

ASSET MANAGEMENT PROGRAM

Timberland Acres DWID

Asset management consists of the following five steps:

- 1. Taking an inventory.** Before you can manage your assets, you need to know what assets you have and what condition they are in. This information will help you schedule rehabilitations and replacements of your assets.
- 2. Prioritizing your assets.** Your water system probably has a limited budget. Prioritizing your assets will ensure that you allocate funds to the rehabilitation or replacement of your most important assets.
- 3. Developing an asset management plan.** Planning for the rehabilitation and replacement of your assets includes estimating how much money you will need each year to maintain the operation of your system each year. This includes developing a budget and calculating your required reserves.
- 4. Implementing your asset management plan.** Once you have determined how much money you will have to set aside each year and how much additional funding (if any) you will need to match that amount, you need to work with your management and customers and with regulators to carry out your plan and ensure that you have the technical and financial means to deliver safe water to your customers.
- 5. Reviewing and revising your asset management plan.** Once you have developed an asset management plan, do not stick it in a drawer and forget about it! Your asset management plan should be used to help you shape your operations. It is a flexible document that should evolve as you gain more information and as priorities shift.

You should reevaluate your plan every year, updating each of the worksheets provided in this file.

ASSET MANAGEMENT SYSTEM

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Worksheet #1: Asset Inventory, Condition, Useful Life and Service Required

(Date Worksheet Completed: 10/26/2021)

ASSET INVENTORY				ASSET CRITICALITY (1)			ASSET CONDITION		REMAINING USEFUL LIFE				SERVICE/ACTION REQUIRED	
ASSET	Asset Details	Year Installed	Service History	Capacity	Public Health	Criticality	Present Condition	Likelihood of Failure	Asset Age (Years)	Expected Life (Years) (2)	Adjusted Useful Life (Years)	Remaining Useful Life (Years)	Service	Priority
Booster Pump Station (Well 3 site)	<i>Two 5 hp pumps, automated and controlled by pressure reading, discharge piping 2" PVC</i>	2015	maintained regularly, no records	M	L	M	Average	M	6	15	15	9	Purchase critical spare pump and motor	M
Building: Office	<i>Timberland Acres office/Community Center</i>	2010	maintained regularly, no records	L	L	L	Good	L	11	60	60	49	Annual HVAC maintenance, general housekeeping.	L
Chlorine System	<i>Wells 1, 2, & 3 have 12.5% liquid chlorine injection automated, turns on when well turns on. One peristaltic pump at each location, one 35gal chemical tank at each location.</i>	2016	maintained regularly, no records	L	L	L	Good	L	5	15	15	10	Maintain critical spare parts on hand e.g. repair kits	L
Distribution: Hydrants	<i>A total of 18 hydrants.</i>	2004	not regularly maintained, no records	L	M	M	Average	M	17	60	60	43	Perform annual maintenance on all hydrants and document repairs/status.	M
Distribution: Meters (services)	<i>344 services</i>	2012	Approximately 40% of existing service meters are touch read, the remaining are manual read.	L	L	L	Average	M	9	15	15	6	Replace manual read meters with AMR meters.	M

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Distribution: Pipe	Mains consist of 2" - 6" PVC	1975	No preventive maintenance program in place. No reliable distribution system map.	M	L	M	Average	M	46	40	40	-6	Identify and track problematic areas of distribution system e.g. main breaks. Use data to create repair/replace strategies and include in CIP. Update as-built drawings.	M
Distribution: Valves	60 valves	1975	No preventive maintenance in place.	M	L	M	Poor	H	46	40	40	-6	Implement valve exercising program with goal to exercise all valves within 2-5 years. Use data to create repair/replace strategies and include in CIP.	H
Equipment: Generator	20 kW Emergency generator located at well 3 site; provides power to the booster pumps and well	2006	maintained regularly, no records	M	L	M	Average	M	15	15	15	0	Perform maintenance as per manufacturer recommendations, maintain service records.	M
Facility Site (Well 1)	6' chain link perimeter fence with topguard; Facility ID and No Trespassing signage appropriate. Lighting appropriate.	2015	no service records available	L	L	L	Poor	H	6	30	30	24	Top rail and topguard in need of repair.	H
Facility Site (Well 2)	6' chain link perimeter fence with topguard. Erosion issues have created gaps at bottom of fence larger than 6". Facility	2015	no service records available	L	L	L	Average	M	6	30	30	24	Implement erosion control measures to eliminate gaps at bottom of fence.	M
Facility Site (Well 3)	6' chain link perimeter fence with topguard. Facility ID and No Trespassing signage appropriate. Lighting appropriate.	2015	no service records available	L	L	L	Poor	H	6	30	30	24	Top rail and topguard in need of repair. Overhanging tree limbs and vegetation need to be cut back from perimeter fence.	H
Office Equipment	None, billing is subcontracted out											0		

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ASSET INVENTORY			ASSET CRITICALITY (1)			ASSET CONDITION		REMAINING USEFUL LIFE				SERVICE/ACTION REQUIRED		
Pressure Tank	One 5Kgal hydrotank located at Well 3 site, 2" discharge	1997	not regularly maintained, no records	M	L	M	Poor	H	24	30	30	6	Replace hydrotank; new hydrotank purchased and stored at Timerland Acres office location.	H
Storage Tank	Four storage tanks located at well 3, one 40Kgal, three 62K gal. All tanks have 4" PVC inlet/outlet lines	1995	maintained regularly, no records	M	L	M	Average	M	26	60	60	34	Inspect tanks maintain records.	M
Vehicle - Truck	No fleet vehicles											0		
Well 1 (55-918304)	Casing 12", 2" discharge piping galvanized to poly, well runs based on storage tank levels at Well 3. 70gpm capacity	2015	maintained regularly, no records	M	L	M	Good	L	6	35	35	29	Perform annual pump efficiency test. Maintain service records.	L
Well 2 (55-562757)	Casing 12", 2" discharge piping galvanized, well runs based on storage tank levels. 75 gpm capacity	1997	maintained regularly, no records	M	L	M	Average	M	24	35	35	11	Perform annual pump efficiency test. Maintain service records.	M
Well 3 (55-912180)	Casing 8", 2" discharge piping galvanized to PVC, well runs based on storage tank levels at Well 3. 35gpm capacity.	2010	maintained regularly, no records	L	L	L	Average	M	11	35	35	24	Perform annual pump efficiency test. Maintain service records.	M

Notes:

(1) Asset Criticality (Consequence of Failure):

L - LOW - Minimal or no impact

M - MODERATE - Some impact, limited persons impacted and/or short-duration of impact

H - HIGH - Widespread impact

(2) Expected Useful Life:

Asset	Expected Useful Life (in years)
Intake Structures	35-45

Asset Count: Criticality versus Likelihood of Failure

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ASSET INVENTORY		ASSET CRITICALITY (1)			ASSET CONDITION	REMAINING USEFUL LIFE	SERVICE/ACTION REQUIRED	
Wells and Springs	25-35	Likelihood of Failure	H	0	0	0		
Galleries and Tunnels	30-40		M	1	6	2		
Chlorination Equipment	10-15		L	2	3	2		
Other Treatment Equipment	10-15			L	M	H		
Storage Tanks	30-60	Asset Criticality						
Pumps	10-15							
Buildings	30-60							
Electrical Systems	7-10							
Transmission Mains	35-40							
Distribution Pipes	35-40							
Valves	35-40							
Blow-off Valves	35-40							
Backflow Prevention	35-40							
Meters	10-15							
Service Lines	30-50							
Hydrants	40-60							
Lab/Monitoring Equipment	5-7							
Tools and Shop Equipment	10-15							
Landscaping/Grading	40-60							
Office Furniture/Supplies	10							
Computers	5							
Transportation Equipment	10							

Note: These numbers are ranges of expected useful lives drawn from a variety of sources. The ranges assume that assets have been properly maintained.

Ref: Asset Management: A Handbook for Small Water Systems, USEPA

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Worksheet #2: Required Reserve

(Date Worksheet Completed: 10/26/2021)

Asset	Activity	Years Until Action Needed	Estimated Cost	Reserve Required Current Year
Short-term Projects (1-3 years):				
Well Site Fencing (well sites 1, 2, and 3)	Repair fencing; clear vegetation; implement erosion control measures	1	\$1,500	\$1,500
Hydrotank (well 3)	Replace hydrotank (labor only, new hydrotank on site)	1	\$10,000	\$10,000
Booster Pump (well 3)	Purchase 5 Hp critical spare booster pump and motor	1	\$3,000	\$3,000
Emergency generator hook ups	Install electrical hook ups at well sites 1 & 2 to facilitate use of emergency mobile generator	2	\$5,000	\$2,500
Mobile Generator	Purchase mobile generator for use at well sites 1 and 2 for use during power outages	3	\$10,000	\$3,333
Emergency call-out telemetry equipment	Purchase and install emergency call-out telemetry equipment for well sites 1, 2, and 3	3	\$15,000	\$5,000
Water meters (services)	Replace remaining manual read meters with touch read/AMR meters; roughly 40% of existing meters are touch read	3	\$100,000	\$33,333
Current year reserve requirement for short-term projects projects (\$/year):				\$58,667
Long-term Projects (> 3 years):				
Storage tanks	Well 3: Inspect storage tanks; perform minor repairs	5	\$15,000	\$3,000
Wells 1, 2, & 3	Purchase and install new well head enclosures	5	\$15,000	\$3,000

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Worksheet #2: Required Reserve

(Date Worksheet Completed: 10/26/2021)

Asset	Activity	Years Until Action Needed	Estimated Cost	Reserve Required Current Year
Distribution System valves (mains)	Replace broken valves in distribution system; 20 valves have been identified as in need of replacement	5	\$100,000	\$20,000
Distribution system hydrants	Perform hydrant maintenance; assess hydrant status; repair/replace broken hydrants.	10	\$20,000	\$2,000
Distribution piping	Identify and replace critical mains/transmission lines in distribution system. Asses pipe size requirements. Update as-built drawings.	10	\$500,000	\$50,000
Current year reserve requirement for long-term projects projects (\$/year):				\$78,000
TOTAL CURRENT YEAR RESERVE REQUIREMENT (\$/YEAR):				\$136,667

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Worksheet #3: Budgeting

(Date Worksheet Completed: 10/26/2021)

From FY21 Income/Loss Statement (7/1/2020 - 6/30/2021)

Total Revenue:	\$178,124
Total Operating Expenses:	\$200,877
Operating Income / (Loss):	(\$22,753)
Other Income / (Expense)	\$0
Current Reserve:	(\$22,753)
Additional Reserves Needed:	
Total Required Reserves (from Worksheet #2):	\$136,667
Current Reserves:	(\$22,753)
Additional Reserves Needed, \$/year (Total Required Reserve - Current Reserve):	\$159,420