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Update "With-Site-Visit" Reserve Study

HMC Water System
Lakebay, WA

Report #: 26621-3
For Period Beginning: October 1, 2017
Expires: September 30, 2018

Date Prepared: March 15, 2017

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:

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ASSOCIATION RESERVES
Est. 1986

Table of Contents

3- Minute Executive Summary

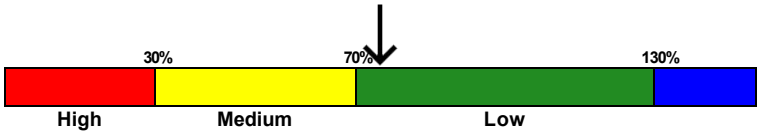
Association:	**HMC Water System**	**Assoc. #: 26621-3**
Location:	**Lakebay, WA**	**# of Units:397**
Report Period:	**October 1, 2017 through September 30, 2018**	

Findings/Recommendations as-of: October 1, 2017

Project Starting Reserve Balance	**$263,957**
Currently Fully Funding Reserve Balance	**$348,069**
Average Reserve Deficit (Surplus) Per Unit	**$212**
Percent Funded	**75.8 %**
Recommended 2017/2018 Annual "Fully Funding Contributions"	**$77,000**
Recommended 2017/2018 Annual "70% Threshold Contributions"	**$59,750**
Baseline 2017/2018 contributions to keep Reserves above $0	**$22,416**
Recommended 2017/2018 Special Assessments for Reserves	**$0**
Your 2016/2017 Reserve Contribution Rate	**$34,626**

Reserves % Funded: 75.8%

Special Assessment Risk:



Economic Assumptions:

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

• This is a Update "With-Site-Visit" Reserve Study, meeting or exceeding all requirements of the RCW. This study was prepared by, or under the supervision of a credentialed Reserve Specialist (RS 153).

• Your Reserve Fund is currently 75.8 % 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.

• Based on this starting point and your anticipated future expenses, our recommendation is to substantially increase your Reserve contributions to within the 70% to 100% level as noted above in order to maintain/improve current strong status. Going forward, collection of reserve monies to provide for fair distribution of expense burden to offset ongoing deterioration of reserve category projects and to maintain/improve strong status should be undertaken. In other words, current owners should contribute "their fair share" to maintenance reserves. The reader should note that the FY 2017/2018 "Annual Deterioration" of reserve components is $58,380.

• No assets appropriate for Reserve designation known to be excluded. See appendix for important component information and the basis of our assumptions.

Washington disclosure, per RCW:

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

Executive Summary 26621-3

#	Component	Useful Life (yrs)	Rem. Useful Life (yrs)	Current Average Cost
	Capacity / Storage			
901	Well Pumps/Motors - Replace	30	25	$18,000
904	Well Controls - Replace	30	25	$5,000
910	Storage Tank, Concrete - Replace	80	68	$212,800
912	Storage Tank, Interior - Clean	10	1	$4,000
914	Storage Tank, Exterior - Clean	5	1	$3,200
	Boost			
920	Booster Pumps, 5 HP - Replace	20	15	$16,000
922	Booster Pump, 15 HP - Replace	40	35	$22,000
924	Booster Pumps VFD Control - Replace	20	15	$16,000
	Distribution			
940	Distribution Lines, 6"-8" - Replace	70	65	$1,039,350
941	Distribution Lines, 2" - Replace	40	35	$67,500
945	Service Connect/Lines - Replace	40	35	$258,050
946	Service Meters - Replace	10	5	$127,040
947	Service Meter Box/Setters - Replace	20	15	$127,040
950	Pressure Reducing Valves - Replace	20	15	$12,600
954	Blow-Out/Isolation Valves - Replace	30	25	$38,000
958	Hydrants - Replace	40	35	$157,850
	Buildings/Site			
964	Building Roofs - Replace	40	36	$3,300
967	Storage Shed, Vinyl - Replace	20	16	$2,700
969	Building Electrical - Replace	30	25	$10,500
970	Chain Link Fence - Replace	35	31	$17,280
	Systems/Equipment			
980	Generator, Emergency - Replace	50	7	$50,000
999	Meter Reader System - Replace	6	1	$5,500
	Financial/Professional			
1006	SWSMP - Update	6	0	$3,000
1013	Sanitary Survey - Update	5	3	$2,000
24	**Total Funded Components**			

Note 1: a Useful Life of "N/A" means a one-time expense, not expected to repeat.
Note 2: Yellow highlighted line items are expected to require attention in this intial year.

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 STUDY RESULTS

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?

RESERVE COMPONENT "FOUR-PART TEST"

There is a national-standard four-part test to determine which expenses should appear in your Reserve Component List. First, it must be a common area maintenance responsibility. Second, the component must have a limited life. Third, the remaining life must be predictable (or it by definition is a *surprise* which cannot be accurately anticipated). Fourth, the component must be above a minimum threshold cost (often between .5% and 1% of an association's total budget). This limits Reserve Components to major, predictable expenses. Within this framework, it is inappropriate to include *lifetime* components, unpredictable expenses (such as damage due to fire, flood, or earthquake), and expenses more appropriately handled from the Operational Budget or as an insured loss.

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.*

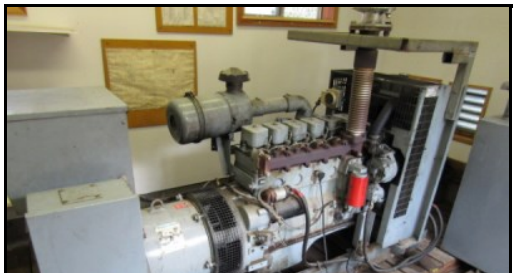
FUNDING OBJECTIVES

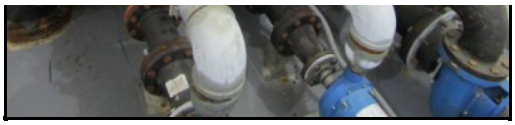
Allowing the Reserves to fall close to zero, but not below zero, is called Baseline Funding. Doing so allows the Reserve Fund to drop into the 0 - 30% range, where there is a high risk of special assessments & deferred maintenance. Since Baseline Funding still provides for the timely execution of all 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 3/9/2017, we noted current conditions, materials, apparent levels of care and maintenance as well as exposure to weather elements.
During our site inspection and subsequent research we were informed which components were being handled from the operational maintenance budget, not reserves.
HMC Water System currently has 397 connections with recent project to replace with new distribution, metering and fire suppression improvements primarily completed in FY 2012/2013
Reserve expenses to anticipate in the near term (next five years) include interior and exterior cleaning of storage reservoir and updating of SWSMP , among others.
The reader should note that the water system obtained loan from USDA with proceeds utilized to help pay for distribution, metering and fire suppression improvements; expense of $1,738,000 was indicated. Total of annual P&I payments are reportedly $53,278 with a 40 year term. No impact upon water system maintenance reserves is factored since collections and payments are handled in a separate account for this debt obligation.

Please refer to the detailed photographic inventory appendix (photo pages) to gain a comprehensive understanding for component information and the basis of our assumptions.





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.

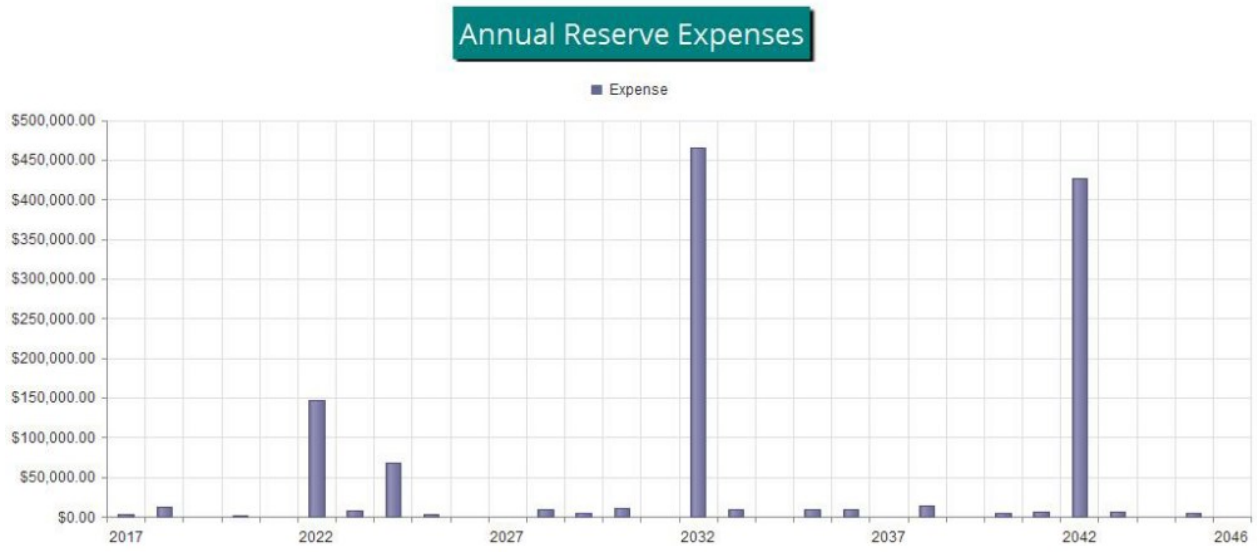


Figure 1

Reserve Fund Status

The starting point for our financial analysis is your Reserve Fund balance, projected to be $263,957 as-of the start of your Fiscal Year on 10/1/2017. As of that date, your Fully Funded Balance is computed to be $348,069 (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 $77,000 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.

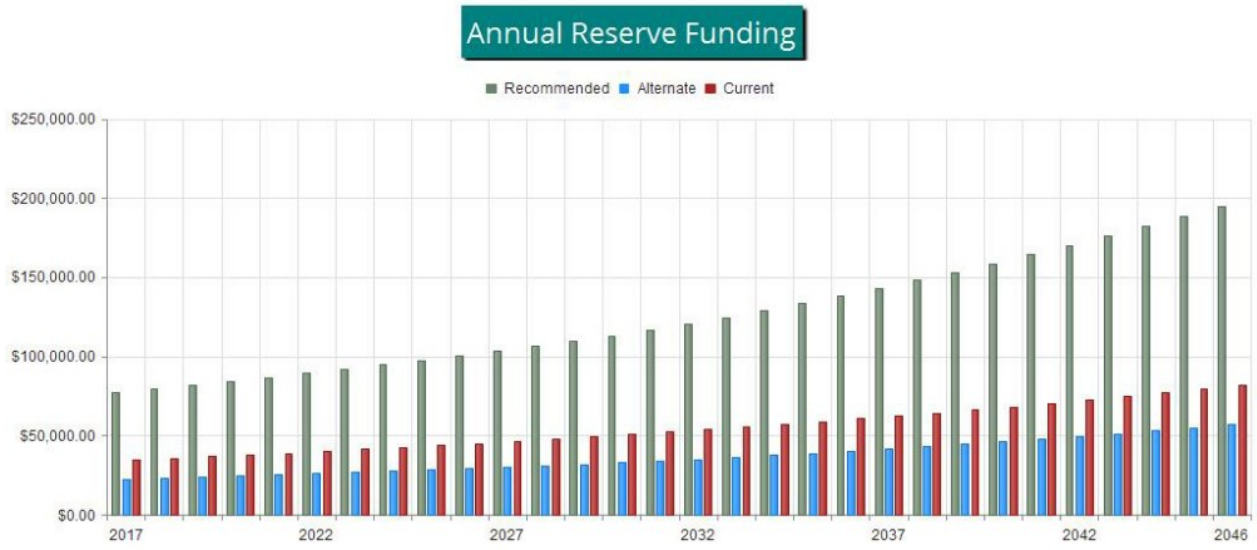


Figure 2

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.

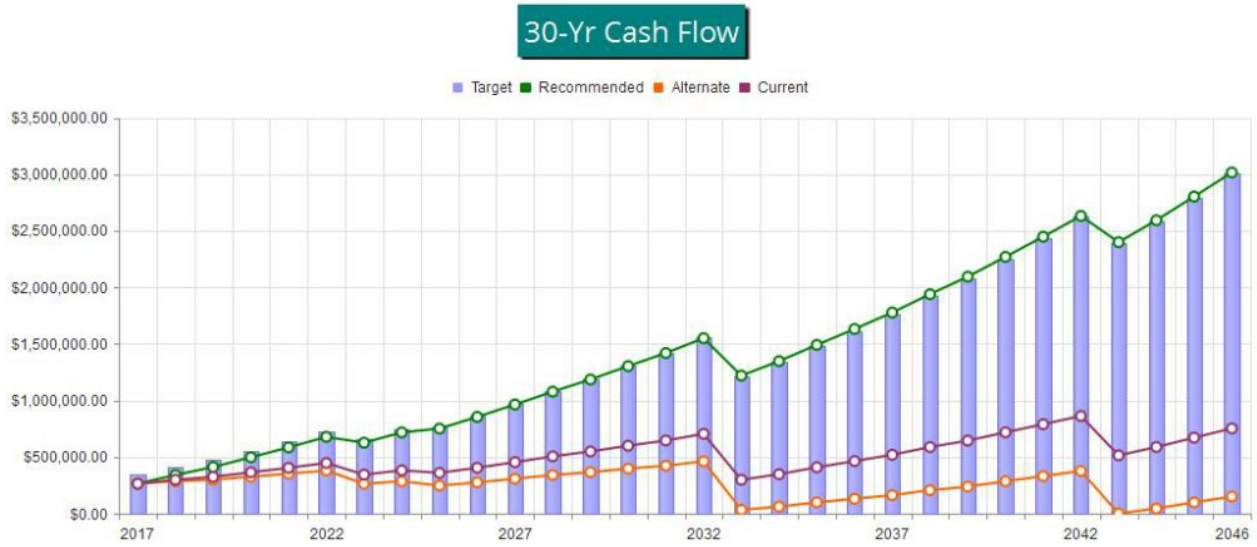


Figure 3

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.

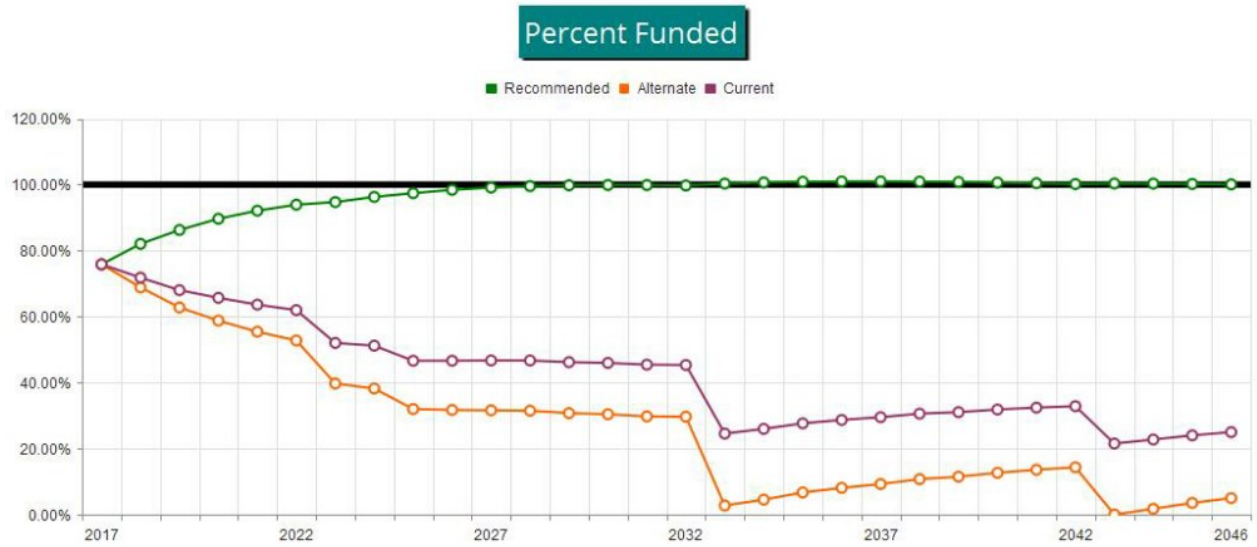


Figure 4

Table Descriptions

The tabular information in this Report is broken down into nine tables, not all which may have been chosen by your Project Manager to appear in your report. Tables are listed in the order in which they appear in your Report.

Executive Summary is a summary of your Reserve Components

Budget Summary is a management and accounting tool, summarizing groupings of your Reserve Components.

Analysis Summary provides a summary of the starting financial information and your Project Manager's Financial Analysis decision points.

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

Acct/Tax Summary provides information on each Component's proportionate portion of key totals, valuable to accounting professionals primarily during tax preparation time of year.

30-Yr 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.

Cash Flow 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.

Starting Information:			
# Units:	397		
Base Year:	2017		
Period Start:	10/01/2017		
Period End:	09/30/2018		
Site Inspection Date:	03/09/2017		
Total Asessments:	$98,628	Per Unit	$248.43
Budgeted Res Contrib:	$34,626	Per Unit	$87.22
Starting Reserve Bal:	$263,957		
Interest:	1.00 %		
Inflation:	3.00 %		
Status:			
Proportional FFB:	$348,069		
Percent Funded:	75.8 %		
Swain Factor:	2.939 %		
Recommendation:			
Recommended Contribution Rate:	$77,000	Per Unit	$193.95
Alternate Contribution Rate:	$22,416	Per Unit	$56.46
Annual Increase:	3.00 %		
# of Years:	14		
Secondary Annual Increase:	3.50 %		
# of Years:	30		
1st Yr S.A.:	$0	Per Unit	$0.00
2nd Yr S.A.:	$0	Per Unit	$0.00
3rd Yr S.A.:	$0	Per Unit	$0.00
4th Yr S.A.:	$0	Per Unit	$0.00
5th Yr S.A.:	$0	Per Unit	$0.00
Minimum Balance (Full):	$263,957.00		
Min Margin (Full):	100.00 %		
Minimum Balance (Alt):	$4.02		
Min Margin (Alt):	0.00 %		
System Defaults:			
Current Annual Increase:	3.00 %		
Budget Cycles Per Year:	1		

#	Component	Quantity	Useful Life	Rem. Useful Life	Current Cost Estimate Best Case	Current Cost Estimate Worst Case
	Capacity / Storage					
901	Well Pumps/Motors - Replace	(2) 5 HP submersible, 4"	30	25	$16,000	$20,000
904	Well Controls - Replace	(1) two-motor control	30	25	$4,000	$6,000
910	Storage Tank, Concrete - Replace	(1) 99,000 gallon	80	68	$198,000	$227,600
912	Storage Tank, Interior - Clean	(1) 99,000 gallon	10	1	$3,000	$5,000
914	Storage Tank, Exterior - Clean	(1) 99,000 gallon	5	1	$2,700	$3,700
	Boost					
920	Booster Pumps, 5 HP - Replace	(2) Nidec, 5 HP	20	15	$14,000	$18,000
922	Booster Pump, 15 HP - Replace	(1) Baldor, 15 HP	40	35	$20,000	$24,000
924	Booster Pumps VFD Control - Replace	(1) three pump control	20	15	$14,000	$18,000
	Distribution					
940	Distribution Lines, 6"-8" - Replace	Approx 26,650 LF	70	65	$932,750	$1,145,950
941	Distribution Lines, 2" - Replace	Approx 2,500 LF	40	35	$62,500	$72,500
945	Service Connect/Lines - Replace	(397) connections	40	35	$238,200	$277,900
946	Service Meters - Replace	(397) meters	10	5	$107,190	$146,890
947	Service Meter Box/Setters - Replace	(397) boxes/setters	20	15	$107,190	$146,890
950	Pressure Reducing Valves - Replace	(60) metal	20	15	$9,600	$15,600
954	Blow-Out/Isolation Valves - Replace	(38) total, assorted	30	25	$34,200	$41,800
958	Hydrants - Replace	(41) hydrants	40	35	$147,600	$168,100
	Buildings/Site					
964	Building Roofs - Replace	Approx 500 square feet	40	36	$2,800	$3,800
967	Storage Shed, Vinyl - Replace	(1) 8'x8'	20	16	$2,200	$3,200
969	Building Electrical - Replace	Extensive systems	30	25	$8,500	$12,500
970	Chain Link Fence - Replace	Approx 720 linear feet	35	31	$15,840	$18,720
	Systems/Equipment					
980	Generator, Emergency - Replace	(1) Marathon, 60KW	50	7	$40,000	$60,000
999	Meter Reader System - Replace	(1) meter, software	6	1	$4,500	$6,500
	Financial/Professional					
1006	SWSMP - Update	Every 6 years	6	0	$2,500	$3,500
1013	Sanitary Survey - Update	Every 5 years	5	3	$1,500	$2,500

24 Total Funded Components

Fully Funded Balance

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WSV

#	Component	Current Cost Estimate	X	Effective Age	/	Useful Life	=	Fully Funded Balance
	Capacity / Storage							
901	Well Pumps/Motors - Replace	$18,000	X	5	/	30	=	$3,000
904	Well Controls - Replace	$5,000	X	5	/	30	=	$833
910	Storage Tank, Concrete - Replace	$212,800	X	12	/	80	=	$31,920
912	Storage Tank, Interior - Clean	$4,000	X	9	/	10	=	$3,600
914	Storage Tank, Exterior - Clean	$3,200	X	4	/	5	=	$2,560
	Boost							
920	Booster Pumps, 5 HP - Replace	$16,000	X	5	/	20	=	$4,000
922	Booster Pump, 15 HP - Replace	$22,000	X	5	/	40	=	$2,750
924	Booster Pumps VFD Control - Replace	$16,000	X	5	/	20	=	$4,000
	Distribution							
940	Distribution Lines, 6"-8" - Replace	$1,039,350	X	5	/	70	=	$74,239
941	Distribution Lines, 2" - Replace	$67,500	X	5	/	40	=	$8,438
945	Service Connect/Lines - Replace	$258,050	X	5	/	40	=	$32,256
946	Service Meters - Replace	$127,040	X	5	/	10	=	$63,520
947	Service Meter Box/Setters - Replace	$127,040	X	5	/	20	=	$31,760
950	Pressure Reducing Valves - Replace	$12,600	X	5	/	20	=	$3,150
954	Blow-Out/Isolation Valves - Replace	$38,000	X	5	/	30	=	$6,333
958	Hydrants - Replace	$157,850	X	5	/	40	=	$19,731
	Buildings/Site							
964	Building Roofs - Replace	$3,300	X	4	/	40	=	$330
967	Storage Shed, Vinyl - Replace	$2,700	X	4	/	20	=	$540
969	Building Electrical - Replace	$10,500	X	5	/	30	=	$1,750
970	Chain Link Fence - Replace	$17,280	X	4	/	35	=	$1,975
	Systems/Equipment							
980	Generator, Emergency - Replace	$50,000	X	43	/	50	=	$43,000
999	Meter Reader System - Replace	$5,500	X	5	/	6	=	$4,583
	Financial/Professional							
1006	SWSMP - Update	$3,000	X	6	/	6	=	$3,000
1013	Sanitary Survey - Update	$2,000	X	2	/	5	=	$800
								$348,069

Accounting Tax Summary

26621-3
WSV

#	Component	UL	RUL	Current Cost Estimate	Fully Funded Balance	Current Fund Balance	Proportional Reserve Contribs
	Capacity / Storage						
901	Well Pumps/Motors - Replace	30	25	$18,000	$3,000	$3,000	$791
904	Well Controls - Replace	30	25	$5,000	$833	$833	$220
910	Storage Tank, Concrete - Replace	80	68	$212,800	$31,920	$0	$3,508
912	Storage Tank, Interior - Clean	10	1	$4,000	$3,600	$3,600	$528
914	Storage Tank, Exterior - Clean	5	1	$3,200	$2,560	$2,560	$844
	Boost						
920	Booster Pumps, 5 HP - Replace	20	15	$16,000	$4,000	$4,000	$1,055
922	Booster Pump, 15 HP - Replace	40	35	$22,000	$2,750	$2,750	$725
924	Booster Pumps VFD Control - Replace	20	15	$16,000	$4,000	$4,000	$1,055
	Distribution						
940	Distribution Lines, 6"-8" - Replace	70	65	$1,039,350	$74,239	$22,047	$19,583
941	Distribution Lines, 2" - Replace	40	35	$67,500	$8,438	$8,438	$2,226
945	Service Connect/Lines - Replace	40	35	$258,050	$32,256	$32,256	$8,509
946	Service Meters - Replace	10	5	$127,040	$63,520	$63,520	$16,756
947	Service Meter Box/Setters - Replace	20	15	$127,040	$31,760	$31,760	$8,378
950	Pressure Reducing Valves - Replace	20	15	$12,600	$3,150	$3,150	$831
954	Blow-Out/Isolation Valves - Replace	30	25	$38,000	$6,333	$6,333	$1,671
958	Hydrants - Replace	40	35	$157,850	$19,731	$19,731	$5,205
	Buildings/Site						
964	Building Roofs - Replace	40	36	$3,300	$330	$330	$109
967	Storage Shed, Vinyl - Replace	20	16	$2,700	$540	$540	$178
969	Building Electrical - Replace	30	25	$10,500	$1,750	$1,750	$462
970	Chain Link Fence - Replace	35	31	$17,280	$1,975	$1,975	$651
	Systems/Equipment						
980	Generator, Emergency - Replace	50	7	$50,000	$43,000	$43,000	$1,319
999	Meter Reader System - Replace	6	1	$5,500	$4,583	$4,583	$1,209
	Financial/Professional						
1006	SWSMP - Update	6	0	$3,000	$3,000	$3,000	$659
1013	Sanitary Survey - Update	5	3	$2,000	$800	$800	$528
24	Total Funded Components				$348,069	$263,957	$77,000

30-Year Reserve Plan Summary

26621-3
WSV

Fiscal Year Start: 2017	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	Reserve Contribs.	Loan or Special Assmts	Interest Income	Reserve Expenses
2017	$263,957	$348,069	75.8 %	Low	$77,000	$0	$3,023	$3,000
2018	$340,980	$415,553	82.1 %	Low	$79,310	$0	$3,758	$13,081
2019	$410,968	$476,481	86.3 %	Low	$81,689	$0	$4,539	$0
2020	$497,196	$554,569	89.7 %	Low	$84,140	$0	$5,406	$2,185
2021	$584,557	$634,663	92.1 %	Low	$86,664	$0	$6,308	$0
2022	$677,529	$721,381	93.9 %	Low	$89,264	$0	$6,515	$147,274
2023	$626,034	$661,039	94.7 %	Low	$91,942	$0	$6,714	$7,403
2024	$717,286	$745,045	96.3 %	Low	$94,700	$0	$7,339	$68,258
2025	$751,067	$771,045	97.4 %	Low	$97,541	$0	$8,022	$2,534
2026	$854,097	$867,739	98.4 %	Low	$100,468	$0	$9,085	$0
2027	$963,650	$972,229	99.1 %	Low	$103,482	$0	$10,201	$0
2028	$1,077,332	$1,082,208	99.5 %	Low	$106,586	$0	$11,308	$9,966
2029	$1,185,260	$1,187,645	99.8 %	Low	$109,784	$0	$12,437	$4,277
2030	$1,303,203	$1,304,601	99.9 %	Low	$113,077	$0	$13,605	$11,014
2031	$1,418,871	$1,420,700	99.9 %	Low	$116,469	$0	$14,839	$0
2032	$1,550,179	$1,554,275	99.7 %	Low	$120,546	$0	$13,841	$465,334
2033	$1,219,232	$1,215,293	100.3 %	Low	$124,765	$0	$12,827	$9,468
2034	$1,347,357	$1,338,493	100.7 %	Low	$129,132	$0	$14,184	$0
2035	$1,490,673	$1,478,036	100.9 %	Low	$133,651	$0	$15,604	$8,512
2036	$1,631,416	$1,615,979	101.0 %	Low	$138,329	$0	$17,036	$9,644
2037	$1,777,136	$1,759,966	101.0 %	Low	$143,171	$0	$18,572	$0
2038	$1,938,879	$1,921,369	100.9 %	Low	$148,182	$0	$20,155	$13,394
2039	$2,093,821	$2,077,077	100.8 %	Low	$153,368	$0	$21,805	$0
2040	$2,268,994	$2,254,607	100.6 %	Low	$158,736	$0	$23,572	$3,947
2041	$2,447,355	$2,436,854	100.4 %	Low	$164,292	$0	$25,381	$6,098
2042	$2,630,928	$2,625,914	100.2 %	Low	$170,042	$0	$25,138	$427,214
2043	$2,398,894	$2,390,562	100.3 %	Low	$175,993	$0	$24,949	$6,901
2044	$2,592,935	$2,584,850	100.3 %	Low	$182,153	$0	$26,963	$0
2045	$2,802,051	$2,795,965	100.2 %	Low	$188,528	$0	$29,073	$4,576
2046	$3,015,077	$3,012,707	100.1 %	Low	$195,127	$0	$31,269	$0

Accuracy, Limitations, and Disclosures

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

Capacity / Storage

Comp #: 900 Wells - Replace **Quantity: (2) active**

Location: 421 West Madrona (Lots 7 and 8, Block 3, Division 5)
Funded?: No. Useful life not predictable or extended
History: Well #1 was reportedly drilled in in either 1955 or 1959 and Well #2 in perhaps 1982 or 1983
Evaluation: There are two wells on the property; both are active and located within 65' of each other. Well #1 was reportedly drilled in in either 1955 or 1959 and Well #2 in perhaps 1982 or 1983. Current depth is ~200' for each with combined 370 GPM pumping output. Detailed information about background, depth, supply, etc… should be found within the comprehensive Water System Plan by Anchor Environmental, LLC (dated September 2009) and the subsequent 2011 Distribution System Replacement Project Report by Northwest Water Systems, Inc.. The WSP details current and future projected water needs. Previous information within that plan and our current research did not indicate any predictable time frame for the need to drill a new well within the current water system planning period which ends in 2028 nor for the distant foreseeable future. Note that without any known deficiencies of aquifer, service life of wells can be very extended, often 100 years or more. Further, existing wells may have potential to be extended rather than selecting new wells/locations. As the community ages and your SWSMP is updated, begin accruing reserve funds to add, modify or replace any wells when basis for future needs or useful life is confirmed to be less than 30 years and then update your long term budget accordingly.

Useful Life:

Remaining Life:

Best Case: Worst Case:

Cost Source:

Comp #: 901 Well Pumps/Motors - Replace **Quantity: (2) 5 HP submersible, 4"**

Location: 421 West Madrona (Lots 7 and 8, Block 3, Division 5)
Funded?: Yes. Meets National Reserve Study Standards criteria for Reserve Funding
History: Replaced last in September 2012
Evaluation: Both well pumps/motors were replaced last in September 2012. Previous research with installing contractor indicated replacement at the typical useful life projection of between 15-30 years for most applications, with longer end of this range for these systems. Going forward, regular testing and inspection should be factored within the operating budget. Minor repairs/replacements (below $2,000) of miscellaneous valves, piping, hardware, etc… should also be considered maintenance items.

Useful Life:
30 years

Remaining Life:
25 years

Best Case: $ 16,000 Worst Case: $ 20,000

Lower allowance Higher allowance

Cost Source: ARI Cost Database: Similar Project Cost History

Comp #: 904 Well Controls - Replace **Quantity: (1) two-motor control**

Location: 421 West Madrona (Lots 7 and 8, Block 3, Division 5)
Funded?: Yes. Meets National Reserve Study Standards criteria for Reserve Funding
History:
Evaluation: Well control panel without reported problems. Assumption for eventual intervals of controller system replacement to ensure functionality and offset potential parts obsolescence.

Useful Life:
30 years

Remaining Life:
25 years

Best Case: $ 4,000 Worst Case: $ 6,000

Lower allowance Higher allowance

Cost Source: ARI Cost Database: Similar Project Cost History

Comp #: 905 Source Flow Meters - Replace **Quantity: (2) Badger, assorted**
Location: 421 West Madrona (Lots 7 and 8, Block 3, Division 5)
Funded?: No. Cost projected to be too small
History:
Evaluation: Age and model appear to vary but no reported problems; both are assumed to be within allowable accuracy tolerances. Typical life is in the 10-20 year range. Roughly $1,000-$1,300 expense for individual replacements, when needed, do not merit reserve designation.

Useful Life:

Remaining Life:

Best Case: Worst Case:

Cost Source:

Comp #: 907 Filter/Treatment Systems - Add **Quantity: None at present**
Location: None at present
Funded?: No. No apparent needs or plans to add such systems
History:
Evaluation: Good water quality reported; historically water has met applicable health standards without apparent needs to add filtration or treatment systems. Incorporate any significant changes or predictable expense in future reserve study updates as conditions merit.

Useful Life:

Remaining Life:

Best Case: Worst Case:

Cost Source:

Comp #: 910 Storage Tank, Concrete - Replace **Quantity: (1) 99,000 gallon**

Location: 421 West Madrona (Lots 7 and 8, Block 3, Division 5)

Funded?: Yes. Meets National Reserve Study Standards criteria for Reserve Funding

History: Reportedly installed in 2005

Evaluation: This above grade concrete tank was reportedly installed in 2005. It is our understanding that water storage capacity is 94,000 gallons for this 99,000 gallon reservoir. No significant cracking, damage or spalling was apparent during our limited scope visual inspection. As before, local efflorescence (mineral staining) was noted. This condition is reportedly consistent since initial 2005 construction and not indicative of significant water loss. We assume ongoing evaluation for stability and leak detection will occur. Interior of concrete tank is without any liner requiring renewal or replacement. Our research suggests planning for typical service life of between 60-80 years for concrete tanks. Continue to monitor closely and perhaps have engineer evaluate if cracking/spalling, or actual leaks become prevalent. Also, inspect access metal work and keep in good repair as ongoing maintenance. Note; some possibility of increased storage needs may exist for future years, as well as multitude of other design criteria - adjust in future reserve updates as conditions merit.

Useful Life:
80 years

Remaining Life:
68 years

Best Case: $ 198,000 Worst Case: $ 227,600

Lower allowance Higher allowance

Cost Source: ARI Cost Database: Similar Project Cost History

Comp #: 911 Storage Tank, Interior - Seal **Quantity: None at present**

Location: 421 West Madrona (Lots 7 and 8, Block 3, Division 5)

Funded?: No. Presently no type of interior tank liner exists

History:

Evaluation: No image of interior available; exterior of tank represented below. As already mentioned, no type of interior tank liner presently exists with no anticipating of such applications for the foreseeable future. Note that if needs arise, beginning such application of interior coatings, typical life expectancy is 10-15 years and cost would likely be in the $10,000-$16,000 range.

Useful Life:

Remaining Life:

Best Case: Worst Case:

Cost Source:

Comp #: 912 Storage Tank, Interior - Clean **Quantity: (1) 99,000 gallon**
Location: 421 West Madrona (Lots 7 and 8, Block 3, Division 5)
Funded?: Yes. Meets National Reserve Study Standards criteria for Reserve Funding
History: Your current plans for interior cleaning project to occur in FY 2018/2019
Evaluation: Interior was not inspected. Research for this update informed us regarding your current plans for interior cleaning project to occur in FY 2018/2019 and then every 10 years or so going forward. Track any other significant needs and expense patterns carefully; adjust in future reserve study updates.

Useful Life:
10 years

Remaining Life:
1 years

Best Case: $ 3,000 Worst Case: $ 5,000

Lower allowance Higher allowance

Cost Source: Estimate Provided by Client

Comp #: 914 Storage Tank, Exterior - Clean **Quantity: (1) 99,000 gallon**
Location: 421 West Madrona (Lots 7 and 8, Block 3, Division 5)
Funded?: Yes. Meets National Reserve Study Standards criteria for Reserve Funding
History: FY 2014/2015 project at expense of $2,800
Evaluation: Exterior surface is without any protective coating (as typical for concrete reservoir). General grime, mildew and staining was illustrated. Last exterior cleaning project reportedly occurred in FY 2014/2015 project at expense of $2,800. As before, we have factored an allowance for cleaning intervals every 4-5 years to benefit aesthetics.

Useful Life:
5 years

Remaining Life:
1 years

Best Case: $ 2,700 Worst Case: $ 3,700

Lower allowance Higher allowance

Cost Source: ARI Cost Database: Similar Project Cost History

Comp #: 916 Storage Tank, Old - Repurpose **Quantity: (1) project**

Location: 421 West Madrona (Lots 7 and 8, Block 3, Division 5)
Funded?: No. Annual cost best handled as operating expense
History: Repurpose ongoing since FY 2015/2016; expense for project from operating funds
Evaluation: Decommissioned, old concrete reservoir in process of being repurposed since FY 2015/2016. Conversion to utilization as storage space is planned; expense for project from operating funds at present. Incorporate into future reserve study update as conditions warrant.

Useful Life:

Remaining Life:

Best Case: Worst Case:

Cost Source:

Boost

Comp #: 920 Booster Pumps, 5 HP - Replace **Quantity: (2) Nidec, 5 HP**
Location: 421 West Madrona (Lots 7 and 8, Block 3, Division 5)
Funded?: Yes. Meets National Reserve Study Standards criteria for Reserve Funding
History: Existing domestic supply booster pumps were installed in 2012
Evaluation: Existing domestic supply booster pumps were installed in 2012 as part of system improvements. Note that typical life expectancy is roughly 10-20 years with ordinary maintenance. Upper end of range is likely assuming present "clean" power and VFD controls.

Useful Life:
20 years

Remaining Life:
15 years

Best Case: $ 14,000 Worst Case: $ 18,000

Lower allowance Higher allowance

Cost Source: ARI Cost Database: Similar Project Cost History

Comp #: 922 Booster Pump, 15 HP - Replace **Quantity: (1) Baldor, 15 HP**
Location: 421 West Madrona (Lots 7 and 8, Block 3, Division 5)
Funded?: Yes. Meets National Reserve Study Standards criteria for Reserve Funding
History: Large fire suppression booster pump was also installed in 2012
Evaluation: Large fire suppression booster pump was also installed in 2012 as part of system improvements. Anticipate longer life as compared to domestic pumps due to assumed minimal usage over time. Continue to confidence test to ensure performance.

Useful Life:
40 years

Remaining Life:
35 years

Best Case: $ 20,000 Worst Case: $ 24,000

Lower allowance Higher allowance

Cost Source: ARI Cost Database: Similar Project Cost History

Comp #: 924 Booster Pumps VFD Control - Replace **Quantity: (1) three pump control**
Location: 421 West Madrona (Lots 7 and 8, Block 3, Division 5)
Funded?: Yes. Meets National Reserve Study Standards criteria for Reserve Funding
History:
Evaluation: Significant electricity savings is reported since installation of VFD (Variable Frequency Drive) controls. Assume integrated replacement along with booster pumps replacement intervals to maintain contemporary efficiency.

Useful Life:
20 years

Remaining Life:
15 years

Best Case: $ 14,000 Worst Case: $ 18,000

Lower allowance Higher allowance

Cost Source: ARI Cost Database: Similar Project Cost History

Comp #: 929 System Components, Small - Replace **Quantity: Assorted systems**
Location: Water system, various
Funded?: No. Annual cost best handled as operating expense
History:
Evaluation: There are numerous small connections, meters, gauges, valve assemblies, etc… These ancillary water system components will need rebuilding or replacement from time to time but are expected to also be below the reserve funding threshold cost and therefore should be expensed as general maintenance from within the operating budget per occurrence.

Useful Life:

Remaining Life:

Best Case: Worst Case:

Cost Source:

Comp #: 930 Pressure Tanks - Replace **Quantity: (2) 81 gallon**

Location: 421 West Madrona (Lots 7 and 8, Block 3, Division 5) of Block 3, Division 5

Funded?: No. Cost projected to be too small

History:

Evaluation: These small steel pressure tanks appear to be in fair condition. Replacement cost is minimal (~$1,500 for both) so replace if needed from operating funds.

Useful Life:

Remaining Life:

Best Case: Worst Case:

Cost Source:

Distribution

Comp #: 940 Distribution Lines, 6"-8" - Replace **Quantity: Approx 26,650 LF**

Location: Throughout community
Funded?: Yes. Meets National Reserve Study Standards criteria for Reserve Funding
History: Installation of primarily PVC C900 products utilized during 2012 project
Evaluation: No reported problems at present. We noted provided NWS 2011 water line project report and maps indicated that PVC Schedule 40 was to be specified during FY 2012/2013 project. Instead, installation of primarily PVC C900 products was utilized. In any event, replacements were indicated primarily to replace deteriorated and leaking sections but also improvements to flow and fire protection. Majority of PVC C900 main line is now 6" (25,200 LF) with minor amount of 8" locations. Our previous review of provided materials and research with representative of your current SMA (Satellite Management Agency), Northwest Water Systems (NWS), confirmed anticipation for long replacement intervals factored below for existing PVC C900 piping. Although this is a extended life component, eventual and very significant expense is predictable and should be included in prudent planning. We noted 2012 project design and oversight by NWS and assume related connections, road repair, etc… are included in cost projections.s.

Useful Life:
70 years

Remaining Life:
65 years

Best Case: $ 932,750 Worst Case: $ 1,145,950

Lower allowance Higher allowance

Cost Source: ARI Cost Database: Similar Project Cost History

Comp #: 941 Distribution Lines, 2" - Replace **Quantity: Approx 2,500 LF**
Location: Throughout community
Funded?: Yes. Meets National Reserve Study Standards criteria for Reserve Funding
History:
Evaluation: Some locations utilize smaller 2" (or less) PVC Schedule 40 with a useful life assumption of roughly 30-40 years as factored below. Track needs and any expense patterns that may emerge and adjust as conditions merit in future reserve study updates. Note, image is representative, not necessarily indicative of project locations.

Useful Life:
40 years

Remaining Life:
35 years

Best Case: $ 62,500 Worst Case: $ 72,500

Lower allowance Higher allowance

Cost Source: ARI Cost Database: Similar Project Cost History

Comp #: 945 Service Connect/Lines - Replace **Quantity: (397) connections**
Location: Service connections throughout community
Funded?: Yes. Meets National Reserve Study Standards criteria for Reserve Funding
History:
Evaluation: The service lines off of the main water distribution lines are primarily 1.5" poly connecting lines and we have factored a service life of roughly 30-40 years for these lines and associated connections. Some local leak repairs since large project was completed. Continue proactive leak detection, treat minor repair/replacement as needed using operating funds. Note, image is representative, not necessarily indicative of project locations.

Useful Life:
40 years

Remaining Life:
35 years

Best Case: $ 238,200 Worst Case: $ 277,900

Lower allowance Higher allowance

Cost Source: ARI Cost Database: Similar Project Cost History

Comp #: 946 Service Meters - Replace **Quantity: (397) meters**

Location: Water service points of community
Funded?: Yes. Meets National Reserve Study Standards criteria for Reserve Funding
History: Water meters with sensors were installed as part of FY 2012/2013 improvements
Evaluation: Water meters with sensors were installed as part of FY 2012/2013 improvements. Estimated useful life of meters is roughly 10 years with proactive replacement scheduling recommend to help ensure minimal leakage, function and accuracy. Anticipate some local replacement needs in between large scale projects; treat such as ongoing maintenance items.

Useful Life:
10 years

Remaining Life:
5 years

Best Case: $ 107,190 Worst Case: $ 146,890

Lower allowance Higher allowance

Cost Source: ARI Cost Database: Similar Project Cost History

Comp #: 947 Service Meter Box/Setters - Replace **Quantity: (397) boxes/setters**

Location: Water service points of community
Funded?: Yes. Meets National Reserve Study Standards criteria for Reserve Funding
History:
Evaluation: Note that associated water meter boxes, setters/shut-off valves are life limited as well. Unless more urgent needs arise, we recommend integrated replacement timed to coincide with every other meter replacement project.

Useful Life:
20 years

Remaining Life:
15 years

Best Case: $ 107,190 Worst Case: $ 146,890

Lower allowance Higher allowance

Cost Source: ARI Cost Database: Similar Project Cost History

Comp #: 950 Pressure Reducing Valves - Replace **Quantity: (60) metal**
Location: Water service points of community
Funded?: Yes. Meets National Reserve Study Standards criteria for Reserve Funding
History:
Evaluation: PRV's (pressure reducing valves) were installed in select service locations. For general planning purposes, assume estimated useful life of roughly 20 years. Document/track history of any replacement and adjust in future reserve study updates as conditions merit.

Useful Life:
20 years

Remaining Life:
15 years

Best Case: $ 9,600 Worst Case: $ 15,600

Lower allowance Higher allowance

Cost Source: ARI Cost Database: Similar Project Cost History

Comp #: 954 Blow-Out/Isolation Valves - Replace **Quantity: (38) total, assorted**
Location: Water service points of community
Funded?: Yes. Meets National Reserve Study Standards criteria for Reserve Funding
History:
Evaluation: Roughly (33) isolation valves [well and gate] and (5) blow-out valves of varying sizes are installed thorough out community at present. Replacement last in FY 2012/2013 without reported problems. We assume routine inspections, exercising and minor repair from operating funds. Anticipate significant replacement at roughly the time frame below for purposes of long term budgeting. Carefully track actual replacement needs and expense history; update future reserve study updates as conditions merit.

Useful Life:
30 years

Remaining Life:
25 years

Best Case: $ 34,200 Worst Case: $ 41,800

Lower allowance Higher allowance

Cost Source: ARI Cost Database: Similar Project Cost History

Comp #: 958 Hydrants - Replace **Quantity: (41) hydrants**

Location: Water distribution throughout community

Funded?: Yes. Meets National Reserve Study Standards criteria for Reserve Funding

History: Installations indicated in 2012

Evaluation: This component represents the existing fire hydrants that are all newer; installations indicated in 2012. Current coverage is assumed to be code compliant. Anticipated useful life of hydrants is factored below. Testing, cleaning, painting, minor repair, etc…, to sustain until that time is assumed to occur as operating expense..

Useful Life:
40 years

Remaining Life:
35 years

Best Case:	$ 147,600	Worst Case:	$ 168,100
	Lower allowance		Higher allowance

Cost Source: ARI Cost Database: Similar Project Cost History

Comp #: 960 Building Exteriors-Maintain/Repair **Quantity: Approx 1,400 GSF**
Location: 421 West Madrona (Lots 7 and 8, Block 3, Division 5)
Funded?: No. Annual cost best handled as operating expense
History:
Evaluation: Ages vary with no significant deterioration or instability of the older structures evident; no reported problems. Water system buildings are utility structures, clad largely with vertically installed plywood. Present permanent building inventory includes; Booster Pump Station/Well #1 Housing (~10'x16'), Generator Housing (~10'x16') plus the small Well #2 Dog House (~5x5). Assuming ordinary care, no anticipation of large scale expenses for the foreseeable future. Our previous research indicated projects for painting and minor repair utilizing operating monies, occasional labor, staff and volunteer will likely continue. Under this pattern of care, no impact upon reserves is factored. Monitor, track expenses closely and adjust as needed within future reserve study updates.

Useful Life:

Remaining Life:

Best Case: Worst Case:

Cost Source:

Comp #: 962 Building Interiors-Maintain/Repair **Quantity: Moderate GSF**
Location: 421 West Madrona (Lots 7 and 8, Block 3, Division 5)
Funded?: No. Annual cost best handled as operating expense
History:
Evaluation: Improved appearance, painting of pump and generator house floors was noted since our previous 2014 site inspection. As with exteriors, similar assumptions regarding interior maintenance of these utility structures will apply for projects such as repainting, replacement of lighting, heaters, etc... (maintenance by occasional labor, staff, volunteers and operating funds).

Useful Life:

Remaining Life:

Best Case: Worst Case:

Cost Source:

Comp #: 964 Building Roofs - Replace **Quantity: Approx 500 square feet**

Location: 421 West Madrona (Lots 7 and 8, Block 3, Division 5)
Funded?: Yes. Meets National Reserve Study Standards criteria for Reserve Funding
History: 2013 replacement; expense was not provided
Evaluation: Newer standing seam metal roofing; 2013 replacement expense was not provided. Inspect and repair from operating budget. Metal roofing is a long lived product but eventual replacement near the 40 year mark of life due to typical material deterioration (including underlying membrane) is predictable. Also, replace any gutter/downspout along with this project.

Useful Life:
40 years

Remaining Life:
36 years

Best Case: $ 2,800 Worst Case: $ 3,800

Lower allowance Higher allowance

Cost Source: ARI Cost Database: Similar Project Cost History

Comp #: 967 Storage Shed, Vinyl - Replace **Quantity: (1) 8'x8'**

Location: 421 West Madrona (Lots 7 and 8, Block 3, Division 5)
Funded?: Yes. Meets National Reserve Study Standards criteria for Reserve Funding
History:
Evaluation: Small vinyl shed in fair condition. Plan for replacement due to typical material deterioration and wear at roughly the interval indicated below.

Useful Life:
20 years

Remaining Life:
16 years

Best Case: $ 2,200 Worst Case: $ 3,200

Lower allowance Higher allowance

Cost Source: ARI Cost Database: Similar Project Cost History

Comp #: 969 Building Electrical - Replace **Quantity: Extensive systems**
Location: 421 West Madrona (Lots 7 and 8, Block 3, Division 5)
Funded?: Yes. Meets National Reserve Study Standards criteria for Reserve Funding
History:
Evaluation: Previous electrical service upgrades were indicated. No reported problems at this time. Anticipate allowance for similar panel and service replacements at roughly the time frame below. Treat electrical system inspection and any minor repair needs as ongoing maintenance expense.

Useful Life:
30 years

Remaining Life:
25 years

Best Case: $ 8,500 Worst Case: $ 12,500

Lower allowance Higher allowance

Cost Source: ARI Cost Database: Similar Project Cost History

Comp #: 970 Chain Link Fence - Replace **Quantity: Approx 720 linear feet**
Location: 421 West Madrona (Lots 7 and 8, Block 3, Division 5)
Funded?: Yes. Meets National Reserve Study Standards criteria for Reserve Funding
History: Installed in 2013 as a required security improvement; segregated expense was not provided
Evaluation: Good condition; installed in 2013 as a required security improvement. Also, further improvement to add secondary gate in 2016; segregated expense for either events was not provided. In any event, inspect, clean and treat for corrosion; spot repair promptly as needed from operating funds. For purposes of long term budgeting, eventual replacement of chain link fencing is factored below.

Useful Life:
35 years

Remaining Life:
31 years

Best Case: $ 15,840 Worst Case: $ 18,720

Lower allowance Higher allowance

Cost Source: ARI Cost Database: Similar Project Cost History

Comp #: 972 Landscape/Trees - Refurbish **Quantity: Extensive square feet**

Location: 421 West Madrona (Lots 7 and 8, Block 3, Division 5)
Funded?: No. Annual cost best handled as operating expense going forward
History: FY 2014/2015 one-time expense of ~$8,000 to remove (53) trees
Evaluation: Extensive tree removal occurred in FY 2014/2015; one-time expense of ~$8,000 to remove (53) trees was noted. Although typically funded as ongoing maintenance item, this component may be utilized for setting aside funds for larger expenses that do not occur on an annual basis, such as large scale plantings, common area drainage projects, extensive bark mulch every two/three years, resodding lawn areas, landscape improvement projects, etc.. As before, no stated desire for cyclical reserve funding to supplement the operating budget. These types of expenses may be incorporated into future reserve study updates.

Useful Life:

Remaining Life:

Best Case: Worst Case:

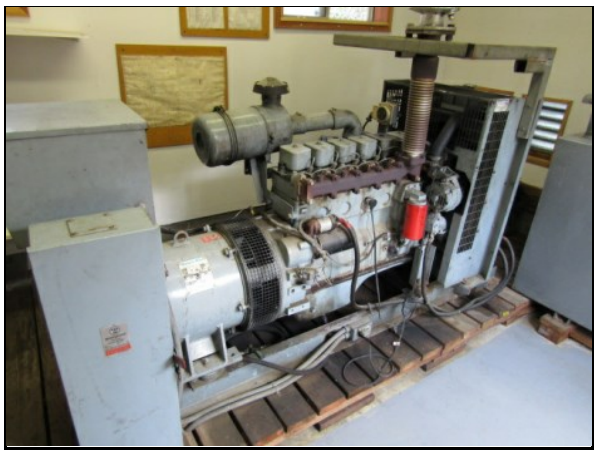
Cost Source:

Systems/Equipment

Comp #: 980 Generator, Emergency - Replace **Quantity: (1) Marathon, 60KW**
Location: 421 West Madrona (Lots 7 and 8, Block 3, Division 5)
Funded?: Yes. Meets National Reserve Study Standards criteria for Reserve Funding
History: Likely from either the mid 1970's or perhaps early 1980's
Evaluation: Old emergency generator, likely from either the mid 1970's or perhaps early 1980's, with hour meter indicating 5,535 when we inspected on 3.10.2017. No previous repair history or cost was provided. No reported performance problems nor imminent plans for replacement at the moment. Regular inspections, confidence testing and repairs are assumed from the operating budget. Our experience is that the typical service expectations are in the 30-50 year range and somewhat driven by actual usage. As before, eventual intervals of replacement to offset parts obsolescence and maintain functionality are factored below. Include integrated controls, fuel storage tank improvements, etc... in this project as needed.

Useful Life:
50 years

Remaining Life:
7 years



Best Case: $ 40,000 Worst Case: $ 60,000

Lower allowance Higher allowance

Cost Source: ARI Cost Database: Similar Project Cost History

Comp #: 990 Office Equipment/Furniture-Replace **Quantity: Minor equipment**
Location: Community Building
Funded?: No. Considered the responsibility of HMC Management, not HMC Water System
History:
Evaluation: Office equipment and furniture is considered the responsibility of HMC Management, not HMC Water System. In any event, varying useful life cycles and modest individual replacement expenses should be funded from HMC Management general operating monies.

Useful Life:

Remaining Life:

Best Case: Worst Case:

Cost Source:

Comp #: 991 Small Equipment/Tools - Replace **Quantity: Minor equipment**

Location: 421 West Madrona (Lots 7 and 8, Block 3, Division 5)

Funded?: No. Annual cost best handled as operating expense

History:

Evaluation: Assorted small tools/equipment, portable fuel tanks, utility shelving and benches observed; nothing meriting reserve designation. Evaluate such minor replacement needs as ongoing maintenance and provide from annual operating funds.

Useful Life:

Remaining Life:

Best Case: Worst Case:

Cost Source:

Comp #: 999 Meter Reader System - Replace **Quantity: (1) meter, software**

Location: MPC office

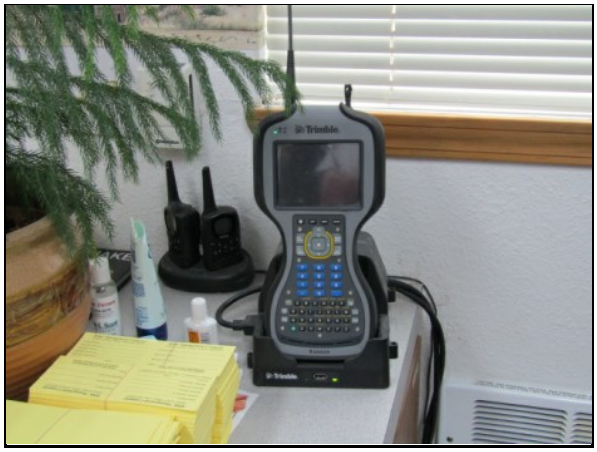
Funded?: Yes. Meets National Reserve Study Standards criteria for Reserve Funding

History: FY 2012/2013 installation at an expense of ~$5,000

Evaluation: Badger brand meter reader system was installed FY 2012/2013 at an expense of ~$5,000. Annual software updates continue as operating expense; no reported problems at present. Plan for system replacements at roughly the 5-7 year interval.

Useful Life:
6 years

Remaining Life:
1 years



Best Case: $ 4,500 Worst Case: $ 6,500

Lower allowance Higher allowance

Cost Source: Client Cost History/Similar Project Cost History

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Financial/Professional

Comp #: 1002 Loan - Payoff **Quantity: Unknown principal**
Location: USDA loan
Funded?: No. Collections and payments are handled in a separate account for this debt obligation
History: Total of annual P&I payments are $53,278 with a 40 year term
Evaluation: Water system obtained loan from USDA with proceeds utilized to help pay for distribution, metering and fire suppression improvements; expense of $1,738,000 was indicated. Total of annual P&I payments are $53,278 with a 40 year term. As before, no impact upon water system maintenance reserves is factored since collections and payments are handled in a separate account for this debt obligation.

Useful Life:

Remaining Life:

Best Case: Worst Case:

Cost Source:

Comp #: 1006 SWSMP - Update **Quantity: Every 6 years**

Location: Community water system

Funded?: Yes. Meets National Reserve Study Standards criteria for Reserve Funding

History:

Evaluation: It is our understanding that a comprehensive Water System Plan (WSP) was completed last in 2009. Going forward, your Group A water system (under 1,000 connections) does not currently have to update such a WSP. However, note that preparation/update of a Small Water System Management Program (SWSMP) is anticipated as an ongoing requirement into the future. We note that DOH expectations are that SWSMP will include comprehensive Operations and Maintenance (O&M) program, plus documenting (among others); short and long lived asset inventory along with current condition assessment, remaining life assumptions (with annual updates), asset replacement and improvement schedule including costs (with annual updates), six year budget (with annual updates) and evaluation of current and future capacity. HMC Water System doesn't currently have to submit SWSMP to DOH, nor is there a regulatory time frame for updating the plan. We recommend such planning be provided by expert at minimum of the time frame below.

Useful Life:
6 years

Remaining Life:
0 years

Best Case: $ 2,500 Worst Case: $ 3,500

Lower allowance Higher allowance

Cost Source: Research with Local Vendor/Contractor

Comp #: 1013 Sanitary Survey - Update **Quantity: Every 5 years**

Location: Community water system
Funded?: Yes. Meets National Reserve Study Standards criteria for Reserve Funding
History: Completed last in FY 2015/2016; expense was not provided
Evaluation: This component factors cyclical funding for the Washington State required water system sanitary survey, required at least once every five years for your community. Completed last in FY 2015/2016; expense was not provided. Update in future reserve updates as conditions merit.

Useful Life:
5 years

Remaining Life:
3 years

Best Case:	$ 1,500	Worst Case:	$ 2,500
	Lower allowance		Higher allowance

Cost Source: ARI Cost Database: Similar Project Cost History