

Recycled & Purified Water: Collaboration with the Cities of Palo Alto and Mountain View

**Santa Clara Valley
Water District**



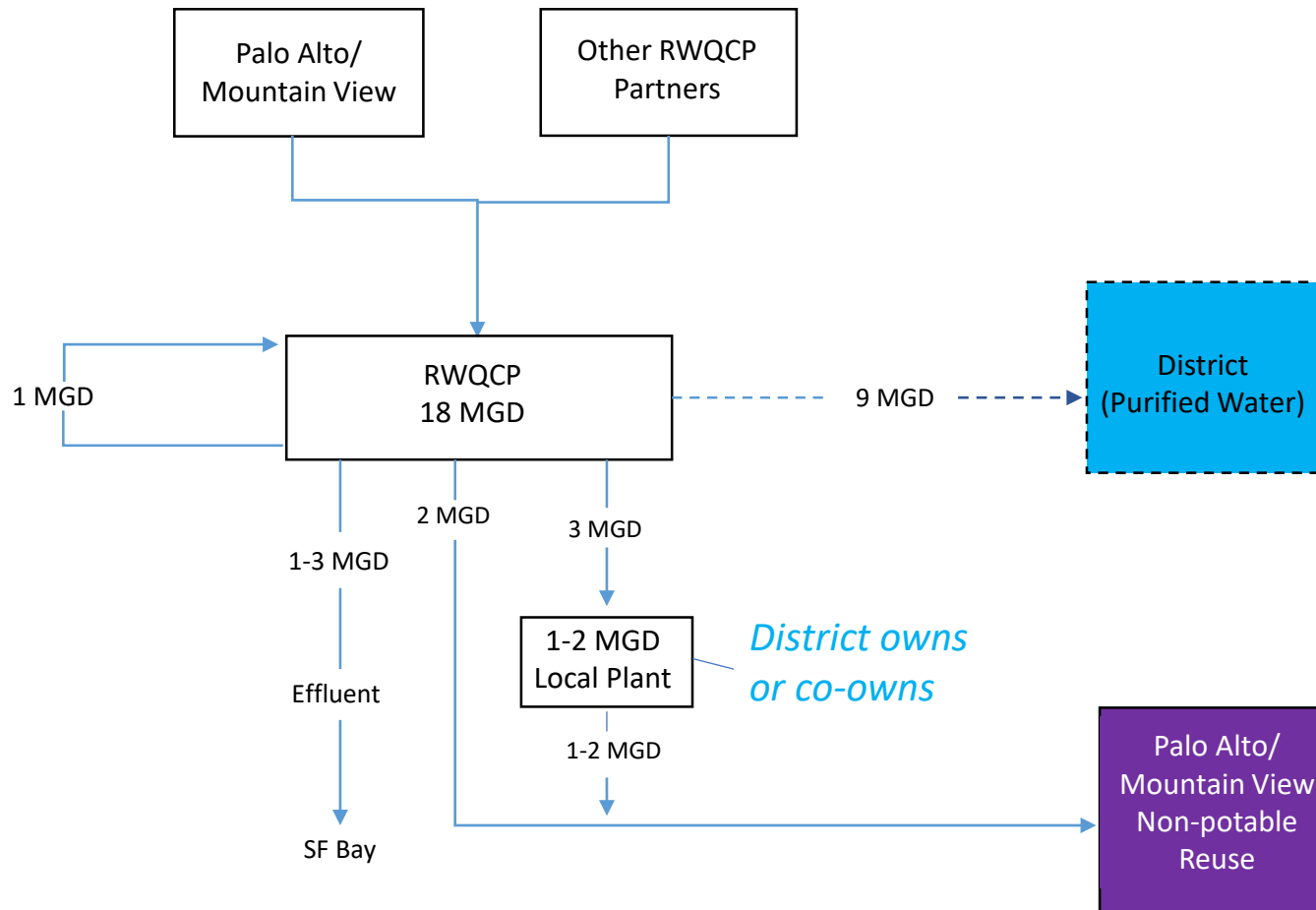
Recent Engagement

Item	Timeline
District and City of Palo Alto MOU	August 2017
District and City of Mountain View MOU	October 2017
District, City of Palo Alto and Mountain View staff initiate discussions on Comprehensive Agreement	Bi-weekly meetings start in August 2017
Staff from all three agencies develop Guiding Principles	April 2018
Executive team from District, Palo Alto & Mountain View discuss term sheet elements	May 2018 to present

Proposed Guiding Principles

- Palo Alto and Mountain View seek funding support for the design (and in a subsequent year, construction) of a 1-2 MGD local plant.
- Comprehensive Agreement, including 1-2 MGD local plant and a 9 MGD (approx.) regional purification plant/wastewater supply, could extend through 2060
- District seeks a guaranteed quantity of treated wastewater for purification
- Palo Alto to represent all RWQCP partner agencies
- Effluent quantity to be used may be revised per recommendations from the Countywide Water Reuse Master Plan
- Unused wastewater currently allocated to Palo Alto and Mountain View may be available for potable reuse until such time that Palo Alto and/or Mountain View need it.

District/Palo Alto Proposed Relationship



Proposed Agreement Components

I. 1-2 MGD Local Plant

- Own/Cost sharing: 80:20* after external funding, if any.
- O&M responsibility: 80:20 based on/ownership cost share)
- Agreement Term
- CEQA: EIR Addendum with Palo Alto as lead agency
- Governance

*Cost share range of 50% to 100% under staff discussion

II. Purified Water

- Amount of wastewater: 9MGD
- Compensation for wastewater
- Reverse Osmosis Concentrate**
- Land/siting**
- Agreement Term
- CEQA: District lead agency
- Governance

**if sited locally at Palo Alto RWQCP

1-2 MGD Local Plant -Joint Planning Status/Schedule

Project	Schedule	Funding Agencies
RO Feasibility Study	Completed May 2017	District Palo Alto Mountain View
Northwest County Recycled Water Strategic Plan	Completion anticipated May 2019	District Palo Alto
1-2 MGD Local Plant	Design complete FY 2020 Construction complete FY 2022	Pending Comprehensive Agreement

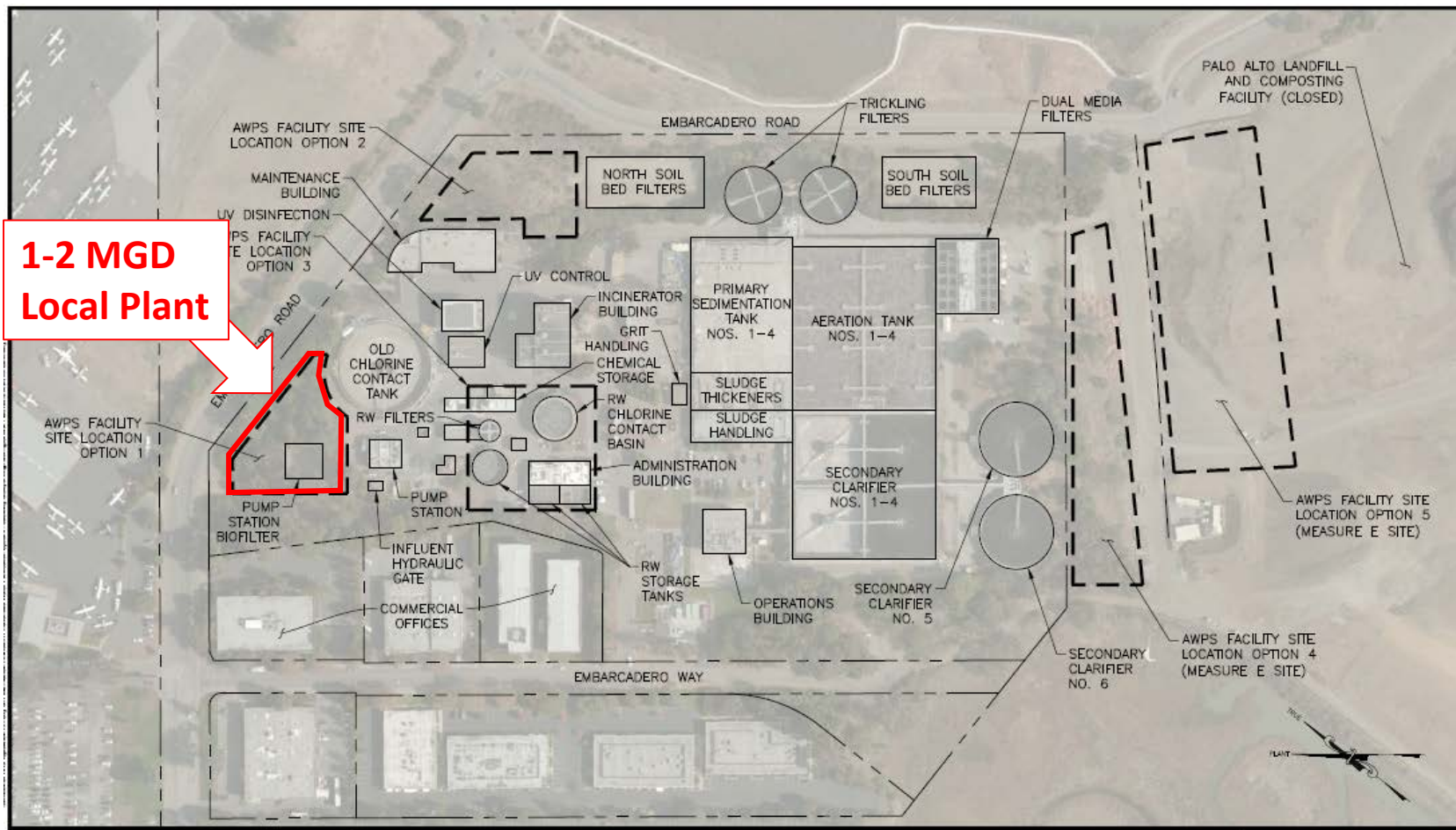
District-Palo Alto Local Plant

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1-2 MGD Local Plant

Palo Alto Regional Water Quality Control Plant (RWQCP)



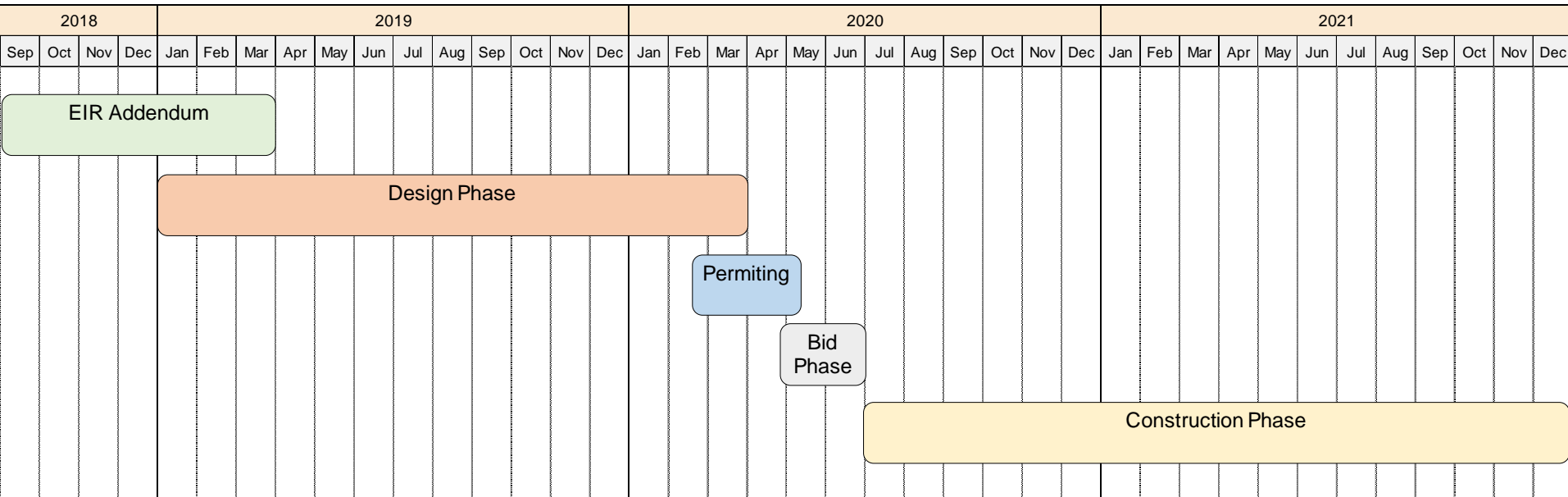
Recycled Water Data - Current and Future

RWQCP	Current	Future
Total Dissolved Solids	~900 mg/l	Planning target 500 mg/l
Non-potable Reuse Destination	Palo Alto and Mountain View	Palo Alto and Mountain View + growth
Non-potable Reuse Flow	0.6 MGD	1-2 MGD

Planning Schedule for 1.125 MGD Local Plant

City of Palo Alto

Advanced Water Purification Facility Phased Implementation Schedule for 1.125 MGD Local Plant (Design-Bid-Build)



Cost Estimates for 1.125 MGD Local Plant

Item	Estimate	Potential WIIN Funding (25%)*	Net Cost
CEQA, Permits, Special Studies, Design, CM, Inspections**	\$2,432,000	\$608,000	\$1,821,000
Construction	\$13,904,000	\$3,476,000	\$10,428,000
Total ***	\$16,336,000	\$4,084,000	\$12,252,000

NOTES:

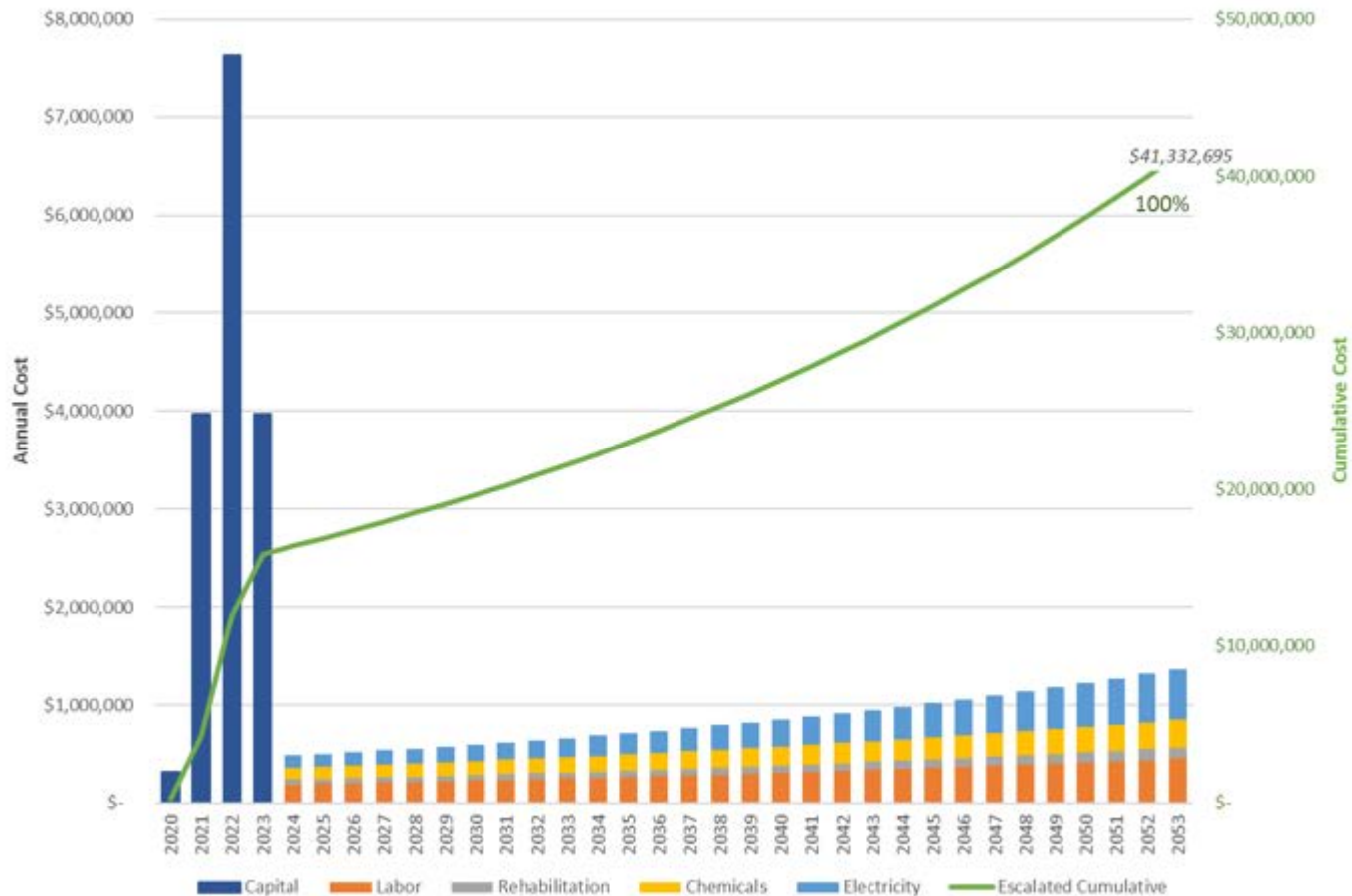
* Clean Water State Revolving Fund (CWSRF) financing may be available. Pending technical, financial and environmental packet submittal in CY2019. Palo Alto would pursue 100% financing, with cost share TBD.

** Estimate includes design for 1.125 to 2.25 MGD facility

***Class 3 AACE estimate (-20 to +30 % accuracy)

1.125 MGD Local Plant - Estimated Expenditures

Example: District 100% Capital and O&M. Escalated Dollars
(Does Not Include CWSRF or WIIN Funding)



1.125 MGD Local Plant – Estimated Capital Cost

District Contribution under Consideration by Staff	Capital Costs*
50%	\$8,168,000
80%	\$13,068,800
100%	\$16,336,000

Notes:

1. Does not include CWSRF or WIIN funding
2. Estimate includes CEQA, Permits, Special Studies, Design, CM, Inspections and Construction

1.125 MGD Local Plant- Estimated Cost

District Rate Impact (Excluding CWSRF/WIIN funding)

	Reference Rate*	50% Cost-Share**	80% Cost-Share**	100% Cost-Share**
FY2024 Groundwater Production Charge (per AF)	\$2,051	\$7 more	\$10 more	\$15 more

* Protection and Augmentation of Water Supplies 2018, Figure 4-2.1 Ten Year Projection, Zone W-2

** Range of cost share under staff consideration. Estimated assuming 100% financed @ 5%.

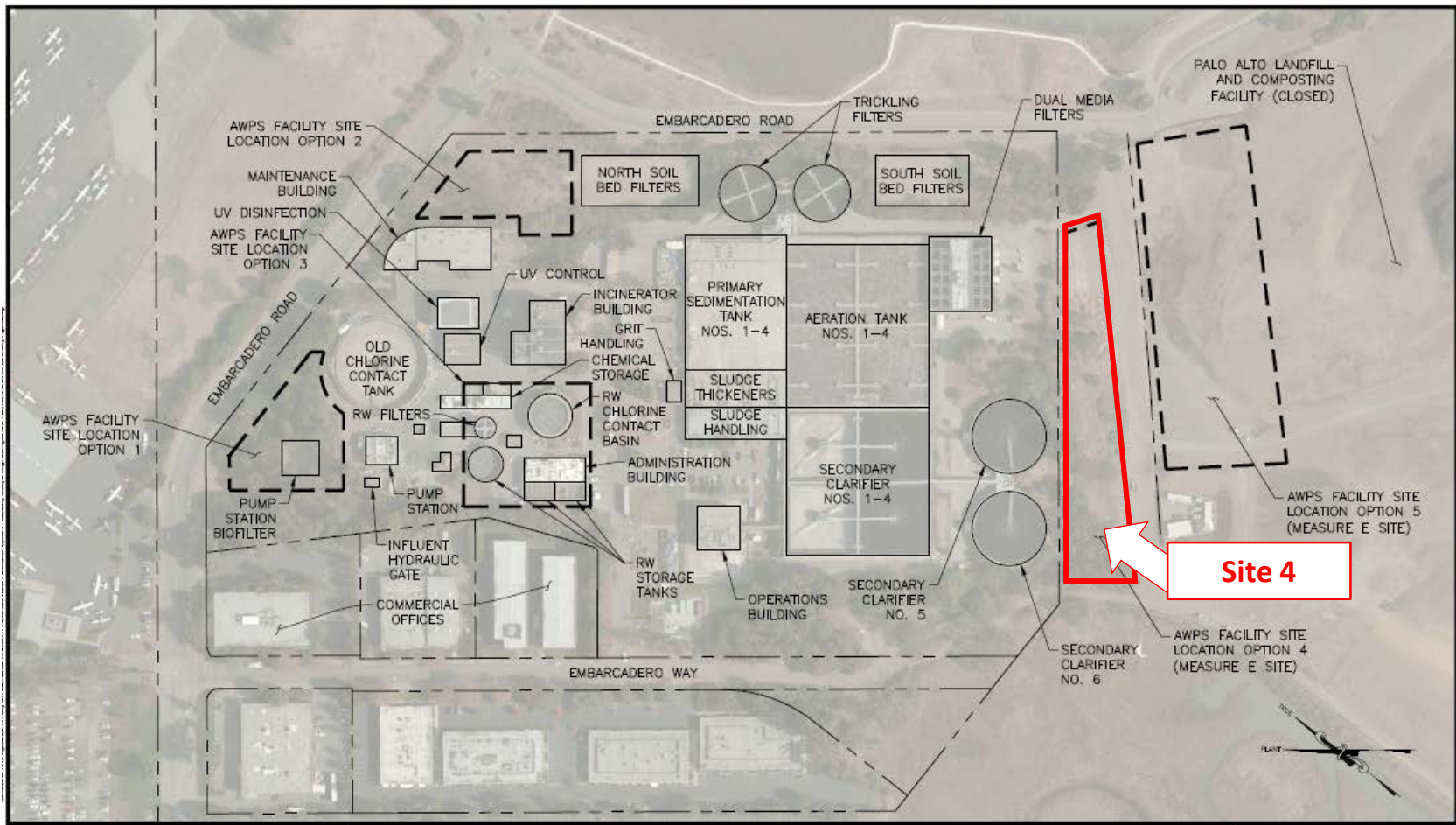
District-Owned Regional Purification Plant

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Potential Site – District Regional Purification Plant

Purification Plant next to existing RWQCP*



* Other alternatives include delivery of treated wastewater for purification at remote sites

Future District Purification Plant - Source Water

Allocation Description		Effluent Flow (MGD)
Total Effluent from RWQCP*		18
City of Palo Alto	Non-Potable Reuse	-1
	Renzel Marsh (per NPDES)	-1
	Future Environmental Benefits	-2
	RWQCP Internal Process Water	-1
City of Mountain View Non-Potable Reuse		-4
Treated Effluent to the Regional Purification Plant**		9

*Based on average annual influent flow (Source: City of Palo Alto, February 2018)

**To be reviewed based on further analysis

Cost Models: Acquiring Treated Effluent

Model	Methodology
Avoided Cost of Treatment	Avoid UV Treatment
Proxy Price of New Water	[Capital + O&M Costs] – [Purified Water Cost]
Wastewater Examples	Other Wastewater Agencies

* Based on avoided cost for UV treatment of effluent, value to be determined.

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Next Steps

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Recap: Proposed Agreement Components

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