



MEMORANDUM

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DATE: July 27, 2023

RE: Preliminary Finance Plan for the Advanced Water Purification System Phase 1
Regional Water Quality Control Plant, City of Palo Alto

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1. INTRODUCTION

The City of Palo Alto owns and operates the Regional Water Quality Control Plant (RWQCP, Plant), which treats wastewater from six partner communities. The RWQCP produces a filtered and disinfected secondary effluent. The majority of the effluent is discharged to the San Francisco Bay and a portion of the effluent is further treated to produce disinfected tertiary recycled water (Title 22 unrestricted non-potable uses, "existing recycled water"). To improve the recycled water quality from the RWQCP, the City of Palo and the City of Mountain View, supported by the Santa Clara Valley Water District (Valley Water), are planning to construct a local salt removal facility, known as the Advanced Water Purification System (AWPS). The AWPS will improve the recycled water quality by reducing its average concentration of total dissolved solids (TDS) from 810 milligrams per liter (mg/L) to 450 ± 50 mg/L by blending of reverse osmosis permeate (ROP) with the existing recycled water to produce *enhanced recycled water* with a lower salt content. The City of Palo Alto has contracted with Black & Veatch to design a phased implementation of the AWPS. Phase 1 construction would create a 1.125 million gallons per day (MGD) capacity facility with equipment sized, spaced, and configured for a future capacity expansion, known as Phase 2. Phase 2 construction would add equipment to double the capacity (double the ROP output), for a total AWPS production of 2.25 MGD. The blending station that creates the enhanced recycled water was designed for a maximum flow of 2.55 MGD Phase 1 and 5.1 MGD Phase 2.

Woodard & Curran (W&C) was directed by the City of Palo Alto to develop a preliminary financing plan (PFP, task) for the AWPS, Phase 1 under the existing Program Management contract between the City of Palo Alto and W&C. W&C subcontracted with Bartle Wells Associates to contribute public finance expertise to the PFP. The development of the PFP included several workshop sessions with the City of Palo Alto, the City of Mountain View, and a combination of both Cities to present findings and receive input. This plan details the relevant components of the PFP for the Cities' review and comment.

The PFP is based upon the best available data and forecasts available. The AWPS assumptions regarding estimated construction costs, construction schedules, and facility operations are based on the AWPS consulting engineer's 90% design milestone deliverables. Future enhanced recycled water demand forecasts are based upon the individual forecasts provided by each City. The City of Mountain View has an existing demand for enhanced recycled water¹ and has estimated additional demand based upon assumed development. The City of Palo Alto has two potential sources of enhanced recycled water demand: the Phase 3 expansion of the Recycled Water System (an expansion to the Stanford Research Center) or a direct potable water reuse system. Palo Alto's existing recycled water demand is 0.4 MGD. A key basis of this PFP is Palo Alto's Phase 3 expansion, creating a total enhanced recycled water demand of 0.8 MGD (annual average) from 2031-2040 and 1.2 MGD from 2041 to 2052("Scenario A"). A second alternative

¹ There are existing entities in Mountain View that are exempt from using recycled water because of the current water quality and that would no longer be exempt if enhanced recycled water was available.



scenario ("Alternative Scenario A"), where Palo Alto's enhanced recycled water demand is level throughout the forecast at 0.4 MGD while Mountain View increases demand to their full 3 MGD contract amount, is provided in the Appendix 1, Tables PA-8, PA-9, and PA-10. An additional scenario ("Scenario B"), where enhanced recycled water demand is level at 0.4 MGD until the implementation of a direct potable reuse project in 2040¹, is provided in the Appendix 1, Tables 6B-11B. Both additional scenarios are discussed in Section 5 (Summary).

2. BACKGROUND

2.1 Capital Project Costs

The most recent estimated AWPS capital cost is \$56,302,667 (rounded to \$56M), which includes Phase 1 construction (including the odor control project), design, change order contingency, and program & construction management. Total project costs for Phase 1 assume a 1.125 MGD capacity with equipment sized, spaced, and configured for a potential Phase 2 expansion to 2.25 MGD. For the purposes of this plan, construction of Phase 2 expansion is not considered. The estimated cost assumes an approximately 18-month construction duration from June 2023 to January 2025, with an estimated 6 month start up period and project commissioning between January 2025 and June 2025. Costs and schedule are based upon the design deliverables provided by the consulting engineer, Black and Veatch. The cost detail is included in Appendix 1, Table 1, and a summary is provided in **Table 1**.

Table 1. Estimated Project Costs

Project Component	Amount (\$)
Construction (AWPS Phase 1)	42,997,303
Construction (Odor Control)	620,000
Design and Engineering Services	3,182,960
Change Order Contingency	4,299,730
Project Management	472,970
Construction Management	4,729,703
Total:	56,302,667

2.2 Operating and Maintenance Expenses

There will be new operating & maintenance (O&M) expenses following the AWPS construction completion. Black & Veatch prepared O&M cost estimates based on the projected operating expenses for four ROP production rates (Black and Veatch, AWPS OPEX 8-15-22, 2022). The production rates are based on the design configuration of the equipment. O&M costs will vary based upon the facility's actual production rate. Black & Veatch also confirmed with Plant staff that the AWPS could be taken offline for a prolonged period. The Plant staff is interested in taking the facility offline when recycled water demand is minimal for an extended period (i.e.,

¹ A direct potable reuse (DPR) project is currently being evaluated as part of Palo Alto's "One Water Plan," by Palo Alto's Utilities Department and Carollo Engineers, Inc.

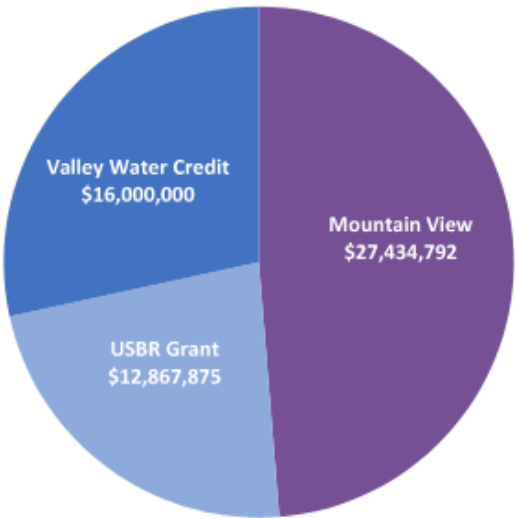
a portion of the wet season). Further discussion of ROP production and associated O&M expenses are presented later in this plan, and O&M assumptions and cost estimating details are provided in Appendix 2.

2.3 Sources of Funding

Funding for the AWPS is projected to come from several sources. Prior to allocation of the \$56M total project cost, external funding sources are used first to reduce the overall cost. External funding sources include a \$16M¹ credit per agreement with Valley Water and a \$12,867,875 USBR grant², leaving a remaining funding requirement of \$27,434,792.

Given the City of Mountain View’s significant need and anticipated demand for enhanced recycled water, Mountain View is considering the obligation of 100% of the remaining capital balance. Appendix 1, Table 2 provides a complete breakdown of the potential funding sources described in this section. If the AWPS is to be constructed, a new agreement (with terms currently unknown) between Palo Alto and Mountain View would be needed to approve the AWPS funding and construction. **Figure 1** shows the assumed sources of funding.

Figure 1. Sources of AWPS (Phase 1) Funding



2.4 Projected Water Supply

The design capacity of the AWPS Phase 1 totals 1.125 MGD (ROP), prior to any blending with the existing recycled water production. Ultimately, ROP would be blended with the existing recycled water to create enhanced recycled water. Assuming the allocation of capacity before

¹ The Valley Water credit accumulates interest, which was assumed to be marginal and not considered in the PFP.

² To be eligible for USBR grand funds, NEPA/CEQA+ requirements need to be met. The Plant is actively coordinating with USBR to meet the minimum requirements of a future grant funding agreement. The grant amount shown does not account for potential USBR administrative fees.



blending is split 25% / 75%, Palo Alto's AWPS allocation is 0.281 MGD ROP and Mountain View's AWPS allocation is 0.844 MGD ROP.

The total production of enhanced recycled water varies based upon the blending ratio of existing recycled water production to AWPS ROP. Black & Veatch estimated the enhanced recycled water production in the AWPS Basis of Design Report (2021, Table 4-5) while achieving the design criteria (TDS +/- 450 mg/L). A summary table of their blending ratios is shown in **Table 2**.

Table 2. Projected Blending Ratio Ranges to Reach Variable Enhanced Recycled Water TDS (Table 4-5, Black and Veatch 2021)

Blending Ratio (RW:ROP)	400 mg/L	450 mg/L	500 mg/L
5 th Percentile Blending Ratio	1 : 0.93	1 : 0.71	1 : 0.52
Average Blending Ratio	1 : 1.2	1 : 0.95	1 : 0.74
95 th Percentile Blending Ratio	1 : 1.7	1 : 1.3	1 : 1.1

It is estimated that annual enhanced recycled water use in 2026 (first full year of production) will total 1.27 MGD. At this time, Palo Alto is estimated to use 0.40 MGD of enhanced recycled water, representing approximately 31.5% of the total enhanced recycled water production. Mountain View is estimated to use 0.87 MGD of enhanced recycled water, representing approximately 68.5% of the total enhanced recycled water production. Full details of this breakdown are provided in Appendix 1, Tables 6-9.

3. CAPITAL COST ALLOCATION

3.1 Capital Cost Allocation to Palo Alto

As previously discussed in Section 2.3, Palo Alto's share of remaining capital costs for the AWPS is 0% of the approximate \$56M total project cost, as Mountain View will be responsible for all debt service expenses.

3.2 Capital Cost Allocation to Mountain View

As previously mentioned, Mountain View's share of remaining capital costs for the AWPS is 100%, or \$27,434,792 of the \$56M total project cost. Considering external funding sources, Mountain View's allocation reflects approximately 48.7% of total project costs.

3.2.1 Anticipated Funding Contributions

Mentioned in Section 2.3, several funding contributions are anticipated for the AWPS. External funding sources include the \$16M credit with Valley Water and the \$12.8M USBR grant, leaving a remaining funding requirement of \$27,434,792 to be allocated to Mountain View.

3.2.2 Estimated Debt Service Costs

The costs allocated to Mountain View are assumed to be debt financed through the Clean Water State Revolving Fund (CWSRF) program. The loan amount includes the project cost



referenced in previous sections in addition to estimated capitalized interest during construction of \$617,000 and estimated other costs or contingency of \$100,000. Including the estimates for capitalized interest and contingency, the total loan amount is \$28,151,792. Financing terms for this loan assume a 30-year repayment term at an estimated interest rate of 3.00%¹. Under these terms, the annual debt service repayment totals \$1,436,000. This annual debt service is then allocated 100% to Mountain View, corresponding to an annual debt service allocation of \$1,436,000. It is also worth noting that the SRF program has a debt service reserve requirement; if Palo Alto is the loan guarantor it must set aside 1 year of debt service at least 90 days prior to project completion. A breakdown of the SRF loan and debt service estimates are presented in Appendix 1, Tables 3 and 4.

4. OPERATING & MAINTENANCE COST ALLOCATION

4.1 Operating & Maintenance Charge or Fee Schedule

Utilizing the blending ratio ranges in the Black & Veatch's report (**Table 2**) and incorporating the Plant's preference to minimize AWPS operations during low demand months, AWPS production levels were calculated to meet forecasted enhanced recycled water demand, as best possible. The AWPS will run for the shortest periods of time possible during low demand periods to maintain system performance while minimizing operational expenses and to avoid the complexities associated with taking the system offline. The PFP does not assume any new labor expenses throughout the year and other operational costs will be minimal because of reduced operations in low demand months. Linear extrapolation from historical monthly recycled water production was used to forecast the monthly enhanced recycled water demand. Enhanced recycled water demand is projected to stabilize in the 2030's, where forecasted annual average demand is 2.06 MGD (752 million gallons (MG) per year). A theoretical summary of AWPS operations (production and blending scenarios) is presented below to meet the 2.06 MGD annual average demand (up to 774 MG). However, even at the lowest blending ratio, there are several months where there is not enough AWPS capacity to meet the enhanced recycled water demand (May, June, July, and August based on historical data) and more production than demand is needed during other months to meet the average annual amount. Additional detail of the operations and maintenance assumptions is provided in Appendix 2. **Table 3** shows the operational scenario that was used to generate O&M costs.

¹ CWSRF loan interest rate is at 2.60% as of 11/14/2022 and is subject to change.

Table 3. AWPS Operational Scenario to Approximately Meet Enhanced Recycled Water Demand

Month	Days	Blend Scenario		AWPS Production Rate (as % of Capacity)
	(per month)	Target TDS (mg/L)	Ratio (existing RW : ROP)	(Assumed Production as % of Capacity)
January	31	n/a	n/a	0%
February	28	450	1.0 : 0.95	50%
March	31	500	1.0 : 0.52	80%
April	30	500	1.0 : 0.52	100%
May	31	500	1.0 : 0.52	100%
June	30	500	1.0 : 0.52	100%
July	31	500	1.0 : 0.52	100%
August	31	500	1.0 : 0.52	100%
September	30	500	1.0 : 0.52	100%
October	31	450	1.0 : 0.95	80%
November	30	n/a	n/a	0%
December	31	n/a	n/a	0%

The allocation of O&M expenses is based on the estimated percentage of total enhanced recycled water use by Palo Alto and Mountain View. While enhanced recycled water flow is a function of both the AWPS and the existing recycled water facility, O&M costs presented in this report only consider expenses for the AWPS¹. The estimated percentage of total enhanced recycled water production for 2026-2035 are shown in **Table 4**, the full table is located in Appendix 1, Table 6.

The O&M expenses were modified from the design consultant's estimates to account for seasonal production variations. Appendix 1, Table 5, shows the O&M expenses, Appendix 1, Table 10 shows the operating costs for the first twenty years of operations, and Appendix 2 details the O&M assumptions.

¹ O&M expenses for the existing recycled water facilities are part of the overall Plant operations and are excluded from this analysis.

Table 4. Estimated Enhanced Recycled Water Use¹

Year	Estimated Recycled Water Use (MGD)			% of Total	
	Palo Alto	Mountain View	Total	Palo Alto	Mountain View
2026	0.40	0.87	1.27	31.5%	68.5%
2027	0.40	0.87	1.27	31.5%	68.5%
2028	0.40	0.96	1.36	29.4%	70.6%
2029	0.40	1.04	1.44	27.8%	72.2%
2030	0.60	1.15	1.75	34.3%	65.7%
2031	0.80	1.26	2.06	38.8%	61.2%
2032	0.80	1.26	2.06	38.8%	61.2%
2033	0.80	1.26	2.06	38.8%	61.2%
2034	0.80	1.26	2.06	38.8%	61.2%
2035	0.80	1.26	2.06	38.8%	61.2%

4.2 Palo Alto Projected Use & AWPS Operating Expenses

Palo Alto's projected demand for enhanced recycled water production can be seen in Appendix 1, Tables 6-8. Palo Alto is estimated to use approximately 0.4 MGD of enhanced recycled water in 2026. Under the lowest cost O&M estimate (seasonal operations), Palo Alto would be responsible for \$188,000, representing 31.5% of the operational costs in 2026. In 2031, Palo Alto is assumed to increase their enhanced recycled water use to 0.80 MGD (which is also the median value between no Phase III recycled water expansion (0.40 MGD) and the full Phase III recycled water expansion (1.20 MGD)). The future expansion of recycled water use in Palo Alto -- either Phase III recycled water expansion or DPR -- will depend on the recommendations and implementation of the City's One Water Plan. Under this level of use, Palo Alto's operating cost allocation would increase to \$379,900 for 2031, as their share of total use increases. Appendix 1, Table 10 summarizes the operating costs for Palo Alto by year for the first twenty years of operations.

4.3 Mountain View Projected Use & AWPS Operating Expenses

Mountain View's projected demand for enhanced recycled water production can be seen in Appendix 1, Tables 6-8. Mountain View is estimated to use approximately 0.87 MGD of enhanced recycled water in 2026. Under the lowest cost O&M estimate (seasonal operations), Mountain View would be responsible for \$408,900 representing 68.5% of the operational costs in 2026. In 2031, Mountain View is assumed to increase their enhanced recycled water use to

¹ The basis for estimated enhanced recycled water use is from a 2017 Feasibility Study prepared by MNS Engineers, Inc., which was developed in collaboration with representatives from both Cities' Staff.



1.26 MGD, as they already have recycled water demand from customers ready to connect once the recycled water quality improves. Under this level of use, Mountain View's operating cost allocation would be 61.2%, or \$598,400 for 2031. Appendix 1, Table 10 summarizes the operating costs for Mountain View by year for the first twenty years of operations.

5. SUMMARY

5.1 Total Costs (Scenario A)

Appendix 1, Table 11 summarizes the estimated recycled water use and all the considered costs in the PFP, including the debt service allocation, the operating cost allocation, and the total costs, from Year 1 (CY2025/2026, FY 2026) to Year 20 (CY 2044/2045). Appendix 1, Table 11 is included within this plan as **Table 5**.

Table 5. AWPS Phase 1 Total Cost Allocations by Year (Scenario A)

	1	2	3	4	5	6	7	8	9	10
	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35
Enhanced Recycled Water Use (ccf)										
Palo Alto	Jan-June Only 97,587	195,174	195,174	195,174	195,174	292,761	390,348	390,348	390,348	390,348
Mountain View	212,252	424,504	424,504	468,418	507,453	561,126	614,798	614,798	614,798	614,798
Total	309,839	619,678	619,678	663,592	702,627	853,887	1,005,147	1,005,147	1,005,147	1,005,147
Cumulative Change in Use %	-	-	0.0%	7.1%	13.4%	37.8%	62.2%	62.2%	62.2%	62.2%
Share of Annual Enhanced Recycled Water Use										
Palo Alto	31.5%	31.5%	31.5%	29.4%	27.8%	34.3%	38.8%	38.8%	38.8%	38.8%
Mountain View	68.5%	68.5%	68.5%	70.6%	72.2%	65.7%	61.2%	61.2%	61.2%	61.2%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Debt Service Allocation										
Palo Alto	0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Mountain View	100%	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000
Total		1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000
Operating Cost Allocation										
<i>Based on each agency's % share of total annual enhanced recycled water use.</i>										
Palo Alto	\$94,000	\$188,000	\$195,600	\$197,400	\$200,400	\$290,000	\$379,900	\$395,100	\$411,000	\$427,300
Mountain View	204,600	408,900	425,300	473,800	521,200	555,700	598,400	622,200	647,200	673,100
Total	298,600	596,900	620,900	671,200	721,600	845,700	978,300	1,017,300	1,058,200	1,100,400
Total Cost Allocation										
Palo Alto	\$94,000	\$188,000	\$195,600	\$197,400	\$200,400	\$290,000	\$379,900	\$395,100	\$411,000	\$427,300
Mountain View	1,640,600	1,844,900	1,861,300	1,909,800	1,957,200	1,991,700	2,034,400	2,058,200	2,083,200	2,109,100
Total	1,734,600	2,032,900	2,056,900	2,107,200	2,157,600	2,281,700	2,414,300	2,453,300	2,494,200	2,536,400

	11	12	13	14	15	16	17	18	19	20
	2035/36	2036/37	2037/38	2038/39	2039/40	2040/41	2041/42	2042/43	2043/44	2044/45
Enhanced Recycled Water Use (ccf)										
Palo Alto	390,348	390,348	390,348	390,348	390,348	390,348	585,522	585,522	585,522	585,522
Mountain View	614,798	614,798	614,798	614,798	614,798	614,798	853,887	1,097,854	1,341,822	1,463,806
Total	1,005,147	1,005,147	1,005,147	1,005,147	1,005,147	1,005,147	1,439,409	1,683,377	1,927,344	2,049,328
Cumulative Change in Use %	62.2%	62.2%	62.2%	62.2%	62.2%	62.2%	132.3%	171.7%	211.0%	230.7%
Share of Annual Enhanced Recycled Water Use										
Palo Alto	38.8%	38.8%	38.8%	38.8%	38.8%	38.8%	40.7%	34.8%	30.4%	28.6%
Mountain View	61.2%	61.2%	61.2%	61.2%	61.2%	61.2%	59.3%	65.2%	69.6%	71.4%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Debt Service Allocation										
Palo Alto	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Mountain View	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000
Total	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000
Operating Cost Allocation										
<i>Based on each agency's % share of total annual enhanced recycled water use.</i>										
Palo Alto	\$444,400	\$462,200	\$480,700	\$499,900	\$519,900	\$540,700	\$843,500	\$877,300	\$912,400	\$948,800
Mountain View	700,000	727,900	757,200	787,400	818,900	851,700	1,230,100	1,644,900	2,090,800	2,372,100
Total	1,144,400	1,190,100	1,237,900	1,287,300	1,338,800	1,392,400	2,073,600	2,522,200	3,003,200	3,320,900
Total Cost Allocation										
Palo Alto	\$444,400	\$462,200	\$480,700	\$499,900	\$519,900	\$540,700	\$843,500	\$877,300	\$912,400	\$948,800
Mountain View	2,136,000	2,163,900	2,193,200	2,223,400	2,254,900	2,287,700	2,666,100	3,080,900	3,526,800	3,808,100
Total	2,580,400	2,626,100	2,673,900	2,723,300	2,774,800	2,828,400	3,509,600	3,958,200	4,439,200	4,756,900



5.2 Total Costs (Alternative Scenario A)

The recycled water demand for Alternative Scenario A considers that Palo Alto does not move forward with Phase III recycled water expansion and has no change in recycled water demand from the current 0.40 MGD (Appendix 1, Table PA-10). Additionally, Alternative Scenario A assumes Mountain View increases recycled water use to their full 3 MGD amount. Total operating and maintenance expenses remain the same as the original scenario in 2026 but decrease to \$204,800 in 2031, as seen in Appendix 1, Table PA-10. Similarly, full costs remain the same as the original scenario in 2026 but decrease to \$204,800 in 2031, lower than the original scenario. A full breakdown of projected use and total costs allocated to each City is presented in Appendix 1, Table PA-10. Appendix 1, Table PA-10 is included in this Plan as **Table 6**.



Table 6. AWPS Phase 1 Total Cost Allocations by Year (Alternative Scenario A)

	1	2	3	4	5	6	7	8	9	10
	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35
Enhanced Recycled Water Use (ccf)										
Palo Alto	97,587	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174
Mountain View	212,252	424,504	424,504	468,418	507,453	561,126	614,798	614,798	614,798	614,798
Total	309,839	619,678	619,678	663,592	702,627	756,300	809,973	809,973	809,973	809,973
Cumulative Change in Use %	-	-	0.0%	7.1%	13.4%	22.0%	30.7%	30.7%	30.7%	30.7%
Share of Annual Enhanced Recycled Water Use										
Palo Alto	31.5%	31.5%	31.5%	29.4%	27.8%	25.8%	24.1%	24.1%	24.1%	24.1%
Mountain View	68.5%	68.5%	68.5%	70.6%	72.2%	74.2%	75.9%	75.9%	75.9%	75.9%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Debt Service Allocation										
Palo Alto	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Mountain View	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000
Total	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000
Operating Cost Allocation										
<i>Based on each agency's % share of total annual enhanced recycled water use.</i>										
Palo Alto	\$94,000	\$188,000	\$195,600	\$197,400	\$200,400	\$202,800	\$204,800	\$213,000	\$221,500	\$230,400
Mountain View	204,600	\$408,900	\$425,300	\$473,800	\$521,200	583,000	645,200	671,000	697,800	725,700
Total	298,600	596,900	620,900	671,200	721,600	785,800	850,000	884,000	919,360	956,134
Total Cost Allocation										
Palo Alto	\$94,000	\$188,000	\$195,600	\$197,400	\$200,400	\$202,800	\$204,800	\$213,000	\$221,500	\$230,400
Mountain View	1,640,600	1,844,900	1,861,300	1,909,800	1,957,200	2,019,000	2,081,200	2,107,000	2,133,800	2,161,700
Total	1,734,600	2,032,900	2,056,900	2,107,200	2,157,600	2,221,800	2,286,000	2,320,000	2,355,300	2,392,100
All-In Cost per Unit (\$/ccf)										
Palo Alto	\$0.96	\$0.96	\$1.00	\$1.01	\$1.03	\$1.04	\$1.05	\$1.09	\$1.13	\$1.18
Mountain View	7.73	4.35	4.38	4.08	3.86	3.60	3.39	3.43	3.47	3.52
Total	5.60	3.28	3.32	3.18	3.07	2.94	2.82	2.86	2.91	2.95



		11	12	13	14	15	16	17	18	19	20
		2035/36	2036/37	2037/38	2038/39	2039/40	2040/41	2041/42	2042/43	2043/44	2044/45
Enhanced Recycled Water Use (ccf)											
Palo Alto		195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174
Mountain View		614,798	614,798	614,798	614,798	614,798	614,798	853,887	1,097,854	1,341,822	1,463,806
Total		809,973	809,973	809,973	809,973	809,973	809,973	1,049,061	1,293,029	1,536,996	1,658,980
Cumulative Change in Use %		30.7%	30.7%	30.7%	30.7%	30.7%	30.7%	69.3%	108.7%	148.0%	167.7%
Share of Annual Enhanced Recycled Water Use											
Palo Alto		24.1%	24.1%	24.1%	24.1%	24.1%	24.1%	18.6%	15.1%	12.7%	11.8%
Mountain View		75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	81.4%	84.9%	87.3%	88.2%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Debt Service Allocation											
Palo Alto	0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Mountain View	100%	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000
Total		1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000
Operating Cost Allocation											
<i>Based on each agency's % share of total annual enhanced recycled water use.</i>											
Palo Alto		\$239,600	\$249,200	\$259,200	\$269,500	\$280,300	\$291,500	\$300,700	\$309,100	\$317,400	\$321,900
Mountain View		754,800	785,000	816,400	849,000	883,000	918,300	1,315,600	1,738,900	2,182,000	2,414,200
Total		994,379	1,034,154	1,075,520	1,118,541	1,163,283	1,209,814	1,616,264	2,048,087	2,499,427	2,736,076
Total Cost Allocation											
Palo Alto		\$239,600	\$249,200	\$259,200	\$269,500	\$280,300	\$291,500	\$300,700	\$309,100	\$317,400	\$321,900
Mountain View		2,190,800	2,221,000	2,252,400	2,285,000	2,319,000	2,354,300	2,751,600	3,174,900	3,618,000	3,850,200
Total		2,430,400	2,470,200	2,511,600	2,554,500	2,599,300	2,645,800	3,052,300	3,484,000	3,935,400	4,172,100
All-In Cost per Unit (\$/ccf)											
Palo Alto		\$1.23	\$1.28	\$1.33	\$1.38	\$1.44	\$1.49	\$1.54	\$1.58	\$1.63	\$1.65
Mountain View		3.56	3.61	3.66	3.72	3.77	3.83	3.22	2.89	2.70	2.63
Total		3.00	3.05	3.10	3.15	3.21	3.27	2.91	2.69	2.56	2.51



5.3 Total Costs (Scenario B)

The recycled water demand for Scenario B considers that Palo Alto does not move forward with Phase III recycled water expansion, but does have an increase in recycled water demand for a direct potable reuse (DPR) project starting in 2041 (Appendix 1, Table 6B). The alternative recycled water demand is shown in **Table 7**. Total operating and maintenance expenses remain the same as the original scenario in 2026 but decrease to \$175,000 in 2031, as seen in Appendix 1, Table 10B. Similarly, full costs remain the same as the original scenario in 2026 but decrease to \$175,000 in 2031, lower than the original scenario (Scenario A). Annual O&M expenses are a function of actual use and therefore Palo Alto's demand Scenario B impacts Mountain View's forecasted O&M expenses. Palo Alto's total cost allocation in 2031 is \$175,000 and Mountain View's is \$1,987,300. A full breakdown of projected use and total costs allocated to each City is presented in Appendix 1, Table 11B. Appendix 1, Table 11B is included within this plan as **Table**

Table 7. Estimated Enhanced Recycled Water Use (Scenario B)

Year	Estimated Recycled Water Use (MGD)			% of Total	
	Palo Alto	Mountain View	Total	Palo Alto	Mountain View
2026	0.40	0.87	1.27	31.5%	68.5%
2027	0.40	0.87	1.27	31.5%	68.5%
2028	0.40	0.96	1.36	29.4%	70.6%
2029	0.40	1.04	1.44	27.8%	72.2%
2030	0.40	1.15	1.55	25.8%	74.2%
2031	0.40	1.26	1.66	24.1%	75.9%
2032	0.40	1.26	1.66	24.1%	75.9%
2033	0.40	1.26	1.66	24.1%	75.9%
2034	0.40	1.26	1.66	24.1%	75.9%
2035	0.40	1.26	1.66	24.1%	75.9%

Table 8. AWPS Phase 1 Total Cost Allocations by Year (Scenario B)

	1	2	3	4	5	6	7	8	9	10
	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35
Enhanced Recycled Water Use (ccf)										
Palo Alto	Jan-June Only 97,587	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174
Mountain View	212,252	424,504	424,504	468,418	507,453	561,126	614,798	614,798	614,798	614,798
Total	309,839	619,678	619,678	663,592	702,627	756,300	809,973	809,973	809,973	809,973
Cumulative Change in Use %	-	-	0.0%	7.1%	13.4%	22.0%	30.7%	30.7%	30.7%	30.7%
Share of Annual Enhanced Recycled Water Use										
Palo Alto	31.5%	31.5%	31.5%	29.4%	27.8%	25.8%	24.1%	24.1%	24.1%	24.1%
Mountain View	68.5%	68.5%	68.5%	70.6%	72.2%	74.2%	75.9%	75.9%	75.9%	75.9%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Debt Service Allocation										
Palo Alto	0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Mountain View	100%	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000
Total		1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000
Operating Cost Allocation										
<i>Based on each agency's % share of total annual enhanced recycled water use.</i>										
Palo Alto	\$94,000	\$188,000	\$195,600	\$189,900	\$186,500	\$180,200	\$175,000	\$182,000	\$189,300	\$196,800
Mountain View	204,600	408,900	425,300	455,700	485,000	518,100	551,300	573,300	596,400	620,100
Total	298,600	596,900	620,900	645,600	671,500	698,300	726,300	755,300	785,700	816,900
Total Cost Allocation										
Palo Alto	\$94,000	\$188,000	\$195,600	\$189,900	\$186,500	\$180,200	\$175,000	\$182,000	\$189,300	\$196,800
Mountain View	1,640,600	1,844,900	1,861,300	1,891,700	1,921,000	1,954,100	1,987,300	2,009,300	2,032,400	2,056,100
Total	1,734,600	2,032,900	2,056,900	2,081,600	2,107,500	2,134,300	2,162,300	2,191,300	2,221,700	2,252,900
All-In Cost per Unit (\$/ccf)										
Palo Alto	\$0.96	\$0.96	\$1.00	\$0.97	\$0.96	\$0.92	\$0.90	\$0.93	\$0.97	\$1.01
Mountain View	7.73	4.35	4.38	4.04	3.79	3.48	3.23	3.27	3.31	3.34
Total	5.60	3.28	3.32	3.14	3.00	2.82	2.67	2.71	2.74	2.78



	11	12	13	14	15	16	17	18	19	20
	2035/36	2036/37	2037/38	2038/39	2039/40	2040/41	2041/42	2042/43	2043/44	2044/45
Enhanced Recycled Water Use (ccf)										
Palo Alto	195,174	195,174	195,174	195,174	195,174	195,174	Start DPR 585,522	585,522	585,522	585,522
Mountain View	614,798	614,798	614,798	614,798	614,798	614,798	853,887	1,097,854	1,341,822	1,463,806
Total	809,973	809,973	809,973	809,973	809,973	809,973	1,439,409	1,683,377	1,927,344	2,049,328
Cumulative Change in Use %										
Share of Annual Enhanced Recycled Water Use										
Palo Alto	24.1%	24.1%	24.1%	24.1%	24.1%	24.1%	40.7%	34.8%	30.4%	28.6%
Mountain View	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	59.3%	65.2%	69.6%	71.4%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Debt Service Allocation										
Palo Alto	0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Mountain View	100%	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000
Total		1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000
Operating Cost Allocation										
<i>Based on each agency's % share of total annual enhanced recycled water use.</i>										
Palo Alto	\$204,700	\$212,900	\$221,400	\$230,300	\$239,500	\$249,100	\$777,200	\$808,300	\$840,600	\$874,200
Mountain View	645,000	670,800	697,600	725,500	754,500	784,600	1,133,400	1,515,500	1,926,300	2,185,600
Total	849,700	883,700	919,000	955,800	994,000	1,033,700	1,910,600	2,323,800	2,766,900	3,059,800
Total Cost Allocation										
Palo Alto	\$204,700	\$212,900	\$221,400	\$230,300	\$239,500	\$249,100	\$777,200	\$808,300	\$840,600	\$874,200
Mountain View	2,081,000	2,106,800	2,133,600	2,161,500	2,190,500	2,220,600	2,569,400	2,951,500	3,362,300	3,621,600
Total	2,285,700	2,319,700	2,355,000	2,391,800	2,430,000	2,469,700	3,346,600	3,759,800	4,202,900	4,495,800
All-in Cost per Unit (\$/ccf)										
Palo Alto	\$1.05	\$1.09	\$1.13	\$1.18	\$1.23	\$1.28	\$1.33	\$1.38	\$1.44	\$1.49
Mountain View	3.38	3.43	3.47	3.52	3.56	3.61	3.01	2.69	2.51	2.47
Total	2.82	2.86	2.91	2.95	3.00	3.05	2.32	2.23	2.18	2.19



5.4 Other Considerations

The primary focus of this Preliminary Finance Plan is to quantify the added cost of the AWPS/ROP to existing expenses based on forecasted conditions. The total costs discussed in this **Section 5** do not include the costs associated with the existing tertiary recycled water facility¹. An analysis of the *total cost of future recycled water* should also incorporate the existing tertiary recycled water expense. The enhanced recycled water costs do not account for recycled water distribution costs (e.g., the capital and O&M of the recycled water pumps and pipelines). Additionally, the option to pursue Direct Potable Reuse (DPR) is currently being evaluated under the City of Palo Alto's One Water Plan. The AWPS could be used as part of the treatment to supply enhanced recycled water, however the current PFP quantifies costs related to non-potable recycled water use.²

¹ The O&M costs for the existing recycled water was estimated by Plant staff. This estimate assumes 0.75 MGD production level and 2022 costs escalated forward 3% annually. The per unit cost in 2023 is estimated to be approximately \$3.31/ccf (hundred cubic feet). The per unit cost estimate is slightly higher in 2026 at \$3.58/ccf. Additionally, there are likely future capital/debt expenses associated with the existing recycled water facility; the infrastructure of the existing facility is reaching the end of its useful life. Future capital/debt costs associated with its replacement or rehabilitation are not known.

² Note that the siting capacity of a DPR process, utilizing the AWPS facility, has not yet been conceptually developed.



6. ATTACHMENTS

Appendix 1 – Advanced Water Purification System Preliminary Financing Plan Tables

Appendix 2 – Assumed Operations and Maintenance and Related Expense Estimates



7. REFERENCES

Black & Veatch, City of Palo Alto Advanced Water Purification System (AWPS), Basis of Design Report, Project 408520. November 8, 2021

Black & Veatch, City of Palo Alto AWPS Cost Estimate, The Opinion of Probable Construction Cost (OPCC), Project 408520. October 5, 2022.

Black & Veatch, City of Palo Alto AWPS, Operations & Maintenance Cost Estimate ("AWPS OPEX 8-15-22")– All Alternatives, Project 408520. August 15, 2022

City of Palo Alto, et al., Amendment No. 1 To the First Amended and Restated Contract NO. C059999 Between the City of Palo Alto and the City of Mountain View, August 28, 2017

City of Palo Alto, et al., Partnership Agreement Between the Santa Clara Valley Water District, the City of Palo Alto and the City of Mountain View to Advance Resilient Water Reuse Programs in Santa Clara County, Agreement A4308X, Approved December 10, 2019

Appendix 1



Advanced Water Purification System

Preliminary Financing Plan



Revised 7/26/23

With Mountain View Funding 100% of AWPS Debt Service
Assumes No New Labor O&M Expenses



BARTLE WELLS ASSOCIATES
INDEPENDENT PUBLIC FINANCE ADVISORS

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With No Changes in PA & MV Future Recycled Water Use

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With No Changes in PA Recycled Water Use but

Table PA-8	Projection of Recycled Water Impacts to Palo Alto General Fund
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Scenario B: No Phase III with DPR Starting 2041

Table 6B	Estimated Enhanced (Blended AWPS) Recycled Water Use (MGD)
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Table 10B	AWPS Phase 1 Operating Costs & Allocations by Year
Table 11B	AWPS Phase 1 Total Cost Allocations by Year

Scenario B: Palo Alto Recycled Water Use & Costs

Table PA-4B	Projection of Recycled Water Impacts to Palo Alto General Fund
Table PA-5B	Net Annual Impacts to City of Palo Alto

AWPS Phase 1 Capital & Operating Costs & Allocations



Table 1
AWPS Preliminary Financial Plan
Project Cost Estimates

Project Component	Cost	% of Ttl	Cost Basis
AWPS Project Costs			
Construction, Phase I: 90% Estimate	\$42,997,303	76.4%	90% OPCC Est. by Black & Veatch dated 10/05/22
Design	3,182,960	5.7%	Black & Veatch Contract
Owner Controlled Change Order Contingency	4,299,730	7.6%	10% of Construction
Program Management	472,970	0.8%	1% of Construction + CO Contingency
Construction Management	4,729,704	8.4%	10% of Construction + CO Contingency
Odor Control Construction	<u>620,000</u>	<u>1.1%</u>	Class 2 Estimate by Black & Veatch dated 11/6/21
Total Project Costs	56,302,667	100.0%	

Phase 1 assumes 1.125 mgd capacity with facilities sized, spaced, and configured for Phase 2 build-out.

Roughly 18 month construction schedule from June 2023 - January 2025 with roughly 6 month start up and commissioning between January 2025 - June 2025.

Table 2
AWPS Preliminary Financial Plan
Projected Funding Sources

	Amount	% of Total
Projected Funding Sources		
Total AWPS Project Cost	\$56,302,667	
<u>External Funding Sources</u>		
Valley Water Contribution [1]	16,000,000	28.4%
USBR Grant [2] [3]	12,867,875	22.9%
Subtotal	28,867,875	51.3%
Remaining Funding Requirement	27,434,792	
<u>Cost Allocation of Remaining Funding Requirement [4]</u>		
Palo Alto Cost Allocation 0%	0	0.0%
Mountain View Cost Allocation 100%	27,434,792	48.7%
Subtotal	27,434,792	48.7%
Total Sources of Funding	56,302,667	100.0%

1 Source: 2019 Partnership Agreement, Section 5; Valley Water Contribution will be escalated annually based on Valley Water's Yield-to-Maturity Rate as published in Valley Water's Quarterly Performance Reports to the Board for the fourth quarter of each fiscal year.

2 Agreement needed to finalize (NEPA / CEQA+).

3 Does not account for potential USBR administrative fee.

4 Assumes Mountain View funds 100% of remaining AWPS capital costs.

Assumes GP5 Funds are not used to help fund AWPS Project.

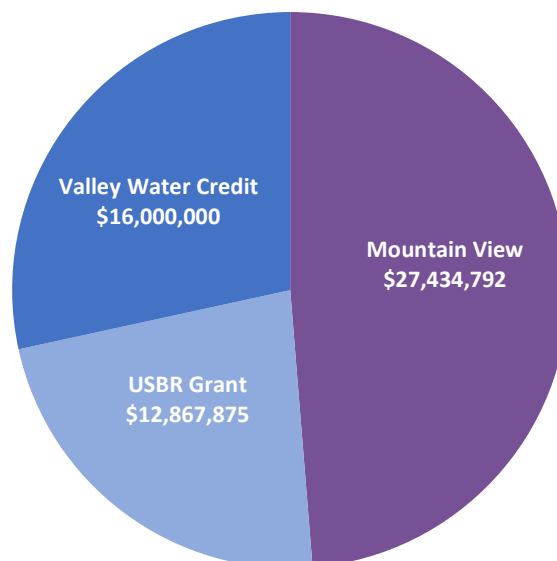


Table 3
AWPS Preliminary Financial Plan
SRF Loan Debt Service Estimates

		SRF Loan Estimates	
<u>Loan Amount</u>			
Palo Alto Project Cost Allocation		\$0	0.0%
Mountain View Project Cost Allocation		27,434,792	100.0%
Capitalized Interest	estimated	617,000	
Other Costs/Contingency	estimated	100,000	
Total		28,151,792	
<u>Financing Terms</u>			
Repayment Term (Years)		30	
Interest Rate	estimated	3.00%	
Annual Debt Service		\$1,436,000	
Annual Debt Allocation			
Palo Alto Share		\$0	0.0%
Mountain View Share		1,436,000	100.0%
Total		1,436,000	

SRF Reserve Requirement: Must set aside 1 year of debt service at least 90 days prior to project completion date.

CWSRF Interest Rate is currently 2.90% as of 4/6/23, but is subject to change.

Table 4

AWPS Preliminary Financial Plan
SRF Debt Service Allocation

Annual Debt Service
\$1,436,000

Fiscal Year Ending 6/30	Palo Alto 0%	Mountain View 100%	Total Debt Service
2026	\$0	\$1,436,000	\$1,436,000
2027	0	1,436,000	1,436,000
2028	0	1,436,000	1,436,000
2029	0	1,436,000	1,436,000
2030	0	1,436,000	1,436,000
2031	0	1,436,000	1,436,000
2032	0	1,436,000	1,436,000
2033	0	1,436,000	1,436,000
2034	0	1,436,000	1,436,000
2035	0	1,436,000	1,436,000
2036	0	1,436,000	1,436,000
2037	0	1,436,000	1,436,000
2038	0	1,436,000	1,436,000
2039	0	1,436,000	1,436,000
2040	0	1,436,000	1,436,000
2041	0	1,436,000	1,436,000
2042	0	1,436,000	1,436,000
2043	0	1,436,000	1,436,000
2044	0	1,436,000	1,436,000
2045	0	1,436,000	1,436,000
2046	0	1,436,000	1,436,000
2047	0	1,436,000	1,436,000
2048	0	1,436,000	1,436,000
2049	0	1,436,000	1,436,000
2050	0	1,436,000	1,436,000
2051	0	1,436,000	1,436,000
2052	0	1,436,000	1,436,000
2053	0	1,436,000	1,436,000
2054	0	1,436,000	1,436,000
2055	0	1,436,000	1,436,000
Total	0	43,080,000	43,080,000

Table 5
AWPS Preliminary Financial Plan
Operating & Maintenance Expenses

	Estimated Annual O&M Expenses Assumes Seasonal Operations with no New Labor	
	2026	2031
Annual AWPS O&M Expenses (2023 \$)	<u>Costs in 2023 \$</u>	<u>Costs in 2023 \$</u>
O&M Labor	\$0	\$0
Maintenance & Repairs	260,400	351,600
Energy	142,800	186,500
Chemicals	101,100	136,400
Membrane Consumables	26,400	40,300
Total	530,700	714,800
Annual O&M With Cost Escalation to Startup	<u>Cost Escalation to 2026 \$</u>	<u>Cost Escalation to 2031 \$</u>
Cost Escalation at 4% per Year	12.5%	36.9%
O&M Labor <i>(Assumes No New Labor)</i>	\$0	\$0
Maintenance & Repairs	292,900	481,200
Energy	160,600	255,200
Chemicals	113,700	186,700
Membrane Consumables	29,700	55,200
Total First Year Operations (FY2026)	596,900	978,300

Notes:

O&M cost estimates developed by Woodard & Curran based on Black & Veatch AWPS OPEX 8-15-22 adjusted to account for seasonal variation in operations; costs assume no new labor expenses.

Woodard & Curran operating cost estimates are based on historical demand and planned operation and assume seasonal variation of the AWPS operations as follows:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0%	50%	80%	100%	100%	100%	100%	100%	100%	80%	0%	0%

Black & Veatch AWPS OPEX 8-15-22 operating cost estimates assumed 2.5 new FTEs for annual operations including 1 FTE Operator II, 1 FTE Maintenance/Electrician, and 1/2 FTE Lab Tech WQC.

Costs shown are for AWPS Phase 1 recycled water production and exclude:

a) Capital and operating expenses for Title 22 recycled water production at the RWQCP. The Title 22 recycled water facilities are a legacy system that have been maintained as part of the Plant's NPDES permit compliance and therefore paid for by all Partners. The Plant will continue to produce Title 22 effluent, irrespective of the AWPS project implementation.

b) Costs for operation of and administration of each agency's recycled water distribution system.

Table 6
 AWPS Preliminary Financial Plan
 Estimated Enhanced (Blended AWPS) Recycled Water Use (MGD)

Year	Estimated Recycled Water Use (MGD)			% of Total	
	Palo Alto	Mt View [1]	Total	Palo Alto	Mountain View
2020	0.33	0.33	0.66	50.0%	50.0%
2021	0.25	0.37	0.62	40.3%	59.7%
2022	0.40	0.40	0.80	50.0%	50.0%
2023	0.40	0.40	0.80	50.0%	50.0%
2024	0.40	0.40	0.80	50.0%	50.0%
2025	0.40	0.55	0.95	42.1%	57.9%
2026 [2]	0.40	0.87	1.27	31.5%	68.5%
2027	0.40	0.87	1.27	31.5%	68.5%
2028	0.40	0.96	1.36	29.4%	70.6%
2029	0.40	1.04	1.44	27.8%	72.2%
2030 [3]	0.60	1.15	1.75	34.3%	65.7%
2031	0.80	1.26	2.06	38.8%	61.2%
2032	0.80	1.26	2.06	38.8%	61.2%
2033	0.80	1.26	2.06	38.8%	61.2%
2034	0.80	1.26	2.06	38.8%	61.2%
2035	0.80	1.26	2.06	38.8%	61.2%
2036	0.80	1.26	2.06	38.8%	61.2%
2037	0.80	1.26	2.06	38.8%	61.2%
2038	0.80	1.26	2.06	38.8%	61.2%
2039	0.80	1.26	2.06	38.8%	61.2%
2040 [4]	0.80	1.26	2.06	38.8%	61.2%
2041 [5]	1.20	1.75	2.95	40.7%	59.3%
2042	1.20	2.25	3.45	34.8%	65.2%
2043	1.20	2.75	3.95	30.4%	69.6%
2044	1.20	3.00	4.20	28.6%	71.4%
2045	1.20	3.00	4.20	28.6%	71.4%
2046	1.20	3.00	4.20	28.6%	71.4%
2047	1.20	3.00	4.20	28.6%	71.4%
2048	1.20	3.00	4.20	28.6%	71.4%
2049	1.20	3.00	4.20	28.6%	71.4%
2050	1.20	3.00	4.20	28.6%	71.4%
2051	1.20	3.00	4.20	28.6%	71.4%
2052	1.20	3.00	4.20	28.6%	71.4%

Source: Preliminary estimates developed by Woodard & Curran.

1 Based on recycled water demand projections used for AWPS grant application.

2 Assumes Mountain View gradually increases recycled water demand to 1.25 MGD after Phase 1 startup.

3 Assumes Palo Alto's recycled water use increases to 0.80 mgd which is the middle value between no Phase III recycled water expansion (0.40 mgd) and full Phase III expansion (1.20 mgd).

4 Assumes Mountain View moves forward with recycled water system expansions and increases recycled water use over the next 4 years to their full contractual amount of 3 MGD.

5 Assumes Palo Alto's moves forward with Phase III expansion of recycled water system and increases recycled water use to 1.20 mgd.

Table 7
 AWPS Preliminary Financial Plan
 Estimated Enhanced (Blended AWPS) Recycled Water Use (AF)

Year	Estimated Recycled Water Use (AF)			% of Total	
	Palo Alto	Mt View [1]	Total	Palo Alto	Mountain View
2020	370	370	739	50.0%	50.0%
2021	280	414	694	40.3%	59.7%
2022	448	448	896	50.0%	50.0%
2023	448	448	896	50.0%	50.0%
2024	448	448	896	50.0%	50.0%
2025	448	616	1,064	42.1%	57.9%
2026 [2]	448	975	1,423	31.5%	68.5%
2027	448	975	1,423	31.5%	68.5%
2028	448	1,075	1,523	29.4%	70.6%
2029	448	1,165	1,613	27.8%	72.2%
2030 [3]	672	1,288	1,960	34.3%	65.7%
2031	896	1,411	2,307	38.8%	61.2%
2032	896	1,411	2,307	38.8%	61.2%
2033	896	1,411	2,307	38.8%	61.2%
2034	896	1,411	2,307	38.8%	61.2%
2035	896	1,411	2,307	38.8%	61.2%
2036	896	1,411	2,307	38.8%	61.2%
2037	896	1,411	2,307	38.8%	61.2%
2038	896	1,411	2,307	38.8%	61.2%
2039	896	1,411	2,307	38.8%	61.2%
2040 [4]	896	1,411	2,307	38.8%	61.2%
2041 [5]	1,344	1,960	3,304	40.7%	59.3%
2042	1,344	2,520	3,865	34.8%	65.2%
2043	1,344	3,080	4,425	30.4%	69.6%
2044	1,344	3,360	4,705	28.6%	71.4%
2045	1,344	3,360	4,705	28.6%	71.4%
2046	1,344	3,360	4,705	28.6%	71.4%
2047	1,344	3,360	4,705	28.6%	71.4%
2048	1,344	3,360	4,705	28.6%	71.4%
2049	1,344	3,360	4,705	28.6%	71.4%
2050	1,344	3,360	4,705	28.6%	71.4%
2051	1,344	3,360	4,705	28.6%	71.4%
2052	1,344	3,360	4,705	28.6%	71.4%

Source: Preliminary estimates developed by Woodard & Curran.

1 Based on recycled water demand projections used for AWPS grant application.

2 Assumes Mountain View gradually increases recycled water demand to 1.25 MGD after Phase 1 startup.

3 Assumes Palo Alto's recycled water use increases to 0.80 mgd which is the middle value between no Phase III recycled water expansion (0.40 mgd) and full Phase III expansion (1.20 mgd).

4 Assumes Mountain View moves forward with recycled water system expansions and increases recycled water use over the next 4 years to their full contractual amount of 3 MGD.

5 Assumes Palo Alto's moves forward with Phase III expansion of recycled water system and increases recycled water use to 1.20 mgd.

Table 8
 AWPS Preliminary Financial Plan
 Estimated Enhanced (Blended AWPS) Recycled Water Use (ccf)

Year	Estimated Recycled Water Use (ccf)			% of Total	
	Palo Alto	Mt View [1]	Total	Palo Alto	Mountain View
2020	161,019	161,019	322,037	50.0%	50.0%
2021	121,984	180,536	302,520	40.3%	59.7%
2022	195,174	195,174	390,348	50.0%	50.0%
2023	195,174	195,174	390,348	50.0%	50.0%
2024	195,174	195,174	390,348	50.0%	50.0%
2025	195,174	268,364	463,539	42.1%	57.9%
2026 [2]	195,174	424,504	619,678	31.5%	68.5%
2027	195,174	424,504	619,678	31.5%	68.5%
2028	195,174	468,418	663,592	29.4%	70.6%
2029	195,174	507,453	702,627	27.8%	72.2%
2030 [3]	292,761	561,126	853,887	34.3%	65.7%
2031	390,348	614,798	1,005,147	38.8%	61.2%
2032	390,348	614,798	1,005,147	38.8%	61.2%
2033	390,348	614,798	1,005,147	38.8%	61.2%
2034	390,348	614,798	1,005,147	38.8%	61.2%
2035	390,348	614,798	1,005,147	38.8%	61.2%
2036	390,348	614,798	1,005,147	38.8%	61.2%
2037	390,348	614,798	1,005,147	38.8%	61.2%
2038	390,348	614,798	1,005,147	38.8%	61.2%
2039	390,348	614,798	1,005,147	38.8%	61.2%
2040 [4]	390,348	614,798	1,005,147	38.8%	61.2%
2041 [5]	585,522	853,887	1,439,409	40.7%	59.3%
2042	585,522	1,097,854	1,683,377	34.8%	65.2%
2043	585,522	1,341,822	1,927,344	30.4%	69.6%
2044	585,522	1,463,806	2,049,328	28.6%	71.4%
2045	585,522	1,463,806	2,049,328	28.6%	71.4%
2046	585,522	1,463,806	2,049,328	28.6%	71.4%
2047	585,522	1,463,806	2,049,328	28.6%	71.4%
2048	585,522	1,463,806	2,049,328	28.6%	71.4%
2049	585,522	1,463,806	2,049,328	28.6%	71.4%
2050	585,522	1,463,806	2,049,328	28.6%	71.4%
2051	585,522	1,463,806	2,049,328	28.6%	71.4%
2052	585,522	1,463,806	2,049,328	28.6%	71.4%

Source: Preliminary estimates developed by Woodard & Curran.

1 Based on recycled water demand projections used for AWPS grant application.

2 Assumes Mountain View gradually increases recycled water demand to 1.25 MGD after Phase 1 startup.

3 Assumes Palo Alto's recycled water use increases to 0.80 mgd which is the middle value between no Phase III recycled water expansion (0.40 mgd) and full Phase III expansion (1.20 mgd).

4 Assumes Mountain View moves forward with recycled water system expansions and increases recycled water use over the next 4 years to their full contractual amount of 3 MGD.

5 Assumes Palo Alto's moves forward with Phase III expansion of recycled water system and increases recycled water use to 1.20 mgd.

Table 9
 AWPS Preliminary Financial Plan
 Summary of AWPS Capacity & Recycled Water Use

	Total	Palo Alto	Mountain View
AWPS Phase 1 Capacity			
Phase 1 Capacity (Reverse osmosis permeate)	1.125 mgd	0.281 mgd	0.844 mgd
% Allocation of Capacity		25%	75%
Enhanced Recycled Water Production, AWPS at 1.25 mgd [1]			
Enhanced RW Range	2.06 - 2.65 mgd	0.52 - 0.66 mgd	1.55 - 1.98 mgd
Average	2.35 mgd	0.59 mgd	1.76 mgd
% Allocation of Production		25%	75%
AWPS Phase 1 Estimated Annual Enhanced Recycled Water Use 2026			
Phase 1 Demand in 2026			
mgd	1.27 mgd	0.40 mgd	0.87 mgd
AF	1,423 AF	448 AF	975 AF
ccf	849,007 ccf	424,504 ccf	424,504 ccf
% of Total Enhanced RW Use		31.5%	68.5%
AWPS Phase 1 Estimated Annual Enhanced Recycled Water Use 2031			
Phase 1 Demand in 2031			
mgd	2.06 mgd	0.80 mgd	1.26 mgd
AF	2,307 AF	896 AF	1,411 AF
ccf	1,005,147 ccf	390,348 ccf	614,798 ccf
% of Total Enhanced RW Use		38.8%	61.2%

[1] Based on Black & Veatch's AWPS Basis of Design Report (2021) Table 4-5, the average blending ratio of recycled water to reverse osmosis permeate to maintain between 400 mg/L - 500 gm/L total dissolved solids is 1:0.74 to 1:1.20

Table 10

AWPS Preliminary Financial Plan

AWPS Phase 1 Operating Costs & Allocations by Year

	1	2	3	4	5	6	7	8	9	10
	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35
Enhanced Recycled Water Use (ccf)	<u>Jan-June Only</u>									
Palo Alto	78,070	195,174	195,174	195,174	195,174	292,761	390,348	390,348	390,348	390,348
Mountain View	169,801	424,504	424,504	468,418	507,453	561,126	614,798	614,798	614,798	614,798
Total	247,871	619,678	619,678	663,592	702,627	853,887	1,005,147	1,005,147	1,005,147	1,005,147
Cumulative Change in Use %	-	-	0.0%	7.1%	13.4%	37.8%	62.2%	62.2%	62.2%	62.2%
Cost Escalator (Base Year = 2023 + 4% Escalation)		1.125	1.170	1.217	1.265	1.316	1.369	1.423	1.480	1.539
AWPS Phase 1 O&M										
<u>Fixed Operating Expenses</u>										
O&M Labor (<i>Assumes No New Labor</i>)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<u>Variable Operating Expenses</u>	<u>Assumes 50%</u>									
Maintenance & Repairs	146,500	292,900	304,600	329,500	354,300	415,600	481,200	500,400	520,500	541,300
Energy	80,300	160,600	167,100	179,800	192,600	222,900	255,200	265,400	276,100	287,100
Chemicals	56,900	113,700	118,300	127,900	137,500	161,300	186,700	194,100	201,900	210,000
Membrane Consumables	14,900	29,700	30,900	34,000	37,200	45,900	55,200	57,400	59,700	62,000
Total Annual O&M	298,600	596,900	620,900	\$671,200	\$721,600	\$845,700	\$978,300	\$1,017,300	\$1,058,200	\$1,100,400
AWPS O&M Cost per Unit (\$/ccf)	\$1.20	\$0.96	\$1.00	\$1.01	\$1.03	\$0.99	\$0.97	\$1.01	\$1.05	\$1.09
Share of Annual Recycled Water Use										
Palo Alto	31.5%	31.5%	31.5%	29.4%	27.8%	34.3%	38.8%	38.8%	38.8%	38.8%
Mountain View	68.5%	68.5%	68.5%	70.6%	72.2%	65.7%	61.2%	61.2%	61.2%	61.2%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
AWPS O&M Cost Allocation										
Palo Alto	\$94,000	\$188,000	\$195,600	\$197,400	\$200,400	\$290,000	\$379,900	\$395,100	\$411,000	\$427,300
Mountain View	204,600	408,900	425,300	473,800	521,200	555,700	598,400	622,200	647,200	673,100
Total	298,600	596,900	620,900	671,200	721,600	845,700	978,300	1,017,300	1,058,200	1,100,400

Expense projections account for AWPS Phase 1 recycled water production only and exclude costs related to the existing Title 22 recycled water system at the RWQCP

AWPS Phase 1 operating expenses assume seasonal variation in operations with no new labor.

Table 10
 AWPS Preliminary Financial Plan
 AWPS Phase 1 Operating Costs & Allocations by Year

	11	12	13	14	15	16	17	18	19	20
	2035/36	2036/37	2037/38	2038/39	2039/40	2040/41	2041/42	2042/43	2043/44	2044/45
Enhanced Recycled Water Use (ccf)										
Palo Alto	390,348	390,348	390,348	390,348	390,348	390,348	585,522	585,522	585,522	585,522
Mountain View	614,798	614,798	614,798	614,798	614,798	614,798	853,887	1,097,854	1,341,822	1,463,806
Total	1,005,147	1,005,147	1,005,147	1,005,147	1,005,147	1,005,147	1,439,409	1,683,377	1,927,344	2,049,328
Cumulative Change in Use %	62.2%	62.2%	62.2%	62.2%	62.2%	62.2%	132.3%	171.7%	211.0%	230.7%
Cost Escalator (Base Year = 2023 + 4% Escalation)	1.601	1.665	1.732	1.801	1.873	1.948	2.026	2.107	2.191	2.279
AWPS Phase 1 O&M										
<u>Fixed Operating Expenses</u>										
O&M Labor (<i>Assumes No New Labor</i>)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<u>Variable Operating Expenses</u>							Preliminary Estimates>>>			
Maintenance & Repairs	562,900	585,400	608,900	633,200	658,500	684,900	1,020,000	1,240,600	1,477,200	1,633,500
Energy	298,600	310,500	323,000	335,900	349,300	363,300	541,000	658,100	783,600	866,500
Chemicals	218,400	227,100	236,200	245,600	255,500	265,700	395,700	481,300	573,100	633,700
Membrane Consumables	64,500	67,100	69,800	72,600	75,500	78,500	116,900	142,200	169,300	187,200
Total Annual O&M	\$1,144,400	\$1,190,100	\$1,237,900	\$1,287,300	\$1,338,800	\$1,392,400	\$2,073,600	\$2,522,200	\$3,003,200	\$3,320,900
AWPS O&M Cost per Unit (\$/ccf)	\$1.14	\$1.18	\$1.23	\$1.28	\$1.33	\$1.39	\$1.44	\$1.50	\$1.56	\$1.62
Share of Annual Recycled Water Use										
Palo Alto	38.8%	38.8%	38.8%	38.8%	38.8%	38.8%	40.7%	34.8%	30.4%	28.6%
Mountain View	61.2%	61.2%	61.2%	61.2%	61.2%	61.2%	59.3%	65.2%	69.6%	71.4%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
AWPS O&M Cost Allocation										
Palo Alto	\$444,400	\$462,200	\$480,700	\$499,900	\$519,900	\$540,700	\$843,500	\$877,300	\$912,400	\$948,800
Mountain View	700,000	727,900	757,200	787,400	818,900	851,700	1,230,100	1,644,900	2,090,800	2,372,100
Total	1,144,400	1,190,100	1,237,900	1,287,300	1,338,800	1,392,400	2,073,600	2,522,200	3,003,200	3,320,900

Expense projections account for AWPS Phase 1 recycled water production only and exclude costs related to the existing Title 22 recycled water system at the RWQCP

AWPS Phase 1 operating expenses assume seasonal variation in operations with no new labor.

Table 11
 AWPS Preliminary Financial Plan
 AWPS Phase 1 Total Cost Allocations by Year

		1	2	3	4	5	6	7	8	9	10
		2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35
Enhanced Recycled Water Use (ccf)		<u>Jan-June Only</u>									
Palo Alto		97,587	195,174	195,174	195,174	195,174	292,761	390,348	390,348	390,348	390,348
Mountain View		212,252	424,504	424,504	468,418	507,453	561,126	614,798	614,798	614,798	614,798
Total		309,839	619,678	619,678	663,592	702,627	853,887	1,005,147	1,005,147	1,005,147	1,005,147
Cumulative Change in Use %		-	-	0.0%	7.1%	13.4%	37.8%	62.2%	62.2%	62.2%	62.2%
Share of Annual Enhanced Recycled Water Use											
Palo Alto		31.5%	31.5%	31.5%	29.4%	27.8%	34.3%	38.8%	38.8%	38.8%	38.8%
Mountain View		68.5%	68.5%	68.5%	70.6%	72.2%	65.7%	61.2%	61.2%	61.2%	61.2%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Debt Service Allocation											
Palo Alto	0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Mountain View	100%	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000
Total		1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000
Operating Cost Allocation											
<i>Based on each agency's % share of total annual enhanced recycled water use.</i>											
Palo Alto		\$94,000	\$188,000	\$195,600	\$197,400	\$200,400	\$290,000	\$379,900	\$395,100	\$411,000	\$427,300
Mountain View		204,600	408,900	425,300	473,800	521,200	555,700	598,400	622,200	647,200	673,100
Total		298,600	596,900	620,900	671,200	721,600	845,700	978,300	1,017,300	1,058,200	1,100,400
Total Cost Allocation											
Palo Alto		\$94,000	\$188,000	\$195,600	\$197,400	\$200,400	\$290,000	\$379,900	\$395,100	\$411,000	\$427,300
Mountain View		1,640,600	1,844,900	1,861,300	1,909,800	1,957,200	1,991,700	2,034,400	2,058,200	2,083,200	2,109,100
Total		1,734,600	2,032,900	2,056,900	2,107,200	2,157,600	2,281,700	2,414,300	2,453,300	2,494,200	2,536,400

Expense projections account for AWPS Phase 1 recycled water production only and exclude costs related to the existing Title 22 recycled water system at the RWQCP
 AWPS Phase 1 operating expenses assume seasonal variation in operations with no new labor.

Table 11
AWPS Preliminary Financial Plan
AWPS Phase 1 Total Cost Allocations by Year

	11	12	13	14	15	16	17	18	19	20
	2035/36	2036/37	2037/38	2038/39	2039/40	2040/41	2041/42	2042/43	2043/44	2044/45
Enhanced Recycled Water Use (ccf)										
Palo Alto	390,348	390,348	390,348	390,348	390,348	390,348	585,522	585,522	585,522	585,522
Mountain View	614,798	614,798	614,798	614,798	614,798	614,798	853,887	1,097,854	1,341,822	1,463,806
Total	1,005,147	1,005,147	1,005,147	1,005,147	1,005,147	1,005,147	1,439,409	1,683,377	1,927,344	2,049,328
Cumulative Change in Use %	62.2%	62.2%	62.2%	62.2%	62.2%	62.2%	132.3%	171.7%	211.0%	230.7%
Share of Annual Enhanced Recycled Water Use										
Palo Alto	38.8%	38.8%	38.8%	38.8%	38.8%	38.8%	40.7%	34.8%	30.4%	28.6%
Mountain View	61.2%	61.2%	61.2%	61.2%	61.2%	61.2%	59.3%	65.2%	69.6%	71.4%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Debt Service Allocation										
Palo Alto	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Mountain View	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000
Total	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000
Operating Cost Allocation										
<i>Based on each agency's % share of total annual enhanced recycled water use.</i>										
Palo Alto	\$444,400	\$462,200	\$480,700	\$499,900	\$519,900	\$540,700	\$843,500	\$877,300	\$912,400	\$948,800
Mountain View	700,000	727,900	757,200	787,400	818,900	851,700	1,230,100	1,644,900	2,090,800	2,372,100
Total	1,144,400	1,190,100	1,237,900	1,287,300	1,338,800	1,392,400	2,073,600	2,522,200	3,003,200	3,320,900
Total Cost Allocation										
Palo Alto	\$444,400	\$462,200	\$480,700	\$499,900	\$519,900	\$540,700	\$843,500	\$877,300	\$912,400	\$948,800
Mountain View	2,136,000	2,163,900	2,193,200	2,223,400	2,254,900	2,287,700	2,666,100	3,080,900	3,526,800	3,808,100
Total	2,580,400	2,626,100	2,673,900	2,723,300	2,774,800	2,828,400	3,509,600	3,958,200	4,439,200	4,756,900

Expense projections account for AWPS Phase 1 recycled water production only and exclude costs related to the existing Title 22 recycled water system at the RWQCP
AWPS Phase 1 operating expenses assume seasonal variation in operations with no new labor.



Palo Alto Recycled Water Use & Costs

Assumes AWPS Phase 1 Only

Table PA-1
 AWPS Preliminary Financial Plan
 Palo Alto Enhanced Recycled Water Use (Blended)

	City Estimates From Nov 2022	Adjusted for Projected Use 2026
Palo Alto Recycled Water Use (ccf)		
<u>Palo Alto Golf Course & Baylands Athletic Ctr</u>		
Golf Course Irrig & Baylands Athletic Ctr [1]	121,500	138,112
Golf Course Greens [2]	0	0
Subtotal	121,500	138,112
Palo Alto Parks [3]	35,000	39,785
Other City Uses [4]	8,000	9,094
Truck Standpipe	5,000	5,684
CalTrans [5]	0	2,500
Total (ccf)	169,500	195,174
Total (mgd)	0.347	0.400

1 Increase accounts for both a) an adjustment to match the City's 2026 recycled water use projections, and b) an estimated 5,000 ccf of new enhanced recycled water to replace potable water periodically used to irrigate fairways due to current recycled water salinity.

2 Assumes greens will continue to be irrigated with potable water due to salinity issues with recycled water.

3 Includes recycle water use at Greer Park, Duck Pond, Animal Svcs, Adobe Creek Bike Bridge.
 Current recycled water supply is periodically blended with potable water to reduce salinity.

4 Includes MSC standpipe & hydrant, Greer Park hydrant, and RWQCP landscaping.

5 Based on Caltrans historical recycled water use; Caltrans anticipates reconnecting in 2024.

Table PA-2
 AWPS Preliminary Financial Plan
 Palo Alto Cost per Unit of Recycled Water

	Blended Recycled Water Cost per Unit	
	2026	2031
Projected Recycled Water Use (ccf)	195,174	390,348
AWPS Phase 1 Cost Allocation to Palo Alto		
SRF Loan Debt Service [1]	25.0%	25.0%
AWPS Phase 1 Operating Expenses [2]	31.5%	38.8%
Palo Alto Share of AWPS Phase 1 Expenses		
SRF Loan Debt Service	\$0	\$0
AWPS Phase 1 Operating Expenses [3][4]	188,000	379,900
Subtotal	188,000	379,900
Enhanced RW Cost per Unit (\$/ccf)	\$0.96	\$0.97

1 Assumes debt Service allocated 25% to Palo Alto and 75% to Mountain View.

2 Assumes operating expenses would be allocated proportionately based on each agency's share of total enhanced recycled water use and would be adjusted annually based on actual use.

3 Excludes costs related to existing Title 22 recycled water facilities at RWQCP and City's recycled water distribution system.

Table PA-3

AWPS Preliminary Financial Plan

Palo Alto Projected Enhanced Recycled Water Costs & Impacts

Base Year 2026

	RW Use (ccf)	RW Costs & Impacts
RW Cost per Unit (\$/ccf)		\$0.96
Recycled Water Use & Costs		
Palo Alto Golf Course & Bay Athletic Ctr	138,112	\$133,035
Palo Alto Parks [3]	39,785	38,323
Other City Uses [4]	9,094	8,759
Truck Standpipe	5,684	5,475
CalTrans [5]	2,500	2,408
Total	195,174	188,000

Table PA-4

AWPS Preliminary Financial Plan

Projection of Recycled Water Impacts to Palo Alto General Fund

New RW sales could be a source of substantial future revenues

But also would be a transition from potable sales to recycled sales

Impact would vary depending on RW rate

	Cost Esc	1 2025/26	2 2026/27	3 2027/28	4 2028/29	5 2029/30	6 2030/31	7 2031/32	8 2032/33	9 2033/34	10 2034/35
Enhanced Recycled Water Use (ccf)		<u>Jan-June Only</u>									
City Use for Golf Course & Parks		86,450	172,897	172,897	172,897	172,897	172,897	172,897	172,897	172,897	172,897
Increase in RW for Golf Course & Parks		2,500	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
Other City Uses (MSC/hydrant/RWQCP Irrig)		4,550	9,094	9,094	9,094	9,094	9,094	9,094	9,094	9,094	9,094
Truck Standpipe		2,840	5,684	5,684	5,684	5,684	5,684	5,684	5,684	5,684	5,684
Caltrans		1,250	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500
Projected New RW Use		0	0	0	0	0	97,587	195,174	195,174	195,174	195,174
Total		97,590	195,174	195,174	195,174	195,174	292,761	390,348	390,348	390,348	390,348
Palo Alto Share of Projected RW Use		31.5%	31.5%	31.5%	29.4%	27.8%	34.3%	38.8%	38.8%	38.8%	38.8%
Proj Potable Irrig Water Rate (W7)	3.0%	\$11.44	\$11.78	\$12.14	\$12.50	\$12.88	\$13.26	\$13.66	\$14.07	\$14.49	\$14.93
RW Rate as % of Potable Rate							50%	50%	50%	50%	50%
Projected Recycled Water Rate [1]		\$0.96	\$0.96	\$1.00	\$1.01	\$1.03	\$6.63	\$6.83	\$7.04	\$7.25	\$7.46
Recycled Water Sales Revenues & Expense Offsets											
Truck RW Sales		\$2,700	\$5,500	\$5,700	\$5,700	\$5,800	\$37,700	\$38,800	\$40,000	\$41,200	\$42,400
MSC & Other Billed City Use		4,400	8,800	9,100	9,200	9,300	60,300	62,100	64,000	65,900	67,800
Caltrans RW Sales		1,200	2,400	2,500	2,500	2,600	16,600	17,100	17,600	18,100	18,700
Other RW Sales		0	0	0	0	0	647,000	1,333,000	1,374,000	1,415,000	1,456,000
Valley Water Annual Option Pymt	3.0%	58,200	59,900	61,700	63,600	65,500	67,500	69,500	71,600	0	0
Valley Water Annual Effluent Purchase		-	-	-	-	-	-	-	-	tbd	tbd
Reduced Potable Water Purchases		28,500	58,900	60,700	62,500	64,400	66,300	68,300	70,400	72,500	74,600
Subtotal		95,000	135,500	139,700	143,500	147,600	895,400	1,588,800	1,637,600	1,612,700	1,659,500
Recycled Water Expenses											
AWPS O&M Allocation [2,3,4,5]		\$94,000	\$188,000	\$195,600	\$197,400	\$200,400	\$290,000	\$379,900	\$395,100	\$411,000	\$427,300
AWPS SRF Debt Service Allocation [6]		0	0	0	0	0	0	0	0	0	0
Subtotal		94,000	188,000	195,600	197,400	200,400	290,000	379,900	395,100	411,000	427,300
Revenues Less Expenses		\$1,000	(\$52,500)	(\$55,900)	(\$53,900)	(\$52,800)	\$605,400	\$1,208,900	\$1,242,500	\$1,201,700	\$1,232,200
Cumulative Net Expenses		\$1,000	(\$51,500)	(\$107,400)	(\$161,300)	(\$214,100)	\$391,300	\$1,600,200	\$2,842,700	\$4,044,400	\$5,276,600
Projected RW Cost per Unit (\$/ccf)		\$0.96	\$0.96	\$1.00	\$1.01	\$1.03	\$0.99	\$0.97	\$1.01	\$1.05	\$1.09
Net RW Unit Cost After Offsets (\$/ccf)		(\$0.01)	\$0.27	\$0.29	\$0.28	\$0.27	(\$2.07)	(\$3.10)	(\$3.18)	(\$3.08)	(\$3.16)

1 Assumes recycled water sold at cost through 2029/30 and at 50% of the projected potable water rate (W7) thereafter corresponding with expansion of recycled water deliveries.

2 Expense projections account for AWPS Phase 1 operating and capital expenses only.

3 AWPS operating expenses assume seasonal variation in operations with no new labor.

4 Excludes capital & operating expenses for existing Title 22 recycled water system at the RWQCP.

5 Excludes costs related to the City's recycled water distribution system.

6 Assumes first year SRF Loan payment is used to fund a required debt service reserve equal to annual debt service.

Table PA-4

AWPS Preliminary Financial Plan

Projection of Recycled Water Impacts to Palo Alto General Fund

New RW sales could be a source of substantial future revenues

But also would be a transition from potable sales to recycled sales

Impact would vary depending on RW rate

	Cost Esc	11 2035/36	12 2036/37	13 2037/38	14 2038/39	15 2039/40	16 2040/41	17 2041/42	18 2042/43	19 2043/44	20 2044/45
Enhanced Recycled Water Use (ccf)											
City Use for Golf Course & Parks		172,897	172,897	172,897	172,897	172,897	172,897	172,897	172,897	172,897	172,897
Increase in RW for Golf Course & Parks		5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
Other City Uses (MSC/hydrant/RWQCP Irrig)		9,094	9,094	9,094	9,094	9,094	9,094	9,094	9,094	9,094	9,094
Truck Standpipe		5,684	5,684	5,684	5,684	5,684	5,684	5,684	5,684	5,684	5,684
Caltrans		2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500
Projected New RW Use		195,174	195,174	195,174	195,174	195,174	195,174	390,348	390,348	390,348	390,348
Total		390,348	390,348	390,348	390,348	390,348	390,348	585,522	585,522	585,522	585,522
Palo Alto Share of Projected RW Use											
		38.8%	38.8%	38.8%	38.8%	38.8%	38.8%	40.7%	34.8%	30.4%	28.6%
Proj Potable Irrig Water Rate (W7)											
RW Rate as % of Potable Rate	3.0%	\$15.38	\$15.84	\$16.31	\$16.80	\$17.31	\$17.82	\$18.36	\$18.91	\$19.48	\$20.06
Projected Recycled Water Rate [1]											
		\$7.69	\$7.92	\$8.16	\$8.40	\$8.65	\$8.91	\$9.18	\$9.45	\$9.74	\$10.03
Recycled Water Sales Revenues & Expense Offsets											
Truck RW Sales		\$43,700	\$45,000	\$46,400	\$47,700	\$49,200	\$50,600	\$52,200	\$53,700	\$55,400	\$57,000
MSC & Other Billed City Use		69,900	72,000	74,200	76,400	78,700	81,000	83,500	85,900	88,600	91,200
Caltrans RW Sales		19,200	19,800	20,400	21,000	21,600	22,300	23,000	23,600	24,400	25,100
Other RW Sales		1,500,900	1,545,800	1,592,600	1,639,500	1,688,300	1,739,000	3,583,400	3,688,800	3,802,000	3,915,200
Valley Water Annual Option Pymt		0	0	0	0	0	0	0	0	0	0
Valley Water Annual Effluent Purchase		tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd
Reduced Potable Water Purchases		76,900	79,200	81,600	84,000	86,500	89,100	91,800	94,500	97,400	100,300
Subtotal		1,710,600	1,761,800	1,815,200	1,868,600	1,924,300	1,982,000	3,833,900	3,946,500	4,067,800	4,188,800
Recycled Water Expenses											
AWPS O&M Allocation [2,3,4,5]		\$444,400	\$462,200	\$480,700	\$499,900	\$519,900	\$540,700	\$843,500	\$877,300	\$912,400	\$948,800
AWPS SRF Debt Service Allocation [6]		0	0	0	0	0	0	0	0	0	0
Subtotal		444,400	462,200	480,700	499,900	519,900	540,700	843,500	877,300	912,400	948,800
Revenues Less Expenses		\$1,266,200	\$1,299,600	\$1,334,500	\$1,368,700	\$1,404,400	\$1,441,300	\$2,990,400	\$3,069,200	\$3,155,400	\$3,240,000
Cumulative Net Expenses											
		\$6,542,800	\$7,842,400	\$9,176,900	\$10,545,600	\$11,950,000	\$13,391,300	\$16,381,700	\$19,450,900	\$22,606,300	\$25,846,300
Projected RW Cost per Unit (\$/ccf)											
Net RW Unit Cost After Offsets (\$/ccf)		\$1.14	\$1.18	\$1.23	\$1.28	\$1.33	\$1.39	\$1.44	\$1.50	\$1.56	\$1.62
		(\$3.24)	(\$3.33)	(\$3.42)	(\$3.51)	(\$3.60)	(\$3.69)	(\$5.11)	(\$5.24)	(\$5.39)	(\$5.53)

1 Assumes recycled water sold at cost through 2029/30 and at 50% of the projected potable water rate (W7) thereafter corresponding with expansion of recycled water deliveries.

2 Expense projections account for AWPS Phase 1 operating and capital expenses only.

3 AWPS operating expenses assume seasonal variation in operations with no new labor.

4 Excludes capital & operating expenses for existing Title 22 recycled water system at the RWQCP.

5 Excludes costs related to the City's recycled water distribution system.

6 Assumes first year SRF Loan payment is used to fund a required debt service reserve equal to annual debt service.

Table PA-5

AWPS Preliminary Financial Plan

Net Annual Impacts to City of Palo Alto

	1	2	3	4	5	6	7	8	9	10
	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35
Palo Alto Recycled Water Use (ccf)										
Base Year Recycled Water Use	97,587	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174
Projected New Recycled Water Use	0	0	0	0	0	97,587	195,174	195,174	195,174	195,174
Total	97,587	195,174	195,174	195,174	195,174	292,761	390,348	390,348	390,348	390,348
Palo Alto General Fund: Palo Alto Golf Course & Parks										
Recycled Water Expenses	(\$94,000)	(\$188,000)	(\$195,600)	(\$197,400)	(\$200,400)	(\$290,000)	(\$379,900)	(\$395,100)	(\$411,000)	(\$427,300)
Less Expense Offsets										
<u>A) Potable Water Purchases for GC Fairway Irrig (ccf)</u>	<u>50% Jan-Jun</u>									
Transition from Potable to RW Use	2,500	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
City Potable Irrig Water Rate (W7) with 3% Escalation	\$11.44	\$11.78	\$12.14	\$12.50	\$12.88	\$13.26	\$13.66	\$14.07	\$14.49	\$14.93
Cost of Potable City Water Purchases	\$28,600	\$58,900	\$60,700	\$62,500	\$64,400	\$66,300	\$68,300	\$70,400	\$72,500	\$74,600
<u>B) Recycled Water Sales Revenues</u>										
Truck RW Sales	\$2,700	\$5,500	\$5,700	\$5,700	\$5,800	\$37,700	\$38,800	\$40,000	\$41,200	\$42,400
MSC & Other Billed City Use	4,400	8,800	9,100	9,200	9,300	60,300	62,100	64,000	65,900	67,800
Caltrans RW Sales	1,200	2,400	2,500	2,500	2,600	16,600	17,100	17,600	18,100	18,700
Other RW Sales	0	0	0	0	0	647,000	1,333,000	1,374,000	1,415,000	1,456,000
Subtotal	\$8,300	\$16,700	\$17,300	\$17,400	\$17,700	\$761,600	\$1,451,000	\$1,495,600	\$1,540,200	\$1,584,900
Net Annual Impact to General Fund	(\$57,100)	(\$112,400)	(\$117,600)	(\$117,500)	(\$118,300)	\$537,900	\$1,139,400	\$1,170,900	\$1,201,700	\$1,232,200
<i>AWPS RW expenses offset by reduced potable water expenses and RW sales revenues</i>										
Palo Alto Water Fund										
Loss of Potable Water Sales	(\$28,600)	(\$58,900)	(\$60,700)	(\$62,500)	(\$64,400)	(\$1,360,605)	(\$2,734,569)	(\$2,816,657)	(\$2,901,145)	(\$2,988,104)
<u>Offset by Reduction in SFPUC Potable Water Purchases</u>										
Reduction in SFPUC Potable Water Purchases (ccf)	2,500	5,000	5,000	5,000	5,000	102,587	200,174	200,174	200,174	200,174
SFPUC Wholesale Rate w/ 5% Esc + BAWSCA Bond Surchg	\$6.48	\$6.78	\$7.10	\$7.44	\$7.79	\$8.16	\$8.54	\$8.95	\$9.38	\$9.83
Total Est. Annual Potable City Water Purchases	16,200	33,900	35,500	37,200	38,900	836,800	1,710,400	1,791,900	1,877,500	1,967,400
Net Annual Revenue Loss to Water Enterprise	(\$12,400)	(\$25,000)	(\$25,200)	(\$25,300)	(\$25,500)	(\$523,805)	(\$1,024,169)	(\$1,024,757)	(\$1,023,645)	(\$1,020,704)
<i>Loss of potable water sales less corresponding reduction of SFPUC wholesale water purchases</i>										
Palo Alto Wastewater Fund										
Valley Water Annual Option Payment	\$58,200	\$59,900	\$61,700	\$63,600	\$65,500	\$67,500	\$69,500	\$71,600	\$0	\$0
Valley Water Annual Effluent Purchase Payment	-	-	-	-	-	-	-	-	tbd	tbd
Total Combined Impact to Palo Alto										
Net Impact to General Fund	(\$57,100)	(\$112,400)	(\$117,600)	(\$117,500)	(\$118,300)	\$537,900	\$1,139,400	\$1,170,900	\$1,201,700	\$1,232,200
Net Revenue Loss Water Enterprise	(12,400)	(25,000)	(25,200)	(25,300)	(25,500)	(523,805)	(1,024,169)	(1,024,757)	(1,023,645)	(1,020,704)
Valley Water Annual Option Payment to Wastewater Fund	58,200	59,900	61,700	63,600	65,500	67,500	69,500	71,600	0	0
Total Net Annual Impact to City	(\$11,300)	(\$77,500)	(\$81,100)	(\$79,200)	(\$78,300)	\$81,595	\$184,731	\$217,743	\$178,055	\$211,496
Cumulative Impact to City	(\$11,300)	(\$88,800)	(\$169,900)	(\$249,100)	(\$327,400)	(\$245,805)	(\$61,074)	\$156,669	\$334,724	\$546,221

Table PA-5
 AWPS Preliminary Financial Plan
 Net Annual Impacts to City of Palo Alto

	11	12	13	14	15	16	17	18	19	20
	2035/36	2036/37	2037/38	2038/39	2039/40	2040/41	2041/42	2042/43	2043/44	2044/45
Palo Alto Recycled Water Use (ccf)										
Base Year Recycled Water Use	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174
Projected New Recycled Water Use	195,174	195,174	195,174	195,174	195,174	195,174	390,348	390,348	390,348	390,348
Total	390,348	390,348	390,348	390,348	390,348	390,348	585,522	585,522	585,522	585,522
Palo Alto General Fund: Palo Alto Golf Course & Parks										
Recycled Water Expenses	(\$444,400)	(\$462,200)	(\$480,700)	(\$499,900)	(\$519,900)	(\$540,700)	(\$843,500)	(\$877,300)	(\$912,400)	(\$948,800)
Less Expense Offsets										
<u>A) Potable Water Purchases for GC Fairway Irrig (ccf)</u>										
Transition from Potable to RW Use	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
City Potable Irrig Water Rate (W7) with 3% Escalation	\$15.38	\$15.84	\$16.31	\$16.80	\$17.31	\$17.82	\$18.36	\$18.91	\$19.48	\$20.06
Cost of Potable City Water Purchases	\$76,900	\$79,200	\$81,600	\$84,000	\$86,500	\$89,100	\$91,800	\$94,500	\$97,400	\$100,300
<u>B) Recycled Water Sales Revenues</u>										
Truck RW Sales	\$43,700	\$45,000	\$46,400	\$47,700	\$49,200	\$50,600	\$52,200	\$53,700	\$55,400	\$57,000
MSC & Other Billed City Use	69,900	72,000	74,200	76,400	78,700	81,000	83,500	85,900	88,600	91,200
Caltrans RW Sales	19,200	19,800	20,400	21,000	21,600	22,300	23,000	23,600	24,400	25,100
Other RW Sales	1,500,900	1,545,800	1,592,600	1,639,500	1,688,300	1,739,000	3,583,400	3,688,800	3,802,000	3,915,200
Subtotal	\$1,633,700	\$1,682,600	\$1,733,600	\$1,784,600	\$1,837,800	\$1,892,900	\$3,742,100	\$3,852,000	\$3,970,400	\$4,088,500
Net Annual Impact to General Fund	\$1,266,200	\$1,299,600	\$1,334,500	\$1,368,700	\$1,404,400	\$1,441,300	\$2,990,400	\$3,069,200	\$3,155,400	\$3,240,000
<i>AWPS RW expenses offset by reduced potable water expenses and RW sales revenues</i>										
Palo Alto Water Fund										
Loss of Potable Water Sales	(\$3,077,809)	(\$3,170,136)	(\$3,265,264)	(\$3,363,174)	(\$3,464,050)	(\$3,567,976)	(\$7,258,285)	(\$7,475,979)	(\$7,700,324)	(\$7,931,311)
<u>Offset by Reduction in SFPUC Potable Water Purchases</u>										
Reduction in SFPUC Potable Water Purchases (ccf)	200,174	200,174	200,174	200,174	200,174	200,174	395,348	395,348	395,348	395,348
SFPUC Wholesale Rate w/ 3% Esc (No BAWCA Bond Surchg)	\$9.71	\$10.00	\$10.30	\$10.61	\$10.93	\$11.26	\$11.60	\$11.94	\$12.30	\$12.67
Total Est. Annual Potable City Water Purchases	1,943,900	2,002,200	2,062,300	2,124,200	2,187,900	2,253,500	4,584,300	4,721,800	4,863,500	5,009,400
Net Annual Revenue Loss to Water Enterprise	(\$1,133,909)	(\$1,167,936)	(\$1,202,964)	(\$1,238,974)	(\$1,276,150)	(\$1,314,476)	(\$2,673,985)	(\$2,754,179)	(\$2,836,824)	(\$2,921,911)
<i>Loss of potable water sales less corresponding reduction of SFPUC wholesale water purchases</i>										
Palo Alto Wastewater Fund										
Valley Water Annual Option Payment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Valley Water Annual Effluent Purchase Payment	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd
Total Combined Impact to Palo Alto										
Net Impact to General Fund	\$1,266,200	\$1,299,600	\$1,334,500	\$1,368,700	\$1,404,400	\$1,441,300	\$2,990,400	\$3,069,200	\$3,155,400	\$3,240,000
Net Revenue Loss Water Enterprise	(1,133,909)	(1,167,936)	(1,202,964)	(1,238,974)	(1,276,150)	(1,314,476)	(2,673,985)	(2,754,179)	(2,836,824)	(2,921,911)
Valley Water Annual Option Payment to Wastewater Fund	0	0	0	0	0	0	0	0	0	0
Total Net Annual Impact to City	\$132,291	\$131,664	\$131,536	\$129,726	\$128,250	\$126,824	\$316,415	\$315,021	\$318,576	\$318,089
Cumulative Impact to City	\$678,512	\$810,175	\$941,711	\$1,071,436	\$1,199,687	\$1,326,511	\$1,642,926	\$1,957,947	\$2,276,523	\$2,594,612

Table PA-6

Recycled Water Use Assumptions

AWPS Preliminary Financial Plan

Palo Alto: No Increases in Recycled Water Use from Base Year 2026

Projection of Recycled Water Impacts to Palo Alto General Fund

Mountain View: No Increases in Recycled Water Use from Base Year 2026

	Cost Esc	1 2025/26	2 2026/27	3 2027/28	4 2028/29	5 2029/30	6 2030/31	7 2031/32	8 2032/33	9 2033/34	10 2034/35
Enhanced Recycled Water Use (ccf)		<u>Jan-June Only</u>									
City Use for Golf Course & Parks		86,450	172,897	172,897	172,897	172,897	172,897	172,897	172,897	172,897	172,897
Increase in RW for Golf Course & Parks		2,500	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
Other City Uses (MSC/hydrant/RWQCP Irrig)		4,550	9,094	9,094	9,094	9,094	9,094	9,094	9,094	9,094	9,094
Truck Standpipe		2,840	5,684	5,684	5,684	5,684	5,684	5,684	5,684	5,684	5,684
Caltrans		1,250	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500
Projected New RW Use		0	0	0	0	0	0	0	0	0	0
Total		97,590	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174
Palo Alto Share of Projected RW Use		31.5%	31.5%	31.5%	31.5%	31.5%	31.5%	31.5%	31.5%	31.5%	31.5%
Proj Potable Irrig Water Rate (W7)	3.0%	\$11.44	\$11.78	\$12.14	\$12.50	\$12.88	\$13.26	\$13.66	\$14.07	\$14.49	\$14.93
Projected Recycled Water Rate [1]		\$0.96	\$0.96	\$1.00	\$1.04	\$1.08	\$1.13	\$1.17	\$1.22	\$1.27	\$1.32
Recycled Water Sales Revenues & Expense Offsets											
Truck RW Sales		\$2,700	\$5,500	\$5,700	\$5,900	\$6,200	\$6,400	\$6,700	\$6,900	\$7,200	\$7,500
MSC & Other Billed City Use		4,400	8,800	9,100	9,500	9,800	10,200	10,700	11,100	11,500	12,000
Caltrans RW Sales		1,200	2,400	2,500	2,600	2,700	2,800	2,900	3,000	3,200	3,300
Other RW Sales		0	0	0	0	0	0	0	0	0	0
Valley Water Annual Option Pymt	3.0%	58,200	59,900	61,700	63,600	65,500	67,500	69,500	71,600	0	0
Valley Water Annual Effluent Purchase		-	-	-	-	-	-	-	-	tbd	tbd
Reduced Potable Water Purchases	3.0%	28,600	58,900	60,700	62,500	64,400	66,300	68,300	70,400	72,500	74,600
Subtotal		95,100	135,500	139,700	144,100	148,600	153,200	158,100	163,000	94,400	97,400
Recycled Water Expenses											
AWPS O&M Allocation [2,3,4,5]	4.0%	\$94,000	\$188,000	\$195,500	\$203,300	\$211,400	\$219,900	\$228,700	\$237,800	\$247,300	\$257,200
AWPS SRF Debt Service Allocation [6]		0	0	0	0	0	0	0	0	0	0
Subtotal		94,000	188,000	195,500	203,300	211,400	219,900	228,700	237,800	247,300	257,200
Revenues Less Expenses		\$1,100	(\$52,500)	(\$55,800)	(\$59,200)	(\$62,800)	(\$66,700)	(\$70,600)	(\$74,800)	(\$152,900)	(\$159,800)
Cumulative Net Expenses		\$1,100	(\$51,400)	(\$107,200)	(\$166,400)	(\$229,200)	(\$295,900)	(\$366,500)	(\$441,300)	(\$594,200)	(\$754,000)
Projected RW Cost per Unit (\$/ccf)		\$0.96	\$0.96	\$1.00	\$1.04	\$1.08	\$1.13	\$1.17	\$1.22	\$1.27	\$1.32
Net RW Unit Cost After Offsets (\$/ccf)		(\$0.01)	\$0.27	\$0.29	\$0.30	\$0.32	\$0.34	\$0.36	\$0.38	\$0.78	\$0.82

1 Assumes recycled water sold at cost.

2 Expense projections account for AWPS Phase 1 operating and capital expenses only.

3 AWPS operating expenses assume seasonal variation in operations with 1.25 FTEs new labor.

4 Excludes capital & operating expenses for existing Title 22 recycled water system at the RWQCP.

5 Excludes costs related to the City's recycled water distribution system.

6 Assumes first year SRF Loan payment is used to fund a required debt service reserve equal to annual debt service.

Table PA-6

Recycled Water Use Assumptions

AWPS Preliminary Financial Plan

Palo Alto: No Increases in Recycled Water Use from Base Year 2026

Projection of Recycled Water Impacts to Palo Alto General Fund

Mountain View: No Increases in Recycled Water Use from Base Year 2026

	Cost Esc	11 2035/36	12 2036/37	13 2037/38	14 2038/39	15 2039/40	16 2040/41	17 2041/42	18 2042/43	19 2043/44	20 2044/45
Enhanced Recycled Water Use (ccf)											
City Use for Golf Course & Parks		172,897	172,897	172,897	172,897	172,897	172,897	172,897	172,897	172,897	172,897
Increase in RW for Golf Course & Parks		5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
Other City Uses (MSC/hydrant/RWQCP Irrig)		9,094	9,094	9,094	9,094	9,094	9,094	9,094	9,094	9,094	9,094
Truck Standpipe		5,684	5,684	5,684	5,684	5,684	5,684	5,684	5,684	5,684	5,684
Caltrans		2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500
Projected New RW Use		0	0	0	0	0	0	0	0	0	0
Total		195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174
Palo Alto Share of Projected RW Use											
		31.5%	31.5%	31.5%	31.5%	31.5%	31.5%	31.5%	31.5%	31.5%	31.5%
Proj Potable Irrig Water Rate (W7)	3.0%	\$15.38	\$15.84	\$16.31	\$16.80	\$17.31	\$17.82	\$18.36	\$18.91	\$19.48	\$20.06
Projected Recycled Water Rate [1]		\$1.37	\$1.43	\$1.48	\$1.54	\$1.60	\$1.67	\$1.73	\$1.80	\$1.88	\$1.95
Recycled Water Sales Revenues & Expense Offsets											
Truck RW Sales		\$7,800	\$8,100	\$8,400	\$8,800	\$9,100	\$9,500	\$9,900	\$10,200	\$10,700	\$11,100
MSC & Other Billed City Use		12,500	13,000	13,500	14,000	14,600	15,200	15,800	16,400	17,100	17,700
Caltrans RW Sales		3,400	3,600	3,700	3,900	4,000	4,200	4,300	4,500	4,700	4,900
Other RW Sales		0	0	0	0	0	0	0	0	0	0
Valley Water Annual Option Pymt		0	0	0	0	0	0	0	0	0	0
Valley Water Annual Effluent Purchase		tdb	tdb	tdb	tdb	tdb	tdb	tdb	tdb	tdb	tdb
Reduced Potable Water Purchases	4.0%	76,900	79,200	81,600	84,000	86,500	89,100	91,800	94,500	97,400	100,300
Subtotal		100,600	103,900	107,200	110,700	114,200	118,000	121,800	125,600	129,900	134,000
Recycled Water Expenses											
AWPS O&M Allocation [2,3,4,5]		\$267,500	\$278,200	\$289,300	\$300,900	\$312,900	\$325,400	\$338,400	\$351,900	\$366,000	\$380,600
AWPS SRF Debt Service Allocation [6]		0	0	0	0	0	0	0	0	0	0
Subtotal		267,500	278,200	289,300	300,900	312,900	325,400	338,400	351,900	366,000	380,600
Revenues Less Expenses		(\$166,900)	(\$174,300)	(\$182,100)	(\$190,200)	(\$198,700)	(\$207,400)	(\$216,600)	(\$226,300)	(\$236,100)	(\$246,600)
Cumulative Net Expenses		(\$920,900)	(\$1,095,200)	(\$1,277,300)	(\$1,467,500)	(\$1,666,200)	(\$1,873,600)	(\$2,090,200)	(\$2,316,500)	(\$2,552,600)	(\$2,799,200)
Projected RW Cost per Unit (\$/ccf)		\$1.37	\$1.43	\$1.48	\$1.54	\$1.60	\$1.67	\$1.73	\$1.80	\$1.88	\$1.95
Net RW Unit Cost After Offsets (\$/ccf)		\$0.86	\$0.89	\$0.93	\$0.97	\$1.02	\$1.06	\$1.11	\$1.16	\$1.21	\$1.26

1 Assumes recycled water sold at cost.

2 Expense projections account for AWPS Phase 1 operating and capital expenses only.

3 AWPS operating expenses assume seasonal variation in operations with 1.25 FTEs new labor.

4 Excludes capital & operating expenses for existing Title 22 recycled water system at the RWQCP.

5 Excludes costs related to the City's recycled water distribution system.

6 Assumes first year SRF Loan payment is used to fund a required debt service reserve equal to annual debt service.

Table PA-6

Recycled Water Use Assumptions

AWPS Preliminary Financial Plan

Palo Alto: No Increases in Recycled Water Use from Base Year 2026

Projection of Recycled Water Impacts to Palo Alto General Fund

Mountain View: No Increases in Recycled Water Use from Base Year 2026

	Cost Esc	21 2045/46	22 2046/47	23 2047/48	24 2048/49	25 2049/50	26 2050/51	27 2051/52	28 2052/53	29 2053/54	30 2054/55
Enhanced Recycled Water Use (ccf)											
City Use for Golf Course & Parks		172,897	172,897	172,897	172,897	172,897	172,897	172,897	172,897	172,897	172,897
Increase in RW for Golf Course & Parks		5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
Other City Uses (MSC/hydrant/RWQCP Irrig)		9,094	9,094	9,094	9,094	9,094	9,094	9,094	9,094	9,094	9,094
Truck Standpipe		5,684	5,684	5,684	5,684	5,684	5,684	5,684	5,684	5,684	5,684
Caltrans		2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500
Projected New RW Use		0	0	0	0	0	0	0	0	0	0
Total		195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174
Palo Alto Share of Projected RW Use											
		31.5%	31.5%	31.5%	31.5%	31.5%	31.5%	31.5%	31.5%	31.5%	31.5%
Proj Potable Irrig Water Rate (W7)	3.0%	\$20.66	\$21.28	\$21.92	\$22.58	\$23.26	\$23.95	\$24.67	\$25.41	\$26.18	\$26.96
Projected Recycled Water Rate [1]		\$2.03	\$2.11	\$2.19	\$2.28	\$2.37	\$2.47	\$2.57	\$2.67	\$2.77	\$2.89
Recycled Water Sales Revenues & Expense Offsets											
Truck RW Sales		\$11,500	\$12,000	\$12,500	\$13,000	\$13,500	\$14,000	\$14,600	\$15,200	\$15,800	\$16,400
MSC & Other Billed City Use		18,400	19,200	19,900	20,700	21,600	22,400	23,300	24,300	25,200	26,200
Caltrans RW Sales		5,100	5,300	5,500	5,700	5,900	6,200	6,400	6,700	6,900	7,200
Other RW Sales		0	0	0	0	0	0	0	0	0	0
Valley Water Annual Option Pymt		0	0	0	0	0	0	0	0	0	0
Valley Water Annual Effluent Purchase		tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd
Reduced Potable Water Purchases	4.0%	103,300	106,400	109,600	112,900	116,300	119,800	123,400	127,100	130,900	134,800
Subtotal		138,300	142,900	147,500	152,300	157,300	162,400	167,700	173,300	178,800	184,600
Recycled Water Expenses											
AWPS O&M Allocation [2,3,4,5]		\$395,800	\$411,600	\$428,100	\$445,200	\$463,000	\$481,500	\$500,800	\$520,800	\$541,600	\$563,300
AWPS SRF Debt Service Allocation [6]		0	0	0	0	0	0	0	0	0	0
Subtotal		395,800	411,600	428,100	445,200	463,000	481,500	500,800	520,800	541,600	563,300
Revenues Less Expenses		(\$257,500)	(\$268,700)	(\$280,600)	(\$292,900)	(\$305,700)	(\$319,100)	(\$333,100)	(\$347,500)	(\$362,800)	(\$378,700)
Cumulative Net Expenses		(\$3,056,700)	(\$3,325,400)	(\$3,606,000)	(\$3,898,900)	(\$4,204,600)	(\$4,523,700)	(\$4,856,800)	(\$5,204,300)	(\$5,567,100)	(\$5,945,800)
Projected RW Cost per Unit (\$/ccf)		\$2.03	\$2.11	\$2.19	\$2.28	\$2.37	\$2.47	\$2.57	\$2.67	\$2.77	\$2.89
Net RW Unit Cost After Offsets (\$/ccf)		\$1.32	\$1.38	\$1.44	\$1.50	\$1.57	\$1.63	\$1.71	\$1.78	\$1.86	\$1.94

1 Assumes recycled water sold at cost.

2 Expense projections account for AWPS Phase 1 operating and capital expenses only.

3 AWPS operating expenses assume seasonal variation in operations with 1.25 FTEs new labor.

4 Excludes capital & operating expenses for existing Title 22 recycled water system at the RWQCP.

5 Excludes costs related to the City's recycled water distribution system.

6 Assumes first year SRF Loan payment is used to fund a required debt service reserve equal to annual debt service.

Table PA-7

AWPS Preliminary Financial Plan
Net Annual Impacts to City of Palo Alto

Recycled Water Use Assumptions

Palo Alto: No Increases in Recycled Water Use from Base Year 2026

Mountain View: No Increases in Recycled Water Use from Base Year 2026

	1	2	3	4	5	6	7	8	9	10
	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35
Palo Alto Recycled Water Use (ccf)										
Base Year Recycled Water Use	97,587	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174
Projected New Recycled Water Use	0	0	0	0	0	0	0	0	0	0
Total	97,587	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174
Palo Alto General Fund: Palo Alto Golf Course & Parks										
Recycled Water Expenses	(\$94,000)	(\$188,000)	(\$195,500)	(\$203,300)	(\$211,400)	(\$219,900)	(\$228,700)	(\$237,800)	(\$247,300)	(\$257,200)
Less Expense Offsets										
A) Potable Water Purchases for GC Fairway Irrig (ccf)	<i>50% Jan-Jun</i>									
Transition from Potable to RW Use	2,500	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
City Potable Water Rate (W7) with 3% Escalation	\$11.44	\$11.78	\$12.14	\$12.50	\$12.88	\$13.26	\$13.66	\$14.07	\$14.49	\$14.93
Cost of Potable City Water Purchases	\$28,600	\$58,900	\$60,700	\$62,500	\$64,400	\$66,300	\$68,300	\$70,400	\$72,500	\$74,600
B) Recycled Water Sales Revenues										
Truck RW Sales	\$2,700	\$5,500	\$5,700	\$5,900	\$6,200	\$6,400	\$6,700	\$6,900	\$7,200	\$7,500
MSC & Other Billed City Use	4,400	8,800	9,100	9,500	9,800	10,200	10,700	11,100	11,500	12,000
Caltrans RW Sales	1,200	2,400	2,500	2,600	2,700	2,800	2,900	3,000	3,200	3,300
Other RW Sales	0	0	0	0	0	0	0	0	0	0
Subtotal	\$8,300	\$16,700	\$17,300	\$18,000	\$18,700	\$19,400	\$20,300	\$21,000	\$21,900	\$22,800
Net Annual Impact to General Fund	(\$57,100)	(\$112,400)	(\$117,500)	(\$122,800)	(\$128,300)	(\$134,200)	(\$140,100)	(\$146,400)	(\$152,900)	(\$159,800)
<i>AWPS RW expenses offset by reduced potable water expenses and RW sales revenues</i>										
Palo Alto Water Fund										
Loss of Potable Water Sales	(\$28,600)	(\$58,900)	(\$60,700)	(\$62,500)	(\$64,400)	(\$66,300)	(\$68,300)	(\$70,400)	(\$72,500)	(\$74,600)
Offset by Reduction in SFPUC Potable Water Purchases										
Reduction in SFPUC Potable Water Purchases (ccf)	2,500	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
SFPUC Wholesale Rate w/ 5% Esc + BAWSCA Bond Surchg	\$6.48	\$6.78	\$7.10	\$7.44	\$7.79	\$8.16	\$8.54	\$8.95	\$9.38	\$9.83
Total Est. Annual Potable City Water Purchases	16,200	33,900	35,500	37,200	38,900	40,800	42,700	44,800	46,900	49,100
Net Annual Revenue Loss to Water Enterprise	(\$12,400)	(\$25,000)	(\$25,200)	(\$25,300)	(\$25,500)	(\$25,500)	(\$25,600)	(\$25,600)	(\$25,600)	(\$25,500)
<i>Loss of potable water sales less corresponding reduction of SFPUC wholesale water purchases</i>										
Palo Alto Wastewater Fund										
Valley Water Annual Option Payment	\$58,200	\$59,900	\$61,700	\$63,600	\$65,500	\$67,500	\$69,500	\$71,600	\$0	\$0
Valley Water Annual Effluent Purchase Payment	-	-	-	-	-	-	-	-	tbd	tbd
Total Combined Impact to Palo Alto										
Net Impact to General Fund	(\$57,100)	(\$112,400)	(\$117,500)	(\$122,800)	(\$128,300)	(\$134,200)	(\$140,100)	(\$146,400)	(\$152,900)	(\$159,800)
Net Revenue Loss Water Enterprise	(12,400)	(25,000)	(25,200)	(25,300)	(25,500)	(25,500)	(25,600)	(25,600)	(25,600)	(25,500)
Valley Water Annual Option Payment to Wastewater Fund	58,200	59,900	61,700	63,600	65,500	67,500	69,500	71,600	0	0
Total Net Annual Impact to City	(\$11,300)	(\$77,500)	(\$81,000)	(\$84,500)	(\$88,300)	(\$92,200)	(\$96,200)	(\$100,400)	(\$178,500)	(\$185,300)
Cumulative Impact to City	(\$11,300)	(\$88,800)	(\$169,800)	(\$254,300)	(\$342,600)	(\$434,800)	(\$531,000)	(\$631,400)	(\$809,900)	(\$995,200)

Table PA-7

AWPS Preliminary Financial Plan
Net Annual Impacts to City of Palo Alto

Recycled Water Use Assumptions

Palo Alto: No Increases in Recycled Water Use from Base Year 2026

Mountain View: No Increases in Recycled Water Use from Base Year 2026

	11	12	13	14	15	16	17	18	19	20
	2035/36	2036/37	2037/38	2038/39	2039/40	2040/41	2041/42	2042/43	2043/44	2044/45
Palo Alto Recycled Water Use (ccf)										
Base Year Recycled Water Use	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174
Projected New Recycled Water Use	0	0	0	0	0	0	0	0	0	0
Total	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174
Palo Alto General Fund: Palo Alto Golf Course & Parks										
Recycled Water Expenses	(\$267,500)	(\$278,200)	(\$289,300)	(\$300,900)	(\$312,900)	(\$325,400)	(\$338,400)	(\$351,900)	(\$366,000)	(\$380,600)
Less Expense Offsets										
<u>A) Potable Water Purchases for GC Fairway Irrig (ccf)</u>										
Transition from Potable to RW Use	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
City Potable Water Rate (W7) with 3% Escalation	\$15.38	\$15.84	\$16.31	\$16.80	\$17.31	\$17.82	\$18.36	\$18.91	\$19.48	\$20.06
Cost of Potable City Water Purchases	\$76,900	\$79,200	\$81,600	\$84,000	\$86,500	\$89,100	\$91,800	\$94,500	\$97,400	\$100,300
<u>B) Recycled Water Sales Revenues</u>										
Truck RW Sales	\$7,800	\$8,100	\$8,400	\$8,800	\$9,100	\$9,500	\$9,900	\$10,200	\$10,700	\$11,100
MSC & Other Billed City Use	12,500	13,000	13,500	14,000	14,600	15,200	15,800	16,400	17,100	17,700
Caltrans RW Sales	3,400	3,600	3,700	3,900	4,000	4,200	4,300	4,500	4,700	4,900
Other RW Sales	0	0	0	0	0	0	0	0	0	0
Subtotal	\$23,700	\$24,700	\$25,600	\$26,700	\$27,700	\$28,900	\$30,000	\$31,100	\$32,500	\$33,700
Net Annual Impact to General Fund	(\$166,900)	(\$174,300)	(\$182,100)	(\$190,200)	(\$198,700)	(\$207,400)	(\$216,600)	(\$226,300)	(\$236,100)	(\$246,600)
<i>AWPS RW expenses offset by reduced potable water expenses and RW sales revenues</i>										
Palo Alto Water Fund										
Loss of Potable Water Sales	(\$76,900)	(\$79,200)	(\$81,600)	(\$84,000)	(\$86,500)	(\$89,100)	(\$91,800)	(\$94,500)	(\$97,400)	(\$100,300)
<u>Offset by Reduction in SFPUC Potable Water Purchases</u>										
Reduction in SFPUC Potable Water Purchases (ccf)	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
SFPUC Wholesale Rate w/ 3% Esc (No BAWCA Bond Surchg)	\$9.71	\$10.00	\$10.30	\$10.61	\$10.93	\$11.26	\$11.60	\$11.94	\$12.30	\$12.67
Total Est. Annual Potable City Water Purchases	48,600	50,000	51,500	53,100	54,600	56,300	58,000	59,700	61,500	63,400
Net Annual Revenue Loss to Water Enterprise	(\$28,300)	(\$29,200)	(\$30,100)	(\$30,900)	(\$31,900)	(\$32,800)	(\$33,800)	(\$34,800)	(\$35,900)	(\$36,900)
<i>Loss of potable water sales less corresponding reduction of SFPUC wholesale water purchases</i>										
Palo Alto Wastewater Fund										
Valley Water Annual Option Payment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Valley Water Annual Effluent Purchase Payment	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd
Total Combined Impact to Palo Alto										
Net Impact to General Fund	(\$166,900)	(\$174,300)	(\$182,100)	(\$190,200)	(\$198,700)	(\$207,400)	(\$216,600)	(\$226,300)	(\$236,100)	(\$246,600)
Net Revenue Loss Water Enterprise	(28,300)	(29,200)	(30,100)	(30,900)	(31,900)	(32,800)	(33,800)	(34,800)	(35,900)	(36,900)
Valley Water Annual Option Payment to Wastewater Fund	0	0	0	0	0	0	0	0	0	0
Total Net Annual Impact to City	(\$195,200)	(\$203,500)	(\$212,200)	(\$221,100)	(\$230,600)	(\$240,200)	(\$250,400)	(\$261,100)	(\$272,000)	(\$283,500)
Cumulative Impact to City	(\$1,190,400)	(\$1,393,900)	(\$1,606,100)	(\$1,827,200)	(\$2,057,800)	(\$2,298,000)	(\$2,548,400)	(\$2,809,500)	(\$3,081,500)	(\$3,365,000)

Table PA-7

AWPS Preliminary Financial Plan
Net Annual Impacts to City of Palo Alto

Recycled Water Use Assumptions

Palo Alto: No Increases in Recycled Water Use from Base Year 2026

Mountain View: No Increases in Recycled Water Use from Base Year 2026

	21	22	23	24	25	26	27	28	29	30
	2045/46	2046/47	2047/48	2048/49	2049/50	2050/51	2051/52	2052/53	2053/54	2054/55
Palo Alto Recycled Water Use (ccf)										
Base Year Recycled Water Use	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174
Projected New Recycled Water Use	0	0	0	0	0	0	0	0	0	0
Total	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174
Palo Alto General Fund: Palo Alto Golf Course & Parks										
Recycled Water Expenses	(\$395,800)	(\$411,600)	(\$428,100)	(\$445,200)	(\$463,000)	(\$481,500)	(\$500,800)	(\$520,800)	(\$541,600)	(\$563,300)
Less Expense Offsets										
<u>A) Potable Water Purchases for GC Fairway Irrig (ccf)</u>										
Transition from Potable to RW Use	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
City Potable Water Rate (W7) with 3% Escalation	\$20.66	\$21.28	\$21.92	\$22.58	\$23.26	\$23.95	\$24.67	\$25.41	\$26.18	\$26.96
Cost of Potable City Water Purchases	\$103,300	\$106,400	\$109,600	\$112,900	\$116,300	\$119,800	\$123,400	\$127,100	\$130,900	\$134,800
<u>B) Recycled Water Sales Revenues</u>										
Truck RW Sales	\$11,500	\$12,000	\$12,500	\$13,000	\$13,500	\$14,000	\$14,600	\$15,200	\$15,800	\$16,400
MSC & Other Billed City Use	18,400	19,200	19,900	20,700	21,600	22,400	23,300	24,300	25,200	26,200
Caltrans RW Sales	5,100	5,300	5,500	5,700	5,900	6,200	6,400	6,700	6,900	7,200
Other RW Sales	0	0	0	0	0	0	0	0	0	0
Subtotal	\$35,000	\$36,500	\$37,900	\$39,400	\$41,000	\$42,600	\$44,300	\$46,200	\$47,900	\$49,800
Net Annual Impact to General Fund	(\$257,500)	(\$268,700)	(\$280,600)	(\$292,900)	(\$305,700)	(\$319,100)	(\$333,100)	(\$347,500)	(\$362,800)	(\$378,700)
<i>AWPS RW expenses offset by reduced potable water expenses and RW sales revenues</i>										
Palo Alto Water Fund										
Loss of Potable Water Sales	(\$103,300)	(\$106,400)	(\$109,600)	(\$112,900)	(\$116,300)	(\$119,800)	(\$123,400)	(\$127,100)	(\$130,900)	(\$134,800)
<u>Offset by Reduction in SFPUC Potable Water Purchases</u>										
Reduction in SFPUC Potable Water Purchases (ccf)	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
SFPUC Wholesale Rate w/ 3% Esc (No BAWCA Bond Surchg)	\$13.05	\$13.44	\$13.85	\$14.26	\$14.69	\$15.13	\$15.58	\$16.05	\$16.53	\$17.03
Total Est. Annual Potable City Water Purchases	65,300	67,200	69,200	71,300	73,400	75,600	77,900	80,300	82,700	85,100
Net Annual Revenue Loss to Water Enterprise	(\$38,000)	(\$39,200)	(\$40,400)	(\$41,600)	(\$42,900)	(\$44,200)	(\$45,500)	(\$46,800)	(\$48,200)	(\$49,700)
<i>Loss of potable water sales less corresponding reduction of SFPUC wholesale water purchases</i>										
Palo Alto Wastewater Fund										
Valley Water Annual Option Payment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Valley Water Annual Effluent Purchase Payment	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd
Total Combined Impact to Palo Alto										
Net Impact to General Fund	(\$257,500)	(\$268,700)	(\$280,600)	(\$292,900)	(\$305,700)	(\$319,100)	(\$333,100)	(\$347,500)	(\$362,800)	(\$378,700)
Net Revenue Loss Water Enterprise	(38,000)	(39,200)	(40,400)	(41,600)	(42,900)	(44,200)	(45,500)	(46,800)	(48,200)	(49,700)
Valley Water Annual Option Payment to Wastewater Fund	0	0	0	0	0	0	0	0	0	0
Total Net Annual Impact to City	(\$295,500)	(\$307,900)	(\$321,000)	(\$334,500)	(\$348,600)	(\$363,300)	(\$378,600)	(\$394,300)	(\$411,000)	(\$428,400)
Cumulative Impact to City	(\$3,660,500)	(\$3,968,400)	(\$4,289,400)	(\$4,623,900)	(\$4,972,500)	(\$5,335,800)	(\$5,714,400)	(\$6,108,700)	(\$6,519,700)	(\$6,948,100)

Table PA-8

AWPS Preliminary Financial Plan

Projection of Recycled Water Impacts to Palo Alto General Fund

Recycled Water Use Assumptions

Palo Alto: No Increases in Recycled Water Use from Base Year 2026

Mountain View: Recycled Water Use Increases to Full 3.0 MGD Contract Amount

	Cost Esc	1 2025/26	2 2026/27	3 2027/28	4 2028/29	5 2029/30	6 2030/31	7 2031/32	8 2032/33	9 2033/34	10 2034/35
Enhanced Recycled Water Use (ccf)		<u>Jan-June Only</u>									
City Use for Golf Course & Parks		86,450	172,897	172,897	172,897	172,897	172,897	172,897	172,897	172,897	172,897
Increase in RW for Golf Course & Parks		2,500	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
Other City Uses (MSC/hydrant/RWQCP Irrig)		4,550	9,094	9,094	9,094	9,094	9,094	9,094	9,094	9,094	9,094
Truck Standpipe		2,840	5,684	5,684	5,684	5,684	5,684	5,684	5,684	5,684	5,684
Caltrans		1,250	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500
Projected New RW Use		0	0	0	0	0	0	0	0	0	0
Total		97,590	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174
Palo Alto Share of Projected RW Use		31.5%	31.5%	29.4%	27.8%	25.8%	24.1%	24.1%	24.1%	24.1%	24.1%
Proj Potable Irrig Water Rate (W7)	3.0%	\$11.44	\$11.78	\$12.14	\$12.50	\$12.88	\$13.26	\$13.66	\$14.07	\$14.49	\$14.93
Projected Recycled Water Rate [1]		\$0.96	\$0.96	\$0.94	\$0.96	\$0.95	\$0.97	\$1.05	\$1.09	\$1.13	\$1.18
Recycled Water Sales Revenues & Expense Offsets											
Truck RW Sales		\$2,700	\$5,500	\$5,300	\$5,400	\$5,400	\$5,500	\$6,000	\$6,200	\$6,500	\$6,700
MSC & Other Billed City Use		4,400	8,800	8,500	8,700	8,700	8,800	9,500	9,900	10,300	10,700
Caltrans RW Sales		1,200	2,400	2,300	2,400	2,400	2,400	2,600	2,700	2,800	3,000
Other RW Sales		0	0	0	0	0	0	0	0	0	0
Valley Water Annual Option Pymt	3.0%	58,200	59,900	61,700	63,600	65,500	67,500	69,500	71,600	0	0
Valley Water Annual Effluent Purchase		-	-	-	-	-	-	-	-	tbd	tbd
Reduced Potable Water Purchases	3.0%	28,600	58,900	60,700	62,500	64,400	66,300	68,300	70,400	72,500	74,600
Subtotal		95,100	135,500	138,500	142,600	146,400	150,500	155,900	160,800	92,100	95,000
AWPS Total O&M Expenses		298,600	596,900	620,900	671,200	721,600	785,800	850,000	884,000	919,360	956,134
Recycled Water Expenses											
AWPS O&M Allocation [2,3,4,5]	4.0%	\$94,000	\$188,000	\$182,600	\$186,400	\$186,200	\$189,300	\$204,800	\$213,000	\$221,500	\$230,400
AWPS SRF Debt Service Allocation [6]		0	0	0	0	0	0	0	0	0	0
Subtotal		94,000	188,000	182,600	186,400	186,200	189,300	204,800	213,000	221,500	230,400
Revenues Less Expenses		\$1,100	(\$52,500)	(\$44,100)	(\$43,800)	(\$39,800)	(\$38,800)	(\$48,900)	(\$52,200)	(\$129,400)	(\$135,400)
Cumulative Net Expenses		\$1,100	(\$51,400)	(\$95,500)	(\$139,300)	(\$179,100)	(\$217,900)	(\$266,800)	(\$319,000)	(\$448,400)	(\$583,800)
Projected RW Cost per Unit (\$/ccf)		\$0.96	\$0.96	\$0.94	\$0.96	\$0.95	\$0.97	\$1.05	\$1.09	\$1.13	\$1.18
Net RW Unit Cost After Offsets (\$/ccf)		(\$0.01)	\$0.27	\$0.23	\$0.22	\$0.20	\$0.20	\$0.25	\$0.27	\$0.66	\$0.69

1 Assumes recycled water sold at cost.

2 Expense projections account for AWPS Phase 1 operating and capital expenses only.

3 AWPS operating expenses assume seasonal variation in operations with no new labor.

4 Excludes capital & operating expenses for existing Title 22 recycled water system at the RWQCP.

5 Excludes costs related to the City's recycled water distribution system.

6 Assumes first year SRF Loan payment is used to fund a required debt service reserve equal to annual debt service.

Table PA-8

AWPS Preliminary Financial Plan

Projection of Recycled Water Impacts to Palo Alto General Fund

Recycled Water Use Assumptions

Palo Alto: No Increases in Recycled Water Use from Base Year 2026

Mountain View: Recycled Water Use Increases to Full 3.0 MGD Contract Amount

	Cost Esc	11 2035/36	12 2036/37	13 2037/38	14 2038/39	15 2039/40	16 2040/41	17 2041/42	18 2042/43	19 2043/44	20 2044/45
Enhanced Recycled Water Use (ccf)											
City Use for Golf Course & Parks		172,897	172,897	172,897	172,897	172,897	172,897	172,897	172,897	172,897	172,897
Increase in RW for Golf Course & Parks		5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
Other City Uses (MSC/hydrant/RWQCP Irrig)		9,094	9,094	9,094	9,094	9,094	9,094	9,094	9,094	9,094	9,094
Truck Standpipe		5,684	5,684	5,684	5,684	5,684	5,684	5,684	5,684	5,684	5,684
Caltrans		2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500
Projected New RW Use		0	0	0	0	0	0	0	0	0	0
Total		195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174
Palo Alto Share of Projected RW Use											
		24.1%	24.1%	24.1%	24.1%	24.1%	18.6%	15.1%	12.7%	11.8%	11.8%
Proj Potable Irrig Water Rate (W7)	3.0%	\$15.38	\$15.84	\$16.31	\$16.80	\$17.31	\$17.82	\$18.36	\$18.91	\$19.48	\$20.06
Projected Recycled Water Rate [1]		\$1.23	\$1.28	\$1.33	\$1.38	\$1.44	\$1.15	\$1.25	\$1.33	\$1.51	\$1.65
Recycled Water Sales Revenues & Expense Offsets											
Truck RW Sales		\$7,000	\$7,300	\$7,500	\$7,800	\$8,200	\$6,600	\$7,100	\$7,600	\$8,600	\$9,400
MSC & Other Billed City Use		11,200	11,600	12,100	12,600	13,100	10,500	11,400	12,100	13,700	15,000
Caltrans RW Sales		3,100	3,200	3,300	3,500	3,600	2,900	3,100	3,300	3,800	4,100
Other RW Sales		0	0	0	0	0	0	0	0	0	0
Valley Water Annual Option Pymt		0	0	0	0	0	0	0	0	0	0
Valley Water Annual Effluent Purchase		tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd
Reduced Potable Water Purchases	4.0%	76,900	79,200	81,600	84,000	86,500	89,100	91,800	94,500	97,400	100,300
Subtotal		98,200	101,300	104,500	107,900	111,400	109,100	113,400	117,500	123,500	128,800
AWPS Total O&M Expenses		994,400	1,034,200	1,075,500	1,118,500	1,163,300	1,209,800	1,616,300	2,048,100	2,499,400	2,736,100
Recycled Water Expenses											
AWPS O&M Allocation [2,3,4,5]		\$239,600	\$249,200	\$259,200	\$269,500	\$280,300	\$225,100	\$244,000	\$260,100	\$294,000	\$321,900
AWPS SRF Debt Service Allocation [6]		0	0	0	0	0	0	0	0	0	0
Subtotal		239,600	249,200	259,200	269,500	280,300	225,100	244,000	260,100	294,000	321,900
Revenues Less Expenses		(\$141,400)	(\$147,900)	(\$154,700)	(\$161,600)	(\$168,900)	(\$116,000)	(\$130,600)	(\$142,600)	(\$170,500)	(\$193,100)
Cumulative Net Expenses		(\$725,200)	(\$873,100)	(\$1,027,800)	(\$1,189,400)	(\$1,358,300)	(\$1,474,300)	(\$1,604,900)	(\$1,747,500)	(\$1,918,000)	(\$2,111,100)
Projected RW Cost per Unit (\$/ccf)		\$1.23	\$1.28	\$1.33	\$1.38	\$1.44	\$1.15	\$1.25	\$1.33	\$1.51	\$1.65
Net RW Unit Cost After Offsets (\$/ccf)		\$0.72	\$0.76	\$0.79	\$0.83	\$0.87	\$0.59	\$0.67	\$0.73	\$0.87	\$0.99

1 Assumes recycled water sold at cost.

2 Expense projections account for AWPS Phase 1 operating and capital expenses only.

3 AWPS operating expenses assume seasonal variation in operations with no new labor.

4 Excludes capital & operating expenses for existing Title 22 recycled water system at the RWQCP.

5 Excludes costs related to the City's recycled water distribution system.

6 Assumes first year SRF Loan payment is used to fund a required debt service reserve equal to annual debt service.

Table PA-8

AWPS Preliminary Financial Plan

Projection of Recycled Water Impacts to Palo Alto General Fund

Recycled Water Use Assumptions

Palo Alto: No Increases in Recycled Water Use from Base Year 2026

Mountain View: Recycled Water Use Increases to Full 3.0 MGD Contract Amount

	Cost Esc	21 2045/46	22 2046/47	23 2047/48	24 2048/49	25 2049/50	26 2050/51	27 2051/52	28 2052/53	29 2053/54	30 2054/55
Enhanced Recycled Water Use (ccf)											
City Use for Golf Course & Parks		172,897	172,897	172,897	172,897	172,897	172,897	172,897	172,897	172,897	172,897
Increase in RW for Golf Course & Parks		5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
Other City Uses (MSC/hydrant/RWQCP Irrig)		9,094	9,094	9,094	9,094	9,094	9,094	9,094	9,094	9,094	9,094
Truck Standpipe		5,684	5,684	5,684	5,684	5,684	5,684	5,684	5,684	5,684	5,684
Caltrans		2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500
Projected New RW Use		0	0	0	0	0	0	0	0	0	0
Total		195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174
Palo Alto Share of Projected RW Use											
		11.8%	11.8%	11.8%	11.8%	11.8%	11.8%	11.8%	11.8%	11.8%	11.8%
Proj Potable Irrig Water Rate (W7)	3.0%	\$20.66	\$21.28	\$21.92	\$22.58	\$23.26	\$23.95	\$24.67	\$25.41	\$26.18	\$26.96
Projected Recycled Water Rate [1]		\$1.72	\$1.78	\$1.86	\$1.93	\$2.01	\$2.09	\$2.17	\$2.26	\$2.35	\$2.44
Recycled Water Sales Revenues & Expense Offsets											
Truck RW Sales		\$9,700	\$10,100	\$10,500	\$11,000	\$11,400	\$11,900	\$12,300	\$12,800	\$13,300	\$13,900
MSC & Other Billed City Use		15,600	16,200	16,900	17,500	18,200	19,000	19,700	20,500	21,300	22,200
Caltrans RW Sales		4,300	4,500	4,600	4,800	5,000	5,200	5,400	5,600	5,900	6,100
Other RW Sales		0	0	0	0	0	0	0	0	0	0
Valley Water Annual Option Pymt		0	0	0	0	0	0	0	0	0	0
Valley Water Annual Effluent Purchase		tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd
Reduced Potable Water Purchases	4.0%	103,300	106,400	109,600	112,900	116,300	119,800	123,400	127,100	130,900	134,800
Subtotal		132,900	137,200	141,600	146,200	150,900	155,900	160,800	166,000	171,400	177,000
AWPS Total O&M Expenses		2,845,500	2,959,300	3,077,700	3,200,800	3,328,900	3,462,000	3,600,500	3,744,500	3,894,300	4,050,100
Recycled Water Expenses											
AWPS O&M Allocation [2,3,4,5]		\$334,800	\$348,200	\$362,100	\$376,600	\$391,600	\$407,300	\$423,600	\$440,500	\$458,200	\$476,500
AWPS SRF Debt Service Allocation [6]		0	0	0	0	0	0	0	0	0	0
Subtotal		334,800	348,200	362,100	376,600	391,600	407,300	423,600	440,500	458,200	476,500
Revenues Less Expenses		(\$201,900)	(\$211,000)	(\$220,500)	(\$230,400)	(\$240,700)	(\$251,400)	(\$262,800)	(\$274,500)	(\$286,800)	(\$299,500)
Cumulative Net Expenses		(\$2,313,000)	(\$2,524,000)	(\$2,744,500)	(\$2,974,900)	(\$3,215,600)	(\$3,467,000)	(\$3,729,800)	(\$4,004,300)	(\$4,291,100)	(\$4,590,600)
Projected RW Cost per Unit (\$/ccf)		\$1.72	\$1.78	\$1.86	\$1.93	\$2.01	\$2.09	\$2.17	\$2.26	\$2.35	\$2.44
Net RW Unit Cost After Offsets (\$/ccf)		\$1.03	\$1.08	\$1.13	\$1.18	\$1.23	\$1.29	\$1.35	\$1.41	\$1.47	\$1.53

1 Assumes recycled water sold at cost.

2 Expense projections account for AWPS Phase 1 operating and capital expenses only.

3 AWPS operating expenses assume seasonal variation in operations with no new labor.

4 Excludes capital & operating expenses for existing Title 22 recycled water system at the RWQCP.

5 Excludes costs related to the City's recycled water distribution system.

6 Assumes first year SRF Loan payment is used to fund a required debt service reserve equal to annual debt service.

Table PA-9

AWPS Preliminary Financial Plan
Net Annual Impacts to City of Palo Alto

Recycled Water Use Assumptions

Palo Alto: No Increases in Recycled Water Use from Base Year 2026

Mountain View: Recycled Water Use Increases to Full 3.0 MGD Contract Amount

	1	2	3	4	5	6	7	8	9	10
	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35
Palo Alto Recycled Water Use (ccf)										
Base Year Recycled Water Use	97,587	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174
Projected New Recycled Water Use	0	0	0	0	0	0	0	0	0	0
Total	97,587	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174
Palo Alto General Fund: Palo Alto Golf Course & Parks										
Recycled Water Expenses	(\$94,000)	(\$188,000)	(\$182,600)	(\$186,400)	(\$186,200)	(\$189,300)	(\$204,800)	(\$213,000)	(\$221,500)	(\$230,400)
Less Expense Offsets										
A) Potable Water Purchases for GC Fairway Irrig (ccf)	<i>50% Jan-Jun</i>									
Transition from Potable to RW Use	2,500	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
City Potable Water Rate (W7) with 3% Escalation	\$11.44	\$11.78	\$12.14	\$12.50	\$12.88	\$13.26	\$13.66	\$14.07	\$14.49	\$14.93
Cost of Potable City Water Purchases	\$28,600	\$58,900	\$60,700	\$62,500	\$64,400	\$66,300	\$68,300	\$70,400	\$72,500	\$74,600
B) Recycled Water Sales Revenues										
Truck RW Sales	\$2,700	\$5,500	\$5,300	\$5,400	\$5,400	\$5,500	\$6,000	\$6,200	\$6,500	\$6,700
MSC & Other Billed City Use	4,400	8,800	8,500	8,700	8,700	8,800	9,500	9,900	10,300	10,700
Caltrans RW Sales	1,200	2,400	2,300	2,400	2,400	2,400	2,600	2,700	2,800	3,000
Other RW Sales	0	0	0	0	0	0	0	0	0	0
Subtotal	\$8,300	\$16,700	\$16,100	\$16,500	\$16,500	\$16,700	\$18,100	\$18,800	\$19,600	\$20,400
Net Annual Impact to General Fund	(\$57,100)	(\$112,400)	(\$105,800)	(\$107,400)	(\$105,300)	(\$106,300)	(\$118,400)	(\$123,800)	(\$129,400)	(\$135,400)
<i>AWPS RW expenses offset by reduced potable water expenses and RW sales revenues</i>										
Palo Alto Water Fund										
Loss of Potable Water Sales	(\$28,600)	(\$58,900)	(\$60,700)	(\$62,500)	(\$64,400)	(\$66,300)	(\$68,300)	(\$70,400)	(\$72,500)	(\$74,600)
Offset by Reduction in SFPUC Potable Water Purchases										
Reduction in SFPUC Potable Water Purchases (ccf)	2,500	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
SFPUC Wholesale Rate w/ 5% Esc + BAWSCA Bond Surchg	\$6.48	\$6.78	\$7.10	\$7.44	\$7.79	\$8.16	\$8.54	\$8.95	\$9.38	\$9.83
Total Est. Annual Potable City Water Purchases	16,200	33,900	35,500	37,200	38,900	40,800	42,700	44,800	46,900	49,100
Net Annual Revenue Loss to Water Enterprise	(\$12,400)	(\$25,000)	(\$25,200)	(\$25,300)	(\$25,500)	(\$25,500)	(\$25,600)	(\$25,600)	(\$25,600)	(\$25,500)
<i>Loss of potable water sales less corresponding reduction of SFPUC wholesale water purchases</i>										
Palo Alto Wastewater Fund										
Valley Water Annual Option Payment	\$58,200	\$59,900	\$61,700	\$63,600	\$65,500	\$67,500	\$69,500	\$71,600	\$0	\$0
Valley Water Annual Effluent Purchase Payment	-	-	-	-	-	-	-	-	tbd	tbd
Total Combined Impact to Palo Alto										
Net Impact to General Fund	(\$57,100)	(\$112,400)	(\$105,800)	(\$107,400)	(\$105,300)	(\$106,300)	(\$118,400)	(\$123,800)	(\$129,400)	(\$135,400)
Net Revenue Loss Water Enterprise	(12,400)	(25,000)	(25,200)	(25,300)	(25,500)	(25,500)	(25,600)	(25,600)	(25,600)	(25,500)
Valley Water Annual Option Payment to Wastewater Fund	58,200	59,900	61,700	63,600	65,500	67,500	69,500	71,600	0	0
Total Net Annual Impact to City	(\$11,300)	(\$77,500)	(\$69,300)	(\$69,100)	(\$65,300)	(\$64,300)	(\$74,500)	(\$77,800)	(\$155,000)	(\$160,900)
Cumulative Impact to City	(\$11,300)	(\$88,800)	(\$158,100)	(\$227,200)	(\$292,500)	(\$356,800)	(\$431,300)	(\$509,100)	(\$664,100)	(\$825,000)

Table PA-9

AWPS Preliminary Financial Plan

Net Annual Impacts to City of Palo Alto

Recycled Water Use Assumptions

Palo Alto: No Increases in Recycled Water Use from Base Year 2026

Mountain View: Recycled Water Use Increases to Full 3.0 MGD Contract Amount

	11	12	13	14	15	16	17	18	19	20
	2035/36	2036/37	2037/38	2038/39	2039/40	2040/41	2041/42	2042/43	2043/44	2044/45
Palo Alto Recycled Water Use (ccf)										
Base Year Recycled Water Use	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174
Projected New Recycled Water Use	0	0	0	0	0	0	0	0	0	0
Total	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174
Palo Alto General Fund: Palo Alto Golf Course & Parks										
Recycled Water Expenses	(\$239,600)	(\$249,200)	(\$259,200)	(\$269,500)	(\$280,300)	(\$225,100)	(\$244,000)	(\$260,100)	(\$294,000)	(\$321,900)
Less Expense Offsets										
<u>A) Potable Water Purchases for GC Fairway Irrig (ccf)</u>										
Transition from Potable to RW Use	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
City Potable Water Rate (W7) with 3% Escalation	\$15.38	\$15.84	\$16.31	\$16.80	\$17.31	\$17.82	\$18.36	\$18.91	\$19.48	\$20.06
Cost of Potable City Water Purchases	\$76,900	\$79,200	\$81,600	\$84,000	\$86,500	\$89,100	\$91,800	\$94,500	\$97,400	\$100,300
<u>B) Recycled Water Sales Revenues</u>										
Truck RW Sales	\$7,000	\$7,300	\$7,500	\$7,800	\$8,200	\$6,600	\$7,100	\$7,600	\$8,600	\$9,400
MSC & Other Billed City Use	11,200	11,600	12,100	12,600	13,100	10,500	11,400	12,100	13,700	15,000
Caltrans RW Sales	3,100	3,200	3,300	3,500	3,600	2,900	3,100	3,300	3,800	4,100
Other RW Sales	0	0	0	0	0	0	0	0	0	0
Subtotal	\$21,300	\$22,100	\$22,900	\$23,900	\$24,900	\$20,000	\$21,600	\$23,000	\$26,100	\$28,500
Net Annual Impact to General Fund	(\$141,400)	(\$147,900)	(\$154,700)	(\$161,600)	(\$168,900)	(\$116,000)	(\$130,600)	(\$142,600)	(\$170,500)	(\$193,100)
<i>AWPS RW expenses offset by reduced potable water expenses and RW sales revenues</i>										
Palo Alto Water Fund										
Loss of Potable Water Sales	(\$76,900)	(\$79,200)	(\$81,600)	(\$84,000)	(\$86,500)	(\$89,100)	(\$91,800)	(\$94,500)	(\$97,400)	(\$100,300)
<u>Offset by Reduction in SFPUC Potable Water Purchases</u>										
Reduction in SFPUC Potable Water Purchases (ccf)	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
SFPUC Wholesale Rate w/ 3% Esc (No BAWCA Bond Surchg)	\$9.71	\$10.00	\$10.30	\$10.61	\$10.93	\$11.26	\$11.60	\$11.94	\$12.30	\$12.67
Total Est. Annual Potable City Water Purchases	48,600	50,000	51,500	53,100	54,600	56,300	58,000	59,700	61,500	63,400
Net Annual Revenue Loss to Water Enterprise	(\$28,300)	(\$29,200)	(\$30,100)	(\$30,900)	(\$31,900)	(\$32,800)	(\$33,800)	(\$34,800)	(\$35,900)	(\$36,900)
<i>Loss of potable water sales less corresponding reduction of SFPUC wholesale water purchases</i>										
Palo Alto Wastewater Fund										
Valley Water Annual Option Payment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Valley Water Annual Effluent Purchase Payment	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd
Total Combined Impact to Palo Alto										
Net Impact to General Fund	(\$141,400)	(\$147,900)	(\$154,700)	(\$161,600)	(\$168,900)	(\$116,000)	(\$130,600)	(\$142,600)	(\$170,500)	(\$193,100)
Net Revenue Loss Water Enterprise	(28,300)	(29,200)	(30,100)	(30,900)	(31,900)	(32,800)	(33,800)	(34,800)	(35,900)	(36,900)
Valley Water Annual Option Payment to Wastewater Fund	0	0	0	0	0	0	0	0	0	0
Total Net Annual Impact to City	(\$169,700)	(\$177,100)	(\$184,800)	(\$192,500)	(\$200,800)	(\$148,800)	(\$164,400)	(\$177,400)	(\$206,400)	(\$230,000)
Cumulative Impact to City	(\$994,700)	(\$1,171,800)	(\$1,356,600)	(\$1,549,100)	(\$1,749,900)	(\$1,898,700)	(\$2,063,100)	(\$2,240,500)	(\$2,446,900)	(\$2,676,900)

Table PA-9

Recycled Water Use Assumptions

AWPS Preliminary Financial Plan

Palo Alto: No Increases in Recycled Water Use from Base Year 2026

Net Annual Impacts to City of Palo Alto

Mountain View: Recycled Water Use Increases to Full 3.0 MGD Contract Amount

	21	22	23	24	25	26	27	28	29	30
	2045/46	2046/47	2047/48	2048/49	2049/50	2050/51	2051/52	2052/53	2053/54	2054/55
Palo Alto Recycled Water Use (ccf)										
Base Year Recycled Water Use	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174
Projected New Recycled Water Use	0	0	0	0	0	0	0	0	0	0
Total	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174
Palo Alto General Fund: Palo Alto Golf Course & Parks										
Recycled Water Expenses	(\$334,800)	(\$348,200)	(\$362,100)	(\$376,600)	(\$391,600)	(\$407,300)	(\$423,600)	(\$440,500)	(\$458,200)	(\$476,500)
Less Expense Offsets										
<u>A) Potable Water Purchases for GC Fairway Irrig (ccf)</u>										
Transition from Potable to RW Use	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
City Potable Water Rate (W7) with 3% Escalation	\$20.66	\$21.28	\$21.92	\$22.58	\$23.26	\$23.95	\$24.67	\$25.41	\$26.18	\$26.96
Cost of Potable City Water Purchases	\$103,300	\$106,400	\$109,600	\$112,900	\$116,300	\$119,800	\$123,400	\$127,100	\$130,900	\$134,800
<u>B) Recycled Water Sales Revenues</u>										
Truck RW Sales	\$9,700	\$10,100	\$10,500	\$11,000	\$11,400	\$11,900	\$12,300	\$12,800	\$13,300	\$13,900
MSC & Other Billed City Use	15,600	16,200	16,900	17,500	18,200	19,000	19,700	20,500	21,300	22,200
Caltrans RW Sales	4,300	4,500	4,600	4,800	5,000	5,200	5,400	5,600	5,900	6,100
Other RW Sales	0	0	0	0	0	0	0	0	0	0
Subtotal	\$29,600	\$30,800	\$32,000	\$33,300	\$34,600	\$36,100	\$37,400	\$38,900	\$40,500	\$42,200
Net Annual Impact to General Fund	(\$201,900)	(\$211,000)	(\$220,500)	(\$230,400)	(\$240,700)	(\$251,400)	(\$262,800)	(\$274,500)	(\$286,800)	(\$299,500)
<i>AWPS RW expenses offset by reduced potable water expenses and RW sales revenues</i>										
Palo Alto Water Fund										
Loss of Potable Water Sales	(\$103,300)	(\$106,400)	(\$109,600)	(\$112,900)	(\$116,300)	(\$119,800)	(\$123,400)	(\$127,100)	(\$130,900)	(\$134,800)
<u>Offset by Reduction in SFPUC Potable Water Purchases</u>										
Reduction in SFPUC Potable Water Purchases (ccf)	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
SFPUC Wholesale Rate w/ 3% Esc (No BAWCA Bond Surchg)	\$13.05	\$13.44	\$13.85	\$14.26	\$14.69	\$15.13	\$15.58	\$16.05	\$16.53	\$17.03
Total Est. Annual Potable City Water Purchases	65,300	67,200	69,200	71,300	73,400	75,600	77,900	80,300	82,700	85,100
Net Annual Revenue Loss to Water Enterprise	(\$38,000)	(\$39,200)	(\$40,400)	(\$41,600)	(\$42,900)	(\$44,200)	(\$45,500)	(\$46,800)	(\$48,200)	(\$49,700)
<i>Loss of potable water sales less corresponding reduction of SFPUC wholesale water purchases</i>										
Palo Alto Wastewater Fund										
Valley Water Annual Option Payment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Valley Water Annual Effluent Purchase Payment	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd
Total Combined Impact to Palo Alto										
Net Impact to General Fund	(\$201,900)	(\$211,000)	(\$220,500)	(\$230,400)	(\$240,700)	(\$251,400)	(\$262,800)	(\$274,500)	(\$286,800)	(\$299,500)
Net Revenue Loss Water Enterprise	(38,000)	(39,200)	(40,400)	(41,600)	(42,900)	(44,200)	(45,500)	(46,800)	(48,200)	(49,700)
Valley Water Annual Option Payment to Wastewater Fund	0	0	0	0	0	0	0	0	0	0
Total Net Annual Impact to City	(\$239,900)	(\$250,200)	(\$260,900)	(\$272,000)	(\$283,600)	(\$295,600)	(\$308,300)	(\$321,300)	(\$335,000)	(\$349,200)
Cumulative Impact to City	(\$2,916,800)	(\$3,167,000)	(\$3,427,900)	(\$3,699,900)	(\$3,983,500)	(\$4,279,100)	(\$4,587,400)	(\$4,908,700)	(\$5,243,700)	(\$5,592,900)

Table PA-10

AWPS Preliminary Financial Plan

AWPS Phase 1 Total Cost Allocations by Year

Recycled Water Use Assumptions

Palo Alto: No Increases in Recycled Water Use from Base Year 2026

Mountain View: Recycled Water Use Increases to Full 3.0 MGD Contract Amount

		1	2	3	4	5	6	7	8	9	10
		2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35
Enhanced Recycled Water Use (ccf)		<i>Jan-June Only</i>									
Palo Alto		97,587	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174
Mountain View		212,252	424,504	424,504	468,418	507,453	561,126	614,798	614,798	614,798	614,798
Total		309,839	619,678	619,678	663,592	702,627	756,300	809,973	809,973	809,973	809,973
Cumulative Change in Use %		-	-	0.0%	7.1%	13.4%	22.0%	30.7%	30.7%	30.7%	30.7%
Share of Annual Enhanced Recycled Water Use											
Palo Alto		31.5%	31.5%	31.5%	29.4%	27.8%	25.8%	24.1%	24.1%	24.1%	24.1%
Mountain View		68.5%	68.5%	68.5%	70.6%	72.2%	74.2%	75.9%	75.9%	75.9%	75.9%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Debt Service Allocation											
Palo Alto	0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Mountain View	100%	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000
Total		1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000
Operating Cost Allocation											
<i>Based on each agency's % share of total annual enhanced recycled water use.</i>											
Palo Alto		\$94,000	\$188,000	\$195,600	\$197,400	\$200,400	\$202,800	\$204,800	\$213,000	\$221,500	\$230,400
Mountain View		204,600	\$408,900	\$425,300	\$473,800	\$521,200	583,000	645,200	671,000	697,800	725,700
Total		298,600	596,900	620,900	671,200	721,600	785,800	850,000	884,000	919,360	956,134
Total Cost Allocation											
Palo Alto		\$94,000	\$188,000	\$195,600	\$197,400	\$200,400	\$202,800	\$204,800	\$213,000	\$221,500	\$230,400
Mountain View		1,640,600	1,844,900	1,861,300	1,909,800	1,957,200	2,019,000	2,081,200	2,107,000	2,133,800	2,161,700
Total		1,734,600	2,032,900	2,056,900	2,107,200	2,157,600	2,221,800	2,286,000	2,320,000	2,355,300	2,392,100
All-In Cost per Unit (\$/ccf)											
Palo Alto		\$0.96	\$0.96	\$1.00	\$1.01	\$1.03	\$1.04	\$1.05	\$1.09	\$1.13	\$1.18
Mountain View		7.73	4.35	4.38	4.08	3.86	3.60	3.39	3.43	3.47	3.52
Total		5.60	3.28	3.32	3.18	3.07	2.94	2.82	2.86	2.91	2.95

Expense projections account for AWPS Phase 1 recycled water production only and exclude costs related to the existing Title 22 recycled water system at the RWQCP

AWPS Phase 1 operating expenses assume seasonal variation in operations with no new labor.

Table PA-10

AWPS Preliminary Financial Plan

AWPS Phase 1 Total Cost Allocations by Year

Recycled Water Use Assumptions

Palo Alto: No Increases in Recycled Water Use from Base Year 2026

Mountain View: Recycled Water Use Increases to Full 3.0 MGD Contract Amount

		11	12	13	14	15	16	17	18	19	20
		2035/36	2036/37	2037/38	2038/39	2039/40	2040/41	2041/42	2042/43	2043/44	2044/45
Enhanced Recycled Water Use (ccf)											
Palo Alto		195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174
Mountain View		614,798	614,798	614,798	614,798	614,798	614,798	853,887	1,097,854	1,341,822	1,463,806
Total		809,973	809,973	809,973	809,973	809,973	809,973	1,049,061	1,293,029	1,536,996	1,658,980
Cumulative Change in Use %		30.7%	30.7%	30.7%	30.7%	30.7%	30.7%	69.3%	108.7%	148.0%	167.7%
Share of Annual Enhanced Recycled Water Use											
Palo Alto		24.1%	24.1%	24.1%	24.1%	24.1%	24.1%	18.6%	15.1%	12.7%	11.8%
Mountain View		75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	81.4%	84.9%	87.3%	88.2%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Debt Service Allocation											
Palo Alto	0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Mountain View	100%	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000
Total		1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000
Operating Cost Allocation											
<i>Based on each agency's % share of total annual enhanced recycled water use.</i>											
Palo Alto		\$239,600	\$249,200	\$259,200	\$269,500	\$280,300	\$291,500	\$300,700	\$309,100	\$317,400	\$321,900
Mountain View		754,800	785,000	816,400	849,000	883,000	918,300	1,315,600	1,738,900	2,182,000	2,414,200
Total		994,379	1,034,154	1,075,520	1,118,541	1,163,283	1,209,814	1,616,264	2,048,087	2,499,427	2,736,076
Total Cost Allocation											
Palo Alto		\$239,600	\$249,200	\$259,200	\$269,500	\$280,300	\$291,500	\$300,700	\$309,100	\$317,400	\$321,900
Mountain View		2,190,800	2,221,000	2,252,400	2,285,000	2,319,000	2,354,300	2,751,600	3,174,900	3,618,000	3,850,200
Total		2,430,400	2,470,200	2,511,600	2,554,500	2,599,300	2,645,800	3,052,300	3,484,000	3,935,400	4,172,100
All-In Cost per Unit (\$/ccf)											
Palo Alto		\$1.23	\$1.28	\$1.33	\$1.38	\$1.44	\$1.49	\$1.54	\$1.58	\$1.63	\$1.65
Mountain View		3.56	3.61	3.66	3.72	3.77	3.83	3.22	2.89	2.70	2.63
Total		3.00	3.05	3.10	3.15	3.21	3.27	2.91	2.69	2.56	2.51

Expense projections account for AWPS Phase 1 recycled water production only and exclude costs related to the existing Title 22 recycled water system at the RWQCP

AWPS Phase 1 operating expenses assume seasonal variation in operations with no new labor.

Scenario B

No Phase III Recycled Water Expansion
with Direct Potable Reuse Starting 2041

Table 6B

No Palo Alto Phase III Scenario

AWPS Preliminary Financial Plan

Estimated Enhanced (Blended AWPS) Recycled Water Use (MGD)

Year	Estimated Recycled Water Use (MGD)			% of Total	
	Palo Alto	Mt View [1]	Total	Palo Alto	Mountain View
2020	0.33	0.33	0.66	50.0%	50.0%
2021	0.25	0.37	0.62	40.3%	59.7%
2022	0.40	0.40	0.80	50.0%	50.0%
2023	0.40	0.40	0.80	50.0%	50.0%
2024	0.40	0.40	0.80	50.0%	50.0%
2025	0.40	0.55	0.95	42.1%	57.9%
2026 [2]	0.40	0.87	1.27	31.5%	68.5%
2027	0.40	0.87	1.27	31.5%	68.5%
2028	0.40	0.96	1.36	29.4%	70.6%
2029	0.40	1.04	1.44	27.8%	72.2%
2030	0.40	1.15	1.55	25.8%	74.2%
2031	0.40	1.26	1.66	24.1%	75.9%
2032	0.40	1.26	1.66	24.1%	75.9%
2033	0.40	1.26	1.66	24.1%	75.9%
2034	0.40	1.26	1.66	24.1%	75.9%
2035	0.40	1.26	1.66	24.1%	75.9%
2036	0.40	1.26	1.66	24.1%	75.9%
2037	0.40	1.26	1.66	24.1%	75.9%
2038	0.40	1.26	1.66	24.1%	75.9%
2039	0.40	1.26	1.66	24.1%	75.9%
2040 [3,4]	0.40	1.26	1.66	24.1%	75.9%
2041	1.20	1.75	2.95	40.7%	59.3%
2042	1.20	2.25	3.45	34.8%	65.2%
2043	1.20	2.75	3.95	30.4%	69.6%
2044	1.20	3.00	4.20	28.6%	71.4%
2045	1.20	3.00	4.20	28.6%	71.4%
2046	1.20	3.00	4.20	28.6%	71.4%
2047	1.20	3.00	4.20	28.6%	71.4%
2048	1.20	3.00	4.20	28.6%	71.4%
2049	1.20	3.00	4.20	28.6%	71.4%
2050	1.20	3.00	4.20	28.6%	71.4%
2051	1.20	3.00	4.20	28.6%	71.4%
2052	1.20	3.00	4.20	28.6%	71.4%

Source: Preliminary estimates developed by Woodard & Curran.

1 Based on recycled water demand projections used for AWPS grant application.

2 Assumes Mountain View gradually increases recycled water demand to 1.25 MGD after Phase 1 startup.

3 Assumes Palo Alto does not move forward with Phase III recycled water expansion and subsequently increases recycled water use for Direct Potable Reuse (DPR)

4 Assumes Mountain View moves forward with recycled water system expansions and increases recycled water use over the next 4 years to their full contractual amount of 3 MGD.

Table 7B

No Palo Alto Phase III Scenario

AWPS Preliminary Financial Plan

Estimated Enhanced (Blended AWPS) Recycled Water Use (AF)

Year	Estimated Recycled Water Use (AF)			% of Total	
	Palo Alto	Mt View [1]	Total	Palo Alto	Mountain View
2020	370	370	739	50.0%	50.0%
2021	280	414	694	40.3%	59.7%
2022	448	448	896	50.0%	50.0%
2023	448	448	896	50.0%	50.0%
2024	448	448	896	50.0%	50.0%
2025	448	616	1,064	42.1%	57.9%
2026 [2]	448	975	1,423	31.5%	68.5%
2027	448	975	1,423	31.5%	68.5%
2028	448	1,075	1,523	29.4%	70.6%
2029	448	1,165	1,613	27.8%	72.2%
2030	448	1,288	1,736	25.8%	74.2%
2031	448	1,411	1,859	24.1%	75.9%
2032	448	1,411	1,859	24.1%	75.9%
2033	448	1,411	1,859	24.1%	75.9%
2034	448	1,411	1,859	24.1%	75.9%
2035	448	1,411	1,859	24.1%	75.9%
2036	448	1,411	1,859	24.1%	75.9%
2037	448	1,411	1,859	24.1%	75.9%
2038	448	1,411	1,859	24.1%	75.9%
2039	448	1,411	1,859	24.1%	75.9%
2040 [3,4]	448	1,411	1,859	24.1%	75.9%
2041	1,344	1,960	3,304	40.7%	59.3%
2042	1,344	2,520	3,865	34.8%	65.2%
2043	1,344	3,080	4,425	30.4%	69.6%
2044	1,344	3,360	4,705	28.6%	71.4%
2045	1,344	3,360	4,705	28.6%	71.4%
2046	1,344	3,360	4,705	28.6%	71.4%
2047	1,344	3,360	4,705	28.6%	71.4%
2048	1,344	3,360	4,705	28.6%	71.4%
2049	1,344	3,360	4,705	28.6%	71.4%
2050	1,344	3,360	4,705	28.6%	71.4%
2051	1,344	3,360	4,705	28.6%	71.4%
2052	1,344	3,360	4,705	28.6%	71.4%

Source: Preliminary estimates developed by Woodard & Curran.

1 Based on recycled water demand projections used for AWPS grant application.

2 Assumes Mountain View gradually increases recycled water demand to 1.25 MGD after Phase 1 startup.

3 Assumes Palo Alto does not move forward with Phase III recycled water expansion and subsequently increases recycled water use for Direct Potable Reuse (DPR)

4 Assumes Mountain View moves forward with recycled water system expansions and increases recycled water use over the next 4 years to their full contractual amount of 3 MGD.

Table 8B

No Palo Alto Phase III Scenario

AWPS Preliminary Financial Plan

Estimated Enhanced (Blended AWPS) Recycled Water Use (ccf)

Year	Estimated Recycled Water Use (ccf)			% of Total	
	Palo Alto	Mt View [1]	Total	Palo Alto	Mountain View
2020	161,019	161,019	322,037	50.0%	50.0%
2021	121,984	180,536	302,520	40.3%	59.7%
2022	195,174	195,174	390,348	50.0%	50.0%
2023	195,174	195,174	390,348	50.0%	50.0%
2024	195,174	195,174	390,348	50.0%	50.0%
2025	195,174	268,364	463,539	42.1%	57.9%
2026 [2]	195,174	424,504	619,678	31.5%	68.5%
2027	195,174	424,504	619,678	31.5%	68.5%
2028	195,174	468,418	663,592	29.4%	70.6%
2029	195,174	507,453	702,627	27.8%	72.2%
2030	195,174	561,126	756,300	25.8%	74.2%
2031	195,174	614,798	809,973	24.1%	75.9%
2032	195,174	614,798	809,973	24.1%	75.9%
2033	195,174	614,798	809,973	24.1%	75.9%
2034	195,174	614,798	809,973	24.1%	75.9%
2035	195,174	614,798	809,973	24.1%	75.9%
2036	195,174	614,798	809,973	24.1%	75.9%
2037	195,174	614,798	809,973	24.1%	75.9%
2038	195,174	614,798	809,973	24.1%	75.9%
2039	195,174	614,798	809,973	24.1%	75.9%
2040 [3,4]	195,174	614,798	809,973	24.1%	75.9%
2041	585,522	853,887	1,439,409	40.7%	59.3%
2042	585,522	1,097,854	1,683,377	34.8%	65.2%
2043	585,522	1,341,822	1,927,344	30.4%	69.6%
2044	585,522	1,463,806	2,049,328	28.6%	71.4%
2045	585,522	1,463,806	2,049,328	28.6%	71.4%
2046	585,522	1,463,806	2,049,328	28.6%	71.4%
2047	585,522	1,463,806	2,049,328	28.6%	71.4%
2048	585,522	1,463,806	2,049,328	28.6%	71.4%
2049	585,522	1,463,806	2,049,328	28.6%	71.4%
2050	585,522	1,463,806	2,049,328	28.6%	71.4%
2051	585,522	1,463,806	2,049,328	28.6%	71.4%
2052	585,522	1,463,806	2,049,328	28.6%	71.4%

Source: Preliminary estimates developed by Woodard & Curran.

1 Based on recycled water demand projections used for AWPS grant application.

2 Assumes Mountain View gradually increases recycled water demand to 1.25 MGD after Phase 1 startup.

3 Assumes Palo Alto does not move forward with Phase III recycled water expansion and subsequently increases recycled water use for Direct Potable Reuse (DPR)

4 Assumes Mountain View moves forward with recycled water system expansions and increases recycled water use over the next 4 years to their full contractual amount of 3 MGD.

Table 9B

No Palo Alto Phase III Scenario

AWPS Preliminary Financial Plan

Summary of AWPS Capacity & Recycled Water Use

	Total	Palo Alto	Mountain View
AWPS Phase 1 Capacity			
Phase 1 Capacity (Reverse osmosis permeate)	1.125 mgd	0.281 mgd	0.844 mgd
% Allocation of Capacity		25%	75%
Enhanced Recycled Water Production, AWPS at 1.25 mgd [1]			
Enhanced RW Range	2.06 - 2.65 mgd	0.52 - 0.66 mgd	1.55 - 1.98 mgd
Average	2.35 mgd	0.59 mgd	1.76 mgd
% Allocation of Production		25%	75%
AWPS Phase 1 Estimated Annual Enhanced Recycled Water Use 2026			
Phase 1 Demand in 2026			
mgd	1.27 mgd	0.40 mgd	0.87 mgd
AF	1,423 AF	448 AF	975 AF
ccf	849,007 ccf	424,504 ccf	424,504 ccf
% of Total Enhanced RW Use		31.5%	68.5%
AWPS Phase 1 Estimated Annual Enhanced Recycled Water Use 2031 - 2040			
Phase 1 Demand in 2031			
mgd	1.66 mgd	0.40 mgd	1.26 mgd
AF	1,859 AF	448 AF	1,411 AF
ccf	809,973 ccf	195,174 ccf	614,798 ccf
% of Total Enhanced RW Use		24.1%	75.9%

[1] Based on Black & Veatch's AWPS Basis of Design Report (2021) Table 4-5, the average blending ratio of recycled water to reverse osmosis permeate to maintain between 400 mg/L - 500 gm/L total dissolved solids is 1:0.74 to 1:1.20

Table 10B

AWPS Preliminary Financial Plan

AWPS Phase 1 Operating Costs & Allocations by Year

No Palo Alto Phase III Scenario

Assumes O&M increase is about half of what was calculated for increased base case demand

Under the new scenario, the increase in total RW use is 49.4% of the increase under the base case

	1	2	3	4	5	6	7	8	9	10
	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35
Enhanced Recycled Water Use (ccf)	<u>Jan-June Only</u>									
Palo Alto	78,070	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174
Mountain View	169,801	424,504	424,504	468,418	507,453	561,126	614,798	614,798	614,798	614,798
Total	247,871	619,678	619,678	663,592	702,627	756,300	809,973	809,973	809,973	809,973
Cumulative Change in Use %	-	-	0.0%	7.1%	13.4%	22.0%	30.7%	30.7%	30.7%	30.7%
Cost Escalator (Base Year = 2023 + 4% Escalation)		1.125	1.170	1.217	1.265	1.316	1.369	1.423	1.480	1.539
AWPS Phase 1 O&M										
<u>Fixed Operating Expenses</u>										
O&M Labor (<i>Assumes No New Labor</i>)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<u>Variable Operating Expenses</u>	<u>Assumes 50%</u>									
Maintenance & Repairs	146,500	292,900	304,600	316,800	329,500	342,700	356,400	370,600	385,500	400,900
Energy	80,300	160,600	167,100	173,700	180,700	187,900	195,400	203,200	211,400	219,800
Chemicals	56,900	113,700	118,300	123,000	127,900	133,000	138,400	143,900	149,700	155,600
Membrane Consumables	14,900	29,700	30,900	32,100	33,400	34,700	36,100	37,600	39,100	40,600
Total Annual O&M	298,600	596,900	620,900	\$645,600	\$671,500	\$698,300	\$726,300	\$755,300	\$785,700	\$816,900
AWPS O&M Cost per Unit (\$/ccf)	\$1.20	\$0.96	\$1.00	\$0.97	\$0.96	\$0.92	\$0.90	\$0.93	\$0.97	\$1.01
Share of Annual Recycled Water Use										
Palo Alto	31.5%	31.5%	31.5%	29.4%	27.8%	25.8%	24.1%	24.1%	24.1%	24.1%
Mountain View	68.5%	68.5%	68.5%	70.6%	72.2%	74.2%	75.9%	75.9%	75.9%	75.9%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
AWPS O&M Cost Allocation										
Palo Alto	\$94,000	\$188,000	\$195,600	\$189,900	\$186,500	\$180,200	\$175,000	\$182,000	\$189,300	\$196,800
Mountain View	204,600	408,900	425,300	455,700	485,000	518,100	551,300	573,300	596,400	620,100
Total	298,600	596,900	620,900	645,600	671,500	698,300	726,300	755,300	785,700	816,900

Expense projections account for AWPS Phase 1 recycled water production only and exclude costs related to the existing Title 22 recycled water system at the RWQCP

AWPS Phase 1 operating expenses assume seasonal variation in operations with no new labor.

Table 10B

No Palo Alto Phase III Scenario

AWPS Preliminary Financial Plan

AWPS Phase 1 Operating Costs & Allocations by Year

	11	12	13	14	15	16	17	18	19	20
	2035/36	2036/37	2037/38	2038/39	2039/40	2040/41	2041/42	2042/43	2043/44	2044/45
Enhanced Recycled Water Use (ccf)							<u>Start DPR</u>			
Palo Alto	195,174	195,174	195,174	195,174	195,174	195,174	585,522	585,522	585,522	585,522
Mountain View	614,798	614,798	614,798	614,798	614,798	614,798	853,887	1,097,854	1,341,822	1,463,806
Total	809,973	809,973	809,973	809,973	809,973	809,973	1,439,409	1,683,377	1,927,344	2,049,328
Cumulative Change in Use %	30.7%	30.7%	30.7%	30.7%	30.7%	30.7%	132.3%	171.7%	211.0%	230.7%
Cost Escalator (Base Year = 2023 + 4% Escalation)	1.601	1.665	1.732	1.801	1.873	1.948	2.026	2.107	2.191	2.279
AWPS Phase 1 O&M										
<u>Fixed Operating Expenses</u>										
O&M Labor (<i>Assumes No New Labor</i>)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<u>Variable Operating Expenses</u>							<u>Prelim Est ?</u>			
Maintenance & Repairs	416,900	433,600	450,900	469,000	487,700	507,200	937,500	1,140,200	1,357,700	1,501,400
Energy	228,600	237,800	247,300	257,200	267,500	278,200	514,100	625,300	744,500	823,300
Chemicals	161,900	168,300	175,100	182,100	189,400	196,900	364,000	442,700	527,100	582,900
Membrane Consumables	42,300	44,000	45,700	47,500	49,400	51,400	95,000	115,600	137,600	152,200
Total Annual O&M	\$849,700	\$883,700	\$919,000	\$955,800	\$994,000	\$1,033,700	\$1,910,600	\$2,323,800	\$2,766,900	\$3,059,800
AWPS O&M Cost per Unit (\$/ccf)	\$1.05	\$1.09	\$1.13	\$1.18	\$1.23	\$1.28	\$1.33	\$1.38	\$1.44	\$1.49
Share of Annual Recycled Water Use										
Palo Alto	24.1%	24.1%	24.1%	24.1%	24.1%	24.1%	40.7%	34.8%	30.4%	28.6%
Mountain View	75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	59.3%	65.2%	69.6%	71.4%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
AWPS O&M Cost Allocation										
Palo Alto	\$204,700	\$212,900	\$221,400	\$230,300	\$239,500	\$249,100	\$777,200	\$808,300	\$840,600	\$874,200
Mountain View	645,000	670,800	697,600	725,500	754,500	784,600	1,133,400	1,515,500	1,926,300	2,185,600
Total	849,700	883,700	919,000	955,800	994,000	1,033,700	1,910,600	2,323,800	2,766,900	3,059,800

Expense projections account for AWPS Phase 1 recycled water production only and exclude costs related to the existing Title 22 recycled water system at the RWQCP

AWPS Phase 1 operating expenses assume seasonal variation in operations with no new labor.

Table 11B
 AWPS Preliminary Financial Plan
 AWPS Phase 1 Total Cost Allocations by Year

No Palo Alto Phase III Scenario
 DPR Starting 2041

		1	2	3	4	5	6	7	8	9	10
		2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35
Enhanced Recycled Water Use (ccf)		<i>Jan-June Only</i>									
Palo Alto		97,587	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174
Mountain View		212,252	424,504	424,504	468,418	507,453	561,126	614,798	614,798	614,798	614,798
Total		309,839	619,678	619,678	663,592	702,627	756,300	809,973	809,973	809,973	809,973
Cumulative Change in Use %		-	-	0.0%	7.1%	13.4%	22.0%	30.7%	30.7%	30.7%	30.7%
Share of Annual Enhanced Recycled Water Use											
Palo Alto		31.5%	31.5%	31.5%	29.4%	27.8%	25.8%	24.1%	24.1%	24.1%	24.1%
Mountain View		68.5%	68.5%	68.5%	70.6%	72.2%	74.2%	75.9%	75.9%	75.9%	75.9%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Debt Service Allocation											
Palo Alto	0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Mountain View	100%	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000
Total		1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000
Operating Cost Allocation											
<i>Based on each agency's % share of total annual enhanced recycled water use.</i>											
Palo Alto		\$94,000	\$188,000	\$195,600	\$189,900	\$186,500	\$180,200	\$175,000	\$182,000	\$189,300	\$196,800
Mountain View		204,600	408,900	425,300	455,700	485,000	518,100	551,300	573,300	596,400	620,100
Total		298,600	596,900	620,900	645,600	671,500	698,300	726,300	755,300	785,700	816,900
Total Cost Allocation											
Palo Alto		\$94,000	\$188,000	\$195,600	\$189,900	\$186,500	\$180,200	\$175,000	\$182,000	\$189,300	\$196,800
Mountain View		1,640,600	1,844,900	1,861,300	1,891,700	1,921,000	1,954,100	1,987,300	2,009,300	2,032,400	2,056,100
Total		1,734,600	2,032,900	2,056,900	2,081,600	2,107,500	2,134,300	2,162,300	2,191,300	2,221,700	2,252,900
All-In Cost per Unit (\$/ccf)											
Palo Alto		\$0.96	\$0.96	\$1.00	\$0.97	\$0.96	\$0.92	\$0.90	\$0.93	\$0.97	\$1.01
Mountain View		7.73	4.35	4.38	4.04	3.79	3.48	3.23	3.27	3.31	3.34
Total		5.60	3.28	3.32	3.14	3.00	2.82	2.67	2.71	2.74	2.78

Expense projections account for AWPS Phase 1 recycled water production only and exclude costs related to the existing Title 22 recycled water system at the RWQCP
 AWPS Phase 1 operating expenses assume seasonal variation in operations with no new labor.

Table 11B
 AWPS Preliminary Financial Plan
 AWPS Phase 1 Total Cost Allocations by Year

No Palo Alto Phase III Scenario
 DPR Starting 2041

		11	12	13	14	15	16	17	18	19	20
		2035/36	2036/37	2037/38	2038/39	2039/40	2040/41	2041/42	2042/43	2043/44	2044/45
Enhanced Recycled Water Use (ccf)								Start DPR			
Palo Alto		195,174	195,174	195,174	195,174	195,174	195,174	585,522	585,522	585,522	585,522
Mountain View		614,798	614,798	614,798	614,798	614,798	614,798	853,887	1,097,854	1,341,822	1,463,806
Total		809,973	809,973	809,973	809,973	809,973	809,973	1,439,409	1,683,377	1,927,344	2,049,328
Cumulative Change in Use %											
Share of Annual Enhanced Recycled Water Use											
Palo Alto		24.1%	24.1%	24.1%	24.1%	24.1%	24.1%	40.7%	34.8%	30.4%	28.6%
Mountain View		75.9%	75.9%	75.9%	75.9%	75.9%	75.9%	59.3%	65.2%	69.6%	71.4%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Debt Service Allocation											
Palo Alto	0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Mountain View	100%	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000
Total		1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000	1,436,000
Operating Cost Allocation											
<i>Based on each agency's % share of total annual enhanced recycled water use.</i>											
Palo Alto		\$204,700	\$212,900	\$221,400	\$230,300	\$239,500	\$249,100	\$777,200	\$808,300	\$840,600	\$874,200
Mountain View		645,000	670,800	697,600	725,500	754,500	784,600	1,133,400	1,515,500	1,926,300	2,185,600
Total		849,700	883,700	919,000	955,800	994,000	1,033,700	1,910,600	2,323,800	2,766,900	3,059,800
Total Cost Allocation											
Palo Alto		\$204,700	\$212,900	\$221,400	\$230,300	\$239,500	\$249,100	\$777,200	\$808,300	\$840,600	\$874,200
Mountain View		2,081,000	2,106,800	2,133,600	2,161,500	2,190,500	2,220,600	2,569,400	2,951,500	3,362,300	3,621,600
Total		2,285,700	2,319,700	2,355,000	2,391,800	2,430,000	2,469,700	3,346,600	3,759,800	4,202,900	4,495,800
All-In Cost per Unit (\$/ccf)											
Palo Alto		\$1.05	\$1.09	\$1.13	\$1.18	\$1.23	\$1.28	\$1.33	\$1.38	\$1.44	\$1.49
Mountain View		3.38	3.43	3.47	3.52	3.56	3.61	3.01	2.69	2.51	2.47
Total		2.82	2.86	2.91	2.95	3.00	3.05	2.32	2.23	2.18	2.19

Expense projections account for AWPS Phase 1 recycled water production only and exclude costs related to the existing Title 22 recycled water system at the RWQCP
 AWPS Phase 1 operating expenses assume seasonal variation in operations with no new labor.



Palo Alto Recycled Water Use & Costs

Assumes AWPS Phase 1 Only

Scenario B

No Phase III Recycled Water Expansion
with Direct Potable Reuse Starting 2041

Table PA-4B

AWPS Preliminary Financial Plan

Projection of Recycled Water Impacts to Palo Alto General Fund

No Palo Alto Phase III Scenario

DPR Starting 2041

Assumes RW provided at cost of production

	Cost Esc	1 2025/26	2 2026/27	3 2027/28	4 2028/29	5 2029/30	6 2030/31	7 2031/32	8 2032/33	9 2033/34	10 2034/35
Enhanced Recycled Water Use (ccf)		<u>Jan-June Only</u>									
City Use for Golf Course & Parks		86,450	172,897	172,897	172,897	172,897	172,897	172,897	172,897	172,897	172,897
Increase in RW for Golf Course & Parks		2,500	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
Other City Uses (MSC/hydrant/RWQCP Irrig)		4,550	9,094	9,094	9,094	9,094	9,094	9,094	9,094	9,094	9,094
Truck Standpipe		2,840	5,684	5,684	5,684	5,684	5,684	5,684	5,684	5,684	5,684
Caltrans		1,250	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500
Projected New RW Use		0	0	0	0	0	0	0	0	0	0
Total		97,590	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174
Palo Alto Share of Projected RW Use		31.5%	31.5%	31.5%	29.4%	27.8%	25.8%	24.1%	24.1%	24.1%	24.1%
Proj Potable Irrig Water Rate (W7)	3.0%	\$11.44	\$11.78	\$12.14	\$12.50	\$12.88	\$13.26	\$13.66	\$14.07	\$14.49	\$14.93
Projected Recycled Water Rate [1]		\$0.96	\$0.96	\$1.00	\$0.97	\$0.96	\$0.92	\$0.90	\$0.93	\$0.97	\$1.01
Recycled Water Sales Revenues & Expense Offsets											
Truck RW Sales		\$2,700	\$5,500	\$5,700	\$5,500	\$5,400	\$5,200	\$5,100	\$5,300	\$5,500	\$5,700
MSC & Other Billed City Use		4,400	8,800	9,100	8,800	8,700	8,400	8,200	8,500	8,800	9,200
Caltrans RW Sales		1,200	2,400	2,500	2,400	2,400	2,300	2,200	2,300	2,400	2,500
Other RW Sales		0	0	0	0	0	0	0	0	0	0
Valley Water Annual Option Pymt	3.0%	58,200	59,900	61,700	63,600	65,500	67,500	69,500	71,600	0	0
Valley Water Annual Effluent Purchase		-	-	-	-	-	-	-	-	tbd	tbd
Reduced Potable Water Purchases		28,600	58,900	60,700	62,500	64,400	66,300	68,300	70,400	72,500	74,600
Subtotal		95,100	135,500	139,700	142,800	146,400	149,700	153,300	158,100	89,200	92,000
Recycled Water Expenses											
AWPS O&M Allocation [2,3,4,5]		\$94,000	\$188,000	\$195,600	\$189,900	\$186,500	\$180,200	\$175,000	\$182,000	\$189,300	\$196,800
AWPS SRF Debt Service Allocation [6]		0	0	0	0	0	0	0	0	0	0
Subtotal		94,000	188,000	195,600	189,900	186,500	180,200	175,000	182,000	189,300	196,800
Revenues Less Expenses		\$1,100	(\$52,500)	(\$55,900)	(\$47,100)	(\$40,100)	(\$30,500)	(\$21,700)	(\$23,900)	(\$100,100)	(\$104,800)
Cumulative Net Expenses		\$1,100	(\$51,400)	(\$107,300)	(\$154,400)	(\$194,500)	(\$225,000)	(\$246,700)	(\$270,600)	(\$370,700)	(\$475,500)
Projected RW Cost per Unit (\$/ccf)		\$0.96	\$0.96	\$1.00	\$0.97	\$0.96	\$0.92	\$0.90	\$0.93	\$0.97	\$1.01
Net RW Unit Cost After Offsets (\$/ccf)		(\$0.01)	\$0.27	\$0.29	\$0.24	\$0.21	\$0.16	\$0.11	\$0.12	\$0.51	\$0.54

1 Assumes recycled water is sold at cost.

2 Expense projections account for AWPS Phase 1 operating and capital expenses only.

3 AWPS operating expenses assume seasonal variation in operations with no new labor.

4 Excludes capital & operating expenses for existing Title 22 recycled water system at the RWQCP.

5 Excludes costs related to the City's recycled water distribution system.

6 Assumes first year SRF Loan payment is used to fund a required debt service reserve equal to annual debt service.

Table PA-4B

AWPS Preliminary Financial Plan

Projection of Recycled Water Impacts to Palo Alto General Fund

No Palo Alto Phase III Scenario

DPR Starting 2041

Assumes RW provided at cost of production

	Cost Esc	11 2035/36	12 2036/37	13 2037/38	14 2038/39	15 2039/40	16 2040/41	17 2041/42	18 2042/43	19 2043/44	20 2044/45
Enhanced Recycled Water Use (ccf)								Start DPR			
City Use for Golf Course & Parks		172,897	172,897	172,897	172,897	172,897	172,897	172,897	172,897	172,897	172,897
Increase in RW for Golf Course & Parks		5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
Other City Uses (MSC/hydrant/RWQCP Irrig)		9,094	9,094	9,094	9,094	9,094	9,094	9,094	9,094	9,094	9,094
Truck Standpipe		5,684	5,684	5,684	5,684	5,684	5,684	5,684	5,684	5,684	5,684
Caltrans		2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500
Projected New RW Use		0	0	0	0	0	0	390,348	390,348	390,348	390,348
Total		195,174	195,174	195,174	195,174	195,174	195,174	585,522	585,522	585,522	585,522
Palo Alto Share of Projected RW Use		24.1%	24.1%	24.1%	24.1%	24.1%	24.1%	40.7%	34.8%	30.4%	28.6%
Proj Potable Irrig Water Rate (W7)	3.0%	\$15.38	\$15.84	\$16.31	\$16.80	\$17.31	\$17.82	\$18.36	\$18.91	\$19.48	\$20.06
Projected Recycled Water Rate [1]		\$1.05	\$1.09	\$1.13	\$1.18	\$1.23	\$1.28	\$1.33	\$1.38	\$1.44	\$1.49
Recycled Water Sales Revenues & Expense Offsets											
Truck RW Sales		\$6,000	\$6,200	\$6,400	\$6,700	\$7,000	\$7,300	\$7,500	\$7,800	\$8,200	\$8,500
MSC & Other Billed City Use		9,500	9,900	10,300	10,700	11,200	11,600	12,100	12,600	13,100	13,600
Caltrans RW Sales		2,600	2,700	2,800	2,900	3,100	3,200	3,300	3,500	3,600	3,700
Other RW Sales		0	0	0	0	0	0	518,100	538,900	560,400	582,800
Valley Water Annual Option Pymt	3.0%	0	0	0	0	0	0	0	0	0	0
Valley Water Annual Effluent Purchase		tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd
Reduced Potable Water Purchases		76,900	79,200	81,600	84,000	86,500	89,100	91,800	94,500	97,400	100,300
Subtotal		95,000	98,000	101,100	104,300	107,800	111,200	632,800	657,300	682,700	708,900
Recycled Water Expenses											
AWPS O&M Allocation [2,3,4,5]		\$204,700	\$212,900	\$221,400	\$230,300	\$239,500	\$249,100	\$777,200	\$808,300	\$840,600	\$874,200
AWPS SRF Debt Service Allocation [6]		0	0	0	0	0	0	0	0	0	0
Subtotal		204,700	212,900	221,400	230,300	239,500	249,100	777,200	808,300	840,600	874,200
Revenues Less Expenses		(\$109,700)	(\$114,900)	(\$120,300)	(\$126,000)	(\$131,700)	(\$137,900)	(\$144,400)	(\$151,000)	(\$157,900)	(\$165,300)
Cumulative Net Expenses		(\$585,200)	(\$700,100)	(\$820,400)	(\$946,400)	(\$1,078,100)	(\$1,216,000)	(\$1,360,400)	(\$1,511,400)	(\$1,669,300)	(\$1,834,600)
Projected RW Cost per Unit (\$/ccf)		\$1.05	\$1.09	\$1.13	\$1.18	\$1.23	\$1.28	\$1.33	\$1.38	\$1.44	\$1.49
Net RW Unit Cost After Offsets (\$/ccf)		\$0.56	\$0.59	\$0.62	\$0.65	\$0.67	\$0.71	\$0.25	\$0.26	\$0.27	\$0.28

1 Assumes recycled water is sold at cost.

2 Expense projections account for AWPS Phase 1 operating and capital expenses only.

3 AWPS operating expenses assume seasonal variation in operations with no new labor.

4 Excludes capital & operating expenses for existing Title 22 recycled water system at the RWQCP.

5 Excludes costs related to the City's recycled water distribution system.

6 Assumes first year SRF Loan payment is used to fund a required debt service reserve equal to annual debt service.

Table PA-5B
 AWPS Preliminary Financial Plan
 Net Annual Impacts to City of Palo Alto

No Palo Alto Phase III Scenario
 DPR Starting 2041

	1	2	3	4	5	6	7	8	9	10
	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35
Palo Alto Recycled Water Use (ccf)										
Base Year Recycled Water Use	97,587	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174
Projected New Recycled Water Use	0	0	0	0	0	0	0	0	0	0
Total	97,587	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174
Palo Alto General Fund: Palo Alto Golf Course & Parks										
Recycled Water Expenses	(\$94,000)	(\$188,000)	(\$195,600)	(\$189,900)	(\$186,500)	(\$180,200)	(\$175,000)	(\$182,000)	(\$189,300)	(\$196,800)
Less Expense Offsets										
<u>A) Potable Water Purchases for GC Fairway Irrig (ccf)</u>	<u>50% Jan-Jun</u>									
Transition from Potable to RW Use	2,500	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
City Potable Water Rate (W7) with 3% Escalation	\$11.44	\$11.78	\$12.14	\$12.50	\$12.88	\$13.26	\$13.66	\$14.07	\$14.49	\$14.93
Cost of Potable City Water Purchases	\$28,600	\$58,900	\$60,700	\$62,500	\$64,400	\$66,300	\$68,300	\$70,400	\$72,500	\$74,600
<u>B) Recycled Water Sales Revenues</u>										
Truck RW Sales	\$2,700	\$5,500	\$5,700	\$5,500	\$5,400	\$5,200	\$5,100	\$5,300	\$5,500	\$5,700
MSC & Other Billed City Use	4,400	8,800	9,100	8,800	8,700	8,400	8,200	8,500	8,800	9,200
Caltrans RW Sales	1,200	2,400	2,500	2,400	2,400	2,300	2,200	2,300	2,400	2,500
Other RW Sales	0	0	0	0	0	0	0	0	0	0
Subtotal	\$8,300	\$16,700	\$17,300	\$16,700	\$16,500	\$15,900	\$15,500	\$16,100	\$16,700	\$17,400
Net Annual Impact to General Fund	(\$57,100)	(\$112,400)	(\$117,600)	(\$110,700)	(\$105,600)	(\$98,000)	(\$91,200)	(\$95,500)	(\$100,100)	(\$104,800)
<i>AWPS RW expenses offset by reduced potable water expenses and RW sales revenues</i>										
Palo Alto Water Fund										
Loss of Potable Water Sales	(\$28,600)	(\$58,900)	(\$60,700)	(\$62,500)	(\$64,400)	(\$66,300)	(\$68,300)	(\$70,400)	(\$72,500)	(\$74,600)
<u>Offset by Reduction in SFPUC Potable Water Purchases</u>										
Reduction in SFPUC Potable Water Purchases (ccf)	2,500	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
SFPUC Wholesale Rate w/ 5% Esc + BAWSCA Bond Surchg	\$6.48	\$6.78	\$7.10	\$7.44	\$7.79	\$8.16	\$8.54	\$8.95	\$9.38	\$9.83
Total Est. Annual Potable City Water Purchases	16,200	33,900	35,500	37,200	38,900	40,800	42,700	44,800	46,900	49,100
Net Annual Revenue Loss to Water Enterprise	(\$12,400)	(\$25,000)	(\$25,200)	(\$25,300)	(\$25,500)	(\$25,500)	(\$25,600)	(\$25,600)	(\$25,600)	(\$25,500)
<i>Loss of potable water sales less corresponding reduction of SFPUC wholesale water purchases</i>										
Palo Alto Wastewater Fund										
Valley Water Annual Option Payment	\$58,200	\$59,900	\$61,700	\$63,600	\$65,500	\$67,500	\$69,500	\$71,600	\$0	\$0
Valley Water Annual Effluent Purchase Payment	-	-	-	-	-	-	-	-	tbd	tbd
Total Combined Impact to Palo Alto										
Net Impact to General Fund	(\$57,100)	(\$112,400)	(\$117,600)	(\$110,700)	(\$105,600)	(\$98,000)	(\$91,200)	(\$95,500)	(\$100,100)	(\$104,800)
Net Revenue Loss Water Enterprise	(12,400)	(25,000)	(25,200)	(25,300)	(25,500)	(25,500)	(25,600)	(25,600)	(25,600)	(25,500)
Valley Water Annual Option Payment to Wastewater Fund	58,200	59,900	61,700	63,600	65,500	67,500	69,500	71,600	0	0
Total Net Annual Impact to City	(\$11,300)	(\$77,500)	(\$81,100)	(\$72,400)	(\$65,600)	(\$56,000)	(\$47,300)	(\$49,500)	(\$125,700)	(\$130,300)
Cumulative Impact to City	(\$11,300)	(\$88,800)	(\$169,900)	(\$242,300)	(\$307,900)	(\$363,900)	(\$411,200)	(\$460,700)	(\$586,400)	(\$716,700)

Table PA-5B
AWPS Preliminary Financial Plan
Net Annual Impacts to City of Palo Alto

No Palo Alto Phase III Scenario
DPR Starting 2041

	11	12	13	14	15	16	17	18	19	20
	2035/36	2036/37	2037/38	2038/39	2039/40	2040/41	2041/42	2042/43	2043/44	2044/45
Palo Alto Recycled Water Use (ccf)										
Base Year Recycled Water Use	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174	195,174
Projected New Recycled Water Use	0	0	0	0	0	0	390,348	390,348	390,348	390,348
Total	195,174	195,174	195,174	195,174	195,174	195,174	585,522	585,522	585,522	585,522
Palo Alto General Fund: Palo Alto Golf Course & Parks										
Recycled Water Expenses	(\$204,700)	(\$212,900)	(\$221,400)	(\$230,300)	(\$239,500)	(\$249,100)	(\$777,200)	(\$808,300)	(\$840,600)	(\$874,200)
Less Expense Offsets										
<u>A) Potable Water Purchases for GC Fairway Irrig (ccf)</u>										
Transition from Potable to RW Use	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
City Potable Water Rate (W7) with 3% Escalation	\$15.38	\$15.84	\$16.31	\$16.80	\$17.31	\$17.82	\$18.36	\$18.91	\$19.48	\$20.06
Cost of Potable City Water Purchases	\$76,900	\$79,200	\$81,600	\$84,000	\$86,500	\$89,100	\$91,800	\$94,500	\$97,400	\$100,300
<u>B) Recycled Water Sales Revenues</u>										
Truck RW Sales	\$6,000	\$6,200	\$6,400	\$6,700	\$7,000	\$7,300	\$7,500	\$7,800	\$8,200	\$8,500
MSC & Other Billed City Use	9,500	9,900	10,300	10,700	11,200	11,600	12,100	12,600	13,100	13,600
Caltrans RW Sales	2,600	2,700	2,800	2,900	3,100	3,200	3,300	3,500	3,600	3,700
Other RW Sales	0	0	0	0	0	0	518,100	538,900	560,400	582,800
Subtotal	\$18,100	\$18,800	\$19,500	\$20,300	\$21,300	\$22,100	\$541,000	\$562,800	\$585,300	\$608,600
Net Annual Impact to General Fund	(\$109,700)	(\$114,900)	(\$120,300)	(\$126,000)	(\$131,700)	(\$137,900)	(\$144,400)	(\$151,000)	(\$157,900)	(\$165,300)
<i>AWPS RW expenses offset by reduced potable water expenses and RW sales revenues</i>										
Palo Alto Water Fund										
Loss of Potable Water Sales	(\$76,900)	(\$79,200)	(\$81,600)	(\$84,000)	(\$86,500)	(\$89,100)	(\$91,800)	(\$94,500)	(\$97,400)	(\$100,300)
<u>Offset by Reduction in SFPUC Potable Water Purchases</u>										
Reduction in SFPUC Potable Water Purchases (ccf)	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
SFPUC Wholesale Rate w/ 3% Esc (No BAWCA Bond Surchg)	\$9.71	\$10.00	\$10.30	\$10.61	\$10.93	\$11.26	\$11.60	\$11.94	\$12.30	\$12.67
Total Est. Annual Potable City Water Purchases	48,600	50,000	51,500	53,100	54,600	56,300	58,000	59,700	61,500	63,354
Net Annual Revenue Loss to Water Enterprise	(\$28,300)	(\$29,200)	(\$30,100)	(\$30,900)	(\$31,900)	(\$32,800)	(\$33,800)	(\$34,800)	(\$35,900)	(\$36,946)
<i>Loss of potable water sales less corresponding reduction of SFPUC wholesale water purchases</i>										
Palo Alto Wastewater Fund										
Valley Water Annual Option Payment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Valley Water Annual Effluent Purchase Payment	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd	tbd
Total Combined Impact to Palo Alto										
Net Impact to General Fund	(\$109,700)	(\$114,900)	(\$120,300)	(\$126,000)	(\$131,700)	(\$137,900)	(\$144,400)	(\$151,000)	(\$157,900)	(\$165,300)
Net Revenue Loss Water Enterprise	(28,300)	(29,200)	(30,100)	(30,900)	(31,900)	(32,800)	(33,800)	(34,800)	(35,900)	(36,946)
Valley Water Annual Option Payment to Wastewater Fund	0	0	0	0	0	0	0	0	0	0
Total Net Annual Impact to City	(\$138,000)	(\$144,100)	(\$150,400)	(\$156,900)	(\$163,600)	(\$170,700)	(\$178,200)	(\$185,800)	(\$193,800)	(\$202,246)
Cumulative Impact to City	(\$854,700)	(\$998,800)	(\$1,149,200)	(\$1,306,100)	(\$1,469,700)	(\$1,640,400)	(\$1,818,600)	(\$2,004,400)	(\$2,198,200)	(\$2,400,446)

Appendix 2



Appendix 2: Assumed Operations and Maintenance and Related Expense Estimates

Column Designation	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
Column Title	Month	Days	2019 Reported Use, Monthly Average (MGD) ¹	2020 Reported Use, Monthly Average (MGD) ¹	2019-2020 Average (MGD) = AVG (C, D)	2031 Estimated Recycled Water Demand (MGD) ²	2031 Calculated Monthly Average Demand (MGD)		2031 Calculated Monthly Average Demand (MG)	Assumed Operational Scenario: Blend Ratio (RW:ROP) ³	Max. Enhanced Recycled Water Production, Based on Blend Ratio	Assumed Operational Scenario: Production Rate ⁴	Enhanced Recycled Water Production, Based on Operational Scenario (MGD) = K * L	Enhanced Recycled Water Production, Based on Operational Scenario (MG) = B * K * L	Over/(Under) Production Based on Historic Monthly Demand (MG) = K * L	O&M Expense: Repairs & Replacements	O&M Expense: Energy	O&M Expense: Chemicals	O&M Expense: Membrane Consumables	O&M Expense: Labor	O&M Expense: Total = SUM (P , Q , R , S , T)
Calculation (if applicable)																					
	January	31	0.18	0.14	0.16		0.50	[B]	16	n/a	0.00	0	0.00	0	-16	\$0	\$0	\$0	\$0	\$0	\$0
	February	28	0.16	0.36	0.26		0.80		22	1.0 : 0.95	2.31	50%	1.15	32	10	\$21,703	\$13,052	\$8,423	\$1,338	\$0	\$44,515
	March	31	0.14	0.31	0.22		0.69		21	1.0 : 0.52	3.29	80%	2.63	82	60	\$34,724	\$18,801	\$13,476	\$3,426	\$0	\$70,428
	April	30	0.65	0.55	0.60		1.86		56	1.0 : 0.52	3.29	100%	3.29	99	43	\$43,405	\$22,634	\$16,845	\$5,353	\$0	\$88,238
	May	31	0.71	1.01	0.86		2.67		83	1.0 : 0.52	3.29	100%	3.29	102	19	\$43,405	\$22,634	\$16,845	\$5,353	\$0	\$88,238
	June	30	1.14	1.17	1.16		3.59	[A]	108	1.0 : 0.52	3.29	100%	3.29	99	-9	\$43,405	\$22,634	\$16,845	\$5,353	\$0	\$88,238
	July	31	1.22	1.31	1.26		3.92	[A]	122	1.0 : 0.52	3.29	100%	3.29	102	-20	\$43,405	\$22,634	\$16,845	\$5,353	\$0	\$88,238
	August	31	1.38	1.10	1.24		3.84	[A]	119	1.0 : 0.52	3.29	100%	3.29	102	-17	\$43,405	\$22,634	\$16,845	\$5,353	\$0	\$88,238
	September	30	0.95	0.79	0.87		2.70		81	1.0 : 0.52	3.29	100%	3.29	99	18	\$43,405	\$22,634	\$16,845	\$5,353	\$0	\$88,238
	October	31	0.69	0.62	0.65		2.03		63	1.0 : 0.95	2.31	80%	1.85	57	-6	\$34,724	\$18,801	\$13,476	\$3,426	\$0	\$70,428
	November	30	0.47	0.47	0.47		1.46	[B]	44	n/a	0.00	0	0.00	0	-44	\$0	\$0	\$0	\$0	\$0	\$0
	December	31	0.11	0.26	0.19		0.59	[B]	18	n/a	0.00	0	0.00	0	-18	\$0	\$0	\$0	\$0	\$0	\$0
		Days/ Year:	Approx. Annual Average Use (MGD): 0.65	Approx. Annual Average Use (MGD): 0.68	Approx. Annual Average Use (MGD): 0.66	Estimated Annual Average Use (MGD): 2.06	Annual Average Check (MGD): 2.06						Approx. Annual Average Production (MGD): 2.12		Estimated Annual Net (MG): 21						Estimated Annual Amount: \$714,797
		365	Approx. Annual Total Use (MG): 238	Approx. Annual Total Use (MG): 247	Approx. Annual Total Use (MG): 242	Calculated Monthly Increase: 3.1	Calculated Annual Total Use (MG): 752		Calculated Annual Total Use (MG): 752				Calculated Annual Total Production (MG): 773								

Notes: [A] Calculated monthly average demand (based on historical monthly usage) is greater than AWPS Capacity
[B] Assumed month when AWPS is taken offline because flows are relatively low. Several offline scenarios are possible and justifiable.
¹ Letter to Mr. Blair Allen (RWQCB) from James Allen (RWQCP), 2020
² Appendix 1 - Table
³ Blending Ratios are based on Black & Veatch, *City of Palo Alto Advanced Water Purification System (AWPS), Basis of Design Report* , Project 408520. November 8, 2021
⁴ Assumed production rates, as a percentage of overall capacity. Many scenarios are possible and justifiable.
⁵ Operations and Maintenance Expenses based on Black & Veatch, *City of Palo Alto AWPS, Operations & Maintenance Cost Estimate (“AWPS OPEX Ranges8-15-22”)*– *All Alternatives* , Project 408520. August 15, 2022, with Labor adjusted to 0.00 FTE based upon RWQCP staff input