Brown AND Caldwell

JORDAN VALLEY WATER CONSERVANCY DISTRICT

Establishing an Exceptional Property and Infrastructure Program

Pipes Break

- Operations errors
- Neglected maintenance
- Poor initial installation
- Stray electric currents
- Freeze-thaw cycles
- Corrosive soils
- Differential settlement
- Natural disasters
- Someone else’s contractor

Pipes Break

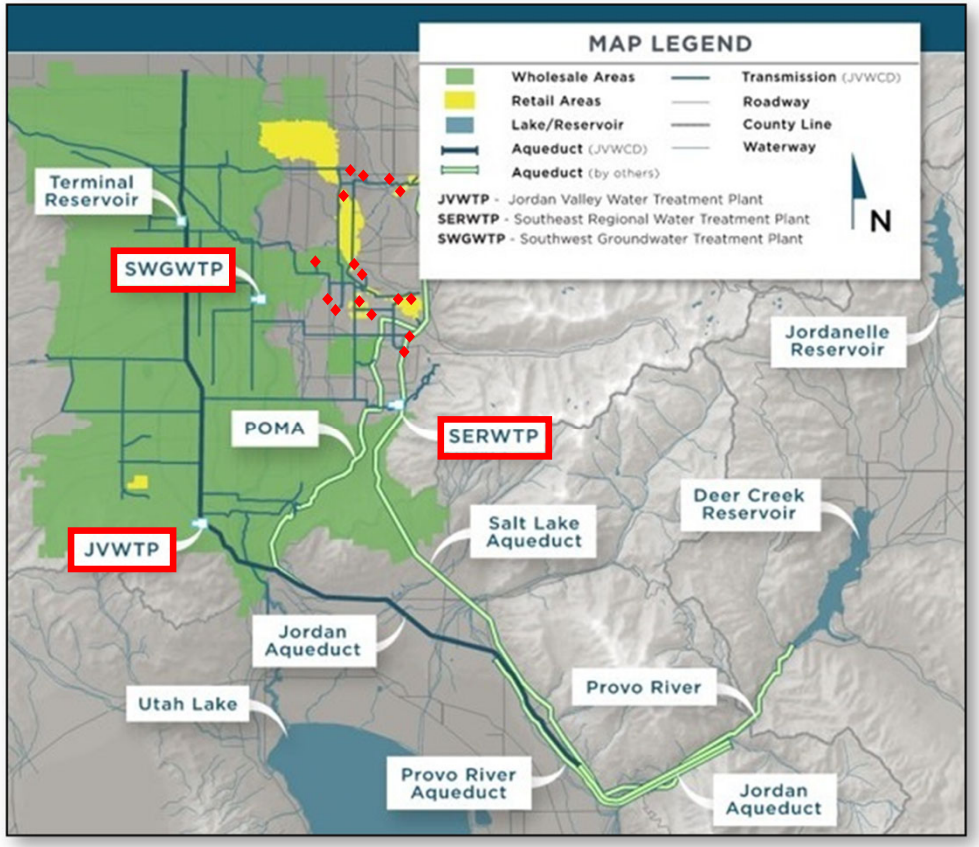
- Operations errors
- Neglected maintenance
- Poor initial installation
- Stray electric currents
- Freeze-thaw cycles
- Corrosive soils
- Differential settlement
- Natural disasters
- Someone else’s contractor

Credit: ChatGPT

Agenda

1. Our Journey to Formalize Asset Management
2. Water Utility's Overview of Asset Management
3. Our Asset Management Program Status
4. Next Steps

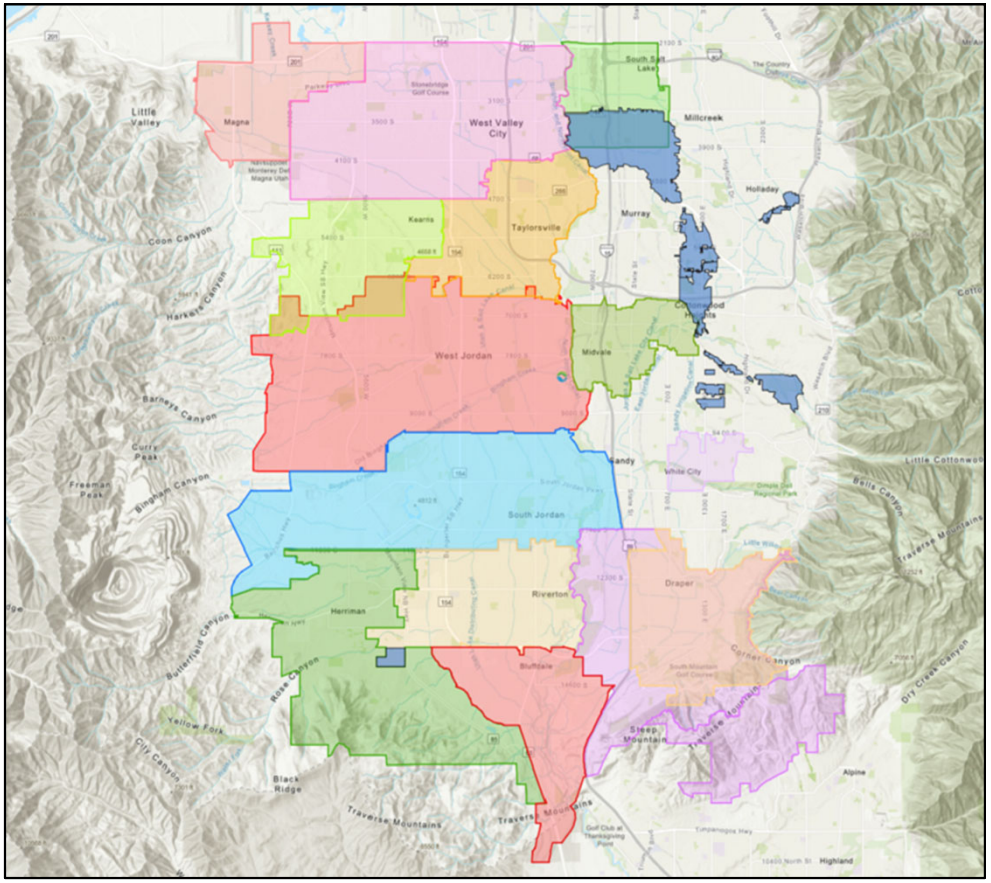
About JVWCD



Jordan Valley Water Conservancy District (JVWCD)

- Political Subdivision of the State of Utah
- Established in 1951 under the Water Conservancy Act as the Salt Lake County Water Conservancy District
- Wholesale water provider to South and West Salt Lake County
- Primary supply facilities:
  - Jordan Valley Water Treatment Plant (JVWTP)
  - Southeast Regional Water Treatment Plant (SERWTP)
  - Southwest Regional Groundwater Treatment Plant (SWGWTP)
  - 40 Groundwater wells

About JVWCD



Jordan Valley Water Conservancy District (JVWCD)

- Serves 800,000 throughout Salt Lake County
- 17 Member Agencies
- 130,000 Acre Feet per year
- 250 million gallon per day capacity
- Governed by a board of 9 Trustees

About JVWCD

Maximizing the value we provide to the community.

What We Do

We provide clean and reliable water to our community through responsible stewardship and quality service.

Three Key Services

- Deliver Clean Water
- Manage Demand
- Develop Supply

Why We Do It

Empower a thriving community through sustainable, innovative water management, while safeguarding our resources for future generations.

How We Do It

Imperatives

- Nurture an environment of professional growth to develop a dynamic workforce
- Forge collaborative planning for a thriving community
- Enhance our resilience to current threats
- Foster the community's conscious connection with water
- Modernize systems to optimize our services

Enhance Our Resilience to Current Threats

“Bolster disaster readiness through comprehensive risk management to help prepare for, respond to, and rapidly recover from any threat.”

Modernize Systems to Optimize Our Services

"...thoughtful change management to innovate our business processes. Our strategy aims to assure long-term performance, reliability, and cost-effectiveness, ensuring we continue to provide reliable water services for our community..."

Table 3-1

JVWCD Projected Repair/Replacement Expenditures (millions dollars)

Capital Asset Facility Type	2021-2030	2031-2040	2041-2050	2051-2060
Wells	$33.7	$36.5	$73.2	$104.4
Boosters	$11.0	$38.2	$21.9	$143.1
Reservoirs	$19.8	$58.6	$135.6	$274.6
Distribution Pipelines	$36.9	$52.3	$36.9	$28.1
Transmission Pipelines	$49.1	$238.2	$247.3	$948.2
Water Treatment Plants	$14.8	$20.2	$29.5	$41.7
Administration & general buildings	$4.8	$6.7	$9.5	$13.3
Communications equipment assets	$1.9	$14.6	$11.2	$32.6
Total R&R costs	**$172.0**	**$465.3**	**$565.1**	**$1,586.0**

Our strategic plan pushes us to do more with our resources for our community

5 Infrastructure Strategy and Performance

1. Integration

Improve the quality, integration, and breadth of our asset data. Address known gaps in our computer maintenance management system implementation and improve equipment performance tracking.

Operational Objectives

- Centralize data and SOPs to a single platform/location with a spare parts inventory and management SOP.
- Identify where there are gaps in data sources, reporting and inputs and develop an improvement plan.
- Improve integration between asset management, SCADA, and GIS software to maximize efficiency.

AT OUR CORE
- Modernize systems to optimize our services
- Enhance our resilience to current threats

2. Management

Define asset management policies that build on current methods and include a more diverse group from across district departments for prioritization decisions. Document service goals for all assets.

Operational Objectives

- Establish condition assessment and preventative versus corrective maintenance goals.
- Coordinate repair and replacement activities with other agencies to optimize efficiency.
- Develop District staff's skill sets to implement asset management strategies and tactics.

AT OUR CORE
- Modernize systems to optimize our services
- Nurture an environment of professional growth to develop a dynamic workforce.

3. Standardization

Capture critical institutional knowledge by streamlining, standardizing, and formalizing asset management processes, roles, and responsibilities across the District.

Operational Objectives

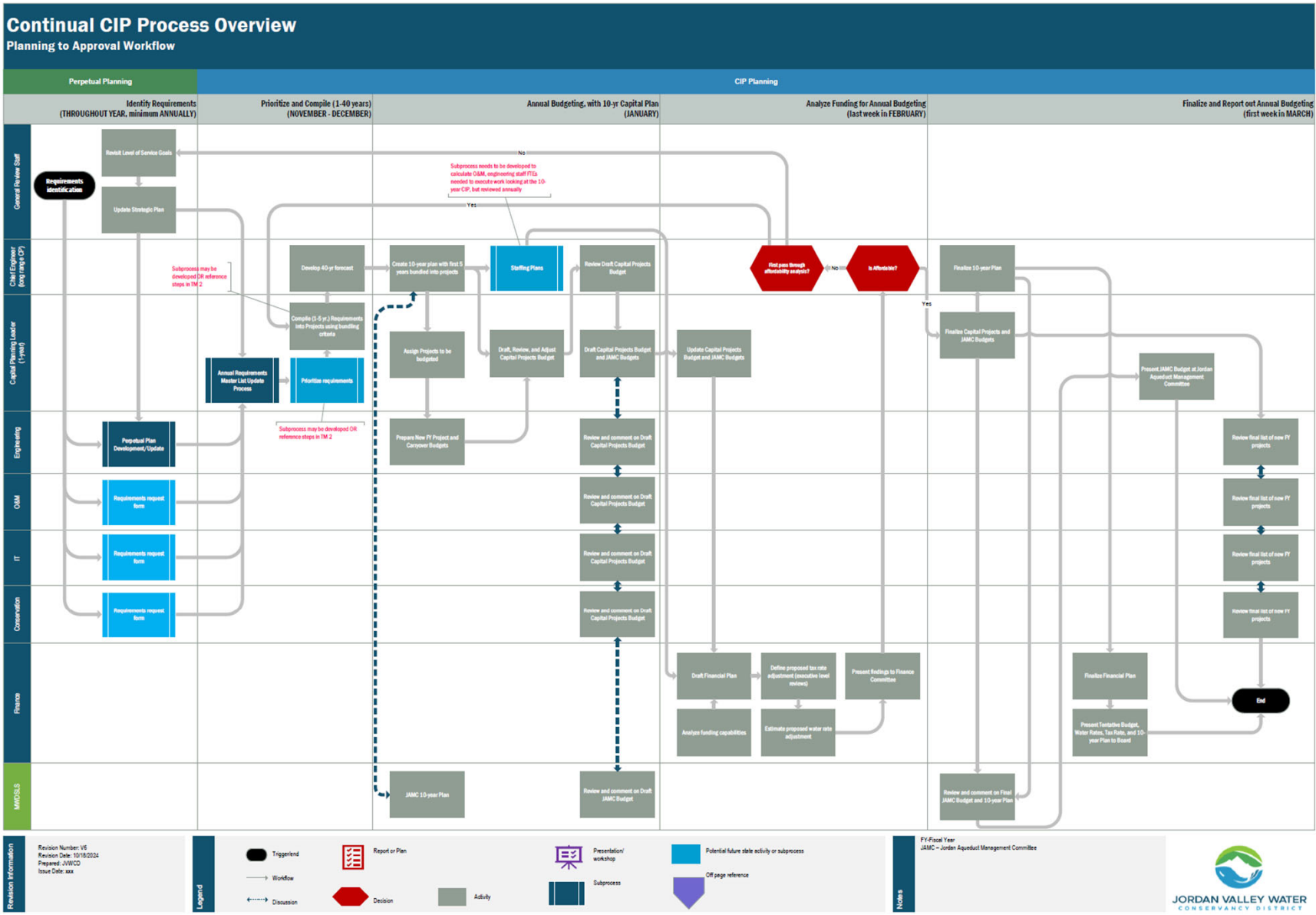
- Identify and evaluate critical structures against the condition/functional performance standard.
- Ensure manufacturers' recommendations are followed on work orders and SOPs for all equipment.
- Analyze inventory to identify critical parts gaps and implement improvement plans.

AT OUR CORE
- Enhance our resilience to current threats
- Nurture an environment of professional growth to develop a dynamic workforce.

Step 1 – Revise our CIP Development Approach

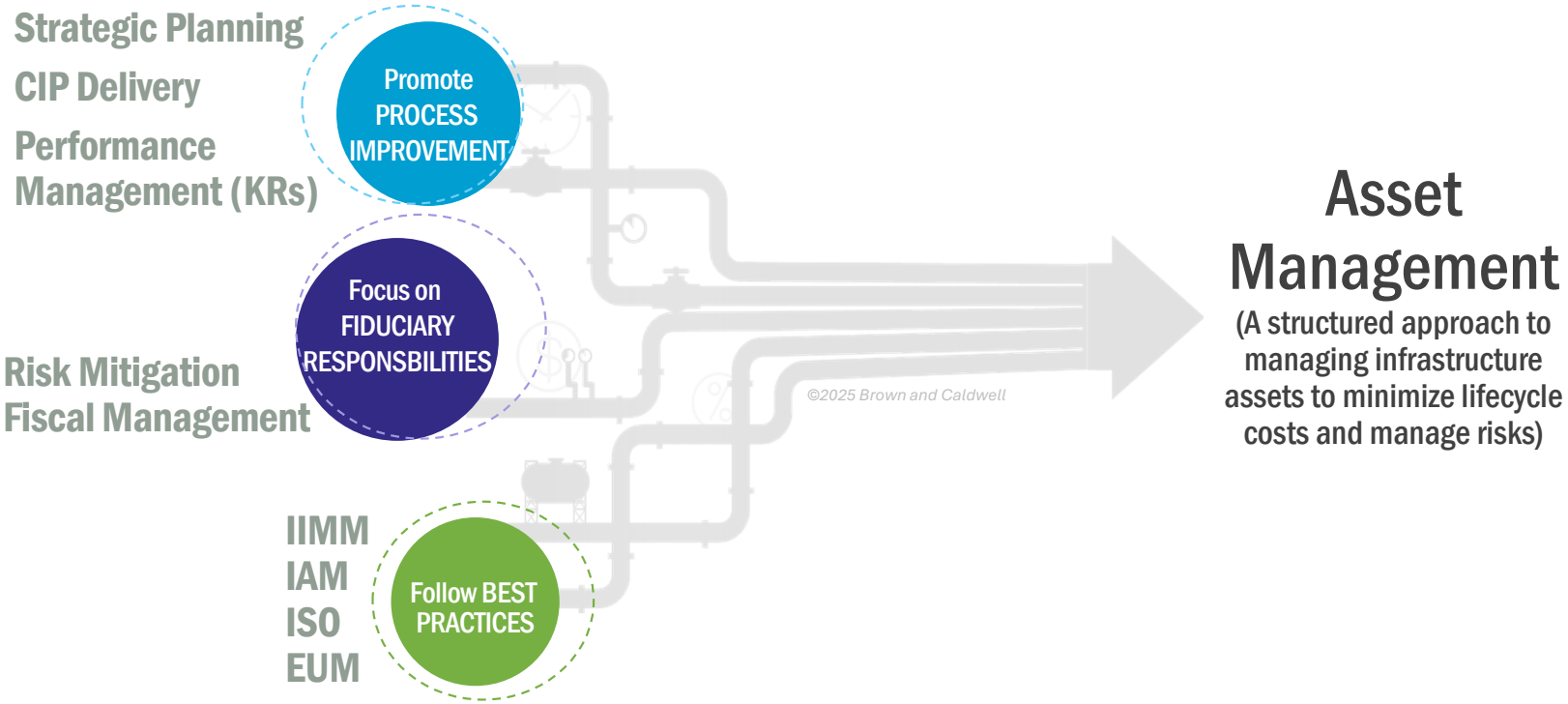
- CIP delivery approach supports AM structure
- AM documents align with the connected planning approach
- CIP approach based on risk for prioritization

CIP Process


Continual CIP Process Overview
Planning to Approval Workflow
Perpetual Planning
CIP Planning
Identify Requirements (THROUGHOUT YEAR, minimum ANNUALLY)
Prioritize and Compile (1-40 years) (NOVEMBER - DECEMBER)
Annual Budgeting, with 10-yr Capital Plan (JANUARY)
Analyze Funding for Annual Budgeting (last week in FEBRUARY)
Finalize and Report out Annual Budgeting (first week in MARCH)
General Review Staff
Chief Engineer (Engineering OP)
Capital Planning Leader (1-year)
Engineering
O&M
IT
Conservation
Finance
MWDSLS
Requirements identification
Revisit Level of Service Goals
Update Strategic Plan
No
Yes
Subprocess needs to be developed to calculate O&M, engineering staff FTEs needed to execute work looking at the 10-year CIP, but reviewed annually
Subprocess may be developed OR reference steps in TM 2
Develop 40-yr forecast
Create 10-year plan with first 5 years bundled into projects
Staffing Plans
Review Draft Capital Projects Budget
First pass through affordability analysis?
Is Affordable?
Finalize 10-year Plan
Compile (1-5 yr.) Requirements into Projects using bundling criteria
Annual Requirements Master List Update Process
Prioritize requirements
Assign Projects to be budgeted
Draft, Review, and Adjust Capital Projects Budget
Draft Capital Projects Budget and JAMC Budgets
Update Capital Projects Budget and JAMC Budgets
Finalize Capital Projects and JAMC Budgets
Present JAMC Budget at Jordan Aqueduct Management Committee
Perpetual Plan Development/Update
Prepare New FY Project and Carryover Budgets
Review and comment on Draft Capital Projects Budget
Review final list of new FY projects
Requirements request form
Draft Financial Plan
Define proposed tax rate adjustment (executive level reviews)
Present findings to Finance Committee
Finalize Financial Plan
End
Analyze funding capabilities
Estimate proposed water rate adjustment
Present Tentative Budget, Water Rates, Tax Rate, and 10-year Plan to Board
JAMC 10-year Plan
Review and comment on Draft JAMC Budget
Review and comment on Final JAMC Budget and 10-year Plan
Revision Information
Revision Number: V6
Revision Date: 10/18/2024
Prepared: JVWCD
Issue Date: xxx
Legend
Triggerlend
Workflow
Discussion
Report or Plan
Decision
Activity
Presentation/ workshop
Subprocess
Potential future state activity or subprocess
Off page reference
Notes
FY-Fiscal Year
JAMC – Jordan Aqueduct Management Committee
JORDAN VALLEY WATER
CONSERVANCY DISTRICT

Asset Management Overview – A Water Utility Perspective

Many roads led to our desire for a programmatic approach to AM

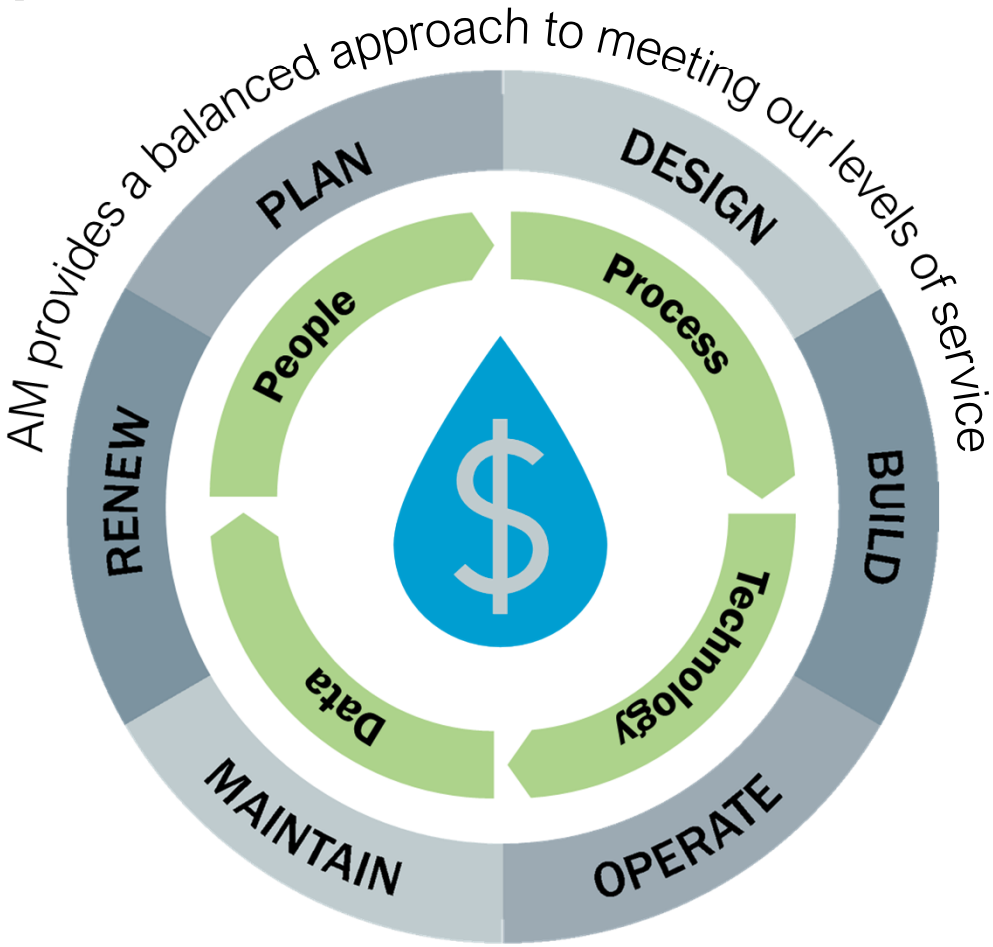


What is Asset Management?

A structured approach to managing infrastructure assets to minimize lifecycle costs and manage risks

A framework for making *data-informed decisions* about how and when to Operate, Maintain, Renew, and Dispose of assets

Not a software system–rather it is a Business Discipline and Culture that is enabled by *people*, *process*, *data*, and *technology*



Copyright Brown and Caldwell ©2026 ALL RIGHTS RESERVED. All BC templates and content, including but not limited to graphics, information, and photos are protected by copyright and other intellectual property laws. No part of this document or its contents may be copied, reproduced or otherwise utilized without permission from Brown and Caldwell.

Asset Management seeks to find answers to questions about what we own and how we maintain our assets

What do we own and where is it? What do we know about it?

How should we operate and maintain it?

What condition is it in? How is it performing?

What is the failure mode?

What is the likelihood of failure?

What is the consequence of failure?

Given the available data and the likelihood and consequence of failure, how do we manage our assets to sustain service at lowest cost?

Our AM Program includes four key areas that span our organization to help us address those fundamental questions…

Organizational Framework

- AM Program Adoption
- Performance Management
- Risk Management
- Regulatory Management
- AM Resource Management

Information Systems and Data Management

- Information Systems
- Asset Data Structure
- Data Quality and Management

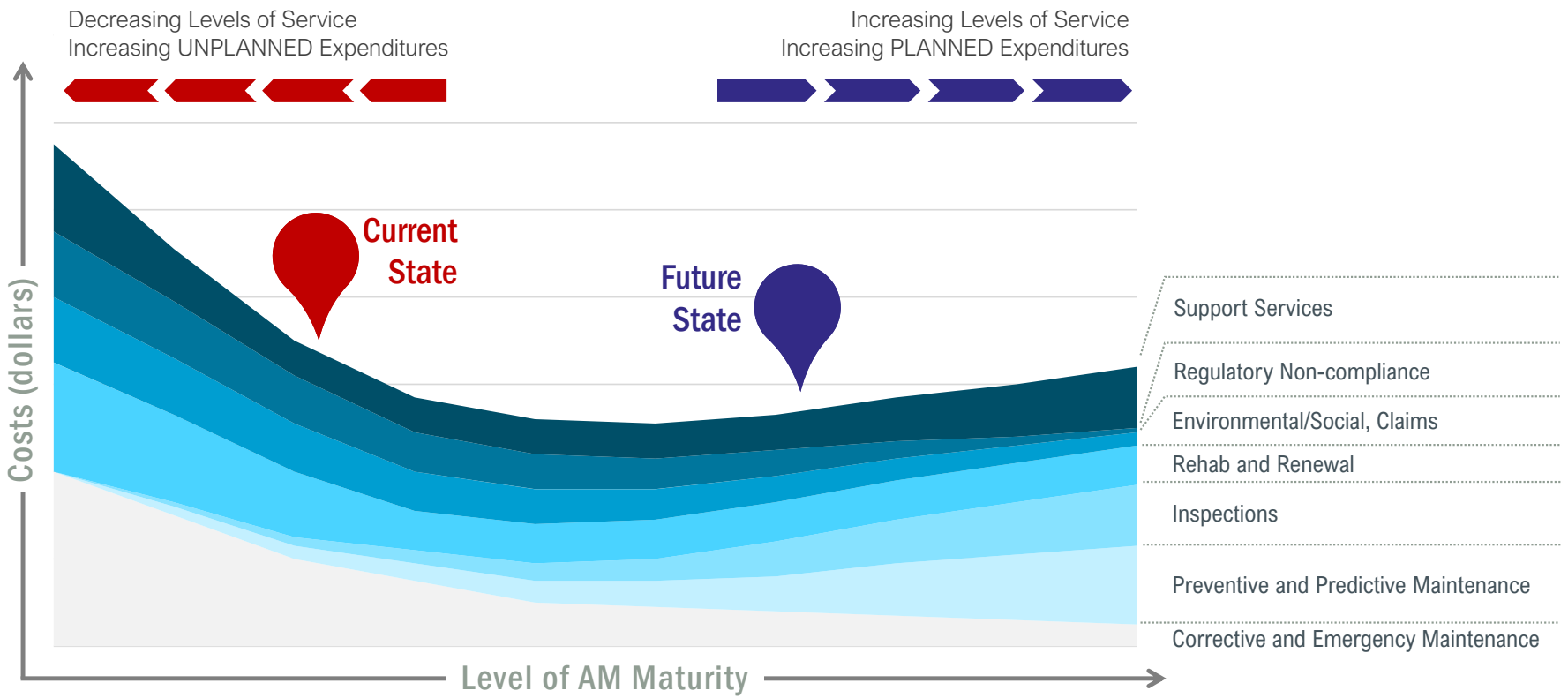
Operations and Maintenance

- Materials Management
- Operations Strategy
- Maintenance Strategy
- Assessment and Optimization

Decision Making and Capital Planning

- Risk-Based Asset Evaluation
- Identification, Justification and Prioritization
- Design and Construction

We are working continuously to meet our established service levels while minimizing costs

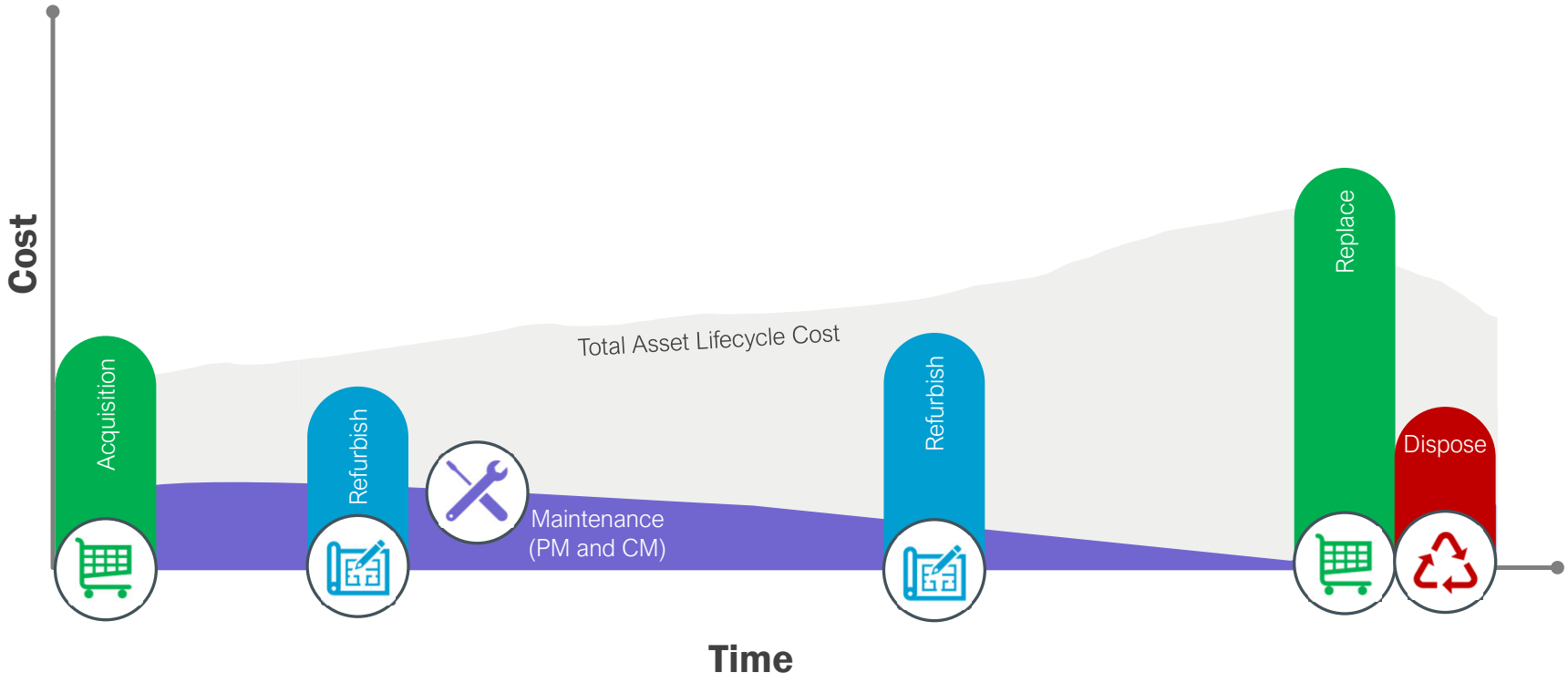


Asset management is a best practice* that helps us…

- Address aging infrastructure
- Build our staff capabilities and retain institutional knowledge
- Meet our fiduciary responsibilities
- Establish consistent asset O&M strategies and processes across departments
- Manage resources while meeting established service levels
- Establish a data framework, which is fundamental to making data-informed decisions

** AM organizations across the globe providing insight, support and guidance*
- *IA: the Institute of Asset Management*
- *ISO 55000*
- *IIMM*

Our goal is to develop a strong AM program that optimizes the lifespan of our assets while reducing costs throughout their entire lifecycle



Copyright Brown and Caldwell ©2026 ALL RIGHTS RESERVED. All BC templates and content, including but not limited to graphics, information, and photos are protected by copyright and other intellectual property laws. No part of this document or its contents may be copied, reproduced or otherwise utilized without permission from Brown and Caldwell.

Our AM Program Status

Our AM program is being developed by our entire organization…

©2023 Brown and Caldwell

- Community Engagement
- Engineering & Water Development
- Digital Services
- Administrative & Financial Services
- Product Quality & Operations
- Asset Reliability & Management

First, we established a charter to set our AM goals

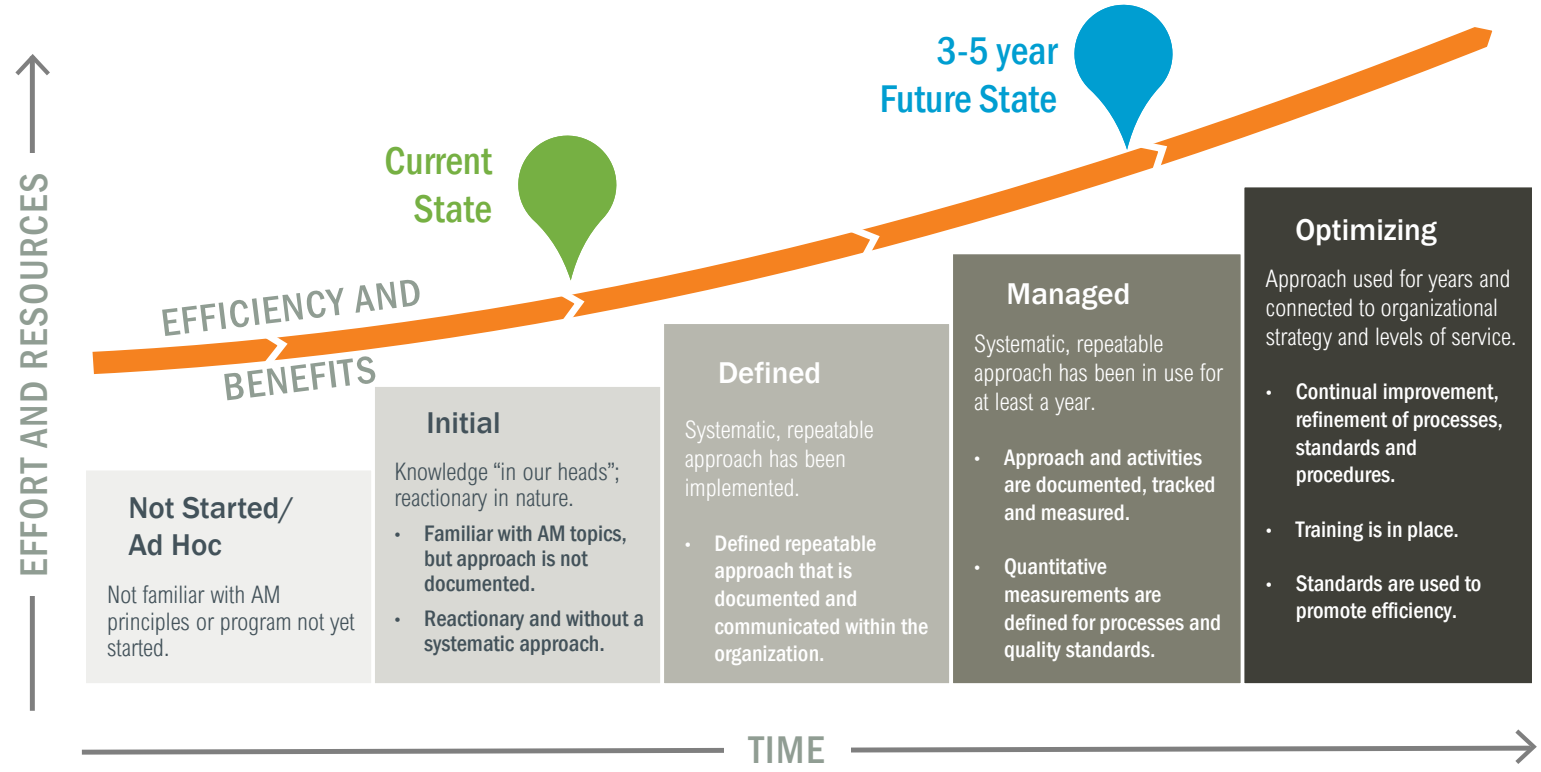
Purpose	Vision	Goals
Why we do asset management	How we will know when we have fulfilled our AM purpose	What we strive for in our organization to achieve our AM mission and vision

AM Charter

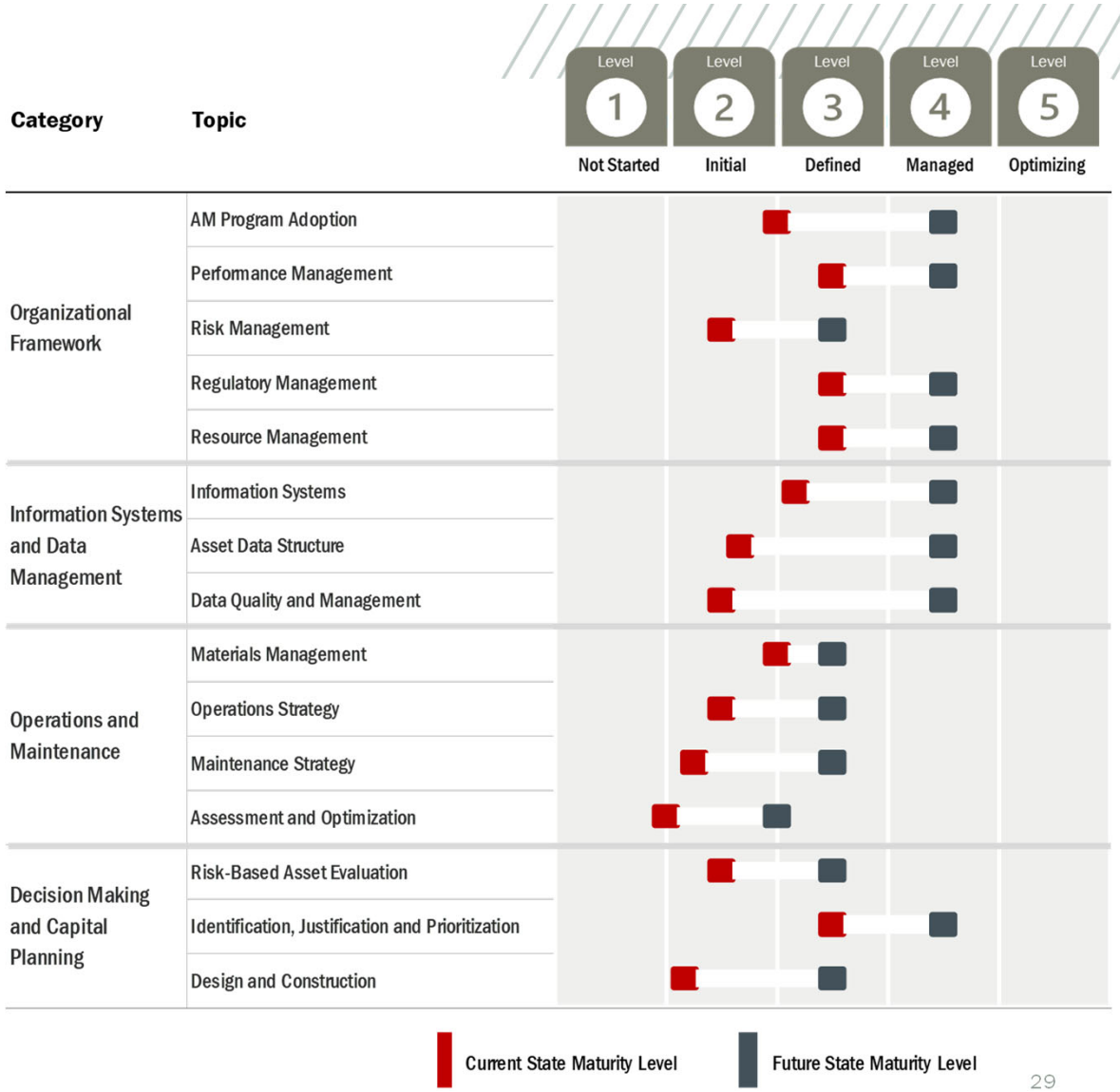
Our AM charter identifies purpose, vision and goals

Purpose: Why we do asset management	Proactively sustain our infrastructure through continuous improvement of our business processes and technology/software, ensuring we continue to provide reliable water services for our community for generations to come.
Vision: How we will know when we have fulfilled our AM purpose	A progressive asset management program that leverages modern tools and practices to maximize asset performance, reliability, and cost-effectiveness.
Goals: What we strive for in our organization to achieve our AM mission and vision	Develop certification training plans specific to the needs of the program. Develop JVWCD staff's skill sets to implement asset management strategies, tactics and equipment-specific processes. Optimize efficiencies through coordinated repair and replacement activities with other agencies. Analyze inventory to identify critical parts gaps and implement improvement plans. Identify gaps in data sources, reporting and inputs and develop an improvement plan. Use modernized systems to make decisions, and to track and evaluate asset condition. Establish and refine asset management processes. Define the AM performance measures that will be monitored at each level of JVWCD's Performance Indicator Framework. Document risk mitigation strategies. Define likelihood and consequence of failure for assets and identify and evaluate those critical assets. Invest in renewal and replacement that aligns with long-term risk mitigation strategies. Make asset information more readily available to staff personnel (i.e., manufacturers' recommendations and SOPs for equipment).

Next, we establish current and future levels of maturity through an organization wide gap analysis.



This gap analysis was vital to develop our near- and long-term AM roadmap, which will help us refine our practices and optimize asset lifecycles.



Our accomplishments in the AM program so far include: people, processes and technology

1: People

- AM roles and responsibilities
- AM communication and training needs
- AM change management

2: Processes

- Chartering
- AM program evaluation
- AM Roadmap (3-5 year)
- Strategic AM Plan
- LOS and measures
- Risk criteria
- CIP processes

3: Data and Technology

- Data Framework master plan
- CMMS evaluation

What comes next

Our AM Roadmap shows the path to optimization

Category		Topic	Recommendation	Activities	QW	1	2	3	4	5	LOE *
AM Program Adoption	1	Culture and Commitment	Develop, overarching Strategic AM Plan for utility and appropriate supporting facility plans	• Develop the SAMP • Cascade the SAMP framework to the corresponding tactical AM/facility plan (SERWTP). • Review AM strategy and AM Roadmap on a regular basis-conduct comprehensive review annually and update every 3-5 years.	QW	1	2	3	4	5	S
	2	Communications and Change Management Plan	Implement documented AM Adoption Plan	• Develop the AM Adoption Plan • Implement the communications and change management components noted in the AM Adoption Plan. • Revisit the Adoption Plan following timeframe noted in that document.	QW	1	2	3	4	5	M
Performance Management	3	Levels of Service	Track and report out on LOS	• Review AM LOS on an annual basis.		1	2	3	4	5	L
	4	Performance Measures	Track and report out on measures	• Document workflows needed to develop, track, monitor, evaluate and communicate the measures and LOS Document policies.		1	2	3	4	5	L

Excerpt

Asset Management - Intranet

These AM recommendations are phased out over the next 5 years but will be revisited annually to ensure progress and adjust the schedule based on actual resource availability and change management considerations

We are continuing to implement our AM Roadmap…

- SERWTP Facility Plan — *put SAMP into practice*
- CMMS Improvements & Asset Registry Update
- KPI development & implementation
- Condition Assessments – *systematically evaluate assets through standardized inspections to capture accurate data for informed decision-making*
- Risk-Based Evaluations – *high-risk assets will be assessed using LOF/COF criteria to inform renewal/replacement & CI planning*
- Change management, communications, training, & process improvements – *support program and process improvement* ***adoption***

We are focusing on those activities that help us optimize our services through data-informed decisions

KR 4

KR 5

Thank you

– Questions?

Brown AND Caldwell

JORDAN VALLEY WATER
CONSERVANCY DISTRICT