



Subcommittee on Pure Water Southern California
and Regional Conveyance

Pure Water Southern California Alternative Phasing Update

Item 3c

September 24, 2024

Item 3c
PWSC
Alternative
Phasing
Update

Subject

Pure Water Southern California (PWSC) Alternative Phasing Update

Purpose

To provide an update on the PWSC alternative phasing opportunities

Next Steps

Continue planning & design efforts to determine program phasing

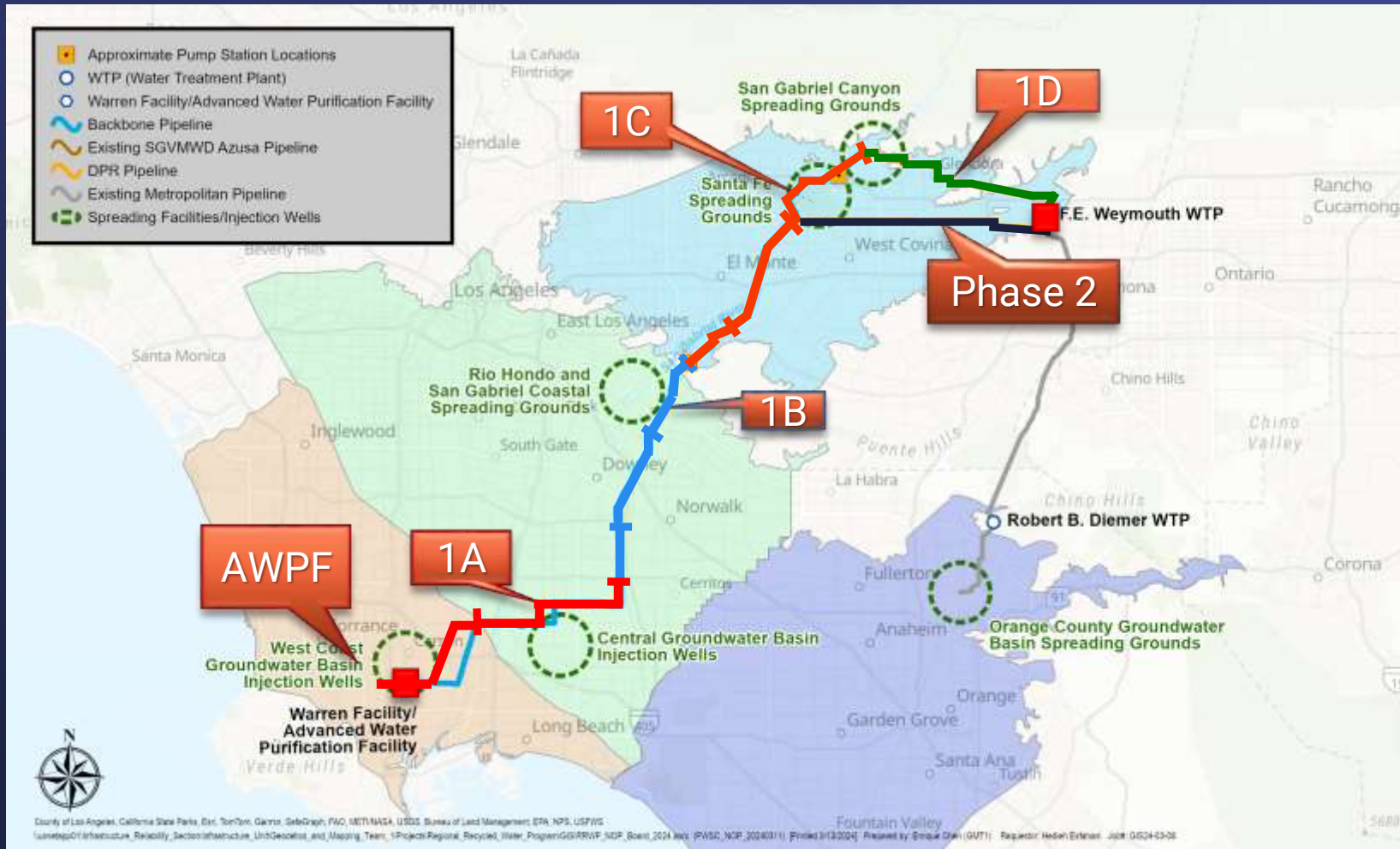
Item 3c
PWSC
Alternative
Phasing
Update

Agenda

- Background
- Alternative Phasing Identification
- Cost Considerations
- Next Steps



Background - March 2024 Rephasing Slide



Phase 1A: 30 MGD
Phase 1B: 10 MGD
Phase 1C: 50 MGD
Phase 1D: 25 MGD
Phase 2: 35 MGD
Total: 150 MGD



Identification & Development of Alternative Approaches to Program Phasing

Potential Phasing Alternatives

Objectives for Alternative Phasing

- Investigate alternative approaches to program phasing
 - Reduce initial scope & cost of Phase 1 (115 MGD)
 - Potential incorporation of DPR with Treated Water Augmentation (TWA)
- Develop & evaluate multiple phasing alternatives
- Prepare conceptual cost & schedules for phased alternatives

Develop a Phased Program to Match Demands & Available Funding

- Consistent approach to other Metropolitan mega-projects (e.g., ozone retrofits at WTPs)
- Benefits of a smaller initial phase to program
 - Reduces initial complexity of program
 - Allows staff to gain operational knowledge before expanding
 - Reduces near-term cost impacts
 - Spreads out overall rate impacts
- Pursue property/ROW for full program where it makes sense
- CEQA, permitting, etc. would continue for the full program to minimize impacts on future phases

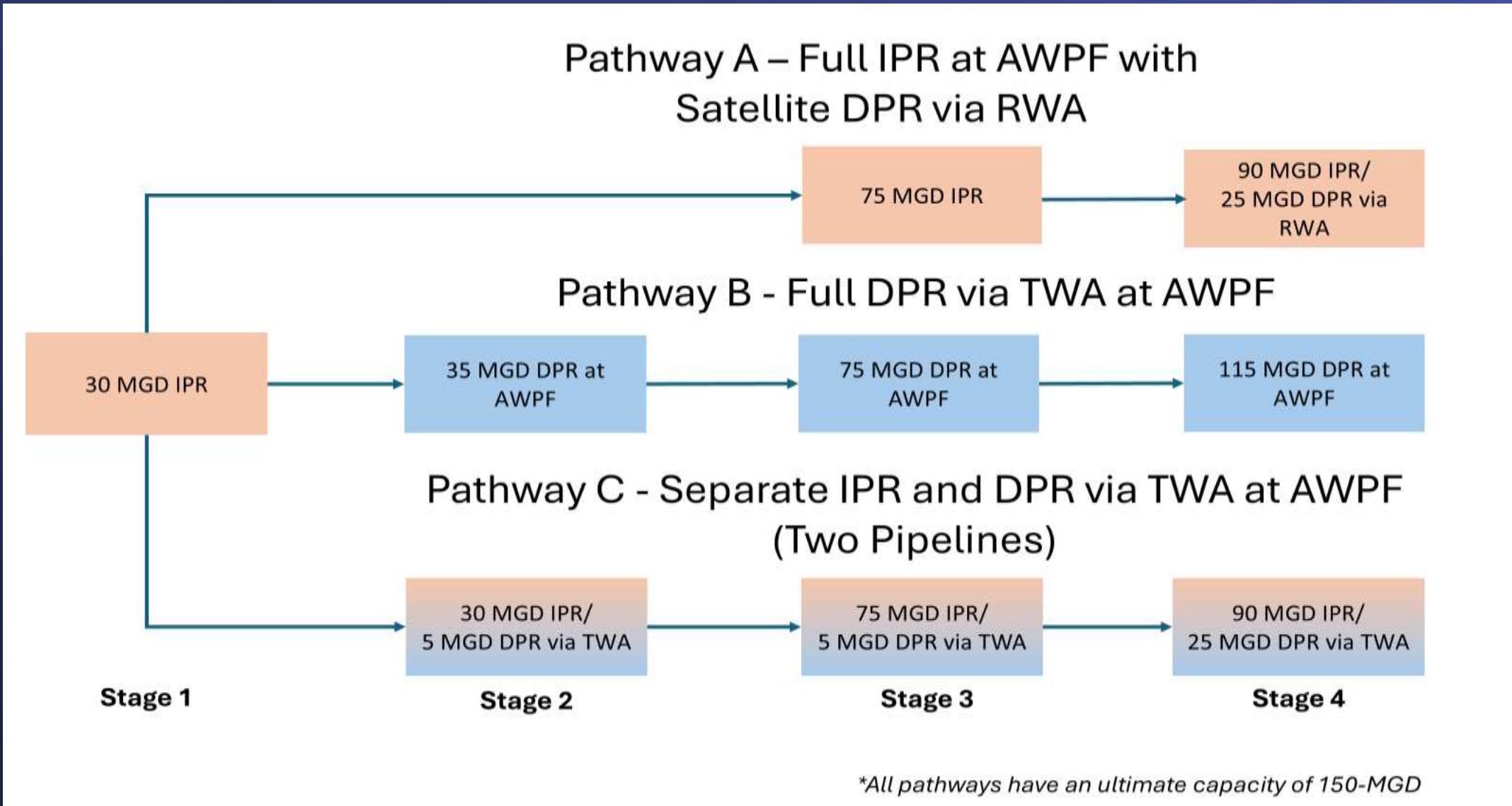
Alternative Phasing - Identification Process

- Demands - Indirect Potable Reuse to West Basin MWD, Long Beach, San Gabriel Valley agencies, and DPR via RWA to Weymouth
- Numerous options for DPR via TWA included
- All alternatives were evaluated relative to program goals & objectives
- Discrete options & sequenced options envisioned
- Staff identified three potential implementation pathways with multiple stages for each pathway

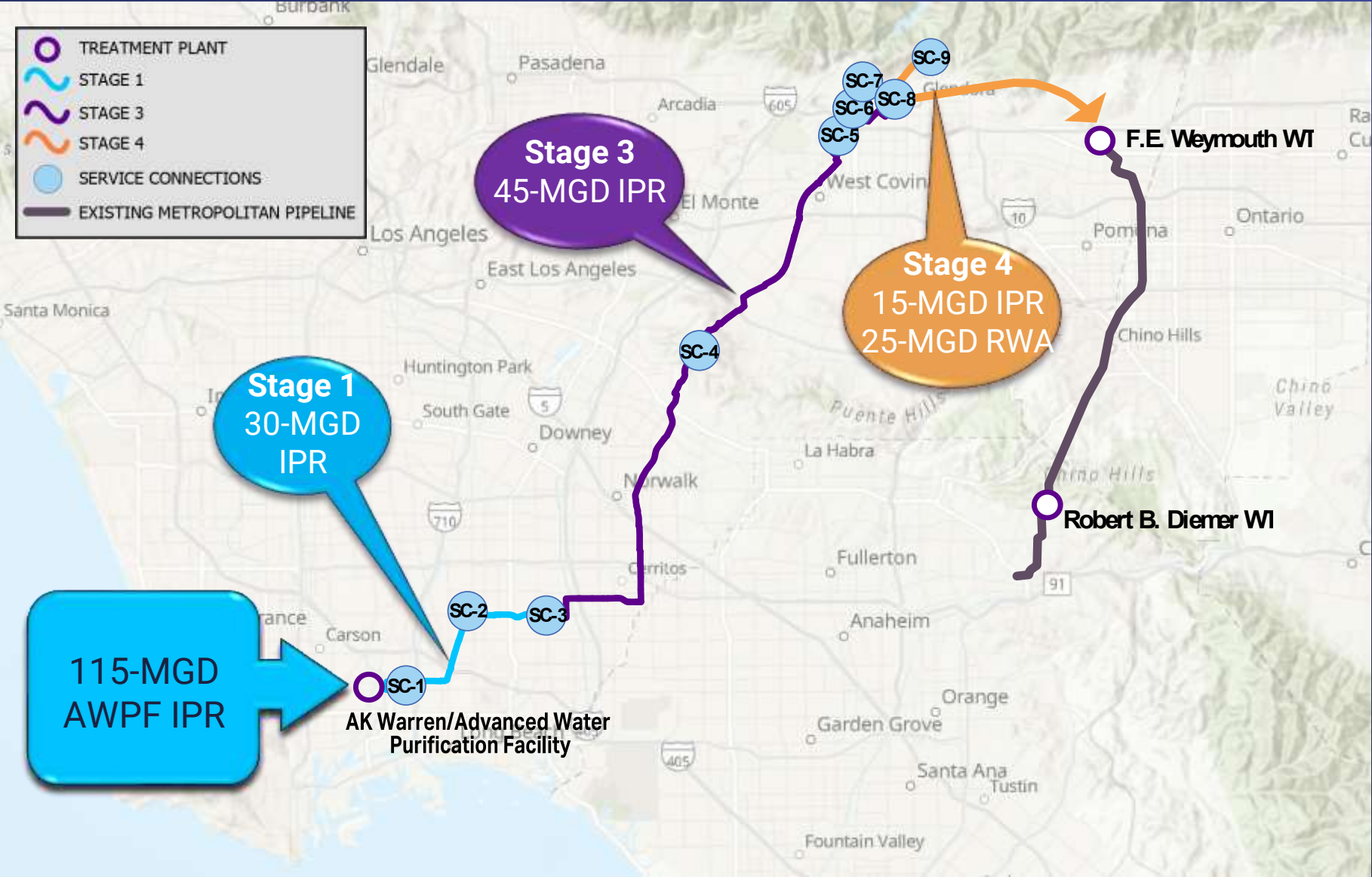
Three Primary Pathways Identified

- Pathway A - IPR Treatment at AWPF with RWA at Weymouth
 - IPR quality water produced at Advanced Water Purification Facility (AWPF)
 - RWA with a satellite DPR facility at Weymouth
- Pathway B - Full DPR Treatment at AWPF
 - Initially 30 MGD IPR quality water
 - Eventually, AWPF produces DPR-TWA quality water at full capacity
- Pathway C - Separate IPR & DPR Treatment – Two pipes
 - Initially 30 MGD IPR quality water
 - Eventually, AWPF produces both IPR & DPR quality water
 - Two pipelines required
- Each pathway could be implemented in one or multiple stages

Potential Alternative Phasing Pathways with Stages



Pathway A – IPR Treatment at AWPWF with RWA at Weymouth



- Stage 1 Total
 - 30-MGD AWPF IPR
 - 10 miles of IPR pipe
- Stage 2 (not applicable)
- Stage 3 Total
 - 75-MGD AWPF IPR
 - 35 miles of IPR pipe
- Stage 4 Total
 - 115-MGD AWPF IPR
 - 40 miles of IPR pipe
 - Azusa Pipeline with Satellite 25-MGD DPR Facilities

Pathway B - Full DPR Treatment at AWPWF



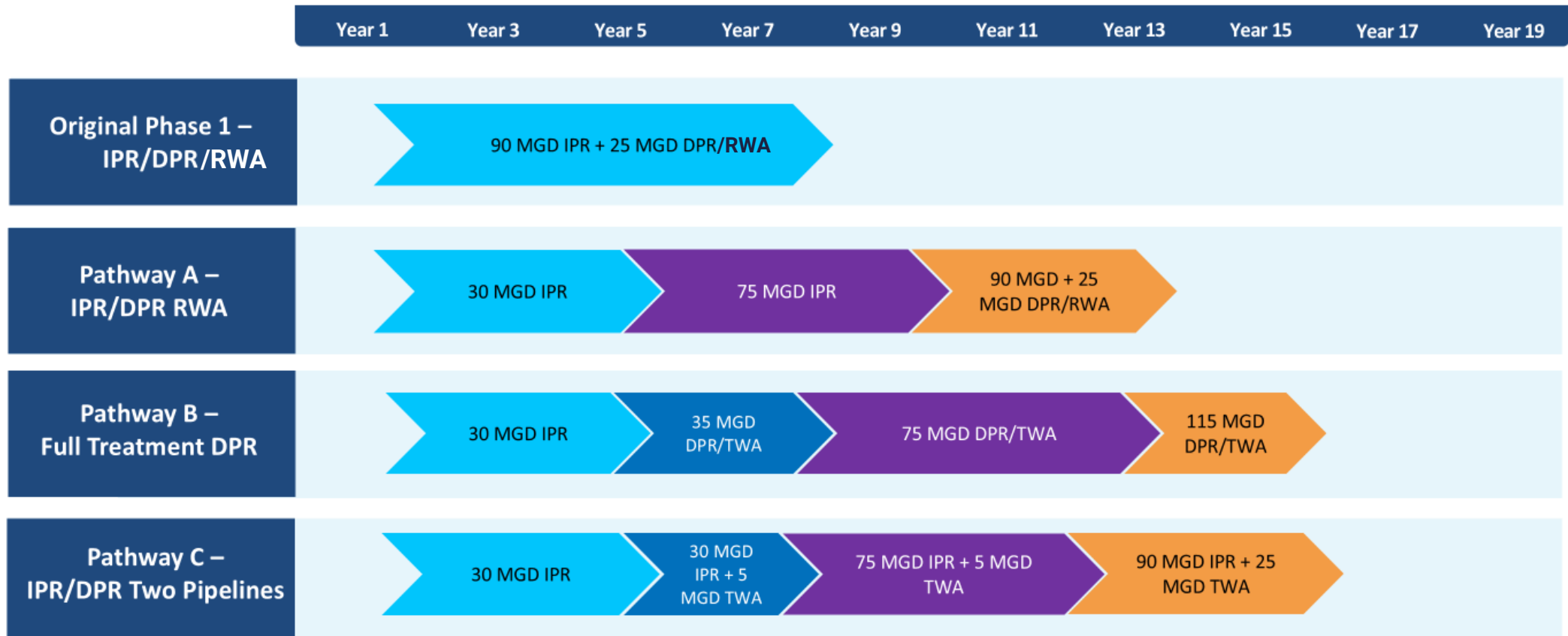
- Stage 1 Total
 - 30-MGD AWPWF IPR
 - 10 miles of pipe
- Stage 2 Total
 - 35-MGD AWPWF TWA
 - No new pipe (TWA)
- Stage 3 Total
 - 75-MGD AWPWF TWA
 - 35 miles of pipe
- Stage 4 Total
 - 115-MGD AWPWF TWA
 - 40 miles of pipe

Pathway C - Separate IPR & DPR Treatment – 2 Pipes



- Stage 1 Total
 - 30-MGD AWPf IPR
 - 10 miles of IPR Pipe
- Stage 2 Total
 - 30-MGD AWPf IPR
 - 5-MGD AWPf TWA
 - 2 miles of TWA pipe
- Stage 3 Total
 - 70-MGD AWPf IPR
 - 5-MGD AWPf TWA
 - 35 miles of IPR pipe
 - 2 miles of TWA pipe
- Stage 4 Total
 - 90-MGD AWPf IPR
 - 25-MGD AWPf DPR
 - 40 miles of IPR pipe
 - 25 miles of TWA pipe

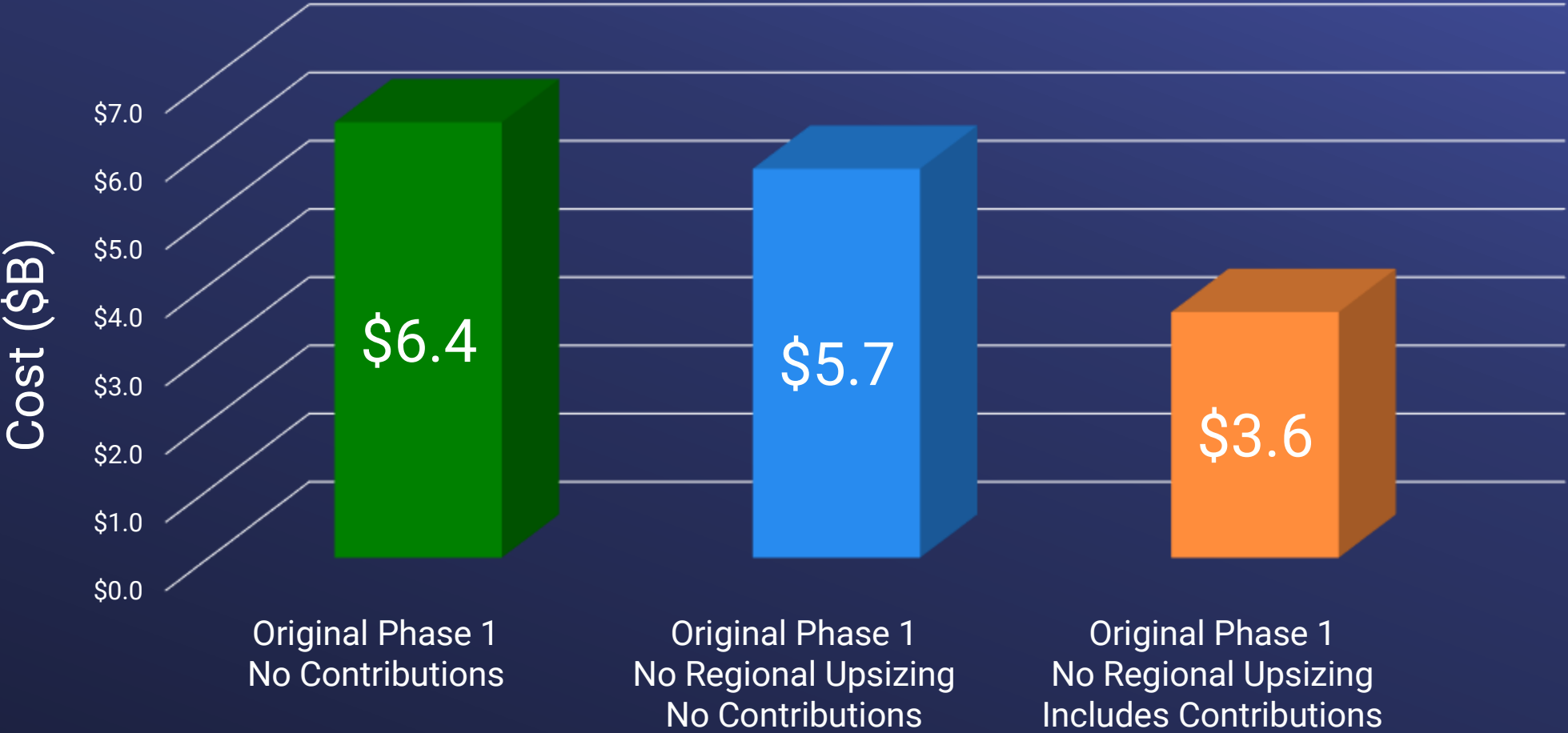
Potential Pathway Schedules



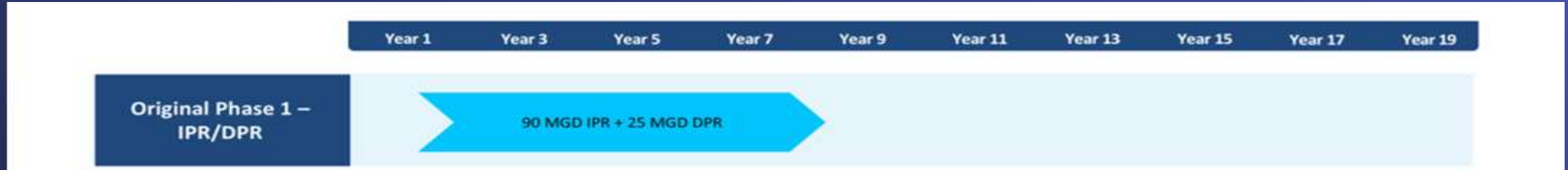


Cost Considerations

Recent Cost Considerations for Metropolitan's Overall Program Cost (Original Phase 1 – 115MGD)



Estimated Unit Costs for Phase 1 with Cost Considerations



Category	Original Phase 1 No Contributions ¹	Original Phase 1 No Regional Upsizing No Contributions ¹	Original Phase 1 No Regional Upsizing Includes Contributions ^{1,2}
Capacity (mgd)	115	115	115
Production (AFY) - 92% Online Factor	118,500	118,500	118,500
Capital Cost	\$6.4B	\$5.7B	\$3.6B
Annual O&M	\$228M	\$204M	\$115M
Dollar Per Acre-Ft Calc³			\$2,700

1. Costs in 2023 dollars
2. Potential contributions include LACSD, SNWA & USBR grants
3. Hypothetical unit costs net of SNWA contributions divided by total production (AF) subject to ongoing negotiations with SNWA for price terms and delivery flexibility, debt issues one-time @ 4%, 30yr. Excluding SNWA contributions, unit cost for Original Phase 1 with LACSD contribution is \$3,300/AF.

Estimated Unit Costs for Pathway A by Stage



Category	Pathway A/Stage 1 IPR/RWA (future) Net MWD Share ^{1,2,3}	Pathway A/Stage 3 IPR/RWA (future) Net MWD Share ^{1,2,3}	Pathway A/Stage 4 IPR/RWA Net MWD Share ^{1,2,3}
Capacity (total mgd)	30	75	115
Production (AFY) - 92% Online Factor	30,900	77,200	118,500
Capital Cost (total)	\$0.7B	\$3.1B	\$4.4B
Annual O&M (total)	\$12M	\$57M	\$127M
Dollar Per Acre-Ft Calc (combined)⁴	\$1,700	\$3,100	\$3,200

1. Costs in 2023 dollars
2. Regional upsizing costs not included
3. Potential contributions include LACSD, SNWA & USBR grants
4. Hypothetical unit costs net of SNWA contributions divided by total production (AF) subject to ongoing negotiations with SNWA for price terms and delivery flexibility, debt issues one-time @ 4%, 30yr. Excluding SNWA contributions, unit costs for Stage 1 - \$3,500/AF, Stage 3 - \$3,800/AF, Stage 4 - \$3,700/AF

PWSC Alternative Phasing

Next Steps

- Receive feedback on approaches to alternative program phasing
- Refine alternatives based on feedback
- Develop conceptual TWA requirements
- Prepare cost estimates for Pathways B & C
- Complete alternative phasing evaluation

