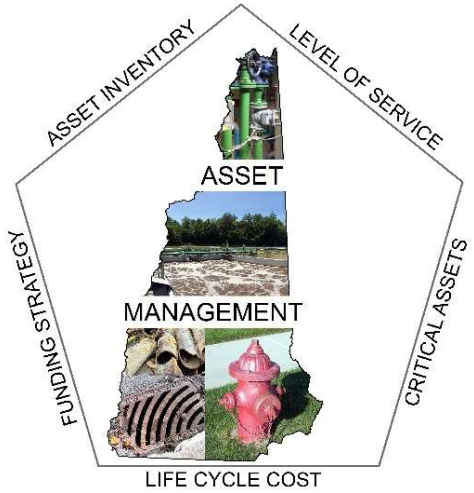
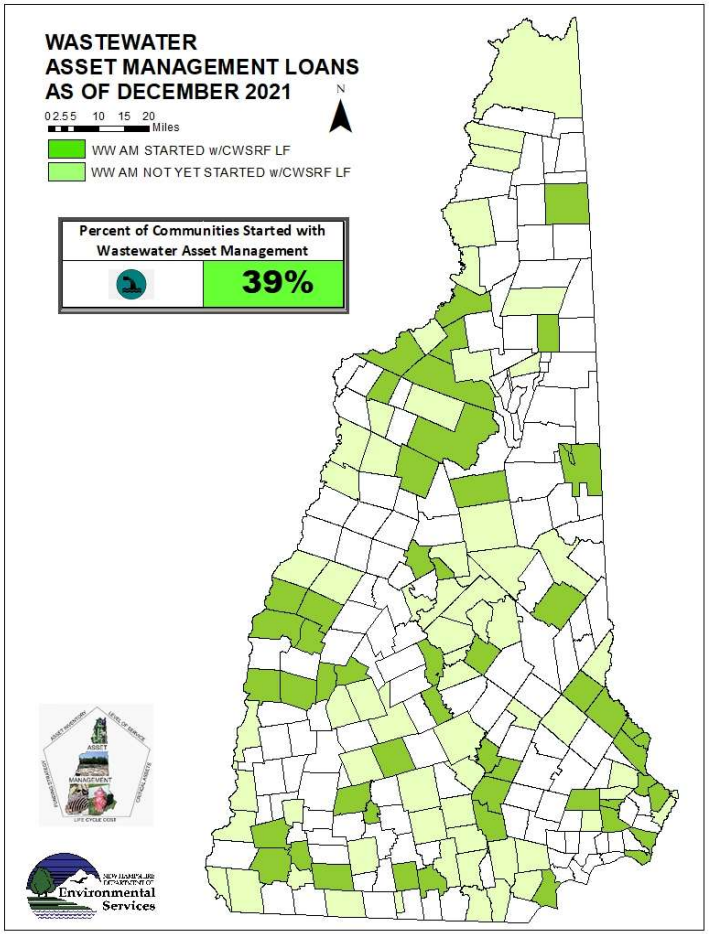
Intro to Asset Management

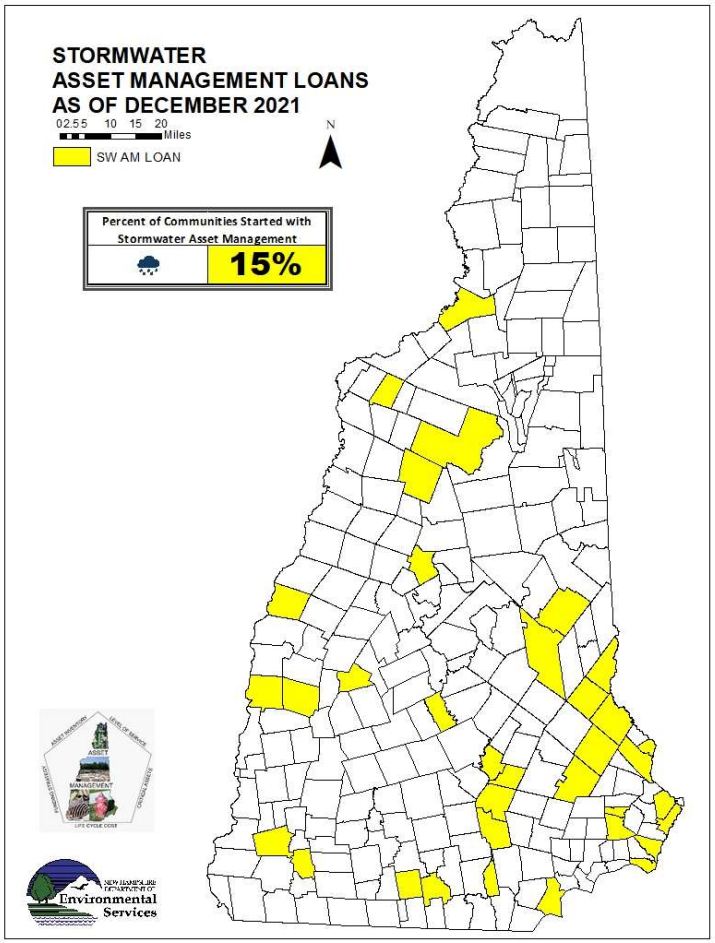


Eliza Styczynski
Sustainability Engineer
NHDES

Asset Management (AM) Definition

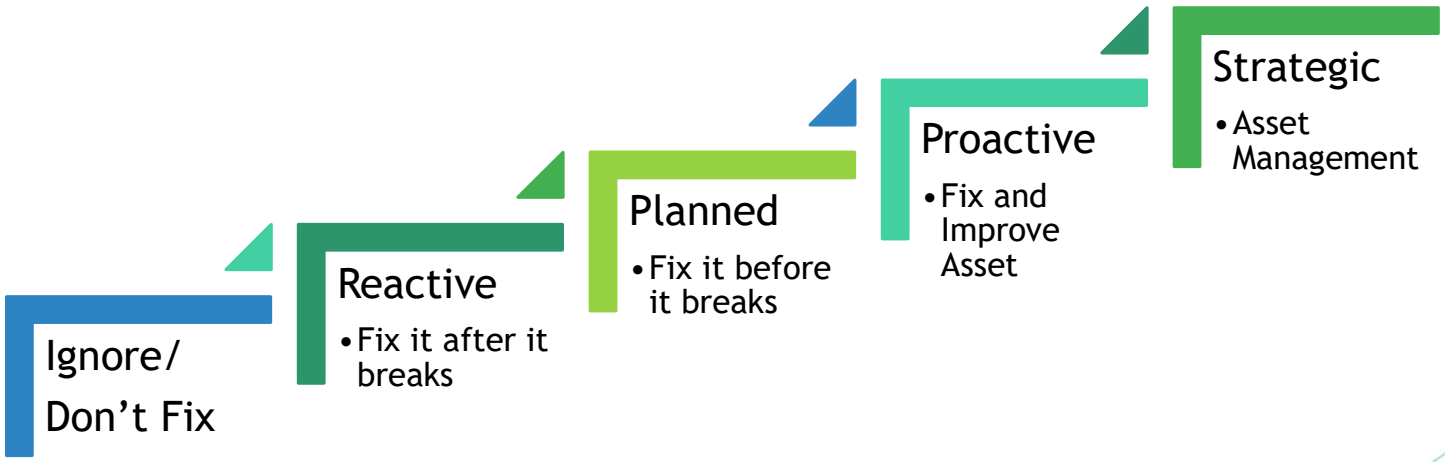
"Asset Management is about delivering a specified level of service to customers at an optimal life cycle cost and an acceptable level of risk with a strategy that ensures long-term sustainability of public assets."


WASTEWATER
ASSET MANAGEMENT LOANS
AS OF DECEMBER 2021
0 2.5 5 10 15 20
Miles
N
WW AM STARTED w/CWSRF LF
WW AM NOT YET STARTED w/CWSRF LF
Percent of Communities Started with Wastewater Asset Management
39%
Environmental Services


STORMWATER
ASSET MANAGEMENT LOANS
AS OF DECEMBER 2021
0 2.5 5 10 15 20
Miles
N
SW AM LOAN
Percent of Communities Started with Stormwater Asset Management
15%
Environmental Services

Poll Question

Which of the following best suits where your utility is currently at with addressing issues with your assets?



Health of your AMP…

- **Do we know what we own for assets?**

Wastewater Pipe - Bing images

Health of your AMP…

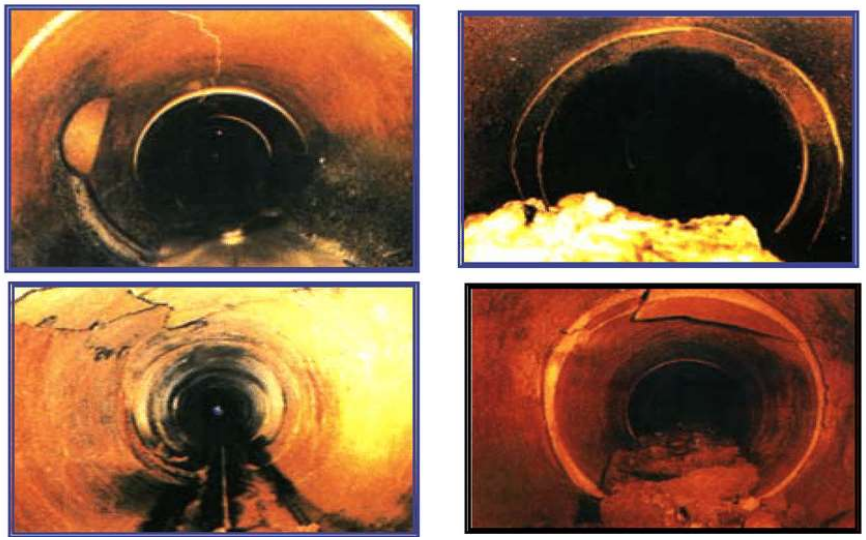
- Do we know what we own for assets?
- **Do we know where our assets are?**

gis water distribution - Bing images

map of gis manhole - Bing images

Health of your AMP…

- Do we know what we own for assets?
- Do we know where our assets are?
- **Do we know what condition our assets are in?**

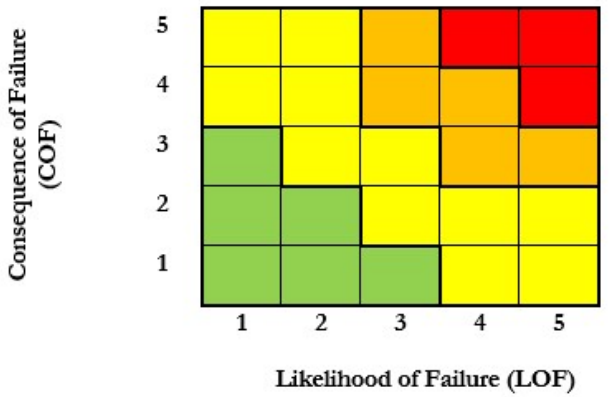


broken sewer pipe cctv - Bing images

broken sewer pipe cctv - Bing im

Health of your AMP…

- Do we know what we own for assets?
- Do we know where our assets are?
- Do we know what condition our assets are in?
- **Which assets should we replace first?**



Health of your AMP…

- Do we know what we own for assets?
- Do we know where our assets are?
- Do we know what condition our assets are in?
- Which assets should we replace first?
- **How much money do we need to put into reserves for asset replacement?**

$$$

Health of your AMP…

- Do we know what we own for assets?
- Do we know where our assets are?
- Do we know what condition our assets are in?
- Which assets should we replace first?
- How much money do we need to put into reserves for asset replacement?
- **How much should we be spending on maintenance?**

wastewater maintenance photo - Bing images

“We don’t have the resources to implement asset management!”

- AM doesn’t need to be expensive
- Start small (free or inexpensive tools)
- Start simple and unique
- Ultimately an investment, AM will save you $

Benefits of AM

- **Data-driven, defensible way to prioritizing projects and resources**
- Identifies infrastructure needs to be replaced or renewed, and how many years of service expected from each asset
- Determines how much you should be saving for future infrastructure renewal

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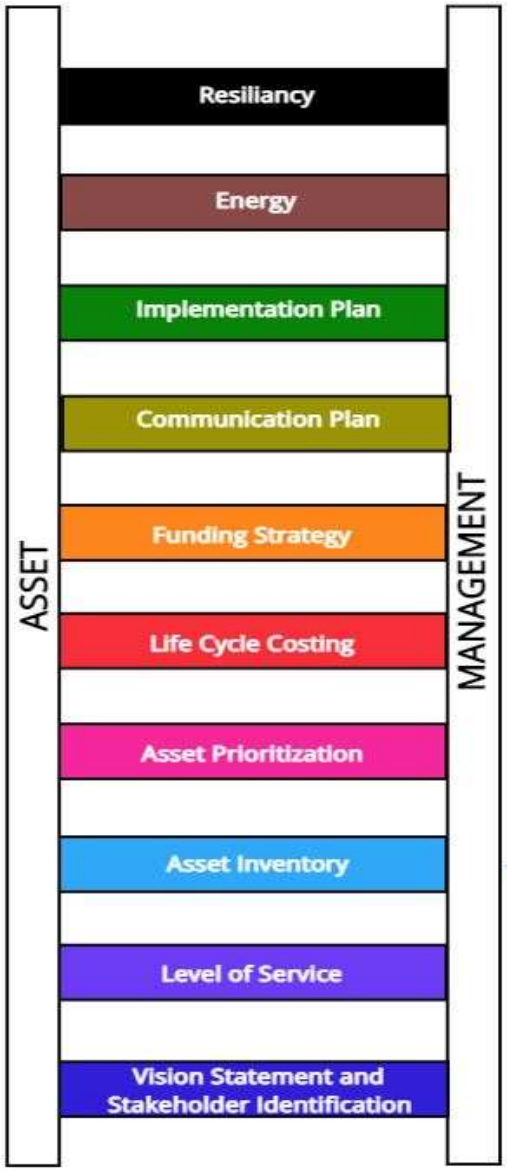
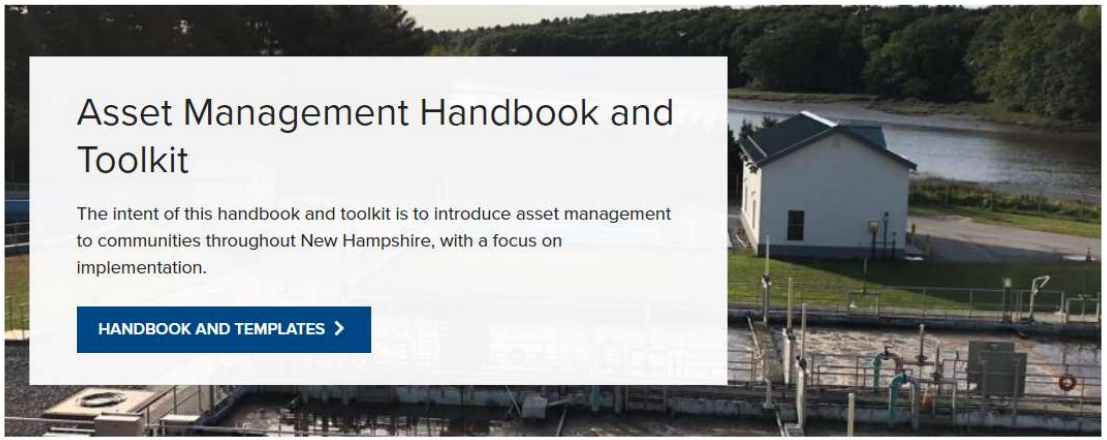




Asset Management Handbook and Toolkit
Format: *PDF Document* | ***Tags:*** *Handbook , Toolkit , AssetManagement , Asset , Management , WWEB , AssetTool , AssetRes*

Asset Management Inventory Template
Format: *Microsoft Excel* | ***Tags:*** *Handbook , Toolkit , AssetManagement , Asset , Management , Inventory , Example , WWEB , AssetTool*

Asset Management Level of Service Template
Format: *Microsoft Excel* | ***Tags:*** *Handbook , Toolkit , AssetManagement , Asset , Management , WWEB , AssetTool , Level , Service , Example , LevelofService*

Contents

HANDBOOK AND TOOLKIT USES INCLUDE:

- An overview of the asset management process, the objectives, as well as the benefits involved.
- Identification of the core elements of asset management that promote success.
- A description of how to manage information and data for successful asset management and good decision making.
- Suggested implementation practices for asset management.
- Examples and editable tools and templates.

"We don't have the resources to implement asset management!"

Asset management does not need to be expensive. Start small with free or inexpensive tools and/or available information, and expand from there as needed. Ultimately, asset management will save you money, so money spent should be considered an investment.

Where to Start

- General Pathway
- Engaging Decision Makers

Champion

- Someone who can drive asset management forward.
- An individual's department or title doesn't matter.
- This individual needs to have good "people" skills and exceed at bringing people together.

Team

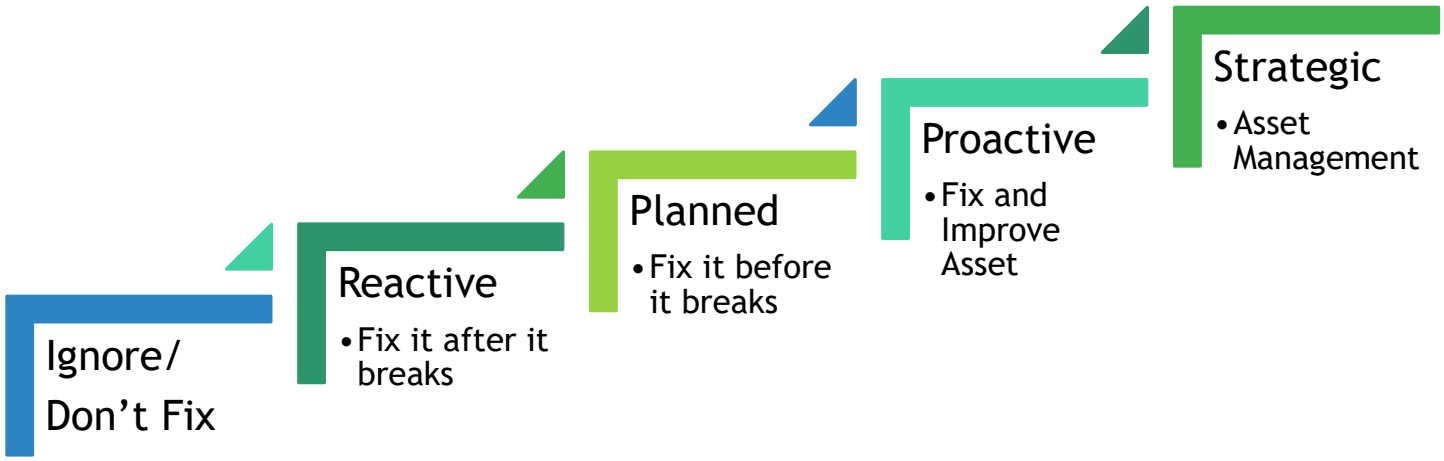
- Supports the champion through a cross departmental team.
- Ideally, the team should include someone from finance, public works, engineering, and planning. Other departments within your organization should be considered as well.

Management & Officials

- Since asset management is ultimately about decision making, success depends on support from management and officials.
- Support may not be available from the very beginning, as some up-front work might be needed to frame the issue and build buy-in. Time and financial investment should be limited until support is gained.

What is Asset Management

- Definition
- Why Practice Asset Management
- Benefits of Asset Management



Vision Statement & Stakeholders

Vision Statement

Vision Statement Examples

Example 1: Use Asset Management to achieve better communication and planning both internally and externally between both Towns' management, wastewater staff, and the public.

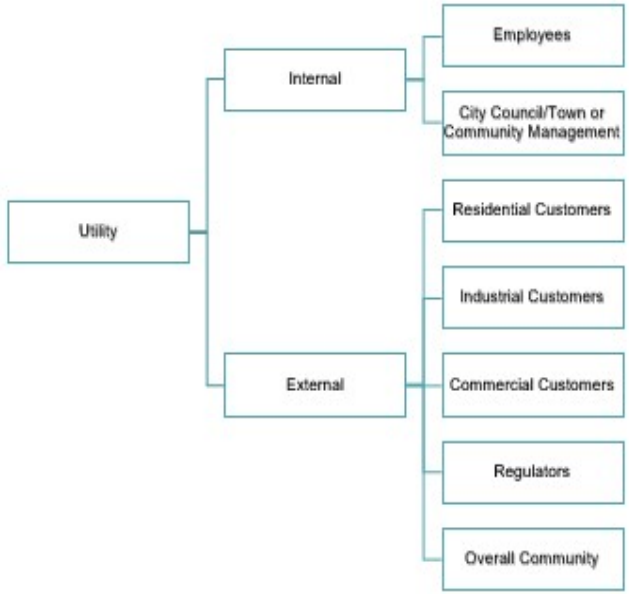
Example 2: We commit to improving and maintaining the public health protection and performance of our wastewater collection system, while minimizing the long-term cost of operating those assets. We strive to make the most cost-effective renewal and replacement investments and provide the highest-quality customer service possible.

Example 3: Collect institutional knowledge and make it available to staff members and Town management. Effectively communicate buried infrastructure needs to elected officials and members of the public.

Example 4: To provide continuous, reliable, sustainable, high quality service to the community. To protect community's public health, infrastructure, public assets and environment.

Example 5: The Town will meet the generally accepted wastewater industry standard of care for current sewer customers, meet its established level of service goals, facilitate opportunities for additional sewer customers, and balance annual program needs with sustainable customer costs.

Stakeholders



Level of Service

SPECIFIC
- Well defined.

MEASURABLE
- How will you know if the goal has been achieved? Be able to show progress.

ATTAINABLE
- Is the community/staff capable of achieving the goal?

RELEVANT
- Does the metric fit with the broader goals of the organization?

TIME BOUND
- Provides time frame to achieve goal.

EVALUATE
- Constantly measure how the original goals measure up to reality.

RE-DO
- If the original goals need adjustments, simply update, or re-do them.

Asset Inventory

- Questions to ask about inventory
  - What assets do I own?
  - Where are my assets?
  - What condition is each asset in?
  - What is the remaining useful life of each asset?
  - What is the value of each asset?

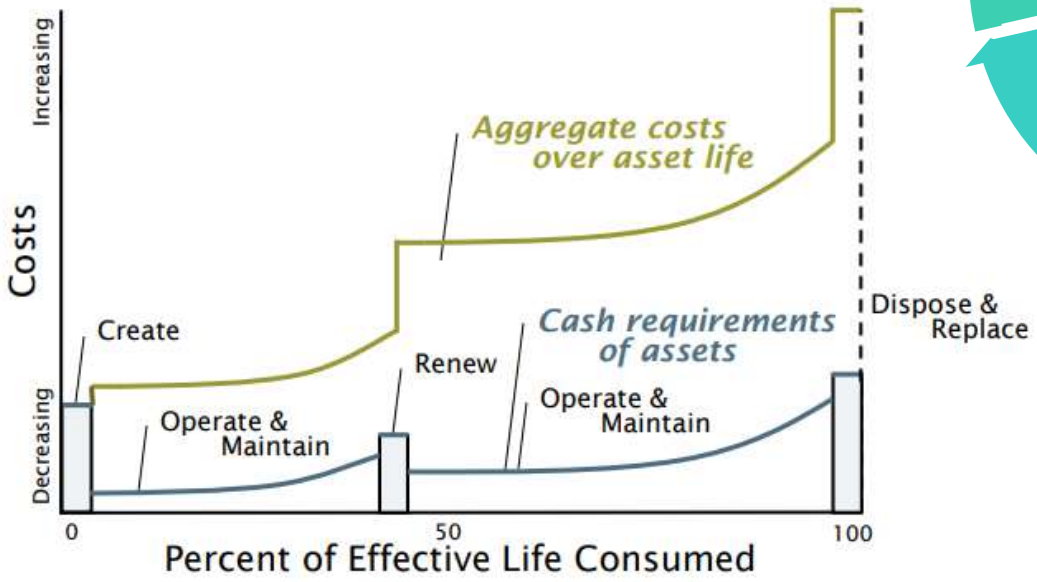
A	B	C	D	E	F	G	H	I	J	K	L
System Name:											
Current Year:											
											Asset Inve
ID Number	Asset Class or Category	Sub Asset Class or Sub Category	Type	Size	Manufacturer	Model Number	Serial Number	Location	Installation Date	Useful Life	Remaining Useful Life

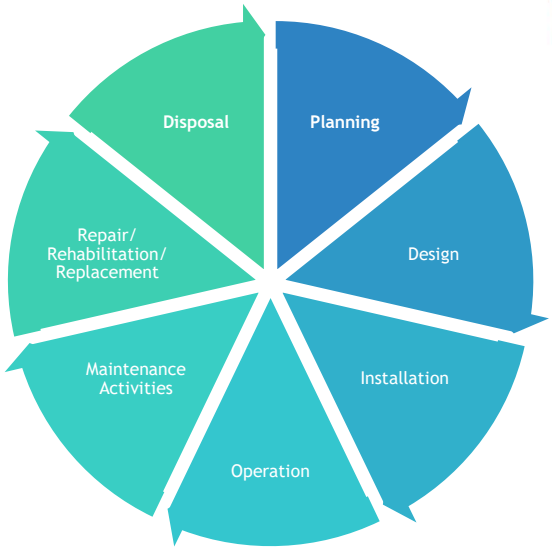
Criticality

Consequence of Failure (COF)	1	2	3	4	5
5	0	1	9	2	0
4	0	59	419	295	2
3	0	322	1,212	591	11
2	0	15	67	25	0
1	0	0	0	0	0

Likelihood of Failure (LOF)

Life Cycle Costing





Funding Strategy

Expenditure Type	Description	Funding Source
Operational	Expenses which have no effect on the asset condition but are necessary to keep the asset utilized appropriately.	Annual Budget, Rates, Revenue
Maintenance	The ongoing day-to-day work required to keep assets operating at required service levels.	Annual Budget, Rates, Revenue
Renewal	Significant work that restores or replaces an existing asset towards its original size, condition or capacity.	Annual Budget, Rates, Revenue, Reserve funds, Grants, Loans, Bonds
New Work, Development, Capital Projects	Works to create a new asset, or to upgrade or improve an existing asset beyond its original capacity or performance, in response to changes in usage, customer expectations, or anticipated future need.	Annual Budget, Rates, Revenue, Reserve funds, Grants, Loans
Disposal	Any costs associated with the disposal of a decommissioned asset.	Annual Budget, Rates, Revenue Reserve funds, Grants, Loans

Community revenues from:

- User fees
- Hook-up fees
- Stand-by fees
- Late fees
- Penalties
- Reconnect charges
- Developer impact fees

Community reserve funds:

- Emergency reserves
- Capital improvement reserves
- Debt reserves

Community generated replacement funds:

- Bonds
- Taxes

Non-Community revenues:

- State grants/loans
- Federal grants/loans
- Private grants
- Combinations of above

Implementation Plan

Tips for Developing an Implementation Plan:

- Develop a single document discussing each of the asset management core elements. This approach must be flexible and should contain an explanation of how each component is handled, not the actual data obtained from each component. **The actual data should be in a changeable format that can easily be updated.**
- Written in a format that all levels of the community can readily use. The implementation plan should be readily available to all members of the organization and distributed freely. Also consider making the implementation plan available on the community website for customers of the organization. Sharing this information will increase trust through transparency.

Communication Plan

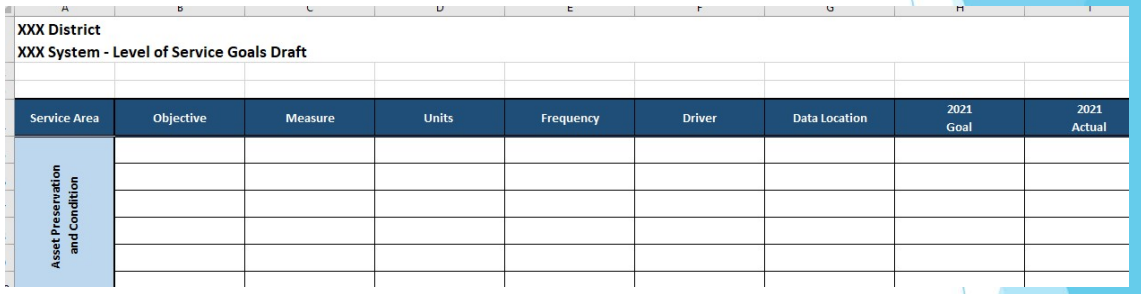
- "…should act as a roadmap for communicating data, information and knowledge to both internal and external stakeholders."

Events and Celebration Examples:

- Engineers Week (February)
- National Groundwater Awareness Week (March)
- Fix a Leak Week (March)
- World Water Day (March)
- Earth Day (April)
- Drinking Water Week (May)
- Infrastructure Week (May)
- World Water Week (August)
- Protect Your Groundwater Day (September)
- Stormwater Awareness Week (September)
- Septic Smart Week (September)
- Imagine a Day Without Water (October)
- World Toilet Day (October)

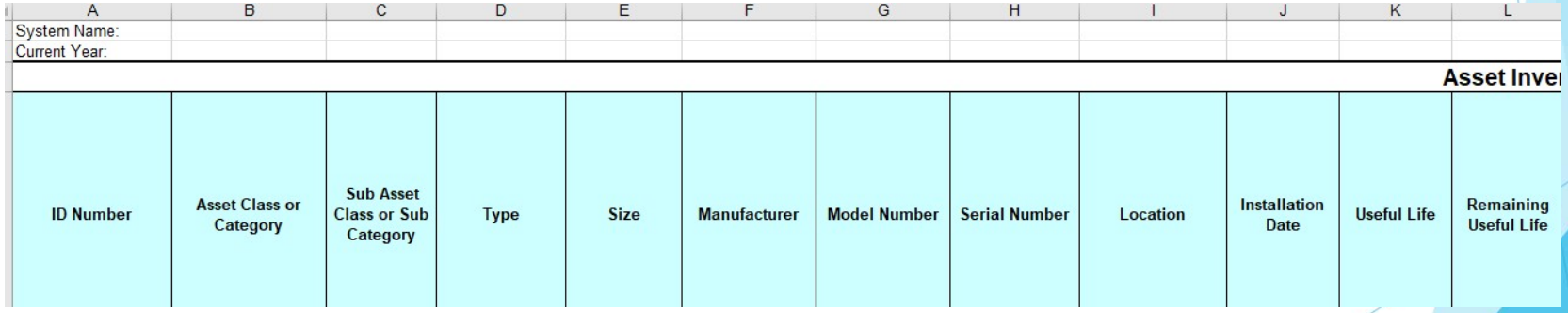
Appendix A - Examples

- Sample Useful Life Data
- Example Unique Identifiers
- Vision Statement Examples
- Level of Service Examples
- Inventory Types



XXX District
XXX System - Level of Service Goals Draft

Service Area	Objective	Measure	Units	Frequency	Driver	Data Location	2021 Goal	2021 Actual
Asset Preservation and Condition								



System Name:
Current Year:

Asset Inve

ID Number	Asset Class or Category	Sub Asset Class or Sub Category	Type	Size	Manufacturer	Model Number	Serial Number	Location	Installation Date	Useful Life	Remaining Useful Life

Appendix B - Software

- Do I Need Software?

ITEM	REQUIRED	WOULD BE NICE	NOT NEEDED
Cloud-based platform			
Ability for local data backup			
Asset Inventory			
Ability to add new assets in the future in a user-friendly way			
Ability to change/modify asset inventory information in a user-friendly way			
Ability to search for assets in a variety of ways			
Ability to tie assets to asset ID numbers			
Ability to assign user-created asset ID numbers			
Use existing asset hierarchy structure			

Appendix C – Additional Resources

APPENDIX C – ADDITIONAL RESOURCES

References / Additional Resources

Asset Management - A Best Practices Guide.pdf

SDWLP Principal Forgiveness Points for Asset Management Plans (wi.gov)

Asset Management BC Roadmap - Guide.pdf

Building Community Resilience Through AM.pdf

Thank you!

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Wastewater Engineering Bureau, Water Division, NHDES
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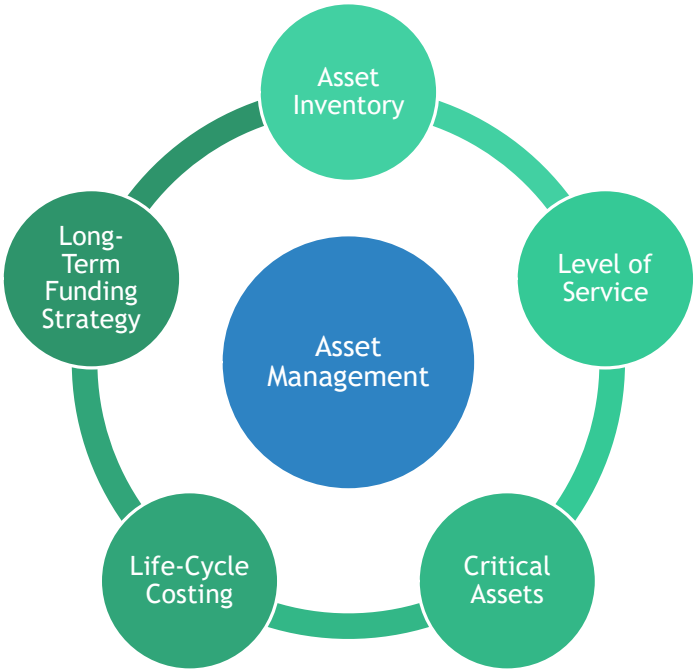
Eliza.J.Morrison@des.nh.gov

Last name changes to Styczynski in October

5 Core Elements to Asset Management



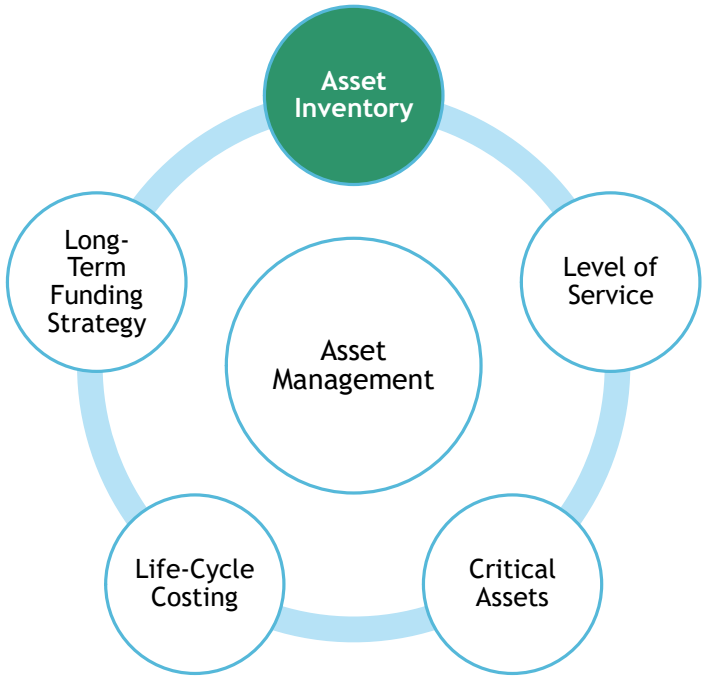
ASSET MANAGEMENT

HANDBOOK & TOOLKIT

Core Elements Directly Related to GIS

Day 1

- Introduction to ArcGIS/ESRI
- Incorporation of asset data
- ArcGIS Dashboards
  - Communication
- Integration of GIS and Spreadsheets

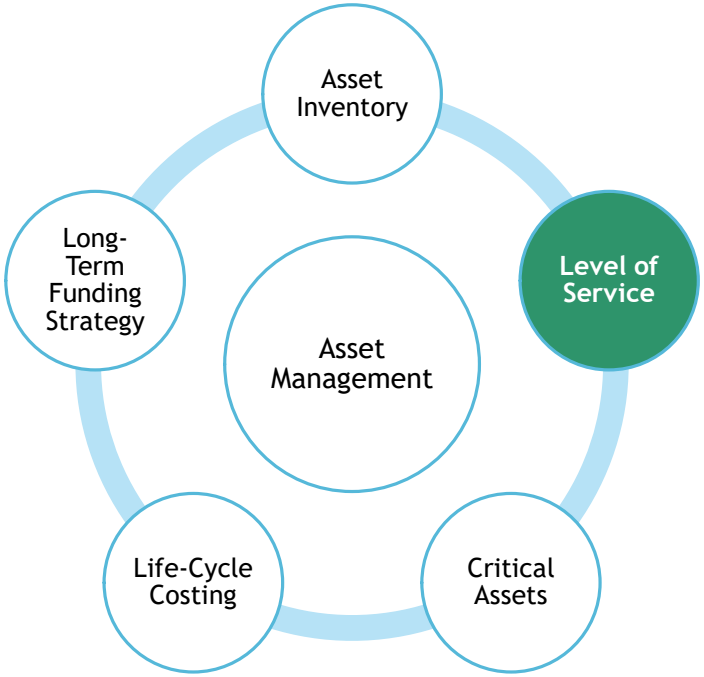


Asset Inventory

- What assets do I own?
- Where are my assets?
- What condition is each asset in?
- What is the remaining useful life of each asset?
- What is their value?

wastewater assets nh - Bing images

5 Core Elements to Asset Management



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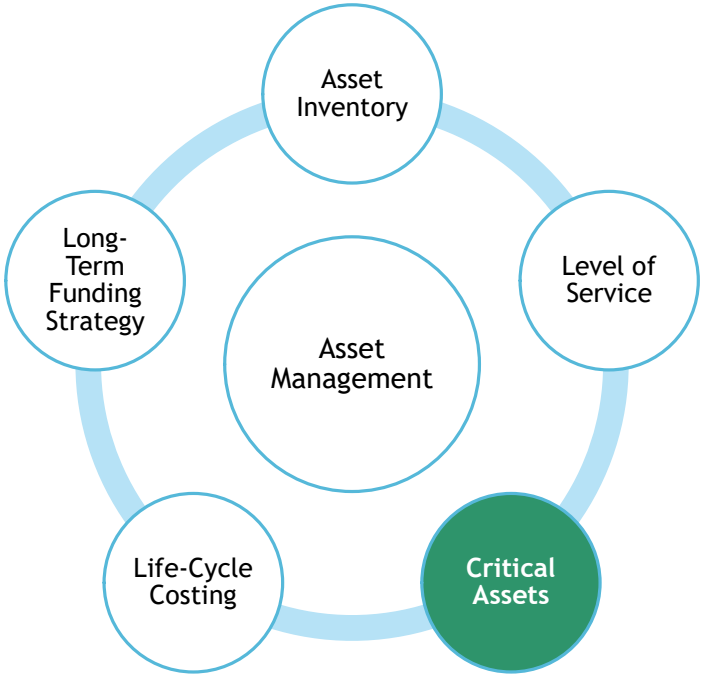

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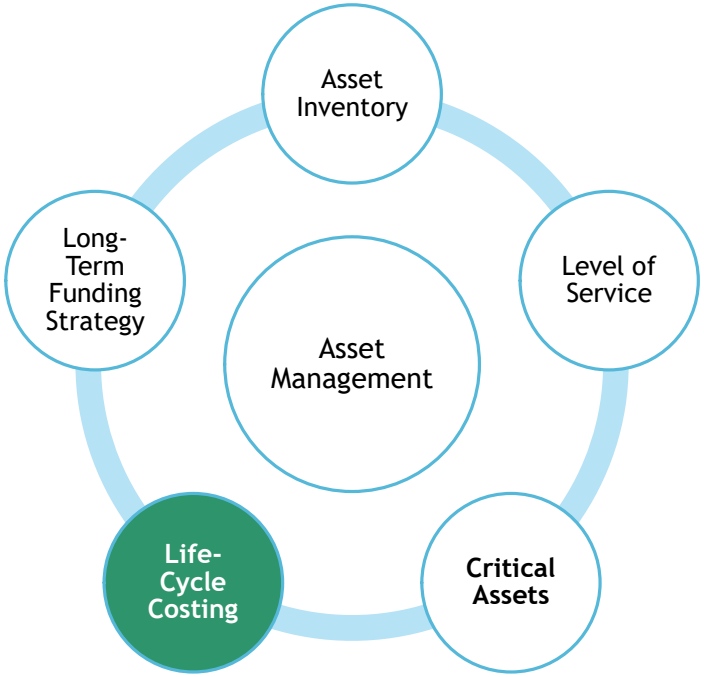

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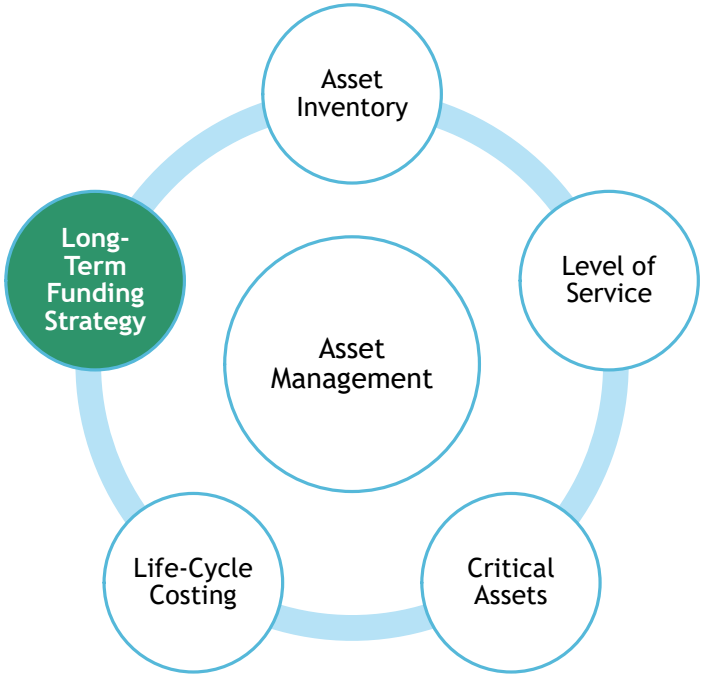

Advantages of GIS Integration w/ AM

- Users stay updated on inspections, maintenance, retirement and asset updates
- View asset ratings and costs
- Identify preventive maintenance
- Determine location of potential infrastructure risks
- Visualize other critical data
- GIS mapping can be accessed from any location or mobile device

Thank you!

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