



Engineering & Operations Committee

# Upper Feeder Expansion Joint Replacement

Item 7-2

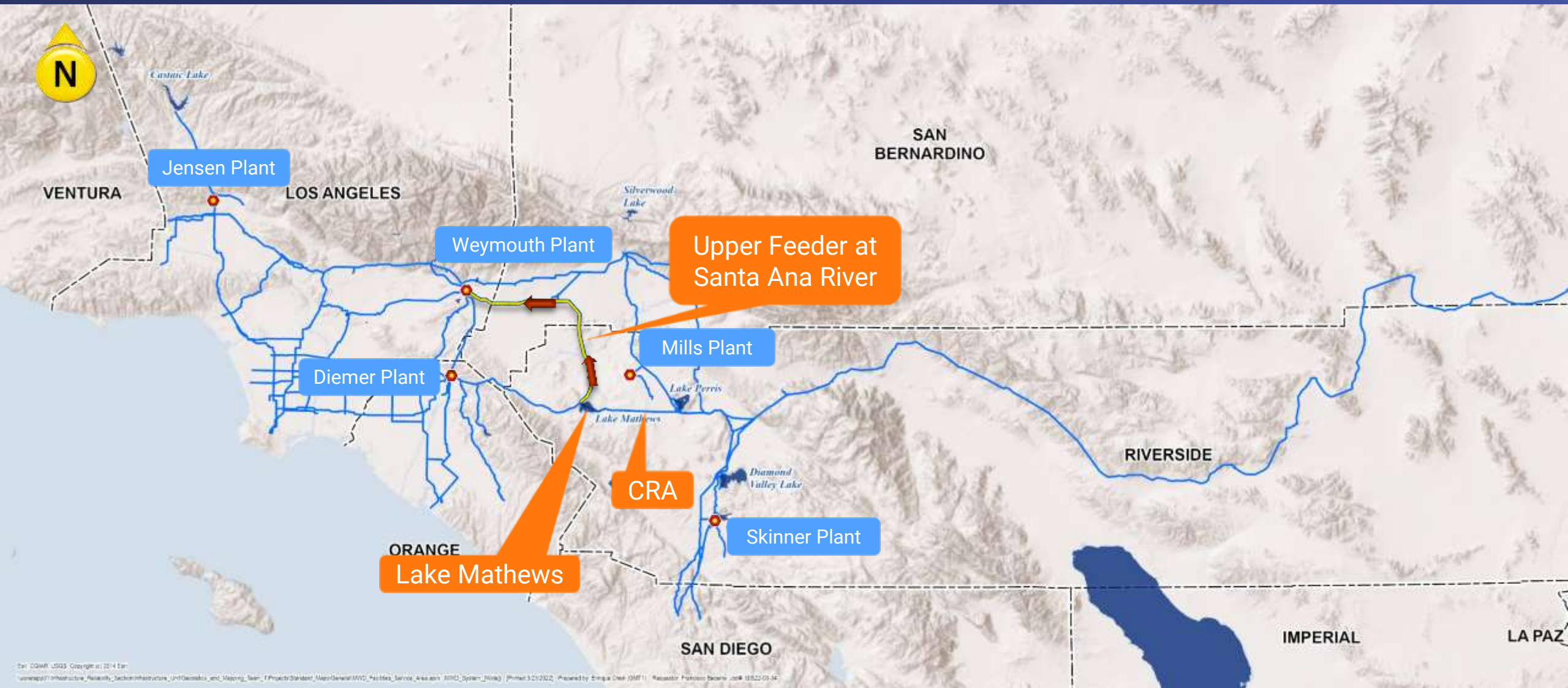
August 15, 2022

# Upper Feeder Expansion Joint Replacement

## Current Action

- Authorize the continuation of an emergency contract executed by the General Manager  
**(Requires four-fifths vote of the Board)**

# Distribution System



# Upper Feeder – Santa Ana River Crossing

- Multi-span bridge with steel trusses & concrete piers
- 9'-8" ID steel pipe
- Pipeline design flow: 750 cfs
- Pipeline internal pressure: 200 psi
- Bellows expansion joint installed in 2018



# Upper Feeder Expansion Joint Replacement

## Bellows Expansion Joint Leak

- Discovered April 13, 2022
- Flow reduced
- Leak temporarily repaired April 21, 2022



## Upper Feeder Expansion Joint Replacement



August 15, 2022

## Bellows Expansion Joint Inspection

- Bellows joint compromised; to be replaced with slip-type expansion joint
- No crack growth since mid-May
  - monitoring weekly
- Forensic analysis of bellows failure ongoing

## Expansion Joint Replacement Urgency

- Current flow limited to 525 cfs
- Unplanned shutdown & catastrophic failure risk
- Upper Feeder needed to support new drought actions & operational shifts to save SPW
- Bellows joint to be replaced by Metropolitan-fabricated slip joint

## Upper Feeder Expansion Joint Replacement



Quagga Filters for  
Dewatering

## Upper Feeder Shutdown

- Planned start date: 9/6/22; Duration: 15 days
- CRW filtered prior to release to Santa Ana River
- Weymouth Treatment Plant to use 100% SPW during the shutdown
  - Approximately 1,000 AF/day (varies by demand)
- Member Agencies receiving water from Weymouth & Diemer have been asked to go to no outdoor watering during shutdown
- Metropolitan is coordinating with Member Agencies on outreach & messaging
  - Social media, earned media, & press releases

## Upper Feeder Expansion Joint Replacement

### Emergency Contract

- PCL is currently under an emergency time and materials contract to perform the work
  - Emergency declared June 8, 2022
  - GM awarded contract on June 28, 2022
  - Board authorized continuation of the emergency action to execute a no-bid contract for the expansion joint replacement on July 12, 2022
- Executed per Admin Code section 8122(b)
  - Monthly reporting to the Board required & continuation of contract activities determined by four-fifths vote
  - Board to ratify construction contract upon completion of construction activities



## Upper Feeder Expansion Joint Replacement

### Contractor Scope of Work

- Removal of bridge structural members & restraining cage for pipe access
- Removal of bellows joint
- Installation of new slip-type joint
- Reinstallation of bridge structural members & restraining cage

# Upper Feeder Expansion Joint Replacement

## Metropolitan Completed Activities

- ✓ Completed slip joint fabrication & installation design packages
- ✓ Installed 4-inch tap near expansion joint to facilitate construction
- ✓ Procured slip joint flanges, hardware & accessories
- ✓ Installed 6-inch dewatering valve
- ✓ Graded crane pad

## Metropolitan Ongoing Activities

- Complete fabrication and assembly of new slip-type expansion joint
- Install new 36-inch accessway

New Slip Joint Fabrication  
@ La Verne Shops



Clearing and Grading  
for Crane Pad



6-inch Valve  
Installation

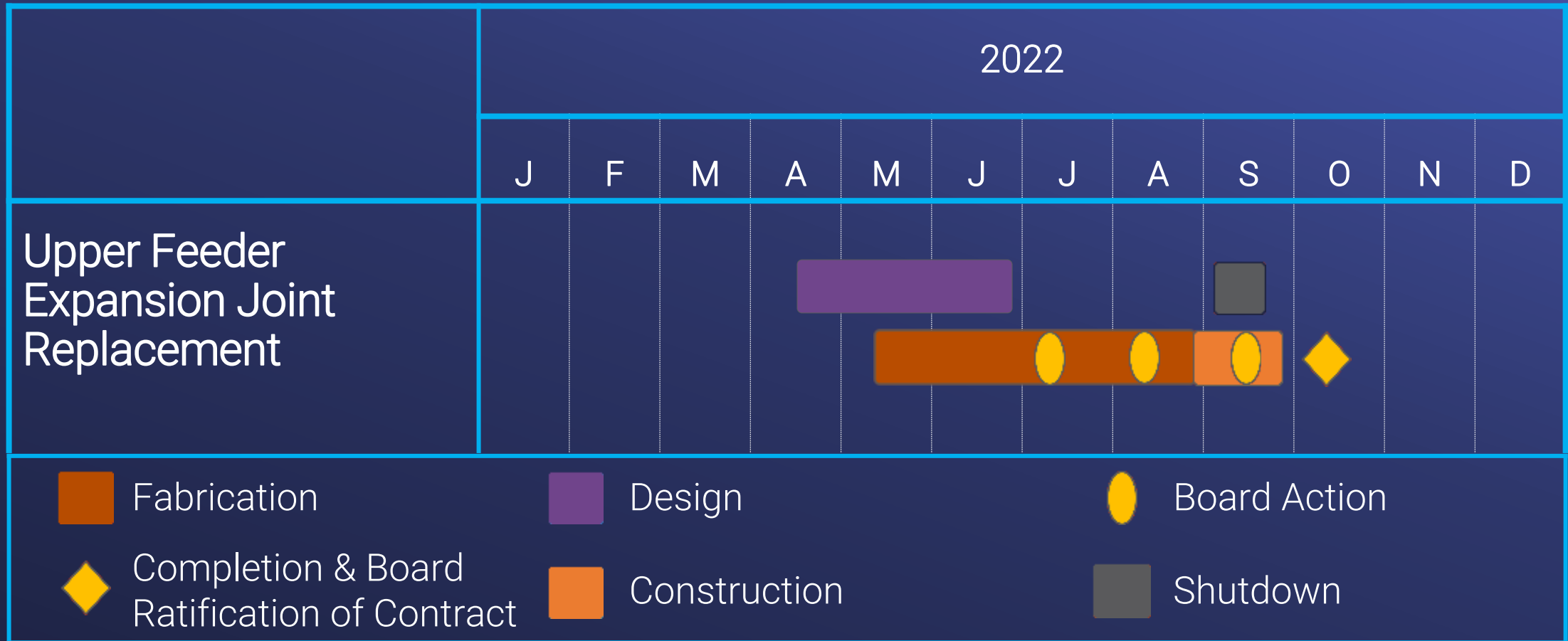


## Upper Feeder Expansion Joint Replacement

### Alternatives Considered

- Board terminates emergency contract and awards competitively bid contract
  - Delays planned shutdown and start of construction to December 2022
  - Costs already incurred
  - Increased risk of catastrophic failure
- Selected option
  - Continue emergency contract with PCL Construction
  - Estimated start of on-site construction – August 2022

# Project Schedule



# Board Options

- Option #1

Determine that there is a need to continue the emergency action of executing a no-bid contract for construction of pipe joint repairs on the Upper Feeder. **(Requires four-fifths vote of the Board.)**

- Option #2

Do not determine that there is a need to continue the emergency action.

# Staff Recommendation

- Option #1

