

# Planning Operations Engineering Committee

(Directors Thomas and Peters)

Special Meeting

October 18, 2022

1:00 p.m.

12800 Ridge Road

**Public Notice:** Members of the public will have the opportunity to directly address the Committee on any item listed on the Agenda below before or during consideration of that item.

***This meeting will be conducted in-person and by videoconference. Members of the public may participate in the meeting by using the dial in information below:***

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**1. CALL TO ORDER**

Remote meeting authorized by prior action of the Board of Directors.

**2. PUBLIC COMMENT**

**3. PROJECTS UPDATE**

**4. CONTRACT FOR IONE WTP GEOTECHNICAL ANALYSIS**

**5. DEVELOPMENT OF 5-YEAR CIP**

**6. MANAGEMENT REPORT**

**7. ADJOURNMENT**

*In compliance with the Americans with Disabilities Act, if you are a disabled person and you need a disability-related modification or accommodation to participate in this meeting, then please contact Karen Gish at (209) 257-5234. Requests must be made as early as possible, and at least two-full business days before the start of the meeting.*

# STAFF REPORT

## PROJECTS UPDATE

### AWA Projects

1. Pioneer Rehabilitation Phase 3 (USDA)
  - a. The Contractor is onsite welding the second tank. The remaining butterfly valves have not been delivered as previously scheduled. Staff is working on a time extension from USDA.
  - b. Staff is working on obtaining approval from USDA to use approximately half of the project contingency to install additional drain piping from the tanks.
2. Tanner Water Treatment Plant 18" Clearwell Feed Line
  - a. Materials have arrived and are being stored for winter construction.
3. Ione Clearwell Cover Replacement Project
  - a. The project is out to bid, with bids due in October.
4. Tanner Water Treatment Plant Filter Media Replacement Project.
  - a. The project is out to bid, with bids due in November.
5. Martell Lift Station #2
  - a. The project is awaiting replacement of the pumps and PG&E electrical service upgrade.
6. Tiger Creek Regulator & Afterbay
  - a. Project staging and installation are proceeding for the Oct. 17-28, 2022 planned Regulator drawdown. Reservoir drawdown to staff gauge = 0 ft.
  - b. Cofferdam Construction is tentatively scheduled for spring 2025 during PG&E's normal annual outage. Reservoir drawdown to staff gauge = 5 ft.
7. La Mel Booster Station
  - a. AWA received full approval of the increased grant amount from FEMA/CalOES/HMGP for a total project cost of \$2,266,750 (75% grant).
  - b. Staff is proceeding with the full engineering RFP.
  - c. Budget augmentation request to follow with the midyear budget.

## **AWA Studies and Applications**

1. HMGP Grant Applications
  - a. Four of the projects have been submitted by CalOES to FEMA for review.
2. The Disinfection By-Product Study RFP responses are due in October.
3. The lone WTP Geotechnical RFP responses are due in October.
4. Staff and ATEEM Electrical Engineering are working on the new electrical standards.
5. Staff completed After Action Reports and close out reports for the Tanner Backwash and the lone WTP Rehabilitation Upgrade projects.
6. Water Code update is being worked on by staff.
7. Sanitary Sewer Management Plan
  - a. Staff is updating a draft on the plan.

## **Notable Developer Projects**

1. Pine Grove Bypass & WW Improvement Project
  - a. County response indicating that AWA is 100% liable for project costs was received and responded to. Negotiations are in progress.
2. Castle Oaks Village 9
  - a. Construction is in progress.
3. Wildflower Unit 2 & Foothill Boulevard
  - a. Developer is working on completing the semi-final punch list.
4. Wicklow Way
  - a. Staff met with the County regarding water and wastewater for the project.

**Prepared by:** Brandt Cook, Resident Engineer

# STAFF REPORT

## CONTRACT FOR IONE WTP GEOTECHNICAL ANALYSIS

### **Recommended Action:**

Recommend that the Board authorize execution of the contract for geotechnical

### **Background:**

As the Committee is aware, a geotechnical evaluation of the current Ione WTP site is a critical step in evaluating alternatives for increasing treated water capacity to Ione.

Staff issued an RFP to consultants on our on-call list who have geotechnical qualifications. The RFP is attached for the Committee's information.

We received two proposals. Staff is completing review of the responses and at or before the Committee meeting will have a recommendation for selecting a contractor and awarding a contract.

### **Fiscal Impact:**

Staff has estimated the project cost as not to exceed \$45,000, and that amount is budgeted in Water Operations for this purpose.

**Prepared by:** Larry McKenney, General Manager



## **REQUEST FOR PROPOSALS**

# **Ione WTP Geotechnical Analysis**

**Response Due: October 3, 2022, 2:00 P.M.**

### **Amador Water Agency**

12800 Ridge Road

Sutter Creek, CA 95685

209-223-3018

## **INTRODUCTION**

The Amador Water Agency (AWA or Agency) completed its first Water Master Plan Study (Master Plan) in 2020, which was further expanded with the 2022 Tanner & lone Water Treatment Plant Capacity Study (Capacity Study). The Agency now seeks experienced and qualified firms to provide geotechnical, engineering and related professional services, to implement Project lone 1A.7 (WTP) - **lone Water Treatment Plant Geotechnical Analysis** (Project) from the Capacity Study, to provide a professional geotechnical evaluation, engineering analysis and recommendations on the stability of and constructability of the proposed improvements at the lone Water Treatment Plant (WTP) and lone Reservoir sites.

Qualified consultants are invited to submit proposals in accordance with the requirements of this Request for Proposals (RFP) on or before the due date listed on the cover page. In order for the Consultant to be considered qualified, the firm or project team must demonstrate experience in the successful completion of similar types of geotechnical and engineering studies.

The successful Consultant must be aware of the budget limitations and be able to provide a clear plan for completing the required work that meets the project's goals within the project budget constraints and schedule. The lone WTP is located at 491 Foothill Boulevard and the lone Reservoir is located off of Highway 104 southeast of lone, CA. Non-mandatory site tours are available upon request, with a minimum of one week's notice and execution of Agency waivers. Responders may be an individual, a firm, or a team with a primary responder and identified sub-consultants.

## **BACKGROUND**

The Agency, located within Amador County, California, was established in 1959 to provide water service throughout the County. The water served by the Agency is primarily sourced from the Mokelumne River, although a small portion of the Agency's customers are served with groundwater. The Agency services approximately 22,500 people through retail and wholesale services in the cities of lone, Jackson, Pine Grove, Pioneer, Buckhorn, Plymouth, Sutter Creek, Amador City, Lake Camanche Village and several other unincorporated areas. The Agency's owns and operates several water delivery systems including the Central Amador Water Project (CAWP) system, Amador Water systems (AWS – Sutter Creek/Tanner and AWS – lone), La Mel Heights system, Lake Camanche Village (LCV) system and the PG&E Tiger Creek system. Combined, the AWA systems include more than 40 tanks, multiple water supplies, over 25 pump stations, and 350 miles of water pipelines. The Agency also wholesales treated drinking water to Drytown CWD, City of Jackson, First Mace Meadow Water Association, Pine Grove CSD, and the City of Plymouth.

The AWS-lone system provides water to the City of lone, as well as surrounding commercial entities, through the lone WTP, a conventional plant with a nominal capacity of 2.1 mgd, expandable to 4 mgd.

While it is clear that the capacity limitations at the lone WTP need to be addressed as soon as possible, this is complicated due to site conditions at the existing WTP, which does not have space to accommodate expansion, and which could be geotechnically unstable as evidenced by hillside movement and soil cracking documented in Chapter 3 of the Capacity Study. Therefore, a geotechnical analysis of the existing site could identify additional capital improvements and influence Agency decision making on where and how to expand WTP capacity.

The AWA 2020 Water Master Plan Study and AWA 2022 Tanner & lone Water Treatment Plant Capacity Study may be downloaded at:

<https://amadorwater.org/financial-information/information-policies-reports/>

This request for proposals seeks to identify an engineering firm capable of performing a geotechnical evaluation, structural assessment and engineering analysis of the lone WTP and lone Reservoir sites, along with the proposed capital improvement projects. The anticipated budget is around \$45,000.

### **SCOPE OF SERVICES**

The service contract is expected to be awarded in the fall of 2022 and the work completed within six months. Work is anticipated to include data collection, preliminary review, analysis, recommendations, study and capital improvement plan updates. The scope of services to be provided by the Consultant shall consist of the following two (2) tasks:

#### **Task 1: Data Collection, Review, and Analysis**

The Consultant shall collect, review and analyze available data, and evaluate the existing lone WTP and lone Reservoir site. This is anticipated to include:

- 1) Geotechnical evaluation and engineering analysis of the lone WTP site, existing structures, and proposed structures. Proposed structures shall include both the “Phased lone Replacement” and “Accelerated lone Replacement” projects.
- 2) Field visits, sampling, structural assessments, coring and drilling, as needed, to identify existing conditions and deficiencies.

#### **Task 2: Development of the Geotechnical Analysis**

Based upon the analysis and evaluation accomplished in Task 1, the Consultant shall develop and prepare a Geotechnical Analysis, to encompass the 20-year planning period. The analysis shall identify and prioritize improvements in a Capital Improvement Plan (CIP) update. Development and preparation of these documents shall include:

- 1) Geotechnical analysis of the proposed site improvements based on existing uses, future proposed projects, and coordination with anticipated CIP implementation.
- 2) Development and selection of alternatives, with input from Agency staff.
- 3) Providing evaluation of and professional engineering recommendations on effectively constructing the proposed improvements, and accelerated alternative schedule as well, at the lone WTP site. These should include recommendations and improvements to help the Agency identify geotechnical stability issues, implement the proposed projects by phases, identify and quantify any geotechnical stability improvements required for each project, and provide recommendations on the lone treatment accelerated schedule alternative.
- 4) Updated lone WTP capital improvement projects, in conformance with the existing Agency Capacity Study/CIP list, individual project sheets, and with updated geotechnical costs to implement each project. A geotechnical analysis specific CIP update, as well as an update of the Agency’s overall CIP Summary, shall be included in the analysis.

The Consultant shall specify a single Project Manager who shall be the sole point of contact for the entire project. The Project Manager shall play an active role in the management and coordination of the project, including regular communication with Agency staff to discuss project status and receive input. All tasks shall include the appropriate project management responsibilities including: correspondence, file maintenance, coordination of meetings, preparation of all agendas and minutes, preparation of schedules and schedule updates, progress meetings, preparation and submission of monthly progress reports, monthly progress payment requests, preparation of and adherence to a Quality Assurance/Quality Control Program, and coordination and consultation with appropriate local, state and regulatory agencies.

Consultant will document findings and recommendations in a preliminary and draft analysis that will be reviewed by the Agency in multiple review periods, present findings in public meetings, address public and staff comments, and finalize report. All Work Product shall be provided to the Agency at the completion of the project or as requested in native and final file formats. The Project should integrate seamlessly into the Master Plan and Capacity Study, update, replace and expand on existing plans, studies, and AWA's Capital Improvement Program.

Responders must include personnel licensed to practice engineering in the state of California. Consultants will work under the direction of the Agency's Resident Engineer, and will work from their own offices unless presence at the Agency's office is required. Final modifications to the scope and cost proposal will be negotiated with the successful Consultant as needed.

## **RESPONSE SUBMITTALS**

The Consultant shall prepare a proposal that outlines the qualifications of the Consultant team to complete the scope of work as presented herein, and a proposal of how the scope of work will be accomplished. The document shall include the following items:

- Cover Letter – The cover letter shall be signed by a member of the organization having the authority to negotiate and execute contracts on behalf of the firm. The cover letter shall acknowledge receipt of any and all addenda, if any were issued, and shall include a statement accepting the unmodified use of the Agency's standard professional services agreement as the project contract. Proposals that do not accept the unmodified use of the Agency's standard agreement or propose changes may be deemed non-responsive.
- Project Familiarity and Understanding – The Consultant shall outline their familiarity with the Project and experience requirements listed in the introduction. Also outline understanding of the project and how their team is qualified to complete the work.
- Project Approach – The Consultant shall describe the approach that is intended to be used to complete each task listed in the 'Scope of Services' section above.
- Project Schedule - The Consultant shall show and describe its understanding of and ability to meet the overall Project timeline.
- Project Team – The Consultant shall list key project staff, including subconsultants, who will be directly involved in this project, and shall include a concise statement of each individuals qualifications. The Consultant shall include a short description of similar and related projects completed by each key member of the project team. A project organizational chart of key personnel shall also be included.
- Overall Value – The Consultant shall include a cost proposal with costs, separated by task, total costs and hourly rates for individual personnel and services. Include narrative of proposed costs, value engineering and value added where appropriate.

The submittal shall be formatted as follows:

- The proposal shall be limited to 15 double-sided pages, including cover letter and resumes. An 11"x17" page shall count as two pages. Front and back cover pages do not count toward page limit.
- Only the specifically requested information shall be submitted. Promotional or other unsolicited material shall not be submitted.

## **SUBMITTAL REQUIREMENTS**

The Consultant shall submit the following items to the AWA:

- ONE (1) electronic PDF copy of the proposal.

Proposal costs and contract shall be a time and materials, not-to-exceed price, based on standard



hourly rates. Hourly rates for individual personnel and services shall be included with the cost proposal. All travel, miles, meals, fees, markups, printing and incidentals shall be included in hourly rates. Hourly rates shall remain the same throughout the project. The proposals must be signed by an official authorized to bind the Consultant to its provisions. These items shall be delivered to the AWA no later than the date and time listed on the cover sheet of this RFP.

**EVALUATION CRITERIA**

The proposals will be reviewed and evaluated by a committee of Agency staff. Consulting firms will be rated and ranked based on the following criteria:

<u>Criteria</u>	<u>Points</u>
Cover Letter	Pass/Fail
Project Familiarity, Understanding & Schedule	25
Project Approach	25
Project Team & Experience	25
Overall Value	25
Total	100

The Agency anticipates selecting the Consultant based on the ranking. If necessary, the Agency will schedule oral interviews (an additional 25 points possible) with the two or three highest ranked Consultant teams to further evaluate the above factors. If used, Consultants will be given no more than 20 minutes to deliver their presentations followed by a 15 minute Question & Answer session with the interview panel. Panel participants will be determined by the Agency. At the conclusion of the evaluation, interview, and ranking process, the review committee will determine a final ranking of Consultant teams based on the proposals and interviews.

Once the evaluation process is complete, the Agency will begin contract negotiations with the top ranked Consultant. The Agency may request additional information from the Consultants during the negotiating phase. The Agency reserves the right and intends to negotiate the final scope of work, staff participation, and price before entering the contract. In the event that the top ranked Consultant submits a scope or fee that is not considered by the Agency to be reasonable for the work, and an acceptable agreement cannot be reached through the negotiation process, the Agency reserves the right to bypass the top ranked Consultant and open contract negotiations with the second ranked Consultant and so on. The Agency reserves the right to reject any or all proposals. All proposals become the property of the Agency.

Any dispute arising from the RFP process must be submitted in writing to Rick Ferriera, AWA Operations and Engineering Manager, within ten (10) calendar days of the date of the recommendation award or denial letter, and prior to the execution of the contract. The only grounds for an appeal that will be considered are that the Agency failed to follow the selection procedures specified in this RFP or that there has been a violation of conflict of interest as provided by California Government Code section 87100 et seq; or violation of Federal or State law. The Agency will consider only those specific issues addressed in the written appeal. The Agency will make their determination within thirty (30) days of receipt and their decision shall be final with respect to the matters of fact.

## **AWA RESERVATIONS**

The Agency reserves the right to reject, at its sole discretion, submittals received after the prescribed time and date. The Agency also reserves the right to waive any formality or minor nonmaterial irregularities in any document received. Any changes the Agency makes to the requirements of this RFP, or answers to any questions, will be made by written addenda. The Agency reserves the right to revise or withdraw this RFP for any reason. The Agency reserves the right to reject all responses, to request additional information concerning any response for purposes of clarification, to accept or negotiate any modification to any response following the deadline for responses, and to waive any irregularities if it would serve the best interests of the Agency.

Questions received within one week of the proposal deadline may not be answered. Proposals, questions or requests for information about this RFP should be addressed as follows:

Amador Water Agency, Attn. Brandt Cook  
12800 Ridge Road  
Sutter Creek, CA 95685  
Telephone: (209) 257-5206  
Email: [bcook@amadorwater.org](mailto:bcook@amadorwater.org)

All costs incurred by a responder during response preparation or in any way associated with the preparation, submission, presentation, or interview if held, shall be the sole responsibility of the responder. By submitting a proposal, the responder represents that it has examined and is familiar with this RFP and any addenda, that the proposal information submitted is correct, and that responder understands and can agree to the provisions of this RFP and the services agreement.

## **ATTACHMENTS**

1. Amador Water Agency *Professional Services Agreement* Template

# STAFF REPORT

## DEVELOPMENT OF 5-YEAR CIP

### Recommended Action:

Discuss and provide direction to staff.

### Background:

Staff intends to bring the Committee and then the Board a five-year Capital Improvements Plan (CIP) in the mid-year. The CIP will include a comprehensive list of projects, based on the recently completed water and wastewater planning studies, along with any other projects staff has identified as needed. The projects will be sorted into a long-range schedule. These pieces of the plan have been developed and the drafts are attached.

Staff also intends to develop project information sheets for each project in the plan. These sheets will summarize the project in enough detail to define its purpose and technical scope. The information sheets will provide staff's costs estimate for the project, including planning, design, permitting, construction, construction management, and contingency. Examples of project information sheets will be available at or before the committee meeting for Committee comment.

Staff proposes to have the Committee recommend and the Board approve the 5-Year CIP, including the project budgets for each project. While the plan will be updated either annually or bi-annually, the individual project budget approvals will span fiscal years. This will simplify project accounting, including grant management, and will improve accountability to the Board and transparency to the public. It will also facilitate long-range financial planning, and will provide improved input to public communications and future rate studies.

Once the CIP itself is finalized, staff will work with our finance team and the Budget & Finance Committee to consider what modifications may be appropriate for the Agency's annual budget and to policies governing capital project procurement.

### Fiscal Impact:

None.

**Prepared by:** Larry McKenney, General Manager



## Amador Water Agency Potable Water Capital Improvement Project Summary

Agency Ranking	Project ID# <sup>1</sup>	Project Name	Project Trigger	Total Estimated Cost (Feb 2022 Dollars)	Cost Allocated to AWA <sup>2</sup>
<b>Priority 1A Improvements (2021-2025)</b>					
1	AWA 1A.1 (WTP)	Tanner and Ione Treatment Plant Capacity Study	WTP Planning	Completing 2022	
2	IONE 1A.1 (WTP)	Ione Clearwell Cover Hypalon Replacement	Poor Conditions	\$300,000	
3	TAN 1A.1 (WTP) <sup>5</sup>	Tanner WTP PLC Upgrade	WTP Current Deficiencies	\$250,000	
4	TAN 1A.2 (WTP) <sup>5</sup>	Tanner WTP Filter Media Replacement	WTP Current Deficiencies	\$430,000	
5	AWA 1A.2 (WTP)	Distribution Tank Mixing & Chlorine Decay Analysis	WTP & DBP Management Planning	\$160,000	\$160,000
6	IONE 1A.7 (WTP)	Ione WTP Geotechnical Analysis	WTP Site Instability	\$45,000	\$45,000
7	TAN 1A.10 (WTP)	Tanner Clearwell Feed Line (Not Required if TAN 1A.3 is Completed)	Correct WTP Current Deficiencies	\$300,000	\$0
8	TAN 1A.3 (WTP)	Tanner Clearwell Replacement	Correct WTP Current Deficiencies & Capacity Limitations	\$12,400,000	\$9,920,000
9	CAWP 1A.1 (B)	Mt. Crossman Pump Station Firm Capacity and Ridgeway Pump Station Generator	Firm Capacity 50+ Users	\$271,000	\$192,000
10	TAN 1A.4 (B)	Ridge Pump Station Generator	Firm Capacity 50+ Users and Generator	\$251,000	\$251,000
11	TAN 1A.5 (P)	Amador City PRV Relocation	Poor Conditions	\$234,000	\$234,000
12	CAWP 1A.2 (WTP) <sup>5</sup>	Buckhorn Membrane Replacement	WTP Current Deficiencies	\$150,000	\$106,000
13	CAWP 1A.3 (S)	Buckhorn WTP Finish Water Pumps Control Upgrade	Operational Adjustments	\$17,000	\$12,000
14	LAMEL 1A.1 (WTP) <sup>5</sup>	LaMel Air Stripper Pilot	WTP Planning	\$84,000	\$78,000
15	LAMEL 1A.2 (B & WTP)	LaMel Booster Station and Water Treatment Upgrades	Firm Capacity 50+ Users and Conditions	\$2,627,000	\$2,449,000
16	CAWP 1A.4 (P)	Tank C Service Area Individual PRV Installation	High Pressures	\$87,000	\$87,000
17	IONE 1A.2 (P)	Tanner to Ione Transmission Line Cathodic Protection	Cathodic Protection	\$1,858,000	\$1,858,000
18	TAN 1A.6 (P)	Tanner Raw Water Transmission Line Cathodic Protection	Cathodic Protection	\$2,611,000	\$2,611,000
19	IONE 1A.3 (T)	Prison and Wildflower Tanks Cathodic Protection Upgrades	Cathodic Protection	\$132,000	\$132,000
20	CAWP 1A.5 (T)	CAWP System Tanks Cathodic Protection Upgrades	Cathodic Protection	\$437,000	\$437,000
21	TAN 1A.7 (T)	Trent Tank Cathodic Protection Upgrades	Cathodic Protection	\$62,000	\$62,000
22	TAN 1B.1 (WTP)	Tanner WTP Flow Control & Reliability Improvements	Correct WTP Current Deficiencies	\$4,800,000	\$3,840,000
23	IONE 1A.4 (WTP)	Ione Site Security & Access Improvements	Correct WTP Current Deficiencies	\$165,000	\$165,000
24	TAN 1A.8 (P)	Hayden Alley, Broadway, Borgh, Eureka, and Tucker Hill Pipeline Replacements	Poor Conditions	\$2,013,000	\$1,677,000
25	CAWP 1A.6 (P)	Lynn Way Service Line Replacement	Poor Conditions	\$69,000	\$69,000
26	CAWP 1A.7 (P)	Robin Lane Pipe Replacement	Poor Conditions	\$977,000	\$977,000
27	CAWP 1A.8 (P)	Upsize Madrone Tank Fill Line and McKenzie PRV	Operational and Peaking Storage	\$405,000	\$288,000
28	IONE 1A.5 (P)	Arroyo Seco and Amador Street Pipeline Replacements	Poor Conditions	\$655,000	\$655,000
29	CAM 1A.1 (P)	Camanche Service Lateral Replacement	Poor Conditions	\$2,550,000	\$2,550,000
30	TAN 1A.9 (B)	Amador City High Service Individual Boosters	Low Pressures	\$245,000	\$245,000
31	IONE 1A.6 (P)	Oak Ridge Pressure Zone Creation	Low Pressures	\$463,000	\$463,000
32	CAWP 1A.9 (P)	CAWP Transmission Main Improvements and Tank D Replacement	Low Pressures	\$7,746,000	\$5,500,000
33	TAN 1A.12 (WTP)	Plant Operations Software Update	Correct WTP Current Deficiencies	\$270,000	\$270,000
34	IONE 1A.8 (WTP)	Ione Reliable Capacity Expansion	Correct WTP Current Deficiencies	\$6,840,000	\$6,840,000
35	IONE 1A.9 (WTP)	Ione Backwash Handling Improvements	Correct WTP Current Deficiencies	\$7,690,000	\$7,690,000
36	TAN 1A.11 (WTP)	Tanner Backwash Drying Beds	Correct WTP Current Deficiencies	\$9,700,000	\$7,760,000
Improvements (rounded)				\$67,294,000	\$57,623,000
<b>Priority 1B Improvements (2025-2030)</b>					
1	IONE 1B.1 (P)	New WTP Transmission Line	Address Existing WTP Commitments, Existing Capacity	\$11,900,000	\$4,970,000
2	IONE 1B.2 (WTP)	Ione Reservoir Site Treatment Expansion	Address Existing WTP Commitments, Existing Capacity	\$38,300,000	\$12,940,000
3	TAN 1B.2 (WTP)	Tanner Pump Station Improvements	Meet Upcoming Capacity Limitations	\$4,900,000	\$3,920,000
4	CAWP 1B.1 (B)	Replacement of the McKenzie PS; Pine Needle, Meadowbrook and Guili Firm Capacity Upgrades; Toma Ln PS Improvements	Firm Capacity Less than 50 Users and Conditions	\$1,078,000	\$765,000
5	CAWP 1B.2 (T)	Replace Ranch House Tank	Physical Conditions	\$1,645,000	\$1,168,000
6	CAWP 1B.3 (T)	Replace Jackson Pines Tank	Physical Conditions	\$1,063,000	\$755,000
Improvements (rounded)				\$58,886,000	\$24,518,000
<b>Priority 2A Improvements (2030-2035)</b>					
1	TAN 2A.1 (WTP)	Tanner Treatment Expansion	Address Existing WTP Commitments and Growth	\$26,500,000	\$26,500,000
1	CAWP 2A.1 (T)	New Mt. Crossman Tank, PRVs and Tank Abandonment, and Old Rabb Tank Discharge Line Interties	Emergency and Fire Storage	\$7,769,000	\$5,516,000
2	IONE 2A.1 (WTP)	Ione Treatment Consolidation	Physical Conditions, WTP Consolidation	\$25,700,000	\$25,700,000
3	TAN 2A.3 (WTP)	Tanner Emergency Finished Water Storage	WTP Lower Priority Improvements	\$10,100,000	\$8,080,000
4	CAWP 2A.2 (P)	Buckhorn Ridge Road and Highway 88 Water line and Tie to Alpine Storage	Emergency and Fire Storage	\$5,513,000	\$3,914,000
5	IONE 2A.2 (T)	Additional Storage at the Prison Tank	Emergency and Fire Storage	\$13,344,000	\$3,870,000
6	CAWP 2A.3 (WTP)	Buckhorn Automated Clean in Place	WTP Operations	\$1,441,000	\$1,023,000
7	CAM 2A.1 (T)	Construct a New 1.5 MG Storage Tank at Camanche Tank 9	Emergency and Fire Storage	\$4,489,000	\$898,000
8	TAN 2A.2 (T)	Trent Tank Replacement	Physical Conditions	\$2,742,000	\$2,742,000
Improvements (rounded)				\$71,098,000	\$51,743,000

Agency Ranking	Project ID# <sup>1</sup>	Project Name	Project Trigger	Total Estimated Cost (Feb 2022 Dollars)	Cost Allocated to AWA <sup>2</sup>
<b>Priority 2B Improvements (2030-2035)</b>					
1	AWA 2B.1 (WTP)	WTP Master Planning 10-Year Update	WTP Planning	\$375,000	\$0
2	CAWP 2B.1 (WTP) <sup>5</sup>	Tiger Creek Regulator Low Level Pump System	Improve Raw Water Delivery	\$822,000	\$584,000
3	CAWP 2B.2 (P)	Big Oak PRV Upgrade	Poor Conditions	\$128,000	\$128,000
4	IONE 2B.1 (P)	Ione Junior High School Pipeline Upsize	Improve Fire Flows to 500+ gpm	\$315,000	\$315,000
5	CAM 2B.1 (P)	12" Waterline Loop to Site 10	Improve Fire Flows to 500+ gpm, Improve Transmission	\$3,819,000	\$1,439,000
6	CAM 2B.2 (P)	12" Waterline Loop Across Camanche Reservoir	Improve Fire Flows to 500+ gpm, Improve Transmission	\$11,255,000	\$4,241,000
7	CAM 2B.3 (P)	Combine Front and Back Systems and Abandon Redwood Tanks and Pump Stations	Physical Conditions	\$2,179,000	\$821,000
8	IONE 2B.2 (P)	Highway 124 Pipeline Upsize	Improve Fire Flows to 500+ gpm	\$1,462,000	\$1,462,000
9	TAN 2B.1 (P)	Anna and Dennis Pipeline Replacements	Improve Fire Flows to 500+ gpm	\$1,328,000	\$1,328,000
10	TAN 2B.2 (P)	Columbia Pipelines	Improve Fire Flows to 500+ gpm	\$797,000	\$797,000
11	TAN 2B.3 (B)	Trent Pump Station Fire Pump	Improve Fire Flows to 500+ gpm	\$228,000	\$228,000
12	TAN 2B.4 (P)	Sutter Ione and Oro Madre PRV	Improve Fire Flows to 500+ gpm	\$490,000	\$490,000
13	TAN 2B.5 (P)	Old Hwy 49, Church, Fleehart, Gods Hill, and Bunker Hill Pipelines	Improve Fire Flows to 500+ gpm	\$2,981,000	\$2,981,000
14	TAN 2B.6 (P)	Greenstone Pipeline Loop	Improve Fire Flows to 500+ gpm	\$642,000	\$642,000
15	CAWP 2B.3 (P)	Alpine PRVs, McKenzie Dr Water Line, and Madrone Tank Abandonment	Improve Fire Flows to 500+ gpm	\$944,000	\$670,000
16	CAWP 2B.4 (P)	Alpine South Water Lines	Improve Fire Flows to 500+ gpm	\$2,510,000	\$1,782,000
17	CAWP 2B.5 (P)	Antelope Dr, Jacqueline Dr, and Stella Ct Water Lines	Improve Fire Flows to 500+ gpm	\$2,080,000	\$1,477,000
18	CAWP 2B.6 (P)	Sugar Pine Dr and Conifer Ct Water Line	Improve Fire Flows to 500+ gpm	\$2,400,000	\$1,704,000
19	CAWP 2B.7 (P)	Cedar Heights Dr and Mt Misery Ln Water Lines	Improve Fire Flows to 500+ gpm	\$2,236,000	\$1,588,000
20	CAWP 2B.8 (P)	Pioneer Creek Rd and Sunny Dr Water Lines	Improve Fire Flows to 500+ gpm	\$2,084,000	\$1,480,000
21	CAWP 2B.9 (P)	Tank C Service Area Waterline Upsizing	Improve Fire Flows to 500+ gpm	\$3,543,000	\$2,516,000
22	CAWP 2B.10 (P)	Arrowhead Rd and Tabeaud Rd Water Lines	Improve Fire Flows to 500+ gpm	\$2,579,000	\$1,831,000
23	CAWP 2B.11 (P)	Pine Acres North Water Lines	Improve Fire Flows to 500+ gpm	\$5,481,000	\$3,892,000
24	CAWP 2B.12 (P)	Pine Acres South Water Line Corridor Upsizing	Improve Fire Flows to 500+ gpm	\$5,276,000	\$3,746,000
25	CAWP 2B.13 (B)	Tank B PS and Pipeline Improvements	Improve Fire Flows to 500+ gpm	\$2,645,000	\$1,878,000
26	CAWP 2B.14 (P)	Highway 88 and Pioneer Volcano Rd and Rocky Ln PRVs	Improve Fire Flows to 500+ gpm	\$539,000	\$383,000
27	CAWP 2B.15 (P)	Meadowbrook Dr & Shadow Glenn Ct Water Lines	Improve Fire Flows to 500+ gpm	\$1,715,000	\$1,218,000
28	CAWP 2B.16 (P)	Windmill Ct and Marc Dr Pipelines and PRVs	Improve Fire Flows to 500+ gpm	\$595,000	\$422,000
Improvements (rounded)				\$61,448,000	\$40,043,000
<b>Priority 3 Improvements (2035 - 2040)</b>					
1	IONE 3.1 (WTP)	Ione Raw Water Tanks	WTP Lower Priority Improvements	\$29,700,000	\$20,340,000
2	TAN 3.1 (WTP)	Tanner Raw Water Tanks	WTP Lower Priority Improvements	\$29,700,000	\$23,760,000
3	TAN 3.2 (WTP) <sup>5</sup>	Tanner Metal Building	WTP Lower Priority Improvements	\$3,750,000	\$3,000,000
4	IONE 3.2 (P)	Downtown Pipe Replacement and Looping	Expanded 500+ gpm Fire Flow Corridors	\$314,000	\$314,000
5	IONE 3.3 (P)	Cemetery Service Replacement	Agency Contract Agreements	\$110,000	\$110,000
6	CAWP 3.1 (P)	Upsize Alpine Pipelines	Expanded 500+ gpm Fire Flow Corridors	\$2,507,000	\$1,780,000
7	CAWP 3.2 (P)	Upsize Cedar Heights Service Area Pipelines	Expanded 500+ gpm Fire Flow Corridors	\$1,782,000	\$1,265,000
8	IONE 3.4 (P)	Marlette St Pipeline Replacement	Expanded 500+ gpm Fire Flow Corridors	\$1,038,000	\$326,000
9	LAMEL 3.1 (T)	Additional LaMel Storage Tank	Emergency and Fire Storage Less than 100 Users	\$601,000	\$560,000
10	LAMEL 3.2 (P)	Upsize Existing 2" Pipeline	Expanded 500+ gpm Fire Flow Corridors	\$1,112,000	\$1,037,000
11	CAWP 3.3 (T & B)	Sunset Heights Tank Retirement	Physical Conditions	\$388,000	\$275,000
Improvements (rounded)				\$71,002,000	\$52,767,000

Future / Developer Driven Improvements					
1	AWA F.1	Water Master Plan Updates (2 Plan updates, one in 2030 and one in 2040 depending on development)	Projects for Future development	\$767,000	\$0
2	CAM F.1 (S)	New Well #1	Projects for Future development	\$3,848,000	\$0
3	AWA F.2 (WTP)	WTP Master Planning 20-Year Update	WTP Planning	\$375,000	\$0
4	CAM F.2 (S)	New Well #2	Projects for Future development	\$5,274,000	\$0
5	CAM F.3 (S)	New Well #3	Projects for Future development	\$2,563,000	\$0
6	IONE F.1 (B)	Wildflower Pump Station Upgrades	Projects for Future development	\$182,000	\$0
7	IONE F.2 (P)	Gold Village Development Pipeline and PRVs	Projects for Future development	\$674,000	\$0
8	IONE F.3 (B)	Brickyard Pump Station, Storage, and PRV	Projects for Future development	\$6,828,000	\$0
9	IONE F.4 (B)	Wildflower Unit 5 Pump Station	Projects for Future development	\$1,160,000	\$0
10	IONE F.5 (P)	Ringer Ranch, Silva, and Castle Oaks 8 12" Water Line and PRV	Projects for Future development	\$5,821,000	\$0
11	IONE F.6 (P)	Q-Ranch Prison Tank Service Area Pipelines and PRV	Projects for Future development	\$4,299,000	\$0
12	IONE F.7 (P)	Industrial Park Transmission Line Extension	Projects for Future development	\$10,432,000	\$0
13	TAN F.1 (P)	Patricia Pipeline and Allen Ranch PRVs	Projects for Future development	\$1,784,000	\$1,275,000
14	TAN F.2 (P)	Martell Business Park PRV and Pipeline	Projects for Future development	\$629,000	\$0
15	TAN F.3 (P)	Powder House Eureka Waterline and 2 PRVs	Projects for Future development	\$1,161,000	\$0
16	TAN F.4 (P)	Hillside PRV Relocation	Projects for Future development	\$403,000	\$0
17	TAN F.5 (B)	New Plymouth Pump Station	Projects for Future development	\$2,415,000	\$0
18	CAWP F.1 (P)	Pine Acres Growth Area PRVs	Projects for Future development	\$129,000	\$0
19	CAWP F.2 (WTP)	Buckhorn Backwash Handling Expansion	Continued WTP Improvements to Address Long-term Needs	\$6,845,000	\$4,860,000
20	TAN F.6 (2A.1) (WTP)	Tanner Treatment Expansion	Address Existing WTP Commitments and Growth	\$27,000,000	\$0
Improvements (rounded)				\$82,589,000	\$6,135,000
NTS COSTS (rounded)				\$412,317,000	\$232,829,000

**Notes**

<sup>1</sup>Previous WMPS CIP Costs have been inflated 9.5% to account for average inflation since they were developed. Individual project costs may have increased at a greater rate due to above average variances in some material and labor costs (structural steel, concrete, etc.)

<sup>2</sup>Priority definitions:

- P = Pipelines
- B = Booster Pump Stations
- S = Water Source/Supply
- T = Storage Tank
- WTP = Water Treatment Plant

<sup>3</sup>The cost allocated to AWA was estimated by subtracting the portion of the cost allocated to projected development. Development was projected based on input from the Agency and historical growth patterns in the area. Several locations have planned development that were also used to estimate the percentage of costs attributed to growth. For the water treatment plants, existing demand and will serve contracts were subtracted from the projected growth to determine the percentage of growth. **Note, for implementation purposes, AWA may need to pay for most or all of the total project costs and recoup growth's contributing portion through future connection fees and/or user rates.**

<sup>4</sup>Timing of these capital improvement projects depends on when growth occurs. It is anticipated the future development will participate in capital improvement projects as required.

<sup>5</sup>The cost estimate herein is based on our perception of current conditions at the project location. This estimate reflects our opinion of probable costs at this time and is subject to change as the project design matures. Keller Associates has no control over variances in the cost of labor, materials, equipment, services provided by others, contractor's methods of determining prices, competitive bidding or market conditions, practices or bidding strategies. Keller Associates cannot and does not warrant or guarantee that proposals, bids or actual construction costs will not vary from the costs presented herein.

<sup>6</sup>These projects and their associated costs were previously identified by AWA and provided for this cost estimate. There are no detailed cost sheets included in this report for these projects.









**AMADOR WATER AGENCY  
2022 WASTEWATER MASTER PLAN STUDY  
CIP SUMMARY WITH COST ALLOCATIONS (TABLE 7.6)**

CIP Item No. <sup>(1)</sup>	System	Project Name	Fiscal Year(s)	Total Project Cost <sup>(2)</sup>	% Allocation to Growth	Cost Allocation to AWA	Cost Allocation to Growth
<b>Near Term CIP (1-5 YRS): FY 22/23 - FY 26/27</b>							
16	Camanche	Collection System Flow Monitoring and I&I Study	#REF!	\$ 25,000	#REF!	#REF!	#REF!
17	Camanche	Lift Station A, B, and D Security Fencing	#REF!	\$ 105,900	#REF!	#REF!	#REF!
18	Camanche	Lift Station C and D Backup Power	#REF!	\$ 109,400	#REF!	#REF!	#REF!
19	Camanche	Lift Station C Conversion	#REF!	\$ 1,180,000	#REF!	#REF!	#REF!
20	Camanche	Lift Station A, B, and D Corrosion Mitigation (Wet Well Liners and Discharge Pipe Replacement)	#REF!	\$ 429,000	#REF!	#REF!	#REF!
21	Camanche	Lift Station A, B, and D Controls and SCADA Integration (Flow Meters for LS A & B)	#REF!	\$ 249,000	#REF!	#REF!	#REF!
22	Camanche	Camanche WWTP Preliminary Engineering Report & Environmental Impact Report Amendment	#REF!	\$ 250,000	#REF!	#REF!	#REF!
23	Camanche	WWTP Treatment, Disposal, and Effluent Storage Upgrades	#REF!	\$ 16,237,000	#REF!	#REF!	#REF!
24	Martell	Collection System Flow Monitoring and I&I Study	#REF!	\$ 25,000	#REF!	#REF!	#REF!
25	Martell	Martell Radio Telemetry Study	#REF!	\$ 15,000	#REF!	#REF!	#REF!
26	Martell	Regional Lift Station Engineering Analysis	#REF!	\$ 75,000	#REF!	#REF!	#REF!
27	Martell	Regional Lift Station and Collection System Improvements	#REF!	\$ 3,880,000	#REF!	#REF!	#REF!
28	Martell	Lift Station 2 Improvements	#REF!	\$ 728,000	#REF!	#REF!	#REF!
29	Martell	Lift Station 2 Security Fencing	#REF!	\$ 39,300	#REF!	#REF!	#REF!
30	Martell	Sierra West Lift Station SCADA Upgrades	#REF!	\$ 24,000	#REF!	#REF!	#REF!
35	Martell	Backup Power for Lift Station 1, Walmart LS, Kmart LS <sup>(3)</sup>	#REF!	\$ 482,500	#REF!	#REF!	#REF!
42	Wildwood Estates	Upgradient Monitoring Well	#REF!	\$ 50,500	#REF!	#REF!	#REF!
43	Wildwood Estates	Preliminary Engineering Report	#REF!	\$ 50,000	#REF!	#REF!	#REF!
44	Wildwood Estates	Groundwater Nitrogen Mitigation	#REF!	\$ 1,841,600	#REF!	#REF!	#REF!
45	Gayla Manor	Lift Station Security Fencing	#REF!	\$ 35,000	#REF!	#REF!	#REF!
46	Gayla Manor	Lift Station Electrical Stand and Shade Structure Replacement	#REF!	\$ 34,000	#REF!	#REF!	#REF!
48	Gayla Manor	Storage Pond Dam Geotechnical Investigation and Engineering Evaluation	#REF!	\$ 45,000	#REF!	#REF!	#REF!
55	Buckhorn WTP	<del>Buckhorn WTP Discharge Related Improvements <sup>(4)</sup></del> (moved to water)					
58	Jackson Pines	Lift Station Security Fencing	#REF!	\$ 48,100	#REF!	#REF!	#REF!
56	Pine Grove	HWY 88 Sewer Relocation Project	#REF!	\$ 843,100	#REF!	#REF!	#REF!
15	All Systems	Trailer-Mounted Portable Generator (All Systems)	#REF!	\$ 119,000	#REF!	#REF!	#REF!
1-6	All Systems	Repair and Replacement Budget	2022-2027	\$ 16,368,400	0%	\$ 16,368,400	\$ -
7-11	All Systems	Preventative Maintenance Budget	2022-2027	\$ 357,500	0%	\$ 357,500	\$ -
12	All Systems	Sewer Budget Analysis and Rate Review (Every 5 YRS)	2026	\$ 25,000	#REF!	#REF!	#REF!
13	All Systems	SSMP Updates (Every 5 YRS)	2026	\$ 10,000	#REF!	#REF!	#REF!
<b>Total 0-5 YR Cost <sup>(4)</sup>:</b>			<b>-</b>	<b>\$ 43,681,300</b>	<b>-</b>	<b>#REF!</b>	<b>#REF!</b>
<b>Long Term CIP (6-10 YRS): FY 27/28 - FY 31/32</b>							
34	Martell	Hwy 49 Gravity Sewer Pipeline Replacement <sup>(5)</sup>	#REF!	\$ 1,073,000	#REF!	#REF!	#REF!
36	Martell	Kmart Lift Station I&I Repairs <sup>(3)</sup>	#REF!	\$ 137,500	#REF!	#REF!	#REF!
37	Martell	LS 1 Parallel Force Main <sup>(3)</sup>	#REF!	\$ 725,300	#REF!	#REF!	#REF!
38	Martell	Flow Meters, Controls and SCADA Integration for LS 1, LS 2, Walmart LS, and Kmart LS <sup>(3)</sup>	#REF!	\$ 313,000	#REF!	#REF!	#REF!
47	Gayla Manor	WWTP Controls and SCADA Integration	#REF!	\$ 46,500	#REF!	#REF!	#REF!
49	Gayla Manor	Storage Pond Dam Repair	#REF!	\$ 1,042,000	#REF!	#REF!	#REF!
52	Fairway/Mace	Lift Station Controls and SCADA Integration	#REF!	\$ 39,000	#REF!	#REF!	#REF!
59	Jackson Pines	Flow Meters at Lift Stations A & B	#REF!	\$ 38,500	#REF!	#REF!	#REF!
60	Jackson Pines	Lift Stations Controls and SCADA Integration	#REF!	\$ 78,000	#REF!	#REF!	#REF!
62	Tiger Creek	Lift Station Controls and SCADA Integration	#REF!	\$ 39,000	#REF!	#REF!	#REF!
1-6	All Systems	Repair and Replacement Budget	2027-2032	\$ 18,826,800	0%	\$ 18,826,800	\$ -
7-11	All Systems	Preventative Maintenance Budget	2027-2032	\$ 357,500	0%	\$ 357,500	\$ -
12	All Systems	Sewer Budget Analysis and Rate Review (Every 5 YRS)	2031	\$ 25,000	#REF!	#REF!	#REF!
13	All Systems	SSMP Updates (Every 5 YRS)	2031	\$ 10,000	#REF!	#REF!	#REF!
14	All Systems	Sewer Master Plan Updates (Every 10 YRS)	2031	\$ 50,000	#REF!	#REF!	#REF!
<b>Total 6-10 YR Cost:</b>				<b>\$ 22,801,100</b>	<b>-</b>	<b>#REF!</b>	<b>#REF!</b>

**AMADOR WATER AGENCY  
2022 WASTEWATER MASTER PLAN STUDY  
CIP SUMMARY WITH COST ALLOCATIONS (TABLE 7.6)**

CIP Item No. <sup>(1)</sup>	System	Project Name	Fiscal Year(s)	Total Project Cost <sup>(2)</sup>	% Allocation to Growth	Cost Allocation to AWA	Cost Allocation to Growth
<b>Long Term CIP (11-15 YRS): FY 32/33 - FY 36/37</b>							
41	Surrey Junction	Install Monitoring Wells & Develop Monitoring Plan	#REF!	\$ 97,000	#REF!	#REF!	#REF!
50	Gayla Manor	Install Monitoring Wells & Develop Monitoring Plan (Leach Field B)	#REF!	\$ 97,000	#REF!	#REF!	#REF!
51	Viewpoint	Install Monitoring Wells & Develop Monitoring Plan	#REF!	\$ 97,000	#REF!	#REF!	#REF!
61	Jackson Pines	Install Monitoring Wells & Develop Monitoring Plan	#REF!	\$ 97,000	#REF!	#REF!	#REF!
63	Tiger Creek	Install Monitoring Wells & Develop Monitoring Plan	#REF!	\$ 97,000	#REF!	#REF!	#REF!
1-6	All Systems	Repair and Replacement Budget	2032-2037	\$ 22,384,750	0%	\$ 22,384,750	\$ -
7-11	All Systems	Preventative Maintenance Budget	2032-2037	\$ 357,500	0%	\$ 357,500	\$ -
12	All Systems	Sewer Budget Analysis and Rate Review (Every 5 YRS)	2036	\$ 25,000	#REF!	#REF!	#REF!
13	All Systems	SSMP Updates (Every 5 YRS)	2036	\$ 10,000	#REF!	#REF!	#REF!
<b>Total 11-15 YR Cost:</b>				<b>\$ 23,262,250</b>	<b>-</b>	<b>#REF!</b>	<b>#REF!</b>
<b>Long Term CIP (16-20 YRS): FY 37/38 - FY 41/42</b>							
39	Eagles Nest	Leach Field Replacement (Flooding/Ponding Mitigation)	#REF!	\$ 675,000	#REF!	#REF!	#REF!
40	Eagles Nest	Install Monitoring Wells & Develop Monitoring Plan	#REF!	\$ 97,000	#REF!	#REF!	#REF!
1-6	All Systems	Repair and Replacement Budget	2037-2041	\$ 21,709,750	0%	\$ 21,709,750	\$ -
7-11	All Systems	Preventative Maintenance Budget	2037-2041	\$ 357,500	0%	\$ 357,500	\$ -
12	All Systems	Sewer Budget Analysis and Rate Review (Every 5 YRS)	2041	\$ 25,000	#REF!	#REF!	#REF!
13	All Systems	SSMP Updates (Every 5 YRS)	2041	\$ 10,000	#REF!	#REF!	#REF!
14	All Systems	Sewer Master Plan Updates (Every 10 YRS)	2041	\$ 50,000	#REF!	#REF!	#REF!
<b>Total 16-20 YR Cost:</b>				<b>\$ 22,924,250</b>	<b>-</b>	<b>#REF!</b>	<b>#REF!</b>
<b>Future / Developer Driven Improvements (2022-2041)</b>							
31	Martell	Sierra West Lift Station Capacity Improvements	#REF!	\$ 1,797,000	#REF!	#REF!	#REF!
32	Martell	Collection System Capacity Upgrades	#REF!	\$ 944,000	#REF!	#REF!	#REF!
33	Martell	Capacity Purchase from Sutter Creek WWTP	#REF!	\$ 279,700	#REF!	#REF!	#REF!
53	Fairway/Mace	Lift Station Capacity Upgrades	#REF!	\$ 1,191,900	#REF!	#REF!	#REF!
54	Fairway/Mace	Mace Meadows Phase 2 Leach Field Expansion	#REF!	\$ 2,525,300	#REF!	#REF!	#REF!
57	Pine Grove	Pine Grove Phase 2 Leach Field Expansion & Additional Monitoring Wells	#REF!	\$ 2,714,000	#REF!	#REF!	#REF!
<b>Total Future Growth Costs:</b>				<b>\$ 9,451,900</b>	<b>-</b>	<b>#REF!</b>	<b>#REF!</b>
<b>20-Year Total <sup>(4)</sup>:</b>				<b>\$ 122,120,800</b>	<b>-</b>	<b>#REF!</b>	<b>#REF!</b>

<sup>(1)</sup> CIP item numbers refer to detailed CIP matrix.

<sup>(2)</sup> Costs are current to March 2022 dollars and exclude inflation. The costs are conceptual level (Class 5) and are the Engineer's best judgement as a professional engineer generally familiar with this type of construction. However, since the Engineer has no control over market conditions, the Engineer does not guarantee that proposals, bids, or actual construction cost will not vary from this estimate.

<sup>(3)</sup> Project only triggered if Martell Regional Lift Station Project is not completed.

<sup>(4)</sup> Cost for the Buckhorn WTP Discharge Related Improvements are for reference only and will be fully allocated to water system customers. The estimated \$2.4M cost for improvements is excluded from the total wastewater CIP costs.

<sup>(5)</sup> The need and scope for the Highway 49 Gravity Sewer Replacement Project will need to be evaluated as part of the Regional Lift Station Engineering Analysis.



**AMADOR WATER AGENCY 2022 WASTEWATER MASTER PLAN STUDY  
20-YEAR CAPITAL IMPROVEMENT PLAN - DETAILED MATRIX 2022**

*NOTE: COSTS ARE CURRENT AS OF MARCH 2022 AND EXCLUDE INFLATION.*

CIP Item No.	Capital Improvement Project Name	Notes	Priority Rating	Cost per Project/Annual Cost	Total 20-YR Cost	NEAR TERM CIP (1-5 YRS)					LONG TERM CIP (6-10 YRS)					LONG TERM CIP (11-15 YRS)					LONG TERM CIP (16-20 YRS)						
						YR 1	YR 2	YR 3	YR 4	YR 5	YR 6	YR 7	YR 8	YR 9	YR 10	YR 11	YR 12	YR 13	YR 14	YR 15	YR 16	YR 17	YR 18	YR 19	YR 20		
						FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	FY 30/31	FY 31/32	FY 32/33	FY 33/34	FY 34/35	FY 35/36	FY 36/37	FY 37/38	FY 38/39	FY 39/40	FY 40/41	FY 41/42		
<b>Martell Projects 35-38 only to be completed if Regional Lift Station (Project 27) not constructed:</b>																											
35	Backup Power for Lift Station 1, Walmart LS, Kmart LS	Project is only to be completed if Regional LS (Project 27) is not constructed.	2-High	\$ 482,500	\$ 482,500				\$ 482,500																		
36	Kmart Lift Station I&I Repairs	Project is only to be completed if Regional LS (Project 27) is not constructed.	4-Low	\$ 137,500	\$ 137,500							\$ 137,500															
37	LS 1 Parallel Force Main	Separate force main for LS 1 (currently shared with Kmart/Walmart LS). Project is only to be completed if Regional LS (Project 27) is not constructed.	4-Low	\$ 725,300	\$ 725,300							\$ 725,300															
38	Flow Meters, Controls and SCADA Integration for LS 1, LS 2, Walmart LS, and Kmart LS	Project is only to be completed if Regional LS (Project 27) is not constructed.	4-Low	\$ 313,000	\$ 313,000							\$ 313,000															
<b>EAGLES NEST LEACH FIELD</b>													<b>EAGLES NEST LEACH FIELD</b>														
39	Leach Field Replacement (Flooding/Ponding Mitigation)		4-Low	\$ 675,000	\$ 675,000																				\$ 675,000		
40	Install Monitoring Wells & Develop Monitoring Plan		4-Low	\$ 97,000	\$ 97,000																					\$ 97,000	
<b>SURREY JUNCTION LEACH FIELD</b>													<b>SURREY JUNCTION LEACH FIELD</b>														
41	Install Monitoring Wells & Develop Monitoring Plan		4-Low	\$ 97,000	\$ 97,000																				\$ 97,000		
<b>WILDWOOD ESTATES LEACH FIELD</b>													<b>WILDWOOD ESTATES LEACH FIELD</b>														
42	Upgradient Monitoring Well		1-Very High	\$ 50,500	\$ 50,500	\$ 50,500																					
43	Preliminary Engineering Report	PER to evaluate treatment and/or Disposal options.	1-Very High	\$ 50,000	\$ 50,000	\$ 50,000																					
44	Groundwater Nitrogen Mitigation	Costs based on onsite treatment.	1-Very High	\$ 1,841,600	\$ 1,841,600		\$ 1,841,600																				
<b>GAYLA MANOR</b>													<b>GAYLA MANOR</b>														
45	Lift Station Security Fencing		1-Very High	\$ 35,000	\$ 35,000	\$ 35,000																					
46	Lift Station Electrical Stand and Shade Structure Replacement	Existing wood structure to be replaced.	2-High	\$ 34,000	\$ 34,000		\$ 34,000																				
47	WWTP Controls and SCADA Integration		4-Low	\$ 46,500	\$ 46,500							\$ 46,500															
48	Storage Pond Dam Geotechnical Investigation and Engineering Evaluation		2-High	\$ 45,000	\$ 45,000					\$ 45,000																	
49	Storage Pond Dam Repair		3-Moderate	\$ 1,042,000	\$ 1,042,000					\$ 1,042,000																	
50	Install Monitoring Wells & Develop Monitoring Plan (Leach Field B)		4-Low	\$ 97,000	\$ 97,000																			\$ 97,000			
<b>VIEWPOINT LEACH FIELD</b>													<b>VIEWPOINT LEACH FIELD</b>														
51	Install Monitoring Wells & Develop Monitoring Plan		4-Low	\$ 97,000	\$ 97,000																				\$ 97,000		
<b>FAIRWAY PINES AND MACE MEADOWS</b>													<b>FAIRWAY PINES AND MACE MEADOWS</b>														
52	Lift Station Controls and SCADA Integration		3-Moderate	\$ 39,000	\$ 39,000							\$ 39,000															
53	Lift Station Capacity Upgrades	Growth Driven	3-Moderate	\$ 1,191,900	\$ 1,191,900							\$ 1,191,900															
54	Mace Meadows Phase 2 Leach Field Expansion (PROPERTY ACQUISITION)	Growth Driven	3-Moderate	\$ 2,525,300	\$ 2,525,300							\$ 2,525,300															
<b>BUCKHORN</b>													<b>BUCKHORN</b>														
55	Buckhorn WTP Discharge Related Improvements (moved to water*)	Costs for this project will be fully allocated for water system customers and are excluded from the CIP totals. AWA discharges filter backwash water from the Buckhorn WTP under emergency scenarios to the pond at Fairway Pines. The golf course owner uses the water for a periodic supplement to their irrigation needs. The WDR for this discharge has both AWA and the Golf Course as co-signatories.																									
<b>PINE GROVE</b>													<b>PINE GROVE</b>														
56	HWY 88 Sewer Relocation Project	Highway crossing, service line relocations, valve additions	1-Very High	\$ 843,100	\$ 843,100	\$ 843,100																					
57	Pine Grove Phase 2 Leach Field Expansion & Additional Monitoring Wells	Growth Driven	4-Low	\$ 2,714,000	\$ 2,714,000																			\$ 2,714,000			
<b>JACKSON PINES</b>													<b>JACKSON PINES</b>														
58	Lift Station Security Fencing		2-High	\$ 48,100	\$ 48,100			\$ 48,100																			
59	Flow Meters at Lift Stations A & B		3-Moderate	\$ 38,500	\$ 38,500							\$ 38,500															
60	Lift Stations Controls and SCADA Integration		4-Low	\$ 78,000	\$ 78,000							\$ 78,000															
61	Install Monitoring Wells & Develop Monitoring Plan		4-Low	\$ 97,000	\$ 97,000																			\$ 97,000			
<b>TIGER CREEK ESTATES</b>													<b>TIGER CREEK ESTATES</b>														
62	Lift Station Controls and SCADA Integration		3-Moderate	\$ 39,000	\$ 39,000							\$ 39,000															
63	Install Monitoring Wells & Develop Monitoring Plan		4-Low	\$ 97,000	\$ 97,000																			\$ 97,000			
<b>TOTAL PLAN COSTS*</b>					\$ 122,170,800	\$ 5,794,700	\$ 8,187,100	\$ 9,351,000	\$ 10,363,500	\$ 10,035,000	\$ 10,659,000	\$ 5,200,600	\$ 4,187,800	\$ 4,538,450	\$ 7,387,450	\$ 5,023,450	\$ 4,538,450	\$ 4,538,450	\$ 4,538,450	\$ 4,623,450	\$ 4,593,150	\$ 4,988,450	\$ 4,410,450	\$ 4,538,450	\$ 4,673,450		

\*Total CIP costs exclude Project #55 (Buckhorn WTP Discharge Related Improvements) which will be fully allocated to water system customers.













ID	Task Name	Start	Finish																										
				2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
<b>891</b>	<b>TAN F.2 (P) Martell Business Park PRV and Pipeline</b>	<b>7/1/2039</b>	<b>6/30/2041</b>	<b>TAN F.2 (P) Martell Business Park PRV and Pipeline</b> <b>\$629,000</b>																									
892	Planning	7/1/2039	12/31/2039	Planning \$31,450																									
893	Design	1/1/2040	6/30/2040	Design \$31,450																									
894	Construction	7/1/2040	3/31/2041	Construction \$534,650																									
895	Closeout	4/1/2041	6/30/2041	Closeout \$31,450																									
<b>896</b>	<b>TAN F.3 (P) Powder House Eureka Waterline and 2 PRVs</b>	<b>7/1/2039</b>	<b>6/30/2041</b>	<b>TAN F.3 (P) Powder House Eureka Waterline and 2 PRVs</b> <b>\$1,161,000</b>																									
897	Planning	7/1/2039	12/31/2039	Planning \$58,050																									
898	Design	1/1/2040	6/30/2040	Design \$58,050																									
899	Construction	7/1/2040	3/31/2041	Construction \$986,850																									
900	Closeout	4/1/2041	6/30/2041	Closeout \$58,050																									
<b>901</b>	<b>TAN F.4 (P) Hillside PRV Relocation</b>	<b>7/1/2039</b>	<b>6/30/2041</b>	<b>TAN F.4 (P) Hillside PRV Relocation</b> <b>\$403,000</b>																									
902	Planning	7/1/2039	12/31/2039	Planning \$20,150																									
903	Design	1/1/2040	6/30/2040	Design \$20,150																									
904	Construction	7/1/2040	3/31/2041	Construction \$342,550																									
905	Closeout	4/1/2041	6/30/2041	Closeout \$20,150																									
<b>906</b>	<b>TAN F.5 (B) New Plymouth Pump Station</b>	<b>7/1/2039</b>	<b>6/30/2041</b>	<b>TAN F.5 (B) New Plymouth Pump Station</b> <b>\$2,415,000</b>																									
907	Planning	7/1/2039	12/31/2039	Planning \$120,750																									
908	Design	1/1/2040	6/30/2040	Design \$120,750																									
909	Construction	7/1/2040	3/31/2041	Construction \$2,052,750																									
910	Closeout	4/1/2041	6/30/2041	Closeout \$120,750																									
<b>911</b>	<b>CAWP F.1 (P) Pine Acres Growth Area PRVs</b>	<b>7/1/2040</b>	<b>6/30/2042</b>	<b>CAWP F.1 (P) Pine Acres Growth Area PRVs</b> <b>\$129,000</b>																									
912	Planning	7/1/2040	12/31/2040	Planning \$6,450																									
913	Design	1/1/2041	6/30/2041	Design \$6,450																									
914	Construction	7/1/2041	3/31/2042	Construction \$109,650																									
915	Closeout	4/1/2042	6/30/2042	Closeout \$6,450																									
<b>916</b>	<b>CAWP F.2 (WTP) Buckhorn Backwash Handling Expansion</b>	<b>7/1/2040</b>	<b>6/30/2042</b>	<b>CAWP F.2 (WTP) Buckhorn Backwash Handling Expansion</b> <b>\$6,845,000</b>																									
917	Planning	7/1/2040	12/31/2040	Planning \$342,250																									
918	Design	1/1/2041	6/30/2041	Design \$342,250																									
919	Construction	7/1/2041	3/31/2042	Construction \$5,818,250																									
920	Closeout	4/1/2042	6/30/2042	Closeout \$342,250																									
<b>921</b>	<b>TAN F.6 (2A.1) (WTP) Tanner Treatment Expansion</b>	<b>7/1/2040</b>	<b>6/30/2042</b>	<b>TAN F.6 (2A.1) (WTP) Tanner Treatment Expansion</b> <b>\$27,000,000</b>																									
922	Planning	7/1/2040	12/31/2040	Planning \$1,350,000																									
923	Design	1/1/2041	6/30/2041	Design \$1,350,000																									
924	Construction	7/1/2041	3/31/2042	Construction \$22,950,000																									
925	Closeout	4/1/2042	6/30/2042	Closeout \$1,350,000																									
<b>926</b>	<b>Ione Canal Abandonment Study, PER, Eng &amp; R/W</b>	<b>7/1/2034</b>	<b>6/30/2038</b>	<b>Ione Canal Abandonment Study, PER, Eng &amp; R/W</b> <b>\$350,000</b>																									
927	Planning	7/1/2034	6/30/2035	Planning \$175,000																									
928	Design	7/1/2037	6/30/2038	Design \$175,000																									
<b>929</b>	<b>Ione Canal Abandonment Environmental</b>	<b>7/1/2035</b>	<b>6/30/2037</b>	<b>Ione Canal Abandonment Environmental</b> <b>\$150,000</b>																									
930	Planning	7/1/2035	6/30/2036	Planning \$75,000																									
931	Design	7/1/2036	6/30/2037	Design \$75,000																									
<b>932</b>	<b>Ione Canal Abandonment</b>	<b>7/1/2038</b>	<b>6/30/2040</b>	<b>Ione Canal Abandonment</b> <b>\$5,000,000</b>																									
933	Planning	7/1/2038	6/30/2039	Planning \$2,500,000																									
934	Design	7/1/2039	6/30/2040	Design \$2,500,000																									
<b>935</b>	<b>Amador Canal Abandonment Study, PER, Eng &amp; R/W</b>	<b>7/1/2034</b>	<b>6/30/2038</b>	<b>Amador Canal Abandonment Study, PER, Eng &amp; R/W</b> <b>\$2,500,000</b>																									
936	Planning	7/1/2034	6/30/2035	Planning \$1,250,000																									
937	Design	7/1/2037	6/30/2038	Design \$1,250,000																									
<b>938</b>	<b>Amador Canal Abandonment Environmental</b>	<b>7/1/2035</b>	<b>6/30/2037</b>	<b>Amador Canal Abandonment Environmental</b> <b>\$1,500,000</b>																									
939	Planning	7/1/2035	6/30/2036	Planning \$750,000																									
940	Design	7/1/2036	6/30/2037	Design \$750,000																									
<b>941</b>	<b>Amador Canal Potable Pipeline</b>	<b>7/1/2038</b>	<b>6/30/2040</b>	<b>Amador Canal Potable Pipeline</b> <b>\$15,000,000</b>																									
942	Planning	7/1/2038	6/30/2039	Planning \$7,500,000																									
943	Design	7/1/2039	6/30/2040	Design \$7,500,000																									
<b>944</b>	<b>Amador Canal Abandonment</b>	<b>7/1/2040</b>	<b>6/30/2042</b>	<b>Amador Canal Abandonment</b> <b>\$30,000,000</b>																									
945	Planning	7/1/2040	6/30/2041	Planning \$15,000,000																									
946	Design	7/1/2041	6/30/2042	Design \$15,000,000																									
947																													
948																													
949																													
950																													
<b>951</b>	<b>5 Year Wastewater CIP</b>	<b>7/1/2022</b>	<b>6/30/2027</b>	<b>5 Year Wastewater CIP</b> <b>\$49,812,650</b>																									
<b>952</b>	<b>Pipeline Rehab/Replacement Projects (Annual Budget)</b>	<b>7/1/2022</b>	<b>6/30/2027</b>	<b>Pipeline Rehab/Replacement Projects (Annual Budget)</b> <b>\$14,087,000</b>																									
953	FY 22/23	7/1/2022	6/30/2023	FY 22/23 \$2,817,400																									
954	FY 23/24	7/1/2023	6/28/2024	FY 23/24 \$2,817,400																									
955	FY 24/25	7/1/2024	6/30/2025	FY 24/25 \$2,817,400																									
956	FY 25/26	7/1/2025	6/30/2026	FY 25/26 \$2,817,400																									
957	FY 26/27	7/1/2026	6/30/2027	FY 26/27 \$2,817,400																									
<b>958</b>	<b>Lift Station Rehab/Replacement Projects (Annual Budget)</b>	<b>7/1/2022</b>	<b>6/30/2027</b>	<b>Lift Station Rehab/Replacement Projects (Annual Budget)</b> <b>\$3,116,250</b>																									
959	FY 22/23	7/1/2022	6/30/2023	FY 22/23 \$623,250																									







# STAFF REPORT

## OPERATIONS & ENGINEERING MANAGER'S REPORT

### ACGMA / CGA:

1. ACGMA October 3<sup>rd</sup> Canceled.
2. CGA
  - a. Three Month Look Ahead
  - b. Project Committee Update
  - c. Data Gap Prioritization
  - d. Supply Augmentation Projects
  - e. Draft Recommendations for DWR Implementation Grant
  - f. Committee Reports
  - g. Link to the New CGA Website - [About - Cosumnes Groundwater Authority](#)

### REGULATORY COMPLIANCE SPECIALIST:

1. Coordinating on-going testing efforts for Disinfection By-Products in Lone and Tanner systems.
2. Assisted in the response to the State Regulator regarding the Buckhorn Water Treatment Plant Inspection.
3. Completed monthly regulatory reporting.
4. On-going training.

### SAFETY TOPICS:

Staff conducted Safety Tailgate Meetings on the following subjects:

1. Hand Protection – the right glove for the job
2. Emergency preparedness
3. Defensive driving
4. High visibility – safety apparel
5. Chemical Safety



### **DISTRIBUTION:**

1. Fall protection training
2. Replaced 140' of 6" main to SGI PRV vault due to large leak under Highway 104
3. Potholed Hydrants and ordered repair parts - Sugar Pine Drive
4. Set Construction up at the GSL w/floating pump
5. Repaired 25gpm leak on 4" high pressure line - Alpine Drive
6. DBP sampling and testing in preparation of the DBP study

### **CANAL:**

1. Finished flushing ATL blow-offs
2. Cleared damaged/down trees along Lone Canal

### **WATER TREATMENT PLANTS:**

#### **lone Water Treatment Plant:**

1. Plant now running on bypass from the ITL with hydro off.
2. Sludge removal project from backwash tanks 1 and 2 completed in August has improved operational function substantially, allowing for more backwash storage volume and fewer turbidity interruptions.
3. Staff continues to efficiently manage the formation of DBP's from the WTP and has recently worked with programming contractor to add additional alarms and set points to manage chlorine pump pacing and levels.
4. Staff identified a backflowing condition from the distribution system causing the treated water in the system to flow backwards through the chlorine effluent line into the clearwell, thus creating erratic finish water chlorine reads at the WTP. Staff notified distribution system staff and they identified a valve which had been opened causing the condition. Once corrected the operation returned to normal.
5. Staff continues the daily monitoring of grab sample analysis for UVA and UVT (ultraviolet absorption and transmission, respectively) on the raw and finish water flows. There are critical parameters to understanding total organic carbon (TOC) and its impact on disinfection byproducts, as well as chlorine demand.

#### **Tanner Water Treatment Plant:**

1. Staff coordinating with Electrical Department to plan, install, and integrate new control power supply for chemical carrier line replacement project to be "cutover" in the coming weeks.
2. Staff assisted Construction crew with final completion of the laboratory and restroom facility upgrade. Both facilities are connected and working properly.
3. Staff continues the daily monitoring of grab sample analysis for UVA and UVT on the raw and finish water flows in preparation of the DBP study.

### **Buckhorn Water Treatment Plant:**

1. Staff have constructed and deployed the emergency backup pump system in preparation for the October 17<sup>th</sup> PG&E regulator spill way draw down project. A functional test was performed and we are now ready to supply water to the GSL if we lose the siphon at the Tiger Creek Regulator.
2. Staff completed WTP/BWR facility tour with board members from the PGCSD.

### **LaMel Water Treatment Plant:**

1. Facility has been running well overall.
2. Electrical Department determined pH probe cable had failed after operation called out for alarm. After an extended supply chain delay, staff worked to install and test the new equipment and it is now in proper working condition.

### **PG & E Tiger Creek Water Treatment Plant:**

1. Plant is operating well with new parameters and controls. Remote SCADA access equipment has been completed, however, access is not yet available.
2. Staff completed all sampling and addressed clerical concerns brought to our attention during the annual RWQCB inspection.

### **WASTEWATER:**

1. Continue to empty all storage ponds as required.
2. Continue to monitor all collection systems.
3. Continue to pour new pads and get all facilities ready for general delivery.

### **ELECTRICAL / MECHANICAL:**

1. Completed installation of an operator work station in the Tanner WTP control room.
2. Installed and wired the pump and control panel for the GSL emergency feed pump at the Regulator.
3. The operator interface panel for the Regulator syphon controls failed. The panel was replaced approximately 2 years ago. Due to lack of reliability, and the

difficulty we have had getting follow-up support, we will be replacing this model with a model from a different manufacturer. As a temporary work around, we are running the operation panel program on a laptop.

4. Staff worked with the CAP service technician to troubleshoot and repair the generator at LS1.
5. Annual generator PM's are in progress. Staff load tested the treatment plant generators.
6. Staff attended training for the Telepace software. This software is used to program and configure the SCADAPack PLC's that are used to monitor and control most of our remote sites.

### **CONSTRUCTION:**

1. Crew attended fall protection training.
2. Worked with Distribution on replacement of 140' of 6" main to SGI PRV vault due to large leak under Highway 104
3. Prepared Emergency Pump Regulator for operation – Buckhorn WTP.
4. Crew fused 6" and 8" HDPE pipe at Tanner.
5. Completed BIT inspection on 10-wheeler.

**Prepared by:** Jessi Bylund, Administrative Assistant II; Rick Ferriera, Operations & Engineering Manager

## **City of Plymouth Department Report**

Covering September 1 – September 30, 2022

### **Regulatory Compliance Specialist**

- Monthly water reporting completed.
- Working on Inspection response to State.
- Working on Annual Backflow program, second letters sent out

### **Wastewater**

- Continue to monitor collection system and lift station.
- Check all grease traps and issued pump orders as needed.
- Jetted Wheeler Street due to blockage

### **Water Treatment / Distribution**

- Nothing to report.

Staff hours: 92 Water hrs.      10 Wastewater hrs.

**Prepared by:** Jessi Bylund, Administrative Assistant II

**Reviewed by:** Rick Ferriera, Operations and Engineering Manager

## **River Pines Department Report**

September 1 – September 30, 2022

### **Water Production/Sold**

Well 2:	291,800 gallons	Total Produced:	980,681 gallons
Well 3R:	509,700 gallons	Total Sold:	814,513 gallons
Well 6R:	179,181 gallons	Unaccounted Loss:	17%

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### **Regulatory Compliance Specialist**

- Submitted monthly water report
- Submitted monthly wastewater reports and no spill report for CIWQS

### **Wastewater**

- Influent flow 1,108,200 gallons. Effluent Discharged 863,400 gallons.
- Replaced mixer motor in Pond A.
- Had to run generator on September 19<sup>th</sup> due to power outage.
- Had Propane Company fill all tanks.
- Continue to monitor the collection system as well as the lift stations.

### **Water Treatment / Distribution –**

- Wells 2/3R continue to perform well with some, but not significant aquifer drawdown.

Staff Hours: 67.5 Water hrs.      48.5 Wastewater hrs.

**Prepared by:** Jessi Bylund, Administrative Assistant II

**Reviewed by:** Rick Ferriera, Operations and Engineering Manager