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The Canterwood Division 12 STEP Assoc.
Gig Harbor, WA



Report #: 48581-0
Beginning: January 1, 2024
Expires: December 31, 2024

RESERVE STUDY
Update "With-Site-Visit"

February 15, 2024

Welcome to your Reserve Study!

A Reserve Study is a valuable tool to help you budget responsibly for your property. This report contains all the information you need to avoid surprise expenses, make informed decisions, save money, and protect property values.

Regardless of the property type, it's a fact of life that the very moment construction is completed, every major building component begins a predictable process of physical deterioration. The operative word is "predictable" because planning for the inevitable is what a Reserve Study by **Association Reserves** is all about!

In this Report, you will find three key results:

- **Component List**
Unique to each property, the Component List serves as the foundation of the Reserve Study and details the scope and schedule of all necessary repairs & replacements.
- **Reserve Fund Strength**
A calculation that measures how well the Reserve Fund has kept pace with the property's physical deterioration.
- **Reserve Funding Plan**
A multi-year funding plan based on current Reserve Fund strength that allows for component repairs and replacements to be completed in a timely manner, with an emphasis on fairness and avoiding "catch-up" funding.

Questions?

Please contact your Project Manager directly.



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The Canterwood Division 12 STEP Assoc.
Gig Harbor, WA
Level of Service: Update "With-Site-Visit"

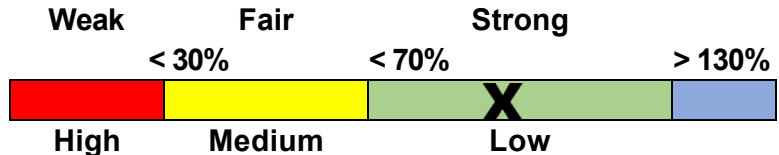
Report #: 48581-0
of Units: 71
January 1, 2024 through December 31, 2024

Findings & Recommendations

as of January 1, 2024

Starting Reserve Balance	\$71,451
Current Fully Funded Reserve Balance	\$73,572
Percent Funded	97.1 %
Average Reserve (Deficit) or Surplus Per Unit	(\$30)
Recommended 2024 100% Monthly "Full Funding" Contributions	\$563
2024 "Baseline Funding" minimum to keep Reserves above \$0	\$418
70% Funding Rate	\$478
Most Recent Budgeted Contribution Rate (2023)	\$0

Reserve Fund Strength: 97.1%



Risk of Special Assessment:

Economic Assumptions:

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

- This is an Update "With-Site-Visit", 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 97.1 % Funded. This means the association's special assessment & deferred maintenance risk is currently Low. 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. The current annual deterioration of your reserve components is \$5,383 - see Component Significance table.
- 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. "Baseline Funding" in this report is 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, and reserves deficit or (surplus) are presented as an aggregate total, assuming average percentage of ownership. The actual ownership allocation may vary - refer to your governing documents, and assessment computational tools to adjust for any variation.

# Component	Useful Life (yrs)	Rem. Useful Life (yrs)	Current Average Cost
Residential Lots			
1400 Shut-off Valves - Forest Village	30	11	\$4,500
1405 Shut-off Valves - Division 12	30	11	\$4,100
Treatment Building			
1500 Building (wood)	30	20	\$10,050
1520 Pump - Repair/Replace	10	7	\$3,650
1530 Storage Tanks - 125 gal	15	7	\$5,400
1550 Flow Meter w/ data logger	15	12	\$5,050
1560 Electrical Panel/Components	30	11	\$2,950
1570 Pipes & Valves	30	11	\$6,400
Community			
1600 HDPE Sewer Pipes (Repair)	15	3	\$6,450
1620 Discharge Control Vault (Baker)	30	11	\$17,700
1630 Septic Aerator	30	11	\$20,800
1640 Air Vacuum Release Assembly	30	11	\$18,800
1660 Standard Riser & Valve Repairs	30	11	\$12,250
1670 Flow Meter (Baker Way Vault)	15	14	\$6,250
1680 Pressure Sustaining Vault (47th Ct)	30	11	\$6,700

15 Total Funded Components

Note 1: Yellow highlighted line items are expected to require attention in this initial year, light blue 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.

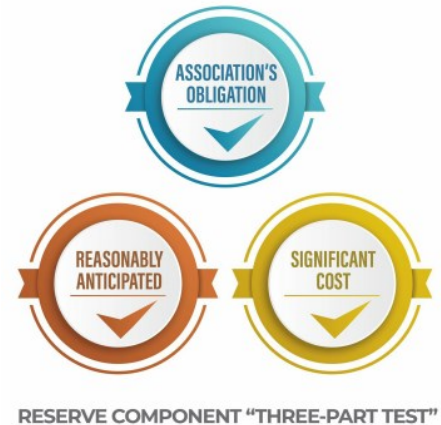
Methodology



For this [Update With-Site-Visit Reserve Study](#), we started with a review of your prior Reserve Study, then looked into recent Reserve expenditures, evaluated how expenditures are handled (ongoing maintenance vs Reserves), and researched any well-established association precedents. We performed an on-site inspection to evaluate your common areas, updating and adjusting your Reserve Component List as appropriate.

Which Physical Assets are Funded by Reserves?

There is a national-standard three-part test to determine which projects should appear in a Reserve Component List. First, it must be a common area maintenance obligation. Second, both the need and schedule of a component's project can be reasonably anticipated. Third, the project's total cost is material to the client, can be reasonably anticipated, and includes all direct and related costs. A project cost is commonly considered *material* if it is more than 0.5% to 1% of the total annual 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 natural disasters and/or insurable events), and expenses more appropriately handled from the Operational budget.



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



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.

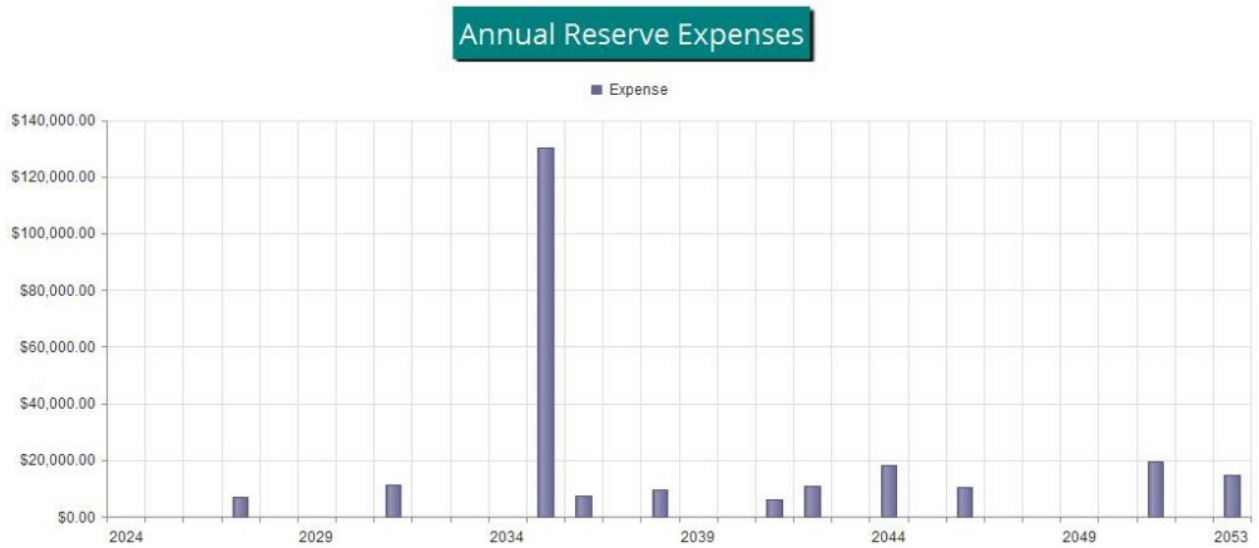


Figure 1

Reserve Fund Status

The starting point for our financial analysis is your Reserve Fund balance, projected to be \$71,451 as-of the start of your Fiscal Year on 1/1/2024. As of that date, your Fully Funded Balance is computed to be \$73,572 (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 \$563 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.

As there were no budget contributions for the prior budget for 2023, there are no data points reflected in the chart below.

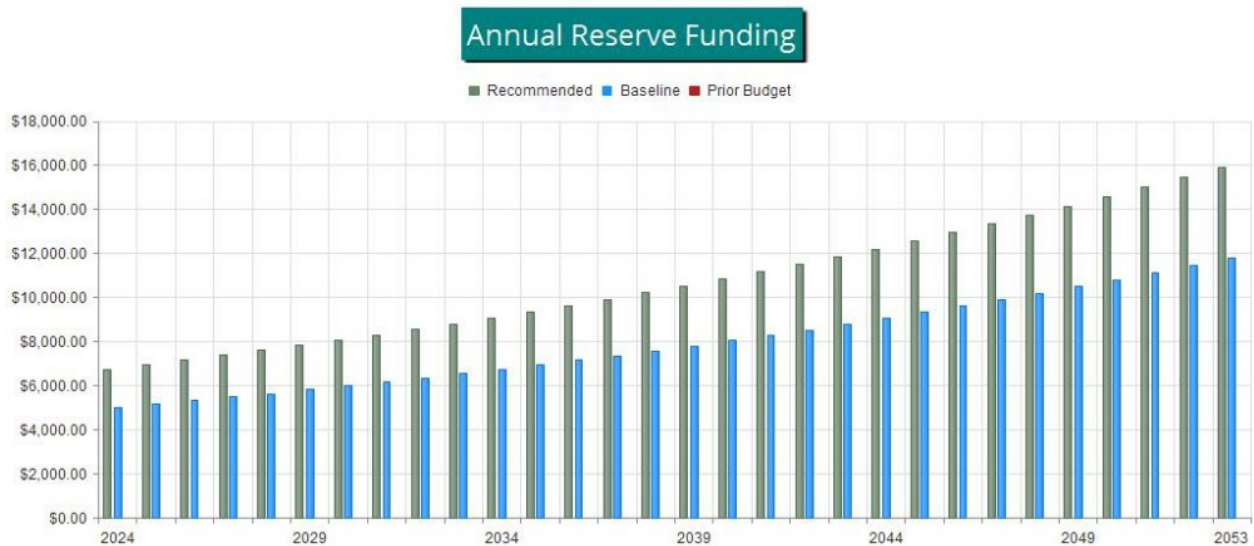


Figure 2

The following chart shows your Reserve balance under our recommended Full Funding Plan, an alternate Baseline Funding Plan, and with no budgeted prior contribution rate, the chart also shows the depletion of the current reserve balance without funding under the prior budget, compared to your always-changing Fully Funded Balance target.

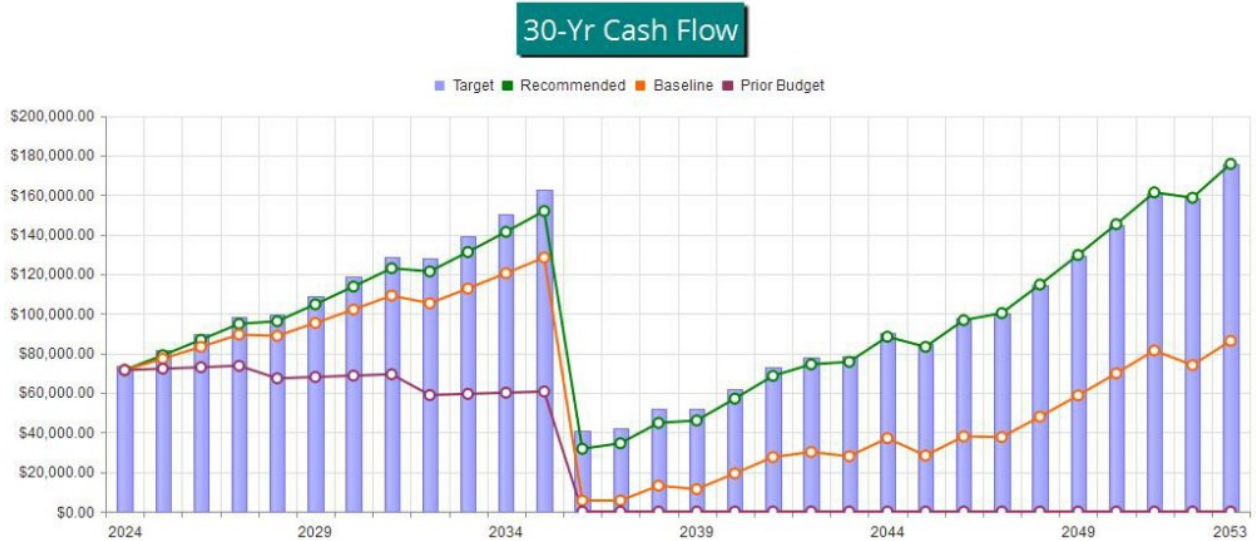


Figure 3

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.

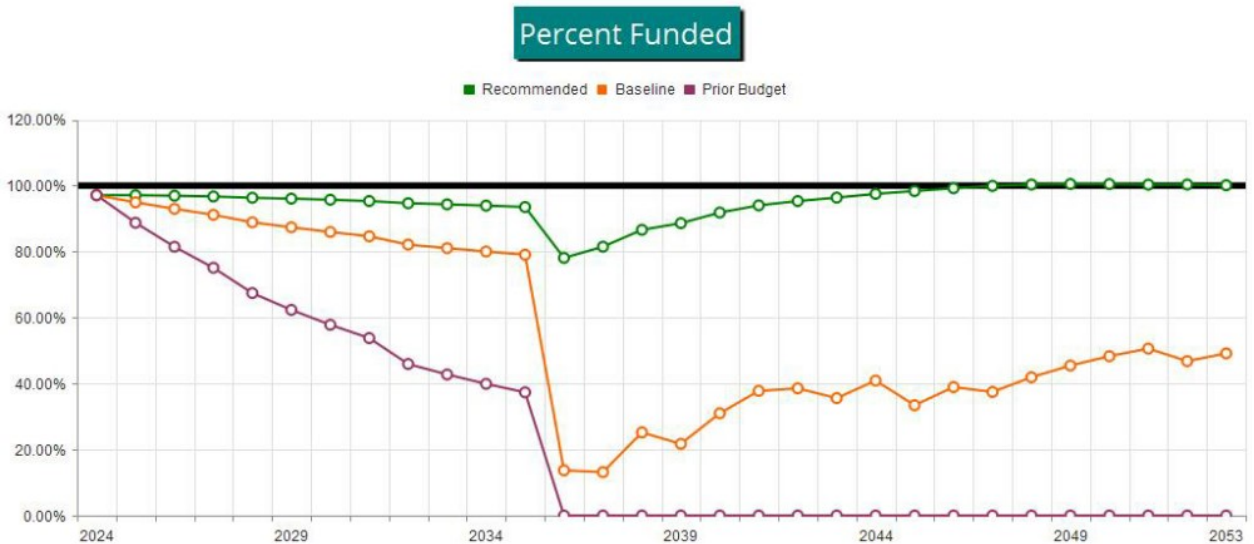


Figure 4



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
Residential Lots						
1400	Shut-off Valves - Forest Village	(1) of 33 Valves	30	11	\$4,100	\$4,900
1405	Shut-off Valves - Division 12	(1) of 38 Valves	30	11	\$3,700	\$4,500
Treatment Building						
1500	Building (wood)	(1) building, 8'Wx8'L	30	20	\$9,100	\$11,000
1520	Pump - Repair/Replace	(1) Pump BW-A1V4-4T	10	7	\$3,300	\$4,000
1530	Storage Tanks - 125 gal	(2) DC-920125-1.5 NAT	15	7	\$4,900	\$5,900
1550	Flow Meter w/ data logger	(1) Seametrics 4700p	15	12	\$4,600	\$5,500
1560	Electrical Panel/Components	(1) Panel, 1500W heater	30	11	\$2,700	\$3,200
1570	Pipes & Valves	Various components	30	11	\$5,800	\$7,000
Community						
1600	HDPE Sewer Pipes (Repair)	~11,187 LF	15	3	\$5,800	\$7,100
1620	Discharge Control Vault (Baker)	(1) Vault - various comp	30	11	\$16,100	\$19,300
1630	Septic Aerator	(1) Aerator	30	11	\$18,900	\$22,700
1640	Air Vacuum Release Assembly	(1) assemblies	30	11	\$17,100	\$20,500
1660	Standard Riser & Valve Repairs	(3) of 31 1.5"-3" sizes	30	11	\$10,600	\$13,900
1670	Flow Meter (Baker Way Vault)	(1) Flow Meter DM03-25MB	15	14	\$5,700	\$6,800
1680	Pressure Sustaining Vault (47th Ct)	(1) Vault - various comp	30	11	\$6,100	\$7,300

15 Total Funded Components

#	Component	Current Cost Estimate	X	Effective Age	/	Useful Life	=	Fully Funded Balance
Residential Lots								
1400	Shut-off Valves - Forest Village	\$4,500	X	19	/	30	=	\$2,850
1405	Shut-off Valves - Division 12	\$4,100	X	19	/	30	=	\$2,597
Treatment Building								
1500	Building (wood)	\$10,050	X	10	/	30	=	\$3,350
1520	Pump - Repair/Replace	\$3,650	X	3	/	10	=	\$1,095
1530	Storage Tanks - 125 gal	\$5,400	X	8	/	15	=	\$2,880
1550	Flow Meter w/ data logger	\$5,050	X	3	/	15	=	\$1,010
1560	Electrical Panel/Components	\$2,950	X	19	/	30	=	\$1,868
1570	Pipes & Valves	\$6,400	X	19	/	30	=	\$4,053
Community								
1600	HDPE Sewer Pipes (Repair)	\$6,450	X	12	/	15	=	\$5,160
1620	Discharge Control Vault (Baker)	\$17,700	X	19	/	30	=	\$11,210
1630	Septic Aerator	\$20,800	X	19	/	30	=	\$13,173
1640	Air Vacuum Release Assembly	\$18,800	X	19	/	30	=	\$11,907
1660	Standard Riser & Valve Repairs	\$12,250	X	19	/	30	=	\$7,758
1670	Flow Meter (Baker Way Vault)	\$6,250	X	1	/	15	=	\$417
1680	Pressure Sustaining Vault (47th Ct)	\$6,700	X	19	/	30	=	\$4,243
								\$73,572

#	Component	Useful Life (yrs)	Current Cost Estimate	Deterioration Cost/Yr	Deterioration Significance
Residential Lots					
1400	Shut-off Valves - Forest Village	30	\$4,500	\$150	2.79 %
1405	Shut-off Valves - Division 12	30	\$4,100	\$137	2.54 %
Treatment Building					
1500	Building (wood)	30	\$10,050	\$335	6.22 %
1520	Pump - Repair/Replace	10	\$3,650	\$365	6.78 %
1530	Storage Tanks - 125 gal	15	\$5,400	\$360	6.69 %
1550	Flow Meter w/ data logger	15	\$5,050	\$337	6.25 %
1560	Electrical Panel/Components	30	\$2,950	\$98	1.83 %
1570	Pipes & Valves	30	\$6,400	\$213	3.96 %
Community					
1600	HDPE Sewer Pipes (Repair)	15	\$6,450	\$430	7.99 %
1620	Discharge Control Vault (Baker)	30	\$17,700	\$590	10.96 %
1630	Septic Aerator	30	\$20,800	\$693	12.88 %
1640	Air Vacuum Release Assembly	30	\$18,800	\$627	11.64 %
1660	Standard Riser & Valve Repairs	30	\$12,250	\$408	7.59 %
1670	Flow Meter (Baker Way Vault)	15	\$6,250	\$417	7.74 %
1680	Pressure Sustaining Vault (47th Ct)	30	\$6,700	\$223	4.15 %
15	Total Funded Components			\$5,383	100.00 %

30-Year Reserve Plan Summary

Report # 48581-0
With-Site-Visit

Fiscal Year Start: 2024

Interest:

1.00 %

Inflation:

3.00 %

Reserve Fund Strength: as-of Fiscal Year Start Date

Projected Reserve Balance Changes

Year	Starting Reserve Balance	Fully Funded Balance	Percent Funded	Special Assmt Risk	% Increase		Reserve Funding	Reserve Funding	Loan or Special Assmts	Interest Income	Reserve Expenses
					In Annual Reserve Funding	In Annual Reserve Funding					
2024	\$71,451	\$73,572	97.1 %	Low	0.00 %	\$6,756	\$0	\$752	\$0		
2025	\$78,959	\$81,324	97.1 %	Low	3.00 %	\$6,959	\$0	\$828	\$0		
2026	\$86,746	\$89,475	97.0 %	Low	3.00 %	\$7,167	\$0	\$907	\$0		
2027	\$94,820	\$98,041	96.7 %	Low	3.00 %	\$7,382	\$0	\$954	\$7,048		
2028	\$96,109	\$99,782	96.3 %	Low	3.00 %	\$7,604	\$0	\$1,004	\$0		
2029	\$104,717	\$109,016	96.1 %	Low	3.00 %	\$7,832	\$0	\$1,091	\$0		
2030	\$113,640	\$118,715	95.7 %	Low	3.00 %	\$8,067	\$0	\$1,182	\$0		
2031	\$122,889	\$128,897	95.3 %	Low	3.00 %	\$8,309	\$0	\$1,220	\$11,130		
2032	\$121,288	\$128,119	94.7 %	Low	3.00 %	\$8,558	\$0	\$1,261	\$0		
2033	\$131,108	\$138,987	94.3 %	Low	3.00 %	\$8,815	\$0	\$1,361	\$0		
2034	\$141,284	\$150,391	93.9 %	Low	3.00 %	\$9,079	\$0	\$1,465	\$0		
2035	\$151,829	\$162,354	93.5 %	Low	3.00 %	\$9,352	\$0	\$917	\$130,395		
2036	\$31,703	\$40,594	78.1 %	Low	3.00 %	\$9,632	\$0	\$331	\$7,200		
2037	\$34,466	\$42,301	81.5 %	Low	3.00 %	\$9,921	\$0	\$396	\$0		
2038	\$44,784	\$51,713	86.6 %	Low	3.00 %	\$10,219	\$0	\$454	\$9,454		
2039	\$46,003	\$51,914	88.6 %	Low	3.00 %	\$10,526	\$0	\$515	\$0		
2040	\$57,044	\$62,110	91.8 %	Low	3.00 %	\$10,841	\$0	\$628	\$0		
2041	\$68,512	\$72,871	94.0 %	Low	3.00 %	\$11,167	\$0	\$714	\$6,033		
2042	\$74,360	\$78,008	95.3 %	Low	3.00 %	\$11,502	\$0	\$750	\$10,981		
2043	\$75,631	\$78,478	96.4 %	Low	3.00 %	\$11,847	\$0	\$819	\$0		
2044	\$88,297	\$90,555	97.5 %	Low	3.00 %	\$12,202	\$0	\$857	\$18,151		
2045	\$83,205	\$84,591	98.4 %	Low	3.00 %	\$12,568	\$0	\$899	\$0		
2046	\$96,672	\$97,443	99.2 %	Low	3.00 %	\$12,945	\$0	\$984	\$10,347		
2047	\$100,254	\$100,334	99.9 %	Low	3.00 %	\$13,334	\$0	\$1,074	\$0		
2048	\$114,662	\$114,287	100.3 %	Low	3.00 %	\$13,734	\$0	\$1,221	\$0		
2049	\$129,616	\$128,987	100.5 %	Low	3.00 %	\$14,146	\$0	\$1,373	\$0		
2050	\$145,135	\$144,466	100.5 %	Low	3.00 %	\$14,570	\$0	\$1,531	\$0		
2051	\$161,236	\$160,758	100.3 %	Low	3.00 %	\$15,007	\$0	\$1,598	\$19,325		
2052	\$158,516	\$157,993	100.3 %	Low	3.00 %	\$15,457	\$0	\$1,670	\$0		
2053	\$175,643	\$175,419	100.1 %	Low	3.00 %	\$15,921	\$0	\$1,770	\$14,729		



30-Year Reserve Plan Summary (Alternate Funding Plan)

Report # 48581-0
With-Site-Visit

Fiscal Year Start: 2024

Interest: 1.00 %

Inflation: 3.00 %

Reserve Fund Strength: as-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 Funding	Reserve Funding			
2024	\$71,451	\$73,572	97.1 %	Low	0.00 %	\$5,016	\$0	\$743	\$0
2025	\$77,210	\$81,324	94.9 %	Low	3.00 %	\$5,166	\$0	\$802	\$0
2026	\$83,178	\$89,475	93.0 %	Low	3.00 %	\$5,321	\$0	\$862	\$0
2027	\$89,362	\$98,041	91.1 %	Low	3.00 %	\$5,481	\$0	\$890	\$7,048
2028	\$88,685	\$99,782	88.9 %	Low	3.00 %	\$5,646	\$0	\$919	\$0
2029	\$95,250	\$109,016	87.4 %	Low	3.00 %	\$5,815	\$0	\$986	\$0
2030	\$102,051	\$118,715	86.0 %	Low	3.00 %	\$5,989	\$0	\$1,055	\$0
2031	\$109,095	\$128,897	84.6 %	Low	3.00 %	\$6,169	\$0	\$1,071	\$11,130
2032	\$105,205	\$128,119	82.1 %	Low	3.00 %	\$6,354	\$0	\$1,089	\$0
2033	\$112,648	\$138,987	81.0 %	Low	3.00 %	\$6,545	\$0	\$1,165	\$0
2034	\$120,357	\$150,391	80.0 %	Low	3.00 %	\$6,741	\$0	\$1,243	\$0
2035	\$128,341	\$162,354	79.1 %	Low	3.00 %	\$6,943	\$0	\$669	\$130,395
2036	\$5,559	\$40,594	13.7 %	High	3.00 %	\$7,152	\$0	\$56	\$7,200
2037	\$5,566	\$42,301	13.2 %	High	3.00 %	\$7,366	\$0	\$93	\$0
2038	\$13,025	\$51,713	25.2 %	High	3.00 %	\$7,587	\$0	\$121	\$9,454
2039	\$11,280	\$51,914	21.7 %	High	3.00 %	\$7,815	\$0	\$153	\$0
2040	\$19,247	\$62,110	31.0 %	Medium	3.00 %	\$8,049	\$0	\$234	\$0
2041	\$27,530	\$72,871	37.8 %	Medium	3.00 %	\$8,291	\$0	\$288	\$6,033
2042	\$30,076	\$78,008	38.6 %	Medium	3.00 %	\$8,539	\$0	\$290	\$10,981
2043	\$27,925	\$78,478	35.6 %	Medium	3.00 %	\$8,796	\$0	\$325	\$0
2044	\$37,045	\$90,555	40.9 %	Medium	3.00 %	\$9,059	\$0	\$326	\$18,151
2045	\$28,280	\$84,591	33.4 %	Medium	3.00 %	\$9,331	\$0	\$331	\$0
2046	\$37,942	\$97,443	38.9 %	Medium	3.00 %	\$9,611	\$0	\$377	\$10,347
2047	\$37,583	\$100,334	37.5 %	Medium	3.00 %	\$9,900	\$0	\$427	\$0
2048	\$47,910	\$114,287	41.9 %	Medium	3.00 %	\$10,196	\$0	\$533	\$0
2049	\$58,639	\$128,987	45.5 %	Medium	3.00 %	\$10,502	\$0	\$642	\$0
2050	\$69,783	\$144,466	48.3 %	Medium	3.00 %	\$10,817	\$0	\$755	\$0
2051	\$81,356	\$160,758	50.6 %	Medium	3.00 %	\$11,142	\$0	\$776	\$19,325
2052	\$73,949	\$157,993	46.8 %	Medium	3.00 %	\$11,476	\$0	\$801	\$0
2053	\$86,226	\$175,419	49.2 %	Medium	3.00 %	\$11,821	\$0	\$852	\$14,729

Fiscal Year	2024	2025	2026	2027	2028
Starting Reserve Balance	\$71,451	\$78,959	\$86,746	\$94,820	\$96,109
Annual Reserve Funding	\$6,756	\$6,959	\$7,167	\$7,382	\$7,604
Recommended Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$752	\$828	\$907	\$954	\$1,004
Total Income	\$78,959	\$86,746	\$94,820	\$103,157	\$104,717
# Component					
Residential Lots					
1400 Shut-off Valves - Forest Village	\$0	\$0	\$0	\$0	\$0
1405 Shut-off Valves - Division 12	\$0	\$0	\$0	\$0	\$0
Treatment Building					
1500 Building (wood)	\$0	\$0	\$0	\$0	\$0
1520 Pump - Repair/Replace	\$0	\$0	\$0	\$0	\$0
1530 Storage Tanks - 125 gal	\$0	\$0	\$0	\$0	\$0
1550 Flow Meter w/ data logger	\$0	\$0	\$0	\$0	\$0
1560 Electrical Panel/Components	\$0	\$0	\$0	\$0	\$0
1570 Pipes & Valves	\$0	\$0	\$0	\$0	\$0
Community					
1600 HDPE Sewer Pipes (Repair)	\$0	\$0	\$0	\$7,048	\$0
1620 Discharge Control Vault (Baker)	\$0	\$0	\$0	\$0	\$0
1630 Septic Aerator	\$0	\$0	\$0	\$0	\$0
1640 Air Vacuum Release Assembly	\$0	\$0	\$0	\$0	\$0
1660 Standard Riser & Valve Repairs	\$0	\$0	\$0	\$0	\$0
1670 Flow Meter (Baker Way Vault)	\$0	\$0	\$0	\$0	\$0
1680 Pressure Sustaining Vault (47th Ct)	\$0	\$0	\$0	\$0	\$0
Total Expenses	\$0	\$0	\$0	\$7,048	\$0
Ending Reserve Balance	\$78,959	\$86,746	\$94,820	\$96,109	\$104,717

Fiscal Year	2029	2030	2031	2032	2033
Starting Reserve Balance	\$104,717	\$113,640	\$122,889	\$121,288	\$131,108
Annual Reserve Funding	\$7,832	\$8,067	\$8,309	\$8,558	\$8,815
Recommended Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$1,091	\$1,182	\$1,220	\$1,261	\$1,361
Total Income	\$113,640	\$122,889	\$132,419	\$131,108	\$141,284
# Component					
Residential Lots					
1400 Shut-off Valves - Forest Village	\$0	\$0	\$0	\$0	\$0
1405 Shut-off Valves - Division 12	\$0	\$0	\$0	\$0	\$0
Treatment Building					
1500 Building (wood)	\$0	\$0	\$0	\$0	\$0
1520 Pump - Repair/Replace	\$0	\$0	\$4,489	\$0	\$0
1530 Storage Tanks - 125 gal	\$0	\$0	\$6,641	\$0	\$0
1550 Flow Meter w/ data logger	\$0	\$0	\$0	\$0	\$0
1560 Electrical Panel/Components	\$0	\$0	\$0	\$0	\$0
1570 Pipes & Valves	\$0	\$0	\$0	\$0	\$0
Community					
1600 HDPE Sewer Pipes (Repair)	\$0	\$0	\$0	\$0	\$0
1620 Discharge Control Vault (Baker)	\$0	\$0	\$0	\$0	\$0
1630 Septic Aerator	\$0	\$0	\$0	\$0	\$0
1640 Air Vacuum Release Assembly	\$0	\$0	\$0	\$0	\$0
1660 Standard Riser & Valve Repairs	\$0	\$0	\$0	\$0	\$0
1670 Flow Meter (Baker Way Vault)	\$0	\$0	\$0	\$0	\$0
1680 Pressure Sustaining Vault (47th Ct)	\$0	\$0	\$0	\$0	\$0
Total Expenses	\$0	\$0	\$11,130	\$0	\$0
Ending Reserve Balance	\$113,640	\$122,889	\$121,288	\$131,108	\$141,284

Fiscal Year	2034	2035	2036	2037	2038
Starting Reserve Balance	\$141,284	\$151,829	\$31,703	\$34,466	\$44,784
Annual Reserve Funding	\$9,079	\$9,352	\$9,632	\$9,921	\$10,219
Recommended Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$1,465	\$917	\$331	\$396	\$454
Total Income	\$151,829	\$162,098	\$41,666	\$44,784	\$55,457
# Component					
Residential Lots					
1400 Shut-off Valves - Forest Village	\$0	\$6,229	\$0	\$0	\$0
1405 Shut-off Valves - Division 12	\$0	\$5,675	\$0	\$0	\$0
Treatment Building					
1500 Building (wood)	\$0	\$0	\$0	\$0	\$0
1520 Pump - Repair/Replace	\$0	\$0	\$0	\$0	\$0
1530 Storage Tanks - 125 gal	\$0	\$0	\$0	\$0	\$0
1550 Flow Meter w/ data logger	\$0	\$0	\$7,200	\$0	\$0
1560 Electrical Panel/Components	\$0	\$4,083	\$0	\$0	\$0
1570 Pipes & Valves	\$0	\$8,859	\$0	\$0	\$0
Community					
1600 HDPE Sewer Pipes (Repair)	\$0	\$0	\$0	\$0	\$0
1620 Discharge Control Vault (Baker)	\$0	\$24,501	\$0	\$0	\$0
1630 Septic Aerator	\$0	\$28,792	\$0	\$0	\$0
1640 Air Vacuum Release Assembly	\$0	\$26,024	\$0	\$0	\$0
1660 Standard Riser & Valve Repairs	\$0	\$16,957	\$0	\$0	\$0
1670 Flow Meter (Baker Way Vault)	\$0	\$0	\$0	\$0	\$9,454
1680 Pressure Sustaining Vault (47th Ct)	\$0	\$9,274	\$0	\$0	\$0
Total Expenses	\$0	\$130,395	\$7,200	\$0	\$9,454
Ending Reserve Balance	\$151,829	\$31,703	\$34,466	\$44,784	\$46,003

Fiscal Year	2039	2040	2041	2042	2043
Starting Reserve Balance	\$46,003	\$57,044	\$68,512	\$74,360	\$75,631
Annual Reserve Funding	\$10,526	\$10,841	\$11,167	\$11,502	\$11,847
Recommended Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$515	\$628	\$714	\$750	\$819
Total Income	\$57,044	\$68,512	\$80,393	\$86,612	\$88,297
# Component					
Residential Lots					
1400 Shut-off Valves - Forest Village	\$0	\$0	\$0	\$0	\$0
1405 Shut-off Valves - Division 12	\$0	\$0	\$0	\$0	\$0
Treatment Building					
1500 Building (wood)	\$0	\$0	\$0	\$0	\$0
1520 Pump - Repair/Replace	\$0	\$0	\$6,033	\$0	\$0
1530 Storage Tanks - 125 gal	\$0	\$0	\$0	\$0	\$0
1550 Flow Meter w/ data logger	\$0	\$0	\$0	\$0	\$0
1560 Electrical Panel/Components	\$0	\$0	\$0	\$0	\$0
1570 Pipes & Valves	\$0	\$0	\$0	\$0	\$0
Community					
1600 HDPE Sewer Pipes (Repair)	\$0	\$0	\$0	\$10,981	\$0
1620 Discharge Control Vault (Baker)	\$0	\$0	\$0	\$0	\$0
1630 Septic Aerator	\$0	\$0	\$0	\$0	\$0
1640 Air Vacuum Release Assembly	\$0	\$0	\$0	\$0	\$0
1660 Standard Riser & Valve Repairs	\$0	\$0	\$0	\$0	\$0
1670 Flow Meter (Baker Way Vault)	\$0	\$0	\$0	\$0	\$0
1680 Pressure Sustaining Vault (47th Ct)	\$0	\$0	\$0	\$0	\$0
Total Expenses	\$0	\$0	\$6,033	\$10,981	\$0
Ending Reserve Balance	\$57,044	\$68,512	\$74,360	\$75,631	\$88,297

Fiscal Year	2044	2045	2046	2047	2048
Starting Reserve Balance	\$88,297	\$83,205	\$96,672	\$100,254	\$114,662
Annual Reserve Funding	\$12,202	\$12,568	\$12,945	\$13,334	\$13,734
Recommended Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$857	\$899	\$984	\$1,074	\$1,221
Total Income	\$101,356	\$96,672	\$110,601	\$114,662	\$129,616
# Component					
Residential Lots					
1400 Shut-off Valves - Forest Village	\$0	\$0	\$0	\$0	\$0
1405 Shut-off Valves - Division 12	\$0	\$0	\$0	\$0	\$0
Treatment Building					
1500 Building (wood)	\$18,151	\$0	\$0	\$0	\$0
1520 Pump - Repair/Replace	\$0	\$0	\$0	\$0	\$0
1530 Storage Tanks - 125 gal	\$0	\$0	\$10,347	\$0	\$0
1550 Flow Meter w/ data logger	\$0	\$0	\$0	\$0	\$0
1560 Electrical Panel/Components	\$0	\$0	\$0	\$0	\$0
1570 Pipes & Valves	\$0	\$0	\$0	\$0	\$0
Community					
1600 HDPE Sewer Pipes (Repair)	\$0	\$0	\$0	\$0	\$0
1620 Discharge Control Vault (Baker)	\$0	\$0	\$0	\$0	\$0
1630 Septic Aerator	\$0	\$0	\$0	\$0	\$0
1640 Air Vacuum Release Assembly	\$0	\$0	\$0	\$0	\$0
1660 Standard Riser & Valve Repairs	\$0	\$0	\$0	\$0	\$0
1670 Flow Meter (Baker Way Vault)	\$0	\$0	\$0	\$0	\$0
1680 Pressure Sustaining Vault (47th Ct)	\$0	\$0	\$0	\$0	\$0
Total Expenses	\$18,151	\$0	\$10,347	\$0	\$0
Ending Reserve Balance	\$83,205	\$96,672	\$100,254	\$114,662	\$129,616

Fiscal Year	2049	2050	2051	2052	2053
Starting Reserve Balance	\$129,616	\$145,135	\$161,236	\$158,516	\$175,643
Annual Reserve Funding	\$14,146	\$14,570	\$15,007	\$15,457	\$15,921
Recommended Special Assessments	\$0	\$0	\$0	\$0	\$0
Interest Earnings	\$1,373	\$1,531	\$1,598	\$1,670	\$1,770
Total Income	\$145,135	\$161,236	\$177,841	\$175,643	\$193,335
# Component					
Residential Lots					
1400 Shut-off Valves - Forest Village	\$0	\$0	\$0	\$0	\$0
1405 Shut-off Valves - Division 12	\$0	\$0	\$0	\$0	\$0
Treatment Building					
1500 Building (wood)	\$0	\$0	\$0	\$0	\$0
1520 Pump - Repair/Replace	\$0	\$0	\$8,108	\$0	\$0
1530 Storage Tanks - 125 gal	\$0	\$0	\$0	\$0	\$0
1550 Flow Meter w/ data logger	\$0	\$0	\$11,218	\$0	\$0
1560 Electrical Panel/Components	\$0	\$0	\$0	\$0	\$0
1570 Pipes & Valves	\$0	\$0	\$0	\$0	\$0
Community					
1600 HDPE Sewer Pipes (Repair)	\$0	\$0	\$0	\$0	\$0
1620 Discharge Control Vault (Baker)	\$0	\$0	\$0	\$0	\$0
1630 Septic Aerator	\$0	\$0	\$0	\$0	\$0
1640 Air Vacuum Release Assembly	\$0	\$0	\$0	\$0	\$0
1660 Standard Riser & Valve Repairs	\$0	\$0	\$0	\$0	\$0
1670 Flow Meter (Baker Way Vault)	\$0	\$0	\$0	\$0	\$14,729
1680 Pressure Sustaining Vault (47th Ct)	\$0	\$0	\$0	\$0	\$0
Total Expenses	\$0	\$0	\$19,325	\$0	\$14,729
Ending Reserve Balance	\$145,135	\$161,236	\$158,516	\$175,643	\$178,606

"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. Christian Colunga, company President, is a credentialed Reserve Specialist (#208). 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) The project is the Association's present obligation. 2) The need and schedule of a project can be reasonably anticipated. 3) The total cost of the project is material, can be estimated and includes all direct & related costs. 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.

Residential Lots

Comp #: 1400 Shut-off Valves - Forest Village

Quantity: (1) of 33 Valves

Location: Throughout residential areas in forested areas.

Funded?: Yes.

History: 2004: Installed

Comments: Service connections for all lots just before property line. These 1" valves are tested annually. All components from this point on the owners' individual lot are the responsibility of the lot owners. Budget allowance is based on the cost of one valve requiring replacement within the first 30 years. As useful life nears and if experience necessitates a higher allowance and/or larger project for replacement, this component should be updated accordingly.

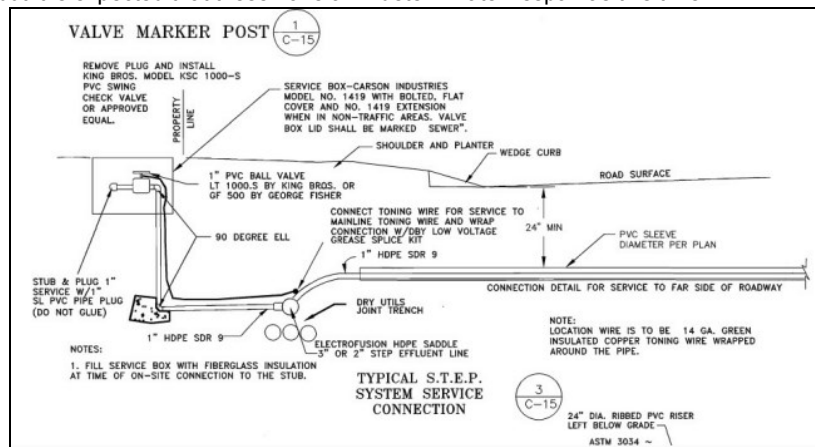
At this time, there is no expectation of large scale replacement. Allowance is provided for repair/replacement at the 15 year mark and is based on an estimate to replace 1:

- Parts \$ 316
- Labor \$2,160
- Excavation Equipment \$ 500
- Site Remediation \$ 400
- Tax \$ 303
- Total cost - \$ 3,709
- Concrete cutting \$ 400 (due to location in forested area)
- TOTAL \$ 4,109**

As community has more history of the needs for replacement in the future, this component can be adjusted to reflect actual costs and/or failure rates as needed, but it is expected that these have an indeterminate lifespan as this time.

Useful Life:
30 years

Remaining Life:
11 years



Best Case: \$ 4,100

Worst Case: \$ 4,900

Cost Source: Budget Allowance Provided by Client: Aadvanced Bid plus add'l costs

Comp #: 1405 Shut-off Valves - Division 12

Quantity: (1) of 38 Valves

Location: Throughout residential areas in non-forested areas.

Funded?: Yes.

History: 2004: Installed

Comments: Service connections for all lots just before property line. These 1" valves are tested annually. All components from this point on the owners' individual lot are the responsibility of the lot owners. Budget allowance is based on the cost of one valve requiring replacement within the first 30 years. As useful life nears and if experience necessitates a higher allowance and/or larger project for replacement, this component should be updated accordingly.

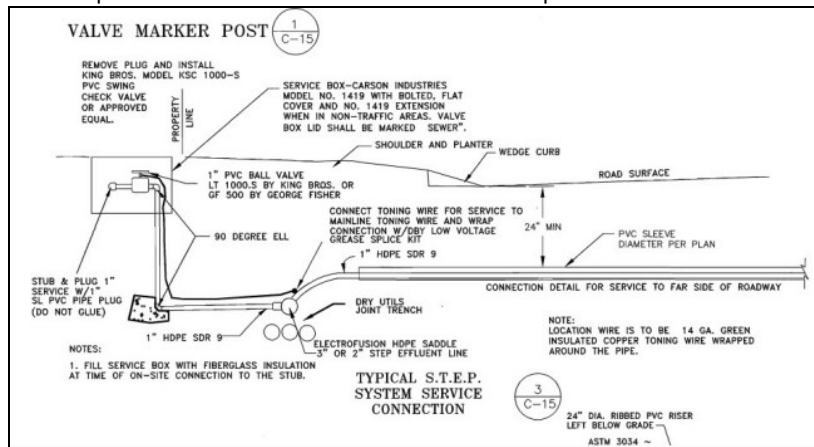
At this time, there is no expectation of large scale replacement. Allowance is provided for repair/replacement at the 15 year mark and is based on an estimate to replace 1:

- Parts \$ 316
- Labor \$2,160
- Excavation Equipment \$ 500
- Site Remediation \$ 400
- Tax \$ 303
- TOTAL \$ 3,709

As community has more history of the needs for replacement in the future, this component can be adjusted to reflect actual costs and/or failure rates as needed, but it is expected that these have an indeterminate lifespan as this time.

Useful Life:
30 years

Remaining Life:
11 years



Best Case: \$ 3,700

Worst Case: \$ 4,500

Cost Source: Budget Allowance Provided by Client: Aadvanced Bid plus add'l costs

Treatment Building

Comp #: 1500 Building (wood)

Quantity: (1) building, 8'Wx8'L

Location: North Foxglove Dr NW

Funded?: Yes.

History: 2004: Installed

Comments: The treatment building is a wood small building on a concrete foundation and is in good condition. Repairs to the structure (roof, siding, etc) are expected to be made with operating funds given the small size. The allowance is provided should the building need to be replaced in the future and is based on a pre-fab Tuff Shed structure of the same size/openings.

Note that the foundation is not included in this replacement cost, as its useful life is indeterminant and expected to remain in the event of a building replacement.

- Building with installation: \$3,950

- Steel doors \$2,900

- Insulation/Sheetrock \$ 800

Total Parts \$7,650

Sales Tax \$ 681

Permit \$ 200

Demo \$ 600

TOTAL \$9,131

Useful Life:

30 years

Remaining Life:

20 years



Best Case: \$ 9,100

Worst Case: \$ 11,000

Cost Source: Estimate: Tuff Shed

Comp #: 1520 Pump - Repair/Replace

Quantity: (1) Pump BW-A1V4-4T

Location: Inside Treatment Building on N Foxglove Dr NW

Funded?: Yes.

History: 2021 Replaced; 2004 Installed

Comments: Pump is an Peristaltic Pump with Feed - Manufacturer Blue-White BW-A1V4-4T. Replacement below based on the following calculations:

- Supplies \$2270

- Labor \$ 730

- Sales Tax \$ 372

Total Replacement: \$3,372

Useful Life:
10 years

Remaining Life:
7 years



Best Case: \$ 3,300

Worst Case: \$ 4,000

Cost Source: Estimate Provided by Client

Comp #: 1530 Storage Tanks - 125 gal

Quantity: (2) DC-920125-1.5 NAT

Location: Inside Treatment Building on N Foxglove Dr NW (Coordinates: 47.38185052402538, -122.60384927670196)

Funded?: Yes.

History: Installed 2016

Comments: The two storage tanks are 125 gallon storage tanks with 1" ball valves used to store chemicals for chlorination of the sewer effluent prior to flowing into the Gig Harbor Wasterwater Treatment System piping. Replacement costs provide for both tanks.

Replacement cost includes:

- Tanks & fittings plus shipping: \$1,576
- Labor \$2,920
- Disposal \$ 36
- Sales Tax \$ 403

TOTAL REPLACEMENT \$ 4,935

Useful Life:
15 years

Remaining Life:
7 years



Best Case: \$ 4,900

Worst Case: \$ 5,900

Cost Source: Estimate Provided by Client: Tank Farm & Home Depot

Comp #: 1550 Flow Meter w/ data logger

Quantity: (1) Seametrics 4700p

Location: Inside Treatment Building on N Foxglove Dr NW

Funded?: Yes.

History: Installed 2021

Comments: Electromagnetic 2" Seametrics 4700p w Data Logger installed inline works with Peristaltic Pump.

Replacement cost includes:

- Parts w/shipping: \$3,450

- Labor \$ 730

- Sales Tax \$ 372

TOTAL \$4,552

Useful Life:
15 years

Remaining Life:
12 years



Best Case: \$ 4,600

Worst Case: \$ 5,500

Cost Source: Estimate Provided by Client: Furrow Pump

Comp #: 1560 Electrical Panel/Components

Quantity: (1) Panel, 1500W heater

Location: In treatment building

Funded?: Yes.

History: 2004: Installed

Comments: No problems reported. Replacement for panel is based on replacing with an exterior lockable access panel versus interior one. Heater is included in this replacement as it may require rewiring with panel replacement. Normally heater will be replaced with operating funds as on its own is below the threshold for reserve funding.

Useful Life:
30 years

Remaining Life:
11 years



Best Case: \$ 2,700

Worst Case: \$ 3,200

Cost Source: Estimate Provided by Client

Comp #: 1570 Pipes & Valves

Quantity: Various components

Location: Treatment Building

Funded?: Yes.

History: 2004 original with additions in 2021 with Flowmeter installation

Comments: Various PVC pipes, valves, elbows, Ts supporting the treatment building. Allowance provided based on the following:

5 3" Ball valves (Brass)

7 3" PVC Pipes

13 3" PVC Nipples

34 Elbows

62 3" Ts

Total Supplies: \$2,614

Labor \$2,920

Sales Tax \$ 233

TOTAL: \$5,767

Useful Life:

30 years

Remaining Life:

11 years



Best Case: \$ 5,800

Worst Case: \$ 7,000

Cost Source: Estimate Provided by Client: HD Fowler

Community

Comp #: 1600 HDPE Sewer Pipes (Repair)**Quantity: ~11,187 LF**

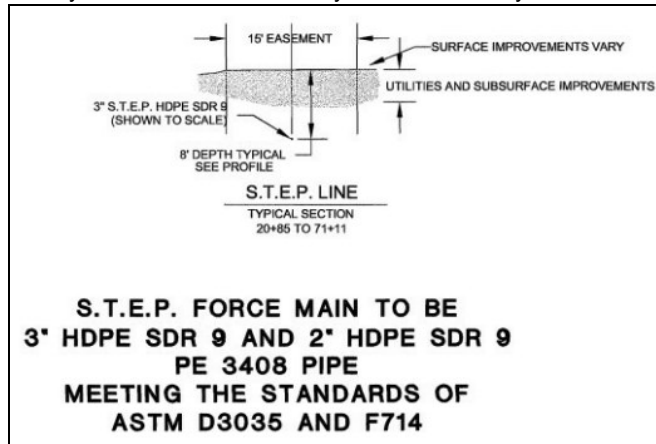
Location: See As-Built Drawings for pipe locations

Funded?: Yes. Useful life exceeds maximum length of study

History: 2004: Installed

Comments: Entire system uses HDPE throughout and has no expectation of widespread replacement or failure. However, we have provided an allowance for repair using the following basis:

Failure Rate Basis: Jana Labs Technical Report of PE Pipe Performance in Potable Water Distribution Systems dtd 8/2011 & Chandan, V. Dissertation on Performance Comparison of HDPE in Municipal Water Application dtd 12/2012. Current generation HDPE piping (PE-3608/PE-4710) predicted to last >100 yrs. Observed failure rates of HDPE within US is 0.003 failures/mile/yr. Stage I/II failures (early life) are localized typically due to poor installation or material defects. CW Div12 STEP has approx 2.12 miles (11,187 ft) of HDPE. Over a 30yr period would should expect to see $30 \times 2.12 \times .003 = 0.19$ Failures/30 yrs. Applying a risk factor of 10 this results in approximately $0.19 \times 10 = 2$ Failures/30yrs or 1 Failure/15yrs.

Useful Life:
15 yearsRemaining Life:
3 years

Best Case: \$ 5,800

Worst Case: \$ 7,100

Cost Source: Budget Allowance

Comp #: 1620 Discharge Control Vault (Baker)

Quantity: (1) Vault - various comp

Location: Baker Way NW

Funded?: Yes.

History: 2004: Installed

Comments: The discharge control vault is a concrete box that includes the following components: 2" Ball Valve, (3) 3" Gate Valve, (1) 3" Flow Meter (Component 1670), (1) Pressure Sustaining Device / Roll Seal Valve Mod #06-SS-N7-L-30 with control system model 100-PL1-PL2-X or similar.

Replacement costs include:

- Engineering Evaluation \$ 741
 - 3-3" Gate Valve \$2,922
 - Pressure Sustaining Device \$5,166
 - Valves \$ 109
 - Labor \$4,280
 - Sales Tax/Markup \$2,883
- TOTAL: \$16,101

Note: Flow Meter not included in calculation above, as it is provided for in Component #1670

Useful Life:
30 years

Remaining Life:
11 years



Best Case: \$ 16,100

Worst Case: \$ 19,300

Cost Source: Estimate Provided by Client

Comp #: 1630 Septic Aerator

Quantity: (1) Aerator

Location: See As-Built Drawing, Sheet 6

Funded?: Yes.

History: 2004: Installed

Comments: Current system reported as functioning as expected with routine maintenance.

The aerator is a secondary aerobic treatment system to assist in the treatment of effluent. In this case, just before discharge into the public sanitary sewer system. The plans call for a system by Orenco Systems 250 gpm or comparable. Since installation, the Orenco aerator system is no longer available and is obsolete & has been replaced with other options. Therefore, when replacement is necessary, additional engineering and/or technology review may be necessary. Allowance is an estimate replacement including site preparation. Recommend soliciting proposals for replacement in sufficient time to update reserve study accordingly.

Useful Life:
30 years

Remaining Life:
11 years



Best Case: \$ 18,900

Worst Case: \$ 22,700

Cost Source: Budget Allowance

Comp #: 1640 Air Vacuum Release Assembly

Quantity: (1) assemblies

Location: Division 12; See As-Built Drawings

Funded?: Yes.

History: 2004: Installed

Comments: It has been reported that assembly does not appear functional and requires new design to address water intrusion and odor.

The air vacuum release assembly consists of piping, a 1" gate valve, a 1/2" gate valve, and a 2" combination air & vacuum release valve, which is Bermad Model 4415 with stainless steel orifice.

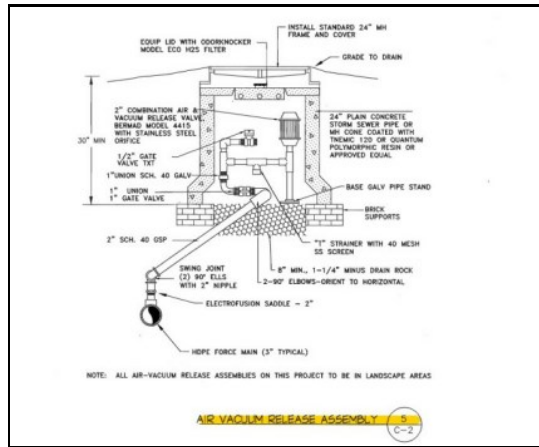
Plans call for 2, but only 1 has been located. There is another one in the treatment building that is covered under #1570. Assembly will need replacement if needed for a system failure and is aligned with larger system replacements at the end of the 30 year lifespan. Board reports having a plan in place should there be a failure until an engineering review is done with other system components.

Replacement allowance includes:

- Reengineering for redesign - \$1,481
- Parts \$5,068
- Labor \$5,840
- Site work \$3,800
- Sales Tax \$1,273
- TOTAL: \$17,063

Useful Life:
30 years

Remaining Life:
11 years



Best Case: \$ 17,100

Worst Case: \$ 20,500

Cost Source: Budget Allowance

Comp #: 1650 Low Point Drain

Location: Fox Glove Drive

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

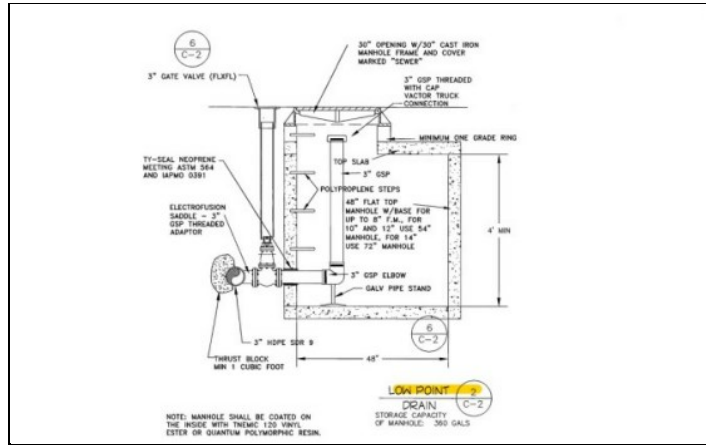
History: 2004: Installed

Comments:

Quantity: (1) assembly

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

Comp #: 1660 Standard Riser & Valve Repairs

Quantity: (3) of 31 1.5"-3" sizes

Location: Various; See As-Built Drawings

Funded?: Yes.

History: 2004: Installed

Comments: The standard valve box consists of a c/w gate valve, model F6102 along with a valve stem riser. The entire assembly is buried about 4' underground except for a small portion that is protected by fill dirt by a 6" PVC sewer pipe. A 3'x3' concrete pad is poured on top of the fill dirt if the component is not installed in the a roadway. If installed in a roadway, it is paved over with asphalt. The valves themselves are either 1.5" (4), 2" (5), and 3" (22).

Valve system is functions as a shut off system in case of emergency. They are tested annually and held in open position. Should a valve fail, the redundancy in the system is such that a different one will be engaged further down the line. As such, complete system replacement is not predictable at this time and most likely not necessary.

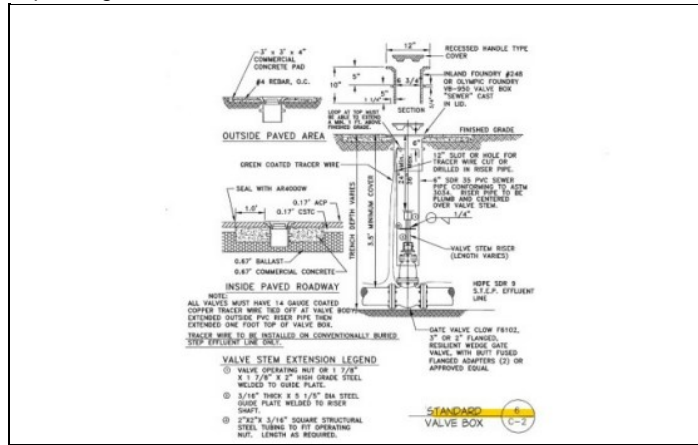
Allowance provided is for periodic repair/replacement on an estimation of 3 every 30 years. As the system ages and a failure rate identified, this component can be updated to reflect a larger system project. Until that time, the estimate provides for:

- Materials (brass gate valves & fittings) \$168 for 1.5", \$217 for 2", and \$450 for 3"
- Labor \$2190
- Site Remediation - \$900
- Sales tax ~\$300

Total per valve = \$3548-\$3,855, depending on size.

Useful Life:
30 years

Remaining Life:
11 years



Best Case: \$ 10,600

Worst Case: \$ 13,900

Cost Source: Budget Allowance

Comp #: 1670 Flow Meter (Baker Way Vault)

Quantity: (1) Flow Meter DM03-25MB

Location: Baker Way

Funded?: Yes.

History: 2023: Anticipated replacement before end of year \$4456.40 w/o labor

Comments: Photo provided is before replacement. Parts onsite with replacement planned before end of the year. Flow Meter is a Dura Mag Battery Powered Electromagnetic Flow Meter (DM03-25MB-L12) with Procomm GO Converter (DM03-PCGO) by McCrometer purchased from HD Fowler.

Useful Life:
15 years

Remaining Life:
14 years



Best Case: \$ 5,700

Worst Case: \$ 6,800

Cost Source: Client Cost History: 2023

Comp #: 1680 Pressure Sustaining Vault (47th Ct)

Quantity: (1) Vault - various comp

Location: 47th Ave Court

Funded?: Yes.

History: 2004: Installed

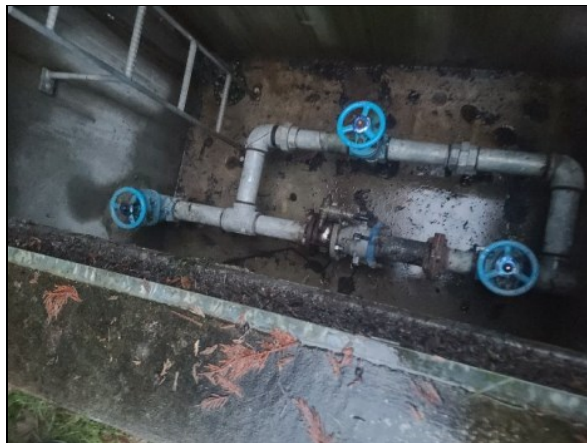
Comments: The pressure sustaining device vault is a concrete box that includes the following components: (3) 3" Gate Valve F6102, (2) Rodent Screen, (1) Pressure Sustaining Device / Roll Seal Valve Mod #06-SS-N7-L-30 with control system CLA-VAL 750-01.

Replacement costs include:

- Engineering Evaluation \$ 741
 - Pressure Sustaining Device \$1,362
 - Valves \$ 573
 - Labor \$2,740
 - Sales Tax/Markup \$ 732
- TOTAL: \$6,148

Useful Life:
30 years

Remaining Life:
11 years



Best Case: \$ 6,100

Worst Case: \$ 7,300

Cost Source: Estimate Provided by Client

Comp #: 1690 Pig port & valves

Quantity: (3) assemblies

Location: See plans

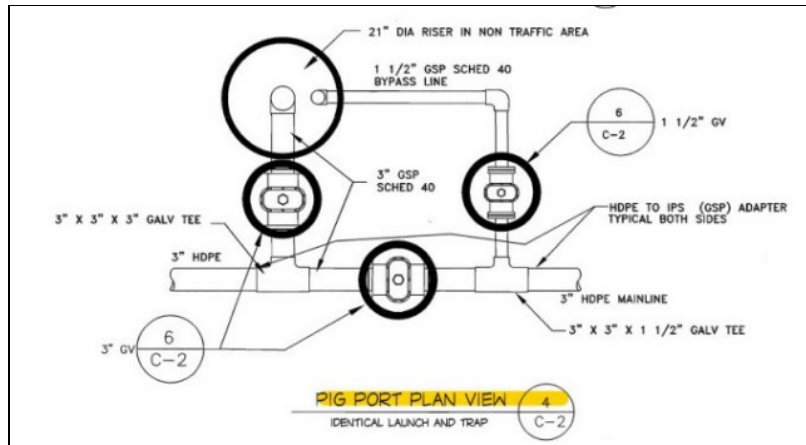
Funded?: No. The useful life is not predictable.

History: 2004 Installed

Comments:

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

Comp #: 1695 Concrete - Vaults, Foundation

Quantity: Multiple

Location: Vaults for components, foundation of treatment building

Funded?: No. No limited useful life

History:

Comments: Large concrete components are not funded as they are expected to have a long term life and can be repaired as needed.

As routine maintenance, inspect regularly and pressure wash for appearance. Repair promptly, as needed, to prevent water penetrating into the base, which can cause further damage. Factors affecting the quality and service life of the concrete include the preparation of the underlying soil and drainage, thickness and strength of the concrete used, steel reinforcement, amount and weight of vehicle traffic, and tree roots.

Resources:

<https://www.sakrete.com/blog/post/5-key-considerations-for-small-concrete-repairs/>

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

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

Systems and Evaluations

Comp #: 990 System Evaluation

Quantity: System evaluation

Location: To augment reserve planning.
Funded?: No. Operating expense in year of occurrence
History:

Comments: A reserve study is a budget model, limited to visual exterior observations and research. As there are some key details and factors of buildings and grounds hidden from view, it is prudent to conduct additional evaluations from time to time. The purpose of these evaluations is to aid planning and assess for any basis of predictable funding that may be incorporated into the reserve study. We recommend that a complete system evaluation by a qualified engineer as expected useful life approaches.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

Comp #: 999 Reserve Study - Update

Quantity: Annual update

Location: The community common and limited common elements.
Funded?: No. Costs are best handled with operating funds.
History: 2024 WSV

Comments: Per Washington State 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 reserves plan. Reserve Study costs are most appropriately factored within the annual operating budget, not as a reserves component.

Thank you for choosing Association Reserves!

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source: