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"Full" Reserve Study



Brownstone at Issaquah Highlands Issaquah, WA

Report #: 31320-0
For Period Beginning: January 1, 2021
Expires: December 31, 2021

Date Prepared: May 19, 2020



Hello, and welcome to your Reserve Study!

This 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.

With 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 or call us at:

253-661-5437



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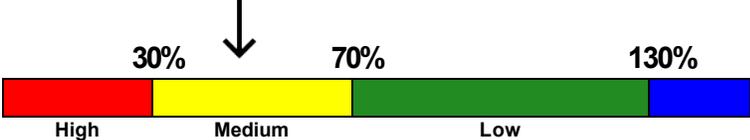
3- Minute Executive Summary

Association: Brownstone at Issaquah Highlands **Assoc. #: 31320-0**
Location: Issaquah, WA **# of Units: 176**
Report Period: January 1, 2021 through December 31, 2021

Findings/Recommendations as-of: January 1, 2021

Starting Reserve Balance	\$1,058,065
Current Fully Funded Reserve Balance	\$2,200,444
Percent Funded	48.1 %
Average Reserve (Deficit) or Surplus Per Unit	(\$6,491)
Recommended 2021 100% Monthly "Full Funding" Contributions	\$37,665
Recommended 2021 70% Monthly "Threshold Funding" Contributions	\$32,675
2021 "Alternate/Baseline Funding" minimum to keep Reserves above \$0	\$24,550
Most Recent Budgeted Contribution Rate	\$20,370

Reserves % Funded: 48.1%



Special Assessment Risk:

Economic Assumptions:

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

- This is a "Full" Reserve Study, meeting all requirements of the Revised Code of Washington (RCW). This study was prepared by, or under the supervision of a credentialed Reserve Specialist (RS™).
- Your Reserve Fund is currently 48.1 % Funded. This means the association’s special assessment & deferred maintenance risk is currently Medium. 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 budget Reserve Contributions to within the 70% to 100% range as noted above. The 100% “Full” and 70% contribution rates are designed to gradually achieve these funding objectives by the end of our 30-year report scope.
- No assets appropriate for Reserve designation known to be excluded. See appendix for component information and the basis of our assumptions. "Alternate Funding" in this report is synonymous with Baseline Funding, as defined within the RCW " to maintain the reserve account balance above zero throughout the thirty-year study period, without special assessments." Funding plan contribution rates are presented as an aggregate total, assuming average percentage of ownership. The actual ownership allocation may vary - refer to your governing documents.

# Component	Useful Life (yrs)	Rem. Useful Life (yrs)	Current Average Cost
Site/Grounds			
112 Site Rail - Repair/Replace	30	25	\$202,500
120 Asphalt - Resurface	30	25	\$65,850
121 Asphalt - Repair & Seal	5	0	\$6,000
142 Trellises - Repair/Replace	20	15	\$10,000
163 Bollard Lights - Replace	20	15	\$27,800
170 Landscape - Refurbish	12	7	\$3,000
175 Irrigation System - Repair	5	4	\$5,000
190 Trees - Trim/Remove & Replace	15	10	\$10,000
205 Mailboxes - Repair/Replace	25	19	\$32,100
Building Exteriors			
500 Roofs: Steep Slope - Replace	25	20	\$1,261,750
516 Gutters & Downspouts-Replace	25	20	\$235,350
522 Siding: Fiber Cement - Replace	50	45	\$4,373,950
533 Exterior Surfaces - Paint & Caulk	7	2	\$760,000
535 Windows & Sliding Doors	25	20	\$3,177,400
546 Composite Decks - Repair	30	25	\$725,700
555 Deck Rails - Repair/Replace	30	25	\$385,850
560 Exterior Lights - Repair/Replace	28	23	\$148,800
17 Total Funded Components			

Note 1: Yellow highlighted line items are expected to require attention in this initial year, green highlighted items are expected to occur within the first-five years.

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



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



RESERVE COMPONENT "FOUR-PART TEST"

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 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.



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 3/19/2020, we visually inspected all visible common areas, 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.

We strongly recommend the association practice regular cyclical inspections of the buildings and grounds. Walking through the community annually, identifying any repair needs, and completing repairs promptly will assist in prolonging the remaining useful life of the various community components. Regular maintenance, prompt repairs, and regular cyclical projects (painting, landscaping, etc) will protect the building components, and keep the community aesthetically pleasing. Ideally this will result in satisfied residents, and increased appeal for unit sales.

We also suggest the association conduct an annual survey of residents to identify issues that are not visible from the exteriors of the buildings. Problems like water leaks, mold, etc. should be investigated and remediated as soon as possible to avoid large, expensive repairs. See component #998 for additional information.



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.

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 the 30-yr Summary Table, while details of the projects that make up these expenses are shown in the Cash Flow Detail Table.

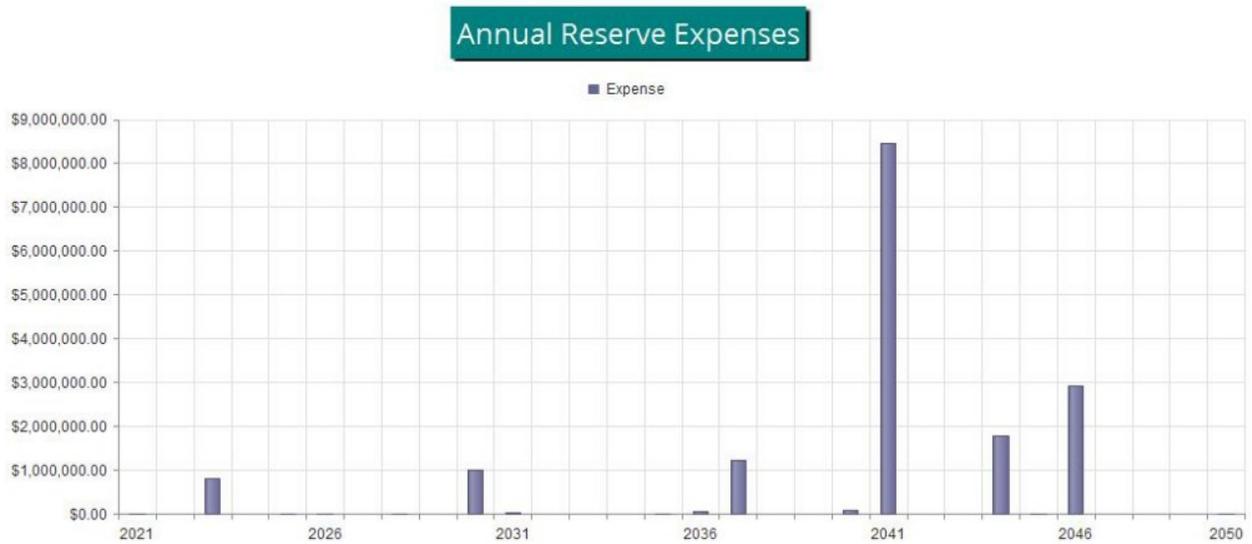


Figure 1

Reserve Fund Status

The starting point for our financial analysis is your Reserve Fund balance, projected to be \$1,058,065 as-of the start of your Fiscal Year on 1/1/2021. As of that date, your Fully Funded Balance is computed to be \$2,200,444 (see Fully Funded Balance Table). This figure represents the deteriorated value of your common area components.

Recommended Funding Plan

Based on your current Percent Funded and your near-term and long-term Reserve needs, we are recommending budgeted contributions of \$37,665 per month this Fiscal Year. The overall 30-yr plan, in perspective, is shown below. This same information is shown numerically in both the 30-yr Summary Table and the Cash Flow Detail Table.

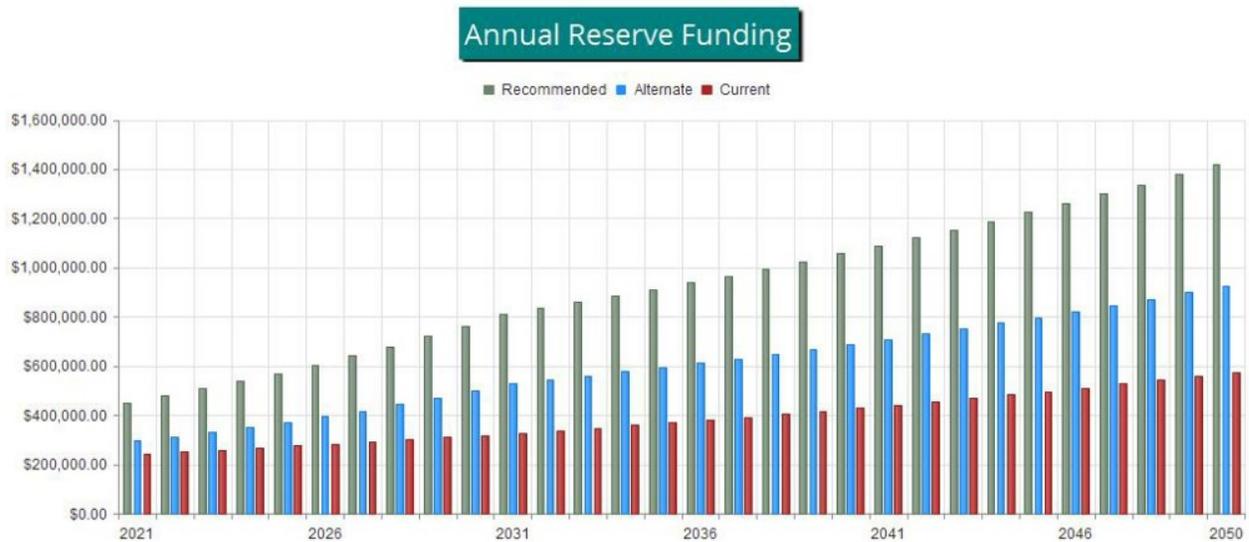


Figure 2

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 (assumes future increases), compared to your always-changing Fully Funded Balance target.

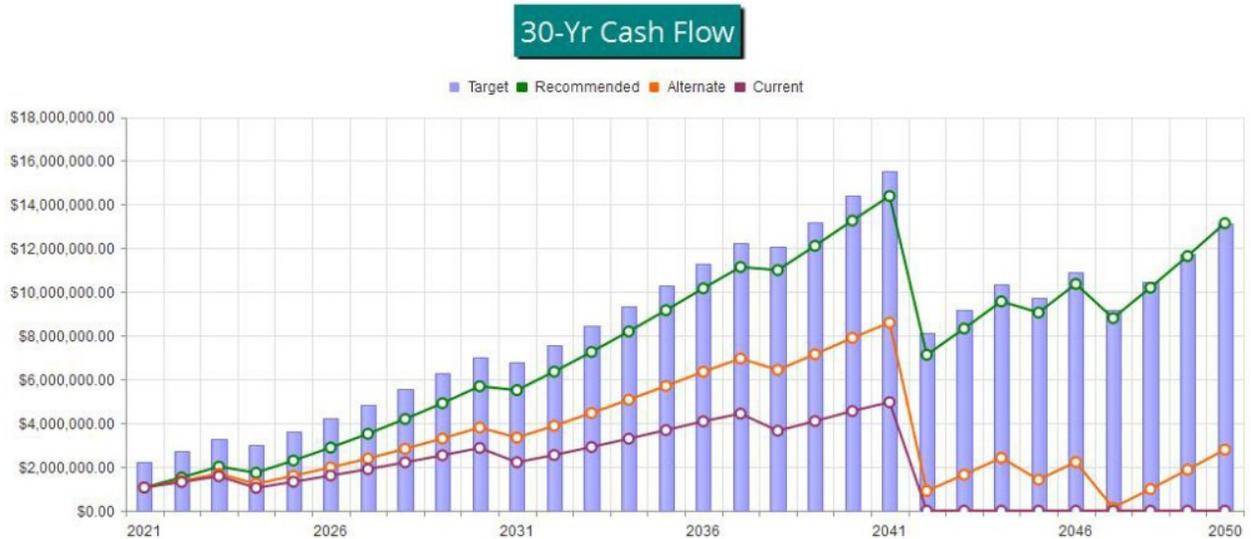


Figure 3

This figure shows the same information plotted on a Percent Funded scale. It is clear here to see how your Reserve Fund strength approaches the 100% Funded level under our recommended multi-yr Funding Plan.



Figure 4

Table Descriptions

Executive Summary is a summary of your Reserve Components

Reserve Component List Detail discloses key Component information, providing the foundation upon which the financial analysis is performed.

Fully Funded Balance shows the calculation of the Fully Funded Balance for each of your components, and their contributions to the property total. For each component, the Fully Funded Balance is the fraction of life used up multiplied by its estimated Current Replacement Cost.

Component Significance shows the relative significance of each component to Reserve funding needs of the property, 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 the estimated Current Replacement Cost by its Useful Life, then that component's percentage of the total is displayed.

30-Yr Reserve Plan Summary 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 at the beginning of each year.

30-Year Income/Expense Detail shows the detailed income and expenses for each of the next 30 years. This table makes it possible to see which components are projected to require repair or replacement in a particular year, and the size of those individual expenses.

# Component	Quantity	Useful Life	Rem. Useful Life	Current Cost Estimate		
				Best Case	Worst Case	
Site/Grounds						
112	Site Rail - Repair/Replace	~2,405 LF	30	25	\$190,000	\$215,000
120	Asphalt - Resurface	~23,900 SF	30	25	\$59,800	\$71,900
121	Asphalt - Repair & Seal	~23,900 SF	5	0	\$4,800	\$7,200
142	Trellises - Repair/Replace	2 ~14' wide x 12' tall	20	15	\$8,500	\$11,500
163	Bollard Lights - Replace	45 fixtures	20	15	\$23,600	\$32,000
170	Landscape - Refurbish	Shrubs, turf, etc.	12	7	\$2,500	\$3,500
175	Irrigation System - Repair	Heads, piping, etc.	5	4	\$4,200	\$5,800
190	Trees - Trim/Remove & Replace	Common trees	15	10	\$8,500	\$11,500
205	Mailboxes - Repair/Replace	13 clusters	25	19	\$27,300	\$36,900
Building Exteriors						
500	Roofs: Steep Slope - Replace	~218,480 SF comp shingle	25	20	\$1,141,600	\$1,381,900
516	Gutters & Downspouts-Replace	~25,440 LF metal	25	20	\$209,900	\$260,800
522	Siding: Fiber Cement - Replace	~233,900 SF	50	45	\$3,602,100	\$5,145,800
533	Exterior Surfaces - Paint & Caulk	~233,900 SF	7	2	\$700,000	\$820,000
535	Windows & Sliding Doors	2,919 windows & 66 doors	25	20	\$2,520,700	\$3,834,100
546	Composite Decks - Repair	~20,130 SF	30	25	\$616,800	\$834,600
555	Deck Rails - Repair/Replace	~3,355 LF	30	25	\$352,300	\$419,400
560	Exterior Lights - Repair/Replace	1,032 fixtures	28	23	\$126,500	\$171,100
17 Total Funded Components						

#	Component	Current Cost Estimate	X	Effective Age	/	Useful Life	=	Fully Funded Balance
Site/Grounds								
112	Site Rail - Repair/Replace	\$202,500	X	5	/	30	=	\$33,750
120	Asphalt - Resurface	\$65,850	X	5	/	30	=	\$10,975
121	Asphalt - Repair & Seal	\$6,000	X	5	/	5	=	\$6,000
142	Trellises - Repair/Replace	\$10,000	X	5	/	20	=	\$2,500
163	Bollard Lights - Replace	\$27,800	X	5	/	20	=	\$6,950
170	Landscape - Refurbish	\$3,000	X	5	/	12	=	\$1,250
175	Irrigation System - Repair	\$5,000	X	1	/	5	=	\$1,000
190	Trees - Trim/Remove & Replace	\$10,000	X	5	/	15	=	\$3,333
205	Mailboxes - Repair/Replace	\$32,100	X	6	/	25	=	\$7,704
Building Exteriors								
500	Roofs: Steep Slope - Replace	\$1,261,750	X	5	/	25	=	\$252,350
516	Gutters & Downspouts-Replace	\$235,350	X	5	/	25	=	\$47,070
522	Siding: Fiber Cement - Replace	\$4,373,950	X	5	/	50	=	\$437,395
533	Exterior Surfaces - Paint & Caulk	\$760,000	X	5	/	7	=	\$542,857
535	Windows & Sliding Doors	\$3,177,400	X	5	/	25	=	\$635,480
546	Composite Decks - Repair	\$725,700	X	5	/	30	=	\$120,950
555	Deck Rails - Repair/Replace	\$385,850	X	5	/	30	=	\$64,308
560	Exterior Lights - Repair/Replace	\$148,800	X	5	/	28	=	\$26,571
								\$2,200,444

Component Significance

31320-0
Full

#	Component	Useful Life (yrs)	Current Cost Estimate	Deterioration Cost/Yr	Deterioration Significance
Site/Grounds					
112	Site Rail - Repair/Replace	30	\$202,500	\$6,750	1.53 %
120	Asphalt - Resurface	30	\$65,850	\$2,195	0.50 %
121	Asphalt - Repair & Seal	5	\$6,000	\$1,200	0.27 %
142	Trellises - Repair/Replace	20	\$10,000	\$500	0.11 %
163	Bollard Lights - Replace	20	\$27,800	\$1,390	0.32 %
170	Landscape - Refurbish	12	\$3,000	\$250	0.06 %
175	Irrigation System - Repair	5	\$5,000	\$1,000	0.23 %
190	Trees - Trim/Remove & Replace	15	\$10,000	\$667	0.15 %
205	Mailboxes - Repair/Replace	25	\$32,100	\$1,284	0.29 %
Building Exteriors					
500	Roofs: Steep Slope - Replace	25	\$1,261,750	\$50,470	11.45 %
516	Gutters & Downspouts-Replace	25	\$235,350	\$9,414	2.14 %
522	Siding: Fiber Cement - Replace	50	\$4,373,950	\$87,479	19.85 %
533	Exterior Surfaces - Paint & Caulk	7	\$760,000	\$108,571	24.64 %
535	Windows & Sliding Doors	25	\$3,177,400	\$127,096	28.84 %
546	Composite Decks - Repair	30	\$725,700	\$24,190	5.49 %
555	Deck Rails - Repair/Replace	30	\$385,850	\$12,862	2.92 %
560	Exterior Lights - Repair/Replace	28	\$148,800	\$5,314	1.21 %
17	Total Funded Components			\$440,632	100.00 %

30-Year Reserve Plan Summary

31320-0
Full

Fiscal Year Start: 2021

Interest: 1.00 %

Inflation: 3.00 %

Reserve Fund Strength Calculations: (All values of Fiscal Year Start Date)	Projected Reserve Balance Changes
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Year	Starting Reserve Balance	Fully Funded Balance	Percent Funded	Special Assmt Risk	% Increase		Loan or Special Assmts	Interest Income	Reserve Expenses
					In Annual Reserve Contribs.	Reserve Contribs.			
2021	\$1,058,065	\$2,200,444	48.1 %	Medium	84.90 %	\$451,980	\$0	\$12,869	\$6,000
2022	\$1,516,914	\$2,714,129	55.9 %	Medium	6.00 %	\$479,099	\$0	\$17,645	\$0
2023	\$2,013,659	\$3,263,019	61.7 %	Medium	6.00 %	\$507,845	\$0	\$18,730	\$806,284
2024	\$1,733,949	\$3,011,928	57.6 %	Medium	6.00 %	\$538,315	\$0	\$20,123	\$0
2025	\$2,292,388	\$3,598,221	63.7 %	Medium	6.00 %	\$570,614	\$0	\$25,867	\$5,628
2026	\$2,883,242	\$4,211,184	68.5 %	Medium	6.00 %	\$604,851	\$0	\$31,968	\$6,956
2027	\$3,513,106	\$4,856,493	72.3 %	Low	6.00 %	\$641,142	\$0	\$38,513	\$0
2028	\$4,192,761	\$5,544,110	75.6 %	Low	6.00 %	\$679,611	\$0	\$45,515	\$3,690
2029	\$4,914,197	\$6,264,812	78.4 %	Low	6.00 %	\$720,387	\$0	\$52,986	\$0
2030	\$5,687,571	\$7,027,681	80.9 %	Low	6.00 %	\$763,611	\$0	\$55,959	\$998,151
2031	\$5,508,989	\$6,802,589	81.0 %	Low	6.00 %	\$809,427	\$0	\$59,301	\$21,503
2032	\$6,356,215	\$7,594,456	83.7 %	Low	3.00 %	\$833,710	\$0	\$68,042	\$0
2033	\$7,257,967	\$8,450,526	85.9 %	Low	3.00 %	\$858,721	\$0	\$77,227	\$0
2034	\$8,193,915	\$9,351,125	87.6 %	Low	3.00 %	\$884,483	\$0	\$86,758	\$0
2035	\$9,165,157	\$10,298,154	89.0 %	Low	3.00 %	\$911,018	\$0	\$96,611	\$7,563
2036	\$10,165,222	\$11,285,799	90.1 %	Low	3.00 %	\$938,348	\$0	\$106,490	\$68,239
2037	\$11,141,821	\$12,261,172	90.9 %	Low	3.00 %	\$966,499	\$0	\$110,659	\$1,219,577
2038	\$10,999,402	\$12,101,141	90.9 %	Low	3.00 %	\$995,494	\$0	\$115,500	\$0
2039	\$12,110,396	\$13,214,321	91.6 %	Low	3.00 %	\$1,025,358	\$0	\$126,811	\$0
2040	\$13,262,565	\$14,383,402	92.2 %	Low	3.00 %	\$1,056,119	\$0	\$138,187	\$70,316
2041	\$14,386,555	\$15,538,309	92.6 %	Low	3.00 %	\$1,087,803	\$0	\$107,529	\$8,453,504
2042	\$7,128,383	\$8,117,055	87.8 %	Low	3.00 %	\$1,120,437	\$0	\$77,239	\$0
2043	\$8,326,059	\$9,204,864	90.5 %	Low	3.00 %	\$1,154,050	\$0	\$89,440	\$0
2044	\$9,569,549	\$10,350,635	92.5 %	Low	3.00 %	\$1,188,671	\$0	\$93,097	\$1,793,595
2045	\$9,057,722	\$9,709,465	93.3 %	Low	3.00 %	\$1,224,331	\$0	\$97,092	\$10,164
2046	\$10,368,982	\$10,912,866	95.0 %	Low	3.00 %	\$1,261,061	\$0	\$95,820	\$2,922,705
2047	\$8,803,159	\$9,180,129	95.9 %	Low	3.00 %	\$1,298,893	\$0	\$94,961	\$0
2048	\$10,197,012	\$10,434,304	97.7 %	Low	3.00 %	\$1,337,860	\$0	\$109,159	\$0
2049	\$11,644,031	\$11,755,468	99.1 %	Low	3.00 %	\$1,377,996	\$0	\$123,897	\$0
2050	\$13,145,924	\$13,146,510	100.0 %	Low	3.00 %	\$1,419,336	\$0	\$139,134	\$11,783

30-Year Reserve Plan Summary (Alternate Funding Plan)

31320-0
Full

Fiscal Year Start: 2021

Interest:

1.00 %

Inflation:

3.00 %

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

Projected Reserve Balance Changes

Year	Starting Reserve Balance	Fully Funded Balance	Percent Funded	Special Assmt Risk	% Increase		Loan or Special Assmts	Interest Income	Reserve Expenses
					In Annual Reserve Contribs.	Reserve Contribs.			
2021	\$1,058,065	\$2,200,444	48.1 %	Medium	20.52 %	\$294,600	\$0	\$12,079	\$6,000
2022	\$1,358,744	\$2,714,129	50.1 %	Medium	6.00 %	\$312,276	\$0	\$15,218	\$0
2023	\$1,686,238	\$3,263,019	51.7 %	Medium	6.00 %	\$331,013	\$0	\$14,553	\$806,284
2024	\$1,225,520	\$3,011,928	40.7 %	Medium	6.00 %	\$350,873	\$0	\$14,074	\$0
2025	\$1,590,467	\$3,598,221	44.2 %	Medium	6.00 %	\$371,926	\$0	\$17,818	\$5,628
2026	\$1,974,583	\$4,211,184	46.9 %	Medium	6.00 %	\$394,241	\$0	\$21,782	\$6,956
2027	\$2,383,650	\$4,856,493	49.1 %	Medium	6.00 %	\$417,896	\$0	\$26,045	\$0
2028	\$2,827,591	\$5,544,110	51.0 %	Medium	6.00 %	\$442,969	\$0	\$30,612	\$3,690
2029	\$3,297,483	\$6,264,812	52.6 %	Medium	6.00 %	\$469,548	\$0	\$35,485	\$0
2030	\$3,802,516	\$7,027,681	54.1 %	Medium	6.00 %	\$497,721	\$0	\$35,686	\$998,151
2031	\$3,337,771	\$6,802,589	49.1 %	Medium	6.00 %	\$527,584	\$0	\$36,073	\$21,503
2032	\$3,879,925	\$7,594,456	51.1 %	Medium	3.00 %	\$543,411	\$0	\$41,707	\$0
2033	\$4,465,044	\$8,450,526	52.8 %	Medium	3.00 %	\$559,714	\$0	\$47,667	\$0
2034	\$5,072,424	\$9,351,125	54.2 %	Medium	3.00 %	\$576,505	\$0	\$53,853	\$0
2035	\$5,702,782	\$10,298,154	55.4 %	Medium	3.00 %	\$593,800	\$0	\$60,235	\$7,563
2036	\$6,349,254	\$11,285,799	56.3 %	Medium	3.00 %	\$611,614	\$0	\$66,514	\$68,239
2037	\$6,959,143	\$12,261,172	56.8 %	Medium	3.00 %	\$629,963	\$0	\$66,950	\$1,219,577
2038	\$6,436,478	\$12,101,141	53.2 %	Medium	3.00 %	\$648,861	\$0	\$67,920	\$0
2039	\$7,153,260	\$13,214,321	54.1 %	Medium	3.00 %	\$668,327	\$0	\$75,218	\$0
2040	\$7,896,805	\$14,383,402	54.9 %	Medium	3.00 %	\$688,377	\$0	\$82,436	\$70,316
2041	\$8,597,302	\$15,538,309	55.3 %	Medium	3.00 %	\$709,028	\$0	\$47,468	\$8,453,504
2042	\$900,295	\$8,117,055	11.1 %	High	3.00 %	\$730,299	\$0	\$12,713	\$0
2043	\$1,643,307	\$9,204,864	17.9 %	High	3.00 %	\$752,208	\$0	\$20,287	\$0
2044	\$2,415,802	\$10,350,635	23.3 %	High	3.00 %	\$774,774	\$0	\$19,152	\$1,793,595
2045	\$1,416,133	\$9,709,465	14.6 %	High	3.00 %	\$798,018	\$0	\$18,184	\$10,164
2046	\$2,222,170	\$10,912,866	20.4 %	High	3.00 %	\$821,958	\$0	\$11,772	\$2,922,705
2047	\$133,196	\$9,180,129	1.5 %	High	3.00 %	\$846,617	\$0	\$5,591	\$0
2048	\$985,403	\$10,434,304	9.4 %	High	3.00 %	\$872,016	\$0	\$14,279	\$0
2049	\$1,871,698	\$11,755,468	15.9 %	High	3.00 %	\$898,176	\$0	\$23,315	\$0
2050	\$2,793,189	\$13,146,510	21.2 %	High	3.00 %	\$925,121	\$0	\$32,648	\$11,783

30-Year Income/Expense Detail

31320-0
Full

Fiscal Year	2021	2022	2023	2024	2025
Starting Reserve Balance	\$1,058,065	\$1,516,914	\$2,013,659	\$1,733,949	\$2,292,388
Annual Reserve Contribution	\$451,980	\$479,099	\$507,845	\$538,315	\$570,614
Recommended Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$12,869	\$17,645	\$18,730	\$20,123	\$25,867
Total Income	\$1,522,914	\$2,013,659	\$2,540,233	\$2,292,388	\$2,888,869
# Component					
Site/Grounds					
112 Site Rail - Repair/Replace	\$0	\$0	\$0	\$0	\$0
120 Asphalt - Resurface	\$0	\$0	\$0	\$0	\$0
121 Asphalt - Repair & Seal	\$6,000	\$0	\$0	\$0	\$0
142 Trellises - Repair/Replace	\$0	\$0	\$0	\$0	\$0
163 Bollard Lights - Replace	\$0	\$0	\$0	\$0	\$0
170 Landscape - Refurbish	\$0	\$0	\$0	\$0	\$0
175 Irrigation System - Repair	\$0	\$0	\$0	\$0	\$5,628
190 Trees - Trim/Remove & Replace	\$0	\$0	\$0	\$0	\$0
205 Mailboxes - Repair/Replace	\$0	\$0	\$0	\$0	\$0
Building Exteriors					
500 Roofs: Steep Slope - Replace	\$0	\$0	\$0	\$0	\$0
516 Gutters & Downspouts-Replace	\$0	\$0	\$0	\$0	\$0
522 Siding: Fiber Cement - Replace	\$0	\$0	\$0	\$0	\$0
533 Exterior Surfaces - Paint & Caulk	\$0	\$0	\$806,284	\$0	\$0
535 Windows & Sliding Doors	\$0	\$0	\$0	\$0	\$0
546 Composite Decks - Repair	\$0	\$0	\$0	\$0	\$0
555 Deck Rails - Repair/Replace	\$0	\$0	\$0	\$0	\$0
560 Exterior Lights - Repair/Replace	\$0	\$0	\$0	\$0	\$0
Total Expenses	\$6,000	\$0	\$806,284	\$0	\$5,628
Ending Reserve Balance	\$1,516,914	\$2,013,659	\$1,733,949	\$2,292,388	\$2,883,242

Fiscal Year	2026	2027	2028	2029	2030
Starting Reserve Balance	\$2,883,242	\$3,513,106	\$4,192,761	\$4,914,197	\$5,687,571
Annual Reserve Contribution	\$604,851	\$641,142	\$679,611	\$720,387	\$763,611
Recommended Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$31,968	\$38,513	\$45,515	\$52,986	\$55,959
Total Income	\$3,520,061	\$4,192,761	\$4,917,887	\$5,687,571	\$6,507,141
# Component					
Site/Grounds					
112 Site Rail - Repair/Replace	\$0	\$0	\$0	\$0	\$0
120 Asphalt - Resurface	\$0	\$0	\$0	\$0	\$0
121 Asphalt - Repair & Seal	\$6,956	\$0	\$0	\$0	\$0
142 Trellises - Repair/Replace	\$0	\$0	\$0	\$0	\$0
163 Bollard Lights - Replace	\$0	\$0	\$0	\$0	\$0
170 Landscape - Refurbish	\$0	\$0	\$3,690	\$0	\$0
175 Irrigation System - Repair	\$0	\$0	\$0	\$0	\$6,524
190 Trees - Trim/Remove & Replace	\$0	\$0	\$0	\$0	\$0
205 Mailboxes - Repair/Replace	\$0	\$0	\$0	\$0	\$0
Building Exteriors					
500 Roofs: Steep Slope - Replace	\$0	\$0	\$0	\$0	\$0
516 Gutters & Downspouts-Replace	\$0	\$0	\$0	\$0	\$0
522 Siding: Fiber Cement - Replace	\$0	\$0	\$0	\$0	\$0
533 Exterior Surfaces - Paint & Caulk	\$0	\$0	\$0	\$0	\$991,628
535 Windows & Sliding Doors	\$0	\$0	\$0	\$0	\$0
546 Composite Decks - Repair	\$0	\$0	\$0	\$0	\$0
555 Deck Rails - Repair/Replace	\$0	\$0	\$0	\$0	\$0
560 Exterior Lights - Repair/Replace	\$0	\$0	\$0	\$0	\$0
Total Expenses	\$6,956	\$0	\$3,690	\$0	\$998,151
Ending Reserve Balance	\$3,513,106	\$4,192,761	\$4,914,197	\$5,687,571	\$5,508,989

Fiscal Year	2031	2032	2033	2034	2035
Starting Reserve Balance	\$5,508,989	\$6,356,215	\$7,257,967	\$8,193,915	\$9,165,157
Annual Reserve Contribution	\$809,427	\$833,710	\$858,721	\$884,483	\$911,018
Recommended Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$59,301	\$68,042	\$77,227	\$86,758	\$96,611
Total Income	\$6,377,718	\$7,257,967	\$8,193,915	\$9,165,157	\$10,172,785
# Component					
Site/Grounds					
112 Site Rail - Repair/Replace	\$0	\$0	\$0	\$0	\$0
120 Asphalt - Resurface	\$0	\$0	\$0	\$0	\$0
121 Asphalt - Repair & Seal	\$8,063	\$0	\$0	\$0	\$0
142 Trellises - Repair/Replace	\$0	\$0	\$0	\$0	\$0
163 Bollard Lights - Replace	\$0	\$0	\$0	\$0	\$0
170 Landscape - Refurbish	\$0	\$0	\$0	\$0	\$0
175 Irrigation System - Repair	\$0	\$0	\$0	\$0	\$7,563
190 Trees - Trim/Remove & Replace	\$13,439	\$0	\$0	\$0	\$0
205 Mailboxes - Repair/Replace	\$0	\$0	\$0	\$0	\$0
Building Exteriors					
500 Roofs: Steep Slope - Replace	\$0	\$0	\$0	\$0	\$0
516 Gutters & Downspouts-Replace	\$0	\$0	\$0	\$0	\$0
522 Siding: Fiber Cement - Replace	\$0	\$0	\$0	\$0	\$0
533 Exterior Surfaces - Paint & Caulk	\$0	\$0	\$0	\$0	\$0
535 Windows & Sliding Doors	\$0	\$0	\$0	\$0	\$0
546 Composite Decks - Repair	\$0	\$0	\$0	\$0	\$0
555 Deck Rails - Repair/Replace	\$0	\$0	\$0	\$0	\$0
560 Exterior Lights - Repair/Replace	\$0	\$0	\$0	\$0	\$0
Total Expenses	\$21,503	\$0	\$0	\$0	\$7,563
Ending Reserve Balance	\$6,356,215	\$7,257,967	\$8,193,915	\$9,165,157	\$10,165,222

Fiscal Year	2036	2037	2038	2039	2040
Starting Reserve Balance	\$10,165,222	\$11,141,821	\$10,999,402	\$12,110,396	\$13,262,565
Annual Reserve Contribution	\$938,348	\$966,499	\$995,494	\$1,025,358	\$1,056,119
Recommended Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$106,490	\$110,659	\$115,500	\$126,811	\$138,187
Total Income	\$11,210,060	\$12,218,979	\$12,110,396	\$13,262,565	\$14,456,871
# Component					
Site/Grounds					
112 Site Rail - Repair/Replace	\$0	\$0	\$0	\$0	\$0
120 Asphalt - Resurface	\$0	\$0	\$0	\$0	\$0
121 Asphalt - Repair & Seal	\$9,348	\$0	\$0	\$0	\$0
142 Trellises - Repair/Replace	\$15,580	\$0	\$0	\$0	\$0
163 Bollard Lights - Replace	\$43,311	\$0	\$0	\$0	\$0
170 Landscape - Refurbish	\$0	\$0	\$0	\$0	\$5,261
175 Irrigation System - Repair	\$0	\$0	\$0	\$0	\$8,768
190 Trees - Trim/Remove & Replace	\$0	\$0	\$0	\$0	\$0
205 Mailboxes - Repair/Replace	\$0	\$0	\$0	\$0	\$56,288
Building Exteriors					
500 Roofs: Steep Slope - Replace	\$0	\$0	\$0	\$0	\$0
516 Gutters & Downspouts-Replace	\$0	\$0	\$0	\$0	\$0
522 Siding: Fiber Cement - Replace	\$0	\$0	\$0	\$0	\$0
533 Exterior Surfaces - Paint & Caulk	\$0	\$1,219,577	\$0	\$0	\$0
535 Windows & Sliding Doors	\$0	\$0	\$0	\$0	\$0
546 Composite Decks - Repair	\$0	\$0	\$0	\$0	\$0
555 Deck Rails - Repair/Replace	\$0	\$0	\$0	\$0	\$0
560 Exterior Lights - Repair/Replace	\$0	\$0	\$0	\$0	\$0
Total Expenses	\$68,239	\$1,219,577	\$0	\$0	\$70,316
Ending Reserve Balance	\$11,141,821	\$10,999,402	\$12,110,396	\$13,262,565	\$14,386,555

Fiscal Year	2041	2042	2043	2044	2045
Starting Reserve Balance	\$14,386,555	\$7,128,383	\$8,326,059	\$9,569,549	\$9,057,722
Annual Reserve Contribution	\$1,087,803	\$1,120,437	\$1,154,050	\$1,188,671	\$1,224,331
Recommended Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$107,529	\$77,239	\$89,440	\$93,097	\$97,092
Total Income	\$15,581,887	\$8,326,059	\$9,569,549	\$10,851,317	\$10,379,146
# Component					
Site/Grounds					
112 Site Rail - Repair/Replace	\$0	\$0	\$0	\$0	\$0
120 Asphalt - Resurface	\$0	\$0	\$0	\$0	\$0
121 Asphalt - Repair & Seal	\$10,837	\$0	\$0	\$0	\$0
142 Trellises - Repair/Replace	\$0	\$0	\$0	\$0	\$0
163 Bollard Lights - Replace	\$0	\$0	\$0	\$0	\$0
170 Landscape - Refurbish	\$0	\$0	\$0	\$0	\$0
175 Irrigation System - Repair	\$0	\$0	\$0	\$0	\$10,164
190 Trees - Trim/Remove & Replace	\$0	\$0	\$0	\$0	\$0
205 Mailboxes - Repair/Replace	\$0	\$0	\$0	\$0	\$0
Building Exteriors					
500 Roofs: Steep Slope - Replace	\$2,278,861	\$0	\$0	\$0	\$0
516 Gutters & Downspouts-Replace	\$425,068	\$0	\$0	\$0	\$0
522 Siding: Fiber Cement - Replace	\$0	\$0	\$0	\$0	\$0
533 Exterior Surfaces - Paint & Caulk	\$0	\$0	\$0	\$1,499,926	\$0
535 Windows & Sliding Doors	\$5,738,738	\$0	\$0	\$0	\$0
546 Composite Decks - Repair	\$0	\$0	\$0	\$0	\$0
555 Deck Rails - Repair/Replace	\$0	\$0	\$0	\$0	\$0
560 Exterior Lights - Repair/Replace	\$0	\$0	\$0	\$293,670	\$0
Total Expenses	\$8,453,504	\$0	\$0	\$1,793,595	\$10,164
Ending Reserve Balance	\$7,128,383	\$8,326,059	\$9,569,549	\$9,057,722	\$10,368,982

Fiscal Year	2046	2047	2048	2049	2050
Starting Reserve Balance	\$10,368,982	\$8,803,159	\$10,197,012	\$11,644,031	\$13,145,924
Annual Reserve Contribution	\$1,261,061	\$1,298,893	\$1,337,860	\$1,377,996	\$1,419,336
Recommended Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$95,820	\$94,961	\$109,159	\$123,897	\$139,134
Total Income	\$11,725,863	\$10,197,012	\$11,644,031	\$13,145,924	\$14,704,394
# Component					
Site/Grounds					
112 Site Rail - Repair/Replace	\$423,990	\$0	\$0	\$0	\$0
120 Asphalt - Resurface	\$137,875	\$0	\$0	\$0	\$0
121 Asphalt - Repair & Seal	\$12,563	\$0	\$0	\$0	\$0
142 Trellises - Repair/Replace	\$0	\$0	\$0	\$0	\$0
163 Bollard Lights - Replace	\$0	\$0	\$0	\$0	\$0
170 Landscape - Refurbish	\$0	\$0	\$0	\$0	\$0
175 Irrigation System - Repair	\$0	\$0	\$0	\$0	\$11,783
190 Trees - Trim/Remove & Replace	\$20,938	\$0	\$0	\$0	\$0
205 Mailboxes - Repair/Replace	\$0	\$0	\$0	\$0	\$0
Building Exteriors					
500 Roofs: Steep Slope - Replace	\$0	\$0	\$0	\$0	\$0
516 Gutters & Downspouts-Replace	\$0	\$0	\$0	\$0	\$0
522 Siding: Fiber Cement - Replace	\$0	\$0	\$0	\$0	\$0
533 Exterior Surfaces - Paint & Caulk	\$0	\$0	\$0	\$0	\$0
535 Windows & Sliding Doors	\$0	\$0	\$0	\$0	\$0
546 Composite Decks - Repair	\$1,519,455	\$0	\$0	\$0	\$0
555 Deck Rails - Repair/Replace	\$807,884	\$0	\$0	\$0	\$0
560 Exterior Lights - Repair/Replace	\$0	\$0	\$0	\$0	\$0
Total Expenses	\$2,922,705	\$0	\$0	\$0	\$11,783
Ending Reserve Balance	\$8,803,159	\$10,197,012	\$11,644,031	\$13,145,924	\$14,692,611

Accuracy, Limitations, and Disclosures

"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."

Association Reserves and its employees have no ownership, management, or other business relationships with the client other than this Reserve Study engagement. James Talaga, company President, is a credentialed Reserve Specialist (#066). All work done by Association Reserves WA, LLC is performed under his responsible charge and is performed in accordance with National Reserve Study Standards (NRSS). There are no material issues to our knowledge that have not been disclosed to the client that would cause a distortion of the client's situation.

Per NRSS, information provided by official representative(s) of the client, vendors, and suppliers regarding financial details, component physical details and/or quantities, or historical issues/conditions will be deemed reliable, and is not intended to be used for the purpose of any type of audit, quality/forensic analysis, or background checks of historical records. As such, information provided to us has not been audited or independently verified.

Estimates for interest and inflation have been included, because including such estimates are more accurate than ignoring them completely. When we are hired to prepare Update reports, the client is considered to have deemed those previously developed component quantities as accurate and reliable, whether established by our firm or other individuals/firms (unless specifically mentioned in our Site Inspection Notes). During inspections our company standard is to establish measurements within 5% accuracy, and our scope includes visual inspection of accessible areas and components and does not include any destructive or other testing. Our work is done only for budget purposes. Uses or expectations outside our expertise and scope of work include, but are not limited to: project audit, quality inspection, and the identification of construction defects, hazardous materials, or dangerous conditions. Identifying hidden issues such as but not limited to, plumbing or electrical problems are also outside our scope of work. Our estimates assume proper original installation & construction, adherence to recommended preventive maintenance, a stable economic environment, and do not consider frequency or severity of natural disasters. Our opinions of component Useful Life, Remaining Useful Life, and current or future cost estimates are not a warranty or guarantee of actual costs or timing.

Because the physical and financial status of the property, legislation, the economy, weather, owner expectations, and usage are all in a continual state of change over which we have no control, we do not expect that the events projected in this document will all occur exactly as planned. This Reserve Study is by nature a "one-year" document in need of being updated annually so that more accurate estimates can be incorporated. It is only because a long-term perspective improves the accuracy of near-term planning that this Report projects expenses into the future. We fully expect a number of adjustments will be necessary through the interim years to the cost and timing of expense projections and the funding necessary to prepare for those estimated expenses.

In this engagement our compensation is not contingent upon our conclusions, and our 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.
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 the "30-yr Income/Expense Detail" table.
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 Component Details appendix is to provide the reader with the basis of our funding assumptions resulting from our research and analysis. The information presented here represents a wide range of components that were observed and measured against National Reserve Study Standards to determine if they meet the criteria for reserve funding.

- 1) Common area repair & replacement responsibility
- 2) Component must have a limited useful life
- 3) Life limit must be predictable
- 4) Above a minimum threshold cost (board's discretion – typically ½ to 1% of Annual operating expenses).

Not all your components may have been found appropriate for reserve funding. In our judgment, the components meeting the above four criteria are shown with the Useful Life (how often the project is expected to occur), Remaining Useful Life (when the next instance of the expense will be) and representative market cost range termed “Best Cost” and “Worst Cost”. There are many factors that can result in a wide variety of potential costs, and we have attempted to present the cost range in which your actual expense will occur.

Where no Useful Life, Remaining Useful Life, or pricing exists, the component was deemed inappropriate for Reserve Funding.

Site/Grounds

Comp #: 100 Concrete - Maintain/Repair

Quantity: Extensive quantity

Location: The sidewalks, curbs, driveways, planters, benches, stairs, and walkways throughout the community.

Funded?: No.

History: Installed 2016.

Comments: Concrete appeared in overall stable condition. A few localized areas of cracking/breaking concrete were noted at crosswalks.

Annual repair needs below the reserve funding threshold (1% or more of total annual expenses) should be factored in the operating budget. In our experience, larger repair/replacement expenses may emerge as the community ages that cannot be comfortably absorbed in the operating budget. Currently, it is difficult to predict timing, scope and costs of larger repairs. Monitor concrete annually and if conditions deteriorate leading to larger repair needs, funding can be included within a reserve study update.

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

Additional Resources:

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

http://www.sakrete.com/media-center/blog-detail.cfm/bp_alias/Placing-Concrete-in-hot-or-cold-weather

<http://www.concretenetwork.com/cold-weather-concrete/weather.html>

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

Comp #: 106 Gravel Areas - Refurbish

Quantity: Moderate quantity

Location: The common area on the east side of the community.

Funded?: No. Costs are best handled with operating funds.

History: Installed 2016.

Comments: Fair coverage with no major depressions observed. Profile and drainage appear adequate. Refurbish as needed utilizing operating funds. Track history and expenses, and if warranted, funding can be added to this component in future reserve studies.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

Comp #: 112 Site Rail - Repair/Replace

Quantity: ~2,405 LF

Location: The community walkways and stairs, including the entrances to units.

Funded?: Yes. The useful life is not predictable.

History: Installed 2016.

Comments: The site rails appeared to be in good condition, with no areas of instability or damage noted during our limited visual review.

Routinely inspect for stability, security, and appearance. Repair locally as needed as part of general maintenance.

Useful Life:
30 years

Remaining Life:
25 years



Best Case: \$ 190,000

Worst Case: \$ 215,000

Lower Allowance

Higher Allowance

Cost Source: ARI Cost Database: Similar Project Cost History

Comp #: 120 Asphalt - Resurface

Quantity: ~23,900 SF

Location: The community roadways.

Funded?: Yes.

History: Installed 2016.

Comments: Generally stable condition, with no widespread problems (cracking, excessive wear, alligator cracking) observed during our limited visual review.

Useful life below assumes regular seal coating and repairs (see component #121). The lack of seal coating and repairs can greatly decrease the asphalt's useful life. Resurfacing is typically one of the larger expense items in a reserve study. When need to resurface is apparent within a couple of years, consult with geotechnical engineer for recommendations, specifications/scope of work and project oversight.

As routine maintenance, keep surfaces clean and free of debris, ensure that drains are free flowing, repair cracks, and clean oil stains promptly. Assuming proactive maintenance, plan to resurface at roughly the time frame below.

Resources:

Pavement Surface Condition Field Rating Manual for Asphalt Pavement:

<https://www.wsdot.wa.gov/publications/manuals/fulltext/m0000/AsphaltPavements.pdf>

Washington Asphalt Pavement Association: <http://www.asphaltwa.com/>

Useful Life:
30 years

Remaining Life:
25 years



Best Case: \$ 59,800

Worst Case: \$ 71,900

Lower Allowance

Higher Allowance

Cost Source: ARI Cost Database: Similar Project Cost History

Comp #: 121 Asphalt - Repair & Seal

Quantity: ~23,900 SF

Location: The community roadways.

Funded?: Yes.

History: Installed 2016.

Comments: Generally, the surface condition of the asphalt coating appeared to be absent during our visual review.

Regular cycles of seal coating, along with needed repairs is a best practice for the long term care of lower traffic asphalt areas to extend the useful life.

The State of Washington Department of Transportation (WSDOT) recommends regular cycles of seal coating for the long-term care of asphalt paving with low traffic and low speed. The primary reason to seal coat asphalt pavement is to protect the pavement from the deteriorating effects of sun and water. When asphalt pavement is exposed, the asphalt oxidizes or hardens, and this causes the pavement to become increasingly brittle. As a result, the pavement will become more likely to crack, as it is unable to bend and flex when subjected to traffic (weight) and temperature changes (thermal expansion and contraction). A seal coat combats this situation by providing a waterproof membrane, which not only slows down the oxidation process, but also helps the pavement shed water. Seal coating also provides uniform appearance, and conceals the inevitable patching and repairs which accumulate over time, ultimately extending the useful life of asphalt before more costly resurfacing is needed (see component #120).

Repairing asphalt before seal coating is imperative. Surface preparation and dry weather during and following application is key to lasting performance.

Resources:

Best Practices Handbook on Asphalt Pavement Maintenance: <http://www.cee.mtu.edu/~balkire/CE5403/AsphaltPaveMaint.pdf>

For a general overview of Asphalt Seal Coat Treatments review this publication:

<https://www.wsdot.wa.gov/research/reports/fullreports/136.1.pdf>

Other references: <http://www.pavementinteractive.org/article/bituminous-surface-treatments/>

Useful Life:
5 years

Remaining Life:
0 years



Best Case: \$ 4,800

Worst Case: \$ 7,200

Lower Allowance

Higher Allowance

Cost Source: ARI Cost Database: Similar Project Cost History

Comp #: 142 Trellises - Repair/Replace

Quantity: 2 ~14' wide x 12' tall

Location: The east-west central walkway.

Funded?: Yes.

History: Installed 2016.

Comments: Wood trellis had wood columns, and wood framing. Wood was painted. No significant deterioration or damage was observed, however, one post was noted to have a crack run its length. No access was provided to the top of the trellis, which is typically where the deterioration is most common.

Expect to replace wood at roughly the time frame shown below. Evaluate as remaining useful life approaches zero years, and adjust life accordingly.

Inspect periodically, and repair as needed. Clean and paint/stain as part of the exterior surfaces paint work (component #533), or as a general maintenance item. Consider installing a metal cap flashing at the top of the wood framing to extend useful life.

Useful Life:
20 years

Remaining Life:
15 years



Best Case: \$ 8,500

Worst Case: \$ 11,500

Lower Allowance

Higher Allowance

Cost Source: ARI Cost Database: Similar Project Cost History

Comp #: 157 Retaining Walls - Replace (a)

Quantity: Common retainage

Location: Scattered throughout the community.

Funded?: No. The useful life is not predictable.

History: Installed 2016.

Comments: Our limited observation revealed no signs of the concrete wall being extremely 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) 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 for additional information. Utilize mobile evacuator service if needed. Inspect regularly, and repair as needed using the operating budget.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

Comp #: 158 Retaining Walls - Replace (b)

Quantity: 3 large stone

Location: The south and west community perimeters along Highlands Dr NE and NE Discovery Dr.

Funded?: No. Reported to be the responsibility of Issaquah Highlands High Street Association.

History: None known.

Comments: Three large retaining walls align the west and south perimeters of the community. An Easement Agreement For Maintenance of Retaining Walls filed with the King County Recorder's Office (recording #20140122000704) appears to indicate maintenance, repair, and replacement of the retaining walls is the responsibility of Issaquah Highlands High Street Association. The agreement further appears to indicate Brownstone at Issaquah Highlands is responsible for maintaining the landscaping adjacent to the walls.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

Comp #: 160 Pole Lights - Repair/Replace

Quantity: 58 fixtures

Location: Throughout the community.

Funded?: No. Reported to be the responsibility of Puget Sound Energy.

History: Installed 2016.

Comments: Pole lights appeared in good condition with no obvious damage or other problems noted. Observed during daylight hours, so lights are assumed to be in functional operating condition.

It was reported the street lights are the responsibility of Puget Sound Energy to maintain, repair, and replace.

As routine maintenance, inspect, and report any issues to Puget Sound Energy via one of the options below (pole number and address needed). Where possible, take precautions to limit damage from landscaping equipment.

Puget Sound Energy Street Light Problems:

Phone: 888-225-5773

Web: <https://www.pse.com/outage/report-street-light-outage>

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

Comp #: 163 Bollard Lights - Replace

Quantity: 45 fixtures

Location: Along the walkways throughout the community.

Funded?: Yes.

History: Installed 2016.

Comments: Good condition noted with no significant damage/deterioration observed or reported to us. Observed during daylight hours, and assumed to be in functional operating condition.

Best to plan for eventual large scale replacement at roughly the time frame below. Lighting is most efficiently replaced as a grouping to maintain a consistent appearance and quality, and for cost efficiency, as multiple trip charges for an electrician erase any savings by replacing sporadically. Check with local utility before replacing any group of lights, as energy savings rebate programs may be available.

As routine maintenance, inspect, and repair/change bulbs as needed. Some local replacement may be needed from time to time; use general maintenance & repair funds.

Useful Life:
20 years

Remaining Life:
15 years



Best Case: \$ 23,600

Worst Case: \$ 32,000

Lower Allowance

Higher Allowance

Cost Source: Infalted Internet Research: 2020 Light Poles Plus ~\$600/fixture

Comp #: 165 Grounds Lighting - Repair/Replace

Quantity: 5 fixtures

Location: The perimeters of the east-west central walkway.

Funded?: No. Costs are best handled with operating funds.

History: None known.

Comments: Good condition noted with no significant damage/deterioration observed or reported to us. Observed during daylight hours, so assumed to be in functional operating condition.

As routine maintenance, inspect, change bulbs, and repair/replace as needed utilizing operating funds. If large scale replacement becomes necessary, or the association opts to install an extensive quantity of additional grounds lighting, funding can be added to this component in future reports.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

Comp #: 170 Landscape - Refurbish

Quantity: Shrubs, turf, etc.

Location: Throughout the community.

Funded?: Yes.

History: Installed 2016.

Comments: The landscape is in generally healthy and maturing condition.

Currently, landscaping maintenance is funded out of the operating budget. As associations age, many find the need or desire for larger scale refurbish projects not covered within the maintenance contract, and they allocate funds within reserves. These types of projects can include: bed renovations, major replanting, large scale bark or mulch replacements, turf renovations, drainage improvements, irrigation system extensions/replacement, etc.

Walk area each year with landscape contractor, and perhaps a landscape architect, to assess the overall health, function, and future needs of maintenance and refurbish to determine if supplemental reserve funding should be planned for.

Useful Life:
12 years

Remaining Life:
7 years



Best Case: \$ 2,500

Worst Case: \$ 3,500

Lower Allowance

Higher Allowance

Cost Source: ARI Cost Database: Similar Project Cost History

Comp #: 171 Artificial Turf - Maintain/Replace

Quantity: ~600 SF

Location: Brooklyn Walk NE.

Funded?: No. The useful life is not predictable.

History: Installed 2016.

Comments: The artificial turf was noted to be in fair condition. No tears, rips, or extensive wear was noted.

Inspect regularly, and repair/replace, as needed, with operating funds.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

Comp #: 175 Irrigation System - Repair

Quantity: Heads, piping, etc.

Location: Throughout the landscaped areas of the community.

Funded?: Yes.

History: Prior repairs.

Comments: Our visual observation of the irrigation system was limited as the majority of system components are below grade. It was reported the association has completed repairs over the past few years due to failed piping and connections. At the time of this study, no information (plans and/or specifications) was provided to us regarding the extent of the irrigation system.

Funding is included below for partial repairs/replacement, as needed. Have your landscaper or irrigation specialist periodically unearth sections to check lines for any damage or deterioration. PVC can eventually become brittle and leak (typically not before the 40 year mark of life). Track history and expenses, and adjust accordingly in future reports.

As routine maintenance, inspect, test, and repair the system, as needed, utilizing general landscaping funds when possible. 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 - typically each controller is less than \$500. Other elements (i.e. sprinkler heads, valves) within this system are generally lower cost, and have a failure rate that is difficult to predict.

Useful Life:
5 years

Remaining Life:
4 years



Best Case: \$ 4,200

Worst Case: \$ 5,800

Lower Allowance

Higher Allowance

Cost Source: ARI Cost Database: Similar Project Cost History

Comp #: 182 Drainage & Stormwater - Maintain

Quantity: Catchbasins, drains, etc.

Location: Throughout the community.

Funded?: No. The useful life is not predictable.

History: None known.

Comments: 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. Observations were very limited to catch basin areas. 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. Stormwater inspections usually consist of inspecting the catch basins and manholes, ensuring vaults and control structures are properly functioning. Evaluation of drainage can include the visual review of interior drain lines by use of miniature remote camera. Clean out drain lines and basins as often as needed in order to prevent decreased drainage capacity. Repair as needed. The responsibility of keeping the stormwater system in good working order falls on the association.

King County Surface Water Management: <https://your.kingcounty.gov/dnrp/library/water-and-land/stormwater/surface-water-management-infographic.pdf>

King County Runoff Pollution & How to Reduce It: <https://www.kingcounty.gov/services/environment/water-and-land/stormwater/introduction/stormwater-runoff.aspx>

City of Issaquah Stormwater Drainage Maintenance: <https://www.issaquahwa.gov/1238/Stormwater-Drainage-Maintenance>

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

Comp #: 190 Trees - Trim/Remove & Replace

Quantity: Common trees

Location: Throughout the community.

Funded?: Yes.

History: Planted 2016.

Comments: No specific problems observed or reported at this time. Trees are generally maturing throughout the community.

This component may be utilized for larger tree removal/trimming projects which do not occur on an annual basis. If the community has not already done so, consult with a qualified arborist to assess the appropriateness of current plantings, and for a long term plan for the care and management of the trees within the community, balancing aesthetic with protection of association assets. Tree roots can be damaging to walkways, irrigation, underground utilities, and building structure. Track actual expenses, and adjust in reserve study updates if needed.

Useful Life:
15 years

Remaining Life:
10 years



Best Case: \$ 8,500

Worst Case: \$ 11,500

Lower Allowance

Higher Allowance

Cost Source: ARI Cost Database: Similar Project Cost History

Comp #: 200 Brick Monuments - Repair

Quantity: Common brickwork

Location: Scattered throughout the community.

Funded?: No. The useful life is not predictable.

History: Installed 2016.

Comments: No spalling or cracking of brick and mortar was noted in the areas observed during our limited visual review.

Brick is typically a relatively low maintenance material that usually requires little maintenance work. At about 50 years of age the mortar (between bricks) can require repointing (or tuck pointing). Repointing is needed when the mortar cracks and provides a path for water infiltration. Repointing involves grinding out small sections of existing mortar, installing new mortar, and continuing on until all the failed mortar has been replaced. As the brick and mortar ages, cracking may appear, indicating need for re-pointing. Periodic thorough investigation/testing of brick and mortar by masonry specialists is prudent.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

Comp #: 201 Community Signage

Quantity: Common signage

Location: Community markers and maps, and road and walkway signs throughout the community.

Funded?: No. Treat as operating item, per occurrence

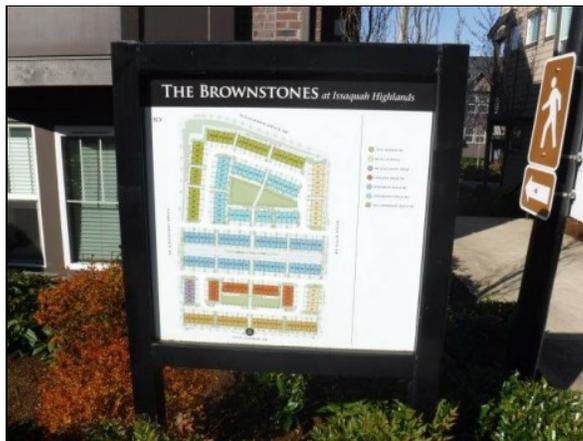
History: Installed 2016.

Comments: During our site visit, we noted that the community signage was in good condition. No expectation to replace all at once, cyclically.

As routine maintenance, inspect regularly, clean, and touch up for appearance. Repair and replace, as needed, with operating funds. If simultaneously full replacement becomes warranted, funding can be added to this component in future reports.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

Comp #: 205 Mailboxes - Repair/Replace

Quantity: 13 clusters

Location: The north and south ends of Chelsea Walk NE & Brooklyn Walk NE.

Funded?: Yes.

History: Installed 2015.

Comments: Mailboxes appeared in good condition. Mailboxes are not protected from the rain by a structure.

In our experience, it is best to plan for total replacement at roughly the time frame below due to constant usage and wear over time.

As routine maintenance, inspect regularly, clean by wiping down for appearance, change lock cylinders, lubricate hinges, and repair as needed from operating budget.

Useful Life:
25 years

Remaining Life:
19 years



Best Case: \$ 27,300

Worst Case: \$ 36,900

Lower Allowance

Higher Allowance

Cost Source: Inflated Internet Research: 2020 Florence Mailboxes ~\$2,400/cluster

Comp #: 215 Pet Stations - Maintain/Replace

Quantity: Moderate quantity

Location: Scattered throughout the community.

Funded?: No. Costs are best handled with operating funds.

History: None known.

Comments: During our site visit, we noted the pet waste stations were in stable and functioning condition.

As routine maintenance, inspect regularly, clean, stock bags, and touch up for appearance. Repair/replace with operating funds. Track history and expenses, and if it becomes warranted, funding can be added to this component.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

Comp #: 221 Bike Racks - Maintain/Replace

Quantity: 4 metal units

Location: Scattered throughout the community.

Funded?: No. The useful life is not predictable.

History: Installed 2016.

Comments: The metal bike racks were noted to be in stable condition. Racks are painted.

Inspect regularly for stability, and paint as needed with operating funds. Repair/replace with operating funds. If costs are warranted, or desire to install additional racks arises, funding can be added to this component in future reports.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

Comp #: 226 Site Furniture - Repair/Replace

Quantity: 18 benches & 4 trashcans

Location: Scattered throughout the community.

Funded?: No. The useful life is not predictable.

History: Installed 2016.

Comments: Generally good, stable condition of metal benches and trashcan with no significant damage or deterioration observed.

Inspect regularly, and repair as needed. Clean with an appropriate cleaner (refinish if desired) using general maintenance funds.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

Building Exteriors

Comp #: 500 Roofs: Steep Slope - Replace

Quantity: ~218,480 SF comp shingle

Location: The rooftops of the buildings.

Funded?: Yes.

History: Prior repairs; installed 2016.

Comments: Generally good condition of field observed during our limited visual review. Ventilation (the lack of which can greatly reduce the roof's useful life) was observed at eave and ridge. Eave venting consisted of three and four circular holes in blocking between rafters. Ridge venting appeared to be provided by gable end louvers and roof jacks. Visible portions of roof flashing were observed at the rake, headwall, sidewall, and valleys. Diverter (kick-out) flashing was observed. Gutters blocked the view of eaves, so eave flashing was not confirmed. Debris and moss was not observed on the roof surface. A reserve study conducts a limited visual review for budget purposes, and many of the critical waterproofing and ventilation items of the roof are not readily viewable. For a full evaluation have a professional roof consultant/contractor perform a thorough up-close survey of your entire roof system, including attic inspection (if any). It was reported roof repairs were completed in the last few years due to improper installation. The site developer reimbursed the association for the repair costs.

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 the roof. Keep the roof surface, gutters, and downspouts clear and free of moss or debris.

At the time of re-roofing, we recommend that you hire a professional consultant to evaluate the existing roof, specify the new roof materials/design, and provide installation oversight. We recommend that all Associations hire qualified consultants whenever they are considering having work performed on any building envelope (waterproofing) components including; roof, walls, windows, decks, exterior painting, and caulking/sealant.

There is a wealth of information available through Roofing Organizations such as:
National Roofing Contractors Association (NRCA) <http://www.nrca.net>.
Asphalt Roofing Manufacturers Association (ARMA) <http://www.asphaltroofing.org/>
Roof Consultant Institute (RCI) <http://www.rci-online.org>
Western States Roofing Contractors Association (WSRCA) <http://www.wsrca.com/>
Roofing Contractors Association of Washington: <https://rcaw.com/Homeowners>

Useful Life:
25 years

Remaining Life:
20 years



Best Case: \$ 1,141,600

Worst Case: \$ 1,381,900

Lower Allowance

Higher Allowance

Cost Source: ARI Cost Database: Similar Project Cost History

Comp #: 516 Gutters & Downspouts-Replace

Quantity: ~25,440 LF metal

Location: The perimeters of the buildings.

Funded?: Yes.

History: Installed 2016.

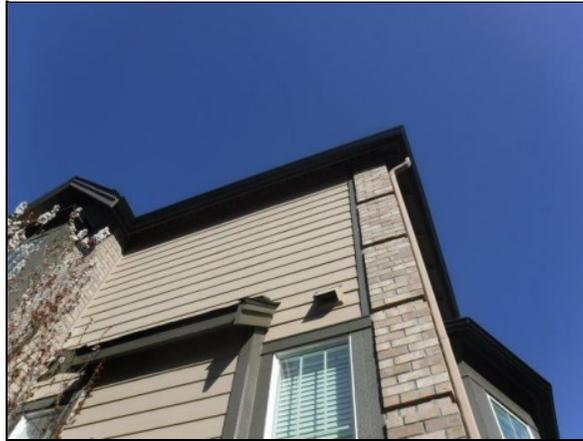
Comments: Based on our limited visual inspection, metal gutters and downspouts appeared in good condition.

We recommend planning for a total replacement of gutter and downspouts at the same intervals as roof replacement for cost efficiency. Evaluate at the time of the project to determine if replacement or re-use is the better value.

As routine maintenance, inspect regularly, and keep gutters and downspouts free of debris.

Useful Life:
25 years

Remaining Life:
20 years



Best Case: \$ 209,900

Worst Case: \$ 260,800

Lower Allowance

Higher Allowance

Cost Source: ARI Cost Database: Similar Project Cost History

Comp #: 522 Siding: Fiber Cement - Replace

Quantity: ~233,900 SF

Location: The exterior walls of the buildings.

Funded?: Yes.

History: Installed 2016.

Comments: Siding is horizontal clapboard and board and batten. Surface is painted, see component #533 for exterior painting. Actual manufacturer of the siding was not confirmed. No view of the critical underlying waterproofing was available as part of our limited visual review.

Replacement may ultimately be needed due to the failure of the underlying waterproofing degrading over the decades, and/or the end of the useful life of the siding materials from general aging. Many factors influence the useful life, including exposure to (or protection from) wind driven rain, and the quality of the waterproofing and flashing beneath the siding. Evaluate the siding and the critical underlying waterproofing (typically building paper or house-wrap) more frequently as the remaining useful life approaches zero years. Adjust remaining useful life as dictated by the evaluation. Align with window replacement for cost efficiencies and building envelope integrity when practical. Inspect annually and repair locally as needed using general maintenance funds.

The leading manufacture of fiber-cement siding (James Hardie Siding) currently provides either a 30-year non-prorated or 50-year prorated limited warranty on their products. Local James Hardie representative suggests planning for ~50-year total service life of siding.

Note: Rehabilitative construction projects with associated costs are equal to or greater than 5% of the assessed value of the units must comply with the requirements of RCW 64.55. <http://app.leg.wa.gov/rcw/default.aspx?cite=64.55> These requirements include building enclosure design documents with waterproofing details by an architect or engineer, and independent oversight during construction to verify compliance with those details.

Project costs can vary depending upon materials chosen and the condition of the underlying structural framing when exposed. We recommend the Board conduct research well in advance in order to define scope, timing and costs, including plan for some margin of contingency.

Useful Life:
50 years

Remaining Life:
45 years



Best Case: \$ 3,602,100

Worst Case: \$ 5,145,800

Lower Allowance

Higher Allowance

Cost Source: ARI Cost Database: Similar Project Cost History

Comp #: 530 Brick Work - Maintain/Repoint

Quantity: ~80,050 SF

Location: The exterior walls of the buildings.

Funded?: No. The useful life is not predictable.

History: Installed 2016.

Comments: No spalling or cracking of brick and mortar was noted in the areas observed during our limited visual review. No view of the critical underlying waterproofing was available.

Brick is typically a relatively low maintenance material that usually requires little maintenance work. At about 50 years of age the mortar (between bricks) can require re-pointing (or tuck pointing). Re-pointing is needed when the mortar cracks and provides a path for water infiltration. Water can infiltrate through a crack in the mortar if it is 1/64 of an inch or more. Re-pointing involves grinding out small sections of existing mortar, installing new mortar, and continuing on until all the failed mortar has been replaced. As the brick and mortar ages, cracking may appear, indicating need for re-pointing. A reserve study's limited visual review is for general financial planning purposes only. Periodic thorough investigation / testing of brick and mortar by masonry specialists is prudent.

If water infiltration occurs, it can be either through cracks or by absorption of water into and through the mortar and or brick. A sealer (clear) can be applied to limit the amount of water that is absorbed into the brick and mortar. Sealers can be effective if water penetration is through the mortar and brick, and not by cracks or other open pathways. We recommend that the Board conducts research prior to the starting of this project to better define timing and costs (scope of work, material specifications, etc.), in addition to other projects with potentially high costs.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

Comp #: 533 Exterior Surfaces - Paint & Caulk

Quantity: ~233,900 SF

Location: The exterior wood and fiber cement surfaces of the buildings.

Funded?: Yes.

History: Painted 2016.

Comments: The painted surface of the siding and trim appeared in fair condition with no peeling or blistering observed.

Typical Northwest paint cycles vary greatly depending upon many factors including type of material painted, surface preparation, quality of primer/paint/stain, application methods, weather conditions during application, moisture beneath surface, and exposure to weather conditions. Repair areas as needed prior to painting/caulking. As routine maintenance, inspect regularly (including sealants), repair locally, and touch-up paint as needed using operating funds.

Proper sealant/caulking is critical to keeping water out of the walls, and preventing water damage. Incorrect installations of sealant are very common, and can greatly decrease its useful life. Inspect sealant (more frequently as it ages) to determine if it is failing. Typical sealant problems include failure of sealant to adhere to adjacent materials, and tearing/splitting of the sealant itself. As sealants age, and due to exposure to ultraviolet sunlight, they will dry out, harden, and lose their elastic ability. Remove and replace all sealant at the time sealant failure begins to appear. Proper cleaning, prep work, and installation technique (shape, size, tooling of joint) are critical for a long lasting sealant/caulking. Do not install sealant in locations that would block water drainage from behind the siding (e.g. at head flashings).

Resources:

American Coatings Association: <http://www.paint.org>

Master Paint Institute: <http://www.paintinfo.com/>

Useful Life:
7 years

Remaining Life:
2 years



Best Case: \$ 700,000

Worst Case: \$ 820,000

Lower Allowance

Higher Allowance

Cost Source: ARI Cost Database: Similar Project Cost History

Comp #: 535 Windows & Sliding Doors

Quantity: 2,919 windows & 66 doors

Location: The exterior walls of the buildings.

Funded?: Yes.

History: Installed 2016.

Comments: Mostly horizontal sliders and fixed operation. Head flashing was observed. Jambs and sills had sealant joint between window frame and cladding. Weep holes at exterior lower corners were observed to be clear in the few windows sampled for our study. No observation of the critical underlying waterproofing details and flashing was part of our limited visual review. The underlying details and flashing are critical to maintaining the waterproofing of the building envelope and preventing structural damage as a result of water infiltration.

Many factors affect useful life, including quality of window (design pressure rating), waterproofing and flashing details, building movement, and exposure to the elements, including wind driven rain. Those same variables, along with glazing and frame materials, can also greatly affect the appropriate choice and replacement costs. You can learn more about window design here: <http://rci-online.org/wp-content/uploads/2010-04-hinjosa.pdf>

Inspect regularly, including sealant, if any, and repair as needed. Typical sealant failures include a lack of adhesion to adjacent materials, tearing/splitting of the sealant itself, and loss of elastic ability. Loss of elastic ability can be caused by exposure to ultraviolet light, and general aging. Remove and replace all sealants as signs of failure begin to appear. Proper cleaning, prep work, and installation of specified joint design are critical for lasting performance. Keep weep holes free and clear to allow proper drainage of water that gets into the window frame. Do not block (caulk or seal) gap at top of head flashing, as this allows water that gets behind the siding to drain out.

We recommend the board conduct research well in advance of this project to help better define timing and costs (scope of work, material specifications, etc.). Further, we recommend that you hire a professional consultant (architect, engineer, building envelope consultant) to evaluate the existing windows, design and specify new installation requirements, assist with bid process, and observe construction to increase the likelihood of proper installation. We recommend all associations hire qualified consultants whenever they are considering having work performed on any high-risk building envelope components (roof, walls, windows, decks, exterior painting and caulking/sealant).

Note: Cost below factors professional architectural details, specifications and installation oversight. Any needed repair of underlying structural framing can add significantly to project cost. No observation of the critical underlying waterproofing details and flashing was part of our limited visual review.

Useful Life:
25 years

Remaining Life:
20 years



Best Case: \$ 2,520,700

Worst Case: \$ 3,834,100

Lower Allowance

Higher Allowance

Cost Source: ARI Cost Database: Similar Project Cost History

Comp #: 540 Exterior Doors - Repair/Replace

Quantity: 438 metal

Location: The entrances to each unit.

Funded?: No. The useful life is not predictable.

History: None known.

Comments: Exterior doors are metal with metal frames. Doors appeared in stable condition. No widespread problems were observed.

No predictable large-scale repair or replacement of doors.

Door painting is included as part of component #533. Inspect periodically, and repair as needed to maintain appearance, security, and operation with maintenance funds. Touch up paint as needed between painting cycles.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

Comp #: 546 Composite Decks - Repair

Quantity: ~20,130 SF

Location: The elevated deck of each unit.

Funded?: Yes.

History: Constructed 2016.

Comments: Direct access to a unit deck was not available during our site visit. Viewing of decks from below revealed composite material, and appeared in good condition.

Funding is included for replacement of only the composite boards that form the walking surface, and does not include funding for replacement of structural framing. Evaluate structure framing prior to replacement to better determine scope of project. Costs can vary depending on scope of replacement.

Inspect boards and structure periodically, and repair as needed.

Useful Life:
30 years

Remaining Life:
25 years



Best Case: \$ 616,800

Worst Case: \$ 834,600

Lower Allowance

Higher Allowance

Cost Source: Inflated Internet Research: 2020 Improvenet ~\$35/SF

Comp #: 555 Deck Rails - Repair/Replace

Quantity: ~3,355 LF

Location: The perimeters of the elevated decks

Funded?: Yes.

History: Installed 2016.

Comments: Generally the metal rails appeared in fair condition. Unable to confirm if rails were attached through the waterproof surface of the deck.

As routine maintenance, all railings and connections should be inspected at least annually for structural and/or waterproofing issues. Repair promptly as needed using general operating/maintenance funds.

Useful Life:
30 years

Remaining Life:
25 years



Best Case: \$ 352,300

Worst Case: \$ 419,400

Lower Allowance

Higher Allowance

Cost Source: ARI Cost Database: Similar Project Cost History

Comp #: 560 Exterior Lights - Repair/Replace

Quantity: 1,032 fixtures

Location: Mounted to the exterior walls and ceilings.

Funded?: Yes.

History: Installed 2016.

Comments: Generally good condition observed of these exterior light fixtures with no significant damage or deterioration. Observed during daylight hours, and assumed to be in functional operating condition.

Best to plan for eventual large scale replacement at roughly the time frame indicated below, timed to coincide with exterior painting projects for cost efficiency, and consistent quality/appearance throughout the association. A mid-range replacement allowance is factored below for planning purposes.

As routine maintenance, inspect, and repair/change bulbs as needed.

Useful Life:
28 years

Remaining Life:
23 years



Best Case: \$ 126,500

Worst Case: \$ 171,100

Lower Allowance

Higher Allowance

Cost Source: Inflated Internet Research: 2020 Lamps Plus ~\$140/fixture

Comp #: 605 Garage Doors - Repair/Replace

Quantity: 176 units

Location: The vehicle entrance of each garage.

Funded?: No. The useful life is not predictable.

History: Installed 2016.

Comments: Metal frame garage doors are assumed to be in operating condition.

Handle smaller maintenance items as an operating expense. These door types can last for many years if properly maintained, and not damaged or abused. In our experience, vehicle damage not covered by insurance (or prohibitive due to high deductible) is typically the cause for replacement.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

Systems & Equipment

Comp #: 900 Plumbing - Maintain/Repair

Quantity: Supply & drain lines

Location: Throughout the community.
Funded?: No. The useful life is not predictable.
History: Installed 2016.

Comments: The vast majority of the plumbing system is hidden, and not visible for review. A reserve study conducts a limited visual review. No testing was conducted, and no problems were observed or reported. We highly recommend you have a qualified plumber or consultant provide an evaluation of your system to assess condition, material types, and note any deficiencies.

Typically, if installed per architectural specifications and local building codes without defect, there is no predictable time frame for large-scale repair/replacement expenses within the scope of our report. Current Washington state law requires plumbing to be considered in the reserve study. Patterns of significant repair expenses, leaks, poor flow, sediments in line should be evaluated promptly by a qualified plumber and/or engineer.

Some types of piping used historically are known to be life limited. Manufacturing defects become apparent from time to time, and certain site conditions (e.g. galvanic corrosion, certain minerals in contact with piping, chemical reactions, etc.) can contribute to premature deterioration of the plumbing system.

Treat minor repairs as ongoing maintenance expense.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

Comp #: 905 Electric - Maintain/Repair

Quantity: Main & branch systems

Location: Throughout the community.

Funded?: No. The useful life is not predictable.

History: None known.

Comments: The majority of the electrical system was not visible for review. Analysis of the electrical system, beyond a limited visual review, is not within the scope of a reserve study. No large issues or problems/defects were reported.

Typically, if installed per architectural specifications and local building codes, there is no predictable time frame for large-scale repair/replacement expenses within the scope of our review. Some electrical system components are known to be life limited. Manufacturing defects become known from time to time, and certain site conditions can contribute to premature deterioration of electrical components. Periodic inspections and maintenance by a master electrician may become necessary. Some associations employ infrared, or other testing methodologies, to identify potential trouble spots.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

Comp #: 912 Energy - Audit

Quantity: Energy consumption

Location: The interiors of the buildings.

Funded?: No. Costs are best handled with operating funds.

History: None known.

Comments: We highly recommend having a comprehensive energy audit of the building to analyze cost efficiencies and timing of equipment replacement. Puget Sound Energy offers free energy audits. Call a PSE Field Representative at 1-866-997-9767 to learn how to qualify for an energy audit and multi-family retrofit incentives. Their web page for condominium incentive/rebates is here: <https://www.pse.com/rebates/home-energy-assessment>

Some utility companies have very attractive incentive/rebate programs for heating equipment – check with your provider. We recommend having an energy audit as a way to start the long term planning for equipment replacement.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

Comp #: 980 Fire Hydrants - Maintain/Replace

Quantity: 9 units

Location: Scattered throughout the community.

Funded?: No.

History:

Comments: The fire hydrants were observed in stable condition, and are assumed to be functional. It was reported the City of Issaquah is responsible for maintaining, repairing, and replacing the fire hydrants.

Our research indicates fire hydrants can last anywhere from 30 to over 100 years. Inspect the hydrants regularly, and report any concerns to the City of Issaquah Public Works Operations Department via an option below:

Email: PWShop@issaquahwa.gov

Phone: 425-837-3470

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

Comp #: 995 Building Envelope - Inspection

Quantity: Intrusive inspection

Location: The underlying weatherproofing elements of the buildings.

Funded?: No. Costs are best handled with operating funds.

History: None known.

Comments: No reported problems at this time. A reserve study is a budget model, limited to visual exterior observation and research. It is outside the scope of our services, and the purpose of a reserve study, to assess the adequacy of the building envelope performance, as many of the key details are hidden from view. Any areas of concern observable from exterior observation have been noted in the various component field notes throughout this report. We highly recommend regular professional inspections to evaluate the performance of the building envelope by a qualified engineering, architectural, or building envelope consulting firm. Many Associations are required by their declarations to have annual inspections by a qualified Architect or Engineer to assess the physical condition of the building envelope enclosure. The building envelope inspection typically covers the roofs, decks, siding, windows, doors, sealants/caulking, and flashings. Provide more frequent inspection as the buildings age, and the waterproofing typically deteriorates. Building envelope inspections can be either visual or intrusive. An intrusive investigation (where finish materials are removed to view and better understand the underlying waterproofing systems and their performance) should be of greater benefit, since a visual review provides only a limited amount of information derived from surface observation.

Cycles for future maintenance, repair, and replacement work of building exterior common areas are identified throughout this report within their respective components.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

Comp #: 998 Annual Inspection & Survey

Quantity: Annual update

Location: Inspect the building components, and survey the community residents.

Funded?: No. Costs are best handled with operating funds.

History: None known.

Comments: Many associations are required to have annual inspections by a qualified engineer or architect to assess the physical condition of the improvements. The inspection typically covers, at a minimum, the building envelope, including: roofs, exterior, decks, waterproofing/sealants, flashings, glazing systems, and doors. Forensic evaluation, building drops, etc. are beyond the scope of a typical reserve study. Although your association's governing documents do not appear to have such a requirement, we recommend that the Board provide for periodic building envelope inspections, funded from the operating budget, to help ensure critical areas are functioning properly.

In addition to an annual inspection, we recommend the association annually survey residents to inquire about conditions only visible from the unit interiors that the association may not be aware of. Survey questions may include, but are not limited to: water intrusion/organic growth (particularly at windows & doors, skylights, water heaters, plumbing fixtures), cracking or any other movement of drywall or structural members, and any other general building concerns the residents may have. Such surveys can be key in identifying potential concerns early, thus increasing the opportunity to conduct repairs before advanced deterioration/damage and, therefore, larger expense occurs.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

Comp #: 999 Reserve Study - Update

Quantity: Annual update

Location: The common and limited common elements of the community.

Funded?: No. Costs are best handled with operating funds.

History: 2021 Full.

Comments: 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: