



# Water Supply Reliability Action Plan

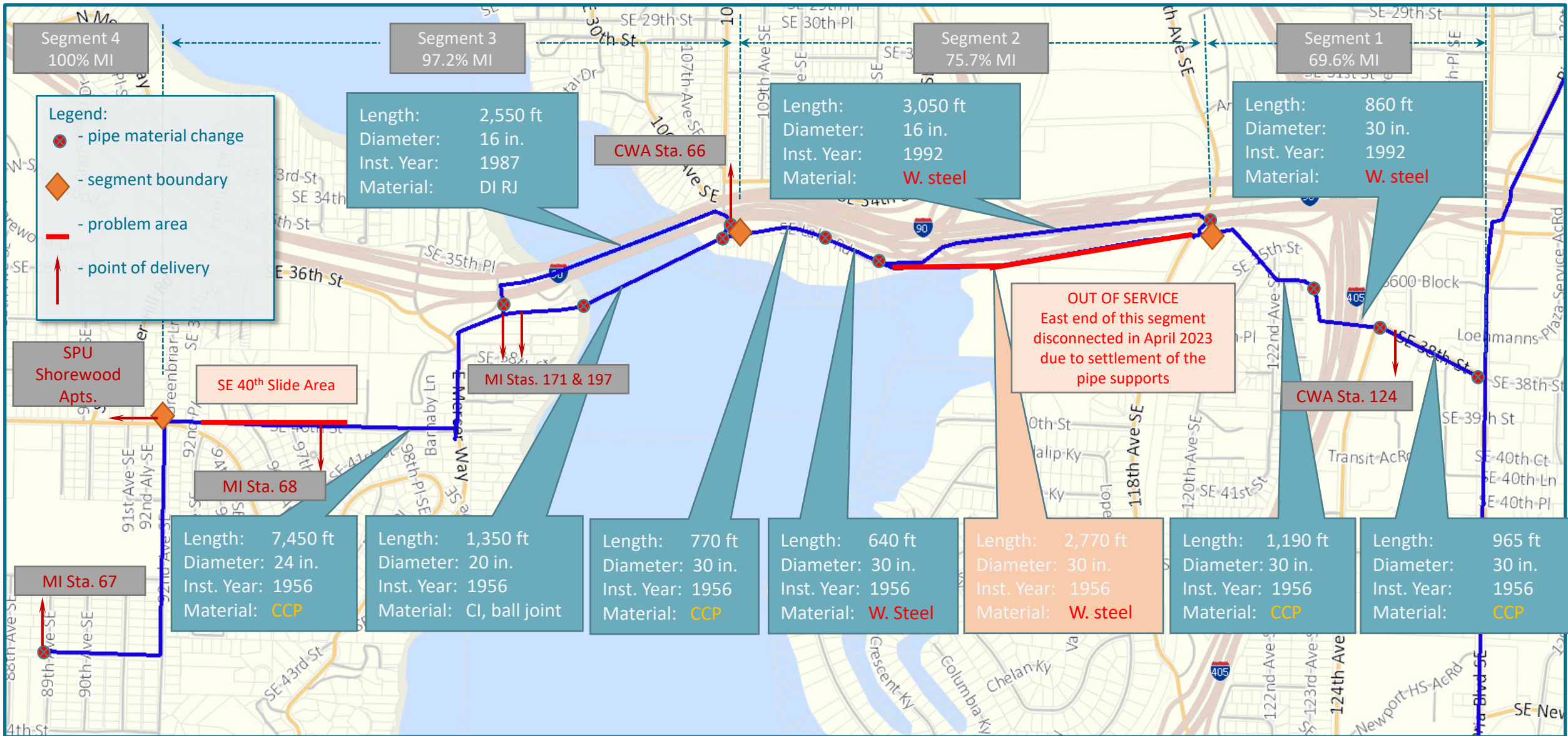
## Utility Board Update

### September 12<sup>th</sup>, 2023



# Review of Water Emergency Event

# Mercer Island Subregional System at a Glance

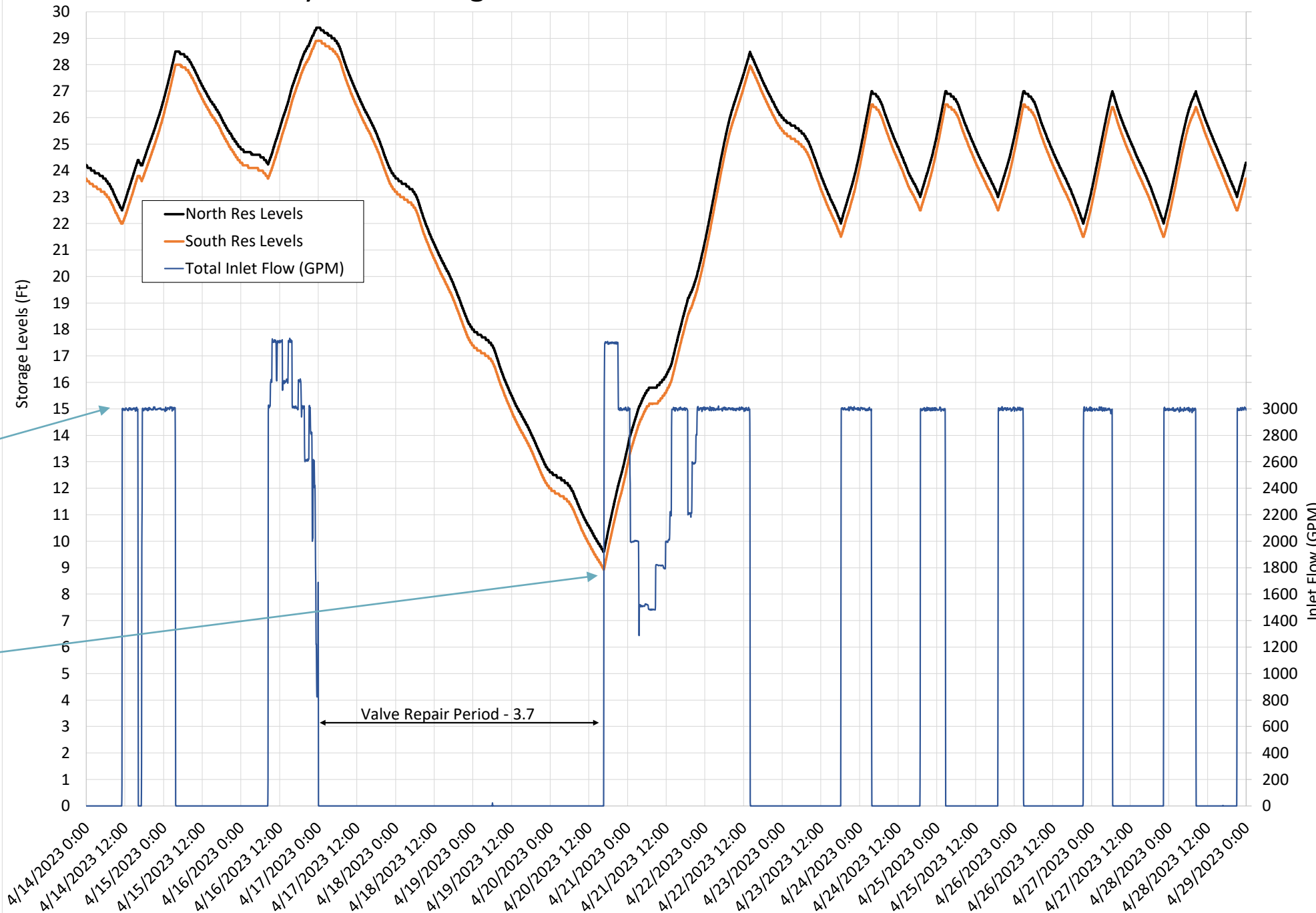


# Mercer Island Pipelines Subregional System - Valve Issues



# The Event in Data

## Mercer Island System Storage and SPU Inflow Rates



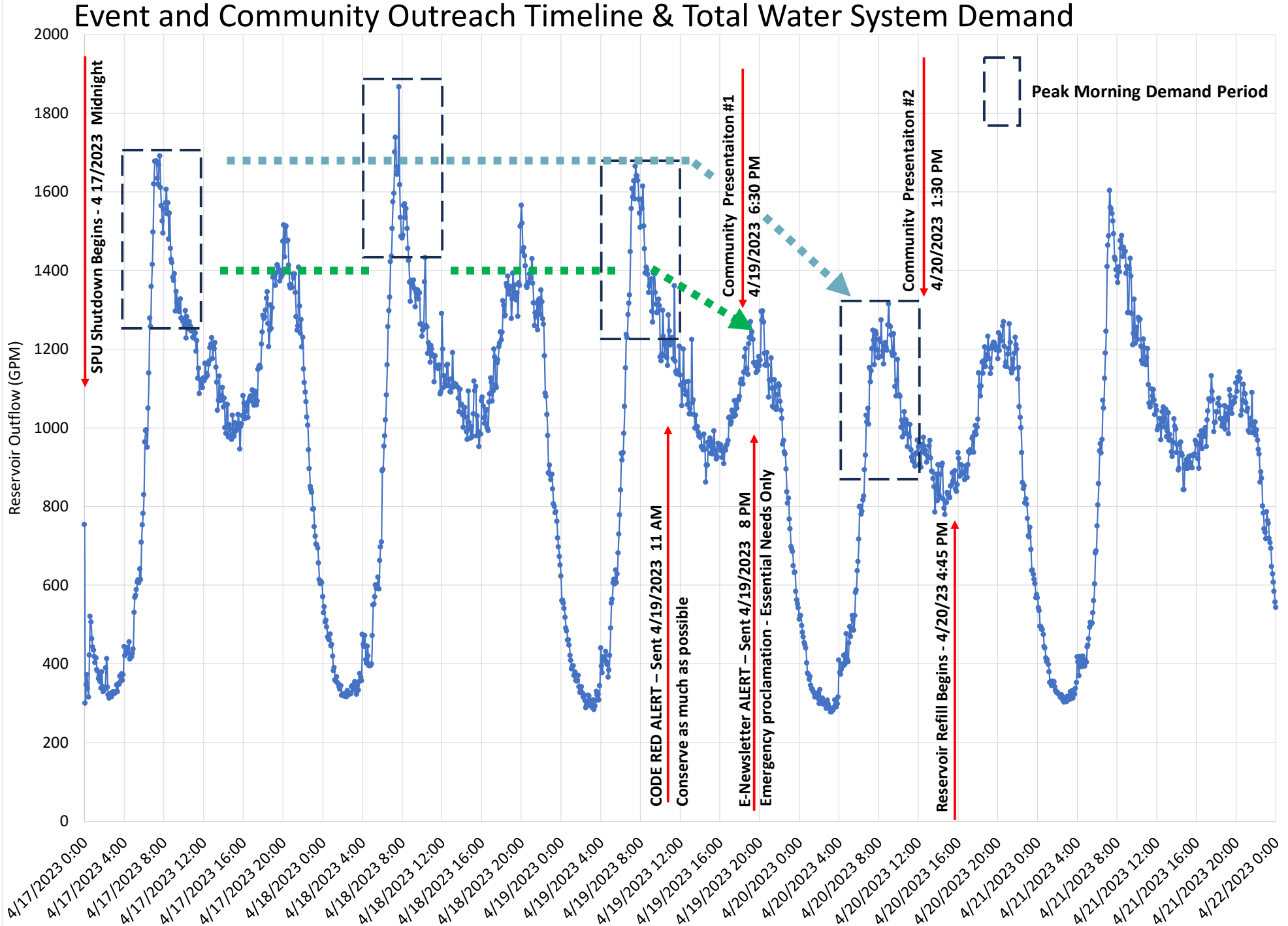
### Key Observations:

- SPU supply operates on/off - likely altitude valve controlled. Valuable to assess pressure variation/transients in the SPU line during start/stop.
- Restart of the SPU supply had some challenges in the first 24 hrs – air binding may have been interfering with flow.
  - Fill process
  - Air relief

# The Event in Data

## Key Observations:

- In non-peak season, total system demands range from 300 gpm – 1800 gpm.
  - ~15% reduction in the evening peak on 4/19/23.
- 20% reduction in morning peak demands between 4/19 and 4/20/2023 with less than one day public notice.



# Project Objectives

To evaluate and develop near- and long-term opportunities to improve system reliability and reduce risk of future water supply emergencies

# Overview of Project Approach

1. Data request and review
2. Conduct interviews
  - Management
  - Staff
  - Fire Dept
3. Conduct brief review of resiliency activities by others/industry
4. Develop preliminary list of *Actions* to improve resiliency
5. Develop *Evaluation Criteria* to assess capabilities, benefits, barriers, trade-offs for each Action

Complete

1. Apply Evaluation Criteria to Action Items
2. Refine, prioritize, and develop draft and final Action Plans
3. Present Draft Action Plan to Utility Board
4. Present Action Plan to City Council

Underway/Planned



# Action List Categories



## INFRASTRUCTURE

Additional Pipeline  
Additional Storage  
Secondary Supply



## PROGRAMMATIC

Enhanced Planning  
O&M Evaluations  
Community Engagement



## PERSONNEL

Staffing  
Training

Examples:

# Evaluation Criteria Categories

Quantity of  
Water  
Level of  
Service

Quality of  
Water  
Level of  
Service

Duration of  
Relief

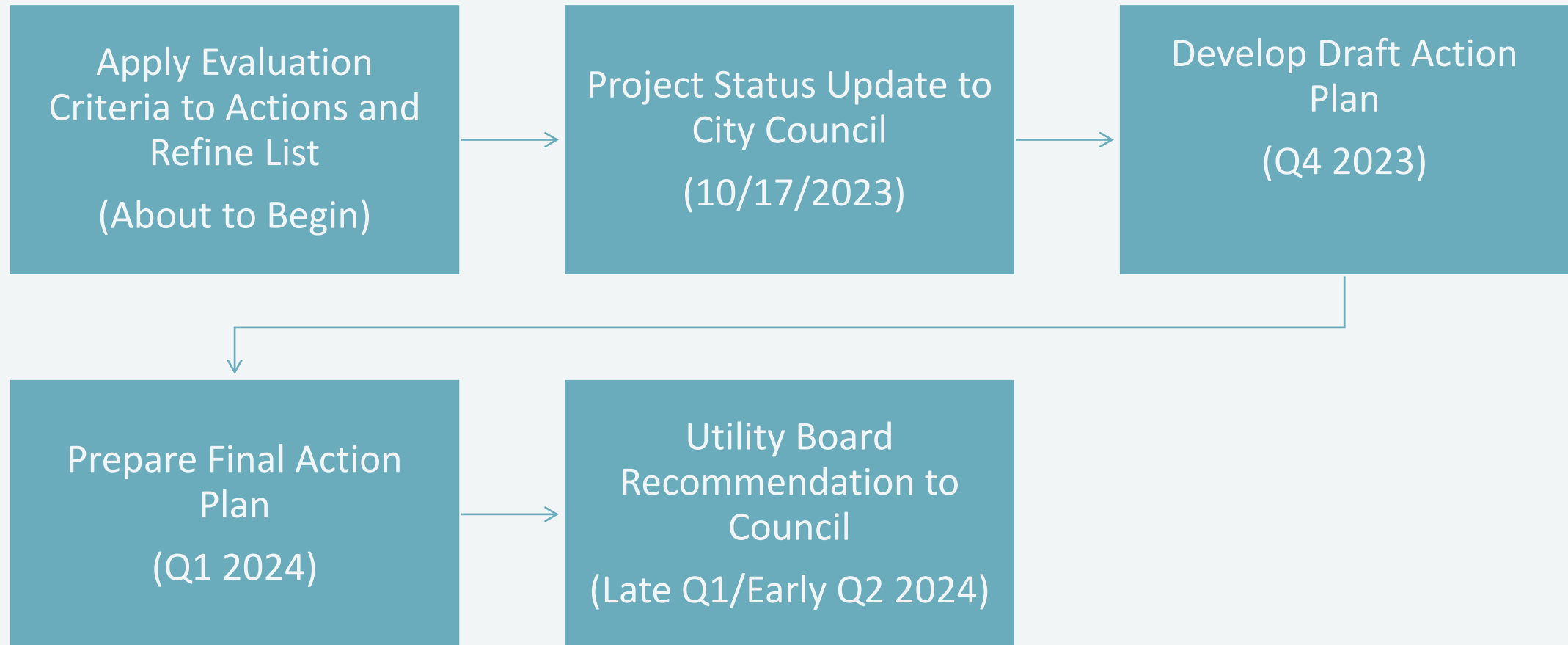
Ease of  
Activation

City  
Ownership  
& Control

Schedule to  
Implement

Cost

# Next Steps and Utility Board Engagement



# THANK YOU



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