



CAPITAL REGION.

WATER

Asset Management Program

May 24, 2017

The Philosophy...

**Asset Management is a
process of continuous
improvement and change.**



CAPITAL REGION. | WATER

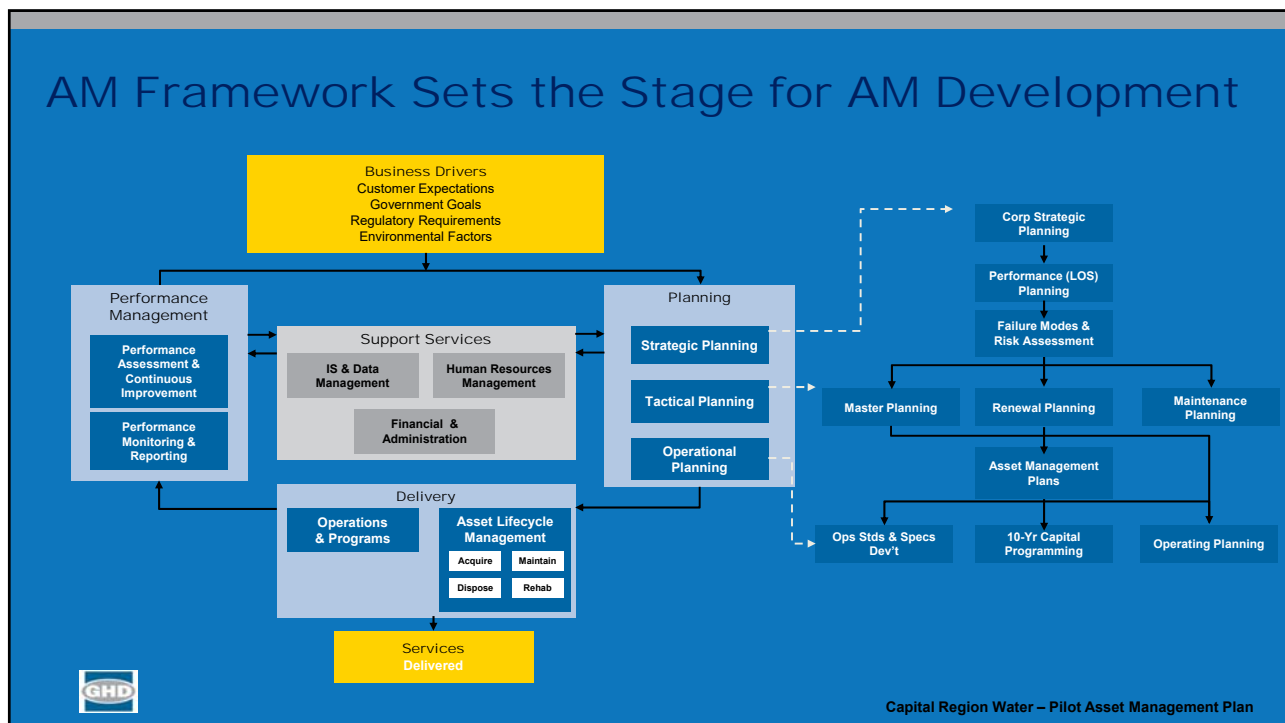
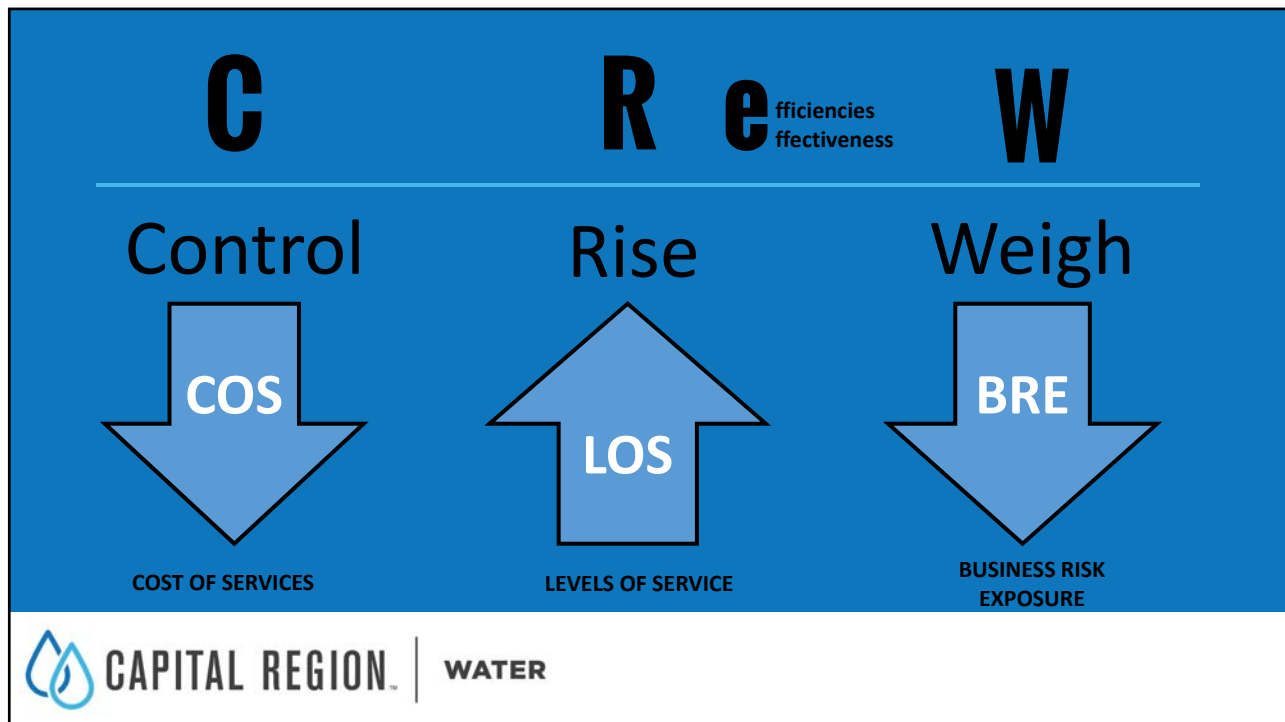
Asset Management
is a framework of practices
and principles on a strategic
level for overall efficiencies
and effectiveness.



The Purpose...

- Manage all phases of the asset lifecycle over numerous disciplines for each of CRW's Service Areas.
- Guiding investment in the right work, on the right projects at the right time.
- Support the primary functions of CRW and align with strategic framework.
- For overall efficiencies and effectiveness.





Five Core Questions of Asset Management

1. What is the current state of my assets?

- What do I own?
- Where is it?
- What condition is it in? What is its performance?
- What is its remaining useful life?
- What is its remaining economic value?

2. What is my required level of service (LOS)?

- What is the demand for my services by my stakeholders?
- What do regulators require?
- What is my actual performance?

3. Which assets are critical to sustained performance?

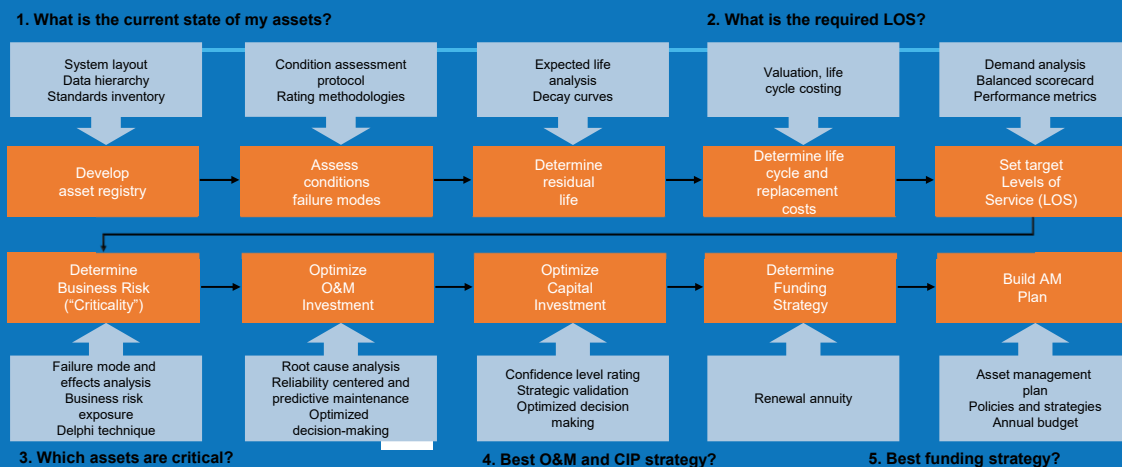
- How does it fail? How can it fail?
- What is the likelihood of failure?
- What does it cost to repair?
- What are the consequences of failure?

4. What are my best O&M and CIP investment strategies?

- What alternative management options exist?
- Which are the most feasible for my organization?

5. What is my best long-term funding strategy?

10-Step Process – Tactical Asset Management Plans





Sustainable Asset Management Policy

The Capital Region Water's guiding principles for sustainable asset management are the following:

1. **Manage CRW's assets including current condition and remaining life.**
 - Know what assets CRW owns and for which assets CRW has responsibility or legal liability. Assets are recorded in an asset register down to a maintenance managed item level.
 - Monitor the condition, performance, use, and value of assets down to the appropriate level and against prescribed service levels and regulatory requirements.
2. **Maintain a high level of service to CRW's customers and stakeholders.**
 - Understand customer and stakeholders requirements and expectations.
 - Understand and record the current levels of service provided.
 - Continually improve levels of service to meet future demands and expectations.
3. **Understand and manage CRW's business risk exposure.**
 - Identify and focus on those assets that are critical to CRW's service levels and prioritize their management to prevent their failures.
 - Identify, understand, and manage the business risks associated with operating CRW's resources.
4. **Prepare asset management plans for capital and operational strategies.**
 - Prepare asset management plans for the drinking water, wastewater, and stormwater systems.
 - Improve the effectiveness of predictive and preventative maintenance programs based on asset data and move from a reactive to a proactive O&M environment.
 - Drive efficient work planning (daily/weekly/monthly/annual) with asset management plans.
 - Continuously review and validate the asset management plans with summary updates annually.
5. **Develop a long-term funding strategy.**
 - Develop funding strategies and identify renewal annuities to sustainably manage CRW's assets.
 - Collaborate with other stakeholders to leverage the investment in asset management.
 - Link CRW's organizational and asset management strategic goals to asset related investments and action plans.
 - Use validation processes to evaluate planned investment in capital projects, maintenance programs, operations and associated support services, as well as their impact on rates (including business cases, decision support systems, etc.).
6. **Embed sustainable asset management practices throughout the organization.**
 - Establish defined roles and responsibilities to implement and sustain asset management practices.
 - Apply effective data and information technology solutions to support the asset management program.
 - Dedicate adequate resources to support the continued development and implementation of the asset management program.
 - Provide training on asset management processes and procedures.

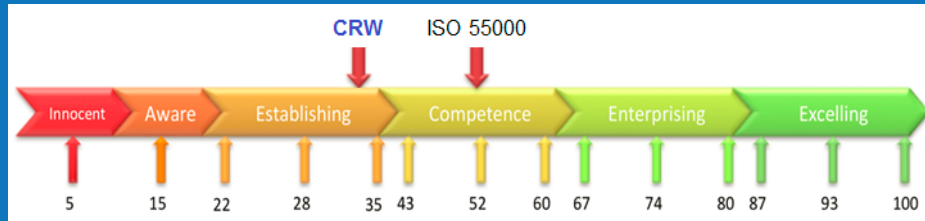
Aspects of AM that CRW was already doing...

- GIS
- Cityworks, CMMS
- Condition Assessment for assets; CSO's, interceptors, manholes.
- Regulatory deadlines being met.
- Preventative Maintenance schedules
- Community Outreach
- Strategic Planning
- Developing H&H modeling
- Addressing deficiencies with critical assets – Pumping Stations.
- Identification of critical assets.
- Short term budget recognition for critical projects.
- Asset Management Implementation Strategy



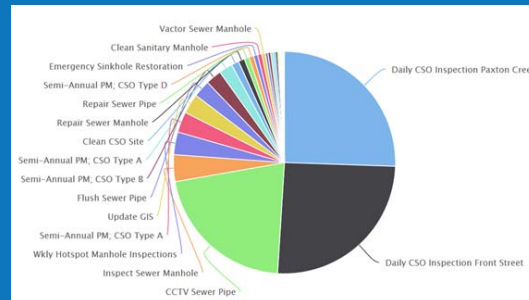
CRW Asset Management Maturity Score

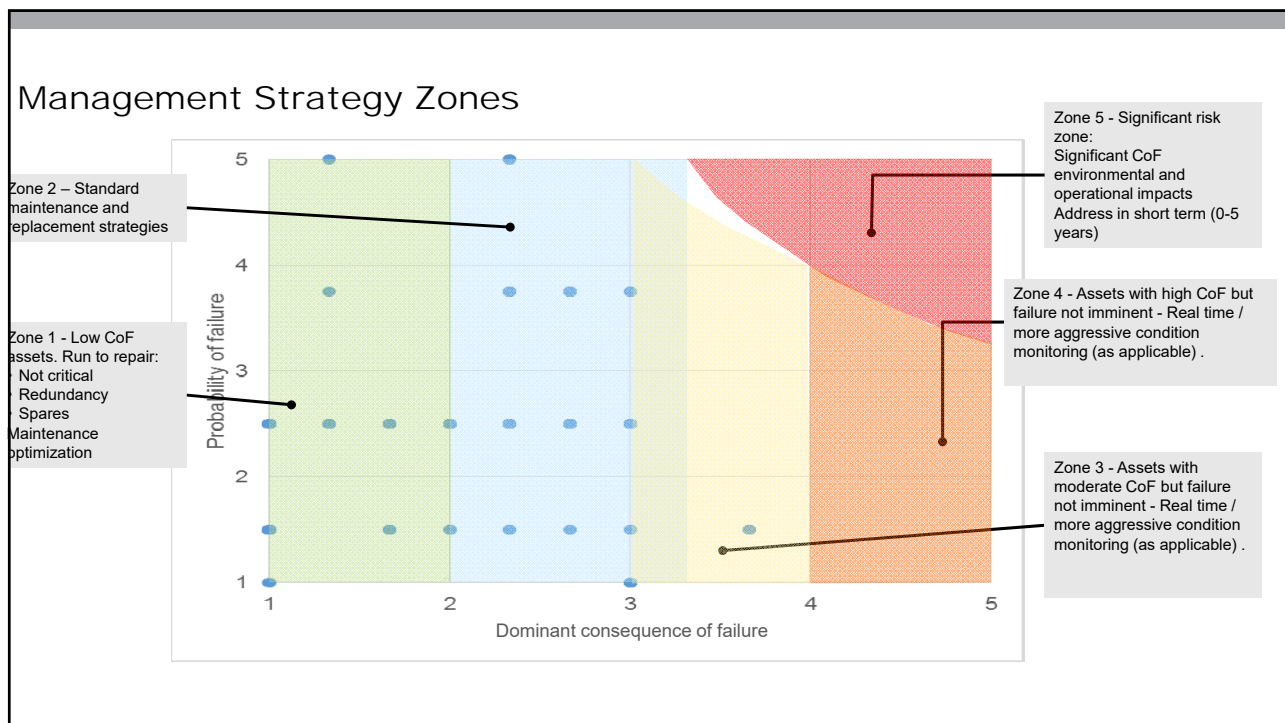
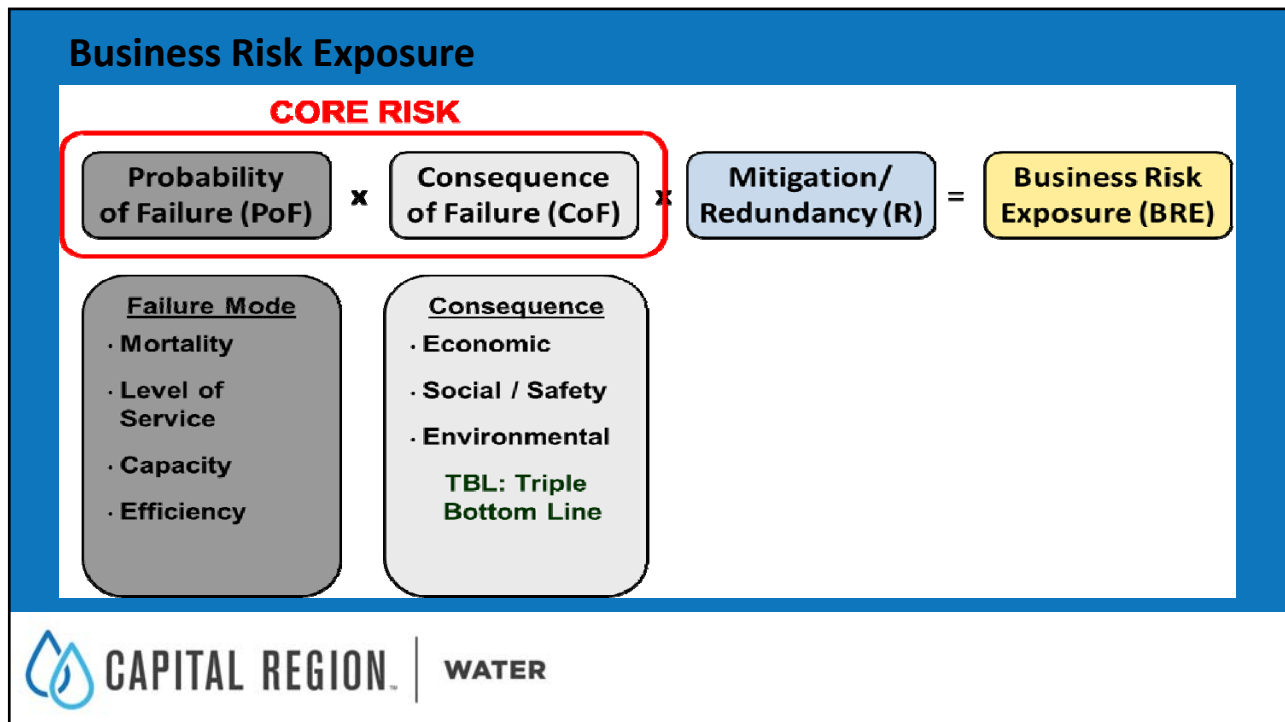
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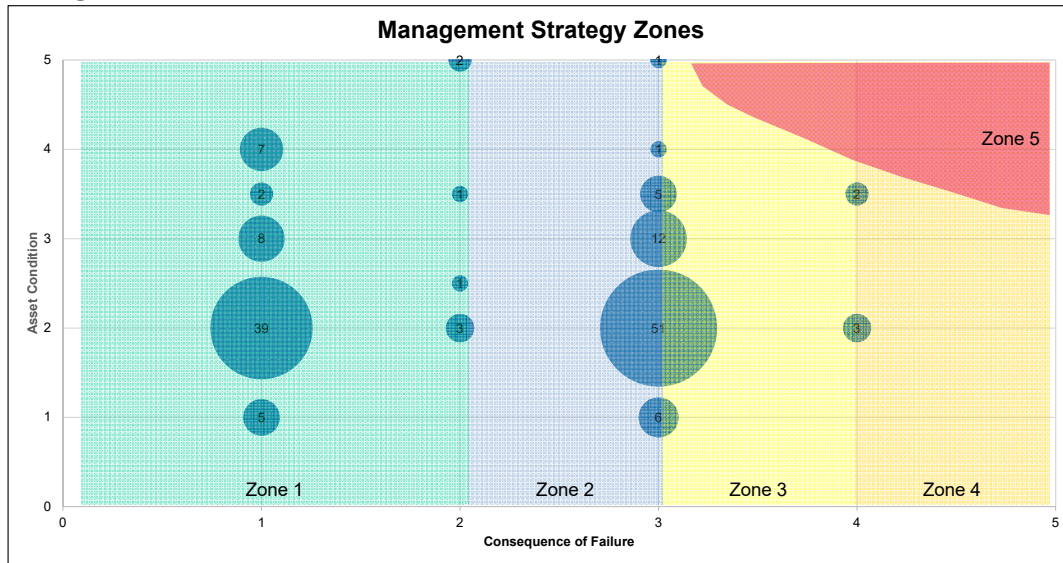
Integrated Data Collection - The right technology applied eliminates the silos. Better understanding and usage of data and information will provide informed and consistent decisions.

- GIS Development
- Cityworks





Risk Management Zones



Assets in Zone 4

ID	Process	Subprocess	System	Asset Group	Asset	Condition	Dominant COF	DOM Core Risk	Dominant Zone	Mitigation Factor	BRE (TEL RISK x MIT)
17	AWTF	BUILDINGS	MAIN BUILDING	PROCESS SUPPORT	AIR COMPRESSOR #1	3.5	4	14	Zone 4	0.5	24.5
18	AWTF	BUILDINGS	MAIN BUILDING	PROCESS SUPPORT	AIR COMPRESSOR #2	3.5	4	14	Zone 4	0.5	24.5
74	AWTF	SOLIDS PROCESSING	DEWATERING	POLYMER SYSTEM	DRY FEED SYSTEM	2	4	8	Zone 4	0.5	14
129	WTP	PRIMARY TREATMENT	COAGULATION	ALUM SYSTEM	ALUM TANK 710	2	4	8	Zone 4	0.1	10
133	WTP	PRIMARY TREATMENT	COAGULATION	ALUM SYSTEM	ALUM TANK 711	2	4	8	Zone 4	0.1	10

An Asset Management Program Is All About Knowledge Management



Prioritized Next Steps...

- Complete Asset Registry for Verticals and update GIS DB– Plants, Pumping Stations
- Incorporate AM requirements into Cityworks & Develop Interfaces to support AM Requirements – Insight/BRE
- Develop AM Plans– Linear & Vertical
- Develop & Implement Condition Assessment Processes for Linear & Vertical Assets
- Develop the AM Performance Management and LOS Framework

Realistic Expectations for AM

- Takes **several years** of detailed, nitty-gritty work to fully deploy
- Requires eventual **buy-in** commitment of the whole organization
- Needs **upfront investment** to get started, with hidden returns for initial years



Questions/Comments

