

# Utilities Asset Management Program Update

**ENVIRONMENTAL SERVICES COMMISSION**

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City of Bellevue



# Asset Management Program Update

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Informational Briefing



# Agenda

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1. Asset Management at Bellevue Utilities
2. Renewal & Replacement Forecast Update
3. Condition assessment efforts
4. Systems evaluation



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# Asset Management at Bellevue Utilities



# Utilities AM Journey

Council approved R&R Fund (Ordinance #4783)

Implemented Maximo (CMMS)

Piloting new technologies and programs for asset condition

1995-2005

Adopted EPA AM Program Strategy

Review of asset management approach in capital programs

Launched several large condition assessment projects

2006-2015

Asset Management maturity assessment

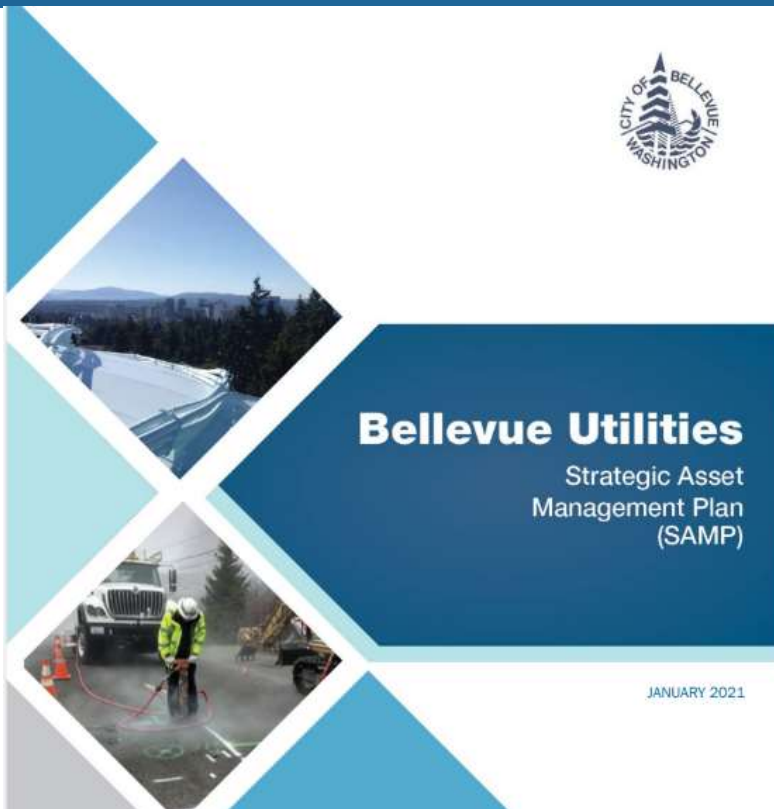
Strategic Asset Management Plan (SAMP)

AM Program 6-yr roadmap

2016-2022



# Strategic Asset Management Plan



- ✓ Vision, Policy, Objectives
- ✓ Link AM to Dept. objectives
- ✓ Governance, roles & responsibilities
- ✓ Decision making principles
- ✓ Improvement Initiatives
- ✓ Implementation roadmap
- ✓ AMP guidelines



# Asset Management Principles



## Lifecycle Approach

Optimizing the useful life of assets



## Risk

Balance performance, costs, and risk



## Stewardship

Environmental and financial stability



## Data and Information

Evidence-based decision making



## Continuous Improvement

Line of sight to organizational priorities

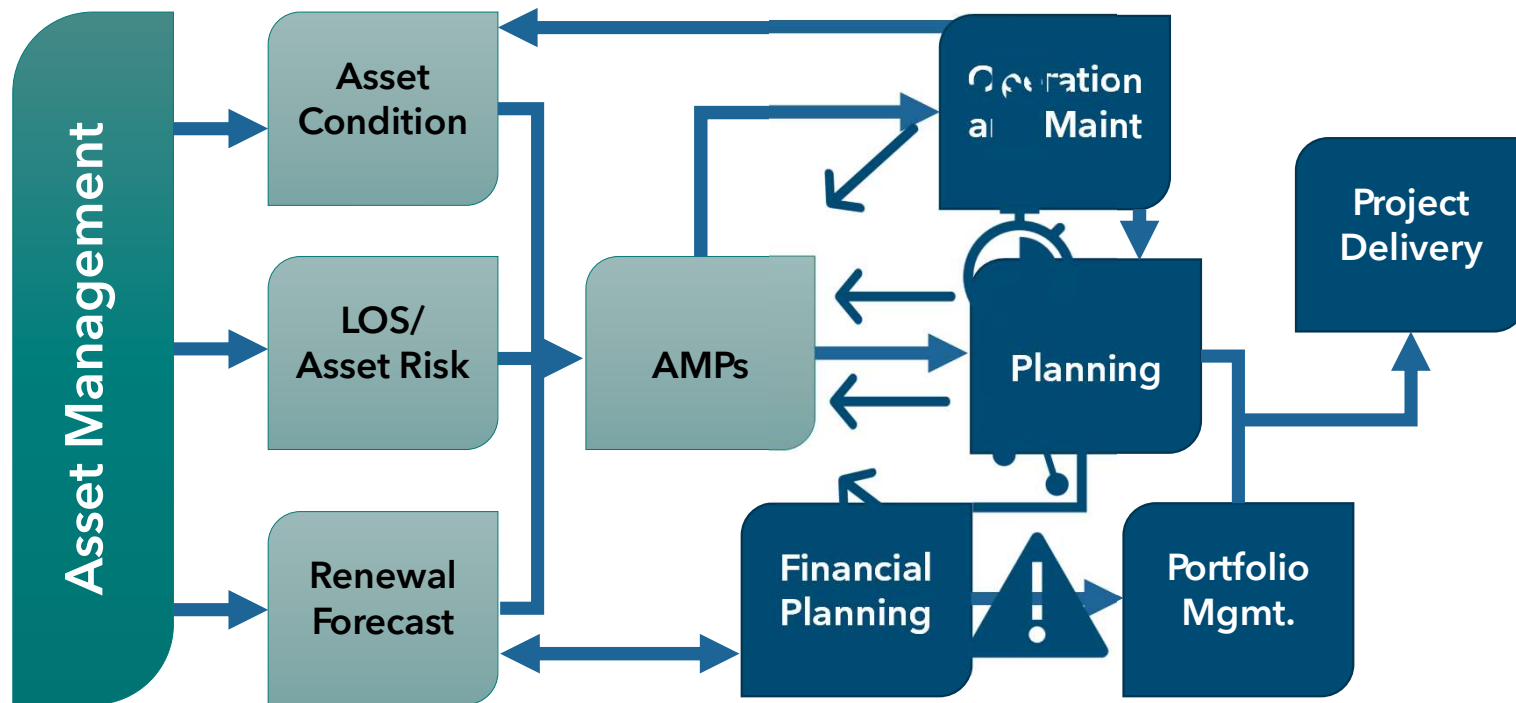


# Asset Management Objectives





# Asset Management at Bellevue Utilities



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# Asset Management Projects



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# Renewal & Replacement Forecast Update



# Renewal & Replacement Forecast Update

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## Evaluate and Update

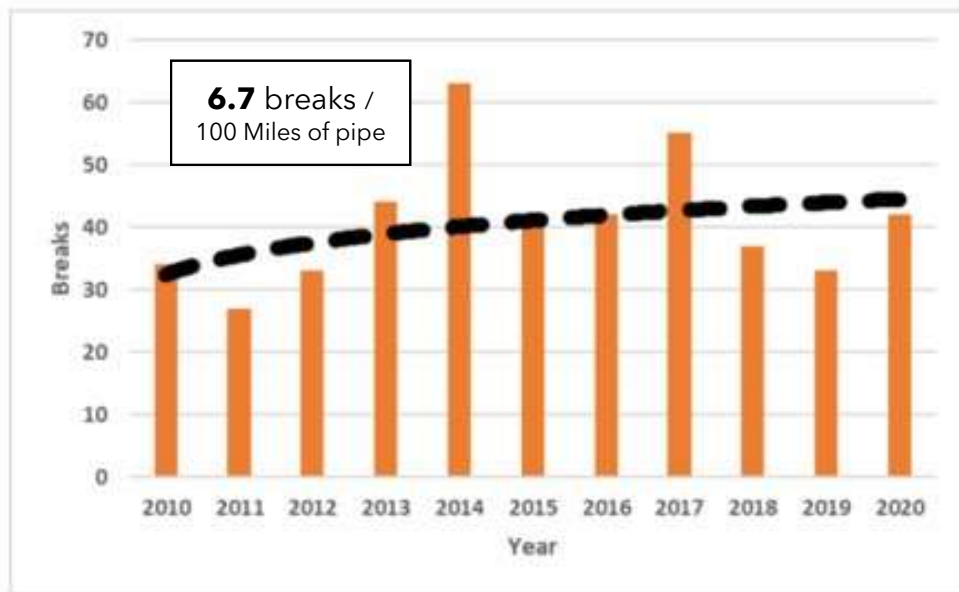
- Asset inventory
- Tools and processes for identifying system needs
- 75-yr fiscal forecast for renewal demand

## Enhancements

- Added detail in facility renewal needs
- Incorporated CCTV analysis directly into modeling
- Expanded renewal methods represented in forecast
- Updated asset renewal activity cost estimating



# Water Mains – Performance Findings

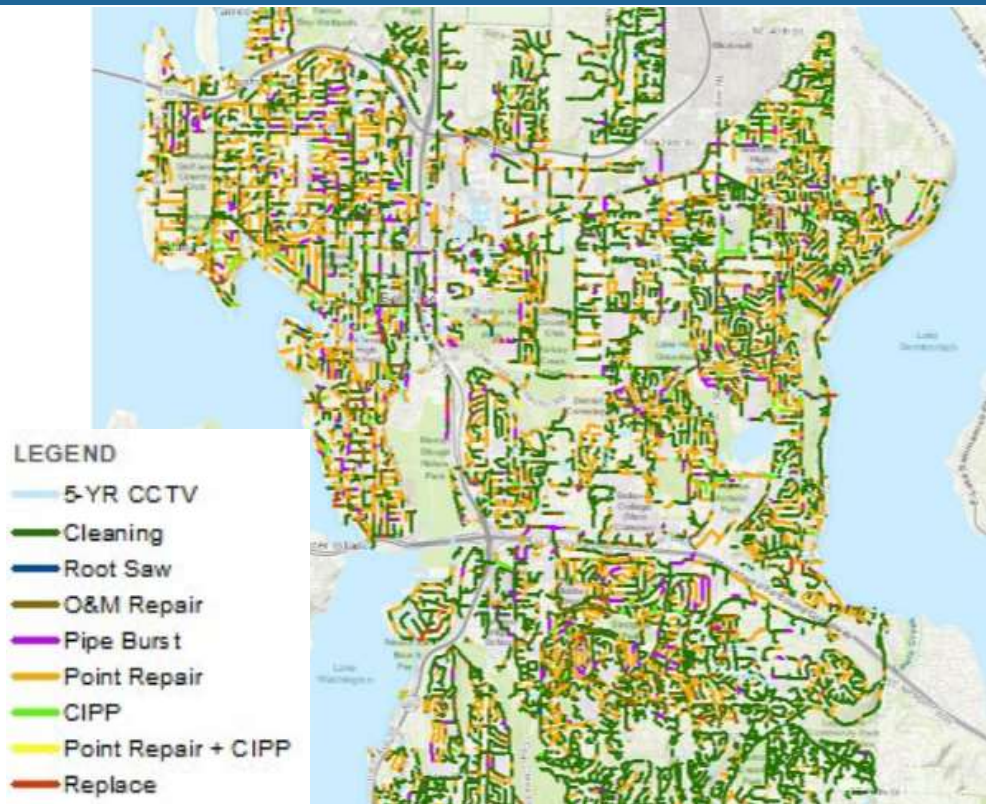


## Key Points

- Bellevue's Water System is performing ~50% better than regional averages.
- Performance is attributed to strong existing renewal program
- Review current replacement targets



# Sewer Gravity Mains



## Key Points

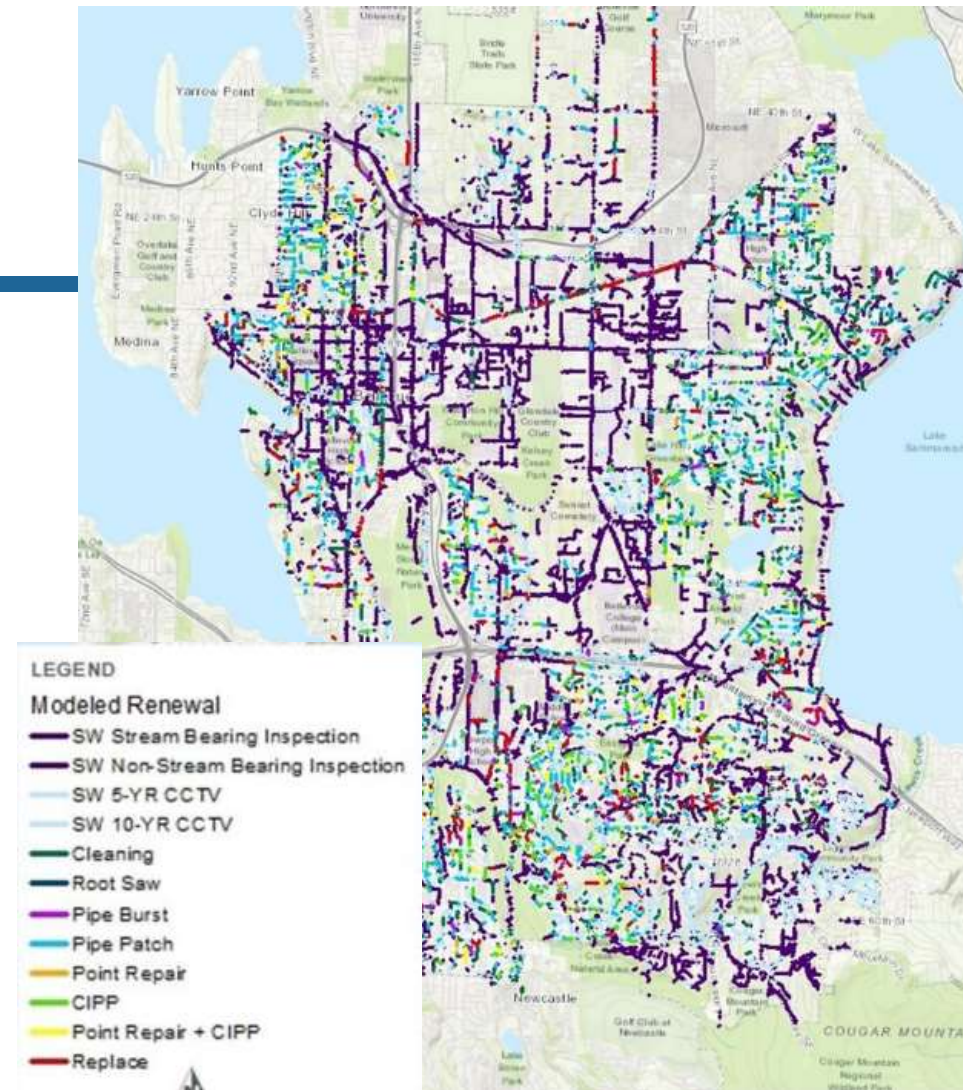
- Direct condition assessment available for most assets.
- Makes use of a decision logic to target specific renewal strategies
- Produces asset maintenance activity recommendations as well as CIP activities
- Incorporates a risk framework for asset prioritization



# Stormwater Utility

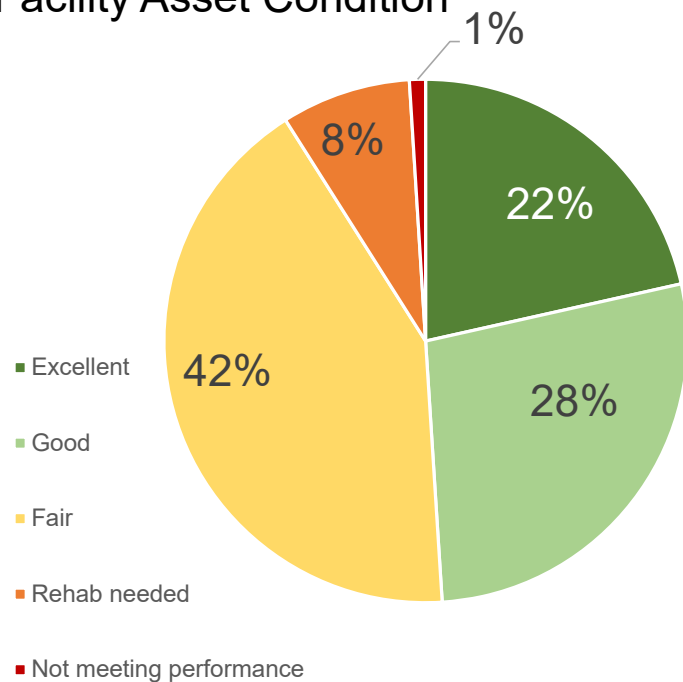
## Key Points

- Future investments in stormwater asset information and condition are recommended
- Direct condition assessment is the most reliable tool
- Limited in our renewal modeling approach, which results in more replacement planning and less mitigation planning



# Facility Assets (e.g. Pump Stations, Reservoirs)

Facility Asset Condition



## Key Points

- Facilities documented by individual assets (pump by pump, valve by valve, etc.)
- Incorporates age + condition to determine renewal year
- More site-specific strategy



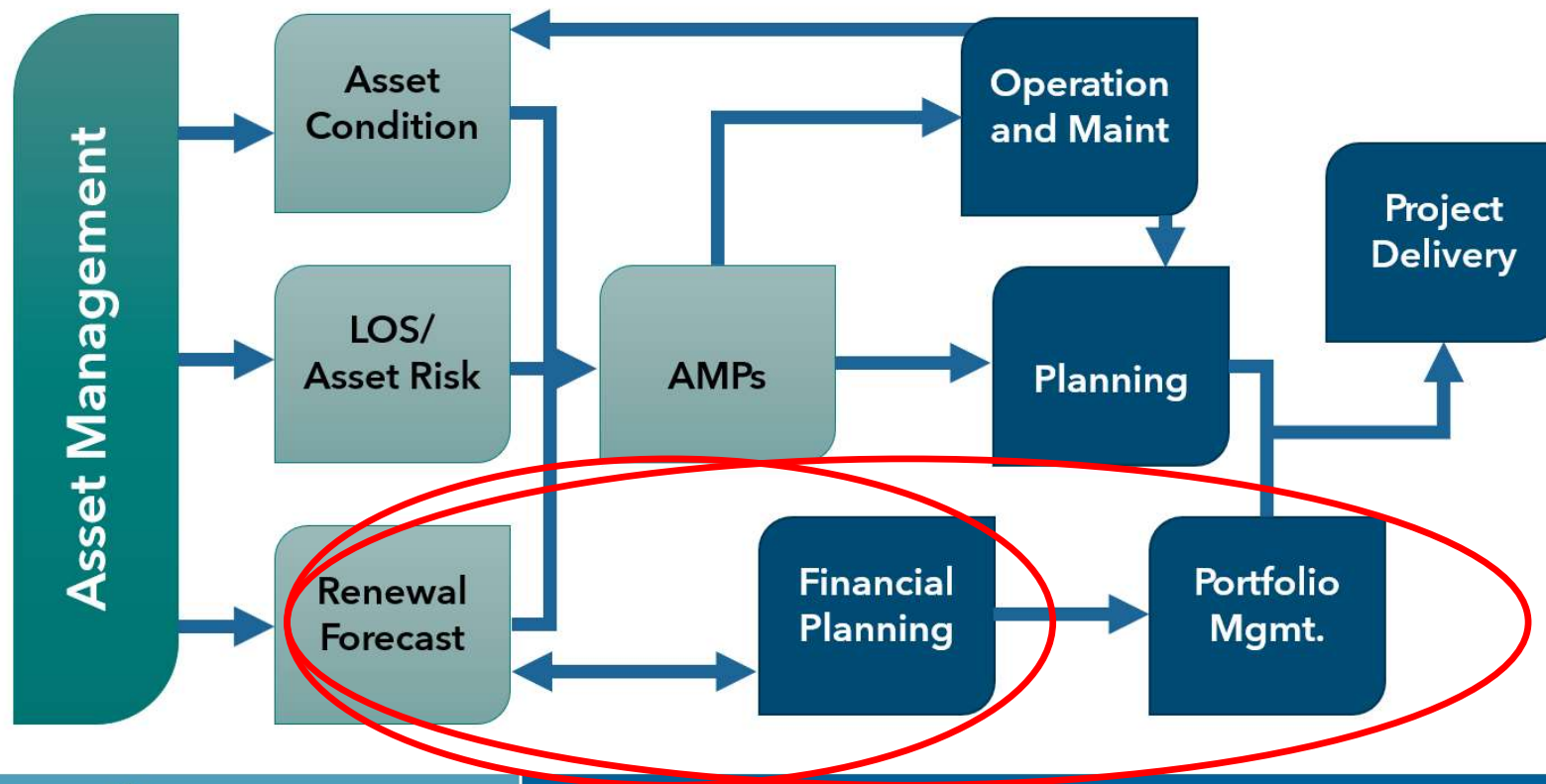


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# Renewal & Replacement Funding Study



# Renewal & Replacement Funding Study



# Renewal & Replacement Forecast Recap

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- Completed the Renewal & Replacement Forecast Update Project.
- Gained new tools and updated methods for prioritizing assets for capital and maintenance programs.
- Overall Bellevue's infrastructure is performing well compared to regional averages.
- Stormwater will be an upcoming focus for additional data gathering and condition assessment.
- Next steps are to work with capital delivery and fiscal partners to determine rate impacts and infrastructure plans.



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# Condition Assessment Projects



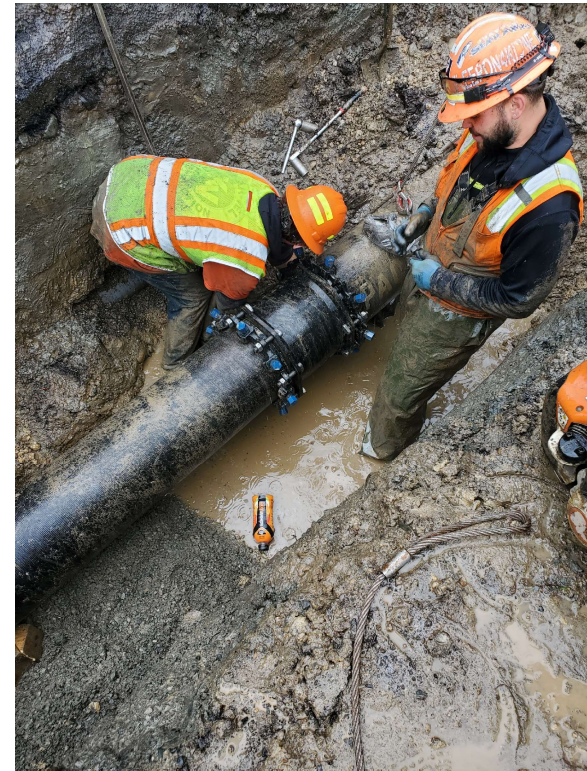
# Water Main Condition Program

## Phase I - Program Development

- Develop program procedures, processes and targets
- Train internal staff on program procedures
- Map implementation plan for contracted assessment

## Phase II - Condition Assessment

- Engage contracted services for programmatic inspection
- Incorporate updated condition data into asset risk modeling
- Feed W-16 and other CIP programs with new asset prioritization



# Wastewater Pump Station Condition Assessment

## Phase I - Station Analysis

- ✓ Inspect 10 priority WW Pump Stations
- Perform and document FMECA analysis
- Update asset inventory

## Phase II - Asset Management Deliverables

- Deliver electronic condition inspection data
- Update risk modeling
- Inspection tool for ongoing assessment
- WW Pump Station AMP (Asset Management Plan)





# Culvert Condition Assessment

## Phase I - Closing 2023 Q3

- Assess and prioritize Culverts for replacement or fish barrier mitigation

## Phase II - Target start 2023 Q4

- Conduct visual inspections
- Incorporate condition into prioritization
- Identify culverts needing CCTV inspection and document permitting needs



# Condition Assessment Recap

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- Condition assessment efforts in all 3 utilities.
- Projects will yield new tools for on-going assessment of infrastructure condition.
- Condition assessment is a constant effort in asset management.



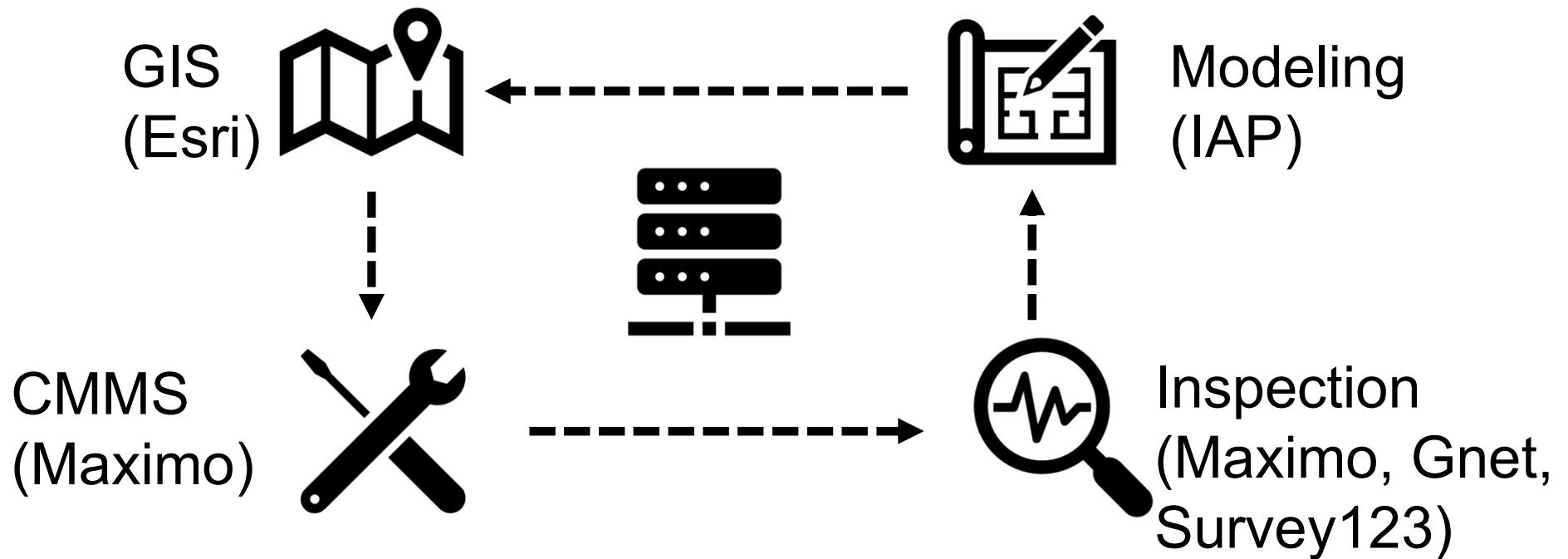


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# Systems Evaluation



# Asset Information Systems Evaluation



# Presentation Recap

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- Renewal & Replacement update project is completed.
- Rate and capital program impacts are being assessed.
- Multiple condition assessment projects are underway.
- Programs and tools will be implemented for on-going assessment.
- Utilities will be evaluating our data and systems for efficient access to information.
- Asset Management will come back later this year with updates.



# Thank you!

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