Asset Management (AM) Journey & Project Excellence Initiative

An Update to the Board on Progress and Near-Term Plans 12/11/2023

A Work Completed \sim Hire 2 New GIS Staff; Add all new linear Assets, Plan for ESRI Utility Network Upgrade

Strategic Asset Management Plan - Draft Report Dec '23

- Build Foundation // Generate Consensus // Plan the Work
- Policy Statement // Framework // Maturity Assessment
- Asset Definition // Levels of Services
- Risk Prioritization Ground Rules: Condition Assessment & Consequence Assessment
- Preventive Maintenance Recommendations // Maintenance Strategy // Improvements to CityWorks
- Asset Management Road Map

Plan/Budget for 2024 – Asset Management Plans – KIWWTP, Suburban

Asset Management: Goals & Objectives

Maximize	Invigorating staff				
resources:	Optimal use of enterprise technology systems				
	Minimize lifecycle cost				
Maintain	Rate Stability				
rates:	Affordability				
	Cost-effective AM processes				
Instill consistency:	Staff				
	Data, technology, business process and procedures				
	AM interventions and decision making				
Enhance Organizational Credibility:	Defined and documented levels of service				
	Proactive communication				
	Active engagement and feedback from stakeholders				
Prioritize	Lifecycle cost approach				
Financial investments	Data informed decision making				
	Prioritize investments in critical infrastructure				

Key Elements of Asset Management Work



1. Asset: Framework, Policy, Definition, Inventory and Location



2. Determine Levels of Services

LCA Mission, Vision, Values, Strategy

> Key Areas of Performance

3. Risk Based Prioritization of

Improvements

Condition of Assets / Likelihood of Failure Criticality of Assets / Consequence of Failure Preventive Maintenance Activities - Frequency, Content Strategy: Run to Fail, Diagnostic testing, Repair or Replace

4. Maintenance

Strategy



5. Financial Assessment & Planning

Value of Assets Remaining Useful Life Replacement Cost & Frequency for Standard Equipment Capital Plan for Major Improvements Funding Sources

Group 1 - Strategy & Planning

- Asset Management Policy
- 2. Asset Management Strategy & Objectives
- 3. Demand Analysis
- 4. Strategic Planning
- Asset Management Planning

Group 2 - Asset Management Decision-Making

- Capital Investment Decision-Making
- Operations & Maintenance Decision-Making
- 8. Lifecycle Value Realisation
- Resourcing Strategy 9.
- 10. Shutdowns & Outage Strategy

Institute for Asset Management Framework

Group 3 - Life Cycle Delivery

- 11. Technical Standards & Legislation
- Asset Creation & Acquisition
- 13. Systems Engineering
- Configuration Management
- 15. Maintenance Delivery
- 16. Reliability Engineering
- 17. Asset Operations
- Resource Management
- 19. Shutdown & Outage Management
- 20. Fault & Incident Response
- 21. Asset Decommissioning & Disposal

Group 4 - Asset Information

- 22. Asset Information Strategy
- 23. Asset Information Standards
- 24. Asset Information Systems
- 25. Data & Information Management

Group 5 - Organisation & People

- 26. Procurement & Supply Chain Management
- 27. Asset Management Leadership
- 28. Organisational Structure
- 29. Organisational Culture
- 30. Competence Management

Group 6 - Risk & Review

- 31. Risk Assessment & Management
- 32. Contingency Planning & Resilience Analysis
- 33. Sustainable Development.
- 34. Management of Change
- 35. Asset Performance & Health Monitoring
- 36. Asset Management System Monitoring
- 37. Management Review, Audit & Assurance
- Asset Costing & Valuation
- 39. Stakeholder Engagement

Asset Management Policy

- Purpose statement
- Drivers
- Principles
- Roles and Responsibilities
- Asset Management Terms and Definitions
- Endorsement

LCA's Asset Definition:

- We own, operate or maintain the asset
- We have (or should have) preventive maintenance measures for that asset
- Currently the asset is (or should be) inventoried in GIS and CityWorks
- There will be no minimum cost for the definition of an asset (some assets with low-cost value are critical)
- Buildings and structures are considered assets
- Parts of an asset are not assets
- Necessary Next Step: Define what is and what is not (consumables, lights, light switches) and purge from system

Maturity Assessment

Innocent Maturity Level 0	Aware	Developing	Competent	Mature Maturity Level 4	Industry Leader
LCA has not recognized the need for this requirement and/or there is no evidence of commitment to put it in place	LCA has identified the need for this requirement and there is evidence of intent to progress it	LCA has identified the means of systematically and consistently achieving the requirements, and can demonstrate that these are being progressed with credible and resourced plans in place	LCA can demonstrate that it systematically and consistently achieves relevant requirements set out in the IAM Anatomy	LCA can demonstrate that it is systematically and consistently optimizing its asset management practice, in line with LCA's objectives and operating context	LCA can demonstrate that it employs the leading practices and achieves maximum value from the management of its assets, in line with the LCA's objectives and operating context



Levels of Service





Public Health and Quality – Maintaining public health through high quality drinking water, high quality wastewater effluent and the prevention of sanitary sewer overflow; regulatory compliance Reliability – Uptime – Supplying drinking water for consumption, commerce, fire flow and irrigation and conveying and treating wastewater, 1440/24/7/ 365, all 525,600 minutes of the year



Environmental Stewardship preventing pollution from emissions, overflows, discharge, spills from impacting our communities, waterways, land, animals and habitats



Health and Safety -Protecting the health and safety of our employees and the community from hazards from our facilities and our operation, maintenance and construction of them



and addressing

customer concerns

when they do occur

Customer Satisfaction – **Finan** Preventing issues that Makin impact our customers de •

Financial Stewardship – Making sound financial decisions balance affordable rates and critical asset renewal



Risk Framework Development & Scoring Methodology



		Likelihood of Failure (LoF)					
Risk !	Score = LoF * CoF	1 Very Good	2 Good	3 Fair	4 Poor	5 Very Poor	
c	1	31	168	25	6	0	
3	Low Impact	5%	25%	4%	1%	0%	
e.	2	34	167	21	10	0	
alle		5%	25%	3%	1%	086	
4Fe	3	0	37	2	0	0	
ě	Medium Impact	0%	686	0%	0%	0%	
5	4	0	40	4	0	0	
50		0%	6%	1%	0%	0%	
ous	5	2	106	15	4	0	
0	High Impact	0%	16%	2%	1%	0%	



Consequence of Failure Scoring

				Score		
Criteria	Definition	1	2	3	4	5
		Negligible	Low	Moderate	High	Extremely High
Quality and Public Health	Impact on the quality of finished water, effluent; Impact on public health	No impact to public health • Failure will not cause regulatory/permit violation.	Minor impact to public health • Failure will cause minor regulatory/permit violation	Moderate impact to public health • Failure will cause moderate regulatory/permit violation	Major impact to public health • Failure will cause major regulatory/permit violation	Extreme and widespread impact to public health • Failure will cause serious regulatory/permit violation
Reliability	Impact on Uptime	• Failure will reduce uptime by an hour or less	• Failure will reduce uptime by 1-8 hours	• Failure will reduce uptime for 8-24 hours	• Failure will reduce uptime for a day to a week	 Failure will reduce uptime by more than one week.
Environmental Sustainability	Impact to the natural environment	Little to no impact on the environment.	Short-term, localized, minor environmental impact	Short or prolonged, moderate, localized environmental impact	Widespread major environmental impact	Widespread serious environmental impact
Financial Stewardship	Impact on capital budgets	Within existing budget	Minor Capital expense	Moderate capital expense	Major capital expense	Significant capital expense
		<\$50,000	\$50,000 to \$100,000	\$100,000 to \$250,000	\$250,000 to \$1,000,000	>\$1,000,000
Customer Satisfaction	Impact on Customers	No impact.	Minor impact to customers	Significant impact to customers	Significant impact to critical customers	Widespread significant impact to customers.
Health & Safety	Staff and Public Protection	No injuries or adverse health effects	Minor treatable injuries or minor adverse health effects	Medical attention likely required	Serious injury	Multiple moderate or serious injuries, with grave impacts

Maintenance Strategies – Selecting Best approach for Asset Class



Don't just fix it,

Road Map – 71 Activities – To Meet the Framework

Asset Management Roadmap
Maintenance (M)
Maintenance Activity Tracking
Preventative Maintenance Program Development
Data Management (D)
Project Managment Information System
Asset Registry Management
ID & Tracking of Critical Assets
Asset Condition Data Capture
Material Inventory Development
Master Planning / Improvements Planning (P)
Asset Management Kickout Projects
Development of Cost Model (C)
Cost Model

AM Next Steps

Asset Management Plans – Key Suburban WWTPs / KI WWTP

Scrub Asset Inventory, Upgrade CMMS for Vertical Assets

Materials & Parts Inventory

Project Excellence Initiative

- Place Spotlight on Performance, Schedule, Budget
- Improve Results
- Permit Collaboration and Communication Across Organization
- Manage Design and Construction



New Initiative

Interim Tracking Tool //Monthly Meetings // Metrics



Project / Construction Management Enterprise Software

Permanent Forecasting, Tracking Tool

\$€ Estimate at Completion Amount Abc Project Manager Enter value here Enter a number Approval Date Original Completion Date **Tracked Items** Enter a date Enter a date ⊘ Project Type Estimated Completion Date Enter a date Abc Contractor/Consultant ① % Budget Enter value here Enter a number ⊘ Fund ① % Schedule ① Munis Number Enter a number Enter a number ① % Performance/Results ⊘ Project Phase Enter a number

 Enter a number
 ① % Performance/Results
 Enter value here

 ② Project Phase
 Enter a number
 Enter a number

 ↓€ Original Approval
 ① % Responsiveness
 Image: SharePoint

 Enter a number
 ① % Safety
 Enter value here

 ↓€ Amended Approval Amount
 ① % Safety
 Image: SharePoint

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 Image: SharePoint
 Image: SharePoint

① % Safety Enter a number \equiv Notes/Roadblocks Enter value here ① Est Hours by PM per Week Enter a number Corrective Action Items Identified Enter value here Corrective Action Resolution

Project Metrics – Power Bl

Tracking Information on monthly Basis for every Task/Contract/Project with outside Entities



Total # of Contracts, Project Costs, by Project Manager, by project type (study, design, construction)



Subjective Scoring: Budget, Schedule, Responsiveness, Performance/Results, Safety: 50% bad, 100% good



Construction Projects: % of projects >10% behind Schedule, % of projects > 5% over budget, schedule variance, budget variance

Project Metrics – Power BI (example)



PM / CM Software: Goals & Objectives



Data Management – single cloud-based location for all project files



Communication Tool – solicit, track, document comments among LCA staff, stakeholders



Overall Financial and Schedule Management – dashboard to track and manage at a glance the health of the projects



Engineering -Operations Collaboration: O&M Manuals, photo documentation, asset management data



Contractor Management: Efficient Clearing house for design drawings, specs, contract, shop drawings, RFIs, pay reqs, change orders.

PM / CM Software

Review of Software // Presentations Discussions with Users: Pittsburgh Water & Sewer, Loudoun Water

Prepared and Issue RFP to 5 firms: Procore, Trimble, Oracle, PMWeb, ProectMates

Contact References / Survey References



Project Excellence Next Steps



Award and Implement Enterprise Project / Construction Management Software – Q2 2024



Provider Evaluation System – Q1 2024



Implement New Capital Planning Process – New Initiation forms and Justification Q1 2024