

6 – Developing an asset management plan



MISSISSIPPI
Water and Pollution Control
Operators Association

Introduction

- The asset management plan ***must*** be written; it should be referred to by the utility's administration and examined by regulators and other stakeholders
- The plan should be communicated to customers to educate them about the system's operations and the uses to which their money is being put
- **IMPORTANT POINT:** While the plan should be written, it should be much more of an exercise in thinking for the asset management team than an exercise in writing
- **DON'T DO THIS ON YOUR OWN!** Get sound advice from peers and knowledgeable technical assistance providers

Content of the written plan

- Consider the following as major sections of the plan
- **System goals**
- **Asset inventory with age and useful life**
- **Depiction of asset criticality and prioritization**
- **Estimates of life cycle cost**
- **Funding requirements**
- **Financing/funding plan**
- **Conclusions**
- Most of these items can be obtained from the spreadsheet begun in module 2 and that is continued after this module

Asset management plan structure

- There is no set format that the written form of the asset management plan has to take
- A logical structure might be to consider the standard format of a strategic plan
 - This structure could be familiar to members of the asset management team and would facilitate the work
- The typical strategic plan structure is comprised of the following components
 - Goal(s)
 - Objectives
 - Strategies



Goals

- Goals are the overarching statements that describe what the utility wants to become
- Goals do not necessarily have to be bound by a time limit, but they do need to be specific
- Examples of system-specific goals

The goal of the Thibodaux Water Association is to efficiently provide safe drinking water to its customers at the most affordable price possible. This will be accomplished using effective business practices that treat customers equitably and fairly.

The Town of Benedict strives to provide safe drinking water to its residents and to protect the environment through adequate treatment of wastewater and sewage. These services will be provided at the most affordable price possible given the current and future needs of the utilities.

Objectives

- Objectives are more specific than goals, but are still relatively broad in scope
- In this scenario, it could be advantageous to develop objectives for each of the major utility components
 - **Drinking Water**
 - Treatment
 - Distribution
 - **Wastewater**
 - Collection
 - Treatment
- Other divisions of the utility could be desirable; this section is entirely dependant on the system's needs as perceived by the asset management team

Example objectives

Drinking Water Treatment Infrastructure

The Thibodaux Water Association has a drinking water treatment infrastructure that is suitable to provide for its customers' needs for the foreseeable future. However, this infrastructure must be maintained and upgraded in order to provide satisfactory service to its customers. The Thibodaux Water Association will initiate and maintain an annual evaluation of all treatment infrastructure for replacement/refurbishment and will develop funding strategies to ensure that this infrastructure provides a level of service that meets customer expectations.

Drinking Water Distribution Infrastructure

The Thibodaux Water Association has determined that the distribution infrastructure of its drinking water system has specific components that will serve the system well into the future and other components that are in dire need of upgrade in order to meet customer expectations. The Association shall initiate a maintain a constant evaluation of all distribution infrastructure components, identify those components that are inadequate to address customer needs, and develop funding strategies to maintain and/or replace system components to provide a level of service that meets customer expectations.

Wastewater Infrastructure

The Town of Benedict will constantly monitor its wastewater collection and treatment infrastructure to maintain a level of service that will meet customer expectations and fully comply with government regulations within the next 10 years. Adequate funding mechanisms shall be implemented to refurbish or replace inferior infrastructure components as well as to maintain adequate infrastructure.

Goals and objectives

- The utility's goals and objectives should not be developed over a 30 minute lunch break by one person
- They should be carefully considered and developed by the asset management team.
- There can be deleterious impacts if the utility's goals and objectives aren't well considered and formulated
 - Remember that the asset management plan will likely be shared with both customers and regulators. **If you write it down, they will expect you to follow through!**
 - Ill-conceived goals and objectives can cripple future asset management teams and governing boards when they try to carry out the asset management plan in future years

Strategies

- While the goals and objectives are an exercise in thinking for the governing board and the asset management team, the strategies that fall out of these goals/objectives will mainly be derived from the asset inventory and relative manipulations of that inventory
- Strategies should follow the SMART acronym
 - Specific
 - Measurable
 - Attainable
 - Rigorous
 - Timeliness
- Strategies should be very specific – likely address specific asset inventory components

Strategy example

These line segments received the lowest priority score (the highest system priority) in the asset inventory.

System Inventory Worksheet														Date: 4/3/2025						
System Category	Asset Category	Asset	Line Segment	Length of Pipe (ft)	Latitude	Longitude	Expected Useful Life		Condition	Service History	Age		Adjusted Useful Life		Remaining Useful Life		Criticality	Prioritization Score		
							Length	Time Unit			Length	Time Unit	Length	Time Unit	Length	Time Unit				
1	Dist	1	Line P23 – 2” line on west side Longview-Adaton Road heading to Morris Road – 964 ft	P-23	964	33.430706	-88.801947	35 years		Very leaky; pipe is deteriorating	Averages a leak every three months. Each leak takes 1½ hours to repair		20 years		25 years		5 years		1	5
2	Dist	1	2” and 2½” lines on Gray Road and past Gray Road on New Light Road (18,777 feet; P-3, P-4, P-5, P-12, P-22)	P-3, P-4, P-5, P-12, P-22	18,777	33.430848	-88.801136	35 years		Good condition, but area is gaining population; new customers can't be serviced – need replacing	Normal maintenance and service		15 years		20 years		5 years		1	5

System Inventory Worksheet				Financing Strategy			Financing Terms									
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1	Dist	1	Line P23 – 2” line on west side Longview-Adaton Road heading to Morris Road – 964 ft	1	Very leaky; pipe is deteriorating			\$17,991	5							
2	Dist	1	2” and 2½” lines on Gray Road and past Gray Road on New Light Road (18,777 feet; P-3, P-4, P-5, P-12, P-22)		Good condition, but area is gaining population; new customers can't be serviced – need replacing	1		\$350,429	5	20	DWSRF	\$8,784.16	\$2,108,197.99			

Specific

Strategy: Line segments P-23, P-3, P-4, P-5, P-12, and P-22 are preventing significant expansion of the system to new customers due to the lines' small size. Within five years, these line segments will be replaced with 4” lines. It is felt that line segment P-23 can be funded with grant funds, but the other line segments will be funded with DWSRF funds. The monthly payment of \$8,784 will be paid from monthly rate revenues.

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Attainable – through rate and budget analysis

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Time bound

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Rigorous – this is a major undertaking that will benefit the system in the long run

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3	Storage	6	Well #1 pressure tank	1	33.430204	-88.801819	35 years	Fair condition; needs painting/reconditioning	Inspected regularly as of late	45 years	45 years	8 years	1	8			
4	Treatment	7	Well #1 Chlorinator	1	33.541316	-88.741357	15 years	Good condition	Serviced regularly	4 years	12 years	8 years	1	8			

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3	Storage	6	Well #1 pressure tank	Fair condition; needs painting/reconditioning		1									\$68,779	8	\$8,597	\$716
4	Treatment	7	Well #1 Chlorinator	Good condition		1									\$24,932	8	\$3,117	\$260

Strategy: Inventory item #3 – the Well #1 pressure tank – should be painted within the next 8 years. It is expected that the cost of painting will be \$68,779 in 8 years and this project will be financed from utility savings. The Thibodaux Water Association will begin saving \$716 per month from rate revenues to finance this project.

Strategy: Inventory item #4 – the Well #1 chlorinator – should be replaced within the next 8 years. It is expected that the cost of this equipment will be \$24,932 at the time of replacement. This project will be financed from utility savings. The Thibodaux Water Association will begin saving \$260 per month from rate revenues to finance this project.