

Expedited Purified Water Program Draft Program Plan

**Santa Clara Valley
Water District**



Attachment 2
pg 1 of 21

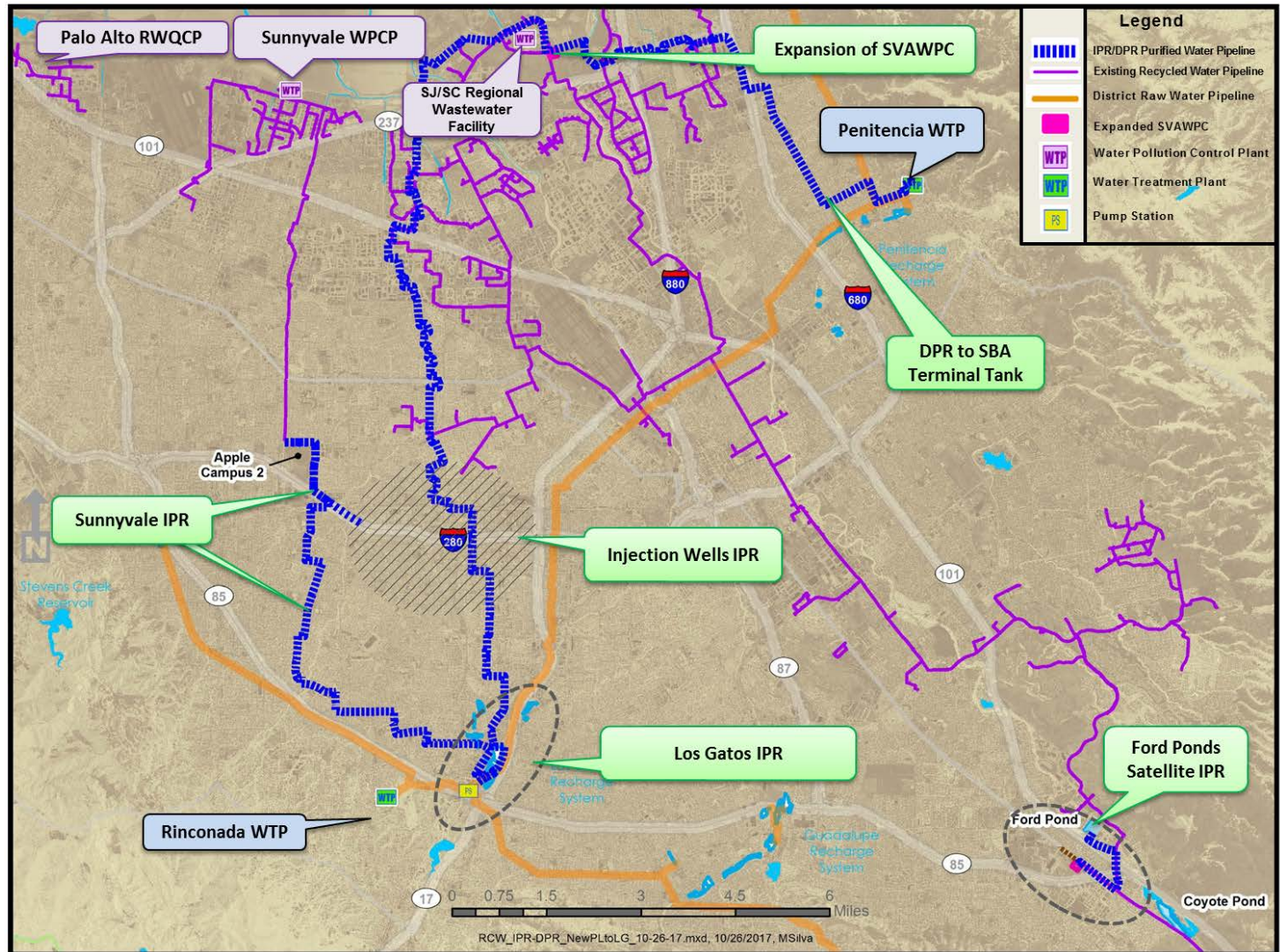
Presentation Outline

1. Development of Program Plan
2. Potential Program Components
3. Component Cost Comparison
4. Program Alternatives
5. Recommended Plan
6. Future Opportunities

Development of Program Plan

- Mar.-April 2015: Board directs staff to expedite expansion of up to 45,000 AFY of purified water for potable reuse
- Feb. 9, 2016: Board approves Preliminary Engineering Services agreement with RMC (now Woodard & Curran) to prepare Program Plan
- Draft 2017 Water Supply Master Plan: 24,000 AFY of potable reuse by 2025
- Nov. 2017: Draft Program Plan
- Jan. 2018: Final Program Plan Report

Potential Program Components



Comparison of Program Component Costs

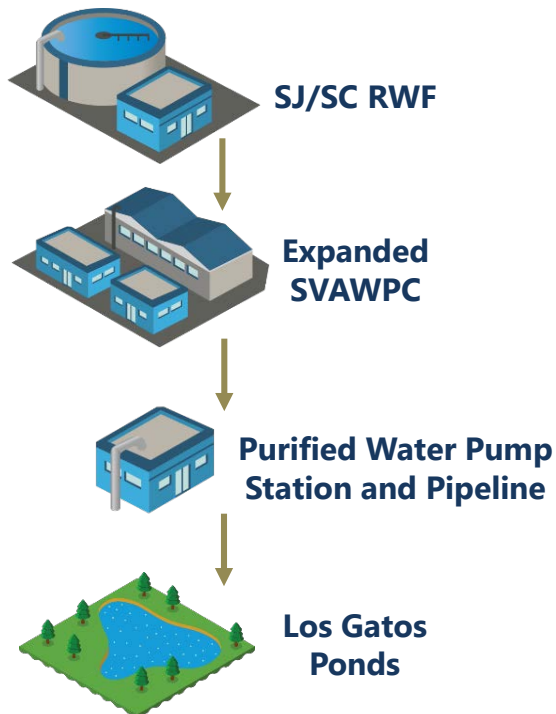
	IPR Los Gatos Ponds	IPR Injection Wells	DPR To Penitencia WTP	IPR Ford Ponds
Production Capacity (AFY)	24,000	15,000	24,000	4,200
80% Utilization Yield (AFY)	19,200	12,000	19,200	3,400
80% Utilization Unit Cost (\$ per AF)	\$2,000	\$3,000	\$2,000	\$2,700

Cost Comparison: IPR to Los Gatos vs. DPR to Penitencia WTP

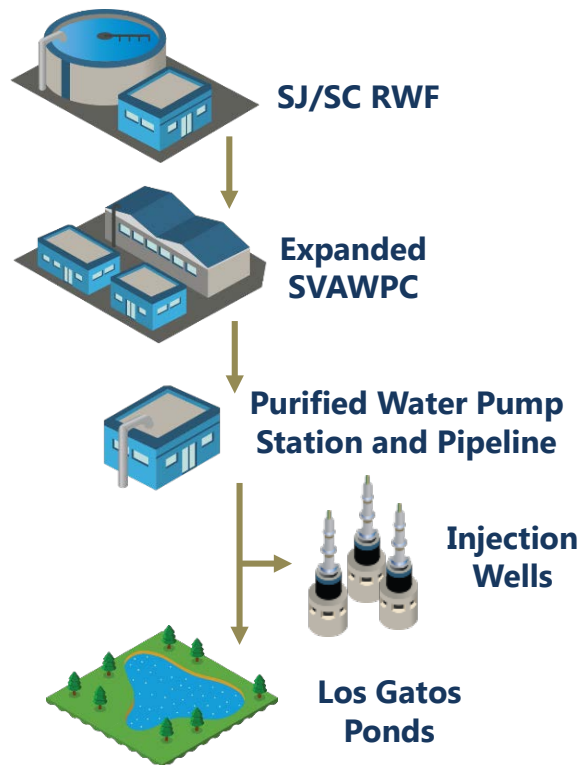
Component	IPR Cost	DPR Cost	Notes
Capital Cost			
Advanced Water Purification Facilities	\$346M	\$377M	Additional treatment and monitoring requirements for DPR
Conveyance Facilities	\$282M	\$152M	IPR pipeline (18 miles) is longer than DPR pipeline (9 miles)
Receptor Facilities	\$11M	\$53M	DPR receptor requires a new tank and potable system modifications at PWTP
Other Capital Costs	\$9M	\$14M	Pump station costs are similar, but DPR requires property purchase
Total	\$648M	\$596M	
O & M Cost	\$12M/yr	\$14M/yr	DPR has higher treatment operations costs

Three Alternatives to Produce/Utilize Up to 24,000 AFY

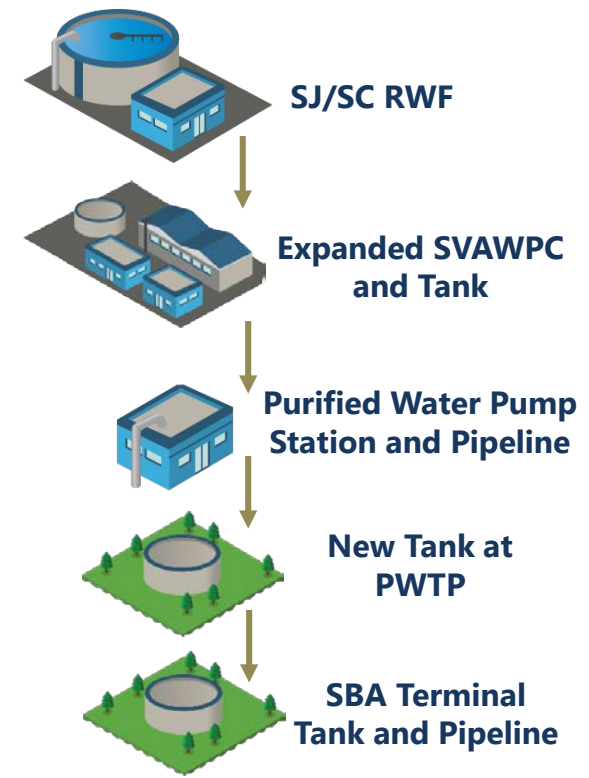
Alt. 1 – Los Gatos Ponds IPR



Alt. 2 – Los Gatos Ponds/Injection Wells IPR



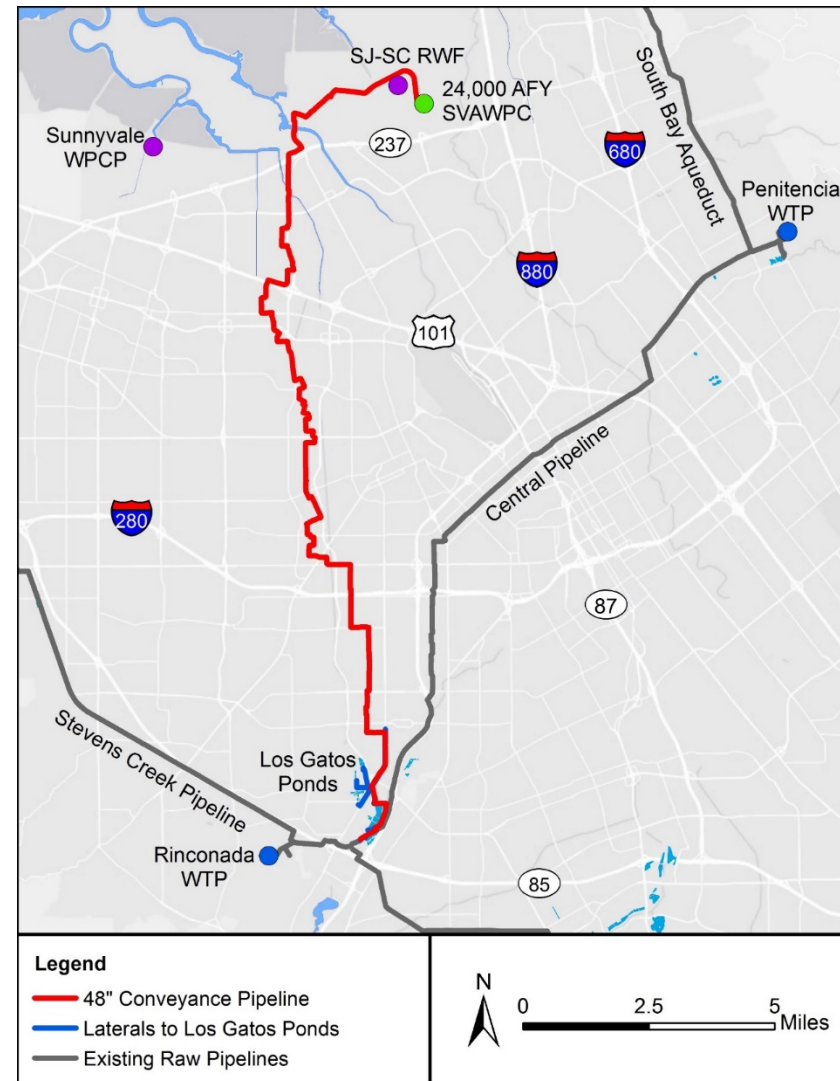
Alt. 3 – Direct Potable Reuse to Penitencia WTP



Alt 1: Indirect Potable Reuse (IPR) to Los Gatos Ponds

Project Components:

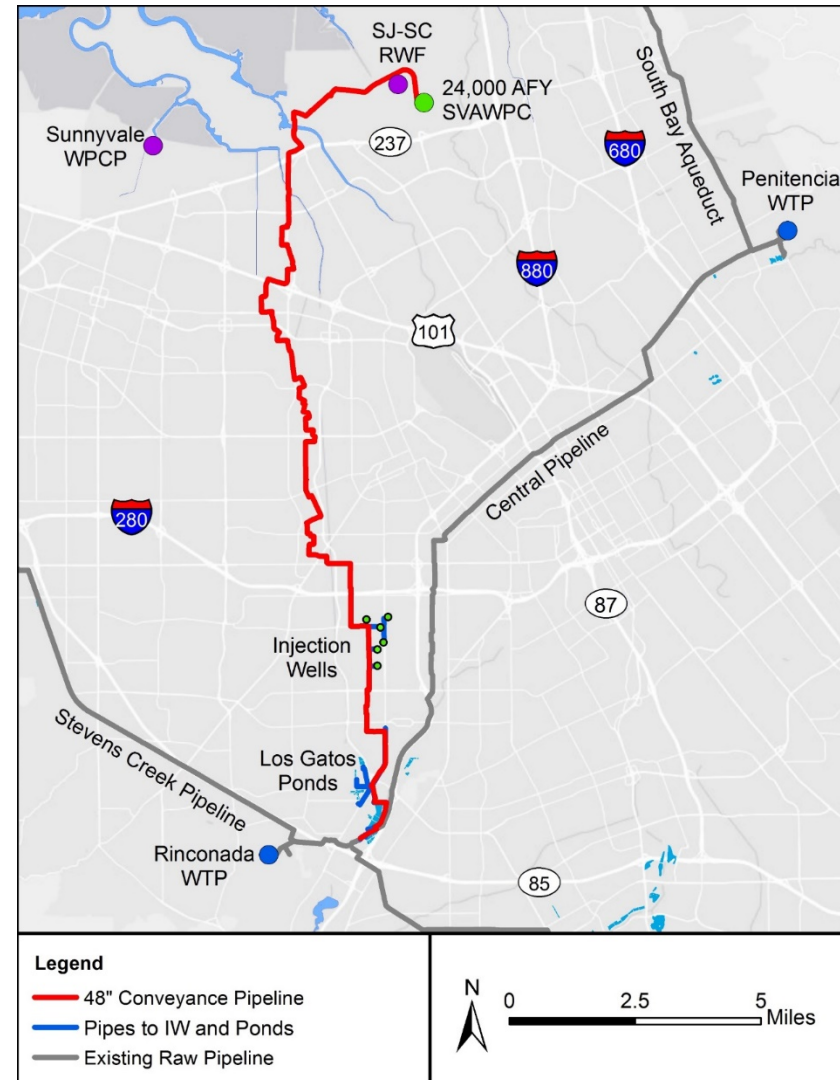
- 24,000 AFY expansion of SVAWPC
- ~18 miles of 48" pipeline
- Modifications at Los Gatos Ponds



Alt 2: IPR to Los Gatos Ponds and Injection Wells

Project Components:

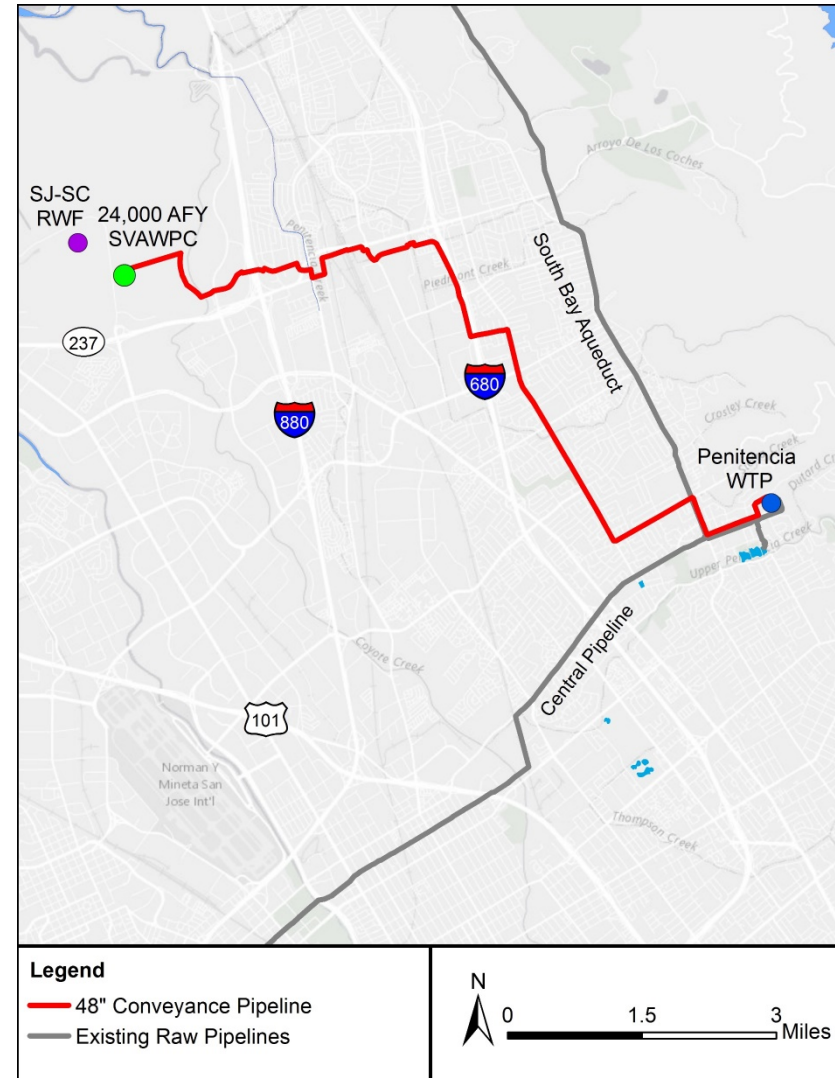
- 24,000 AFY expansion of SVAWPC
- ~18 miles of 48" pipeline
- 6 Injection Wells
- Modifications at Los Gatos Ponds



Alt 3: DPR to Penitencia WTP

Project Components:

- 24,000 AFY expansion of SVAWPC
- Enhanced treatment and monitoring program
- Additional 3MG storage tank at expanded SVAWPC
- ~ 9 miles of 48" pipeline
- Modifications at Penitencia WTP:
 - ~ 1 mile of on-site piping
 - New 3MG tank
 - Connection to existing SBA Terminal Tank and Central Pipeline



Alternatives Comparison Summary^a

Parameter	Alt 1 - IPR Los Gatos Ponds	Alt 2 – IPR LG Ponds and Injection wells	Alt 3 - DPR to Penitencia WTP
Production Capacity (AFY)	24,000	24,000 ^b	24,000
80% Utilization Yield ^c (AFY)	19,200	19,200	19,200
80% Utilization Unit Cost^c (\$ per AF)	\$2,000	\$2,200	\$2,000

Notes:

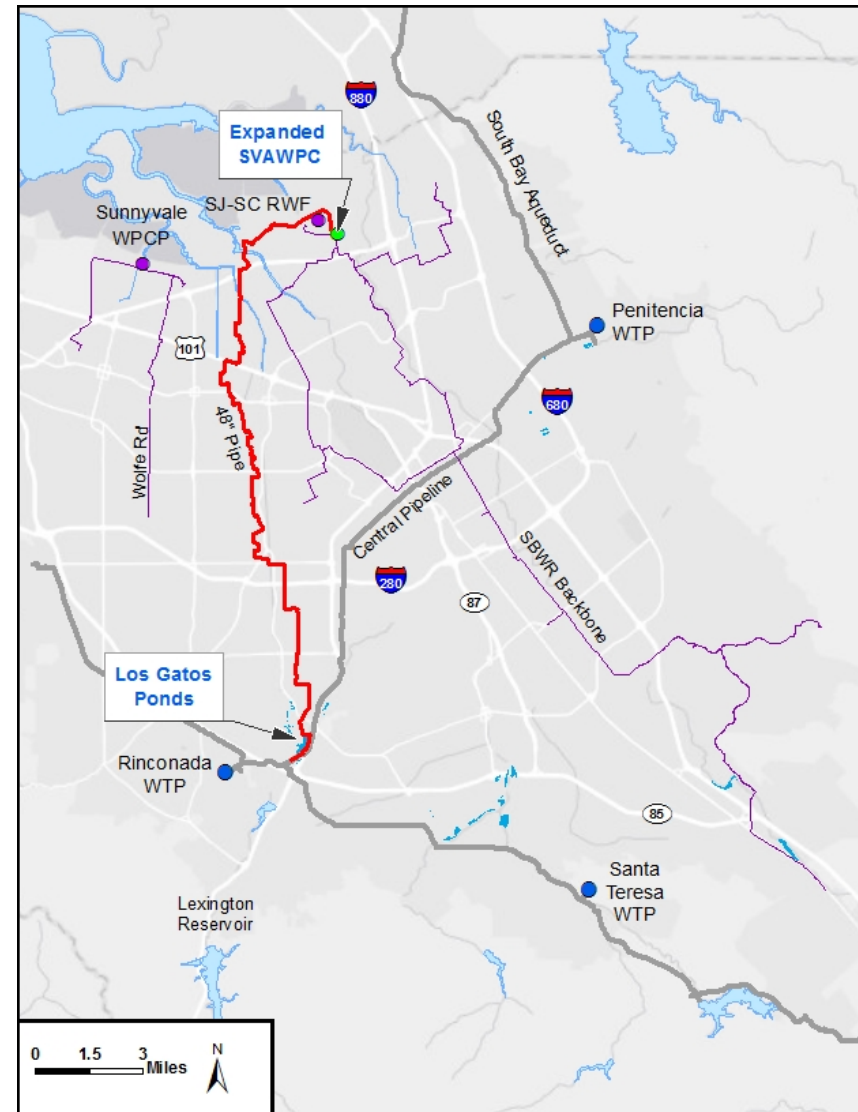
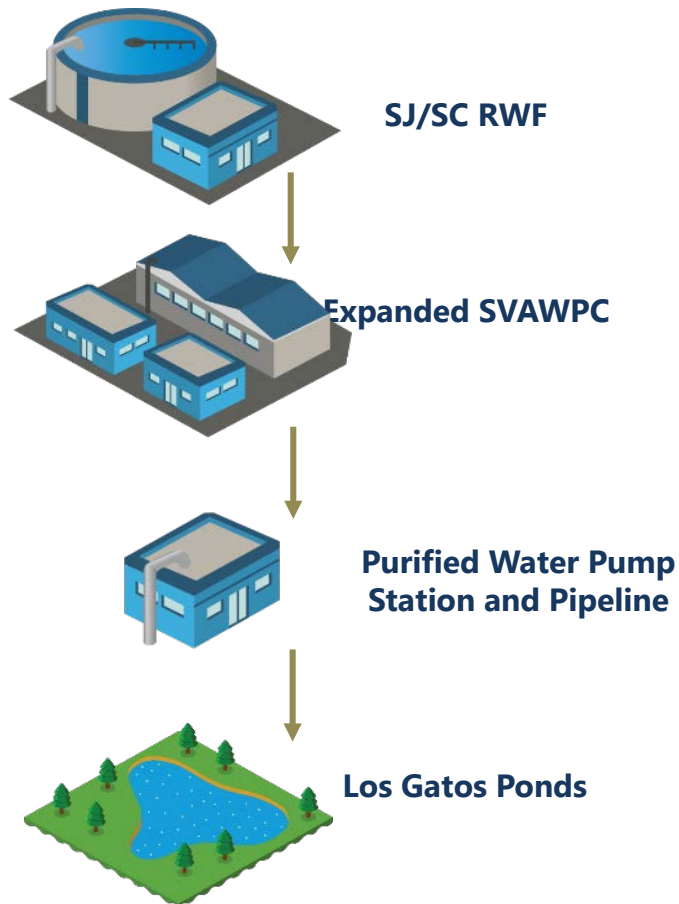
- a. No cost allowance for treated wastewater, RO concentrate management, or land use.
- b. 6,000 AFY Injection Wells and 18,000 AFY to Los Gatos Ponds
- c. Refinements in operations analysis may reduce utilization yield and increase \$ per AF

Staff Recommends Alternative 1: IPR to Los Gatos Ponds

Parameter	Alternative 1 – IPR to Los Gatos Ponds Features
Unit Cost (\$/AF)	Among the lowest unit cost of evaluated alternatives.
Expandability	High expandability potential with future delivery points to injection wells; a connection with Sunnyvale/Palo Alto/Mt. View; and DPR to either Central Pipeline or Vasona Pump Station (feed to Rinconada WTP).
Regulatory Certainty	Regulations in place and several similar projects in operation.
Implementation Timeline	Timeline well established due to established regulations; no need for additional research and/or demonstration.

Recommended Alternative: IPR to Los Gatos Ponds

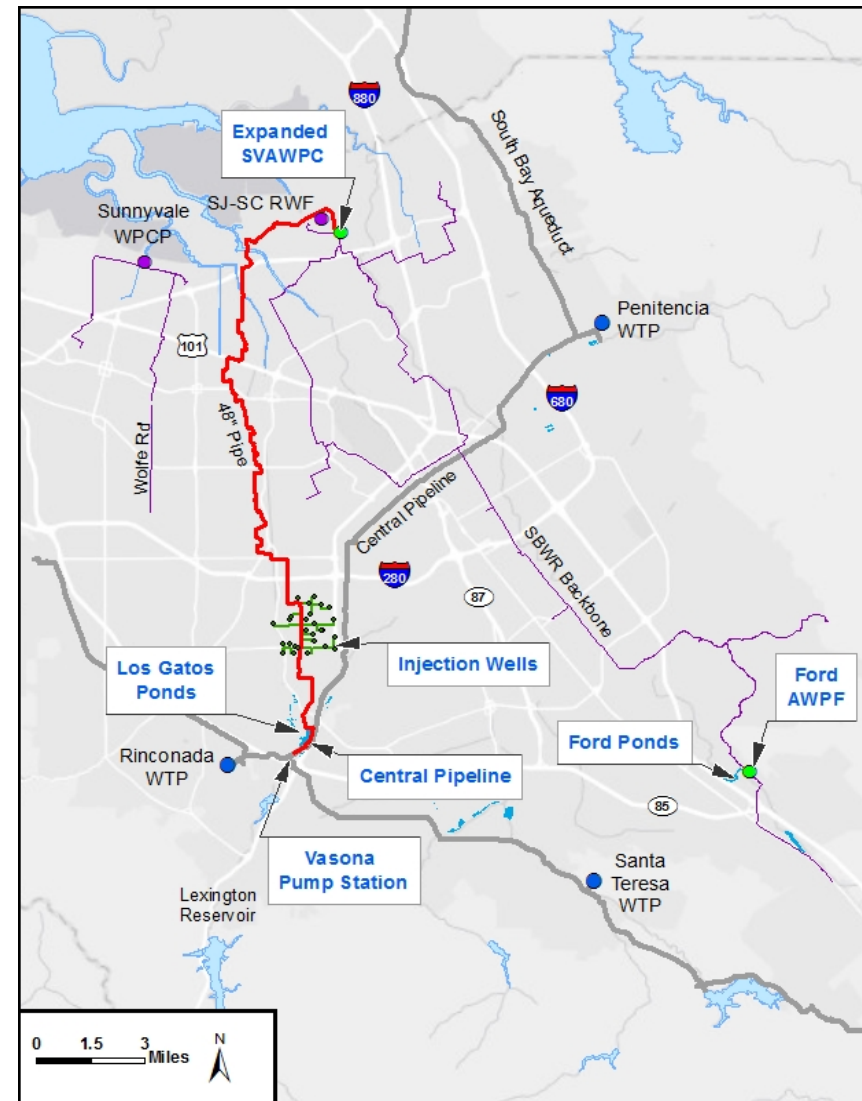
Alt. 1 – Los Gatos Ponds IPR



Future Opportunities

IPR to Los Gatos Ponds (Recommended Alternative)

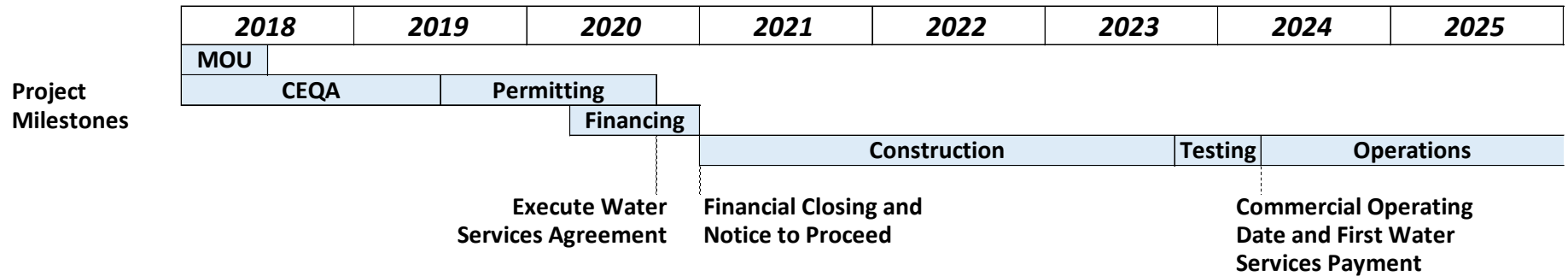
- Further Expansion of SVAWPC to serve:
 - IPR for Injection Wells
 - DPR Connection to Central Pipeline or Vasona Pump Station (feed to Rinconada WTP)
- Ford Advanced Water Purification Facility (AWPF): IPR to Ford Ponds
- Countywide Water Reuse Master Plan: System integration opportunities for cities of San Jose, Sunnyvale, and Palo Alto/Mountain View.



Program Implementation - Next Steps



Key Project Milestones



CRITICAL PATH ITEMS:

Accelerated MOU with City of San Jose

Items for Future Resolution:

- RO Concentrate Management Plan
- Quantity and quality of treated wastewater

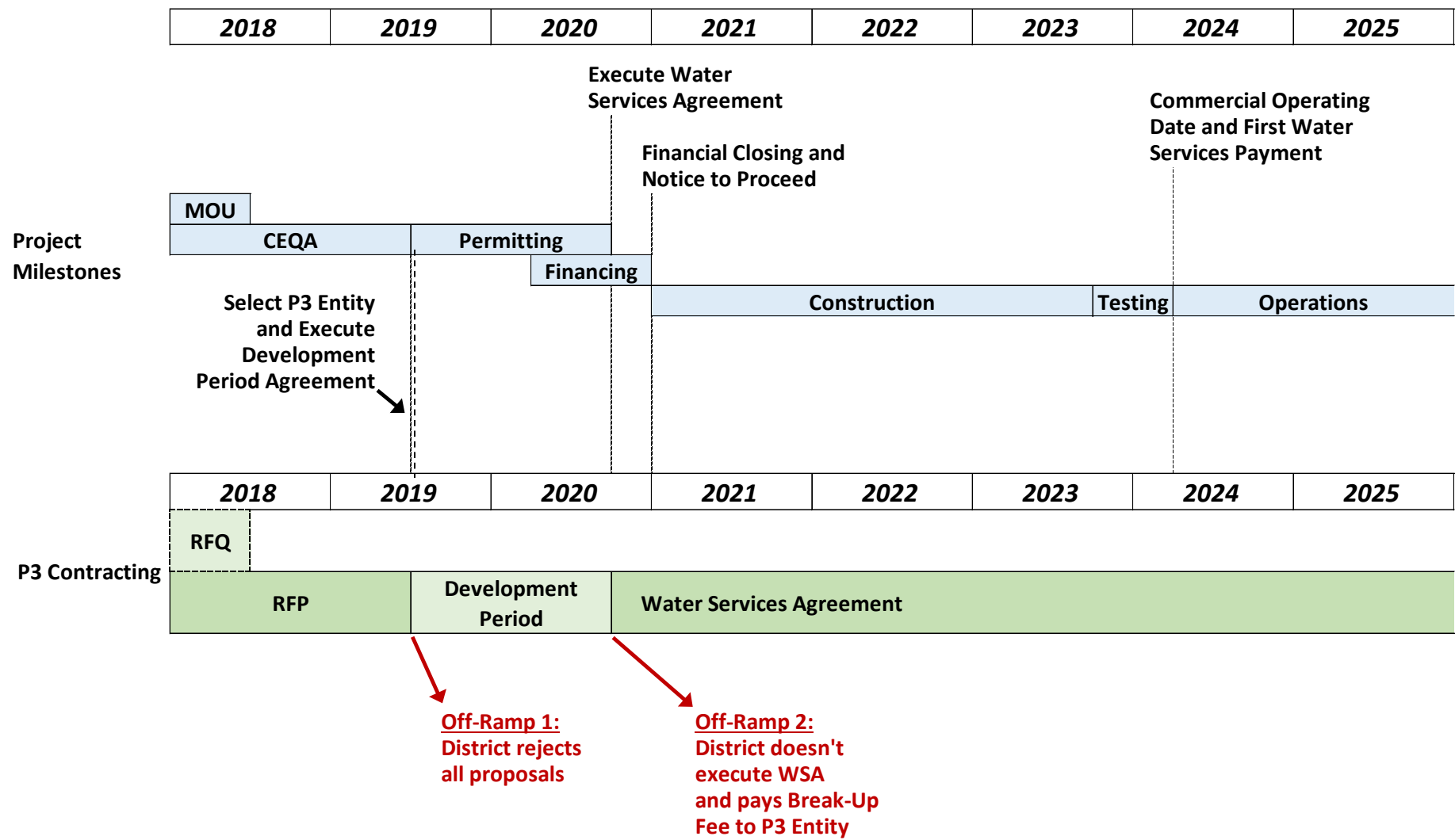
Agreed to in Principle:

- City's willingness to negotiate treated wastewater quantity
- District and City's financial considerations

CEQA/NEPA/Permitting

- Initiate at risk - Feb. 2018
- CEQA/NEPA/Permitting: 2-3 years
- Finalize Agreement with City of San Jose

Project Milestones and P3 Contracting



P3 Procurement Options

2018	2019	2020	2021	2022	2023	2024	2025
RFQ							
RFP	Development Period	Water Services Agreement					

Two teams shortlisted for P3 Track:

1. Poseidon Water;
2. Table Rock/Goldman/CH2MHill

P3 Procurement Alternatives:

- A. Re-issue RFQ and verify current shortlisted firms' qualifications to expand shortlist to a minimum of three qualified entities for RFP process.
- B. Keep current shortlist and proceed with RFP.

RFP Process

2018	2019	2020	2021	2022	2023	2024	2025
RFQ							
RFP	Development Period	Water Services Agreement					

The RFP process includes the following elements:

- Prepare Draft RFP.
- Provide Draft RFP to shortlisted P3 entities for review and comment.
- Publish RFP.
- P3 entities prepare and submit responses.
- Evaluate proposals and select highest-ranked entity.

RFP Contents

2018	2019	2020	2021	2022	2023	2024	2025
RFQ							
RFP	Development Period	Water Services Agreement					

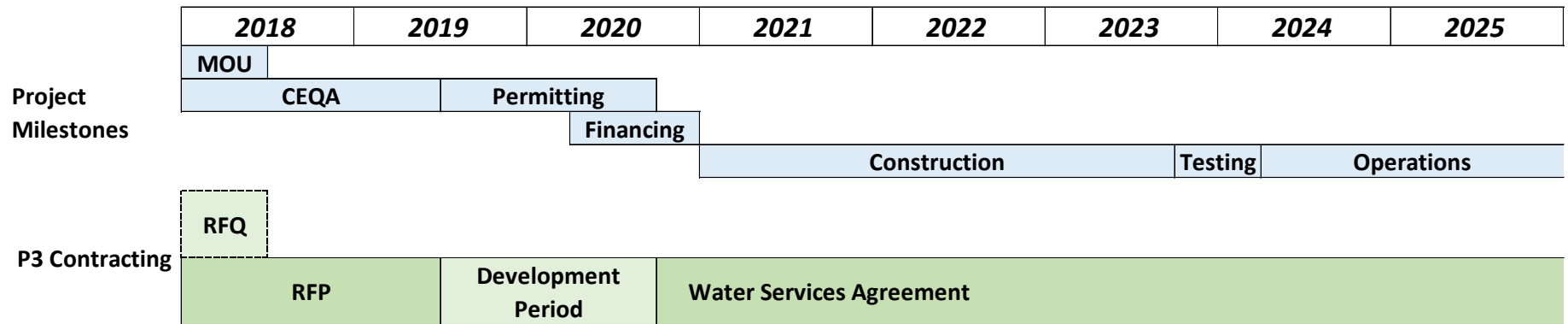
District:

1. Specify assumed Performance Requirements
 - Feedwater quality, volume, flow rate
 - Purified water quality, volume, flow rate
 - Point of delivery for purified water
 - RO concentrate discharge requirements / point of discharge
 - Project labor agreement (PLA) requirements
2. Provide technical supporting material

P3 Entities: Submit Proposals for Water Unit Price

- Debt Service Charge component, with underlying capital budget and plan of finance
- Fixed O&M Component (i.e. when plant is in standby mode)
- Variable O&M Component (i.e. when plant is producing purified water)

Next Steps



- Initiate RFP Development - Dec. 2017
 - Assume up to 24,000 AFY purified water production at Zanker Rd.
 - Assume conveyance to Los Gatos Recharge Ponds
 - Board direction on re-issuance of RFQ
- Initiate CEQA/NEPA work at risk - Feb. 2018
- Execute Accelerated MOU with City of San Jose - June 2018

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