0
1807 Septic System - Refurbish	\$0	\$0	\$0	\$0	\$0
1810 Backhoe - Replace	\$0	\$0	\$0	\$0	\$0
1810 Truck - Replace - 50%	\$0	\$0	\$33,875	\$0	\$0
1810 Vehicle - Replace 50%	\$0	\$0	\$0	\$40,039	\$0
1810 Water/Sewer Trucks - Replace	\$0	\$0	\$0	\$0	\$0
1811 Water Lines - Replace (part)	\$10,469	\$10,783	\$11,106	\$11,440	\$11,783
1850 Miscellaneous Contingency	\$0	\$0	\$0	\$0	\$0
<b>Total Expenses</b>	<b>\$20,938</b>	<b>\$10,783</b>	<b>\$60,530</b>	<b>\$62,918</b>	<b>\$11,783</b>
Ending Reserve Balance:	\$560,821	\$631,498	\$654,483	\$677,172	\$753,157

## Accuracy, Limitations, and Disclosures

Because we have no control over future events, we cannot claim that all the events we anticipate will occur as planned. We expect that inflationary trends will continue, and we expect that financial institutions will provide interest earnings on funds on-deposit. We believe that reasonable estimates for these figures are much more accurate than ignoring these economic realities. The things we can control are measurements, which we attempt to establish within 5% accuracy. Your starting Reserve Balance and current Reserve interest earnings are also numbers that can be identified with a high degree of certainty. These figures have been provided to us, and were not confirmed by our independent research. Our projections assume a stable economic environment and lack of natural disasters.

Because both the physical status and financial status of the association change each year, this Reserve Study is by nature a “one-year” document. This information can and should be adjusted annually as part of the Reserve Study Update process so that more accurate estimates can be reflected in the Reserve plan. Reality often differs from even the best assumptions due to changing economic factors, physical factors, or ownership expectations. Because many years of financial preparation help the preparation for large expenses, this Report shows expenses for the next 30 years. We fully expect a number of adjustments will be necessary through the interim years to both the cost and timing of distant expense projections. It is our recommendation and that of the American Institute of Certified Public Accountants (AICPA) that your Reserve Study be updated annually.

Association Reserves, Inc., and its employees have no ownership, management, or other business relationships with the client other than this Reserve Study engagement. Carmine R. DeLisio, RS, company president, is a Colorado licensed General Contractor (Licensed #15126), and credentialed Reserve Specialist (#184). All work done by Association Reserves - Colorado is performed under his Responsible Charge. There are no material issues to our knowledge that have not been disclosed to the client that would cause a distortion of the association’s situation.

We have relied upon the client to provide the current (or projected) Reserve Balance, the estimated net-after-tax current rate of interest earnings, and to indicate if those earnings accrue to the Reserve Fund. In addition, we have considered the association’s representation of current and historical Reserve projects reliable, and we have considered the representations made by its vendors and suppliers to also be accurate and reliable.

Component quantities indicated in this Report were developed by Association Reserves unless otherwise noted in our “Site Inspection Notes” comments. No destructive or intrusive testing was performed, nor should the site inspection be assumed to be anything other than for budget purposes.

## Terms and Definitions

<b>BTU</b>	British Thermal Unit (a standard unit of energy)
<b>DIA</b>	Diameter
<b>GSF</b>	Gross Square Feet (area)
<b>GSY</b>	Gross Square Yards (area)
<b>HP</b>	Horsepower
<b>LF</b>	Linear Feet (length)

**Effective Age:** The difference between Useful Life and Remaining Useful Life. Note that this is not necessarily equivalent to the chronological age of the component.

**Fully Funded Balance (FFB):** The Reserve Balance that is in direct proportion to the fraction of life “used up” of the current Repair or Replacement cost. This benchmark balance represents the value of the deterioration of the Reserve Components. This number is calculated for each component, then summed together for an association total.

$$\text{FFB} = (\text{Current Cost} \times \text{Effective Age}) / \text{Useful Life}$$

**Inflation:** Cost factors are adjusted for inflation at the rate defined in the Executive Summary and compounded annually. These increasing costs can be seen as you follow the recurring cycles of a component on Table 5.

**Interest:** Interest earnings on Reserve Funds are calculated using the average balance for the year (taking into account income and expenses through the year) and compounded monthly using the rate defined in the Executive Summary. Annual interest earning assumption appears in the Executive Summary, page ii.

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

**Remaining Useful Life:** The estimated time, in years, that a common area component can be expected to continue to serve its intended function.

**Useful Life:** The estimated time, in years, that a common area component can be expected to serve its intended function.

## Photographic Inventory Appendix

Client: 20979A Crystal Lakes Water and Sewer

---

**Comp #:** 103 Concrete Deck/Walk - Repair/Replace

Quantity: Numerous GSF

Location: Maintenance building

Evaluation: Current repairs to the maintenance building slab were completed. No anticipation for a complete replacement of the entire slab. Use operational budget to affect any repairs.



Useful Life:

Remaining Life:

Best Case:

Worst Case:

Cost Source:

---

**Comp #:** 312 Water/Digester Tanks - Replace

Quantity: Numerous Tanks

Location: Throughout community

Evaluation: The community currently has approximately (2) 2,000 gallon digester tanks, (1) 10,000 gallon digester, (1) 17,000 gallon cistern, (2) 5,000 gallon cistern's, with (1) 20,000 gallon cistern not in use. As reported the 17,000 gallon cistern was epoxy painted (interior) to extend the useful life. These components have an extended and unpredictable useful life. However, since they represent an asset too large to absorb in operational, we are recommending an allowance for ongoing repairs or possibility replacement. See Msc. #1850.



Useful Life:

Remaining Life:

Best Case:

Worst Case:

Cost Source:

---

Client: 20979A Crystal Lakes Water and Sewer

---

**Comp #:** 398 Motors & Pumps - Replace (part)

Quantity: Several Pumps/Motors

Location: Pump houses, wells, throughout community

Evaluation: No anticipation for a complete replacement of all units at the same time. Funding is for an ongoing cycle of replacement and upgrades of the system.

Useful Life:  
5 years

Remaining Life:  
3 years



Best Case: \$4,000.00

Lower allowance to replace a portion

Worst Case: \$6,000.00

Higher allowance to replace a portion

Cost Source: ARI Cost Database

---

**Comp #:** 725 Boat House - Replace

Quantity: (1) Boat House 20 x 44

Location: Crystal Park

Evaluation: Boat house is in overall poor condition. Funding is to rebuild structure.

Useful Life:  
30 years

Remaining Life:  
0 years



Best Case: \$30,000.00

Lower allowance to replace

Worst Case: \$50,000.00

Higher allowance to replace

Cost Source: ARI Cost Database

---

Client: 20979A Crystal Lakes Water and Sewer

---

**Comp #: 725 Boat Racks - Replace**

Quantity: (3) Boat Racks

Location: Crystal and Lake View Park

Evaluation: Boat racks appear in overall good condition. Funding is for eventual replacement due to age and wear.



Useful Life:  
25 years

Remaining Life:  
20 years

Best Case: \$30,000.00  
Lower allowance to replace

Worst Case: \$40,000.00  
Higher allowance to replace

Cost Source: ARI Cost Database

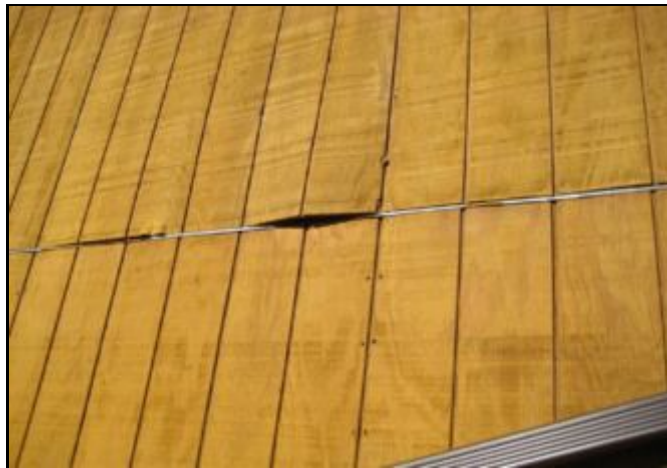
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**Comp #: 1116 Wood Surfaces - Repair/Reseal**

Quantity: Apprx 2,625 GSF

Location: Maintenance building

Evaluation: T-1-11 panel is in overall fair condition with isolated areas of buckling. Overall siding is fading and showing signs of wear. Recommend regularly scheduled sealing and repairs.



Useful Life:  
5 years

Remaining Life:  
0 years

Best Case: \$4,000.00  
Lower allowance to seal and repair panels

Worst Case: \$6,000.00  
Higher allowance to seal and repair panels

Cost Source: ARI Cost Database

---

Client: 20979A Crystal Lakes Water and Sewer

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Comp #: 1311 Earth Dam's - Inspect/Maintain

Quantity: Earth Dams

Location: Throughout community

Evaluation: At time of inspection no apparent issues were noted. However, this type of inspection goes beyond the scope of a Reserve Study. As reported the dams are inspected yearly. Also, reported is an agreement the association is obligated by an augmentation plan to construct/increase water storage. Part of this money has already been reserved through a special assessment. Reserving money for any future repairs, maintenance or changes to increasing the water capacity should be based on a current engineer's report and feasibility study. Since all of the components for the dams (especially Panhandle) can be considered extended useful lives and go beyond what is typical in a Reserve Study, we recommend basing and updating any reserves on the engineer's report or feasibility study. Investigation should also include and determine how much dredging (if any) is required.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source: ARI Cost Database

---

Client: 20979A Crystal Lakes Water and Sewer

---

**Comp #:** 1311 Ponds - Repair/Dredge - 50%

Quantity: Apprx (5) Ponds/Lakes

Location: Catawba Lake, Beaver Lake, Otter Pond, Cutthroat Pond, Little Lone Pine Lake

Evaluation: Funding is to maintain ponds and lakes in order to ensure proper environment for fish and wildlife. Costs are shared with Road and Rec. Association.

Useful Life:  
5 years

Remaining Life:  
2 years



Best Case: \$6,000.00

Lower allowance to dredge and repair drainage - 50%

Worst Case: \$8,000.00

Higher allowance to dredge and repair drainage - 50%

Cost Source: ARI Cost Database

---

**Comp #:** 1807 Septic System - Refurbish

Quantity: Extensive

Location: Filing 11, Wapiti Drive and Blackfoot Road

Evaluation: Due to an anticipated future increase in use, system will need to be updated/expanded. Septic system can have an extended useful life. However, environmental conditions, codes and use can change the system requirements. Recommend updating Reserve Study to reflect changes in newer system design and secure bids to reflect recommended changes and verify remaining useful life.

Useful Life:  
30 years

Remaining Life:  
5 years



Best Case: \$75,000.00

Lower allowance to refurbish

Worst Case: \$100,000.00

Higher allowance to refurbish

Cost Source: ARI Cost Database

---

Client: 20979A Crystal Lakes Water and Sewer

---

**Comp #:** 1810 Backhoe - Replace

Quantity: (1) Cat 416C

Location: Maintenance yard

Evaluation: Loader was being repaired at time of inspection. Funding is to replace loader with a used (lower hour) replacement. Remaining useful life can vary depending on board's decision to extend useful life with extensive repairs. Also, parts may become more expensive due to obsolescence as equipment ages.



Useful Life:  
30 years

Remaining Life:  
15 years

Best Case: \$50,000.00  
Lower allowance to replace

Worst Case: \$70,000.00  
Higher allowance to replace

Cost Source: Online Catalog - Catused.com

---

**Comp #:** 1810 Truck - Replace - 50%

Quantity: (1) Chevy Truck

Location: Visitors Center

Evaluation: Truck is a shared expense with the Road and Rec. Association.



Useful Life:  
12 years

Remaining Life:  
3 years

Best Case: \$12,500.00  
Lower allowance to replace - 50%

Worst Case: \$18,000.00  
Higher allowance to replace - 50%

Cost Source: ARI Cost Database

---

Client: 20979A Crystal Lakes Water and Sewer

---

**Comp #: 1810 Vehicle - Replace 50%**

Quantity: (1) GMC Envoy

Location: Vistors Center

Evaluation: Vehicle appears in overall fair condition and is primarily used by manager. Funding is split between Road/Recreation, and Water/Sewer Association.

Useful Life:  
12 years

Remaining Life:  
4 years



Best Case: \$15,000.00

Lower allowance to replace - 50% of cost

Worst Case: \$20,000.00

Higher allowance to replace - 50% of cost

Cost Source: ARI Cost Database

---

**Comp #: 1810 Water/Sewer Trucks - Replace**

Quantity: (2) Freightliner FL 70

Location: Maintenance building

Evaluation: Trucks (1995) are reported to be operating. Funding is to replace trucks with a used (lower hour) replacement. Remaining useful life can vary depending on board's decision to extend useful life with extensive repairs. Also, parts may become more expensive due to obsolescence as equipment ages.

Useful Life:  
25 years

Remaining Life:  
12 years



Best Case: \$140,000.00

\$70,000/ea - Lower estimate to replace

Worst Case: \$180,000.00

\$90,000/ea - Higher estimate to replace

Cost Source: Online Catalog - Catused.com

---

Client: 20979A Crystal Lakes Water and Sewer

---

**Comp #:** 1811 Water Lines - Replace (part)

Quantity: Numerous LF

Location: Filing 6 and 11

Evaluation: As reported, several areas of water lines were damaged due to frozen pipes. Also reported, areas of filing 6 water pipes are near or above ground. Typically, water pipes do not meet the National Reserve Study standard to be included in a report. However, given the historical issues facing the community, we are recommending a yearly allowance to address this issue until future repairs can be addressed in the operational budget.

Useful Life:  
1 years

Remaining Life:  
0 years



Best Case: \$4,000.00

Worst Case: \$6,000.00

Lower allowance to partially replace lines

Higher allowance to partially replace lines

Cost Source: ARI Cost Database

---

**Comp #:** 1850 Miscellaneous Contingency

Quantity: Numerous

Location: Throughout community

Evaluation: Several components have too unpredictable and extended useful lives to be included in a Reserve Study, e.g., tanks and dams, and are too large to be absorbed in an operational budget. We therefore are recommending a reserve study line item to absorb any expenses associated with the unpredictability of these or other components.

Useful Life:  
10 years

Remaining Life:  
4 years



Best Case: \$20,000.00

Worst Case: \$30,000.00

Lower allowance

Higher allowance

Cost Source: ARI Cost Database

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