Committee Item 6-b

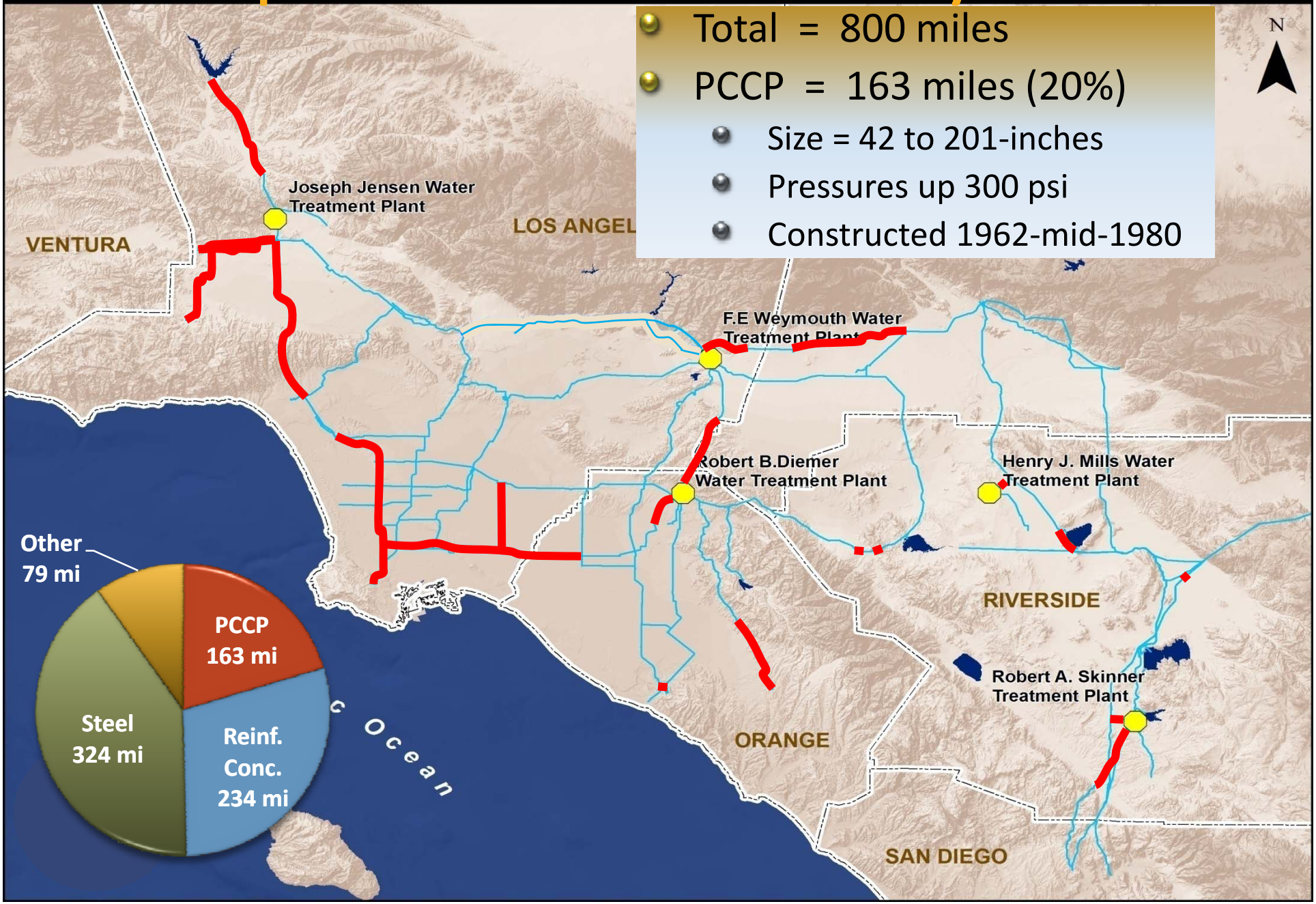
Oral Report on Prestressed Concrete Cylinder Pipe Assessment Program

Engineering and Operations Committee
July 12, 2010

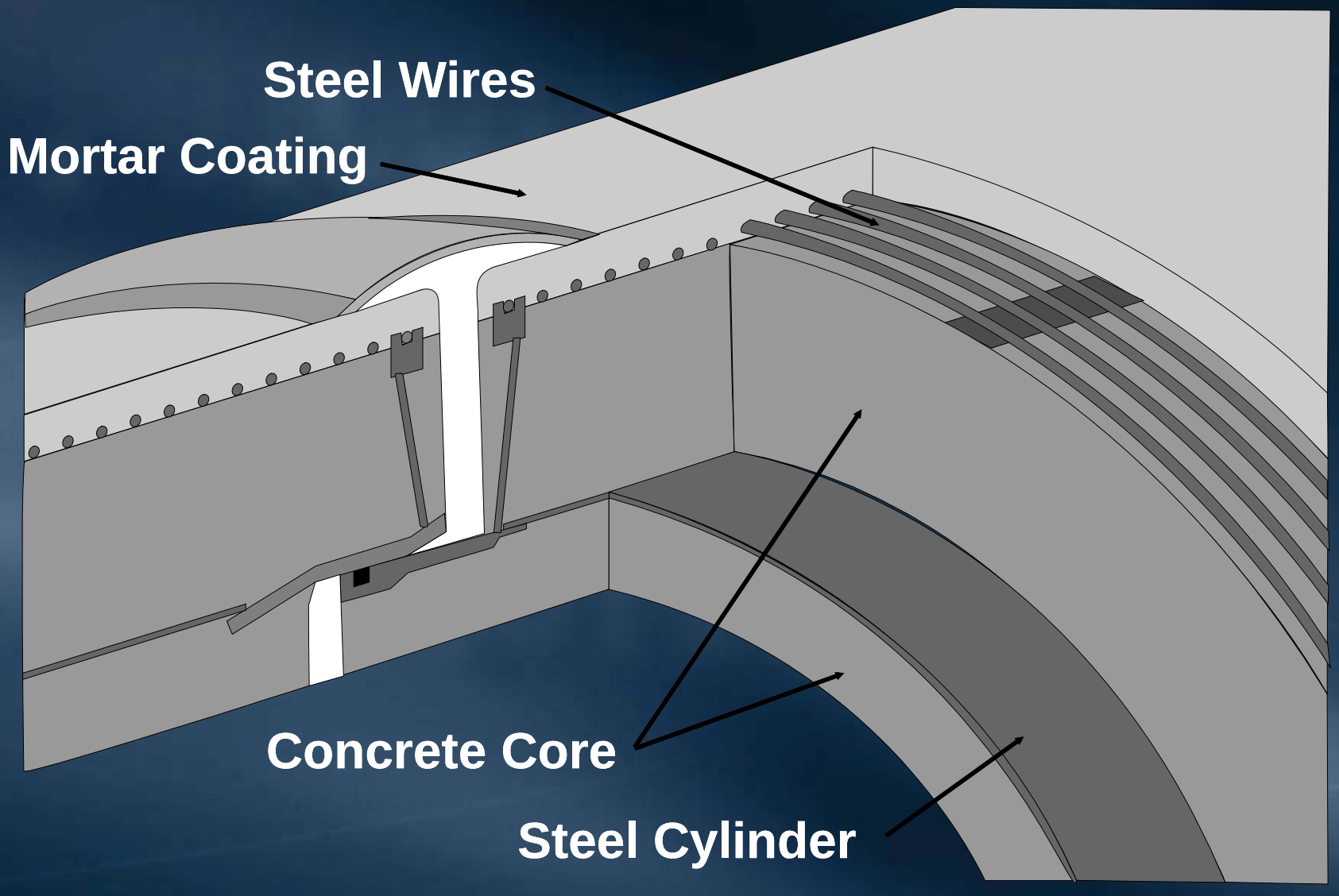
Prestressed Concrete Cylinder Pipe (PCCP) Assessment Program

- PCCP Background
- Existing Monitoring & Replacement Strategy
- Replacement Alternatives

Metropolitan Distribution System



PCCP Cross Section



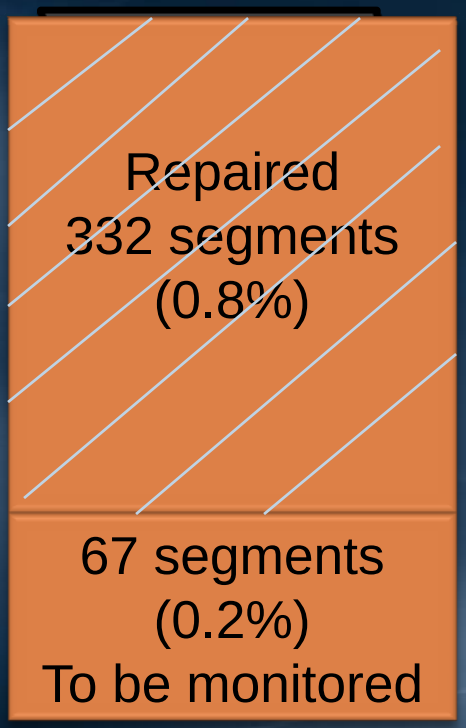
Monitoring Strategy

- Inspection Cycle
  - Every 5 years
  - 30 to 40 miles per year
- Inspection Methods
  - Visual (interior & exterior conditions)
  - Electromagnetic Testing (WBs)
  - Impact Echo Testing (Concrete Thickness)
- Results
  - Evaluate using established criteria

Detected Wire Breaks

Total 163 miles = 43,054 segments

1% Wire Breaks
(399 segments)



Criteria for Repair/Replacement

- No. of wire breaks per segment
- Pressures
- Corrosivity of adjacent soils
- Location (isolated, commercial, residential, etc.)
- Broken Backs

Overall Repairs

Repair/ Replacement Options – 163 Miles			
	Total Cost (Billion)	**Schedule (Years)**	**Cost/ Year (Million)**
Steel Lined	$ 1.5	40+	$ 38
Parallel Alignment	$ 3.1	20+	$ 155
Carbon Fiber	$ 5.0	80+	$ 63

Summary

- **Current Program**
  - Cost Effective
  - Reduces Risk
  - Less Disruptive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