

Proj #	Agency	Project Name	Project Type	Tier 1, Step 1 Screening			Tier 1, Step 2		Tier 2, Step 1 - Apply Evaluation Criteria										Tier 2, Step 2 - Prioritize Projects			
				Total Regional Goals	Total Statewide Priorities	Result	Total RMS	Result	Criterion 1: Maximize Economic Feasibility	Criterion 2: Address MAC Plan Goals	Criterion 3: Integrate with State RMS	Criterion 4: Provide Multi-agency/Entity Benefits	Criterion 5: Max Benefits to DAC and tribes. Min. EJ impacts	Criterion 6: Ensure technical feasibility	Criterion 7: Encourage climate change adaptation or mitigation	Criterion 8: Minimize implementation risk	Criterion 9: Best project for intended purpose	Criterion 10: Project status/readiness	High Scores	Medium Scores	Low Scores	Ranking
1	Amador Tuolumne Community Action Agency	Home-Level Water Conservation for the DAC	Implementation	3	3	PASS	3	PASS	High	Medium	Medium	High	High	Medium	Medium	High	High	High	5	4	0	High
2	Amador Water Agency	Amador County Long Term Water Needs Study	Planning	6	8	PASS	19	PASS	High	High	High	High	High	Low	Low	High	High	Low	6	0	3	High
3	Amador Water Agency	Amador Water Agency Low Pressure Fire Flow	Planning and Implementation	2	4	PASS	3	PASS	Medium	Low	Medium	High	High	Low	Low	High	High	Medium	4	2	3	Medium
4	Amador Water Agency	Camanche Area Regional Water	Planning and Implementation	4	5	PASS	10	PASS	Medium	Medium	High	High	High	High	Low	High	High	Medium	6	2	1	High
5	Amador Water Agency	CAWP & AWS Intertie	Planning	3	5	PASS	6	PASS	Medium	Medium	High	High	High	Low	Medium	High	High	Low	5	2	2	High
6	Amador Water Agency	CAWP Fire Protection Project	Planning	4	4	PASS	7	PASS	High	Medium	High	High	Low	High	Low	High	High	Low	4	1	3	Medium
7	Amador Water Agency	CAWP Gravity Distribution Line	Planning	3	2	PASS	5	PASS	High	Medium	Medium	Low	High	Low	Medium	High	High	Low	3	3	3	Medium
8	Amador Water Agency	CAWP Tanks Replacement and Community Leachfield Groundwater Nitrate Study	Planning and Implementation	6	2	PASS	5	PASS	High	High	Medium	Medium	Low	High	Low	High	High	Low	4	2	3	Medium
9	Amador Water Agency	Conservation Plan Implementation Project	Implementation	6	6	PASS	7	PASS	High	High	High	High	High	High	Medium	High	High	High	8	1	0	High
10	Amador Water Agency	Floating Covers Replacement Project	Planning and Implementation	2	4	PASS	2	PASS	Medium	Medium	Medium	High	High	Low	Low	High	High	Medium	4	3	2	Medium
11	Amador Water Agency	Groundwater Banking Project (Conjunctive Use)	Planning	4	6	PASS	10	PASS	High	Medium	High	High	High	Low	Medium	High	High	Low	5	2	2	High
12	Amador Water Agency	Highway 88 Corridor Wastewater Transmission Pipeline (study)	Planning	7	5	PASS	8	PASS	High	High	High	High	Low	Low	Medium	High	High	Low	5	1	3	High
13	Amador Water Agency	Ione Hydroelectric Project	Implementation	3	4	PASS	5	PASS	High	Medium	Medium	High	High	High	High	High	High	Medium	6	3	0	High
14	Amador Water Agency	Ione Treated Water Loop	Planning	3	3	PASS	6	PASS	Medium	Medium	High	High	High	Low	Low	High	High	Low	5	1	3	High
15	Amador Water Agency	Lake Camanche Transmission Main Project	Implementation	5	5	PASS	3	PASS	High	High	Medium	Low	High	High	High	High	High	Medium	6	2	1	High
16	Amador Water Agency	Lake Camanche Village Wastewater Reuse Project	Planning	7	6	PASS	14	PASS	High	High	High	High	High	High	Medium	High	High	Low	7	1	1	High
17	Amador Water Agency	Lake Camanche Water Service Replacement – Phase III	Implementation	5	4	PASS	3	PASS	High	High	Medium	Low	High	Medium	High	High	High	High	6	2	1	High
18	Amador Water Agency	Leak Detection / Master Metering Project	Planning and Implementation	4	5	PASS	3	PASS	High	Medium	Medium	Low	Low	Medium	High	High	High	High	4	3	2	Medium
19	Amador Water Agency	Lower Amador Canal Project	Planning	6	6	PASS	5	PASS	High	High	Medium	Low	High	Low	High	High	High	Low	5	1	3	High

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21	Amador Water Agency	Lower Bear River Reservoir Expansion Project	Planning	5	6	PASS	8	PASS	High	High	High	High	High	Low	Medium	High	High	Low	6	1	2	High
22	Amador Water Agency	Martell Wastewater Lift Station Reduction Project	Planning	4	6	PASS	5	PASS	High	Medium	Medium	Low	High	Low	Medium	High	High	Low	3	3	3	Medium
23	Amador Water Agency	Mokelumne Water Quality, Soil Erosion, and Sedimentation Restoration Project	Planning	5	6	PASS	7	PASS	High	High	High	High	High	Low	Medium	High	High	Low	6	1	2	High
24	Amador Water Agency	Mount Crossman Pump Storage Project	Planning	4	4	PASS	6	PASS	Medium	Medium	High	High	High	Low	Medium	High	High	Low	5	2	2	High
25	Amador Water Agency	New York Ranch Reservoir Conservation and Management	Planning	9	7	PASS	11	PASS	High	High	High	High	High	High	Low	High	High	Low	7	0	2	High
26	Amador Water Agency	Regional Wastewater Reuse Project	Planning and Implementation	8	6	PASS	10	PASS	High	High	High	High	High	High	Medium	High	High	Medium	7	2	0	High
27	Amador Water Agency	Shenandoah Valley Water Supply Analysis	Planning	5	4	PASS	7	PASS	High	High	High	High	Low	Low	Medium	High	High	Low	5	1	3	High
28	Amador Water Agency	Small Diameter Pipe Treated Water Conversion	Planning and Implementation	7	6	PASS	6	PASS	High	High	High	Low	High	High	High	Medium	High	Medium	6	2	1	High
29	Amador Water Agency	Surface Storage Feasibility Study	Planning	6	8	PASS	6	PASS	High	High	High	High	High	Low	Low	High	High	Low	6	0	3	High
30	Amador Water Agency	Tanner Backwash Water Recycling / Reuse Project	Planning and Implementation	8	7	PASS	8	PASS	High	High	High	Medium	High	Medium	High	High	High	Medium	6	3	0	High
31	Amador Water Agency	Tanner Regional Water Treatment Plant	Planning and Implementation	4	7	PASS	6	PASS	Low	Medium	High	High	High	High	High	High	High	Medium	7	2	0	High
32	Amador Water Agency	Wastewater Collection System Improvement Study	Planning	3	2	PASS	5	PASS	High	Medium	Medium	High	High	Low	Low	High	High	Low	4	2	3	Medium
33	Amador Water Agency	Water System Replacement Master Plan	Planning	7	6	PASS	6	PASS	High	High	High	High	High	Low	Low	High	High	Low	6	0	3	High
34	Calaveras County Water District	Sheep Ranch Drinking Water Compliance Project	Implementation	3	3	PASS	3	PASS	High	Medium	Medium	Low	High	High	Low	High	High	High	5	2	2	High
35	Calaveras County Water District	West Point Water Treatment Plant Drinking Water Compliance Project	Implementation	3	3	PASS	3	PASS	High	Medium	Medium	Low	High	High	Low	High	High	High	5	2	2	High

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36	CPUD	CPUD Water Distribution System Improvements	Planning and Implementation	8	3	PASS	3	PASS	High	High	Medium	Low	High	Low	High	High	High	Low	5	1	3	High
37	CPUD	Jeff Davis Treatment Plant Improvements	Implementation	9	3	PASS	3	PASS	High	High	Medium	Low	High	Low	High	High	High	Low	5	1	3	High
38	CPUD	Middle Fork Ditch Pipeline and Hydroelectric Power Project	Planning and Implementation	3	2	PASS	5	PASS	Medium	Medium	Medium	Low	High	High	High	Medium	High	Medium	4	4	1	Medium
39	Foothill Conservancy	Amador Household Water Efficiency Project	Implementation	7	5	PASS	2	PASS	High	High	Low	High	Medium	Medium	High	High	High	Low	5	2	2	High
40	Foothill Conservancy	Amador/Calaveras rainwater capture demonstration and distribution project	Planning and Implementation	8	6	PASS	4	PASS	High	High	Medium	High	Medium	Medium	Medium	High	High	Low	4	4	1	Medium
41	Foothill Conservancy	Citizen Water Quality Monitoring	Implementation	4	4	PASS	3	PASS	High	Medium	Medium	High	Medium	High	Medium	High	High	Medium	4	5	0	Medium
42	Foothill Conservancy	High Country Meadow Restoration	Planning	8	7	PASS	5	PASS	High	High	Medium	High	Medium	Medium	Medium	High	High	Low	4	4	1	Medium
43	Foothill Conservancy	Restoring the Upper Mokelumne's Anadromous Fish	Planning and Implementation	4	4	PASS	4	PASS	High	High	Medium	High	Medium	Medium	Medium	Medium	High	Low	3	5	1	Medium

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44	Stanislaus National Forest	Hemlock Landscape Restoration	Implementation	6	4	PASS	4	PASS	Medium	High	Medium	High	High	High	Medium	High	High	Medium	6	3	0	High
45	Stanislaus National Forest	Mattley Meadow Restoration	Planning and Implementation	6	4	PASS	5	PASS	High	High	Medium	High	High	High	Medium	High	High	Medium	6	3	0	High
46	Stanislaus National Forest	Moore Creek Restoration	Planning	7	3	PASS	4	PASS	High	High	Medium	High	High	High	High	High	High	Low	6	1	1	High
47	City of Plymouth	Plymouth Arroyo Ditch Pipeline Project	Implementation	5	3	PASS	8	PASS	High	High	High	High	High	Medium	Medium	High	High	Low	6	2	1	High
48	City of Plymouth	Plymouth Wastewater Irrigation Project	Implementation	5	4	PASS	5	PASS	High	High	Medium	Low	High	Low	Low	High	High	Low	4	1	4	Medium

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1	Amador Tuolumne Community Action Agency	Home-Level Water Conservation for the DAC	Implementation	The Project will conduct outreach, take applications, perform water usage assessments, develop a list of water conservation measures that can be cost-effectively installed, and install water conservation measures in the homes of disadvantaged community members who live within the Amador, Calaveras and Mokelumne watersheds in Calaveras and Amador Counties. The project will conserve water and stabilize or lower water rates to supply affordable drinking water to members of the disadvantaged community (DAC).	\$60,000	\$0	\$62,079	High
2	Amador Water Agency	Amador County Long Term Water Needs Study	Planning	A comprehensive study is needed to determine the long term water needs in Amador County. This study needs to take into account current and future demands coupled with when and where additional facilities will be needed to address the anticipated water need. Development of future water sources is also needed as well as a method for providing them. Focus also needs to be on wastewater reclamation for agricultural reuse and irrigation needs, groundwater use and groundwater banking, alternative surface water sources and supplies, and conservation. Fire protection also needs to be a continuing undercurrent in the study to determine Amador County's long term water needs.	\$250,000	\$0	\$281,958	High
3	Amador Water Agency	Amador Water Agency Low Pressure Fire Flow Improvements	Planning and Implementation	This project will identify, prioritize and provide for the design, replacement and modifications to the water supply systems within the community to improve water supply delivery and meet minimum fire flow requirements. This will be a phased project evaluating and prioritizing needed throughout The Agency's distribution system. Phase one will include improvements along Buckhorn Ridge Road and in the Tank B distribution zone.	\$675,000	\$0	\$781,393	Medium
4	Amador Water Agency	Camanche Area Regional Water Supply Project Phase II (CARWSP II)	Planning and Implementation	A treated surface water source (CARWSP II) will allow the Amador Water Agency to reduce growing demands on groundwater. CARWSP Phase II would connect to EBMUD's treated surface water via an intertie valve and would pump the water to a 1MG storage tank at the Tank 9 site. AWA would then be able to abandon wells 6 and 12 and reduce the output of wells 9 and 14 and blend surface water with groundwater. This project would eliminate the contamination issues associated with well over draft, allow the aquifer to recharge, manage groundwater resources, and provide an adequate supply with better quality to the ratepayers of Lake Camanche in both the short and long term.	\$6,963,046	\$0	\$8,060,551	High

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5	Amador Water Agency	CAWP & AWS Intertie	Planning	A two-mile pipeline and appurtenances that intertie the AWS and CAWP systems would be constructed in order to provide redundancy and emergency backup supply. During peak periods, emergency facility failure, or drought conditions, the intertie will allow water transfers from one system to the other. The CAWP system would deliver water via gravity to the AWS and the AWS would pump water to the CAWP system in times of need. This will improve water reliability, water security, and maximize existing water rights and storage between the two systems for the benefit of users of both systems. It will ensure an available water supply for Native Americans and Disadvantaged Communities and also expand fire protection along the central Amador County area between the two systems.	\$2,750,000	\$0	\$3,183,451	High
6	Amador Water Agency	CAWP Fire Protection Project	Planning	This project would create a hydraulic model of the entire wholesale and retail CAWP system which would then facilitate the hydraulic improvements the CAWP distribution system needs in order to achieve the best available fire protection for homes and properties. This will also provide support for fire protections agencies within the region.	\$150,000	\$0	\$169,175	Medium
7	Amador Water Agency	CAWP Gravity Distribution Line	Planning	This project will eliminate pumping costs and energy consumption by installing a gravity pipeline. In the current method of operation, the Buckhorn Water Treatment Plant pumps finished water by way of two High service pumps up to a main distribution Tank A which then feeds the immediate area via a Tank B, then approximately 20 other distribution system tanks as the water makes it's way downcountry. This method of operation is expensive, troublesome and inefficient. This project proposes to install a transmission Line from the Buckhorn Water Treatment Plant approximately 1 mile down highway 88 where it could reconnect with the CAWP transmission line fed by gravity from Tank A eliminating the need for service pump runs to Tank A from the water treatment plant and reducing system flow and pressure inefficiencies. This will save the Amador Water Agency pumping costs, and provide a more adequate and reliable water supply flow and pressure to tanks and ratepayers downcountry and will in turn eliminate the over taxing of the Tank A distribution system.	\$50,000	\$0	\$56,392	Medium

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8	Amador Water Agency	CAWP Tanks Replacement and Consolidation Project	Planning and Implementation	<p>This project proposes to remove one Tank at the Tank A site (Tank B), and build a large 2 MG tank at the site to replace Tank A. This new Tank A storage would facilitate the removal of three of the four tanks within the Silver Lake Pines Subdivision, Alpine 1, McKenzie Tank, and Madrone Tank. This would eliminate three tanks within the CAWP system that are failing and move their storage to the new 2 MG tank.</p> <p>The Mt Crossman Tank site has a pump station that feeds 7 other tanks and two wholesale customers. AWA would also like to place one new larger tank fed by this pump station which would facilitate the elimination of CAWP Tank, Franks Tank, and Rabb Tank (Wholesale Customer) to comply with the Department of Public Health's recommendation to eliminate failing tanks within the CAWP system with new, reliable infrastructure thus eliminating sources of potable water contamination, and safety hazards all while greatly reducing O&M costs associated with Tank and appurtenance maintenance Pioneer area</p>	\$2,600,000	\$0	\$3,009,808	Medium
9	Amador Water Agency	Community Leachfield Groundwater Nitrate Study	Planning	<p>The Amador Water Agency operates nine small community leachfield systems. Some of these systems' monitoring wells (particularly Wildwood Estates Leachfield System) have showed continuing nitrate level increases over time. The Agency would like to complete study that analyzes nitrate level rise in all of the community leachfield systems they operate to develop a course of action for the best possible long term solution to minimize nitrate level rise in the systems which might otherwise exceed state levels.</p>	\$100,000	\$0	\$112,783	Medium
10	Amador Water Agency	Conservation Plan Implementation Project	Implementation	<p>The Amador Water Agency proposes to capture water savings by providing plumbing retrofits, including free high-efficiency showerheads, and rebates for high-efficiency washing machines, toilets and commercial/industrial restroom fixtures, that meet the current water efficiency standards. The Agency would also like to utilize this program to provide incentives for turf replacement with xeriscape landscaping. Outreach about the program in the form of advertising, public relations, community events and classroom education will additionally emphasize the value of water conservation. This project would also fulfill several goals included in the Amador Water Agency's Water Conservation Plan, mandated by the California Department of Water Resources.</p> <p>The Amador Water Agency would like to give out 1,750 free showerheads, provide 315 \$75 rebates for high efficiency clothes washers, provide 135 \$50 rebates for high efficiency toilets, provide 45 \$100 rebates for commercial restroom fixtures, and finally, would offer a rebate of \$2.00 / sq. ft for 15,000 sq. ft. of turf.</p>	\$170,000	\$0	\$191,732	High

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11	Amador Water Agency	Floating Covers Replacement Project	Planning and Implementation	The Amador Water Agency has four floating covers over treated water storage facilities. All of these covers are made of hypalon (chlorosulphonated polyethylene) and are prone to pinhole leaks on the surface and cracks in the folds where water, debris, and dead animals can collect. These issues compromise the public water supply and are possible sources of contamination as identified in various CA DPH annual inspections. This project would replace all or some of these floating covers with a structural roof or dome that will better protect the quality of the treated water. Replacing these covers will also eliminate the routine maintenance necessary to keep these covers in operational shape which also helps to reduce staff exposure to the dangers associated with climbing tanks and walking / working on buoyant, floating covers including wear and tear on the cover exacerbating cover failure, and the possibility of drowning / engulfment.	\$100,000	\$0	\$112,783	Medium
12	Amador Water Agency	Groundwater Banking Project (Conjunctive Use)	Planning	This project is seen as a regional effort whereby one or more partner agencies could obtain a new water right and /or modify an existing water right to enable surface water to be diverted from the Mokelumne River and banked in groundwater basins for later use by one or more partners (and further to improve overdrafted groundwater conditions).	\$200,000	\$0	\$225,567	High
13	Amador Water Agency	Highway 88 Corridor Wastewater Transmission Pipeline (study)	Planning	There are seven small developments located along Highway 88 which have community wastewater systems operated by the Amador Water Agency and others which have been proposed. These systems utilize community leachfields. Soils in the foothills are generally marginal and there are concerns with the long term use of leachfields for these wastewater disposal systems. Future failures of these systems could result in contamination of ground water and cause environmental harm. There are current concerns over increasing nitrate levels in monitoring wells of some of these leachfields. These communities are spread along the Highway from fairway pines to Jackson Pines with the upper portion located approximately 4 miles east of Pine Grove. This project concept considers the placement of a sewer trunk line along Highway 88 from the Buckhorn area to Martell area to collect septic tank effluent wastewater from these systems and the delivery of it to an existing community wastewater system for further treatment and possible reuse. The 7 leachfields could then be repurposed into open space, trails, and recreation areas for the homeowners the leachfields once served. It is estimated this would open up close to 40 acres of land for community use. This project would also provide the ability to collect wastewater from existing home along highway 88 who's septic systems are failing and / or in disrepair.	\$50,000	\$0	\$56,392	High

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14	Amador Water Agency	lone Hydroelectric Project	Implementation	<p>Surface water from Lake Tabeaud is conveyed via pipeline into the lone Reservoir, where an existing pressure-reducing valve reduces over 1,000 feet of head. The lone Reservoir then feeds the lone Water Treatment Plant, which serves potable water to the residents in and around the City of lone.</p> <p>The lone Hydroelectric Project consists of the construction and operation of a new 300kW hydroelectric facility, located at the outfall of the raw water pipeline into the lone Reservoir. This generation of additional electricity will supplement the power grid to serve the Agency Water System. The project has completed initial design and initial CEQA studies have been completed for the project.</p>	\$1,649,000	\$6,000	\$1,747,307	High
15	Amador Water Agency	lone Treated Water Loop	Planning	<p>The lone and Tanner water treatment plants are each operated individually and are not connected. They supply water to the communities of Jackson, Sutter Creek, lone, Martell, Plymouth, Amador City, and Drytown. This project will link these two water systems and create a reliable back up supply for both areas. This will reduce disruptions in drinking water deliveries while expanding public water supply to areas west of the lone System and East of the Tanner System. This project will provide a secure public water supply for more communities now and into the future. This includes the Willow Springs area where no public water supply is currently available. Existing connections and future connections would each pay their proportional fair share of the benefit of the project.</p>	\$7,250,000	\$0	\$8,392,735	High
16	Amador Water Agency	Lake Camanche Transmission Main Project	Implementation	<p>This project will install a transmission pipeline from well 14 to Tank 10. This transmission line will eliminate for tanks 8, 10, and their associated pump stations, in the distribution system and will provide additional supply, fire flow protection, and storage for the Front Village during peak and summer demands. Currently, in order to allow water to flow into Tanks 8 and 10, their respective booster pump stations must be turned off which reduces domestic pressure and fire protection. This creates fluctuating system water quality and leaves the system vulnerable during firefighting events. This system will convey water by gravity and the elimination of the booster pump stations at 8 and 10 will reduce energy consumption and Greenhouse Gas Emissions. This transmission line will greatly facilitate the objective of providing a uniform water supply throughout the subdivision while eliminating aging and failing infrastructure. Tanks 8 and 10 have a history of water loss and are constructed of redwood and other materials now approaching the end of their useful life. The Amador Water Agency recently provided a short extension of life by placing liners in the tanks.</p>	\$900,000	\$45,000	\$1,609,284	High

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17	Amador Water Agency	Lake Camanche Village Wastewater Reuse Project	Planning	This project will upgrade the Lake Camanche Village Wastewater Treatment Plant to MBR or an equivalent and provide a new lift station and collection line for EBMUD's North Shore Recreation Area. The project will also develop surface discharge and reclamation opportunities, particularly in the JVID service area for agricultural purposes. JVID's seasonal irrigation demand is sufficient to utilize all of the reclamation water. Jackson Valley Irrigation District (JVID) does not have an adequate water supply for all users in their system.	\$14,450,000	\$30,000	\$14,901,389	High
18	Amador Water Agency	Lake Camanche Water Service Replacement – Phase III	Implementation	Lake Camanche Water Improvement District No. 7 (WID #7) is a groundwater system with a series of wells, storage tanks, hydro-pneumatic tanks and booster stations with an estimated yearly production of 100 million gallons that serves over 740 service connections. Approximately 540 service connections will have been replaced with the completion of phases one and two. Phase 1 is complete and has reduced system losses by approximately 2.4 million gallons this past year. Phase two is currently under construction and is anticipated to reduce system losses an additional 3 MG. Phase three is anticipated to increase annual water savings by an additional 3 MG for a total annual water savings of 2.75 AF. This project proposes to replace the remaining 200 polyethylene ("poly-tube") service laterals within the system. These laterals were originally installed in the late 1970's and as they continue to age, the material becomes very brittle and subject to severe longitudinal cracking. Thus, they regularly leak and fail, causing significant damage to other infrastructure and substantial water losses. Agency crews, on average, repair and replace twenty laterals each year as they fail.	\$594,000	\$0	\$687,625	High
19	Amador Water Agency	Leak Detection / Master Metering Project	Planning and Implementation	This Leak Detection and Master Metering Project will install meters on key pipelines in areas within Amador Water Agency Distribution Systems (namely lone, Lake Camanche, and the CAWP system) to determine locations of leakage (and thus need for repair or replacement), and which helps to prioritize leak detection efforts. This project will happen in phases. The first phase will be to install the meters and monitor the flows and identify locations of water losses. The second phase will be to implement a repair program.	\$650,000	\$0	\$733,092	Medium

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20	Amador Water Agency	Lower Amador Canal Project	Planning	The Lower Amador Canal, in Sutter Creek, CA flows from the Tanner Water Treatment Plant provides raw water to residents in within the community of Sutter Creek and extends west of Sutter Creek. The water flows both in an uncovered earthen canal and a 120 year old riveted pipe. This untreated water system has extensive leaks and is a tremendous waste of water. A conservative estimate is piping the Lower Amador Canal would save approx. 100 A.F. / year. This annual raw water savings equates to conservation in that the water that is not lost through leaks and evaporation is available to make its way down the watershed providing a need elsewhere. Unmitigated leaks along the canal also have the potential to erode embankments above waterways and is subject to contamination simply because parts of the Lower Amador Canal are exposed to the environment. The alignment of this raw water system parallels the Sutter Creek waterway. Two alternatives have been considered for the project. One is placing approximately five miles of pipe within the canal and the second alternative is to provide treated water from nearby pipelines to existing customers while abandoning the majority of the canal. Amador County within the Vicinity of Sutter Creek.	\$200,000	\$0	\$225,567	High
21	Amador Water Agency	Lower Bear River Reservoir Expansion Project	Planning	This feasibility study will evaluate enlarging Lower Bear Reservoir by raising the existing dam (embankment) 32 feet to increase surface water storage capacity within the upper Mokelumne River watershed. This study would be a continuation of previous studies and serve to address previously unanswered questions and unresolved issues, including operational parameters. Previous studies performed on behalf of Amador Water Agency suggest that Lower Bear Reservoir would provide 18,300 feet of additional yield (Willard 2005). In addition to modifications to the dam itself, other facilities that would need to be constructed include an updated intake structure and spillway. Also note that the project would require the relocation of adjacent roads and existing operational facilities. An operational scheme for an enlarged reservoir would need to be prepared to determine how much yield could be realized for the partners that elect to take part in the project. East Bay MUD could benefit from the added supply in dry years. Calaveras County Water District benefit with a water source for northern county residents currently relying on groundwater, Jackson Valley Irrigation District will benefit with additional water to meet needs within its district and San Joaquin County benefits by now having water to use for groundwater recharge and remediation.	\$5,200,000	\$0	\$6,064,112	High

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22	Amador Water Agency	Martell Wastewater Lift Station Reduction Project	Planning	Martell's wastewater collection system consists of 6 lift stations that convey the wastewater collected from the homes and businesses in Martell to Sutter Creek for treatment and disposal. At least 2 of the lift stations in Martell are at least 30 years old and require an ever increasing amount of maintenance and repair to keep operational. Wastewater in parts of Martell is also pumped twice – from lift station to lift station before being sent to Sutter Creek for treatment and disposal. This project seeks to eliminate double pumping of wastewater by reduce the number of lift stations within the Martell area and expanding the ones that would remain. This would save pumping costs, improve infrastructure reliability and in the end save The Amador Water Agency and its customers money.	\$550,000	\$0	\$636,690	Medium
23	Amador Water Agency	Mokelumne Water Quality, Soil Erosion, and Sedimentation Restoration Project	Planning	This project would be to eliminate man-caused water pollution and adverse impacts on aquatic resources from sediment by eliminating point sources of gully erosion. The concept would develop a three-phase program in the Mokelumne River Watershed upstream of Pardee Reservoir. Gullies from road and trail drainage (open and closed for use) and any other “unnatural” eroding surfaces that deliver significant amounts of sediment to streams will be the primary targets for this program because they can be the biggest contributors to water quality degradation and adverse impacts on river aquatic resources. The program would consist of three phases: 1) inventory areas of soil erosion in coordination with land owners, 2) set priorities and develop an action plan, and 3) seek partners and funding for projects. The USFS Amador District Ranger is currently developing a study and restoration project in the 2004 Power Fire burn area, which affected 17,000 acres within the upper Mokelumne watershed. This concept would be coordinated with that and similar efforts.	\$150,000	\$0	\$169,175	High

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Project No.	Project Proponent	Project Name	Project Type	Project Description	Planning and/or Capital Cost	Annual O&M Cost	Present Value Cost	Rank
24	Amador Water Agency	Mount Crossman Pump Storage Project	Planning	This project looks to place a large, (could be up to 5 Million Gallons) storage tank on the top of Mount Crossman (the highest point of elevation within the Central Amador Water Project, or CAWP area) where treated water would be pumped up to the tank from the Buckhorn Water Treatment Plant and then allowed to flow by gravity to the 27 tanks within the CAWP distribution system. Power could be generated both by pumping up to the tank on Mount Crossman, and then by flowing by gravity out into the distribution system or through a pumped storage option. Wholesale customers within the CAWP system would also have an opportunity place some of their storage within the Mount Crossman Tank, and old and aging tanks would be able to be eliminated and their available supply transferred to the Mount Crossman Tank. New supply would not be created with this project.	\$3,100,000	\$0	\$3,496,284	High
25	Amador Water Agency	New York Ranch Reservoir Conservation and Management	Planning	New York Ranch Reservoir is a balancing reservoir in the AWA canal system. New York Ranch Reservoir is five miles east of Sutter Creek, just south of the Ridge and Climax Roads intersection. It currently serves as a holding basin for water flowing from Lake Tabeaud to the Tanner Reservoir. After the Amador Canal Pipe Project is fully implemented, which will change water conveyance systems from an open earthen canal to 30 – inch piping and smaller pipes for customers along the Amador Canal, the historic New York Ranch Reservoir will no longer be needed. The approximately 49 acre foot reservoir was constructed in 1873 as part of the Amador Canal that was constructed to support mining activities in the vicinity and later became the primary domestic water supply for the area. Many historic facilities are still operational today and the five acre site is rich with other cultural history and wildlife.	\$35,000	\$0	\$39,474	High

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Project No.	Project Proponent	Project Name	Project Type	Project Description	Planning and/or Capital Cost	Annual O&M Cost	Present Value Cost	Rank
26	Amador Water Agency	Regional Wastewater Reuse Project	Planning and Implementation	The communities of Jackson, Martell, Sutter Creek, and Amador City all have independently operated wastewater facilities. All of the facilities are old, and in need of repair and upgrades. With this in mind, coupled with the understanding that reclaimed wastewater has become a reliable, sustainable, and currently untapped water resource in Amador County, The Amador Water Agency (AWA) developed this Regional Wastewater Reuse Project. Given the size, location, and number of cities in Amador County, a regional approach to reclamation facilities is the best method take advantage of the potentially available reclaimed water. Ultimately Amador County will need additional water supplies and reclaimed water needs to become a part of the portfolio for meeting those water needs. In 2013 AWA accepted the "Regional Approach for Reuse" study and wishes to seek funding to provide environmental review and critical implementation steps. Overall, the project will reduce potable water demand by providing recycled water for land disposal on parks, schools, shopping centers, medians, ball fields, golf courses, and various other recreational facilities. This project will further define pipeline alignments, storage sites, pump station layouts, and required upgrades to existing WWTP's. It will also provide engineering cost estimates, and enough information for an environmental review. Providing recycled water improves wastewater treatment efficiency, meets regulatory requirements, and protects surface /ground water resources. This regional plan may involve facility upgrades and will also utilize existing facilities for each existing community. The project will rely heavily on reclamation and reuse for effluent disposal.	\$0	\$0		High
27	Amador Water Agency	Shenandoah Valley Water Supply Analysis	Planning	A concern has been raised regarding the adequacy of groundwater and surface water supplies within the Shenandoah Valley for agricultural use. This study would analyze the current and future water needs of the Shenandoah Valley and options to insure adequate water supplies. This study will give consideration to all the possibilities for meeting supply needs and reliability, including groundwater, surface water, reclaimed wastewater and conservation measures.	\$75,000	\$0	\$84,588	High
28	Amador Water Agency	Small Diameter Pipe Treated Water Conversion	Planning and Implementation	Historically, some residents of Amador County along the Amador Canal have utilized untreated (raw) water in their homes for domestic use. They have no access to a potable water supply. This project would convert the Amador Water Agency's Canal / Small Diameter Raw Water Pipeline into a treated water pipeline and in turn provide treated water to those residents. Supplying treated water will eliminate the potential health hazards / concerns that arise from using untreated (raw) water for domestic use.	\$3,250,000	\$3,060	\$3,289,117	High

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Project No.	Project Proponent	Project Name	Project Type	Project Description	Planning and/or Capital Cost	Annual O&M Cost	Present Value Cost	Rank
29	Amador Water Agency	Surface Storage Feasibility Study	Planning	This project would conduct a regional assessment to evaluate the feasibility of constructing additional surface storage – including both on-stream and off-stream storage opportunities- in Amador and Calaveras Counties. The study would include discussions on location, technical feasibility, economic feasibility, and legal feasibility.	\$200,000	\$0	\$225,567	High
30	Amador Water Agency	Tanner Backwash Water Recycling / Reuse Project	Planning and Implementation	Currently the Tanner Water Treatment Plant's backwash water is pumped into the Lower Amador Canal for limited agricultural use. The canal is primarily earthen, unlined with some piped sections, and is known to leak water. During high rain events water may be discharged through waste gates into Sutter Creek. This project would recycle the backwash water through to the headworks of the plant reducing water losses while dramatically increasing the water treatment plant's efficiency. Currently the Tanner Water Treatment Plant is approximately 80 % efficient. This project would make it closer to 90 – 99% efficient. Backwash water could be stored on –site and recycled through the water treatment plant as needed which will reduce contaminant loading within the Lower Amador Canal, meet regulatory requirements, prevent contamination, potential discharges into Sutter Creek and reduce potable water supply demands which effectively leaves more water in the Mokelumne River watershed. A pre-design study is complete but CEQA and design have yet to be completed.	\$0	\$8,000		High
31	Amador Water Agency	Tanner Regional Water Treatment Plant	Planning and Implementation	The lone Water Treatment Plant and Tanner WTP are at or near their rated capacity. These plants are in need of major improvements which include all control valves, computer control, and other equipment. It was determined that the best long term solution is to construct a regional WTP at the Tanner site and convert the raw water pipeline feeding the lone WTP to a treated water transmission line eliminating the lone WTP. This would reduce the cost of operating two independent water treatment plants. Studies were completed which investigated conventional versus membrane treatment plants in August of 2007. Based on those findings, Staff was directed to proceed with design of a Pall membrane WTP. The New MF WTP will initially be built to 8 MGD, expandable to 20 MGD (plus necessary redundant capacity), such that ultimately it will replace both the existing Tanner and lone WTP's.	\$24,116,537	\$679,822	\$34,831,802	High

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Project No.	Project Proponent	Project Name	Project Type	Project Description	Planning and/or Capital Cost	Annual O&M Cost	Present Value Cost	Rank
32	Amador Water Agency	Wastewater Collection System Improvement Study	Planning	The Amador Water Agency's wastewater lift stations, collection systems and appurtenances are old and failing. This project seeks to develop a plan to improve, repair, and replace these systems. Plan objectives are to provide ways to cost effectively minimize inflow and infiltration, provide adequate sewer capacity to accommodate stormwater flows, and minimize the potential for sanitary sewer overflows. This project also seeks to create hydraulic models of the Amador Water Agency's collection systems.	\$200,000	\$0	\$225,567	Medium
33	Amador Water Agency	Water System Replacement Master Plan	Planning	Much of the Amador Water Agency's infrastructure is old. It has been recognized by the California Dept of Public Health that many tanks are beyond their useful life and the Amador Water Agency needs to develop a plan of replacement for all facilities. Large tracts of distribution system piping and appurtenances were installed in the 1930's and into the present. They are suffering the effects of age as well as the stress applied by water pressure and disposition. These factors are contributing to greater system losses, decreased water quality, reduced fire flow, and increase the potential for catastrophic failures. This project would develop a comprehensive study to delineate where the critical areas are within the Amador Water Agency's system and provide a course of action to replace and improve those areas.	\$300,000	\$0	\$345,139	High
34	Calaveras County Water District	Sheep Ranch Drinking Water Compliance Project	Implementation	The Sheep Ranch Drinking Water Compliance Project involves upgrading the small water treatment plant which currently out of compliance. The Sheep Ranch Water Treatment Plant (WTP) currently produces 30 gallons per minute via an out of date, non-compliant pressure filter according to the California Department of Public Health (CA DPH). CCWD was first notified in 1993 that the current system is out of compliance and not an approved technology. CADPH recommends current technology to include a membrane filter system with sodium hypochlorite disinfection. Additionally the current WTP technology cannot treat water to drinking water standards during storm events when turbidity levels increase. During these times, the WTP must shut down.	\$300,000	\$0	\$345,139	High

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Project No.	Project Proponent	Project Name	Project Type	Project Description	Planning and/or Capital Cost	Annual O&M Cost	Present Value Cost	Rank
35	Calaveras County Water District	West Point Water Treatment Plant Drinking Water Compliance Project	Implementation	The West Point Drinking Water Compliance Project is designed to address a current violation with the CA Department Public Health (CA DPH) regarding the lack of a backup filter system for an economically disadvantaged community. Currently, the water treatment process is an Adsorption Clarifier followed by Sodium Hypochlorite disinfection. However, the West Point Water Treatment Plant does not include a backup water filtration system as required by CA DPH. The West Point backup filtration system is required to produce potable water for a period of at least two weeks per year. Since there is no backup system the District is unable to produce potable water if the water plant is taken offline. As a result the community of West Point was out of potable water for 3 days during a treatment plant outage thru the Fourth of July weekend in 2008, risking both the health and safety of the community and its ability to combat a high fire risk.	\$825,000	\$10,000	\$975,463	High
36	CPUD	CPUD Water Distribution System Improvements	Planning and Implementation	This concept will conduct a study to determine the benefits of replacing all or a portion of the transmission main that conveys treated water from the Jeff Davis Water Treatment Plant (WTP) to Mokelumne Hill, Paloma, and San Andreas (and possibly portions of the raw water transmission line). The study would include assessment of areas that are reaching life expectancy, areas of water loss through leak detection, and recommendations for rehabilitation. Upon completion of the study, the project would include replacing or lining the recommended areas of the current transmission main. Replacing or lining the transmission main will increase the life expectancy, and likely improve efficiencies and reduce unnecessary water loss. The study would prioritize the pipeline replacements according to benefit to increased fire flow, ageing infrastructure, and coordination with other improvements. Numerous areas of the system are dead-end lines. Looping of specific dead-end lines would lessen the need for flushing and increase system circulation. Main replacement coupled with system looping offers great potential for water savings and conservation. The magnitude of these savings in terms of volume and cost would be identified in the study.	\$1,030,000	\$0	\$1,184,977	High

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Project No.	Project Proponent	Project Name	Project Type	Project Description	Planning and/or Capital Cost	Annual O&M Cost	Present Value Cost	Rank
37	CPUD	Jeff Davis Treatment Plant Improvements	Implementation	<p>CPUD's sole source of raw water at this time consists of a surface water diversion on the South Fork of the Mokelumne River, just below the confluence of the Licking Fork. The treatment plant is in need of numerous upgrades including:</p> <ul style="list-style-type: none"> • Pressure filter media replacement and repairs • Numerous automated valve controls to improve operations • Construction of vault equipped with pumping equipment for capturing and recycling backwash water to the Jeff Davis Reservoir • Chlorination/Disinfection Improvements • Controls/Automation Improvements (SCADA) <p>Improvements to the facility will improve dependability of supply by optimizing the treatment process and streamlining operations. The project also has a significant water conservation component related to recycling of the facility's backwash water.</p>	\$80,000	\$0	\$91,012	High
38	CPUD	Middle Fork Ditch Pipeline and Hydroelectric Power Project	Planning and Implementation	The scope of the Middle Fork Ditch Pipeline and Hydroelectric Power Project includes the construction of a pipeline connecting the existing penstock at Schaads Reservoir, located on the Middle Fork of the Mokelumne River with an existing pipeline which delivers water to Jeff Davis Reservoir from the South Fork Mokelumne River Pump Station.	\$11,135,000	\$0	\$12,967,359	Medium
39	Foothill Conservancy	Amador Household Water Efficiency Project	Implementation	<p>The Amador Household Water Efficiency Project is intended to implement and expand on the conservation program adopted by the Amador Water Agency in 2010, much of which has not been implemented due to lack of funds. The conservation program is intended to ensure optimal use of the county's developed water supplies while saving ratepayers money on water and energy. It will include the following components:</p> <ul style="list-style-type: none"> • Residential surveys and assistance • High-efficiency washer rebate program • Ultra low-flush toilet replacement program • School education programs • Turf replacement program 	\$552,950	\$39,658	\$720,006	High

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Project No.	Project Proponent	Project Name	Project Type	Project Description	Planning and/or Capital Cost	Annual O&M Cost	Present Value Cost	Rank
40	Foothill Conservancy	Amador/Calaveras rainwater capture demonstration and distribution project	Planning and Implementation	The Amador/Calaveras Residential Rain Barrel Demonstration and Distribution Project is intended to plan and implement a program where free or discounted rain barrels or water storage tanks and technical guidance would be made available to county residents to construct stormwater capture facilities at home. The project would be completed in phases. Phase 1 will include an assessment of interest between Calaveras and Amador Counties and the construction of a demonstration project that would highlight a functional system where interested parties could learn about how systems work and how to construct their own. Phase 1 would also include the procurement of at least one shipment of rainwater catchment tanks, or more, based on the assessment of interest, that would then be provided below retail cost to interested parties.	\$50,000	\$22,000	\$90,335	Medium
41	Foothill Conservancy	Citizen Water Quality Monitoring	Implementation	The Foothill Conservancy's citizen water quality monitoring program would be a three-year project and utilize Calaveras and Amador County citizen volunteers who previously received training to conduct monitoring on water quality through the Central Sierra Resource Conservation and Development Council's citizen water quality monitoring program and/or volunteers who would receive training to conduct monitoring as a part of the program. The program would involve monitoring of streams and tributaries in the Amador/Calaveras area where other monitoring efforts have gaps or where an identified need for monitoring is determined. Data generated from this project would be shared with the State Water Resources Control Board's Citizen Monitoring program database so that information would be made publicly available. It would also share data with county health and sanitation districts.	\$25,000	\$3,000	\$33,019	Medium
42	Foothill Conservancy	High Country Meadow Restoration	Planning		\$40,000	\$0	\$45,113	Medium

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Project No.	Project Proponent	Project Name	Project Type	Project Description	Planning and/or Capital Cost	Annual O&M Cost	Present Value Cost	Rank
43	Foothill Conservancy	Restoring the Upper Mokelumne's Anadromous Fish	Planning and Implementation	The Upper Mokelumne Anadromous Fish Restoration Program would design and implement a program to study the feasibility of moving anadromous fish from the Mokelumne at Camanche Dam to the river above Pardee Reservoir, and back. The project would be completed in phases. First a pilot study project assessing the feasibility of transporting fish above Pardee Reservoir would be completed. The pilot would seek to identify any potential benefits, impacts, and constraints to the following: domestic water supply; river flows; technical, political, environmental, economic, legal, and recreation. The study also will recognize that, prior to implementation, the project will require analysis under CEQA and/or NEPA and will also need to comply with other applicable law. Based on results of the pilot study, long-term goals of establishing a self-sustaining population in the upper watershed could begin. This phase may incorporate further spawning habitat assessment, habitat restoration, and monitoring components, all of which would be subject to environmental analysis and applicable law.	\$1,100,000	\$50,000	\$1,468,004	Medium
44	Stanislaus National Forest	Hemlock Landscape Restoration	Implementation	The main project goals are to: <ul style="list-style-type: none"> • Increase tree, stand, and landscape resiliency and sustainability by producing different stand structures and densities across the landscape. Enhance the general health of forested stands by reducing susceptibility to insect, diseases, and drought-related mortality by improving and promoting stand and individual tree growth and vigor. • Reduce future fire intensity and severity to federal land and adjacent private land by reducing surface fuels, increasing the height to canopy, decreasing crown density, and retaining large, fire-resistant tree species. • Maintain and enhance important wildlife habitat, mature forest ecosystem values, and connectivity of mature forest stands [e.g., late seral with closed canopies, • Maintain and enhance the extent and connectivity of aspen stands by reducing encroaching conifers. • Achieve an environmental context of ethno-botanical diversity similar to indigenous stewardship conditions on and around archaeological sites by managing vegetation and woody debris and reducing the risk of fire damage. • Improve watershed condition by reducing sediment generated by the road system and delivered to streams and special aquatic features through improvement of road drainage features. 				High

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Project No.	Project Proponent	Project Name	Project Type	Project Description	Planning and/or Capital Cost	Annual O&M Cost	Present Value Cost	Rank
45	Stanislaus National Forest	Mattley Meadow Restoration	Planning and Implementation	Mattley Meadow is an approximate 109-acre meadow of which approximately 62 acres are privately owned. In addition, there are approximately 23-acres of disconnected meadows around Mattley Meadow, potentially disconnected by encroaching conifers, altered hydrology, and other environmental stressors. Mattley Creek enters into the North Fork Mokelumne River approximately 0.4 miles above Salt Springs Reservoir. Mattley Meadow has channel migration, deeply eroded channels, and a change in meadow floristic composition, trending towards dryland species and non-vegetation areas. In addition, encroaching confers are expected to be removed from the meadow, and an OHV route would be re-aligned to minimize disturbances. The project is expected to use engineered plans for a channel fill or pond and plug system on approximately 1.0 mile of eroded channel(s). In addition, the project would design hydrologic restoration actions to potentially re-connect adjacent meadows to Mattley Meadow.	\$200,000	\$0	\$225,567	High
46	Stanislaus National Forest	Moore Creek Restoration	Planning	The Moore Creek Restoration Project will address current recreational issues of the area that effect water quality, soil erosion and degradation of pre-historic sites. The restoration project will identify the location of dispersed campsites to decrease pollution and containments into the watershed. As well, user created motorized and non-motorized trails will be mapped to minimize soil erosion and cultural and natural resource damage. The project will manage storm water flows and transport of sedimentation including contaminants. There are a number of unpaved forest roads and trails which are a significant source of storm water runoff and fine sediment that is transported to streams. Road and trail treatments in the project would reduce storm water runoff and fine sediment that is delivered to streams by: performing routine road and trail maintenance that has been deferred. Including disconnecting hydrologically connected road and trail segments by improving and increasing the number of drainage structures. The project would improve or replace undersized and failing stream crossing and clos or decommission unneeded road and trials.	\$36,000	\$0	\$40,602	High

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Project No.	Project Proponent	Project Name	Project Type	Project Description	Planning and/or Capital Cost	Annual O&M Cost	Present Value Cost	Rank
47	City of Plymouth	Plymouth Arroyo Ditch Pipeline Project	Implementation	The Arroyo Ditch is an 18 mile long, mostly open, water conveyance system that starts at the Middle fork of the Cosumnes River, includes six tributaries, the South Fork of the Cosumnes River and ends in the City of Plymouth. Similar to the AWA Amador Canal open conveyance system, this system is very inefficient due to significant water loss (approximately 70% infiltration and 10% evaporation) and is susceptible to contamination and damage. The project will improve water reliability, enhance fire suppression, reduce property loss, and improve the public water supply. The Arroyo Ditch and the City's commercial wells are a backup water supply identified by OES in the event something should happen to the AWA system. In July 2014 the Arroyo Ditch system experienced significant damage during the Sand fire. Approximately the first 9 miles of the system is affected and requires some measure of remediation. We are working with our insurance and OES to get the repairs done.	\$15,000,000	\$125,000	\$16,970,233	High
48	City of Plymouth	Plymouth Wastewater Irrigation Project	Implementation	The Plymouth Wastewater Irrigation Pipeline Project would take treated sewer effluent to a vineyard adjacent to the sewer storage reservoir for use as a drip irrigation source for up to 400 acres of grapes. Initially the project would irrigate 120 acres of grapes which are already planted. Once the system is installed 80 more acres of grapes would be planted. Ultimately an additional 200 acres would be planted as the supply becomes available over time. This would allow the City of Plymouth to absorb additional growth without having to do substantial upgrades to the system. It would allow the City of Plymouth to prolong the life of the irrigation system at the sewer spray fields. Most importantly it would significantly reduce or eliminate Nitrogen and other constituent loading of the soil on the spray fields and significantly reduce the risk of groundwater contamination from spray field operations.	\$2,500,000	\$70,000	\$3,553,241	Medium

Economic Feasibility Analysis

March 4, 2015

Project No.	Project Name	Plan Cost and Capital Cost	Annual O&M Cost	Project Life (years)	Project Basis / Year ⁴	Present Value Costs	Cost Score ¹		Benefits (Goals)	B:C ²	Economic Benefit ³
1	Home-Level Water Conservation for the DAC	\$60,000		4	N/A	\$62,079	High	1	3	3.0	High
2	Amador County Long Term Water Needs Study	\$250,000			N/A	\$281,958	High	1	6	6.0	High
3	Amador Water Agency Low Pressure Fire Flow Improvements	\$675,000		50	N/A	\$781,393	High	1	2	2.0	Medium
4	Camanche Area Regional Water Supply Project Phase II (CARWSP II)	\$6,963,046		50	2012	\$8,060,551	Medium	2	4	2.0	Medium
5	CAWP & AWS Intertie	\$2,750,000		50	N/A	\$3,183,451	Medium	2	3	1.5	Medium
6	CAWP Fire Protection Project	\$150,000			N/A	\$169,175	High	1	4	4.0	High
7	CAWP Gravity Distribution Line	\$50,000			N/A	\$56,392	High	1	3	3.0	High
8	CAWP Tanks Replacement and Consolidation Project	\$2,600,000		50	N/A	\$3,009,808	Medium	2	6	3.0	High
9	Community Leachfield Groundwater Nitrate Study	\$100,000			N/A	\$112,783	High	1	3	3.0	High
10	Conservation Plan Implementation Project	\$170,000			N/A	\$191,732	High	1	6	6.0	High
11	Floating Covers Replacement Project	\$100,000			N/A	\$112,783	High	1	2	2.0	Medium
12	Groundwater Banking Project (Conjunctive Use)	\$200,000				\$225,567	High	1	4	4.0	High
13	Highway 88 Corridor Wastewater Transmission Pipeline (study)	\$50,000			N/A	\$56,392	High	1	7	7.0	High
14	Ione Hydroelectric Project	\$1,649,000	\$6,000	70	N/A	\$1,747,307	High	1	3	3.0	High
15	Ione Treated Water Loop	\$7,250,000		50	N/A	\$8,392,735	Medium	2	3	1.5	Medium
16	Lake Camanche Transmission Main Project	\$900,000	\$45,000	50	N/A	\$1,609,284	High	1	5	5.0	High
17	Lake Camanche Village Wastewater Reuse Project	\$14,450,000	\$30,000	40	N/A	\$14,901,389	Medium	2	7	3.5	High
18	Lake Camanche Water Service Replacement – Phase III	\$594,000		50	N/A	\$687,625	High	1	5	5.0	High
19	Leak Detection / Master Metering Project	\$650,000			N/A	\$733,092	High	1	4	4.0	High
20	Lower Amador Canal Project	\$200,000			N/A	\$225,567	High	1	6	6.0	High
21	Lower Bear River Reservoir Expansion Project	\$5,200,000		100	N/A	\$6,064,112	Medium	2	5	2.5	High
22	Martell Wastewater Lift Station Reduction Project	\$550,000		50	N/A	\$636,690	High	1	4	4.0	High
23	Mokelumne Water Quality, Soil Erosion, and Sedimentation Restoration Project	\$150,000			N/A	\$169,175	High	1	5	5.0	High
24	Mount Crossman Pump Storage Project	\$3,100,000			N/A	\$3,496,284	Medium	2	4	2.0	Medium
25	New York Ranch Reservoir Conservation and Management	\$35,000			N/A	\$39,474	High	1	9	9.0	High
26	Regional Wastewater Reuse Project				N/A		Low	3	8	2.7	High
27	Shenandoah Valley Water Supply Analysis	\$75,000			N/A	\$84,588	High	1	5	5.0	High
28	Small Diameter Pipe Treated Water Conversion	\$3,250,000	\$3,060		N/A	\$3,289,117	Medium	2	7	3.5	High
29	Surface Storage Feasibility Study	\$200,000			N/A	\$225,567	High	1	6	6.0	High
30	Tanner Backwash Water Recycling / Reuse Project		\$8,000		N/A		Low	3	8	2.7	High
31	Tanner Regional Water Treatment Plant	\$24,116,537	\$679,822	50	2008	\$34,831,802	Low	3	4	1.3	Low
32	Wastewater Collection System Improvement Study	\$200,000			N/A	\$225,567	High	1	3	3.0	High
33	Water System Replacement Master Plan	\$300,000		40	N/A	\$345,139	High	1	7	7.0	High
34	Sheep Ranch Drinking Water Compliance Project	\$300,000		40	N/A	\$345,139	High	1	3	3.0	High
35	West Point Water Treatment Plant Drinking Water Compliance Project	\$825,000	\$10,000	40	N/A	\$975,463	High	1	3	3.0	High
36	CPUD Water Distribution System Improvements	\$1,030,000		40	N/A	\$1,184,977	High	1	8	8.0	High

Economic Feasibility Analysis

March 4, 2015

Project No.	Project Name	Plan Cost and Capital Cost	Annual O&M Cost	Project Life (years)	Project Basis / Year ⁴	Present Value Costs	Cost Score ¹		Benefits (Goals)	B:C ²	Economic Benefit ³
37	Jeff Davis Treatment Plant Improvements	\$80,000		30	N/A	\$91,012	High	1	9	9.0	High
38	Middle Fork Ditch Pipeline and Hydroelectric Power Project	\$11,135,000		75	N/A	\$12,967,359	Medium	2	3	1.5	Medium
39	Amador Household Water Efficiency Project	\$552,950	\$39,658	5	2010	\$720,006	High	1	7	7.0	High
40	Amador/Calaveras rainwater capture demonstration and distribution project	\$50,000	\$22,000	2	N/A	\$90,335	High	1	8	8.0	High
41	Citizen Water Quality Monitoring	\$25,000	\$3,000	3	N/A	\$33,019	High	1	4	4.0	High
42	High Country Meadow Restoration	\$40,000			N/A	\$45,113	High	1	8	8.0	High
43	Restoring the Upper Mokelumne's Anadromous Fish	\$1,100,000	\$50,000	10	N/A	\$1,468,004	High	1	4	4.0	High
44	Hemlock Landscape Restoration				N/A		Low	3	6	2.0	Medium
45	Mattley Meadow Restoration	\$200,000			N/A	\$225,567	High	1	6	6.0	High
46	Moore Creek Restoration	\$36,000			N/A	\$40,602	High	1	7	7.0	High
47	Plymouth Arroyo Ditch Pipeline Project	\$15,000,000	\$125,000	50	N/A	\$16,970,233	Medium	2	5	2.5	High
48	Plymouth Wastewater Irrigation Project	\$2,500,000	\$70,000	40	N/A	\$3,553,241	Medium	2	5	2.5	High

¹ Cost score based on PV cost ranges: <\$2m = High; \$2-20m = Medium; >\$20m = Low

² Benefit Cost based on total number of goals divided by cost score

³ Final score based on BC: 2.5+ = High; 1.5 - 2.0 = Medium; 0 - 1.4 = Low

⁴ Costs not in 2015 dollars adjusted according to the CCI for the cost basis year versus the Jan 2015 cost basis for California (9971.96).

MAC Plan Projects by Category
March 4, 2015

Projects by Category

Project No.	Project Proponent	Project Name	Project Type	Rank	Total Present Value Cost
Water - Conservation					
1	Amador Tuolumne Community Action Agency	Home-Level Water Conservation for the DAC	Implementation	High	\$62,079
10	Amador Water Agency	Conservation Plan Implementation Project	Implementation	High	\$191,732
19	Amador Water Agency	Leak Detection / Master Metering Project	Planning and Implementation	Medium	\$733,092
39	Foothill Conservancy	Amador Household Water Efficiency Project	Implementation	High	\$720,006
40	Foothill Conservancy	Amador/Calaveras rainwater capture demonstration and distribution project	Planning and Implementation	Medium	\$90,335

Water - Conservation Projects Total Cost \$1,797,243

Water - Supply					
2	Amador Water Agency	Amador County Long Term Water Needs Study	Planning	High	\$281,958
12	Amador Water Agency	Groundwater Banking Project (Conjunctive Use)	Planning	High	\$225,567
21	Amador Water Agency	Lower Bear River Reservoir Expansion Project	Planning	High	\$6,064,112
27	Amador Water Agency	Shenandoah Valley Water Supply Analysis	Planning	High	\$84,588
29	Amador Water Agency	Surface Storage Feasibility Study	Planning	High	\$225,567

Water - Supply Projects Total Cost \$6,881,792

Water - Treatment					
30	Amador Water Agency	Tanner Backwash Water Recycling / Reuse Project	Planning and Implementation	High	<i>no capital cost provided</i>
31	Amador Water Agency	Tanner Regional Water Treatment Plant	Planning and Implementation	High	\$34,831,802
34	Calaveras County Water District	Sheep Ranch Drinking Water Compliance Project	Implementation	High	\$345,139
35	Calaveras County Water District	West Point Water Treatment Plant Drinking Water Compliance Project	Implementation	High	\$975,463
37	CPUD	Jeff Davis Treatment Plant Improvements	Implementation	High	\$91,012

Water - Treatment Projects Total Cost \$36,243,416

Water - Transmission					
4	Amador Water Agency	Camanche Area Regional Water Supply Project Phase II (CARWSP II)	Planning and Implementation	High	\$8,060,551
5	Amador Water Agency	CAWP & AWS Intertie	Planning	High	\$3,183,451
7	Amador Water Agency	CAWP Gravity Distribution Line	Planning	Medium	\$56,392
16	Amador Water Agency	Lake Camanche Transmission Main Project	Implementation	High	\$1,609,284
20	Amador Water Agency	Lower Amador Canal Project	Planning	High	\$225,567
25	Amador Water Agency	New York Ranch Reservoir Conservation and Management	Planning	High	\$39,474
47	City of Plymouth	Plymouth Arroyo Ditch Pipeline Project	Implementation	High	\$16,970,233

Water - Transmission Projects Total Cost \$30,144,951

MAC Plan Projects by Category
March 4, 2015

Project No.	Project Proponent	Project Name	Project Type	Rank	Total Present Value Cost
Water - Distribution					
3	Amador Water Agency	Amador Water Agency Low Pressure Fire Flow Improvements	Planning and Implementation	Medium	\$781,393
6	Amador Water Agency	CAWP Fire Protection Project	Planning	Medium	\$169,175
8	Amador Water Agency	CAWP Tanks Replacement and Consolidation Project	Planning and Implementation	Medium	\$3,009,808
11	Amador Water Agency	Floating Covers Replacement Project	Planning and Implementation	Medium	\$112,783
15	Amador Water Agency	Ione Treated Water Loop	Planning	High	\$8,392,735
18	Amador Water Agency	Lake Camanche Water Service Replacement – Phase III	Implementation	High	\$687,625
24	Amador Water Agency	Mount Crossman Pump Storage Project	Planning	High	\$3,496,284
28	Amador Water Agency	Small Diameter Pipe Treated Water Conversion	Planning and Implementation	High	\$3,289,117
33	Amador Water Agency	Water System Replacement Master Plan	Planning	High	\$345,139
36	CPUD	CPUD Water Distribution System Improvements	Planning and Implementation	High	\$1,184,977

Water - Distribution Projects Total Cost \$21,469,037

Wastewater - Collection					
13	Amador Water Agency	Highway 88 Corridor Wastewater Transmission Pipeline (study)	Planning	High	\$56,392
22	Amador Water Agency	Martell Wastewater Lift Station Reduction Project	Planning	Medium	\$636,690
32	Amador Water Agency	Wastewater Collection System Improvement Study	Planning	Medium	\$225,567

Wastewater - Collection Projects Total Cost \$918,649

Wastewater - Disposal					
9	Amador Water Agency	Community Leachfield Groundwater Nitrate Study	Planning	Medium	\$112,783
17	Amador Water Agency	Lake Camanche Village Wastewater Reuse Project	Planning	High	\$14,901,389
26	Amador Water Agency	Regional Wastewater Reuse Project	Planning and Implementation	High	<i>No costs provided</i>
48	City of Plymouth	Plymouth Wastewater Irrigation Project	Implementation	Medium	\$3,553,241

Wastewater - Disposal Projects Total Cost \$18,567,413

Environmental Resources					
23	Amador Water Agency	Mokelumne Water Quality, Soil Erosion, and Sedimentation Restoration Project	Planning	High	\$169,175
41	Foothill Conservancy	Citizen Water Quality Monitoring	Implementation	Medium	\$33,019
42	Foothill Conservancy	High Country Meadow Restoration	Planning	Medium	\$45,113
43	Foothill Conservancy	Restoring the Upper Mokelumne's Anadromous Fish	Planning and Implementation	Medium	\$1,468,004
44	Stanislaus National Forest	Hemlock Landscape Restoration	Implementation	High	<i>No costs provided</i>
45	Stanislaus National Forest	Mattley Meadow Restoration	Planning and Implementation	High	\$225,567
46	Stanislaus National Forest	Moore Creek Restoration	Planning	High	\$40,602

Environmental Resources Projects Total Cost \$1,981,480

Other					
14	Amador Water Agency	Ione Hydroelectric Project	Implementation	High	\$1,747,307
38	CPUD	Middle Fork Ditch Pipeline and Hydroelectric Power Project	Planning and Implementation	Medium	\$12,967,359

Other Projects Total Cost \$14,714,666