



Engineering, Operations, & Technology Committee

Shutdown Planning at Metropolitan

Item 6b

September 11, 2023

The Need for Shutdowns

- Inspect and address aging infrastructure
- Upgrade facilities and add improvements
- Respond to emergencies

Valve/Meter Maintenance



Pipeline Repair/Rehabilitation



Emergency Repair



Shutdowns are Increasing in Complexity

Large “off-line” projects with short shutdown tie-in periods

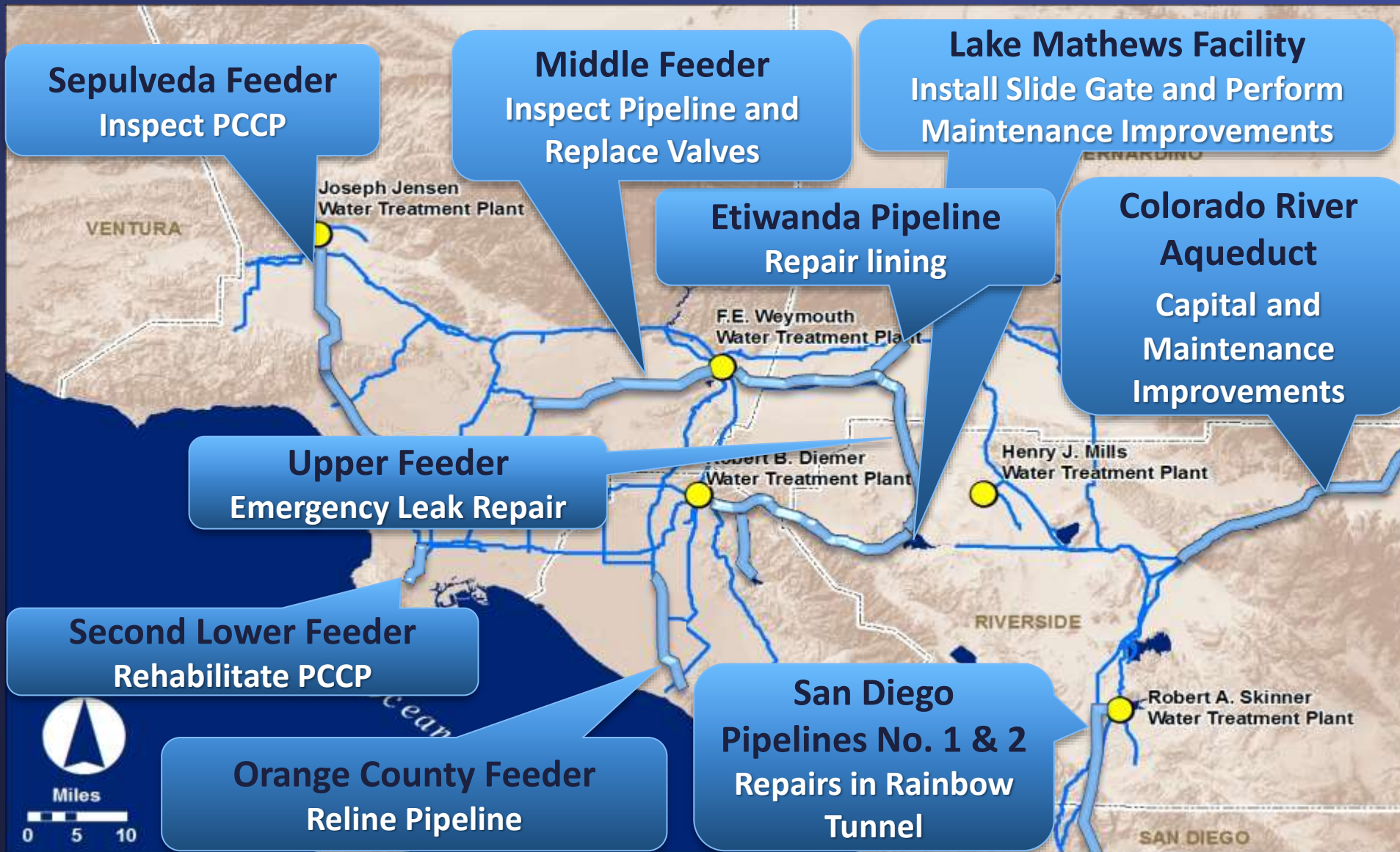
Weymouth Ozone Retrofit Project



Diamond Valley Lake



Shutdowns are Increasing in Complexity



FY 2022/23

- 27 shutdowns
- Longest Duration
 - Orange County Feeder: 286 days
- Average Length
 - 40 days

Meeting Goals Through a Collaborative Shutdown Planning Process

- Ensure safety
- Maintain reliability to our Member Agencies
- Return to service on or before schedule



Safety Briefing



Reviewing a Dewatering Plan

Changing Conditions May Affect Shutdown Timing



Water Supply Conditions
High State Water Project
Allocation



Changing Conditions May Affect Shutdown Timing

(For illustrative purposes only)



Changing Conditions May Affect Shutdown Timing



Water Supply Conditions
Low State Water Project
Allocation



Changing Conditions May Affect Shutdown Timing



Shutdown Challenges: More than Meets the Eye

Finite Resources and Complex Logistics

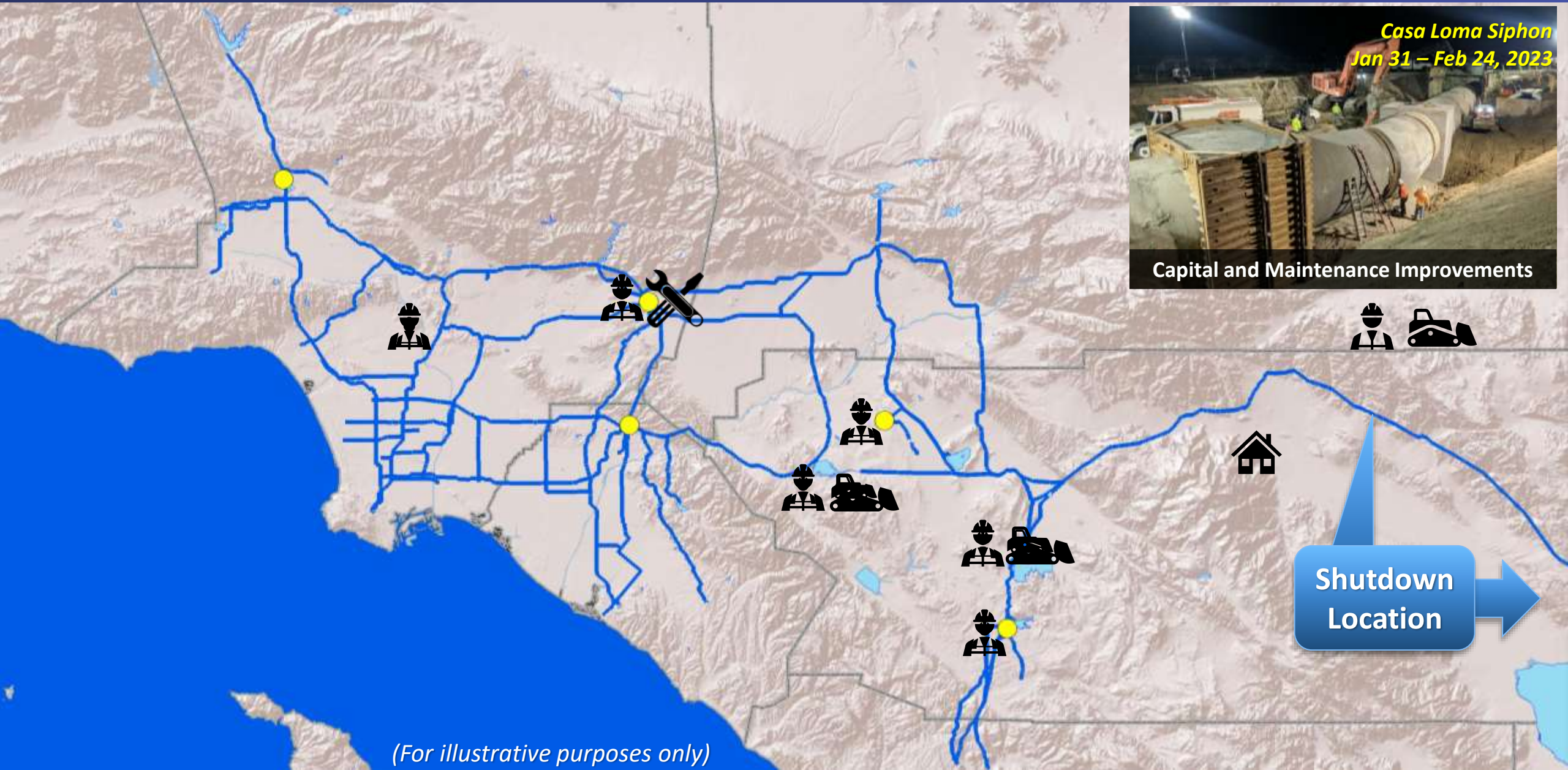


Installing Butterfly Valve in the Foothill Feeder



Installing Lake Mathews Forebay Gate

Colorado River Aqueduct Shutdown Logistics



(For illustrative purposes only)

Middle Feeder Shutdown Logistics



(For illustrative purposes only)

Shutdown Challenges: More than Meets the Eye

Dewatering and Water Quality Testing



Quagga Mussel Filtration during Dewatering



Water Quality Sampling

Collaborative Planning: Long Term



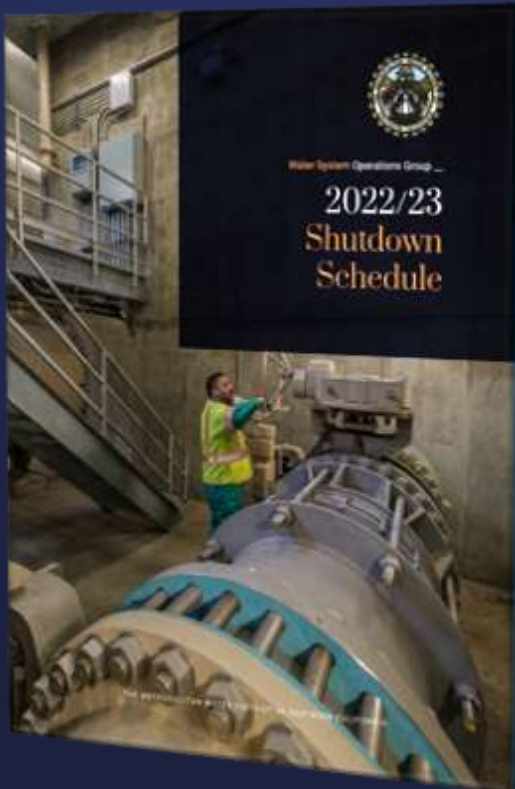
Second Lower Feeder
PCCP Relining

Long Duration Shutdowns are Planned Years in Advance

- Prestressed Concrete Cylinder Pipe shutdowns are major endeavors
- Shutting down an entire feeder for long periods of time is not feasible
- Break up work into manageable segments that consider:
 - Member Agency Needs
 - Community impacts
 - Budget and staffing constraints

Focusing on the Year Ahead

Collaborative Planning: Short Term



*March-
April*

- Determine shutdown needs for the season
- Hold internal meetings to coordinate shutdowns
 - Combine work with member agencies
 - Operational constraints

May

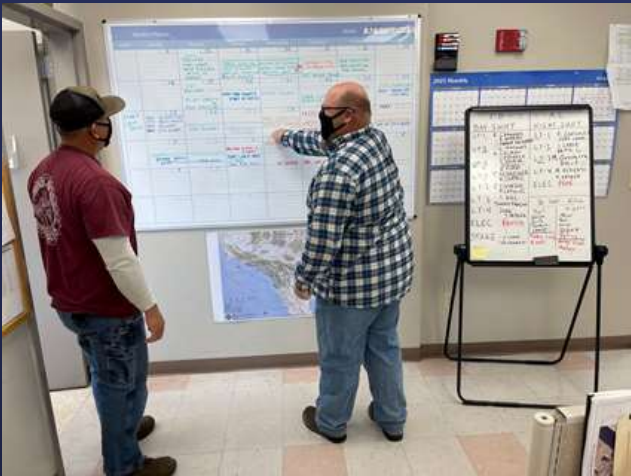
- Coordinate with member agencies
- Coordinate with other external agencies

June

September

- Send out shutdown schedule

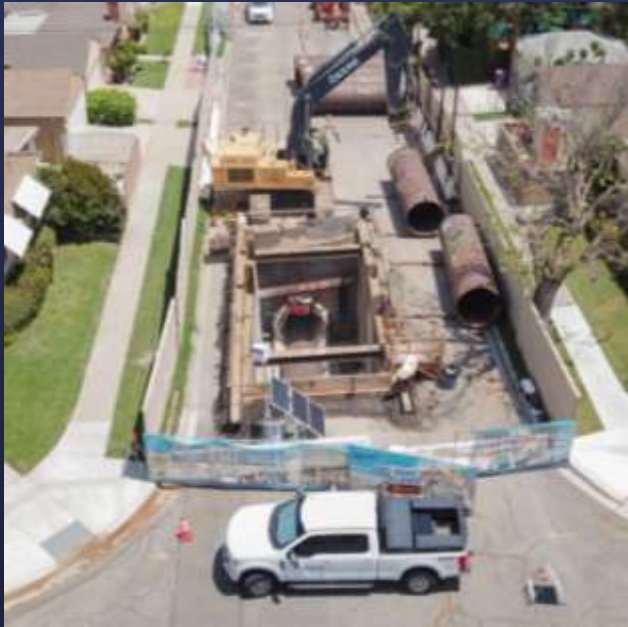
Collaborative Planning: Short Term



Focusing on the Months Ahead

- Member agency shutdown letters
 - at least 60 days in advance
- Final member agency coordination meeting – 20 to 30 days prior
- Shutdown Plan
 - Detailed description of work performed
 - Dewatering plan
 - Contact info

Collaborative Planning: Short Term



Second Lower Feeder
PCCP Relining

Executing the Shutdown

- Logistics/resource management
- Permits
- Safety plans
- Community relations
- Operational work
- Water quality testing
- Member agency updates

Upper Feeder: Putting it all Together



Ensuring Continued Infrastructure Reliability



Operations and
Maintenance



Construction Services



Safety



Engineering



Water Quality and
Environmental



Manufacturing



External Affairs



Board and Member
Agencies

