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“Full” Reserve Study



Lake Forest Home Association Lacey, WA

Report #: 29010-0

For Period Beginning: January 1, 2016

Expires: December 31, 2016

Date Prepared: September 24, 2015



Hello, and welcome to your Reserve Study!

We don't want you to be surprised. This Report is designed to help you anticipate, and prepare for, the major common area expenses your association will face. Inside you will find:

- 1) **The Reserve Component List** (the “Scope and Schedule” of your Reserve projects) – telling you what your association is Reserving for, what condition they are in now, and what they'll cost to replace.
- 2) **An Evaluation of your current Reserve Fund Size and Strength** (Percent Funded). This tells you your financial starting point, revealing your risk of deferred maintenance and special assessments.
- 3) **A Recommended Multi-Year Reserve Funding Plan**, answering the question... “What do we do now?”

More Questions?

Visit our website at www.ReserveStudy.com or call us at:

253/661-5437

Relax, it's from



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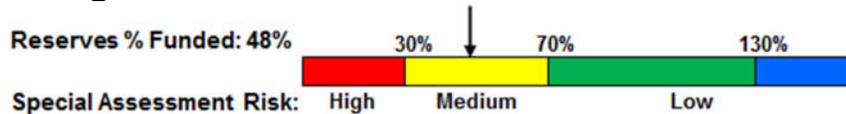
3- Minute Executive Summary

Association: Lake Forest Home Association #: 29010-0
Location: Lacey, WA # of Units: 419
Report Period: January 1, 2016 through December 31, 2016

Findings/Recommendations as-of 1/1/2016:

Projected Starting Reserve Balance:	\$85,600
Current Fully Funded Reserve Balance:	\$177,103
Average Reserve Deficit (Surplus) Per Unit:.....	\$218
100% 2016 Monthly "Full Funding" Contributions:	\$1,280
70% 2016 Monthly "Threshold Funding" Contributions:	\$1,120
Baseline contributions (min to keep Reserves above \$0):.....	\$920
Recommended 2016 Special Assessment:.....	\$0

Most Recent Budgeted Reserve Contribution Rate:..... \$0



Economic Assumptions:

Net Annual "After Tax" Interest Earnings Accruing to Reserves..... 1.00%
Annual Inflation Rate..... 3.00%

- This is a "Full" Reserve Study, based on our site inspection on August 21, 2015 and meets or exceeds all requirements of the RCW. This study was prepared by, or under the supervision of a credentialed Reserve Specialist (RS™).
- Your Reserve Fund is currently 48% Funded. This means the association's special assessment & deferred maintenance risk is currently in the mid-level range. The objective of your multi-year Funding Plan is to fund your Reserves to a level where you will enjoy a low risk of such Reserve cash flow problems.
- Based on this starting point and your anticipated future expenses, our recommendation is to increase your Reserve contributions to within the 70% to 100% level as noted above. 100% "Full" and 70% contribution rates are designed to achieve the funding objective *by the end of our 30-year report scope*. No assets appropriate for Reserve designation were excluded. See photo appendix for component details; the basis of our assumptions.

#	Component	Useful Life (yrs)	Rem. Useful Life (yrs)	Current Cost Estimate
Site / Grounds				
100	Concrete - Repair/Replace	5	0	\$2,500
122	Asphalt Path - Resurface	30	0	\$66,500
135	Metal Gates/Fence - Replace	60	21	\$9,000
137	Gate/Door Keypads - Replace	10	6	\$1,000
154	Fence: Chain Link - Replace	50	11	\$29,400
155	Fence: Chain Link - Replace	50	27	\$15,300
158	Wood Retaining Wall - Replace	20	1	\$5,000
170	Landscape - Refurbish	10	3	\$5,000
185	Stormwater Ponds - Clean/Refurbish	15	10	\$10,000
190	Trees - Trim/Remove	3	0	\$3,000
Recreation				
340	Play Equipment - Replace	30	10	\$30,000
355	Pavilion Roof - Replace	15	6	\$3,500
358	Bathroom - Replace	30	10	\$3,000
360	Dock Decking - Repair/Replace	30	17	\$25,000
365	Structure/Pilings - Repair/Replace	30	17	\$51,000
370	Piling Sleeves - Replace	30	28	\$4,000
16	Total Funded Components			

Note 1: a Useful Life of "N/A" means a one-time expense, not expected to repeat.

Note 2: Yellow highlighted line items are expected to require attention in the initial year, green highlighted items are expected to occur within the first five years.

Cross reference component numbers with photographic inventory appendix.

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 combination of research and well-defined computations, following consistent National Reserve Study Standard principles.

The foundation of this and every Reserve Study is your Reserve Component List (what you are reserving for). This is because the Reserve Component List defines the *scope and schedule* of all your anticipated upcoming Reserve projects. Based on that List and your starting balance, we calculate the association’s Reserve Fund Strength (reported in terms of “Percent Funded”). Then we compute a Reserve Funding Plan to provide for the Reserve needs of the association. These form the three results of your Reserve Study.



Reserve contributions are not “for the future”. Reserve contributions are designed to offset the ongoing, daily deterioration of your Reserve assets. Done well, a stable, budgeted Reserve Funding Plan will collect sufficient funds from the owners who enjoyed the use of those assets, so the association is financially prepared for the irregular expenditures scattered through future years when those projects eventually require replacement.

Methodology

LEVELS OF SERVICE



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 Funded by Reserves?

There is a national-standard four-part test to determine which expenses should appear in your Reserve Component List. First, it must be a common area maintenance responsibility. Second, the component must have a limited life. Third, the remaining 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 (often between .5% and 1% of an association's total budget). This limits Reserve 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.



RESERVE COMPONENT "FOUR-PART TEST"

How do we establish Useful Life and Remaining Useful Life estimates?

- 1) Visual Inspection (observed wear and age)
- 2) Association Reserves database of experience
- 3) Client History (install dates & previous life cycle information)
- 4) Vendor Evaluation and Recommendation

How do we establish Current Repair/Replacement Cost Estimates?

In this order...

- 1) Actual client cost history, or current proposals
- 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?

Reserve adequacy is not measured in cash terms. Reserve adequacy is found when the *amount* of current Reserve cash is compared to Reserve component deterioration (the *needs of the association*). Having *enough* means the association can execute its projects in a timely manner with existing Reserve funds. Not having *enough* typically creates deferred maintenance or special assessments.

Adequacy is measured in a two-step process:

- 1) Calculate the *value of deterioration* at the association (called Fully Funded Balance, or FFB).
- 2) Compare that to the Reserve Fund Balance, and express as a percentage.



SPECIAL ASSESSMENT RISK

Each year, the *value of deterioration* at the association changes. When there is more deterioration (as components approach the time they need to be replaced), there should be more cash to offset that deterioration and prepare for the expenditure. Conversely, the *value of deterioration* shrinks after projects are accomplished. The *value of deterioration* (the FFB) changes each year, and is a moving but predictable target.

There is a high risk of special assessments and deferred maintenance when the Percent Funded is *weak*, below 30%. Approximately 30% of all associations are in this high risk range. While the 100% point is Ideal (indicating Reserve cash is equal to the *value of deterioration*), a Reserve Fund in the 70% -130% range is considered strong (low risk of special assessment).

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?



RESERVE FUNDING PRINCIPLES

According to National Reserve Study Standards, there are four Funding Principles to 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. Second, a stable contribution is desirable because it keeps these naturally irregular expenses from unsettling the budget.

Reserve contributions that are evenly distributed over current and future owners enable each owner to pay their fair share of the association’s Reserve expenses over the years. And finally, we develop a plan that is fiscally responsible and safe for Boardmembers to recommend to their association. Remember, it is the Board’s job to provide for the ongoing care of the common areas. Boardmembers invite liability exposure when Reserve contributions are inadequate to offset ongoing common area deterioration.

What is our Recommended Funding Goal?

Maintaining the Reserve Fund at a level equal to the *value* of deterioration is called “Full Funding” (100% Funded). As each asset ages and becomes “used up”, the Reserve Fund grows proportionally. **This is simple, responsible, and our recommendation.** Evidence shows that associations in the 70-130% range *enjoy a low risk of special assessments or deferred maintenance.*



FUNDING OBJECTIVES

Allowing the Reserves to fall close to zero, but not below zero, is called Baseline Funding. Doing so allows the Reserve Fund to drop into the 0-30% range, where there is a high risk of special assessments & deferred maintenance. Since Baseline Funding still provides for the timely execution of all Reserve projects, and only the “margin of safety” is different, Baseline Funding contributions average only 10% - 15% less than Full Funding contributions. Threshold Funding is the title of all other Cash or Percent Funded objectives *between* Baseline Funding and Full Funding.

Site Inspection Notes

During our site visit on August 21, 2015, we started with a brief meeting with Association Board members, and then started the site inspection. We visually inspected all visible common area while compiling a photographic inventory, noting: current condition, make & model information where appropriate, apparent levels of care and maintenance, exposure to weather elements and other factors that may affect the components useful life.

Early planning for future maintenance projects, efficient execution and tracking within reserve study updates is key to avoiding future special assessments and cash flow problems.

Projected Expenses

While this Reserve Study looks forward 30 years, we have no expectation that all these expenses will all take place as anticipated. This Reserve Study needs to be updated annually because we expect the timing of these expenses to shift and the size of these expenses to change. We do feel more certain of the timing and cost of near-term expenses than expenses many years away. Your *first five years* of projected Reserve expenses total \$85,892. Adding the next five years, your *first ten years* of projected Reserve expenses are \$101,660. Please be aware of your near-term expenses, which we are able to project more accurately than the more distant projections.

The figure below summarizes the projected future expenses at your association as defined by your Reserve Component List. A summary of these expenses are shown in Table 5, while details of the projects that make up these expenses are shown in Table 6.

Annual Reserve Expenses

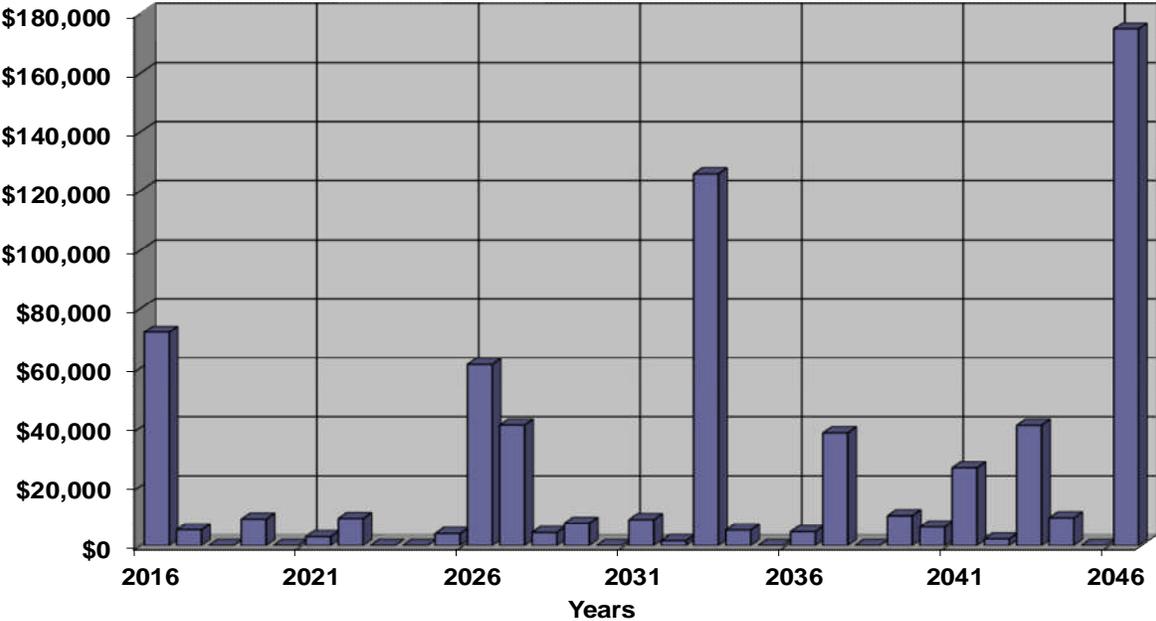


Figure 1

Reserve Fund Status

The starting point for our financial analysis is your Reserve Fund balance, projected to be \$85,600 as-of the start of your Fiscal Year on January 1, 2016. As of January 1, 2016, your Fully Funded Balance is computed to be \$177,103 (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 48% Funded. Across the country, approx 13% of associations in this range experience special assessments or deferred maintenance.

Recommended Funding Plan

Based on your current Percent Funded and your near-term and long-term Reserve needs, we are recommending budgeted contributions of \$1,280/month this Fiscal Year. The overall 30-yr plan, in perspective, is shown below. This same information is shown numerically in both Table 5 and Table 6.

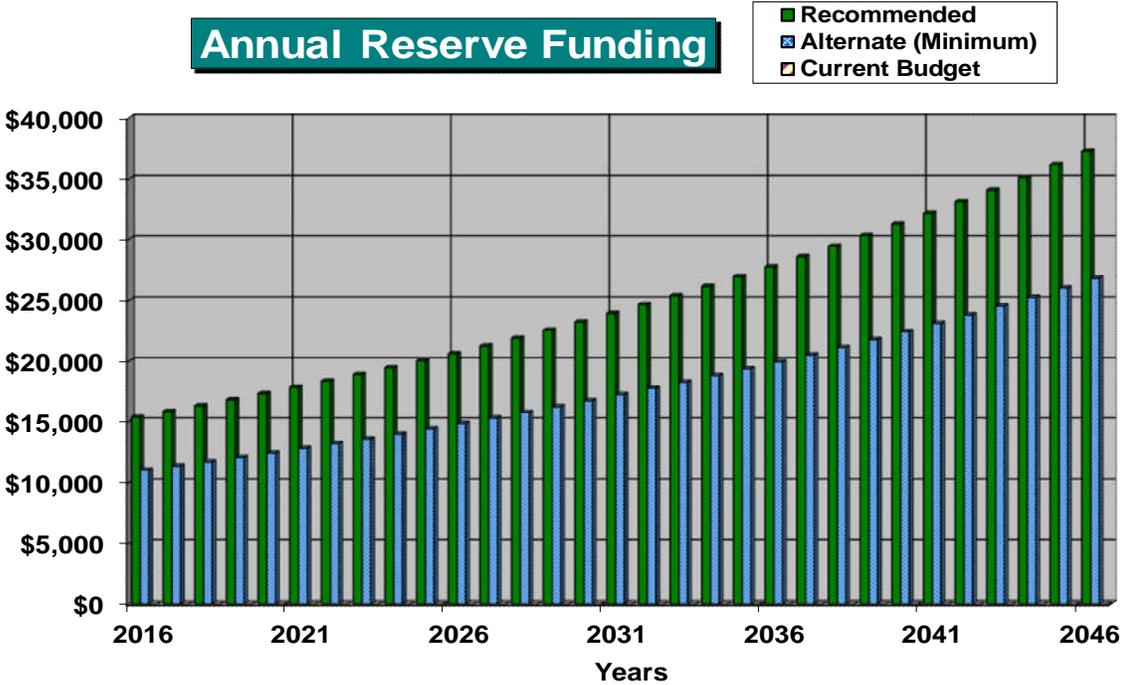


Figure 2

The following chart shows your Reserve balance under our recommended Full Funding Plan, an alternate Baseline Funding Plan, and at your current budgeted contribution rate, compared to your always-changing Fully Funded Balance target.

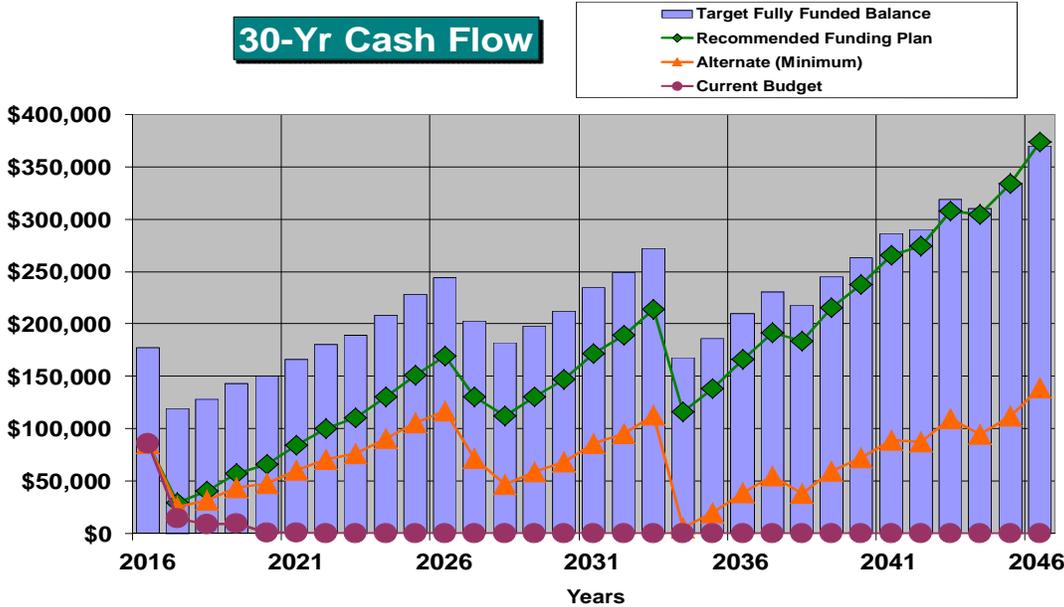


Figure 3

This figure shows this same information, plotted on a [Percent Funded](#) scale.

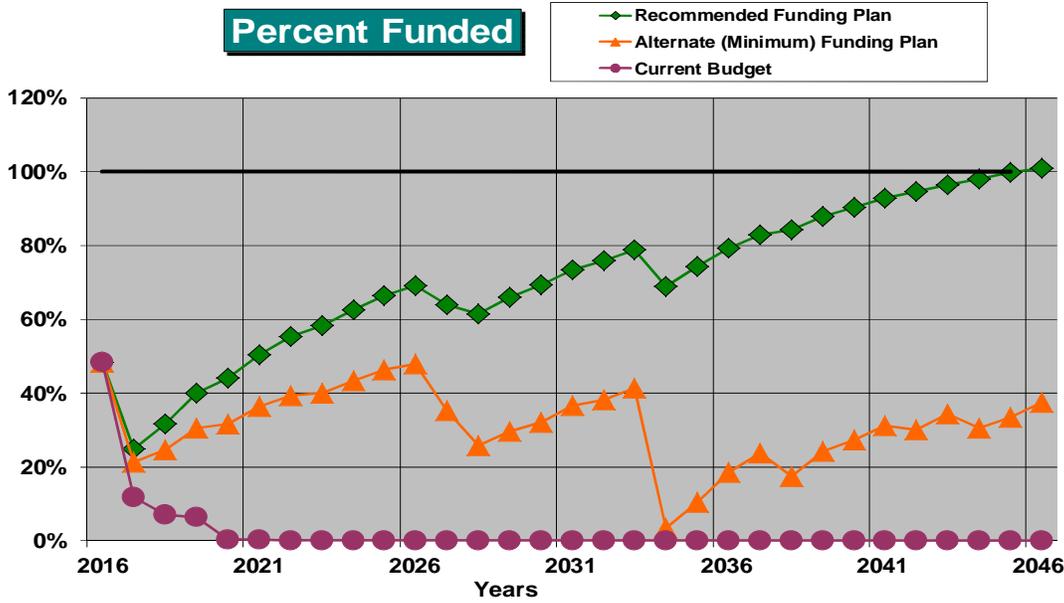


Figure 4

Table Descriptions

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

Table 1 is a summary of your Reserve Components (your Reserve Component List), the information found in Table 2.

Table 2 is your Reserve Component List, which forms the foundation of this Reserve Study. This table represents the information from which all other tables are derived.

Table 3 shows the calculation of your Fully Funded Balance, the measure of your current Reserve component deterioration. For each component, the Fully Funded Balance is the fraction of life used up multiplied by its estimated Current Replacement Cost.

Table 4 shows the significance of each component to Reserve needs of the association, helping you see which components have more (or less) influence than others on your total Reserve contribution rate. The deterioration cost/yr of each component is calculated by dividing Current Replacement Cost by Useful Life, then that component's percentage of the total is displayed.

Table 5: This table provides a one-page 30-year summary of the cash flowing into and out of the Reserve Fund, with a display of the Fully Funded Balance, Percent Funded, and special assessment risk for each year.

Table 6: This table shows the cash flow detail for the next 30 years. This table makes it possible to see which components are projected to require repair or replacement each year, and the size of those individual expenses.

Table 2: Reserve Component List Detail

29010-0

#	Component	Quantity	Useful Life	Rem. Useful Life	[--- Current Cost Estimate ---]	
					Best Case	Worst Case
Site / Grounds						
100	Concrete - Repair/Replace	~ 29,000 Sq Ft	5	0	\$2,000	\$3,000
122	Asphalt Path - Resurface	~ 26,600 Sq Ft	30	0	\$53,200	\$79,800
135	Metal Gates/Fence - Replace	~ 60 Lin Ft	60	21	\$7,200	\$10,800
137	Gate/Door Keypads - Replace	(2) keypads	10	6	\$800	\$1,200
154	Fence: Chain Link - Replace	~ 1,400 Lin Ft	50	11	\$25,200	\$33,600
155	Fence: Chain Link - Replace	~ 730 Lin Ft	50	27	\$13,100	\$17,500
158	Wood Retaining Wall - Replace	~ 200 Sq Ft	20	1	\$4,000	\$6,000
170	Landscape - Refurbish	Common area landscaping	10	3	\$4,000	\$6,000
185	Stormwater Ponds - Clean/Refurbish	(10) assorted sizes	15	10	\$8,000	\$12,000
190	Trees - Trim/Remove	Numerous, assorted	3	0	\$2,500	\$3,500
Recreation						
340	Play Equipment - Replace	(3) assorted pieces	30	10	\$25,000	\$35,000
355	Pavilion Roof - Replace	~ 1,400 Sq Ft	15	6	\$2,800	\$4,200
358	Bathroom - Replace	(1) unit	30	10	\$2,500	\$3,500
360	Dock Decking - Repair/Replace	~ 850 Sq Ft (Trex)	30	17	\$20,000	\$30,000
365	Structure/Pilings - Repair/Replace	~ 850 Sq Ft, (6) pilings	30	17	\$42,500	\$59,500
370	Piling Sleeves - Replace	(6) PVC sleeves	30	28	\$3,500	\$4,500
16	Total Funded Components					

Table 3: Fully Funded Balance

29010-0

#	Component	Current Cost Estimate	X	Effective Age	/	Useful Life	=	Fully Funded Balance
Site / Grounds								
100	Concrete - Repair/Replace	\$2,500	X	5	/	5	=	\$2,500
122	Asphalt Path - Resurface	\$66,500	X	30	/	30	=	\$66,500
135	Metal Gates/Fence - Replace	\$9,000	X	39	/	60	=	\$5,850
137	Gate/Door Keypads - Replace	\$1,000	X	4	/	10	=	\$400
154	Fence: Chain Link - Replace	\$29,400	X	39	/	50	=	\$22,932
155	Fence: Chain Link - Replace	\$15,300	X	23	/	50	=	\$7,038
158	Wood Retaining Wall - Replace	\$5,000	X	19	/	20	=	\$4,750
170	Landscape - Refurbish	\$5,000	X	7	/	10	=	\$3,500
185	Stormwater Ponds - Clean/Refurbish	\$10,000	X	5	/	15	=	\$3,333
190	Trees - Trim/Remove	\$3,000	X	3	/	3	=	\$3,000
Recreation								
340	Play Equipment - Replace	\$30,000	X	20	/	30	=	\$20,000
355	Pavilion Roof - Replace	\$3,500	X	9	/	15	=	\$2,100
358	Bathroom - Replace	\$3,000	X	20	/	30	=	\$2,000
360	Dock Decking - Repair/Replace	\$25,000	X	13	/	30	=	\$10,833
365	Structure/Pilings - Repair/Replace	\$51,000	X	13	/	30	=	\$22,100
370	Piling Sleeves - Replace	\$4,000	X	2	/	30	=	\$267
								\$177,103

Table 4: Component Significance**29010-0**

#	Component	Useful Life	Current Cost Estimate	Deterioration Cost/yr	Deterioration Significance
Site / Grounds					
100	Concrete - Repair/Replace	5	\$2,500	\$500	4.9%
122	Asphalt Path - Resurface	30	\$66,500	\$2,217	21.6%
135	Metal Gates/Fence - Replace	60	\$9,000	\$150	1.5%
137	Gate/Door Keypads - Replace	10	\$1,000	\$100	1.0%
154	Fence: Chain Link - Replace	50	\$29,400	\$588	5.7%
155	Fence: Chain Link - Replace	50	\$15,300	\$306	3.0%
158	Wood Retaining Wall - Replace	20	\$5,000	\$250	2.4%
170	Landscape - Refurbish	10	\$5,000	\$500	4.9%
185	Stormwater Ponds - Clean/Refurbish	15	\$10,000	\$667	6.5%
190	Trees - Trim/Remove	3	\$3,000	\$1,000	9.7%
Recreation					
340	Play Equipment - Replace	30	\$30,000	\$1,000	9.7%
355	Pavilion Roof - Replace	15	\$3,500	\$233	2.3%
358	Bathroom - Replace	30	\$3,000	\$100	1.0%
360	Dock Decking - Repair/Replace	30	\$25,000	\$833	8.1%
365	Structure/Pilings - Repair/Replace	30	\$51,000	\$1,700	16.5%
370	Piling Sleeves - Replace	30	\$4,000	\$133	1.3%
16	Total Funded Components			\$10,277	100.0%

Table 5: 30-Year Reserve Plan Summary

29010-0

Fiscal Year Start: 01/01/16

Interest: 1.0% Inflation: 3.0%

**Reserve Fund Strength Calculations
(All values as of Fiscal Year Start Date)**

**Projected Reserve Balance
Changes**

Year	Starting Reserve Balance	Fully Funded Balance	Percent Funded	Special Assmt Risk	Reserve Contribs.	Loans or Special Assmts	Interest Income	Reserve Expenses
2016	\$85,600	\$177,103	48.3%	Med	\$15,360	\$0	\$575	\$72,000
2017	\$29,536	\$118,842	24.9%	High	\$15,821	\$0	\$350	\$5,150
2018	\$40,557	\$128,006	31.7%	Med	\$16,295	\$0	\$489	\$0
2019	\$57,341	\$143,077	40.1%	Med	\$16,784	\$0	\$616	\$8,742
2020	\$66,000	\$149,932	44.0%	Med	\$17,288	\$0	\$750	\$0
2021	\$84,038	\$166,344	50.5%	Med	\$17,806	\$0	\$919	\$2,898
2022	\$99,865	\$180,621	55.3%	Med	\$18,341	\$0	\$1,050	\$8,955
2023	\$110,301	\$189,456	58.2%	Med	\$18,891	\$0	\$1,203	\$0
2024	\$130,395	\$208,158	62.6%	Med	\$19,458	\$0	\$1,408	\$0
2025	\$151,260	\$227,813	66.4%	Med	\$20,041	\$0	\$1,601	\$3,914
2026	\$168,988	\$244,427	69.1%	Med	\$20,643	\$0	\$1,494	\$61,148
2027	\$129,976	\$203,003	64.0%	Med	\$21,262	\$0	\$1,208	\$40,696
2028	\$111,750	\$181,829	61.5%	Med	\$21,900	\$0	\$1,211	\$4,277
2029	\$130,583	\$197,971	66.0%	Med	\$22,557	\$0	\$1,388	\$7,343
2030	\$147,186	\$211,893	69.5%	Med	\$23,233	\$0	\$1,595	\$0
2031	\$172,014	\$234,261	73.4%	Low	\$23,930	\$0	\$1,805	\$8,569
2032	\$189,181	\$248,955	76.0%	Low	\$24,648	\$0	\$2,016	\$1,605
2033	\$214,241	\$271,758	78.8%	Low	\$25,388	\$0	\$1,649	\$125,616
2034	\$115,661	\$168,022	68.8%	Med	\$26,149	\$0	\$1,268	\$5,107
2035	\$137,971	\$185,824	74.2%	Low	\$26,934	\$0	\$1,521	\$0
2036	\$166,426	\$209,960	79.3%	Low	\$27,742	\$0	\$1,789	\$4,515
2037	\$191,441	\$230,727	83.0%	Low	\$28,574	\$0	\$1,875	\$38,136
2038	\$183,754	\$218,062	84.3%	Low	\$29,431	\$0	\$1,994	\$0
2039	\$215,179	\$244,887	87.9%	Low	\$30,314	\$0	\$2,264	\$9,868
2040	\$237,890	\$262,961	90.5%	Low	\$31,224	\$0	\$2,516	\$6,098
2041	\$265,532	\$286,087	92.8%	Low	\$32,160	\$0	\$2,698	\$26,172
2042	\$274,217	\$289,876	94.6%	Low	\$33,125	\$0	\$2,910	\$2,157
2043	\$308,096	\$319,180	96.5%	Low	\$34,119	\$0	\$3,062	\$40,650
2044	\$304,628	\$310,400	98.1%	Low	\$35,143	\$0	\$3,191	\$9,152
2045	\$333,810	\$334,505	99.8%	Low	\$36,197	\$0	\$3,535	\$0

Table 6: 30-Year Income/Expense Detail (yrs 0 through 4)

29010-0

Fiscal Year	2016	2017	2018	2019	2020
Starting Reserve Balance	\$85,600	\$29,536	\$40,557	\$57,341	\$66,000
Annual Reserve Contribution	\$15,360	\$15,821	\$16,295	\$16,784	\$17,288
Recommended Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$575	\$350	\$489	\$616	\$750
Total Income	\$101,536	\$45,707	\$57,341	\$74,742	\$84,038
# Component					
Site / Grounds					
100 Concrete - Repair/Replace	\$2,500	\$0	\$0	\$0	\$0
122 Asphalt Path - Resurface	\$66,500	\$0	\$0	\$0	\$0
135 Metal Gates/Fence - Replace	\$0	\$0	\$0	\$0	\$0
137 Gate/Door Keypads - Replace	\$0	\$0	\$0	\$0	\$0
154 Fence: Chain Link - Replace	\$0	\$0	\$0	\$0	\$0
155 Fence: Chain Link - Replace	\$0	\$0	\$0	\$0	\$0
158 Wood Retaining Wall - Replace	\$0	\$5,150	\$0	\$0	\$0
170 Landscape - Refurbish	\$0	\$0	\$0	\$5,464	\$0
185 Stormwater Ponds - Clean/Refurbish	\$0	\$0	\$0	\$0	\$0
190 Trees - Trim/Remove	\$3,000	\$0	\$0	\$3,278	\$0
Recreation					
340 Play Equipment - Replace	\$0	\$0	\$0	\$0	\$0
355 Pavilion Roof - Replace	\$0	\$0	\$0	\$0	\$0
358 Bathroom - Replace	\$0	\$0	\$0	\$0	\$0
360 Dock Decking - Repair/Replace	\$0	\$0	\$0	\$0	\$0
365 Structure/Pilings - Repair/Replace	\$0	\$0	\$0	\$0	\$0
370 Piling Sleeves - Replace	\$0	\$0	\$0	\$0	\$0
Total Expenses	\$72,000	\$5,150	\$0	\$8,742	\$0
Ending Reserve Balance:	\$29,536	\$40,557	\$57,341	\$66,000	\$84,038

Table 6: 30-Year Income/Expense Detail (yrs 5 through 9)

29010-0

Fiscal Year	2021	2022	2023	2024	2025
Starting Reserve Balance	\$84,038	\$99,865	\$110,301	\$130,395	\$151,260
Annual Reserve Contribution	\$17,806	\$18,341	\$18,891	\$19,458	\$20,041
Recommended Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$919	\$1,050	\$1,203	\$1,408	\$1,601
Total Income	\$102,764	\$119,256	\$130,395	\$151,260	\$172,902
# Component					
Site / Grounds					
100 Concrete - Repair/Replace	\$2,898	\$0	\$0	\$0	\$0
122 Asphalt Path - Resurface	\$0	\$0	\$0	\$0	\$0
135 Metal Gates/Fence - Replace	\$0	\$0	\$0	\$0	\$0
137 Gate/Door Keypads - Replace	\$0	\$1,194	\$0	\$0	\$0
154 Fence: Chain Link - Replace	\$0	\$0	\$0	\$0	\$0
155 Fence: Chain Link - Replace	\$0	\$0	\$0	\$0	\$0
158 Wood Retaining Wall - Replace	\$0	\$0	\$0	\$0	\$0
170 Landscape - Refurbish	\$0	\$0	\$0	\$0	\$0
185 Stormwater Ponds - Clean/Refurbish	\$0	\$0	\$0	\$0	\$0
190 Trees - Trim/Remove	\$0	\$3,582	\$0	\$0	\$3,914
Recreation					
340 Play Equipment - Replace	\$0	\$0	\$0	\$0	\$0
355 Pavilion Roof - Replace	\$0	\$4,179	\$0	\$0	\$0
358 Bathroom - Replace	\$0	\$0	\$0	\$0	\$0
360 Dock Decking - Repair/Replace	\$0	\$0	\$0	\$0	\$0
365 Structure/Pilings - Repair/Replace	\$0	\$0	\$0	\$0	\$0
370 Piling Sleeves - Replace	\$0	\$0	\$0	\$0	\$0
Total Expenses	\$2,898	\$8,955	\$0	\$0	\$3,914
Ending Reserve Balance:	\$99,865	\$110,301	\$130,395	\$151,260	\$168,988

Table 6: 30-Year Income/Expense Detail (yrs 10 through 14)

29010-0

Fiscal Year	2026	2027	2028	2029	2030
Starting Reserve Balance	\$168,988	\$129,976	\$111,750	\$130,583	\$147,186
Annual Reserve Contribution	\$20,643	\$21,262	\$21,900	\$22,557	\$23,233
Recommended Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$1,494	\$1,208	\$1,211	\$1,388	\$1,595
Total Income	\$191,124	\$152,446	\$134,861	\$154,528	\$172,014
# Component					
Site / Grounds					
100 Concrete - Repair/Replace	\$3,360	\$0	\$0	\$0	\$0
122 Asphalt Path - Resurface	\$0	\$0	\$0	\$0	\$0
135 Metal Gates/Fence - Replace	\$0	\$0	\$0	\$0	\$0
137 Gate/Door Keypads - Replace	\$0	\$0	\$0	\$0	\$0
154 Fence: Chain Link - Replace	\$0	\$40,696	\$0	\$0	\$0
155 Fence: Chain Link - Replace	\$0	\$0	\$0	\$0	\$0
158 Wood Retaining Wall - Replace	\$0	\$0	\$0	\$0	\$0
170 Landscape - Refurbish	\$0	\$0	\$0	\$7,343	\$0
185 Stormwater Ponds - Clean/Refurbish	\$13,439	\$0	\$0	\$0	\$0
190 Trees - Trim/Remove	\$0	\$0	\$4,277	\$0	\$0
Recreation					
340 Play Equipment - Replace	\$40,317	\$0	\$0	\$0	\$0
355 Pavilion Roof - Replace	\$0	\$0	\$0	\$0	\$0
358 Bathroom - Replace	\$4,032	\$0	\$0	\$0	\$0
360 Dock Decking - Repair/Replace	\$0	\$0	\$0	\$0	\$0
365 Structure/Pilings - Repair/Replace	\$0	\$0	\$0	\$0	\$0
370 Piling Sleeves - Replace	\$0	\$0	\$0	\$0	\$0
Total Expenses	\$61,148	\$40,696	\$4,277	\$7,343	\$0
Ending Reserve Balance:	\$129,976	\$111,750	\$130,583	\$147,186	\$172,014

Table 6: 30-Year Income/Expense Detail (yrs 15 through 19)

29010-0

Fiscal Year	2031	2032	2033	2034	2035
Starting Reserve Balance	\$172,014	\$189,181	\$214,241	\$115,661	\$137,971
Annual Reserve Contribution	\$23,930	\$24,648	\$25,388	\$26,149	\$26,934
Recommended Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$1,805	\$2,016	\$1,649	\$1,268	\$1,521
Total Income	\$197,750	\$215,846	\$241,277	\$143,078	\$166,426
# Component					
Site / Grounds					
100 Concrete - Repair/Replace	\$3,895	\$0	\$0	\$0	\$0
122 Asphalt Path - Resurface	\$0	\$0	\$0	\$0	\$0
135 Metal Gates/Fence - Replace	\$0	\$0	\$0	\$0	\$0
137 Gate/Door Keypads - Replace	\$0	\$1,605	\$0	\$0	\$0
154 Fence: Chain Link - Replace	\$0	\$0	\$0	\$0	\$0
155 Fence: Chain Link - Replace	\$0	\$0	\$0	\$0	\$0
158 Wood Retaining Wall - Replace	\$0	\$0	\$0	\$0	\$0
170 Landscape - Refurbish	\$0	\$0	\$0	\$0	\$0
185 Stormwater Ponds - Clean/Refurbish	\$0	\$0	\$0	\$0	\$0
190 Trees - Trim/Remove	\$4,674	\$0	\$0	\$5,107	\$0
Recreation					
340 Play Equipment - Replace	\$0	\$0	\$0	\$0	\$0
355 Pavilion Roof - Replace	\$0	\$0	\$0	\$0	\$0
358 Bathroom - Replace	\$0	\$0	\$0	\$0	\$0
360 Dock Decking - Repair/Replace	\$0	\$0	\$41,321	\$0	\$0
365 Structure/Pilings - Repair/Replace	\$0	\$0	\$84,295	\$0	\$0
370 Piling Sleeves - Replace	\$0	\$0	\$0	\$0	\$0
Total Expenses	\$8,569	\$1,605	\$125,616	\$5,107	\$0
Ending Reserve Balance:	\$189,181	\$214,241	\$115,661	\$137,971	\$166,426

Table 6: 30-Year Income/Expense Detail (yrs 20 through 24)

29010-0

Fiscal Year	2036	2037	2038	2039	2040
Starting Reserve Balance	\$166,426	\$191,441	\$183,754	\$215,179	\$237,890
Annual Reserve Contribution	\$27,742	\$28,574	\$29,431	\$30,314	\$31,224
Recommended Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$1,789	\$1,875	\$1,994	\$2,264	\$2,516
Total Income	\$195,956	\$221,890	\$215,179	\$247,758	\$271,630
# Component					
Site / Grounds					
100 Concrete - Repair/Replace	\$4,515	\$0	\$0	\$0	\$0
122 Asphalt Path - Resurface	\$0	\$0	\$0	\$0	\$0
135 Metal Gates/Fence - Replace	\$0	\$16,743	\$0	\$0	\$0
137 Gate/Door Keypads - Replace	\$0	\$0	\$0	\$0	\$0
154 Fence: Chain Link - Replace	\$0	\$0	\$0	\$0	\$0
155 Fence: Chain Link - Replace	\$0	\$0	\$0	\$0	\$0
158 Wood Retaining Wall - Replace	\$0	\$9,301	\$0	\$0	\$0
170 Landscape - Refurbish	\$0	\$0	\$0	\$9,868	\$0
185 Stormwater Ponds - Clean/Refurbish	\$0	\$0	\$0	\$0	\$0
190 Trees - Trim/Remove	\$0	\$5,581	\$0	\$0	\$6,098
Recreation					
340 Play Equipment - Replace	\$0	\$0	\$0	\$0	\$0
355 Pavilion Roof - Replace	\$0	\$6,511	\$0	\$0	\$0
358 Bathroom - Replace	\$0	\$0	\$0	\$0	\$0
360 Dock Decking - Repair/Replace	\$0	\$0	\$0	\$0	\$0
365 Structure/Pilings - Repair/Replace	\$0	\$0	\$0	\$0	\$0
370 Piling Sleeves - Replace	\$0	\$0	\$0	\$0	\$0
Total Expenses	\$4,515	\$38,136	\$0	\$9,868	\$6,098
Ending Reserve Balance:	\$191,441	\$183,754	\$215,179	\$237,890	\$265,532

Table 6: 30-Year Income/Expense Detail (yrs 25 through 29)

29010-0

Fiscal Year	2041	2042	2043	2044	2045
Starting Reserve Balance	\$265,532	\$274,217	\$308,096	\$304,628	\$333,810
Annual Reserve Contribution	\$32,160	\$33,125	\$34,119	\$35,143	\$36,197
Recommended Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$2,698	\$2,910	\$3,062	\$3,191	\$3,535
Total Income	\$300,390	\$310,253	\$345,278	\$342,962	\$373,542
# Component					
Site / Grounds					
100 Concrete - Repair/Replace	\$5,234	\$0	\$0	\$0	\$0
122 Asphalt Path - Resurface	\$0	\$0	\$0	\$0	\$0
135 Metal Gates/Fence - Replace	\$0	\$0	\$0	\$0	\$0
137 Gate/Door Keypads - Replace	\$0	\$2,157	\$0	\$0	\$0
154 Fence: Chain Link - Replace	\$0	\$0	\$0	\$0	\$0
155 Fence: Chain Link - Replace	\$0	\$0	\$33,986	\$0	\$0
158 Wood Retaining Wall - Replace	\$0	\$0	\$0	\$0	\$0
170 Landscape - Refurbish	\$0	\$0	\$0	\$0	\$0
185 Stormwater Ponds - Clean/Refurbish	\$20,938	\$0	\$0	\$0	\$0
190 Trees - Trim/Remove	\$0	\$0	\$6,664	\$0	\$0
Recreation					
340 Play Equipment - Replace	\$0	\$0	\$0	\$0	\$0
355 Pavilion Roof - Replace	\$0	\$0	\$0	\$0	\$0
358 Bathroom - Replace	\$0	\$0	\$0	\$0	\$0
360 Dock Decking - Repair/Replace	\$0	\$0	\$0	\$0	\$0
365 Structure/Pilings - Repair/Replace	\$0	\$0	\$0	\$0	\$0
370 Piling Sleeves - Replace	\$0	\$0	\$0	\$9,152	\$0
Total Expenses	\$26,172	\$2,157	\$40,650	\$9,152	\$0
Ending Reserve Balance:	\$274,217	\$308,096	\$304,628	\$333,810	\$373,542

Accuracy, Limitations, and Disclosures

Washington disclosure, per RCW:

The 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.

Because we have no control over future events, we do not expect that all the events we anticipate will occur as planned. We expect that inflationary trends will continue, and we expect Reserve funds to continue to earn interest, so we believe that reasonable estimates for these figures are much more accurate than ignoring these economic realities. We can control measurements, which we attempt to establish within 5% accuracy through a combination of on-site measurements, drawings, and satellite imagery. The starting Reserve Balance and interest rate earned on deposited Reserve funds that you provided to us were considered reliable and were not confirmed independently. 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 Useful Life, Remaining Useful Life, and Current Cost estimates assume a stable economic environment and lack of natural disasters.

Because the physical condition of your components, the association's Reserve balance, the economic environment, and legislative environment change each year, this Reserve Study is by nature a "one-year" document. Because a long-term perspective improves the accuracy of near-term planning, this Report projects expenses for the next 30 years. It is our recommendation and that of the Financial Accounting Standards Board (FASB) that your Reserve Study be updated each year as part of the annual budget process.

Association Reserves WA, LLC and its employees have no ownership, management, or other business relationships with the client other than this Reserve Study engagement. James D. Talaga R.S., company president, is a credentialed Reserve Specialist (#66). All work done by Association Reserves WA, LLC 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.

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. This Report and this site inspection were accomplished only for Reserve budget purposes (to help identify and address the normal deterioration of properly built and installed components with predictable life expectancies). The Funding Plan in this Report was developed using the cash-flow methodology to achieve the specified Funding Objective.

Association Reserves’ liability in any matter involving this Reserve Study is limited to our Fee for services rendered.

Terms and Definitions

BTU	British Thermal Unit (a standard unit of energy)
DIA	Diameter
GSF	Gross Square Feet (area). Equivalent to Square Feet
GSY	Gross Square Yards (area). Equivalent to Square Yards
HP	Horsepower
LF	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 value of the deterioration of the Reserve Components. This is the fraction of life “used up” of each component multiplied by its estimated Current Replacement. While calculated for each component, it is 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 6.

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.

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

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

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

Component Details

The primary purpose of the photographic appendix is to provide the reader with the basis of our funding assumptions resulting from our physical analysis and subsequent research. The photographs herein represent a wide range of elements that were observed and measured against National Reserve Study Standards to determine if they meet the criteria for reserve funding.

- 1) Common area maintenance repair & replacement responsibility
- 2) Components must have a limited life
- 3) Life limit must be predictable
- 4) Above a minimum threshold cost (board's discretion – typically 1/2 to 1% of annual operating expenses).

Some components are recommended for reserve funding, while others are not. The components that meet these criteria in our judgment are shown with corresponding maintenance, repair or replacement cycles to the left of the photo (UL = Useful Life or how often the project is expected to occur, RUL = Remaining Useful Life or how many years from our reporting period) and a representative market cost range termed “Best Cost” and “Worst Cost” below the photo. There are many factors that can result in a wide variety of potential costs, we are attempting to represent a market average for budget purposes. Where there is no UL, the component is expected to be a one-time expense. Where no pricing, the component deemed inappropriate for Reserve Funding.

Client: 29010A Lake Forest Home Association

Comp # : 100 Concrete - Repair/Replace Quantity: ~ 29,000 Sq Ft
Location : Sidewalks at Lake Forest Drive, Marquette Drive and Oxford Drive; walks/steps at lake park
Funded? : Yes

History : No history reported

Evaluation : Although the majority of concrete appeared in fair condition, we observed a couple of areas where the walkways have shifted (see photo below) as well as some scattered areas of cracking and deterioration.

Due to current condition and typical ongoing wear, we suggest a funding allowance to supplement the operating budget for periodic larger scale repair/replacements as reflected below.

As routine maintenance, inspect regularly and pressure wash for appearance. Repair any trip hazards (1/2" difference in height) immediately to ensure safety. Repair cracks promptly as needed to prevent water penetrating into the base, which can cause further damage. Factors affecting the quality of the concrete include; the preparation of the underlying soil and drainage, thickness and strength of concrete used, steel reinforcement (none likely).

Additional resource: <http://www.mrsc.org/subjects/pubworks/sidew.aspx>

Useful Life:
5 years

Remaining Life:
0 years



Best Case: \$2,000

Worst Case: \$3,000

Lower allowance for partial repair

Higher allowance for partial repair

Cost Source: ARI Cost Database: Similar Project Cost History

Client: 29010A Lake Forest Home Association

Comp # : 102 Concrete Curb - Repair/Replace Quantity: ~ 240 Lin Ft

Location : Adjacent to landscaped area at North entrance to community

Funded? : No Useful life not predictable, repair/replace as needed out of operating budget

History : Recently repaired

Evaluation : We noted curbing to be in generally good condition and appearance with no significant damage.

No predictable expectation for large scale replacement at this time, no reserve funding suggested. Repair/replace as needed as part of previous component or through operating budget.

As routine maintenance, inspect regularly, pressure wash for appearance and repair as needed using general maintenance & repair funds.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source: Does not meet NRSS criteria for reserve funding

Comp # : 120 Asphalt Roadways - Maintain Quantity: Extensive Sq Ft

Location : Public roads throughout Association

Funded? : No Reportedly maintained by the City of Lacey

History : No history reported

Evaluation : It is our understanding that the asphalt roadways are maintained by the City of Lacey and are not the responsibility of the Lake Forest Home Association to maintain, repair or replace. Therefore, reserve funding is not required.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source: Does not meet NRSS criteria for reserve funding

Client: 29010A Lake Forest Home Association

Comp # : 122 Asphalt Path - Resurface

Quantity: ~ 26,600 Sq Ft

Location : Pathway through lake park

Funded? : Yes

History : No history reported

Evaluation : Areas of deterioration and tree root damage observed throughout asphalt pathway.

We recommend regular inspections, repair and cleaning of asphalt pathways to help extend useful life cycles. Based on current condition, plan for regular intervals of resurface (overlay with remove and replace as needed) of asphalt path at roughly the time frame indicated below.

Useful Life:
30 years

Remaining Life:
0 years



Best Case: \$53,200

Worst Case: \$79,800

\$2.00/Sq Ft, Lower allowance to resurface (overlay)

\$3.00/Sq Ft, Higher allowance to resurface (overlay)

Cost Source: ARI Cost Database: Similar Project Cost History

Comp # : 135 Metal Gates/Fence - Replace

Quantity: ~ 60 Lin Ft

Location : Lake park entrance/exit

Funded? : Yes

History : Reportedly installed around 1977

Evaluation : Metal gates and fencing appeared in fair, stable condition, no problems reported.

Although these types of gates/fencing are typically durable, we recommend setting aside funding for eventual replacement caused by typical wear/usage and exposure.

We recommend regular inspections, maintenance and repairs to help extend useful life cycle; clean for appearance and paint/touch-up as needed within general maintenance / operational funding.

Useful Life:
60 years

Remaining Life:
21 years



Best Case: \$7,200

Worst Case: \$10,800

\$120/Lin Ft, Lower allowance to replace

\$180/Lin Ft, Higher allowance to replace

Cost Source: ARI Cost Database: Similar Project Cost History

Client: 29010A Lake Forest Home Association

Comp # : 137 Gate/Door Keypads - Replace Quantity: (2) keypads
Location : Adjacent to park entry/exit and bathroom
Funded? : Yes

History : Gate keypad installed in 2002 and bathroom keypad installed in 2013

Evaluation : Fair condition noted with no functional issues observed during our site inspection and none reported to us.

Best to plan for replacement at typical interval below, due to constant usage and exposure to weather elements.

We recommend regular, professional inspections and maintenance to help prolong useful life.

Useful Life:
10 years

Remaining Life:
6 years



Best Case: \$800

Worst Case: \$1,200

Lower allowance to replace one keypad every 10 years

Higher allowance to replace one keypad every 10 years

Cost Source: ARI Cost Database: Similar Project Cost History

Comp # : 152 Split Rail Fence - Replace Quantity: ~ 90 Lin Ft
Location : Common area tract near intersection of Lake Forest Drive and Harvard Drive
Funded? : No Cost projected to be too small for reserve funding

History : Recently installed

Evaluation : Majority of split rail fencing appeared in fair condition.

Due to limited amount, split rail fencing can be maintained as an operating/maintenance expense, no reserve funding required.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source: Does not meet NRSS criteria for reserve funding

Client: 29010A Lake Forest Home Association

Comp # : 154 Fence: Chain Link - Replace Quantity: ~ 1,400 Lin Ft

Location : Partial perimeter of lake park

Funded? : Yes

History : Reportedly installed around 1977

Evaluation : Some areas of apparent instability were noted at the chain link fencing surrounding the lake park.

For financial planning purposes, plan on replacing at roughly the time frame shown below. Evaluate fence as remaining useful life approaches zero years and adjust life accordingly.

Chain link fencing is generally a low maintenance item. Inspect periodically and repair as needed. If corrosion is observed, apply rust inhibitor to prevent corrosion from decreasing the useful life.

Useful Life:
50 years

Remaining Life:
11 years



Best Case: \$25,200

Worst Case: \$33,600

\$18/Lin Ft, Lower allowance to replace

\$24/Lin Ft, Higher allowance to replace

Cost Source: ARI Cost Database: Similar Project Cost History

Client: 29010A Lake Forest Home Association

Comp # : 155 Fence: Chain Link - Replace Quantity: ~ 730 Lin Ft
Location : Partial perimeter of open area tract and stormwater pond at South end of property
Funded? : Yes

History : Reportedly installed around 1993

Evaluation : Majority of chain link fence at open area tract and stormwater pond appeared in fair condition, some rust and corrosion, but no significant damage or instability.

For financial planning purposes, plan on replacing at roughly the time frame shown below. Evaluate fence as remaining useful life approaches zero years and adjust life accordingly.

Chain link fencing is generally a low maintenance item. Inspect periodically and repair as needed. If corrosion is observed, apply rust inhibitor to prevent corrosion from decreasing the useful life.

Useful Life:
50 years

Remaining Life:
27 years



Best Case: \$13,100

Worst Case: \$17,500

\$18/Lin Ft, Lower allowance to replace

\$24/Lin Ft, Higher allowance to replace

Cost Source: ARI Cost Database: Similar Project Cost History

Client: 29010A Lake Forest Home Association

Comp # : 156 **Rockery - Repair/Replace** Quantity: Moderate area

Location : Adjacent to dock at lake park

Funded? : No Useful life not predictable, repair/replace as needed out of operating budget

History : Reportedly updated in 2012

Evaluation : Rockery was reportedly updated in 2012 to help maintain shoreline.

At this time, no large scale repairs or replacements are predictable. Funding can be added to future reserve studies if conditions dictate.

Inspect regularly and repair as needed. If movement or other problems are suspected, consult with an engineer (geo-technical) for evaluation and repair recommendations.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source: Does not meet NRSS criteria for reserve funding

Client: 29010A Lake Forest Home Association

Comp # : 157 **Concrete Retaining Walls - Maintain** Quantity: ~ 260 Lin Ft

Location : Adjacent to dock at lake park

Funded? : No Useful life not predictable, repair/replace as needed out of operating budget

History : No history reported

Evaluation : Our limited observation revealed no signs of the concrete walls being out of plumb or having large scale cracking and spalling. Analysis of a retaining wall is beyond the scope of a reserve study. If problems, including shifting, leaning, or cracking are observed or suspected, consult with an engineer (structural, civil, and/or geo-technical) for evaluation and repair recommendations. No reported problems at this time.

At this time, no large scale repairs or replacements are predictable. Funding can be added to future reserve studies if conditions dictate.

No information was provided to us concerning how the retaining wall was designed or constructed. Observation of drainage was not possible. Proper drainage on the uphill side prevents a backlog of water (water, if present, can add substantial weight and pressure to the wall). A backlog of water, if left unchecked, could damage or break the wall. Interior of drainage lines or pipes (if any) can be viewed by video using a remote miniature camera. Clean out the drain lines as often as needed to prevent decreased drainage. See component # 182 Drainage/Stormwater Sys for additional information.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source: Does not meet NRSS criteria for reserve funding

Client: 29010A Lake Forest Home Association

Comp # : 158 Wood Retaining Wall - Replace Quantity: ~ 200 Sq Ft

Location : Adjacent to walkway leading to dock

Funded? : Yes

History : Reportedly built in 1997

Evaluation : This retaining wall is constructed of horizontal logs buried in the hill side and is showing significant signs of deterioration.

Life expectancies of the types of walls can vary greatly depending on type of wood used, soil type and drainage. Moisture will eventually penetrate the wood and cause deterioration; therefore, we recommend regular inspections by a professional engineer as analysis of retaining wall systems is beyond the scope of our services. Best to plan for replacement soon, a basic allowance is shown below (assumed to be replaced with wood timbers), replacement cost may vary greatly depending on actual scope of work.

Useful Life:

20 years

Remaining Life:

1 years



Best Case: \$4,000

Worst Case: \$6,000

\$20/Sq Ft, Lower allowance to replace

\$30/Sq Ft, Higher allowance to replace

Cost Source: ARI Cost Database: Similar Project Cost History

Comp # : 160 Pole Lights - Replace Quantity: (62) metal assemblies

Location : Adjacent to roadways throughout community

Funded? : No Maintained by Puget Sound Energy's Intolight program

History : Random replacement reported over the years

Evaluation : It is our understanding that pole lights are now leased and maintained by Puget Sound Energy's Intolight program. Therefore, reserve funding is not required under this pattern of care.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source: Does not meet NRSS criteria for reserve funding

Client: 29010A Lake Forest Home Association

Comp # : 164 Monument Lights - Replace Quantity: (6) assorted fixtures

Location : Landscaped areas in front of entry monuments and top corners of monuments

Funded? : No Cost projected to be too small for reserve funding

History : No history reported

Evaluation : Observed during daylight hours and assumed to be functional.

Small total quantity and individual replacement costs typically not at reserve funding threshold therefore not suitable for reserve funding. Anticipate repairs/replacements as needed as part of annual operating budget.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source: Does not meet NRSS criteria for reserve funding

Comp # : 170 Landscape - Refurbish Quantity: Common area landscaping

Location : Common area open spaces throughout community

Funded? : Yes

History : Last reported significant plant/landscape refurbishment was 2009

Evaluation : Overall fair condition of landscaping noted with no specific problems observed.

In our experience, landscape components will eventually need to be refurbished. Although ongoing maintenance needs are typically funded within operating budget; this component may be utilized for setting aside funds for larger expenses that do not occur on an annual basis, such as: large scale plantings, turf renovation, bark or mulch replacement, drainage improvements, etc... Allowance shown below for partial landscape refurbishment - monitor actual expenses over time and adjust in reserve study updates as indicated.

Useful Life:

10 years

Remaining Life:

3 years



Best Case: \$4,000

Worst Case: \$6,000

Lower allowance to partially refurbish common area landscaping

Higher allowance to partially refurbish common area landscaping

Cost Source: ARI Cost Database: Similar Project Cost History

Client: 29010A Lake Forest Home Association

Comp # : 175 Irrigation System - Repair/Replace Quantity: Common irrigation

Location : Adjacent to North entry

Funded? : No Annual costs, best handled in operational budget

History : Reportedly installed in 2004

Evaluation : Our visual observation of the irrigation system was limited as the majority of system components are below grade. No reports of repairs or problems. At the time of this study, no information (plans and/or specifications) was provided to us regarding the extent of the irrigation system.

No predictable large scale costs at this time. The Association did not request an allowance be included for future reserve projects.

As routine maintenance, inspect, test, and repair system as needed from operating budget. Follow proper winterization and spring startup procedures. If properly installed and bedded without defect, the lines could last for many years. Controls for the system can vary greatly in number, cost, and life expectancy. Without additional information, these costs are not predictable. Other elements (i.e. sprinkler heads, valves) within this system are generally lower cost and have a failure rate that is difficult to predict. These elements are better suited to be handled through the maintenance and operating budget, not reserves.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source: Does not meet NRSS criteria for reserve funding

Client: 29010A Lake Forest Home Association

Comp # : 182 Drainage/Stormwater Sys - Maintain Quantity: Common drainage

Location : Common areas, hidden

Funded? : No Useful life not predictable, repair/replace as needed out of operating budget

History : Drainage was reportedly worked on in 2010/2011

Evaluation : Analysis of the drainage system is beyond the scope of a reserve study as the vast majority of the drainage systems are located below ground. No problems were reported to us.

No predictable large scale repairs/replacement at this time. Local repairs should be performed as part of general maintenance. If problems become known from professional evaluation, funding can be included in future reserve studies.

As routine maintenance, inspect regularly and keep drains/grates free of debris to ensure water drains as intended. Maintenance schedules on stormwater systems depend on the condition of the system itself and the amount of sediment and debris moving around on site. Evaluation of drainage can include the visual review of interior drain lines by use of miniature remote camera. Clean out drain lines as often as needed in order to prevent decreased drainage capacity. Repair as needed.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source: Does not meet NRSS criteria for reserve funding

Client: 29010A Lake Forest Home Association

Comp # : 185 **Stormwater Ponds - Clean/Refurbish** Quantity: (10) assorted sizes
Location : Common area
Funded? : Yes

History : Stormwater ponds were reportedly excavated and repaired in 2010/2011

Evaluation : Storm water facilities are assumed to be in functional operating condition, no current problems reported.

Ongoing maintenance program and close inspection is essential for performance and anticipating timing of sediment removal. We assume ongoing vegetation and debris control as a routine maintenance procedure. Guidelines for maintaining these systems are typically found on governing authority's (i.e. county or city) website. We recommend compliance with any and all governmental regulations regarding these areas.

Even with proactive cleanings/inspections, debris will eventually build up and warranting sediment removal. Reconstruction to original design parameters per Department of Ecology guidelines may be necessary. Best to plan for sediment removal and repair of storm water facilities at roughly the interval shown below; facilities should be professionally assessed before this time for more detailed guidance.

Useful Life:
15 years

Remaining Life:
10 years



Best Case: \$8,000

Worst Case: \$12,000

Lower periodic funding for larger work at stormwater facilities

Higher periodic funding for larger work at stormwater facilities

Cost Source: ARI Cost Database: Similar Project Cost History

Client: 29010A Lake Forest Home Association

Comp # : 190 **Trees - Trim/Remove**

Quantity: Numerous, assorted

Location : Throughout common areas

Funded? : Yes

History : Ongoing tree service reported

Evaluation : There are approximately (50) trees (various sizes) that reportedly will need to be removed, but only 5 to 6 need to be removed now.

Reserve funding recommend at level indicated below for periodic, larger tree removal/trimming needs. Track actual expenses and adjust in reserve study updates as indicated.

Useful Life:
3 years

Remaining Life:
0 years



Best Case: \$2,500

Worst Case: \$3,500

Lower allowance for periodic maintenance

Higher allowance for periodic maintenance

Cost Source: ARI Cost Database: Similar Project Cost History

Comp # : 200 **Entry Monuments - Maintain**

Quantity: (2) masonry

Location : Entry locations

Funded? : No Useful life not predictable, repair/replace as needed out of operating budget

History : No history reported

Evaluation : Entry monuments appear to be in stable condition with no significant damage or deterioration observed.

Durable and typically long lived materials if not damaged or abused. No expectation of large scale expenses impacting reserves at this time, no reserve funding suggested.

Inspect regularly, clean for appearance and repair, if needed, from operating budget.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source: Does not meet NRSS criteria for reserve funding

Client: 29010A Lake Forest Home Association

Comp # : 201 Wood Sign - Maintain Quantity: (1) wood sign

Location : Adjacent to lake park entrance

Funded? : No Annual costs, best handled in operational budget

History : End posts were recently replaced

Evaluation : Carved wood sign appeared in fair condition with some typical deterioration, but no major damage.

We recommend repairing and repainting on as needed basis, funded through maintenance budget. No reserve funding suggested at this time.

Note: if association desires total replacement at some point, funding can be incorporated in future reserve study update.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source: Does not meet NRSS criteria for reserve funding

Comp # : 205 Mailboxes - Replace Quantity: ~ (419) individual boxes

Location : Adjacent to roadways within community

Funded? : No Board suggests owner's responsibility, not Association

History : No history reported

Evaluation : We were informed by the Board that mailboxes are the responsibility of the individual unit owner to maintain, repair and replace. Therefore, reserve funding is not required.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source: Does not meet NRSS criteria for reserve funding

Client: 29010A Lake Forest Home Association

Comp # : 340 Play Equipment - Replace

Quantity: (3) assorted pieces

Location : Lake park

Funded? : Yes

History : No history reported

Evaluation : Dated in appearance and in need of paint, metal swing set, slide and jungle gym appeared to be in stable condition.

Although original play equipment is sturdy and built to last, eventual upgrades/replacement will be necessary. Best to plan for regular cycles of replacement at roughly the time frame indicated below.

Inspect regularly for structural integrity, stability, damage, and excessive wear. Utilize maintenance funds for any repairs needed between replacement cycles.

Useful Life:
30 years

Remaining Life:
10 years



Best Case: \$25,000

Worst Case: \$35,000

Lower allowance to replace with commercial grade

Higher allowance to replace

Cost Source: ARI Cost Database: Similar Project Cost History

Comp # : 342 Bike Rack - Replace

Quantity: (1) metal rack

Location : Adjacent to pavillion at park

Funded? : No Cost projected to be too small for reserve funding

History : No history reported

Evaluation : Fair, stable condition with no visible damage or instability and no problems reported.

This metal bike rack should last for an extended period with ordinary care and maintenance. Smaller cost item that can be replaced on an as needed basis, funded through the operating budget. No reserve funding required.

Inspect regularly to ensure stability and clean/repair as needed from operating funds.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source: Does not meet NRSS criteria for reserve funding

Client: 29010A Lake Forest Home Association

Comp # : 343 Pet Stations - Repair/Replace Quantity: ~ (5) stations

Location : Scattered common area locations

Funded? : No Cost projected to be too small for reserve funding

History : No history reported

Evaluation : Observed to be in fair, functional condition with minimal wear noted.

Lower cost component to maintain, too small to merit reserve funding; handle replacement/repairs out of operating expenses.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source: Does not meet NRSS criteria for reserve funding

Comp # : 345 Metal Tables/Bench - Replace Quantity: (5) tables, (1) bench

Location : Lake park

Funded? : No Useful life not predictable, repair/replace as needed out of operating budget

History : No history reported

Evaluation : Metal picnic tables and bench appear to be in good condition, no damage or deterioration observed.

Heavy duty, long lasting materials make it difficult to predict replacement cycles, no reserve funding recommended at this time. If replacement need becomes apparent, reserve funding may be added to future update.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source: Does not meet NRSS criteria for reserve funding

Client: 29010A Lake Forest Home Association

Comp # : 346 Composite Benches - Replace Quantity: (4) composite benches

Location : Lake park

Funded? : No Cost projected to be too small for reserve funding

History : No history reported

Evaluation : Fair, functional condition observed, no significant damage or deterioration noted.

Although eventual replacement will be warranted, basic benches are a smaller cost item to replace and can be handled through the operating/maintenance budget, no reserve funding required.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source: Does not meet NRSS criteria for reserve funding

Comp # : 348 Barbeques - Replace Quantity: (4) metal barbeques

Location : Lake park

Funded? : No Cost projected to be too small for reserve funding

History : No history reported

Evaluation : Fair, functional condition assumed. Sturdy metal barbecue stands should have a long useful life if not damaged or abused.

Too small of an expense to merit reserve funding status. Replace individually as needed using operating / maintenance funds.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source: Does not meet NRSS criteria for reserve funding

Client: 29010A Lake Forest Home Association

Comp # : 350 Pavilion Structure - Replace Quantity: (1) 42 x 22, wood framed
Location : Lake park
Funded? : No Annual costs, best handled in operational budget
History : Reportedly constructed in 1993
Evaluation : Fair, stable condition; no significant damage observed.

Inspect regularly and repair posts, beams, etc... as needed using operating funds. No expectation of large scale replacement if proactively maintained in this manner, therefore, no reserve funding recommended at this time.

Replace roof as part of component #355 and stain/paint as needed out of operating budget.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source: Does not meet NRSS criteria for reserve funding

Client: 29010A Lake Forest Home Association

Comp # : 355 Pavilion Roof - Replace

Quantity: ~ 1,400 Sq Ft

Location : Rooftop of park pavillion

Funded? : Yes

History : Reportedly re-roofed in 2007 at a cost of \$2,319

Evaluation : Pavilion roofing appears to be laminated asphalt shingles. No signs of water damage at underlying plywood observed. Roof surface was covered with fir needles.

Plan for replacement at roughly the time frame indicated below. Costs below include replacing with a similar shingle to what is currently in place.

As routine maintenance, many manufacturers recommend inspections at least twice annually (once in the fall, before the rainy season, and again in the spring) and after large storm events. Promptly replace any damaged/missing sections or any other repair needed to ensure waterproof integrity of roof. Keep roof surface clear and free of moss or debris. Moss growth can decrease the life of the roofing shingles and should be removed sooner than later. Liquid applied fungicide (moss killer) is recommended instead of power washing the living moss off the shingles. Do not use high pressure wash.

Useful Life:
15 years

Remaining Life:
6 years



Best Case: \$2,800

Worst Case: \$4,200

\$2.00/Sq Ft, Lower allowance to remove and replace roof

\$3.00/Sq Ft, Higher allowance to remove and replace roof

Cost Source: ARI Cost Database: Similar Project Cost History

Client: 29010A Lake Forest Home Association

Comp # : 358 **Bathroom - Replace** Quantity: (1) unit
Location : Adjacent to pavillion at lake park
Funded? : Yes

History : Reportedly replaced in 1996 due to arson
Evaluation : Park bathroom appeared functional, no problems reported.

Best to plan for regular cycles of replacement at roughly the time frame indicated below.

As routine maintenance, inspect/clean regularly and paint as needed.

Useful Life:
30 years

Remaining Life:
10 years



Best Case: \$2,500

Worst Case: \$3,500

Lower allowance to replace

Higher allowance to replace

Cost Source: ARI Cost Database: Similar Project Cost History

Client: 29010A Lake Forest Home Association

Comp # : 360 Dock Decking - Repair/Replace Quantity: ~ 850 Sq Ft (Trex)

Location : Deck surface boards

Funded? : Yes

History : Reportedly installed in 2003 at a cost of \$17,000

Evaluation : Generally fair condition with no significant damage, unusual or advanced wear noted.

This component factors in regular cycles of maintenance to repair/replace composite decking (due to typical deterioration) at 30-year intervals as shown below. Track actual costs and adjust in future reserve study update as needed.

As part of ongoing maintenance, inspect regularly and after storms and perform minor repair as needed from operating budget.

Useful Life:
30 years

Remaining Life:
17 years



Best Case: \$20,000

Worst Case: \$30,000

\$25/Sq Ft, Lower allowance to replace

\$35/Sq Ft, Higher allowance to replace

Cost Source: ARI Cost Database: Similar Project Cost History

Client: 29010A Lake Forest Home Association

Comp # : 365 Structure/Pilings - Repair/Replace

Quantity: ~ 850 Sq Ft, (6) pilings

Location : Pilings and underlayment below decking

Funded? : Yes

History : Last significant repair was completed in 2001

Evaluation : Analysis of underlying dock structure and piling system is beyond the scope of our services.

Due to past repair history and typical deterioration found in similar communities, we suggest planning for dock piling/underlayment repair and replacement at roughly the time frame indicated below, Remaining Useful Life is adjusted below to coincide with Trex decking replacement for cost efficiency (see previous component #360).

Inspect regularly and after storms and perform minor repair as needed from operating budget. Ongoing maintenance should include regular professional inspections by a qualified engineer.

Useful Life:
30 years

Remaining Life:
17 years



Best Case: \$42,500

Worst Case: \$59,500

\$50/Sq Ft, Lower allowance to repair/replace dock underlayment/pilings

\$70/Sq Ft, Higher allowance to repair/replace dock underlayment/pilings

Cost Source: ARI Cost Database: Similar Project Cost History

Client: 29010A Lake Forest Home Association

Comp # : 370 Piling Sleeves - Replace Quantity: (6) PVC sleeves

Location : Wrapped around dock pilings

Funded? : Yes

History : Reportedly installed in 2014

Evaluation : PVC piling sleeves appeared to be functioning as designed, no problems reported.

Sleeves are heavy plastic and designed to protect and help extend the useful life of the pilings beneath. Although long lasting material, best to plan for eventual replacement at the time frame indicated below.

As routine maintenance, inspect dock connections regularly and clean as needed.

Useful Life:
30 years

Remaining Life:
28 years



Best Case: \$3,500

Worst Case: \$4,500

Lower allowance to replace

Higher allowance to replace

Cost Source: Client Cost History, Adjusted for Inflation

Comp # : 375 Railing - Replace Quantity: ~ 33 Lin Ft

Location : Adjacent to dock entry and steps

Funded? : No Cost projected to be too small for reserve funding

History : Reportedly installed at time of dock repair in 2003

Evaluation : Railing consists of wood posts with Trex railing.

Due to limited amount of railing, replacement should be a smaller cost item and can be funded through the operating/maintenance budget or as part of large scale dock replacement/repair. No reserve funding required.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source: Does not meet NRSS criteria for reserve funding

Client: 29010A Lake Forest Home Association

Comp # : 999 Reserve Study - Update

Quantity: Annual update

Location : Common areas of association

Funded? : No Annual costs, best handled in operational budget

History : No prior reserve studies completed by Association Reserves

Evaluation : Per Washington law (RCW), reserve studies are to be updated annually, with site inspections by an independent reserve study professional to occur no less than every three years to assess changes in condition (i.e., physical, economic, governmental, etc...) and the resulting effect on the community's long-term reserve plan. Most appropriately factored within operating budget, not as reserve component.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source: Does not meet NRSS criteria for reserve funding
