



Engineering & Operations Committee

Upper Feeder Expansion Joint Replacement

Item 7-2

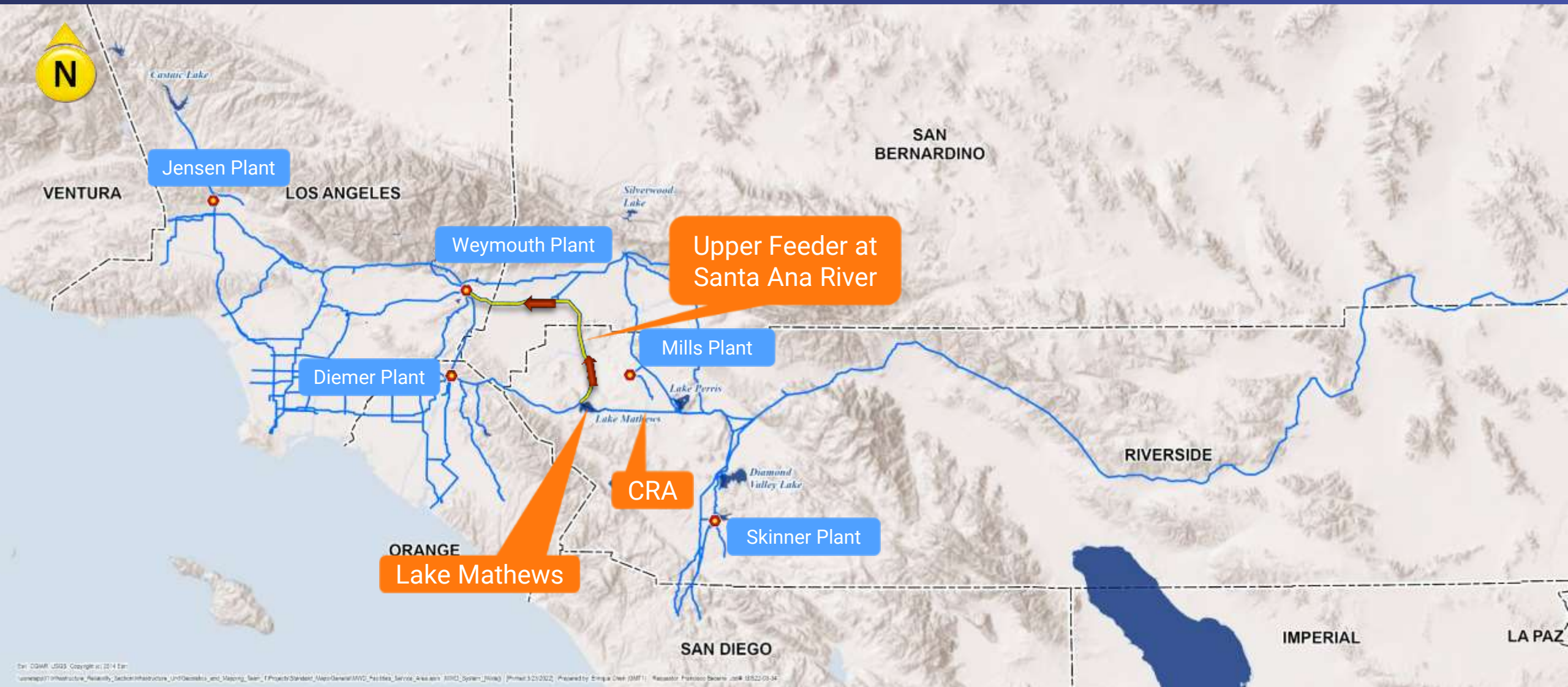
November 7, 2022

Upper Feeder Expansion Joint Replacement

Current Action

- Ratify an emergency contract with PCL Construction, Inc., in the amount of \$855,623.78, for replacement of the expansion joint on the Upper Feeder pipeline at the Santa Ana River bridge crossing
[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 was located at bridge mid-span



Upper Feeder Expansion Joint Replacement

Bellows Joint

- Crack discovered and leak temporarily repaired April 2022
 - Flow limited to 525 cfs
- Risk of unplanned shutdown on Upper Feeder; supports drought actions & operational shifts to save SPW
- Initial findings from forensic analysis of bellows showed multiple locations where additional leaks could have formed



Initial Leak



Temporary Repair



Steel
Bracket

Upper Feeder Expansion Joint Replacement



Emergency Contract

- PCL Construction performed work under a time & materials contract
 - Board authorized continuation of the emergency action to execute a no-bid contract for the expansion joint replacement in July, August, & September 2022
- Executed per Admin Code section 8122(b)
 - Board to ratify construction contract [requires four-fifths vote]

Contractor Completed Activities

- ✓ Removed bridge structural members & restraining cage for pipe access
- ✓ Removed bellows joint
- ✓ Installed new slip-type joint
- ✓ Reinstalled bridge structural members & restraining cage



Upper Feeder Expansion Joint Replacement

Metropolitan Completed Activities

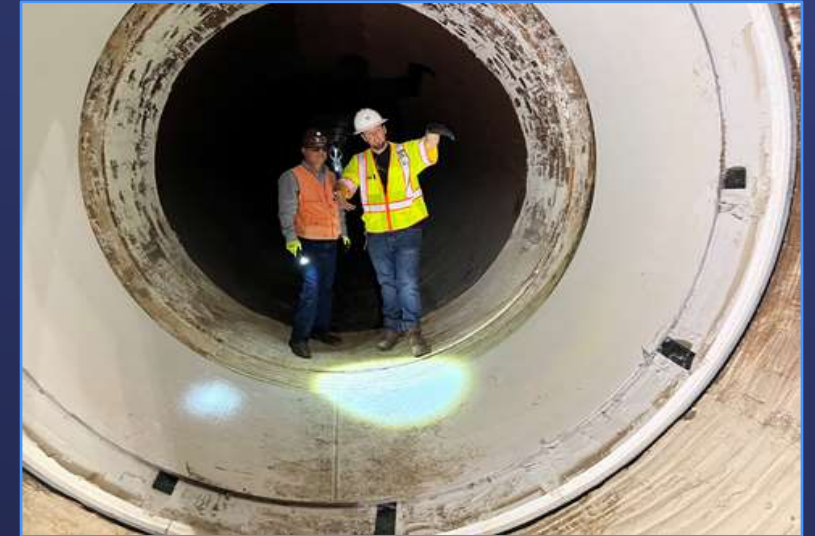
- ✓ Completed slip joint fabrication & installation design packages
- ✓ Installed 4-inch tap near expansion joint to facilitate construction
- ✓ Procured slip joint flanges, hardware & accessories
- ✓ Installed 6-inch dewatering valve
- ✓ Graded and cleared for crane pad
- ✓ Fabrication, coating, & assembly of new slip-type expansion joint
- ✓ Installed new 36-inch accessway
- ✓ Provided shutdown support & inspection



Upper Feeder Expansion Joint Replacement

Upper Feeder Shutdown

- ✓ Completed ahead of schedule
- ✓ Member Agencies reduced demands during shutdown
- ✓ Saved 12 TAF compared with original SPW usage forecast
- ✓ Successful collaboration between organizations within & outside Metropolitan



Allocation of Funds

Upper Feeder Expansion Joint Replacement

Construction Contract – PCL Construction	\$ 855,623.78
Metropolitan Labor	
Program mgmt. environmental support, & contract admin.	196,000
Construction inspection and support	274,000
Submittal review, engineering support, & record drawings	127,000
Force construction & fabrication	677,000
Materials	183,000
Incidentals	109,000
Remaining Budget	78,376.22
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Total	\$2,500,000

*Including \$900,000 allocated in July 2022, total project cost is \$3.4M

Board Options

- Option #1

Ratify an emergency contract with PCL Construction, Inc. in the amount of \$855,623.78 for replacement of the expansion joint on the Upper Feeder pipeline at the Santa Ana River bridge crossing.
[Requires four-fifths vote of the Board.]

- Option #2

Do not ratify the emergency contract.

Staff Recommendation

- Option #1

