Sammamish Plateau Water®

Sammamish Plateau Water Asset Management Culture and Work Plan

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Sammamish Plateau Water Mission Statement

Sammamish Plateau Water and Sewer District will provide safe, efficient, and reliable water and sewer services by being a leader in the planning and the practice of fiscal and environmental stewardship.

Building the Asset Management Program

Sammamish Plateau Water®

- History of Asset Management at the District
- Why Asset Management?
- Asset Management Program Overview
- Key Asset Management Work Plan Tasks

History of Asset Management at the District

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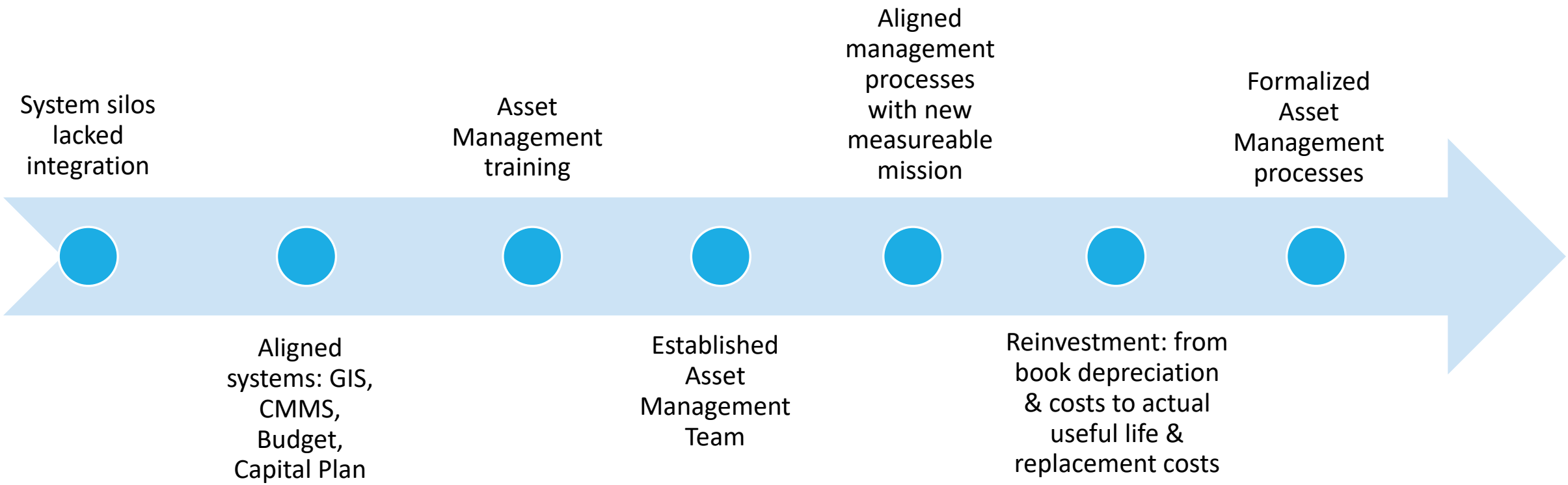


Why Asset Management?

Sammamish Plateau Water®

- Water and wastewater service is asset-intensive
- Process to deploy, operate, maintain and replace assets for lowest cost
- Forecast replacement needs for reserves: each generation pays for their use
- Framework to ensure sustainability & meet mission

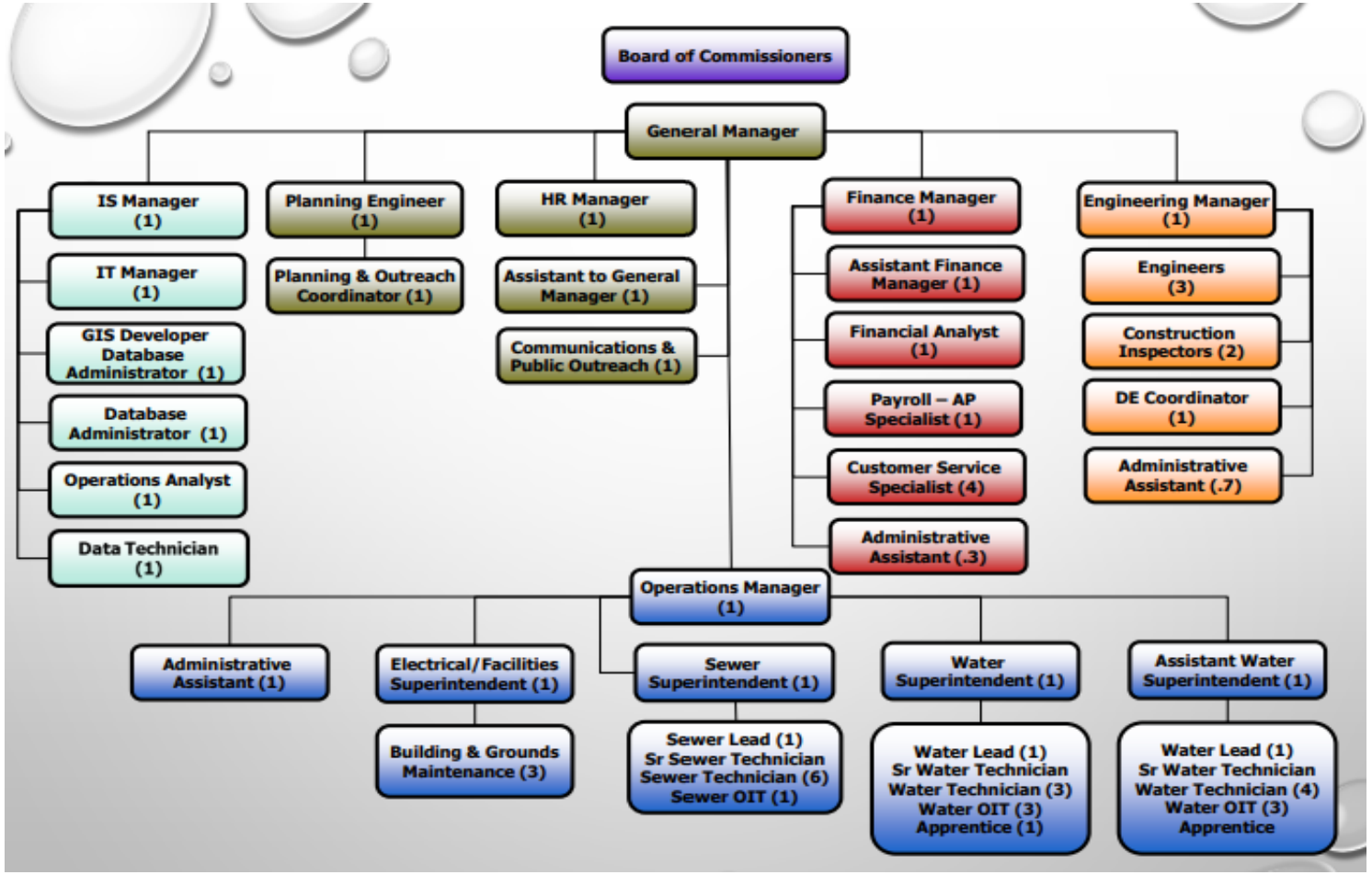
Asset Management Culture

Sammamish Plateau Water®

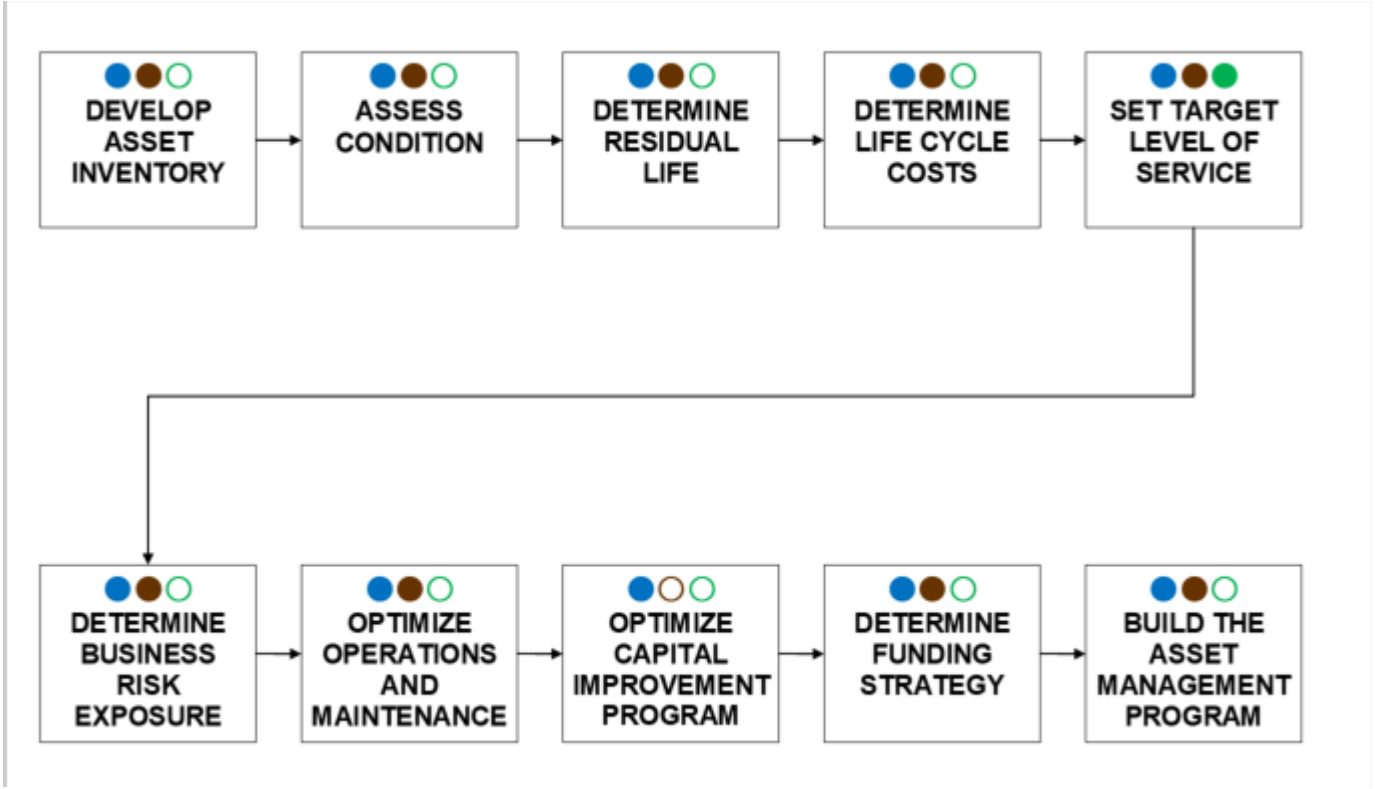
- Driven by the District Mission
- Influenced by each department
- Characterized by teamwork
- Leveraged on knowledge
- Staff-driven
- Involves everyone

Asset Management Culture

- Supported by the Board of Commissioners
- Championed by the General Manager
- Each Department Represented in the Team



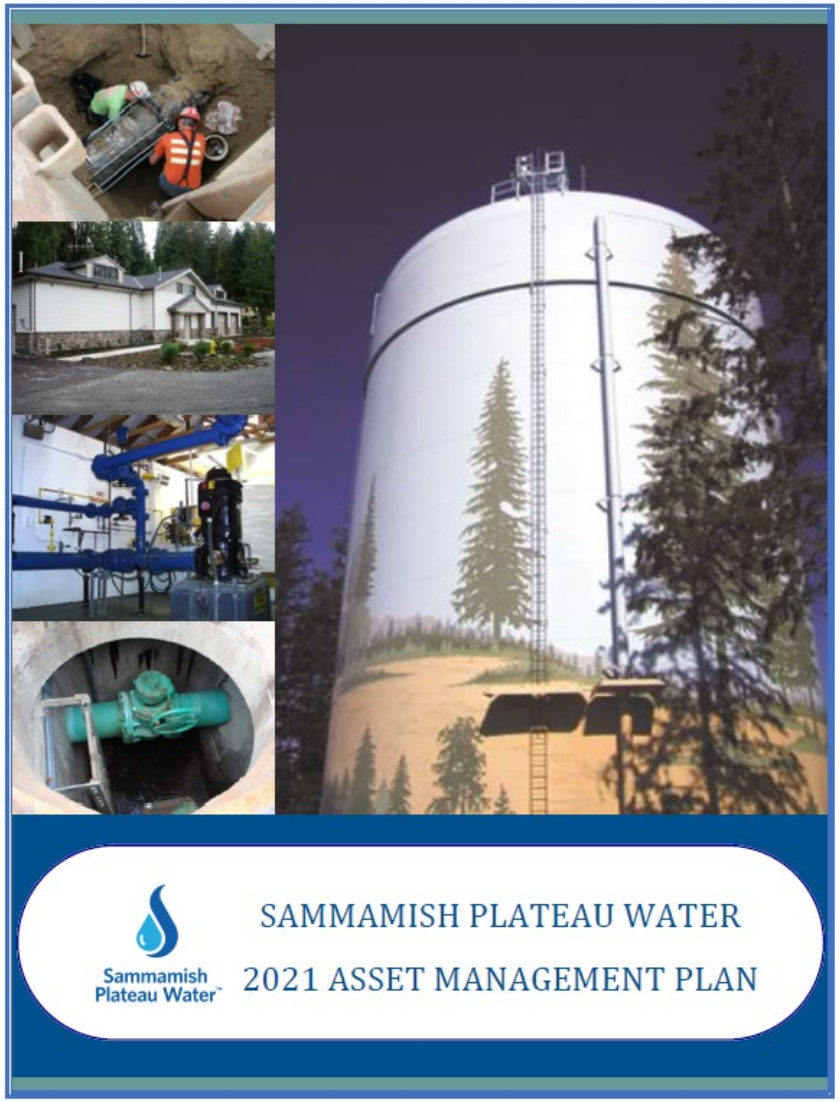
EPA Asset management framework



Our AM Plan

Created in 2016

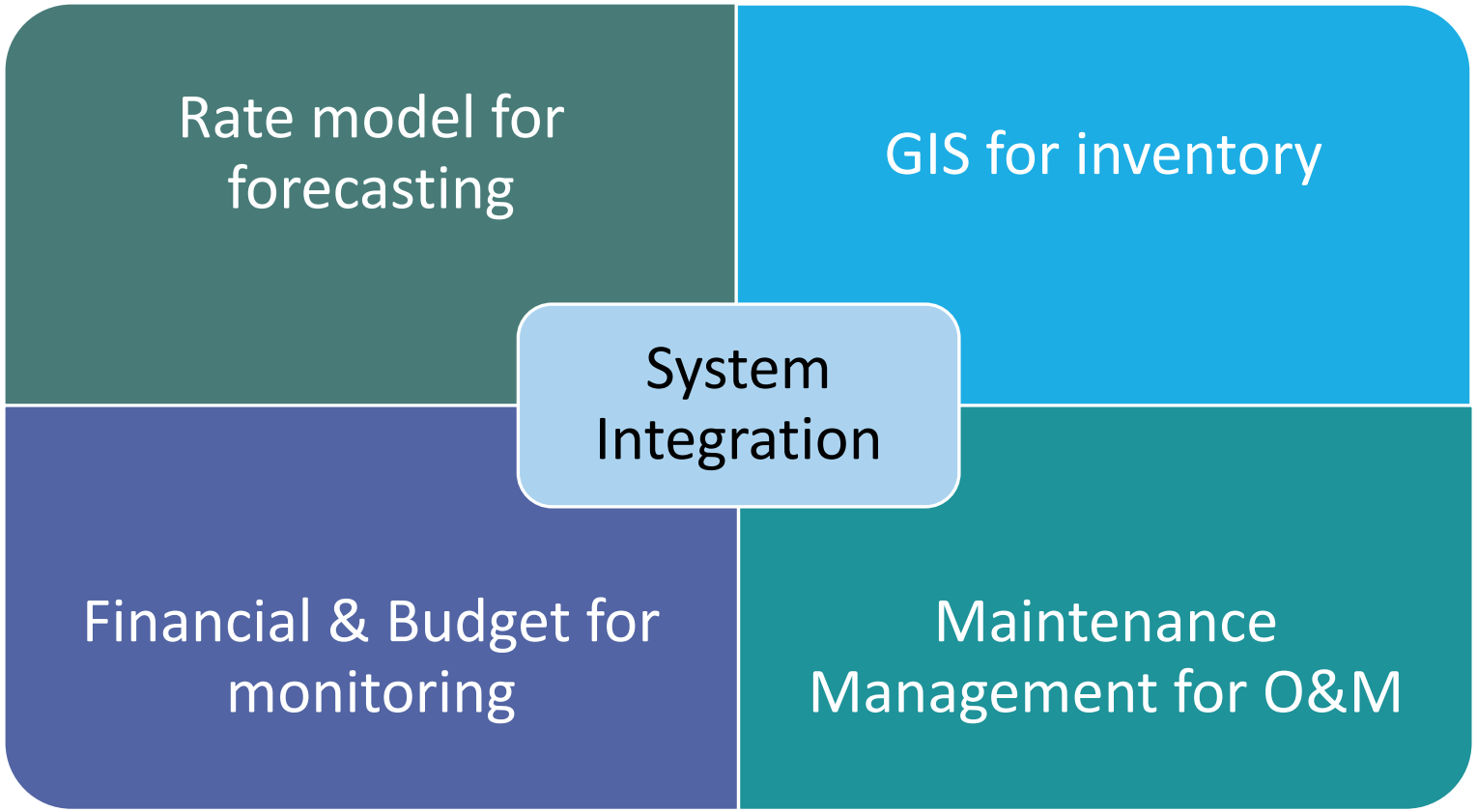
- Updated every 5 years
- Includes a gap analysis to determine areas of focus.
  - Provides a workplan outline that is followed by staff to continue and refine the AM program.
- Asset Class
  - Description of each Asset Class
  - Risk
  - Replacement Strategy and Timeline



Build the Asset Management (AM) Plan

- Incorporate All Steps (EPA Framework)
- Align the Plan with the Mission Statement
- District Collaborative Effort
- Inter-Disciplinary Team
  - Multiple Areas of Expertise
  - Outcomes Not Job Titles
  - Improved Communication

Asset Management System Integration

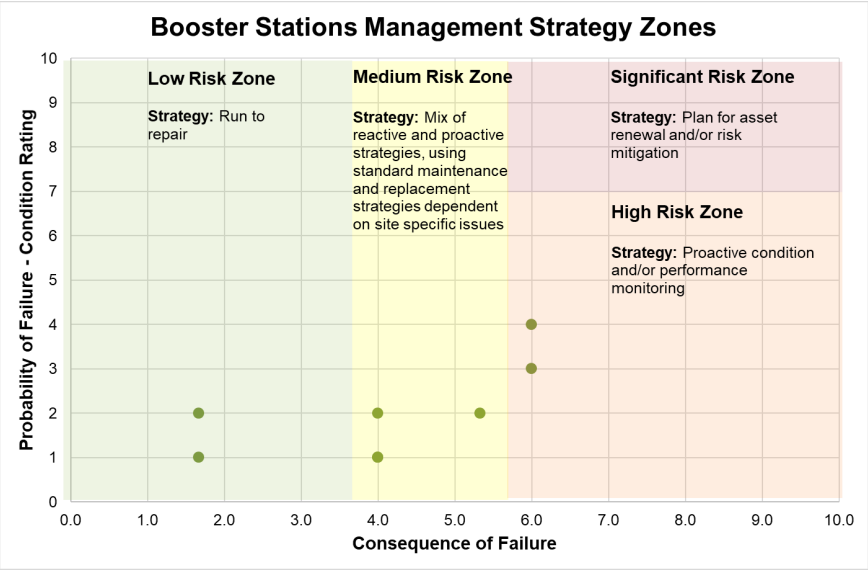


2016 to 2021 Workplan

- Developed Consequence of Failure Rating Scale
- Create a Sustainability Policy
- Determine Value of Asset Catalog
- Reliability Centered Maintenance Program Implementation
- Create and Update the District Asset Management Plan

Consequence of Failure Rating Scale

- Applied criteria to all asset classes.
- Booster Station Examples



Booster Station Name	Consequence of Failure	Condition Rating
297 Boostrer	6.0	3
SE 43 Wy	6.0	4
Sctn 36	5.3	2
NE 80th	4.0	1
Well 12	4.0	2
Well 4	4.0	1
Boulder Ck	1.7	2
Overdale	1.7	1

Install Year	Years in Service	Remaining Life	% Remaining Life	Booster Station Name
1991	28	67	70%	297 Booster
1984	35	60	60%	SE 43 Wy
2003	16	79	80%	Sctn 36
2011	8	87	90%	NE 80th
2001	18	77	80%	Well 12
2009	10	85	90%	Well 4
2001	18	77	80%	Boulder Ck
2014	5	90	90%	Overdale

Development of a Sustainability Policy

- Defines the components of our Asset Management program

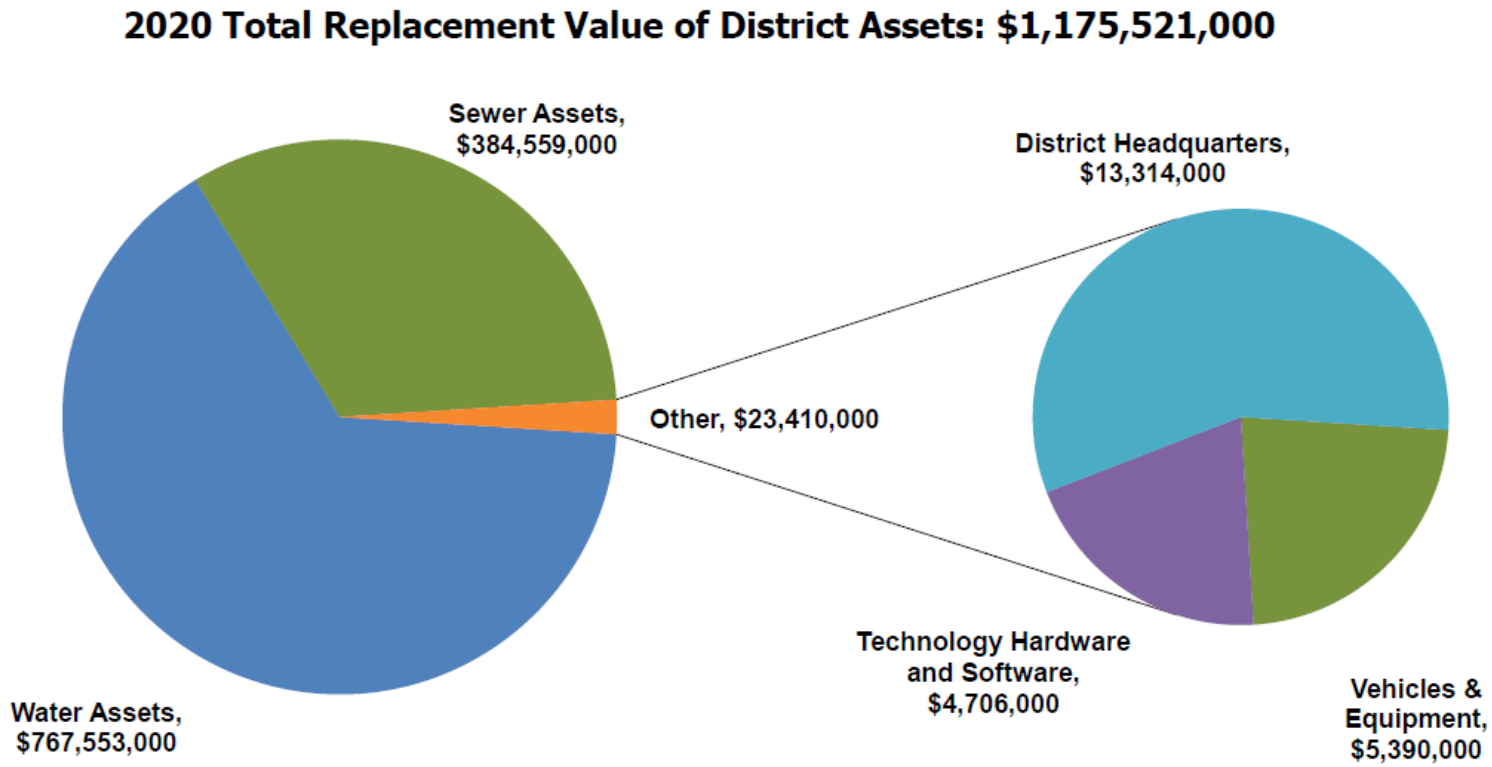
> ***As an element of sustainable service delivery, the District practices asset management. This policy is designed to define and guide the District's commitment to sustainability and asset management.***

SAMMAMISH PLATEAU WATER SUSTAINABILITY POLICY

Purpose:	***As an element of sustainable service delivery, the District practices asset management. This policy is designed to define and guide the District's commitment to sustainability and asset management.***	Sammamish Plateau Water
Attribute	**Attribute Components**	
Infrastructure Strategy and Performance	The District will be effective stewards of its capital investments by maintaining an asset inventory (asset registry) with location, age, physical condition and other key attributes necessary for making data-driven decisions to ensure sustainable infrastructure.	
Water Resource Sustainability	The District will promote public health by ensuring the availability of clean water and effective sewer conveyance. This is accomplished through environmental stewardship focusing on long-term aquifer sustainability and comprehensive resource planning.	
Customer Satisfaction	Level of service targets (policy and operational) will be adopted by the Board of Commissioners to assure outcomes are delivered that meet expectations.	
Financial Viability	Financial planning and rate-setting will promote enterprise resiliency and long-term sustainability. The Board will avoid deferral of fiscal responsibilities and adopt rates and targets that include reserves for repair and replacement and other expenses recognizing the full cost of service to ensure generational equity.	
Product Quality	The District will perform benefit and risk analysis when making fiscal and capital decisions to ensure resources are focused on essential services and assets to meet regulatory and reliability requirements with a long-term view.	
Employee and Leadership Development	The District will hire, train and manage to maintain staffing skills, resources and prioritize continuous improvement through teamwork and open communications. Competent and professional District staffing is an essential element of service delivery, product quality and maintenance of legacy systems.	
Operational Optimization	The District will ensure performance improvements and leverage technology to enhance operations resulting in an efficient, effective and sustainable water and sewer system.	
Enterprise Resiliency	The District will foster a collaborative and flexible culture to ensure continuous improvement and innovative approaches to manage potential risks.	
Stakeholder Understanding and Support	The District will foster customer understanding and support for sustainability through open outreach and communication.	
Community Sustainability	The District will promote regional awareness and partnerships to reflect the interdependent nature of resources and support sustainability throughout the region as a best practice.	

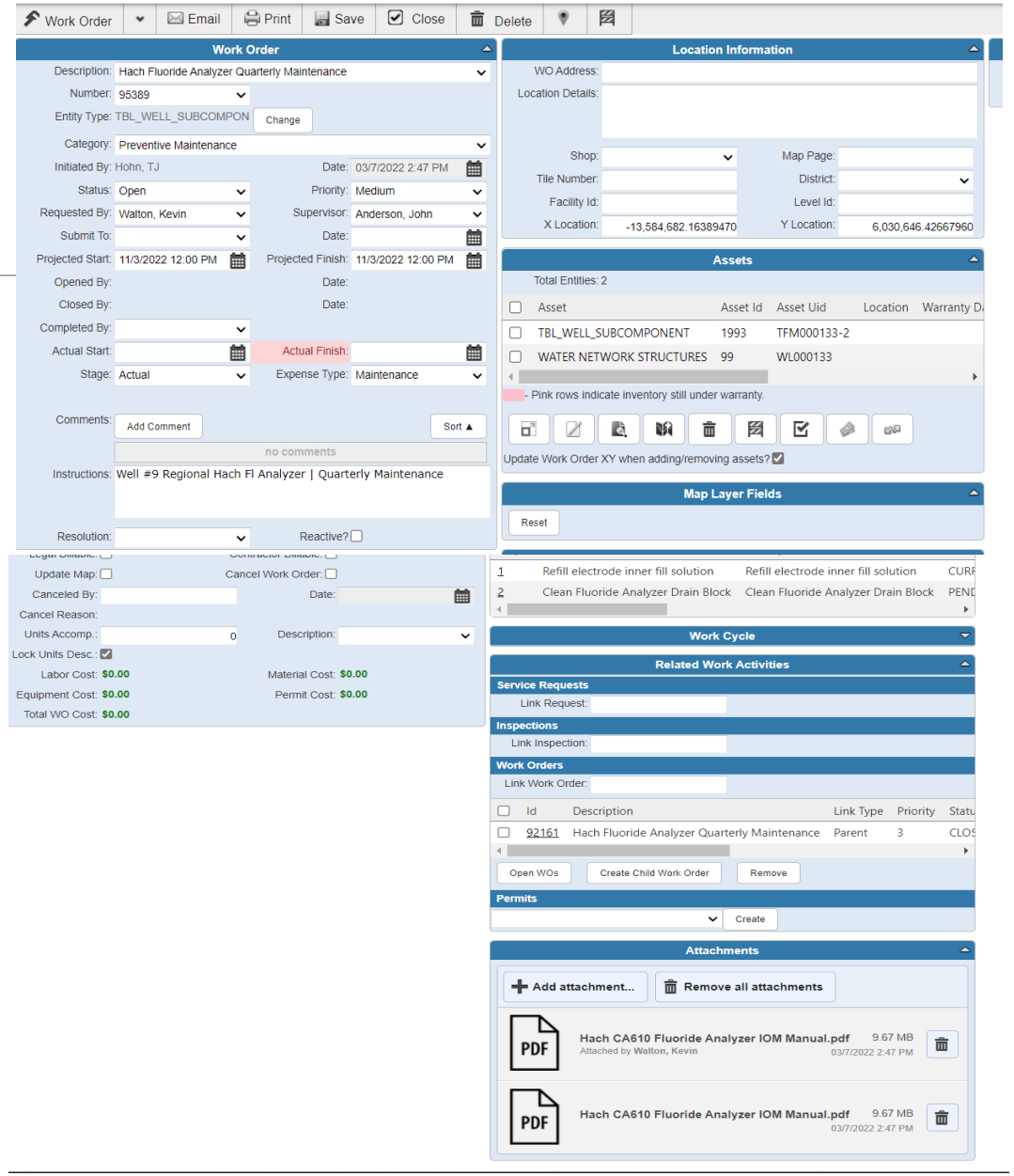
Replacement Value Assessment

- Updated every 5 years. Last updated 2019
- Drives R&R funding



Reliability Centered Maintenance

- Documenting Operating Context
  - Narrative on the function of the asset
- Condition Assessment Practices
  - This helps maintenance and/or replacement scheduling.
- Standard Operating Procedures (SOPs)
  - Maintenance
  - Repair
  - Replacement
- Utilize CMMS to Schedule Preventive/Predictive Maintenance



Asset Management Plan Update

- Team effort
- Updated gap analysis
- Update list of projects
- Completed 2021

2022 to 2026 Workplan

- Asset Management Training for Staff
- Department Specific Training
- Capital Planning
  - Review existing program
  - Incorporate RCM data
- Condition Assessment Program
  - Evaluate existing Condition Assessment efforts
  - Implement Condition Assessment
- Maintenance Planning
  - Review and Adjust the RCM program as needed.
- Asset Registry

Asset Management Training for Staff

- Emphasize training and utilization of existing systems before adding additional systems.
  - Continue to show staff their role in Asset Management.
  - Engage new staff on AM Training.
- Department specific training.
  - Link staff work with the overall Asset Management program.

Capital Planning

- Review Existing Program
- Incorporate RCM Data into the Program
  - Includes Condition Rating
- Standardize Requirements for Vertical Assets
  - Operating Manual and Context
  - Spare Parts Requirements

Condition Assessment Program

- Offshoot of RCM
- Develop a list of additional assets requiring condition assessments utilizing consequence of failure and management strategy zones
- Tools, templates, assets requiring an assessment, timing of assessments and process to utilize assessment data for maintenance, rehabilitation or replacement.
- Identify cost thresholds for assessment technologies
  - Cost/Benefit analysis
- Evaluate and adjust the program.

Condition Assessment – Water Distribution

Existing Condition Assessment Activities:

Asset Type	Type of Assessment	Frequency	Work Category	Notes
Pressure Reducing/Relief Valve	Visual Inspection	Every 5 yrs	Preventive Maintenance	Full maintenance on valve where condition of internal wear parts is noted and replaced as necessary. Valve body condition dictates if there is need for full valve replacement.
	Operational Test	Annually	Inspection	Checking valve functionality.
Isolation Valves	Operation	Every 4 yrs	Predictive Maintenance	Operating valves to check ease of operation, accessibility, and to see there is leakage through the packing or o-rings. This would show itself by water coming up through the valve can to the surface.
	Valve Can/Lids	Every 4 yrs	Predictive Maintenance	Checked at the same time the valve is operated.
	Shutdown Capability	As-Needed	Corrective Maintenance and Construction and Development	Checks the isolation capability of the valves.
Air Vacs	Visual Inspection	Every 4 yrs		
	Operational test	Every 4 yrs		
Water Mains	Visual: External inspection	When main is exposed.	Condition Assessment	Utilize the Main Observation Report for tracking this information.

Proposed Condition Assessment Activities:

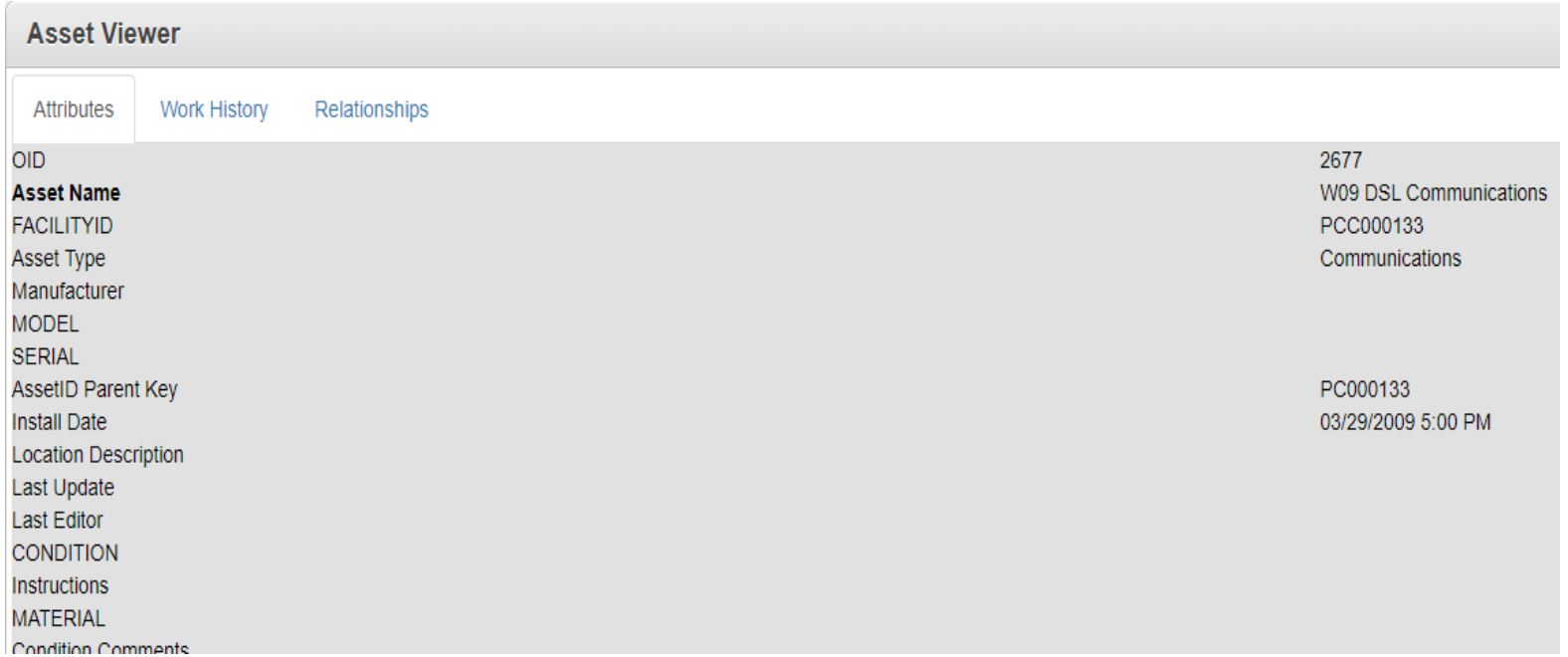
Asset Type	Type of Assessment	Frequency	Work Category	Notes
Water Mains	Structural Pipe Assessment/Wall thickness: acoustic monitoring (Echologics Epulse),	Need initial assessment. No frequency defined at this time.	Condition Assessment	This would be done on high consequence of failure AC water mains.
	Coupon sampling	As the opportunity arises.	Corrective Maintenance and Construction and Development	Focus on high consequence of failure water mains.
	Corrosion Potential: soil testing	As the opportunity arises.	Corrective Maintenance and Construction and Development	Focus on high consequence of failure water mains.
Air Vacs	Operational test	Every 4 yrs		

Maintenance Planning

- Review and Adjust the RCM program as needed.
  - Part 1
    - Review assets using RCM framework.
    - Assess assets utilizing RCM framework.
  - Part 2
    - Implement additional RCM strategy for assets identified.
    - Incorporate tasks from the Condition Assessment Program assignment.

Asset Registry

- Process for Adding New Vertical Assets
- Complete the Attribute List
- Review the Asset List
  - Ensure it's Complete



Ongoing Tasks

- Replacement and Rehabilitation
  - Adjust Inflation Rates and Useful Life Annually
- Levels of Service
  - Review Metrics Annually

Any Questions?