

RESOLUTION NO. 2017-04
RESOLUTION NO. PFA-03
ORDINANCE NO. 2017-01

AGENDA

MISSION STATEMENT

"Our team is dedicated to protecting, enhancing, and developing our rich water resources to the highest beneficial use for Calaveras County, while maintaining cost-conscious, reliable service, and our quality of life, through responsible management."

Regular Board Meeting
Wednesday, January 25, 2017
9:00 a.m.

Calaveras County Water District
120 Toma Court, (PO Box 846)
San Andreas, California 95249

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the Administration Office at 209-754-3028. Notification in advance of the meeting will enable CCWD to make reasonable arrangements to ensure accessibility to this meeting. Any documents that are made available to the Board before or at the meeting, not privileged or otherwise protected from disclosure, and related to agenda items, will be made available at CCWD for review by the public.

ORDER OF BUSINESS

CALL TO ORDER / PLEDGE OF ALLEGIANCE

1. ROLL CALL

2. PUBLIC COMMENT

At this time, members of the public may address the Board on any non-agendized item. The public is encouraged to work through staff to place items on the agenda for Board consideration. No action can be taken on matters not listed on the agenda. Comments are limited to five minutes per person.

3. CONSENT AGENDA

The following items are expected to be routine / non-controversial. Items will be acted upon by the Board at one time without discussion. Any Board member may request that any item be removed for later discussion.

3a Approval of Minutes for the Board Meeting of January 11, 2017

4. NEW BUSINESS

4a Discussion / Action regarding Emergency Response to Flood Damage to Blagen Road in White Pines Exposing Water Transmission Main and Blocking Access to District Facilities (Dave Eggerton, General Manager)

BOARD OF DIRECTORS

Jeff Davidson, President Scott Ratterman, Vice President
Terry Strange, Director Bertha Underhill, Director Russ Thomas, Director

- 4b Discussion / Action regarding Approval of Contract for the West Point Water System Water Supply Reliability Study and Calaveras County Mokelumne River Long-Term Water Needs Study
(Peter Martin, Water Resources Program Manager) RES 2017-_____
- 4c Review and Direction of the FY 2016-17 Second Quarter Investment Report
(Jeffrey Meyer, Director of Administrative Services)
- 4d Discussion / Action regarding Fiscal Year 2016-17 Mid-Year Budget Review and Budget Adjustments
(Jeffrey Meyer, Director of Administrative Services) RES 2017-_____

5. **OLD BUSINESS**

Nothing to report

6.* **GENERAL MANAGER REPORT**

7.* **BOARD REPORTS / INFORMATION / FUTURE AGENDA ITEMS**

8. **NEXT BOARD MEETINGS**

- Wednesday, February 8, 2017, 9:00 a.m., Regular Board Meeting
- Wednesday, February 22, 2017, 9:00 a.m., Regular Board Meeting

9. **CLOSED SESSION**

- 9a Government Code § 54957.6
Agency Negotiators: General Manager Dave Eggerton, HR Manager Stacey Lollar and Chief Labor Negotiator Gage Dungy
Regarding Negotiations with Employee Organization SEIU Local 1021
- 9b Public Employee Performance Evaluation
Government Code §54957
General Manager
- 9c Conference with Labor Negotiators
Agency Negotiators: President Davidson, Director Ratterman
Unrepresented Employee: General Manager
Government Code §54957.6

10. **REPORTABLE ACTION FROM CLOSED SESSION**

11. **ADJOURNMENT**

CALAVERAS COUNTY WATER DISTRICT

Board of Directors

District 1 Scott Ratterman
District 2 Terry Strange
District 3 Bertha Underhill
District 4 Russ Thomas
District 5 Jeff Davidson

Legal Counsel

Matthew Weber, Esq.
Downey Brand, LLP

Financial Services

Umpqua Bank
US Bank
Wells Fargo Bank

Auditor

Richardson & Company, LLP

CCWD Committees

*Engineering Committee
*Finance Committee
*Legal Affairs Committee
Executive Committee (*ad hoc*)

Membership**

Strange / Davidson (alt. Underhill)
Underhill / Thomas (alt. Ratterman)
Davidson / Ratterman
Davidson / Ratterman

Joint Power Authorities

ACWA / JPIA Ratterman (alt. Dave Eggerton)
CCWD Public Financing Authority All Board Members
Calaveras-Amador Mokelumne River Authority (CAMRA) Strange / Ratterman (alt. Davidson)
Calaveras Public Power Agency (CPPA) Peter Martin (alt. Dave Eggerton)
Tuolumne-Stanislaus Integrated Regional Water Strange (alt. Thomas)
Management Joint Powers Authority (T-Stan JPA)
Upper Mokelumne River Watershed Authority (UMRWA) Davidson (alt. Strange)

Other Regional Organizations of Note

Calaveras LAFCO All Board Members
Calaveras County Parks and Recreation Ratterman (alt. Thomas)
Committee
Highway 4 Corridor Working Group Underhill / Thomas
Mountain Counties Water Resources All Board Members
Association (MCWRA)
Mokelumne River Association (MRA) All Board Members
Tuolumne-Stanislaus Integrated Regional Water Peter Martin (alt. Metzger)
Mgt. JPA Watershed Advisory Committee (WAC)

* Standing committees, meetings of which require agendas & public notice 72 hours in advance of meeting.

** The 1st name listed is the committee chairperson.

RESOLUTION NO. 2017-01
RESOLUTION NO. PFA-03
ORDINANCE NO. 2017-01

**CALAVERAS COUNTY WATER DISTRICT
REGULAR BOARD MEETING
JANUARY 11, 2017**

Directors Present: Jeff Davidson, President
Bertha Underhill, Director
Terry Strange, Director
Director(s) Absent: Scott Ratterman, Vice President
Staff Present: Dave Eggerton, General Manager
David Cameron, Counsel
Mona Walker, Clerk to the Board
Jeff Meyer, Director of Administrative Services
Charles Palmer, District Engineer
Peter Martin, Water Resources Program Manager
Robbie Creamer, Engineering Analyst
Joel Metzger, PIO/Customer Relations Manager
Tami Bennett-Kirby, Senior Admin-Tech
Others Present: Vickey Mills
Dennis Dooley
Joe Fontana
Elaine St. John
Russ Thomas
Sean Thomas
Dave Hicks, Blue Lake Springs Mutual Water Company

ORDER OF BUSINESS

CALL TO ORDER / PLEDGE OF ALLEGIANCE

1. ROLL CALL

President Davidson called the Regular Board Meeting to order at 9:00 a.m. Director Ratterman was absent.

2. PUBLIC COMMENT

There was no public comment.

3. APPOINTMENT OF BOARD DIRECTOR, DIVISION 4

Discussion / Action on Appointment of CCWD Board Director

RES 2017-01

DISCUSSION: Mr. Eggerton reviewed the appointment process and indicated that the appointment of the Board Director term is for two years, fulfilling the remaining four year term left by the resignation of Dennis Mills.

President Davidson reiterated the appointment process: open the seat for nominations, motion to close, public comment, and then a vote by the three Board Members. The first nomination to receive the three unanimous votes is the appointed Director. If nominees do not receive three votes, the Board could table the matter to the next Board meeting.

President Davidson opened nominations for the Division 4, Board Director appointment:

MOTION: Director Underhill nominated Mr. Russ Thomas as Board Director, Division 4

MOTON: Director Strange nominated Ms. Elaine St. John as Board Director, Division 4

Director Strange closed the nominations.

PUBLIC COMMENT: There was no public comment.

President Davidson expressed his opinion on the importance of continuity on the Board and thanked the candidates for their participation and interest in the position. Directors Underhill and Strange also thanked the candidates for their interest and indicated that it is a difficult decision to make.

Director Davidson called for a show of hands in support of nominee Mr. Russ Thomas for Board Director.

AYES: Directors Davidson and Underhill
NOES: Director Strange
ABSTAIN: None
ABSENT: Director Ratterman

Motion to nominate Mr. Russ Thomas to the Board failed to pass.

Director Davidson called for a show of hands in support of nominee Ms. Elaine St. John for Board Director.

AYES: Director Strange
NOES: Directors Underhill and Davidson
ABSTAIN: None
ABSENT: Director Ratterman

Motion to nominate Ms. Elaine St. John to the Board failed to pass.

President Davidson indicated that he would call for a vote once more, and if there is not a unanimous decision to appoint a candidate then he will table the matter to the next Board meeting.

Director Davidson called for a show of hands in support of nominee Mr. Russ Thomas for Board Director.

AYES: Directors Underhill, Strange and Davidson
NOES: None
ABSTAIN: None
ABSENT: Director Ratterman

Mr. Russ Thomas was unanimously appointed as Board Director, Division 4.

The Clerk to the Board administered the Oath of Office to Mr. Thomas. Director Thomas took a seat at the dais and was congratulated by the Board of Directors.

RECESS was called at 9:23 a.m. **SESSION RESUMED** at 9:30 a.m.

4. CONSENT AGENDA

MOTION: Directors Strange / Underhill – Approved Consent Agenda Items:
4a, Minutes of the Board Meeting of December 14, 2016; and 4b, Review Board of Directors Monthly Time Sheets for December, 2016

4a Approval of Minutes for the Board Meeting of December 14, 2016

4b Review Board of Directors Monthly Time Sheets for December, 2016

Director Underhill pulled Item 4c from the Consent Agenda

4c Discussion / Action to Ratify Claim Summary #538 Secretarial Fund in the Amount of \$1,377,818.03 for December, 2016
(Jeffrey Meyer, Director of Administrative Services) **RES 2017-_____**

AYES: Directors Strange, Underhill, Thomas and Davidson
NOES: None
ABSTAIN: None
ABSENT: Director Ratterman

OFF CONSENT AGENDA

Director Underhill pulled Item 4c from the Consent Agenda

4c Discussion / Action to Ratify Claim Summary #538 Secretarial Fund in the Amount of \$1,377,818.03 for December, 2016
(Jeffrey Meyer, Director of Administrative Services) **RES 2017-02**

MOTION: Directors Underhill / Strange – Adopted Resolution No. 2017-02 Ratifying Claim Summary #538 Secretarial Fund in the Amount of \$1,377,818.03 for December, 2016

DISCUSSION: Director Underhill commented on the thoroughness of the report and staff's response to questions from the Board on the Claim Summary. Director Thomas commended staff on the detail of the report.

PUBLIC COMMENT: There was no public comment.

AYES: Directors Underhill, Strange, Thomas and Davidson
NOES: None
ABSTAIN: None
ABSENT: Director Ratterman

5. NEW BUSINESS

5a Discussion / Action regarding Appointment to Board Committees and Election of Members to Joint Power Authorities (President Davidson)

DISCUSSION: President Davidson announced his selection of the following committee and association assignments for 2017:

Engineering Committee:	Strange / Davidson (alt. Underhill)
Finance Committee:	Underhill / Thomas (alt. Ratterman)
Legal Affairs Committee:	Davidson / Ratterman
Executive Committee:	Davidson / Ratterman
Mountain Counties Water Resources Association:	All Board Members
Mokelumne River Association:	All Board Members
Calaveras Parks and Recreation Commission:	Ratterman (alt. Thomas)
Calaveras LAFCO	All Board Members
Highway 4 Corridor Working Group	Board Representatives of Divisions 3 & 4
Tuolumne-Stanislaus Integrated Regional Water Management JPA Watershed Advisory Committee:	Peter Martin (alt. Joel Metzger)

The Board of Directors made the following nominations to the Joint Powers Authority Memberships:

MOTION: Directors Strange / Underhill – Nominate Director Ratterman as Representative and Dave Eggerton as Alternate to the Association of California Water Agencies / Joint Powers Insurance Authority (ACWA-JPIA)

DISCUSSION: There were no other nominations and there was no discussion on the matter.

PUBLIC COMMENT: There was no public comment.

MOTION: Directors Strange / Underhill – Nominate Directors Strange and Ratterman as Representatives and Director Davidson as Alternate to the Calaveras-Amador Mokelumne River Authority (CAMRA)

DISCUSSION: There were no other nominations and there was no discussion on the matter.

UNAPPROVED – SUBJECT TO CHANGES

PUBLIC COMMENT: There was no public comment.

MOTION: Directors Strange / Underhill – Nominate All Board Members to the Calaveras County Water District Public Financing Authority (CCWD PFA)

DISCUSSION: There were no other nominations and there was no discussion on the matter.

PUBLIC COMMENT: There was no public comment.

MOTION: Directors Strange / Underhill – Nominate Peter Martin as Representative and Dave Eggerton as Alternate to the Calaveras Public Power Authority (CPPA)

DISCUSSION: There were no other nominations and there was no discussion on the matter.

PUBLIC COMMENT: There was no public comment.

MOTION: Directors Strange / Underhill – Nominate Director Strange as Representative and Director Thomas as Alternate to the Tuolumne-Stanislaus Integrated Regional Water Management Joint Powers Authority (T-Stan JPA)

DISCUSSION: There were no other nominations and there was no discussion on the matter.

PUBLIC COMMENT: There was no public comment.

MOTION: Directors Strange / Underhill – Nominate Director Davidson as Representative and Director Strange as Alternate to the Upper Mokelumne River Watershed Authority (UMRWA)

DISCUSSION: There were no other nominations and there was no discussion on the matter.

PUBLIC COMMENT: There was no public comment.

MOTION: Directors Strange / Underhill – by Minute Entry, Approved the Full Slate of Nominations of Representatives to the Joint Powers Authority Memberships for 2017

DISCUSSION: President Davidson asked the Board Members if they had any comments or changes to the slate of nominations to the Joint Power Authorities. There were no other changes recommended.

PUBLIC COMMENT: There was no public comment.

AYES: Directors Strange, Underhill, Thomas and Davidson
NOES: None
ABSTAIN: None
ABSENT: Director Ratterman

5b Discussion / Action regarding Amending Contract for Wholesale Treated Water with Blue Lake Springs Mutual Water Company
(Dave Eggerton, General Manager) **RES 2017-03**

MOTION: Director Underhill / Strange – Adopted Resolution No. 2017-03
Approving First Amendment to Agreement to Sell Wholesale Treated Water to Blue Lake Springs Mutual Water Company

DISCUSSION: Mr. Eggerton explained that the current agreement provides for the sale of treated water on a wholesale basis by CCWD to Blue Lake Springs Water Company (BLS) for the purpose of achieving a successful conjunctive use program by BLS using surface water from CCWD with the BLS groundwater. This effort has been very successful in achieving a recovery of BLS groundwater elevations. Under the current agreement, BLS is obligated to pay for at least 45,000 gpd each bi-monthly billing period to incentive the recovery of its wells unless CCWD has conservation requirements in effect in which case the requirement is reduced to 40,000 gpd. However, because water demands are less due to conservation requirements of BLS still in effect, BLS is requesting to amend the agreement to account for the conservation requirements allowing BLS to adjust its bi-monthly to 40,000 gpd. Staff recommended amending language in Section 2.14 of the Agreement allowing for a reduction of water use to 40,000 gpd whether mandatory water use requirements are implemented by CCWD or BLS.

PUBLIC COMMENT: Mr. Dave Hicks, BLS General Manager commented that BLS wants to encourage conservation with its customers and BLS continues to operate under the water conservation requirement as directed by the State. He stated that BLS has 500 of its 1700 customers on water meters, and BLS should have all of their customers metered within three years. Mr. Hicks and Mr. Eggerton responded to questions from the Board.

AYES: Directors Underhill, Strange, Thomas and Davidson
NOES: None
ABSTAIN: None
ABSENT: Director Ratterman

5c Update on Paymentus Customer Payment Processing Program
(Joel Metzger, PIO/Customer Relations Manager)

Mr. Metzger provided a PowerPoint presentation explaining the customer payment processing program. He reviewed the system features for District staff and the various automatic payment options for customers. The program allows the District to make outbound messaging to customers, and has an interactive voice response. Mr. Metzger provided graphs showing the volume thus far of customers enrolled in the automatic payment system. Mr. Metzger responded to questions from the Board related to the customer payment process.

This item was for information only; no action was taken.

5d Discussion ACWA / JPIA President's Special Recognition Award
(Jeffrey Meyer, Director of Administrative Services)

DISCUSSION: Mr. Meyer announced that CCWD received Special Recognition Awards from the District's insurance carrier, Association of California Water Agencies / Joint Powers Insurance Authority (ACWA/JPIA) for having 20% lower loss ratio in property, liability and workers compensation programs. Director Davidson announced the Board's appreciation of staff for their efforts for a safe working environment that resulted in receiving these awards.

PUBLIC COMMENT: There was no public comment.

This item was for information only; no action was taken.

6. **OLD BUSINESS**

Nothing to report.

7. **GENERAL MANAGER'S REPORT**

Mr. Eggerton reported on the following: staff is focusing on a review and update of its Capital Improvement Project program; work continues on the upcoming FY 2017/18 budget; status of local reservoir storage levels; and he gave an update on storm related challenges. Mr. Metzger gave an update on the state's water emergency conservation requirements.

8. **BOARD REPORTS / INFORMATION / FUTURE AGENDA ITEMS**

Director Underhill reported on San Andreas Sanitary District's activities; and she gave recognition to the accomplishments of District staff.

Director Thomas expressed his appreciation for his appointment and looks forward to being a Board Member.

Director Strange reported on storm related issues and requested to review a management plan of Wilson Dam; and discussed hydro facilities operations and current power generation.

Director Davidson requested a meeting be scheduled between CCWD's Board President and Vice President and the County Board of Supervisors Chair and Vice Chair to discuss matters of mutual interest. He requested a monthly progress status report for CIP projects; and he will discuss with staff the status of a customer leak issue in Valley Springs.

9. **NEXT BOARD MEETINGS**

- Wednesday, January 25, 2017, 9:00 a.m., Regular Board Meeting
- Wednesday, February 8, 2017, 9:00 a.m., Regular Board Meeting

The Open Session ended at approximately 11:05 a.m.

10. CLOSED SESSION

The meeting adjourned into Closed Session at approximately 11:10 a.m. Those present were Board Members: Jeff Davidson, Bertha Underhill, Terry Strange and Russ Thomas (Director Ratterman was absent); staff member Dave Eggerton; and counsel David Cameron.

10a Conference with Real Property Negotiators
Government Code §54956.8
Property: APN 044-006-031, San Andreas
District negotiators: Dave Eggerton and Robbie Creamer
Under negotiation: price and other terms

10b Conference with Real Property Negotiators
Government Code §54956.8
Property: APNs 046-019-051, 073-042-127 and 073-042-129, Valley Springs
District negotiators: Dave Eggerton and Robbie Creamer
Under negotiation: price and other terms

11. REPORTABLE ACTION FROM CLOSED SESSION

The Board reconvened into Open Session at approximately 11:55 a.m. There was no reportable action.

12. ADJOURNMENT

With no further business, the meeting adjourned at approximately 11:55 a.m.

By:

ATTEST:

Dave Eggerton
General Manager

Mona Walker
Clerk to the Board

Agenda Item

DATE: January 25, 2017

TO: Board of Directors

FROM: Dave Eggerton, General Manager

SUBJECT: Emergency Response to Flood Damage to Blagen Road in White Pines Exposing Water Transmission Main and Blocking Access to District Facilities

RECOMMENDED ACTION:

Motion: _____ / _____, by minute entry, ratifying emergency actions taken to date by District staff in response to flood damage to Blagen Road in White Pines threatening the District's existing and new Reach 3A water transmission main pipelines and blocking access to District facilities and authorizing staff to take such additional emergency actions as deemed necessary by the General Manager to complete this effort to protect District infrastructure and the community's water supply.

SUMMARY:

On Wednesday, January 11, 2017, Big Trees Creek flooded Blagen Road in White Pines destroying the culvert and almost half of the paved roadway. As a result, the District's Reach 3A underground water transmission pipeline was exposed, including portions of the old, brittle steel pipe still in service and the recently constructed, new ductile iron pipe. This threatened the main water supply to the community of Arnold as the old exposed pipe is at higher risk of failure from contact with debris flowing in the creek or further erosion of the surrounding soils. CCWD staff and its contractor for the Reach 3A project, T&S Construction, took immediate measures to support the old pipe by strapping it to a steel I-beam spanning the washed-out portion of the road. In addition, T&S installed a temporary bridge across the road to reestablish vehicle access to CCWD's maintenance building and Sawmill Water Tank.

After continuing to monitor the exposed pipe and evaluating all options to protect the community's water supply and public safety, CCWD staff determined it was necessary to take the old pipeline out of service by constructing an inter-tie to the new waterline. Beginning the morning of January 18th and continuing through the night in heavy snow conditions, this emergency effort was successfully completed the next morning thanks to the dedication and hard work of CCWD staff and T&S crews. And with tremendous support from Blue Lake Springs Mutual Water Company sending water from its storage into CCWD's interconnected system, the community remained in service throughout the project.

USDA staff were also very helpful in allowing the District to utilize its existing contract with T&S to complete this necessary work as quickly as possible. With T&S already mobilized and working on the Reach 3A project and in possession of necessary resources like a bridge close-by in their construction yard in Sacramento, they were the best option for timely, successful completion of this work. Moreover, they provided their expertise in helping staff develop a recommended course of action to respond to this emergency and again performed excellent work under trying conditions.


All of this emergency work has been performed under a change order to the existing contract with T&S for construction of the Reach 3A project authorized by your General Manager. The not-to-exceed change order of \$50,000 is for time and materials associated with this work, all of which is being monitored by District construction inspection staff onsite. Additional work, potentially exceeding the initial amount of this change order, will be necessary to remove damaged asphalt and road base overlying and weighing upon the exposed new pipe and to install additional beams to protect it until the road and culvert are rebuilt by the County which owns that portion of Blagen Road. The County Board of Supervisors will consider adopting a declaration of emergency at its meeting on January 24, 2017 to expedite this and other projects to address the damage of recent storms.

FINANCIAL CONSIDERATIONS:

Expected costs of \$50,000 or more to be paid from a combination of the Rehabilitation and Replacement (R&R) CIP budget for the Reach 3A project and operating funds.

Agenda Item

DATE: January 25, 2016

TO: Dave Eggerton, General Manager 

FROM: Peter Martin, Water Resources Program Manager

SUBJECT: Discussion / Action regarding Award of Consultant Contract for West Point Water System Water Supply Reliability Study and Calaveras County Mokelumne River Long-Term Water Needs Study

RECOMMENDED ACTION:

Motion: _____ / _____ adopt Resolution No. 2017-_____ authorizing a Professional Services Agreement for the West Point Water System Water Supply Reliability Study and Calaveras County Mokelumne River Long-Term Water Needs Study, and for the General Manager to execute a related cost-share agreement with Calaveras Public Utility District subject to approval as to form by District Counsel.

SUMMARY:

At the Board's direction, staff prepared and distributed a request for proposals seeking professional consulting services for two separate studies to evaluate future water supply and infrastructure needs in the Mokelumne River watershed in Calaveras County. This was in response to the Board's interest in: 1) an evaluation and prioritization of the infrastructure in the West Point water system with a focus on water supply reliability, and 2) an evaluation of the Long-Term Water Needs on the Mokelumne River for Calaveras County associated with providing recommendations to the State of California's Natural Resources Agency in their evaluation of the suitability of designating portions of the Mokelumne River as "Wild and Scenic", under the recently passed state Assembly Bill 142.

Staff recognized that there were harmonizing opportunities to combine the studies into a larger effort since they evaluate the same watershed and infrastructure. Therefore, the District distributed a request for proposals allowing consultants to propose on both studies in the hopes that there would be an overall cost saving with regard to project management. A summary of the two proposed studies are as follows:

Study A) The West Point Water System Water Supply Reliability project will evaluate specific water supply planning issues for the District's West Point Water System, and culminate in the development of a plan/study to be utilized as a water resources planning tool with recommendations for updating the District's capital improvement

program to better formalize and prioritize these improvements as necessary to obligate funding and to meet future demands.

Study B) The Calaveras County Mokelumne River Long-Term Water Needs Study will provide a detailed study of Calaveras County's long-term water requirements for areas within the County to be served by the Mokelumne River. This study also needs to evaluate from where and how the District will obtain the additional water supplies needed to meet the projected future demands. Furthermore, the District intends to look at the overall regional demands, including those outside of the District's current service area, and will work with Calaveras Public Utilities District (CPUD) on this effort.

District staff distributed a request for proposals to complete the two Mokelumne River supply studies in November of last year to five selected consultants. Of the five consultants that received the RFP, three provided a proposal to the District, with two consultants ultimately teaming up for one proposal. Those consultants providing proposals were Mead and Hunt, RMC Water and Environment, and ECORP Consulting, Inc. The fee estimates for the three proposals ranged from \$212,880 to \$296,580 as follows:

Consultant	Fee Estimate
Mead and Hunt	\$212,880
RMC Water and Environment	\$270,864
ECORP Consulting, Inc.	\$320,052 (negotiated to \$296,580)

After reviewing the proposals with staff from CPUD, staff recommends the proposal provided by ECORP Consulting, Inc. (ECORP) for consideration by the Board of Directors. The proposed team of ECORP with KASL Engineering as a sub-consultant is well suited to provide the most high-value services desired for the completion of the two studies, in addition to providing a project team and approach that was most tailored to meet CCWD's and CPUD's needs. KASL is intimately familiar with the infrastructure of both agencies and ECORP has provided excellent water resources engineering services for the District on numerous projects. Furthermore, the hourly rates of each firm are very reasonable and lower than those of the other proposals. Some of the additional tasks in ECORP's original proposal were deemed as optional and were negotiated out of the original fee estimate, but could be evaluated at a later time with direction from the Board. The proposal from ECORP has been provided for your information and consideration.

FINANCIAL CONSIDERATIONS:

The agreement with ECORP Consulting, Inc. is for an amount not to exceed \$296,580. CPUD has tentatively agreed to a cost share arrangement and reimburse CCWD for forty percent (40%) of the cost of Study B, or \$44,025. Of the remaining costs for the two reports, the FY 2016-17 Water Resources budget includes \$100,000 for Study B, whereas \$80,000 is included in the FY 2016-17 Capital Improvement Program (CIP)

budget for the West Point Water Master Planning effort (Fund 304, West Point Water Expansion Fund). The majority of KASL's evaluation and engineering efforts will be funded by the West Point Water Master Plan Update Project in Fund 304, and an additional breakout of KASL's effort and fee estimate have been provided as an attachment. As this project will carry over into FY 2017-18, \$66,747 will need to be budgeted in FY 2017-18 Water Resources Operating budget to complete the Study A, and \$5,808 will need to be budgeted in the FY 2017-18 CIP budget for the balance of the West Point Water Master Plan Update Project. The following is a summary of the costs and their funding sources:

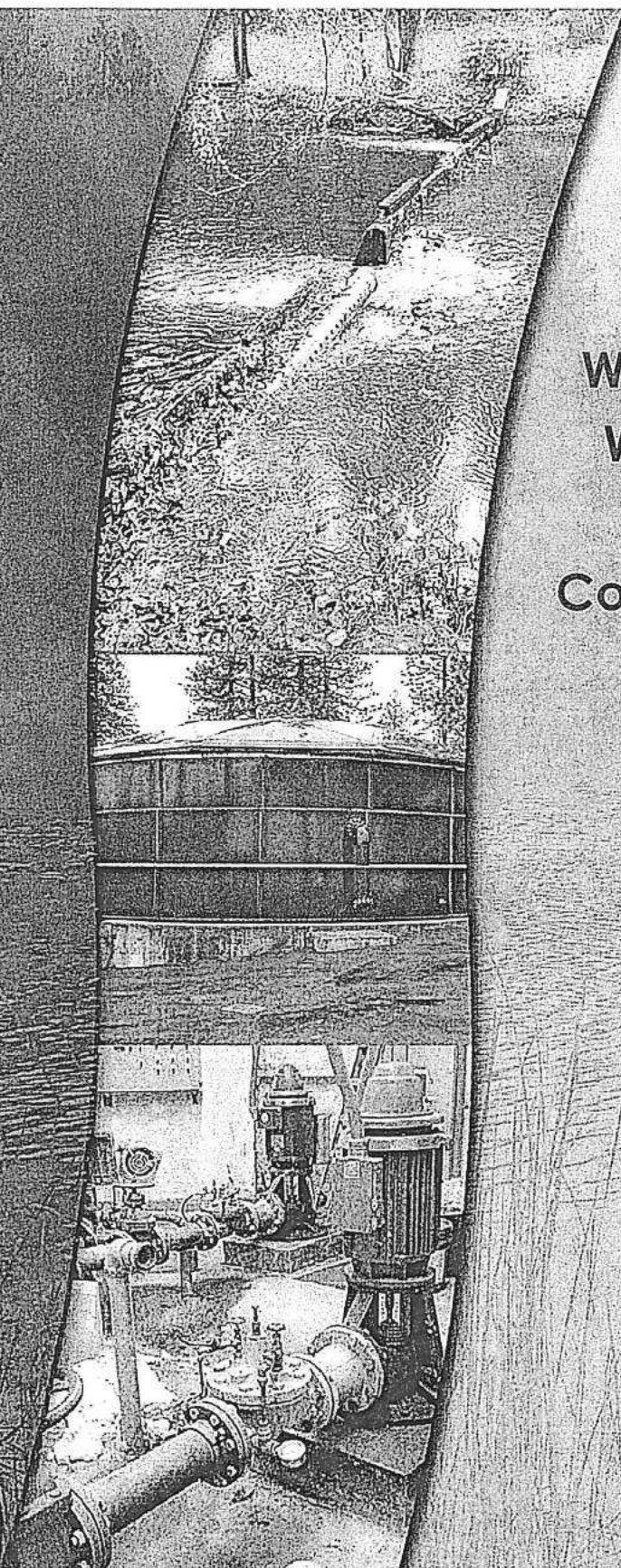
Study A

<i>Funding Source</i>	<i>Expenditure</i>
FY 16-17 Fund 101/Dept 60 Water Resources	\$33,963
FY 16-17 Fund 304 – West Point Water	\$80,000
FY 17-18 Fund 101/Dept 60 Water Resources	\$66,747
FY 17-18 Fund 304 – West Point Water	\$5,808
Total	\$186,518

Study B

<i>Funding Source</i>	<i>Expenditure</i>
FY 16-17 Fund 101/Dept 60 Water Resources	66,037
CPUD Reimbursement/Cost Share	44,025
Total	110,062

Attachments: ECORP Consulting, Inc. Proposal for Mokelumne River Studies
 Fee Estimates for ECORP and KASL
 Resolution 2017- Authorizing a Professional Services Agreement for the Mokelumne River Studies



Proposal for:

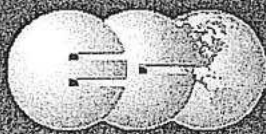
**West Point Water System
Water Supply Reliability
Study and Calaveras
County Mokelumne River
Long-Term Water
Needs Study**

Submitted to:



**Calaveras County
Water District**

December 2016



ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

December 16, 2016

Peter Martin, Water Resources Program Manager
Calaveras County Water District
120 Toma Court
San Andreas, California 95249

RE: *Response to Request for Proposals from Calaveras County Water District – West Point Water System Water Supply Reliability Study and Calaveras County Mokelumne River Long-Term Water Needs Study*

Dear Mr. Martin:

ECORP Consulting, Inc. (ECORP) is pleased to provide three (3) hard copies and one electronic copy of the Technical Proposal and one (1) copy of the Cost Proposal in response to *Request for Proposals for West Point Water System Water Supply Reliability Study and Calaveras County Mokelumne River Long-Term Water Needs Study*. We have carefully reviewed the Calaveras County Water District (CCWD) Request for Proposals received Friday, October 28, 2016 and have developed what we believe is the best approach to effectively serve the interests of the District. Study A and Study B may share the anticipated long-term interdependency on Schaad's Reservoir. Our current understanding is that both CCWD and Calaveras Public Utility District's (CPUD) future water demands could be met from supplies from Schaad's Reservoir. As such, carrying out the West Point Water System (WPWS) Water Supply Reliability Study (Study A) will require an understanding of CPUD future level water demands to be determined under Study B. As requested, our proposal includes fee estimates for Study A, Study B, and Study A & B completed together, and is included in a separate envelope.

The ECORP Team is experienced with comprehensive strategic water resources planning and analysis services covering a wide variety of water resource projects including reservoirs, water supply, hydropower, conjunctive use, irrigation, and operations simulation. ECORP is skilled in all phases of planning and management of multi-disciplinary projects, including water resource economics, natural resources, water rights analysis, regulatory compliance, permitting, litigation technical support, settlement negotiations, water accounting, and political, social, and administrative concerns relating to the use and conservation of water. We specialize in utilizing advanced technologies to understand water resources project operations, hydrology, hydraulics, and environmental factors, with interdisciplinary studies to provide a "big picture" approach to water resources planning, analysis, and management.

The most unique and influential strength of our team lies in our long-standing knowledge and developed expertise with Mountain Counties water resources operations, understanding of water rights, and our ability to use our knowledge and experience to develop creative cost-effective solutions to water supply challenges. This breadth of knowledge is critical since the technical defensibility of this project will hinge on our ability to document and accurately portray the potential effects of AB 142. Specifically, the ECORP Team offers the following strengths that set us apart from other consultants:

- **Water Resources Management/Water Rights:** Our familiarity with Sierra Nevada hydrology and project operations is second to none, as demonstrated by our client list, which includes: Nevada Irrigation District, Placer County Water Agency, Foresthill Public Utility District, Georgetown Divide Public Utility District, Sacramento Municipal Utilities District, El Dorado Irrigation District, El Dorado Water and Power Authority, El Dorado County Water Agency, Grizzly Flat Community Services District, Sacramento Municipal Utility District, and Calaveras County Water District. Our two senior water resources engineers (Jeff Meyer and Michael Preszler) have combined experience of more than 50 years including review of water system operations, new water rights, and preparation of

supporting environmental documents. We understand the value and importance of area of origin principles and we stand with our clients to secure those rights.

- **Dedication:** We are committed to achieving the project goals and fully engaging as a member of the project team. We understand there are several operators within the Mokelumne River watershed competing for limited water supplies. The ECORP Team will represent the interests of CCWD and CPUD (Districts). We will work with the Districts to develop solutions that best serve the Districts' interests.
- **On-Schedule Delivery:** Our proactive addressing of issues, clear and timely presentation of options, and experienced dedicated team will result in rapid and successful project completion.

Our team members are at the forefront of numerous statewide, regional, and local water rights initiatives, dealing frequently with the State Water Resources Control Board (SWRCB) and its staff concerning ecosystem issues, instream flow and temperature regulation, project simulation modeling, hydropower integration, pending water rights applications, and SWRCB mandates.

The ECORP Team includes KASL Consulting Engineers and their long-term involvement with and understanding of local water distribution facility evaluation, development and design. Recognizing the significance of this project, we have developed a management structure to meet the needs of the Districts and ensure efficient project oversight, rigorous quality assurance/quality control, and complete management of the team, keeping the Districts' administrative burden to a minimum.

Thank you for this opportunity to present our proposal. We have reviewed and accepted CCWD's Standard Agreement format as provided in Attachment A of the RFP. If you have questions or would like to discuss our proposal further, please contact me or Jeff Meyer (Project Manager) at:

Hal Freeman, Vice President
ECORP Consulting, Inc.
2525 Warren Drive
Rocklin, California 95677
Phone: (916) 782-9100, Fax: (916) 782-9134
Email: hfreeman@ecorpconsulting.com

Jeff Meyer, P.E., Project Manager
ECORP Consulting, Inc.
2525 Warren Drive
Rocklin, California 95677
Phone: (916) 782-9100 Fax: (916) 782-9134
Email: jeffmeyer@ecorpconsulting.com

Sincerely,



Hal Freeman, Vice President
Attachment(s)

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LIST OF ATTACHMENTS

Attachment A – Resumes of Key Personnel

CONSULTANT QUALIFICATIONS

Background and Experience

The ECORP Team's Project Manager, Jeff Meyer, P.E., will provide the team leadership and close coordination with all parties to successfully execute this effort. He will oversee the ECORP Team members, including KASL Consulting Engineers, Inc., and conduct the primary coordination with the Districts using proactive communication. The depth of his technical expertise is ideally suited for this effort. See below for more information describing how Mr. Meyer and KASL's Jack Scroggs have ideal backgrounds for this project. Michael Preszler, P.E., will assist Mr. Meyer in directing the technical work. Mr. Scroggs will provide direction of the design team and is assigned to evaluate existing facilities and recommend facility improvements and design. See Attachment A for resumes of key personnel.



Jeff Meyer, P.E., Project Manager, Water Rights Task Manager (ECORP). Mr. Meyer is a Registered Professional Engineer with more than 26 years of experience in environmental engineering and water resources management. Currently, Mr. Meyer serves as the Director of ECORP's Water Resources Management Department. His experience includes hydrology development, stream flow gaging, runoff forecasting, water rights, water transfer negotiation, coordination and operational planning, model application development, long term planning, short term planning using position analysis, alternatives evaluation, operation rules development, hydroelectric system evaluation, computer-aided dispute resolutions, and CEQA and NEPA review. Mr. Meyer has used his skillset to assist as a project advisor and analyst in a number of multifaceted projects in the states of California, Kansas, New York and Florida.

Over the last 15 years, Mr. Meyer's focus has been serving the operators in the Mountain Counties region of the Sierra Nevada. Most of Mr. Meyer's project work includes measuring, simulating, or evaluating the movement of water. The projects typically include releases from large reservoirs through canals, pipelines, streams and rivers to meet consumptive demands, generate hydropower, meet water quality goals or meet instream flow requirements. The purpose of these evaluations is to provide an estimate of impacts to the many water users within the affected basins due to changing operations or facilities. The results of these analyses are often used to make multimillion-dollar decisions or to create new policy.

"Jeff and the rest of the ECORP Team are integral to the success of PCWA's operational, stewardship, and regulatory efforts. Their dedication and commitment have served the people of Placer County extremely well."

Andy Fecko
Resource Planning Administrator
Placer County Water Agency



Michael J. Preszler, P.E., California Water Practice Leader, Water Rights Specialist (ECORP). Mr. Preszler is ECORP's California Water Practice Leader with more than 25 years of consulting experience primarily in the Mountain Counties area of the Sierra Nevada Mountains. Mr. Preszler is a registered civil engineer with extensive experience in water right and supply strategic

"For over 20 years, Michael has provided professional, high quality consulting services to the El Dorado County Water Agency. Michael is a Trusted Advisor that always works quickly and efficiently to deliver the highest caliber of service."

Tracey Eden-Bishop
Water Resources Agency Engineer
El Dorado County Water Agency

planning and CEQA review of new and expanded water supply projects. He has led many comprehensive strategic water resources planning and analysis efforts covering a wide variety of multi-disciplinary projects focusing on supplemental surface water supply. He is very experienced in watershed hydrology, water rights, project simulation modeling, economics and operation, and engineering feasibility investigations. In addition to his work in the Mokelumne River watershed, Mr. Preszler's familiarity also stems from having lived in Mokelumne Hill for many years.



Jared Emery, P.E., Senior Hydrologist (ECORP). Mr. Emery has 11 years of professional experience as a water resources engineer for ECORP that includes hydrology development, surface water project simulation model application development, drought analysis, flood frequency analysis, water rights analysis, water quality assessments, and hydroelectric system evaluation. Mr. Emery is well versed in reservoir and channel simulation modeling, alternative operational criteria development, and evaluation in collaborative settings balancing multiple competing stakeholder interests. He has developed project operational evaluations for El Dorado Irrigation District's water supply system including the El Dorado Hydroelectric Project (FERC Project No. 184), the Sacramento Municipal Utility District's Upper American River Hydroelectric Project, and Placer County Water Agency's Middle Fork Hydroelectric Project.



John C. (Jack) Scroggs, P.E., Principal Engineer (KASL). Mr. Scroggs has over 40 years of civil engineering, water resource, and public works engineering experience. He has served as Principal-in-Charge, Project Manager and Lead Design Consultant for numerous water treatment plant wastewater treatment, reclamation, pipeline and booster station projects completed by KASL. His experience includes the design of surface water filtration and ground water filtration improvements. Mr. Scroggs is a Registered Civil Engineer in California and Nevada and a Registered Traffic Engineer in California. He graduated from UC Davis with a B.S. Degree in Civil Engineering in 1973 and was advanced to his Master's Degree in Civil Engineering in 1981.



William (Bill) Ostroff, P.E., Project Engineer (KASL). Mr. Ostroff is a California Registered Civil Engineer with over 14 years of experience with KASL working on water and wastewater systems, hydraulics, treatment, pump station and piping improvements design. He has conducted extensive WaterCAD and SewerCAD network modeling, extended period simulation and surge analysis of water systems and sewer systems and completed hydraulic modeling and tank basin designs for water and wastewater projects. He is well versed with computer modeling and design tools such as MicroStation, Bentley InRoads Suite, CivilStorm, SewerCAD, CulvertMaster, FlowMaster, Hammer, StormCAD and WaterCAD. Bill Ostroff obtained his B.S. Degree in Civil Engineering from Cal Poly, San Luis Obispo.



Octavio Perez, P.E. Project Engineer (KASL). Mr. Perez is a California Registered Civil Engineer with over 12 years of civil engineering design experience. Mr. Perez has conducted detailed design of potable water systems, pump stations, sewage collection, storm drain conveyance, retaining walls, roadway, ADA compliant paths of travel and grading improvements for public works and residential land development projects in California, Nevada, New Mexico, Arizona and Hawaii. He has extensive background and design experience with grading, earthwork and Digital Terrain Modeling. His experience also includes serving as resident engineer on military housing projects in California

and Hawaii. Mr. Perez is a graduate from California State University, Sacramento with a B.S. Degree in Civil Engineering.



Jorge L. Beltran, P.E., QSD/QSP, Project Engineer (KASL). Mr. Beltran is a California Registered Civil Engineer with over 12 years of experience preparing drainage studies, designing storm drain systems and preparing plans for construction of roadways and public works improvements. Jorge has extensive hydrological and hydraulic modeling experience of compliance storms, open channels, floodway encroachment analysis, closed conduit drainage systems, culverts and bridges for public works and residential land development projects in California, Nevada, New Mexico, Hawaii and Arizona.

Consultants

ECORP CONSULTING, INC.



ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

ECORP is a water resources and ecological resources planning and analysis firm composed of an experienced team of engineers, scientists, and resource managers

that have expertise in the services required for successfully and efficiently completing the West Point Water System Water Supply Reliability Study and Calaveras County Mokelumne River Long-Term Water Needs Study. ECORP has approximately 130 full-time consulting employees in four offices located in Rocklin, Redlands, San Diego, and Santa Ana, California.

ECORP is experienced with comprehensive strategic water resources planning and analysis services covering a wide variety of water resource projects including reservoirs, water supply, hydropower, conjunctive use, irrigation, and operation simulation. ECORP is skilled in all phases of planning and management of multi-disciplinary projects, including water resource economics, natural resources, water rights analysis, regulatory

compliance, permitting, litigation technical support, settlement negotiations, water accounting, and political, social, and administrative concerns relating to the use and conservation of water. We specialize in utilizing advanced technologies to understand water resources project operations, hydrology, hydraulics, and environmental factors, with interdisciplinary studies in economics, water law, and natural resource science to provide a “big picture” approach to water resources planning, analysis, and management. ECORP will conduct work on the project using staff from the corporate headquarters conveniently located in Rocklin. ECORP’s water resources experts are highly experienced with the resources of Calaveras County and specifically the Mokelumne River, having worked in this area for decades.

ECORP applies professional planning techniques and technical water resource system analytical methodologies, with special attention to economic concepts, to conduct in-depth analysis that cross many disciplines and present findings to clients and stakeholders in concise, effective presentations. We are skilled at watershed modeling and developing tools necessary to communicate successfully with all ranges of stakeholders and provide information required to make successful decisions.

THE ECORP TEAM PROMISES CALAVERAS COUNTY WATER DISTRICT....

- ▣ Water Resources Management/Water Rights
- ▣ Dedication
- ▣ On Schedule Delivery

KASL CONSULTING ENGINEERS, INC.

KASL Consulting Engineers, Inc. (KASL) is a City of Citrus Heights-based, locally owned, professional engineering, water resource, and land surveying firm. KASL provides civil engineering, water resource engineering and land surveying services to public agencies and to private development interests throughout Northern and Central California and the Western United States.



Founded in 1982, the firm offers expertise in water, sewer and storm drain master planning, water pipeline, pump station, treatment plant and storage improvements, wastewater collection, lift station, force main, treatment, disposal and reclamation facilities, storm drainage conveyance, pumping and detention basins, streetscape improvements, road improvement projects, bikeways, traffic signal design, utility plans, street lighting, computer modeling, mapping and surveying. With support from subconsultants, they also provide public outreach, structural engineering, geotechnical engineering, environmental assessment, pavement rehabilitation analysis and other professional services, as required. Their current staff includes five Registered Civil Engineers and one Registered Traffic Engineer.

For this assignment, KASL would assist the Districts with assessment of existing and future water system demands, evaluate the capacity and condition of water supply, pumping, treatment, storage and distribution networks to meet these existing and projected demands and develop, with the assistance of the Districts staff, identification of Capital Improvement Projects. This task would include preparation of preliminary improvement plans and estimated project cost. With the Districts' authorization, we will assist the Districts prepare and submit grant fund and loan applications to finance needed CIP facilities.

Scheduling

The ECORP Team anticipates a total project timeline of approximately nine months to complete this effort. We understand that AB 142 requires the Secretary of the Natural Resources Agency to submit a report to consider the potential effects of the proposed Mokelumne River designation as wild and scenic to the Legislature and Governor no later than December 31, 2017. Our schedule accommodates this timeline. Preliminary project schedules for both studies are presented in respective study sections and are dependent upon each other.

Quality Control/Quality Assurance

ECORP has a very thorough QA/QC program that not only includes the review of technical reports, but also includes the reviews of the accuracy of scopes of work, cost estimates, schedules, invoices, technical surveys, and the protocols used to conduct those surveys and data analyses. The QA/QC program is the same for each of the types of services required by the contract, in that the Project Manager oversees the entire contract, is primary point-of-contact for the Districts, ensures that the appropriate resources are available and committed to each task, and performs the final reviews on reports and invoices. The quality control review also includes a review of the project accounting reports that are provided on a monthly basis, the invoices, and the cumulative project accounting for the as-needed task orders.

When a project is assigned, the Project Manager will place it on the Master Schedule, and a number will be assigned in ECORP's accounting software by the Project Accountant. The Project Manager will also meet with the Task Managers to determine that the plan for completing the project includes all of the various aspects noted in the scope of work, that the timing of any task is correct, and that the data that will be gathered will

fulfill the scope. Once the task has been completed, the Program Manager will meet with the Task Manager to go over the preliminary results. If some unexpected delay or problem arises (such as a problem with access to a site) that could affect the schedule, the Project Manager will immediately alert the County Project Manager and work with them to resolve the issues.

The Project Manager will ensure that the appropriate staff has been assigned to write the report and that they are aware of the schedule. The Project Manager will be the first person to review the report for content and accuracy. Following the Project Manager's review, the QA/QC Manager, in the role of internal technical editor and peer reviewer, will review the document for completeness and provide comments back to the Project Manager. After those are incorporated, the report will be submitted to the publications department for formatting. The Project Manager will be responsible for ensuring that the report moves through production and editing according to the schedule and that the graphics are completed and accurate. Once the report has been put together as a preliminary draft, then the Project Manager will review the report for accuracy and completeness. After it has been approved by the Project Manager, it will be submitted as a draft to CCWD staff. Incorporation of the CCWD's comments will be the responsibility of the Project Manager. Following the incorporation of their comments, the Project Manager will do one final review of the final report prior to its submittal to the CCWD.

In order to ensure that CCWD has accurate information regarding the accounting for the project, the Project Manager will track of the project, the amount authorized, the amount paid, and the amount remaining for the project. Invoices are prepared by our accounting staff and checked for accuracy by the Project Manager.

EXPERIENCE SUMMARY

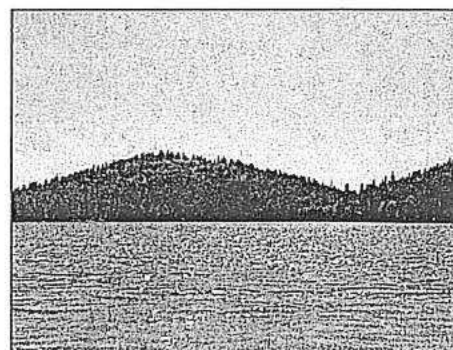
ECORP Consulting, Inc. Projects

ECORP staff has a long history of supporting our Mountain Counties clients with water rights and water supply projects. Our experience includes new water right applications, proving up Pre-1914 rights, water right extensions, petitions for change that include changes in points of diversion, diversion amounts and place of use, negotiating and executing water transfers, and water usage reporting. Our in-house staff has excelled by combining the skills of our Water Resources, CEQA, Cultural and Natural Resources staff to provide the necessary elements for a successful project. The following project descriptions illustrate the breadth and depth of our abilities.

FORESTHILL PUBLIC UTILITIES DISTRICT WATER RIGHTS EXTENSION PROJECT EIR/EIS

Contact: Hank White, Foresthill Public Utilities District, Phone: (530) 367-2511

ECORP is preparing a project-level joint environmental impact report/environmental impact statement (EIR/EIS) for extension for Foresthill Public Utilities District existing water rights pursuant to CEQA and NEPA. The Foresthill Public Utility District is requesting a 49-year extension to its current water right to divert from Sugar Pine Reservoir for M&I and other consumptive uses within its service area. Continued diversion is necessary to meet current and projected future water demand. The EIR/EIS addresses the Water Right Permit extension, completion of unconstructed Sugar Pine Dam Facilities (installation of radial



Sugar Pine Reservoir, Foresthill PUD

gates), and the expansion of Sugar Pine Reservoir storage capacity from 7,000 acre-feet to 10,658 acre-feet. The expansion of the reservoir will ensure sufficient safe yield to meet existing and future M&I and consumptive uses within the Foresthill Public Utilities District’s service area and potential future service area.

PLACER COUNTY WATER AGENCY WATER RIGHTS EXTENSION

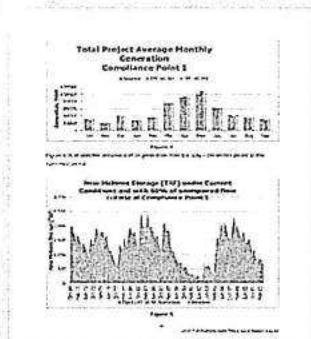
Contact: Andy Fecko, Placer County Water District, (530) 823-4873

Placer County Water Agency (PCWA) holds multiple permitted water rights on the Middle Fork American River watershed. Because those permits expired in 2015 and PCWA has not fully developed the use of those rights, they are filing for time extensions to allow for the water to be put to beneficial use. ECORP is supporting the water rights filing for extension of time.

The cornerstone of ECORP’s evaluation is a project simulation model used to estimate environmental effects due to the planned development of the existing rights. The simulation model contains operational flexibility bounded by the water rights permits, FERC License requirements and agreements. The model uses hydrology with a study period of 1922 – 2003 and operates on both a daily and hourly time step. This study period was selected to correspond with CalSim II which is used to evaluate cumulative effects downstream. The hydrology information was developed using ECORP’s GIS capabilities to evaluate watershed areas, elevation, and precipitation bands. Output from the modeling is used to support the environmental analysis. This method allows the ECORP Team to develop hydrology data where no measured data exists.

Dedication

ECORP's dedication and close client coordination proved invaluable in developing the OASIS water operations simulation model.



The image contains two charts. The top chart is a bar graph titled 'Total Project Average Monthly Generation Calculated at Point 2' showing monthly generation values. The bottom chart is a line graph titled 'New Reservoir Storage (EAF) under Current Conditions and with 100% of Completed Plans' showing storage levels over time.

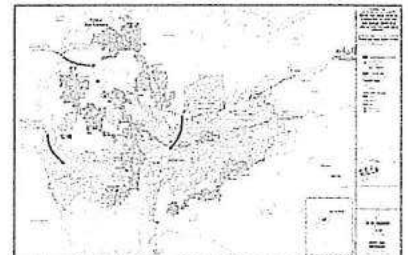
EL DORADO WATER & POWER AUTHORITY WATER RIGHTS EIR

Contact: Ken Payne, El Dorado Water & Power Authority, Phone: (530) 621-5392

ECORP is working with the El Dorado Water & Power Authority on this multi-year water rights project that is seeking to secure 40,000 acre-feet of new water supply originating in the American River watershed needed to meet projected population growth in El Dorado County. ECORP staff has been involved in this project since its inception in 2004. A Draft DEIR was completed and a subsequent DEIR is currently being developed to accommodate modifications to the project description. ECORP is responsible for project strategic planning, project simulation modeling, and development of the DEIR. The work effort also includes a Water Availability Analysis. The over-all effort is used to support the water rights applications, CEQA review, and ongoing water rights protest resolution process.

Proactive Solutions

ECORP combined our technical expertise, dedication, and close coordination to anticipate and proactively address potential stakeholder conflicts.



The image is a map showing the watershed area for the El Dorado Water & Power Authority project, with various geographical features and project boundaries indicated.

CALAVERAS COUNTY WATER AGENCY WATER RIGHTS

Contact: Peter Martin, Calaveras County Water District, Phone: (209) 754-3094

ECORP has a long history of supporting CCWD with water rights and water supply technical support and strategy development. The District has used ECORP's Director of Water Resources, Jeff Meyer, as a trusted advisor to assist the District in the defense and expansion of its water supplies and water rights. The following is a list of projects, both on-going and completed by ECORP.

- Technical Support of NCPA, UWPA and CCWD Water Rights Memorandum of Understanding
- Calaveras County Water District Water Rights Usage Reporting
- Evaluation of proposed SWRCB Delta Flow Criteria on North Fork Stanislaus Project operations
- North Fork Stanislaus Project Power Rights Extension
- North Fork Stanislaus Project Consumptive Water Rights Extension
- North Fork Stanislaus Project Water Transfer Strategy Development
- San Antonio Creek Water Rights Strategy Development

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

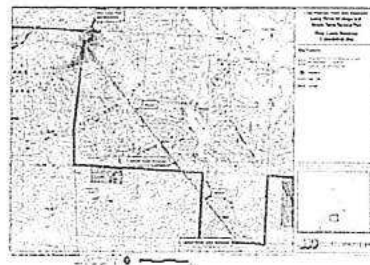
Contact: Dave Stoldt, General Manager Monterey Peninsula Water Management District,
Phone: (831) 658-5600

The Monterey Peninsula Water Management District (MPWMD) is in the midst of a highly complex challenge as it works toward implementing short- and long-term water resource solutions to meet existing and future water demands in its service area. Numerous public trust resource agencies, stakeholders, and other vested parties along with the many regulatory and institutional requirements form the backdrop of this intricate water resources governance framework.

ECORP supported MPWMD addressing various important matters, including project alternative development, new and existing reservoir and Carmel River simulation modeling, and development of the Los Padres Dam and Reservoir Long-Term Strategic and Short-Term Tactical Plan. This effort helped MPWMD focus and understand current issues and serves as both a short- and long-term guidance document to strengthen MPWMD's ultimate decision-making discussions concerning water supply reliability.

Technical Expertise

ECORP fast-tracked this effort using technical expertise to provide an innovative approach for managing the Carmel River watershed.

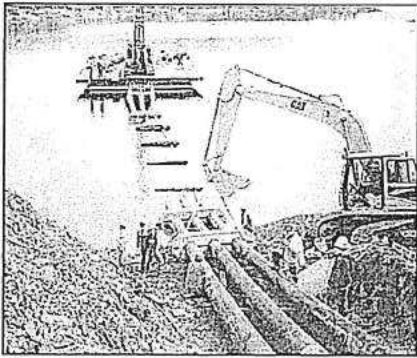


KASL Consulting Engineers, Inc. Projects

COPPER COVE RAW WATER MAIN, PUMP STATION AND WATER TREATMENT PLANT

Contact: Charles Palmer, District Engineer, Calaveras County Water District, Phone: (209) 754-3543

The Copper Cove Raw Water Main and Pump Station Project included engineering design and construction management services for two pump stations (Stage 1 and Stage 2) together with approximately 1,000 feet of 16-inch diameter HDPE pipe and some 6,500 feet of 24-inch diameter Ductile Iron Pipe. The Stage 1 pump

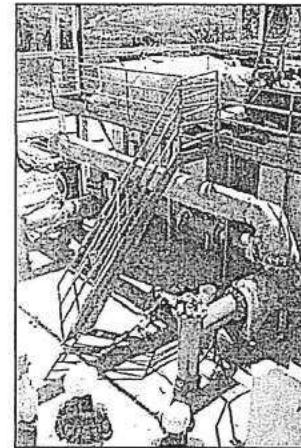


station included three 60 horsepower submersible pumps and motors for water intake from Tulloch Reservoir. The purpose of the project was to convey up to 4 million gallons per day (MGD; 2,800 gpm) of raw water to the new Copper Cove Water Treatment Plant initially, with ultimate delivery of 8 MGD.

Prior to the preparation of improvement plans and specifications the scope of work included evaluation of alternative pump station locations and pipeline alignments. Alternatives were evaluated for engineering feasibility, cost and environmental impact mitigation. A

Project Engineering Report was prepared to secure USDA funding for the raw water facilities and for the Copper Cove Water Treatment Plant. A hydraulic network model of the Copper Cove supply, storage, booster pumping and piping system was prepared to help design the raw water main, pump station and treatment plant improvements.

The scope of the water treatment plant project included the preparation of a Pre-Design Report which evaluated alternative water treatment plant processes and capacities to meet the needs of the Copper Cove Service Area. The new plant was designed by KASL to replace an existing 2 MGD, direct filtration facility. Alternative water treatment plant equipment was pilot tested. Ozonation of the raw surface water supply was selected to comply with Disinfection By-Product (DBP) and Long Term Enhanced Surface Water Rules (LT2) for the removal of cryptosporidium.

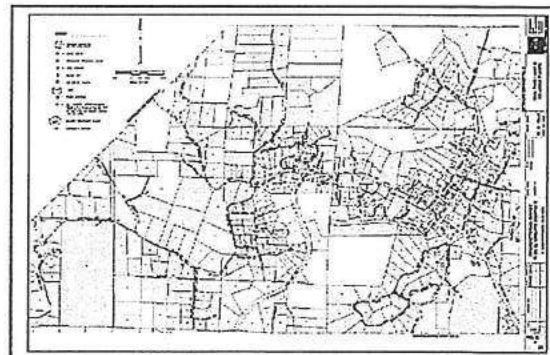


The Copper Cove Plant was designed and constructed as a 4 MGD plant with future expansion to an 8 MGD plant. KASL provided construction management services including pre-bid services, review of submittals, responses to RFIs and quality control services. The Copper Cove WTP includes recovery for backwash water, clearwell, finished water pump station and pump building, standby power and transmission improvements.

GEORGETOWN DIVIDE PUBLIC UTILITY DISTRICT WATER SYSTEM RELIABILITY STUDY AND CAPITAL IMPROVEMENT PROGRAM

Contact: Steven Gau, Operations Manager, Georgetown Public Utility District, Phone: (530) 333-4356

In November 2002, KASL completed the Water System Reliability Study and Capital Improvement Program for Georgetown Divide Public Utility District (GDPUD). The scope of this project included GPS and conventional mapping of over 70 miles of raw water ditch improvements and over 200 miles of the GDPUD treated water distribution network. KASL identified existing and projected water demands by pressure zone (+ 24 zones served by two treatment plants) and prepared system performance and improvement standards.



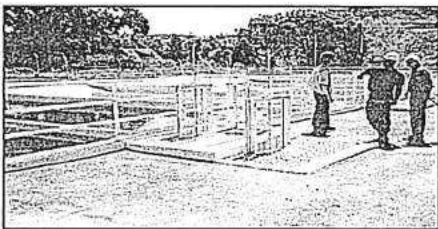
Network distribution and extended period simulation models were completed for the purpose of identifying and prioritizing improvements to the treated water transmission, distribution, pumping and storage improvements to serve both existing and projected demands.

A Capital Improvement Master Plan was prepared as a product of the Reliability Study. The Capital Improvement Master Plan included preliminary design of recommended project improvements, estimated project costs and projected implementation schedule. Since completing the GDPUD Network Model, KASL has, on numerous occasions, applied the GDPUD network model to evaluate network demands and the system improvements which would be required to adequately serve new residential and commercial projects proposed within the GDPUD Service Area.

Jack Scroggs served as Project Manager. KASL survey crews provided the field surveys needed to develop system maps and the hydraulic network.

JENNY LIND WATER TREATMENT PLANT AND JENNY LIND WATER TREATMENT PLANT EXPANSION

Contact: Charles Palmer, District, Engineer, Calaveras County Water District, Phone: (209) 754-3543

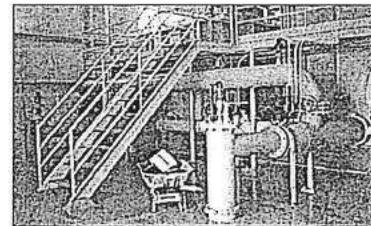


KASL prepared the improvement plans for the Jenny Lind Water Treatment Plant (WTP) expansion from 1 to 2 MGD and then followed this original project with the design and construction management of plant expansion to 5 MGD capacity.

The 2 MGD plant using two, 1 MGD Microfloc treatment units, was designed to provide the initial WTP expansion. After operating for approximately 10 years as a 2 MGD plant the Jenny Lind plant was

further expanded to 5 MGD. Pre-ozonation was added with the plant expansion. The 2 MGD plant continued to operate and serve the Jenny Lind community during the plant expansion process.

The 5 MGD plant includes two clearwells, backwash recovery basins, standby power and finished water pumping. The Jenny Lind WTP delivers treated water via a 16-inch diameter, one-mile long transmission main to a 2 MG capacity storage tank, booster pumps and a 1 MG capacity storage tank which serves higher elevation demands. Jenny Lind Transmission Main, Booster Pump and Storage Tank improvements were also designed by KASL.



INITIAL STUDY AND INITIAL STUDY UPDATE MIDDLE FORK DITCH PIPELINE AND HYDRAULIC POWER FEASIBILITY STUDY

Contact: Donna Leatherman, General Manager, Calaveras Public Utility District, Phone: (209)794-9442

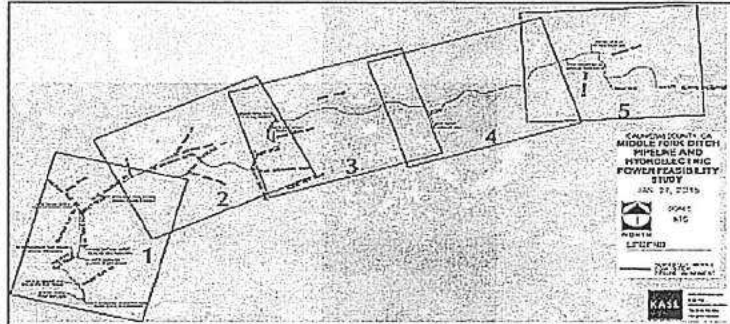
In 2001, and again in 2014, KASL conducted an Initial Study for the CPUD to evaluate the feasibility of transferring, via a new pipeline, water from the Middle Fork Mokelumne River and Schaad's Reservoir, to the South Fork Mokelumne River and Jeff Davis Reservoir. The benefits of implementing this project include:

- ❑ Delivery of a more reliable water supply with little or no pumping to the CPUD reservoir at Jeff Davis Reservoir
- ❑ Significant reductions or elimination of pumping costs, reduction in GHG emissions and reduced operational costs required to lift water from the South Fork Mokelumne River to Jeff Davis Reservoir
- ❑ Realization of significant hydroelectric,
- ❑ ("green power") benefits by making valuable use of the ± 700 foot drop in elevation from Schaad's Reservoir to a new 1 MW hydro power facility at the South Fork Mokelumne River
- ❑ Improved water supply reliability for CPUD customers

- ▣ Improved water quality for CPUD customers
- ▣ Reduction of water conveyance losses with a pipe system

The constructability of the proposed Middle Fork pipeline is significantly enhanced with the selection of the Middle Fork Ditch as the new pipeline route for approximately 16,000 lineal feet of the total, 28,870 lineal foot pipeline. A 30-inch diameter pipeline is recommended in the Initial Study with a design flow of 25 cfs. Approximately 80% of this total (20 cfs) would be discharged through a new South Fork hydro facility. The remaining 20%, (5cfs) would be routed, by gravity head, to Jeff Davis Reservoir using the existing 20-inch diameter pipeline now used to pump water from the South Fork Pump Station.

In the 2014 Initial Study, project costs were estimated at approximately \$11 million. Estimated hydroelectric power revenues were estimated at \$250,000 per year and reductions in pump operating costs estimated at \$125,000 per year. These conservatively estimated revenue and cost saving



projections would retire an \$11 million debt in 30 years. The Middle Fork Ditch Pipeline Project is, however, eligible for a number of grants and low interest loans. The project would serve Disadvantaged Communities (DAC) in the CPUD service area and meet the MokeWISE Program criteria for feasibility, constructability, water conservation, water quality, clean energy and GHG reduction.

WORKPLAN AND SCHEDULE

The ECORP Team will initiate the project with a kick-off meeting to introduce our project management team to CCWD staff responsible for the WPWS Water Supply Reliability Study. During this meeting we will firm up milestone dates to update District staff and review progress, results and findings. In addition, the ECORP Team will request that the District staff identify administrative needs to streamline monthly project updates, scheduling and invoicing. Our preliminary project schedules for Both Study A and Study B illustrate a pathway to completion that could be followed depending upon the results of the Review of the Current information and data. The proposed schedule illustrates reasonable timelines to complete each task, but the ECORP management team anticipates schedule modifications to accommodate District needs. A detailed description of the workplan is provided below.

Study A: West Point Water System Water Supply Reliability

The purpose of Study A is to provide CCWD with a high-level planning document to meet the needs of the future and to complete the extension of the Bear Creek Water Right Permit No. 15452.

TASK 1.0 REVIEW CURRENT INFORMATION AND DATA

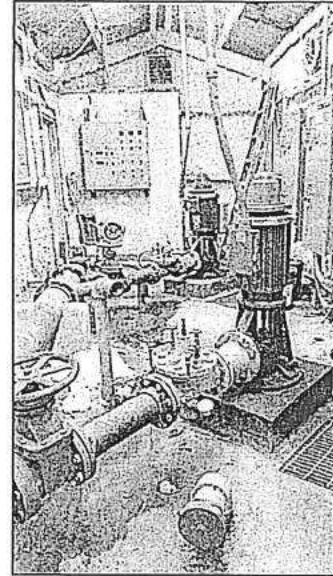
The ECORP Team conducted a preliminary site visit with staff from the Districts on December 8, 2016 to save time and money, and to better understand the condition and needs of the project facilities. In addition, our team has already begun reviewing available information in preparation for the development of this submittal. There are three primary resources available including data and documentation, a site visit, and the Districts' staff. The specific data interests are discussed below.

Data and Document Review

The ECORP Team has begun gathering information and reviewing the functionality of the facilities, water rights, and factors that will influence potential future water demand. The understanding developed from this process has allows us to develop a well-informed, tailored and efficient workplan.

Site Visit

As suggested in the RFP, the ECORP Team felt that a site visit was valuable to fully understand the needs of the project. On December 8, 2016, the team met with the Districts' staff to tour some of the WPWS facilities in order to better understand the project and to prepare a comprehensive submittal. During the site visit, our team became aware of recent improvements to the West Point Water Treatment Plant, and identified where improvements could be made to the Middle Fork Pumping Station and Acorn Booster Pumps. The ECORP Team also toured Schaad's Reservoir and power plant to see the facilities and understand the operational limits of the generating units and how the minimum flow requirements are met. Discussions with the Districts' staff assisted with our understanding of when and how operational decisions are made. The information gathered during the site visit will go into the long-term simulation model, planned for the evaluation of the water supplies and discussed in Task 2.0.



*Middle Fork Pumping Station,
December 2016*

Additional Data Needs

The ECORP Team will work closely with the Districts' staff to obtain the necessary data and information to perform the study and to construct the planning model so that it correctly reflects CCWD WPWS operations and CPUD Schaad's Reservoir operations. As the simulation model is developed, ECORP staff may contact the Districts' staff to verify information, ask questions or confirm assumptions. The Districts' staff will be contacted to assist in developing information where data gaps exist.

TASK 2.0 ASSESSMENT OF CURRENT INFRASTRUCTURE AND WATER SUPPLIES

The Districts' wish to develop a comprehensive assessment of the current infrastructure and water supplies as it prepares plans for the development of water supplies to meet potential future demands. There are several elements needed for this comprehensive evaluation. Review and inspection of current facilities, research of existing water rights, and development of a long-term planning model of the system are all elements needed for the assessment. The following discussion describes how the ECORP Team proposes to perform the assessment.

Task 2.0A: Assessment of existing and future demand factors and supplies; margins of safety

CCWD has recently completed Master Planning efforts for the West Point Water System. Water treatment, treated water storage and treated water distribution improvements have been constructed consistent with the West Point Water System Master Plan which includes a projected buildout demand of 1 MGD. Based on the historic and projected rate of new service connections and recent maximum day demands the 1 MGD buildout demand appears to be adequately conservative and should meet the treated water demands of the

communities of West Point, Wilseyville, and Bummerville for the foreseeable future. We will verify this demand projection and the resulting margins of safety with CCWD staff.

The West Point system is served by a gravity diversion from the Bear River. A 16-inch diameter HDPE gravity pipeline was recently constructed from the diversion to the Regulating Reservoir. The Bear River supply is supplemented with the purchase of water from CPUD pumped from the Middle Fork Mokelumne River. During summer months, CCWD regularly operates the Middle Fork Pump station to meet the West Point system demands. During recent drought periods, nearly all of the West Point raw water demand was supplied by Middle Fork Mokelumne River water purchased from CPUD. The capacity of the Middle Fork pump station is 200 gpm, far below existing and projected maximum day demands of the West Point Water System.

Raw water is stored at CCWD's Regulating Reservoir before it is delivered to the West Point Water Treatment Plant. The capacity of the Regulating Reservoir is reported to be 50 acre-feet. There have been no recent surveys to determine the actual usable storage available at this location.

The focus of this Task will be the assessment of the West Point raw water supply control, delivery and storage system needed to reliably meet buildout demand of 1 MGD projected for the West Point, Wilseyville, and Bummerville Communities.

Task 2.0B: Assess the general state of water supply, water quality, and water infrastructure assets

On December 8, 2016 an initial review of West Point Water Supply facilities was conducted with the Districts' management and operations staff. Based on our initial review, the following areas of water supply and water infrastructure assessment will be included in Task 2.0B.

Evaluation of alternative raw water intake improvements at the Middle Fork Pump Station; alternatives and recommended raw water collection improvements, preliminary designs and estimated costs will be prepared to improve the reliability, safety and water quality features of the intake facilities.

Replacement of the existing pump station structure, pump controls, pump equipment and piping manifolds; the existing pump station floor is several feet below flood stage levels and must be raised to ensure the reliable, ongoing, operation of pumps, motor and controls. At 200 gpm capacity, existing pumps are undersized and should be replaced with redundant pumping systems, each with a minimum \pm 700 gpm (1 MGD) capacity. The pump station improvements shall be designed to provide a single lift to the Regulating Reservoir or to the West Point Treatment Plant eliminating the need for the existing Acorn Booster Pump Station.

The existing Middle Fork discharge main is only 6 inches in diameter. Alternative designs with a larger diameter force main will be conducted to determine the optimum combination of Middle Fork Pumps and pipeline improvements needed to lift the Mokelumne River water \pm 500 feet (plus friction losses) to supply the West Point System. Alternative pipeline routes will be assessed with District staff. Recommended force main pipe alignment, material, appurtenances and costs will be submitted to the District for review and approval.

The Middle Fork Pump Station structure must be replaced with a suitable facility with floor elevation safely above the Middle Fork Flood Stage. Preliminary pump station design plans will include size, layout, pumps, controls, intake and discharge manifold and standby power compatibility. Alternative and recommended pump station layouts, elevations and costs will be provided to the District for review.

An all-weather Middle Fork Pump Station access and security improvements will be evaluated with recommended improvements submitted for District approval as part of Task 2.0B.

Currently the Middle Fork Pumps are operated manually with no direct communication or controls available to / from the West Point Water Treatment Plant operators. SCADA system improvements with automatic pump controls and alarm condition relays will be assessed. Existing topography prevents line of sight radio communication, therefore, a “hard wire” system using fiber optic cable placed in the same trench with the new force main pipeline will be assessed with recommendations presented to the District.

Task 2.0B will include a bathymetric survey of the Regulating Reservoir to determine the existing, usable, storage available. There is value to increasing the capacity of this facility. Consistent with the assessment of water system plans and the prioritization of improvements conducted as part of other tasks of this Study, we will determine the capacity of the Regulating Reservoir to most effectively meet the projected needs of the District. This determination will include consideration of other improvements such as repair / replacement of Wilson Reservoir. With this analysis, improvements recommended to increase the capacity of the Regulating Reservoir either by dredging and “deepening” the upper reaches of the reservoir or by increasing the spillway elevations will be developed and evaluated with the District. Improvements to effectively maintain raw water quality in storage and to improve the Regulating Reservoir discharge system with a floating / screened outlet pipe connection will be presented to the District.

Bear River diversion structure will be included in the scope of work. While the Bear River gravity supply pipeline has been recently replaced, consideration regarding improving the long term reliability of the intake structure and SCADA monitoring of the existing intake facilities will be reviewed and cost estimates prepared to assess prioritization of this component of the raw water supply.

The list above identifies known areas of potential improvement. Additional areas improvement may be identified as the study progresses. These will be addressed as the study progresses.

Task 2.0C: Assess the adequacy of the various sources and water supplies, potential future demands

The ECORP Team will assess the adequacy of the various sources of water supply for the WSPS. Currently, the CCWD has essentially three sources of water. They are Wilson Lake storage, located on Bear Creek, Bear Creek direct diversion, and an agreement with CPUD to divert up to 200 acre-feet from the Middle Fork Mokelumne River. The lake has a capacity of 25 AF with leaks limiting the ability to store water above the dam. Dam repair will be needed to take advantage of any water supply that could be developed. CCWD owns the dam and water rights associated with the dam are in question requiring further investigation.

The District currently diverts water from Bear Creek under Water Right Permit #15452. The Bear Creek right allows direct diversion of up to 4 cfs and 150 acre-feet per annum by storage at the regulating reservoir. In most years, Bear Creek does not provide enough flow during the summer months to meet the District's demands. As a result, the District has an agreement with CPUD to purchase up to 200 acre-feet of water annually from the Middle Fork Mokelumne River supported by storage withdrawals from Schaad's Reservoir.

Cursory review of CPUD water rights for Schaad's Reservoir indicates that Pre-1914 claim #S10773 was filed in 1982 with the SWRCB. The claim reports 1,800 acre-feet of storage at Schaad's Reservoir and 2.5 cfs of direct diversion at Middle Fork Ditch.

As part of this study, the ECORP Team will estimate potential future demands in Calaveras County. Demands will be driven not only by population growth, but also cannabis cultivation, particularly after the recent

passage of Proposition 64. To support the development of a future demand forecast, the ECORP Team met with Caslin “Caz” Tomaszewski, Executive Director of the Calaveras Cannabis Alliance. Caz provided the team with specific details regarding crop water demands and anticipated cultivation industry growth within Calaveras County. The ECORP Team will use this information and the Calaveras County Draft General Plan as a guide to estimate water demand growth within Calaveras County.

This preliminary water supply information and demand data will be thoroughly investigated by the ECORP Team as part of this study. The ECORP Team plans to develop watershed hydrology and a simulation model to test the reliability of the supplies, infrastructure and ability to meet the anticipated demand determined in this task.

Task 2.0D: Develop, with the assistance of CCWD and CPUD staff, a list of potential capital improvement projects for the WPWS, including some that may not have been considered in the prior 2004 HDR Report.

Task 2.0D focuses on development of a comprehensive list of capital improvements to meet the potential future demand. The table below summarizes the status of the projects identified in the HDR Report.

Summary of HDR Recommended Capital Improvements	Completed	Outstanding
Replacement of Wilson Dam		X
Bummerville Storage Tank and Fire Flow Pump	X	
Downtown West Point Distribution System	X	
Upper Northwest West Point Pipelines		X
Replacement of Clearwell Tank and Finished Water Pumps	X	
Bear Creek Diversion SCADA	X	
Mokelumne River Intake and Pump Station		X
Bummerville Pipelines	Partial	
Regulating Reservoir		X
Wilseyville Pipelines		X

The ECORP Team has extensive experience in developing water supplies for its Mountain Counties clients and will use its creativity to identify and meet the needs of the District. Along with the projects in the table above, CCWD, the ECORP Team, and possibly CPUD will work together to develop conceptual ideas that can be tested with the operations simulation model to identify which projects have the potential for moving forward with further evaluation based upon the parameters determined in Task 3.0.

TASK 3.0 ESTABLISH DESIRED PARAMETERS FOR FULL EVALUATION OF WPWS WATER SUPPLIES

The ECORP Team will work with the CCWD to establish parameters for evaluation of the WPWS potential water supply improvement projects identified in Task 2.0. The most commonly used parameters are project cost, feasibility, quality, reliability, environmental considerations, permitting requirements and social

pressures. Other parameters may be added as the process moves forward. Because of the unique, cooperative nature of this study, regional benefit and support should also be considered.

ECORP staff has extensive experience with the SWRCB staff. Our experience indicates development of joint projects with CPUD may be advantageous. The SWRCB has repeatedly encouraged development of regional projects and support when there is regional need for water supply. Study B: Calaveras County Mokelumne River Long-Term Water Needs Study will be looking at long term water supply needs for Calaveras County. An enlarged Schaad's Reservoir could be the cornerstone of a supply that could serve both CCWD's and CPUD's long term regional needs.

Once the desired parameters have been determined, the ECORP Team will document the decisions in a memorandum and distribute to the Districts' staff and the technical team.

TASK 4.0 EVALUATION OF SUPPLIES AND PROJECT PRIORITIZATION

The proposed operations simulation model will be used to evaluate water supplies and potential improvements identified by this Study.

Baseline Study

The operations modeling process begins with a baseline study that represents the current facilities and operations of the system. Typically, an operations model will include hydrology development, current reservoir operational rules, pipeline capacities, pumping station capacities, water treatment plant capacities, minimum flow requirements, demands, permits, licenses and agreements. Before the baseline is completed, ECORP staff will calibrate the model with recent historic (measured) operations. Once the model performs well at the current level of development, it will be ready for evaluation of alternatives.

Alternatives

Once the baseline is established, alternatives can be developed by changing the assumptions contained in the baseline. One of the most important alternatives for this project would be to replace the current demands in the baseline with future demands. The purpose of the first alternative is to identify whether the current facilities can deliver the supply needed to meet the future demands. Results may identify where a pump, pipeline or water treatment facility may need to be added or resized, or the need for modification or addition of water rights to support a new water supply. Facility improvements can be tested with the model to examine the feasibility of various improvements. Elements outlined in Task 2.0 will develop critical information needed to inform the operations simulation model and ultimately assist with the development of the prioritized list of Potential Capital Improvement Projects.

Key to the analysis is the fundamental need to meet the anticipated demand. The modeling will identify whether the proposed supplies and improvement projects can accomplish this task. Modeling results will indicate whether the supplies can meet the anticipated demands. The benefit of each project will be identified and anticipated costs will be developed under this task. Once the cost/benefit analysis has been completed, the projects will be prioritized. Prioritization will be done according to the parameters developed in Task 3.0. The results of this task will be clearly explained and included in the Task 5.0 Draft Study.

TASK 5.0 DRAFT STUDY

Once Tasks 1.0 through 4.0 are completed, the team will have a completed list of potential improvements. The Draft Study will summarize the findings of the analysis and provide the CCWD with information necessary

to guide the Capital Improvement Program. The Draft Study will summarize all information gathered and analyze, prioritize and document as requested below:

- ☐ Capital improvement project list, project descriptions, and budgetary cost estimates and summary of overall capital improvement program
- ☐ Preliminary engineering analysis to confirm capital project requirements, develop preliminary capital project scoping and basic/conceptual design parameters for defining and developing capital project descriptions.
- ☐ Prioritization, phasing and implementation schedule for the recommended program of capital improvement projects
- ☐ Evaluation of source water reliability and seasonal variations and drought implications, anticipated/available diversion amounts, status of water rights, issues that could impact water rights and available diversions.
- ☐ Diversion source water quality issues and potential degradation of water quality in storage

The ECORP Team will provide the CCWD with an electronic copy for review.

TASK 6.0 FINAL STUDY

Comments made by the Districts will be addressed and included in the Final Study document. As requested, the ECORP Team will provide 10 hard copies, one MS Word copy and one PDF copy.

TASK 7.0 PROJECT MANAGEMENT AND MEETINGS

The ECORP Team will be led by our designated Project Manager, **Jeff Meyer, P.E.**, who will be responsible for day-to-day direction of the project team and/or coordination with the Calaveras County Project Manager. **Michael Preszler, P.E.**, will be responsible for assisting Mr. Meyer in project development and technical analysis. **Jared Emery, P.E.**, will provide technical support of surface water operations. **Jack Scroggs, P.E.**, will lead the infrastructure evaluation with technical support from **William (Bill) Ostroff, P.E.**, **Octavio Perez, P.E.** and **Jorge L. Beltran, P.E.** Mr. Meyer will use a combination of tools and resources to provide effective cost and schedule control. ECORP provides him with forecasting and staff management tools that allow for a quick review of actual time charged versus forecasted time and allow for adjustments based on the status of the project. These management tools allow him to monitor quality control activities, identify conflicts between deliverables within the office, and provide team members a review of their monthly workload. Mr. Meyer will also be able to maintain a one-month and three-month look-ahead calendar of key milestones, submittals, and meetings to ensure the project remains on schedule. We intend to use a similar report for this project to update the CCWD staff with regard to past and upcoming work progress, QA/QC activities, and schedule and budget status.

For the purposes of our cost estimate, we assume preparation of monthly status reports will occur, including an updated project schedule. CCWD staff has requested that we attend a kick-off meeting, various review meetings, and present updates to the District's Engineering Committee of the Board of Directors and one formal presentation to the full Board at a regular, public meeting. For the purposes of cost estimating, we'll assume two meetings with CCWD staff and two presentations to the CCWD Board.

PRELIMINARY PROJECT SCHEDULE: STUDY A

West Point Water System Water Supply Reliability Project Milestones	
Milestones	Date
Notice to Proceed	January 2017
Task 1.0 Review Current Information and Data Completed	March 2017
Task 2.0 Assessment of Current Infrastructure and Water Supplies Completed	May 2017
Task 3.0 Establish Desired Parameters of Full Evaluation of WPWS Water Supplies Completed	June 2017
Task 4.0 Evaluation of Supplies and Project Prioritization Completed ¹	July 2017
Task 5.0 Draft Study Completed	August 2017
Task 6.0 Final Study Completion	September 2017
Task 7.0 Project Management and Meetings	Ongoing

Study B: Calaveras County Mokelumne River Long-Term Water Needs Study Scope of Services

The purpose of Study B is to guide the Districts in supplying information and recommendations to the Secretary of the Natural Resources Agency (Secretary) for its report under AB 142 and to provide a long-term planning document to assist the Districts in meeting their water supply objectives. AB 142 requires the Secretary to study and submit to the Governor and the Legislature a report that analyzes the suitability or non-suitability of the proposed designation of the segments of the Mokelumne River as Wild and Scenic. The following segments of the North Fork and main stem Mokelumne River are designated for potential addition to the Wild and Scenic system:

- (a) The North Fork Mokelumne River from 0.50 miles downstream of the Salt Springs 97-006 Dam to 0.50 miles upstream of the Tiger Creek Powerhouse.
- (b) The North Fork Mokelumne River from 1,000 feet downstream of the Tiger Creek Afterbay 97-105 Dam to State Highway Route 26.
- (c) The North Fork Mokelumne River from 400 feet downstream of the small reregulating dam at the outlet of the West Point Powerhouse to the confluence of the North and Middle Forks of the Mokelumne River.
- (d) The main stem of the Mokelumne River from the confluence of the North and Middle Forks to 300 feet upstream of the Electra Powerhouse.
- (e) The main stem of the Mokelumne River from 300 feet downstream of the small reregulating dam downstream of the Electra Powerhouse to the Pardee Reservoir flood surcharge pool at 580 feet elevation above mean sea level.

The Districts' current Mokelumne River Basin supplies originate from Bear Creek, Middle Fork Mokelumne River, Licking Fork Mokelumne River and South Fork Mokelumne River. Changes in diversions from these streams could only affect sections (d) and (e) as shown in Figure 1, below.

¹ If the ECORP Team is selected for Study A and not Study B, we anticipate the need to receive information about Long-Term Water Demand Needs at Schaad's Reservoir from Study B.. This information is critical to optimize CCWD water supply from the Middle Fork Mokelumne River.

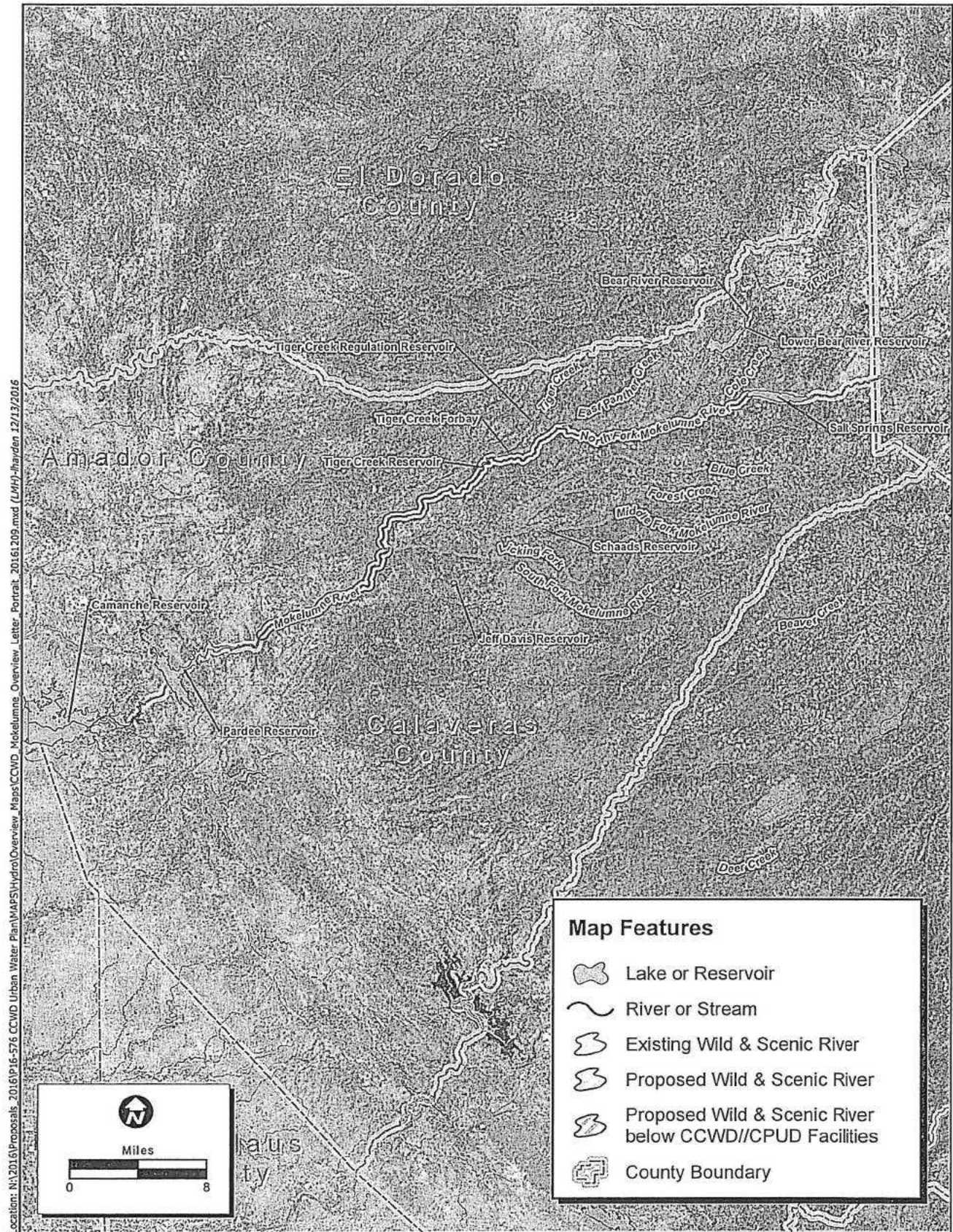


Figure 1. Mokelumne River

P16-576 CCWD Water Needs Studies

TASK 1.0 PROJECT MANAGEMENT AND MEETINGS

Our management approach will be the same for both Study A and Study B. Please see Section 7.0 of Study A for a detailed description.

For the purposes of our cost estimate, we assume preparation of monthly status reports will occur, including an updated project schedule. The District has also requested that we attend a project kick-off meeting, various review meetings, present updates to the District's Engineering Committee of the Board of Directors, and provide one formal presentation to the full Board at a regular, public meeting. For the purposes of cost estimating, we have assumed two meetings with the District staff and at least two formal presentations to each District.

TASK 2.0 REVIEW OF CURRENT INFORMATION AND DATA

The ECORP Team has begun gathering and reviewing available data and reports and identifying potential water supply projects that could serve both CCWD and CPUD service areas. The team has also visited project facilities in preparation of this submittal to better understand the system operations and the capabilities of existing facilities. Our early efforts include review of water rights and meeting with the Executive Director of the Calaveras Cannabis Alliance to identify potential demands associated with cannabis cultivation.

Members of the ECORP team have previously studied the feasibility of constructing a pipeline along a portion of the Middle Fork Mokelumne River ditch. There are significant benefits of this proposal including providing alternative, reliable, water supply to CPUD Reservoir at Jeff Davis Reservoir, improved Mokelumne River water quality and the reduction of water conveyance losses from the Middle Fork. Relevant reports, including the Mokelumne/Amador/Calaveras Integrated Regional Water Management Plan and the Calaveras County Draft General Plan, will also guide our efforts.

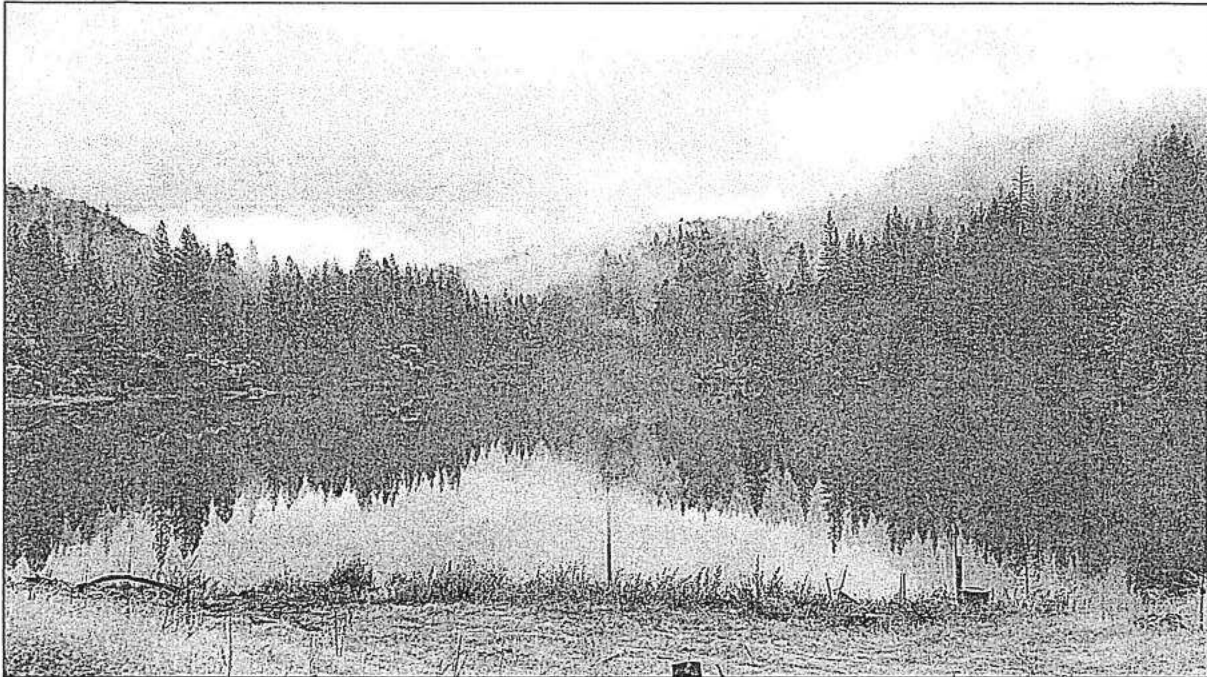
The ECORP Team plans to work closely with District staff to ensure the ECORP Team has the necessary data to perform the study and to construct an operations simulation planning model so that it correctly reflects CCWD and CPUD operations. As the data is gathered and the Task 3.0 workplan is being developed, ECORP staff may contact the Districts' staff to verify information, ask questions or confirm assumptions.

TASK 3.0 ESTABLISH DESIRED PARAMETERS FOR FULL ANALYSIS OF WILD AND SCENIC DESIGNATION

Task 3.0 will include the development of a workplan to evaluate the impacts to the Districts through a Wild and Scenic Designation for the proposed segments of the Mokelumne River. The workplan will include a comprehensive analysis of the projected water demands and supplies needed to meet those demands from the Mokelumne River in Calaveras County. Water supply impacts to the Districts may include new water supply projects, new water rights applications and infrastructure improvements.

Projected Water Demands and Supplies for the Mokelumne River in Calaveras County

Potential development served by the segments of the Mokelumne River and its tributaries proposed for Wild and Scenic designation include San Andreas, Mokelumne Hill, Glencoe, Paloma, Railroad Flat, West Point, Bummerville, and Wilseyville. In addition, with the passage of Proposition 64, there are anticipated increased agricultural demands due to cannabis cultivation within the county. The Districts' operations can only affect flow in the proposed designation segments below the confluence of the North Fork and Middle Fork of the Mokelumne River to the high water level of Lake Pardee.



Schaad's Reservoir, December 2016

CCWD's service boundaries are contiguous with the boundaries of Calaveras County. As such, there are areas in western Calaveras County that could be supplied by Mokelumne River water. Demands in the Wallace Lake Estates subdivision and in the Wallace and Burson areas and now served by the Eastern San Joaquin Groundwater Subbasin (ESJ Subbasin) which has been reported to be "critically overdrafted." Members of the ECORP team have previously reviewed the feasibility of "tapping" the Mokelumne River Aqueduct at South Camanche Parkway.

With the construction of a water treatment plant at that location, existing and projected treated water demands in western Calaveras County including Burson, Wallace, Wallace Lake Estates, and projected CCWD service areas further south could be served by a gravity pipeline. It is proposed that this previously prepared "Camanche South" Study be reviewed and updated with projected demands included in the scope of the Mokelumne River Long-Term Water Needs Study. The previously prepared Study could also be expanded to consider irrigation demands in Western Calaveras County which could be supplied from the Mokelumne River Aqueduct.

Consideration of the impacts due to Climate Change

Climate change has been studied for several years with varying opinions about the assumptions used to develop climate change hydrology. As a cost-cutting measure and to maintain consistency with State of California policy, ECORP staff proposes to use the existing Climate Change and Sea Level Rise Data developed under the direction of the California Water Commission (Commission). Our proposed method uses a statewide data product, which is divided into a spatial resolution of 1/16th degree or about 3.75 miles over the state of California for each month of calendar years 1915 through 2011. The proposed hydrology dataset can be developed for the upper Mokelumne River watershed and will be consistent with Commission methods. The climate change hydrology has also been developed at each grid cell on a daily basis.

These datasets are meant to assist applicants in the analysis for their project benefits for the Water Storage Investment Program (WSIP). The WSIP requires applicants for public funding to analyze their proposed projects using climate and sea level conditions for California projected at years 2030 and 2070. The dataset also includes 1995 Historical Temperature-detrended conditions for the baseline analysis. For the purposes for developing a scope of work, the ECORP Team proposes to use this method when performing the analysis; however, other approaches are possible if the Districts choose not to apply for public funding.

Supply and Demand Management Options

The Districts are facing challenges as demands continue to increase while supplies remain constant or may be reducing due to climate change. There are two possible responses to this problem; either supply-side, meeting demand with a new water supply or demand-side, managing consumptive demand, postponing or avoiding the need to develop new water supplies.

A demand management plan may include tiered pricing, customer metering, leakage detection and repair, use of reclaimed water and water use restrictions.

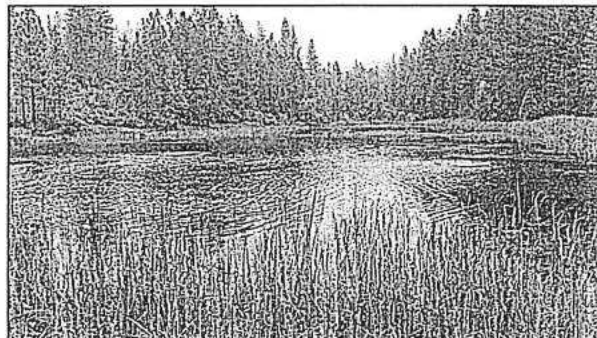
The ECORP Team proposes to develop an operations simulation model of the Middle Fork Mokelumne River and its tributaries to evaluate the value of new water supplies and demand management. OASIS is a unique software program that realistically simulates the routing of water through a water resources system. ECORP has successfully used OASIS on numerous similar projects. OASIS has an excellent track record for efficiency, accuracy, and clear output presentation.

Some of the key benefits provided by the OASIS model are:

- ☐ Maximum flexibility to describe any operation, including the ability to do conditional ("if-then") operations;
- ☐ Simulation of operator behavior including modeling using goals that correspond to the way real-world operators and planners think about a water system;
- ☐ Ease-of-use, including a graphical user interface that shows water systems in the form of user-definable maps and diagrams;
- ☐ Compatibility with other models; and
- ☐ Use of standard databases for data input and output such as Microsoft Access and HEC-DSS databases.

The OASIS model would be used to simulate the Middle Fork Mokelumne operations including:

- ☐ Wilson Dam
- ☐ Bear Creek Diversions
- ☐ Schaad's Reservoir
- ☐ Schaad's Powerhouse
- ☐ Mokelumne River Intake and Pump Station
- ☐ Acorn Booster Pump Station
- ☐ Regulating Reservoir
- ☐ Middle Fork Ditch
- ☐ Jeff Davis Pumping Plant
- ☐ Jeff Davis Reservoir
- ☐ Deliveries to agricultural customers
- ☐ Deliveries to municipal and industrial customers
- ☐ Deliveries to Wallace Estates, Wallace and Burson Areas



Regulating Reservoir, December 2016

The OASIS modeling platform is extremely flexible and modular and in addition to this project, could be used by the Districts for multiple future applications, including testing of drought policy, determining feasibility of potential water sales, and operations forecasting and optimization. The flexibility of the platform allows for expansion of the model to include other District water resources and facilities or changes to existing facilities such as pipeline capacities or increases in reservoir storage. Once the suite of water supply and demand options have been developed, the model can be used to test the benefits of each.

Joint Workshop

The ECORP Team will present the Draft Workplan to the Board members in a Joint Workshop. The purpose of the workshop is to present ideas to the Board members and to address comments. Once the comments are addressed, the workplan will be finalized.

TASK 4.0 DRAFT STUDY

Once the workplan is finalized, the ECORP Team will execute the plan components. This task will include model development using the data developed under Task 3.0. Once the model has been calibrated and the baseline established, alternative scenarios can be tested. The baseline will reflect current facilities, operating policy, licenses, contracts, agreements, and demands. This study will be the baseline from which the impacts from all alternatives will be measured. Since we are also evaluating climate change, there will be at least two sets of baseline studies, and possibly three.

Although, we are capable of developing a number of alternatives, the outcome of the Task 3.0 workplan will guide the study effort. For the purpose of project estimation, three alternatives are assumed for each climate change scenario. Study results addressing all of the above components will be summarized in a Draft study and prepared for review by Districts staff. Prior to finalizing the study, the ECORP Team will prepare and present the study results and preliminary conclusions to the Districts' Board of Directors to gather feedback and to finalize the report.

TASK 5.0 FINAL STUDY

Comments provided by District Board and staff will be addressed and included in the Final Study document. As requested, the ECORP Team will provide 10 hard copies, one MS Word copy and one PDF copy.

PRELIMINARY PROJECT SCHEDULE: STUDY B

Calaveras County Mokelumne River Long-Term Water Needs Study	
Milestones	Date
Notice to Proceed	January 2017
Task 1.0 Project Management and Meetings	September 2017
Task 2.0 Review of Current Information and Data Completed	March 2017
Task 3.0 Establish Desired Parameters for Full Analysis of Wild and Scenic Designation Completed	May 2017
Task 4.0 Draft Study Completed ²	August 2017
Task 5.0 Final Study Completed ³	September 2017

² We anticipate that data gathering and operations simulation modeling efforts for the West Point Water System Supply Reliability Project will also be used for the Calaveras County Mokelumne River Long-Term Water Needs Study. We believe that these efforts should be done concurrently as the WPWS model will be a subset of the larger Study B model.

³ These schedules are set up to assuming the ECORP Team is selected for both studies. If the ECORP Team is selected for only one of these studies, completion dates may be earlier than shown.

ATTACHMENT A

Resumes of Key Personnel

Order of Presentation:

1. Jeff Meyer, P.E., Project Manager, Water Rights Task Manager (ECORP)
2. Michael J. Preszler, P.E., Strategic Water Advisor, Water Rights Specialist (ECORP)
3. Jared Emery, P.E., Senior Hydrologist (ECORP)
4. John C. (Jack) Scroggs, P.E., Principal Engineer (KASL)
5. William (Bill) Ostroff, P.E., Project Engineer (KASL)
6. Octavio Perez, P.E. Project Engineer (KASL)
7. Jorge L. Beltran, P.E, QSD/QSP, Project Engineer (KASL)

Jeffrey K. Meyer, P.E.

Director, Water Resources Department

Mr. Meyer has 26 years of experience in environmental engineering and water resources management. His experience includes hydrology development, stream flow gaging, runoff forecasting, water rights analysis, operations model application development, long-term planning, short-term planning using position analysis, alternatives evaluation, operations rules development, hydroelectric system evaluation, computer-aided dispute resolutions, and California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) review. Mr. Meyer specializes in assisting clients develop practical solutions to complex environmental planning, resource management and operational problems. This includes consideration of multiple conflicting goals and integrated system management along with analysis of system resources, which can significantly improve overall benefits. Through this process operational strategies can be tested without jeopardizing water supply or risking damage to facilities using our superior modeling tools.

Mr. Meyer is very familiar Sierra Nevada hydrology and has developed and/or used operations simulation applications for the Nevada Irrigation District, Placer County Water Agency, Foresthill Public Utility District, Calaveras County Water Agency, Georgetown Divide Public Utility District, El Dorado Irrigation District, and Calaveras County Water District. Recently, Mr. Meyer has focused on assisting clients with water rights extensions and negotiations for water transfers in response to drought operations. Currently, Mr. Meyer is assisting Calaveras County Water District with the installation of stream flow and storage gages and strategy development in support of the acquisition, modification and extension of several water rights to serve the anticipated future demand across Calaveras County.

Education

B.S., Civil Engineering; California Polytechnic State University, San Luis Obispo

Registrations, Certifications, and Affiliations

- ☐ Professional Engineer, California
- ☐ American Society of Civil Engineers
- ☐ Mountain Counties Water Resources Association
- ☐ Association of California Water Agencies

Representative Professional Experience

Calaveras County Water District, North Fork Stanislaus River Project, Calaveras County. Calaveras County Water District (CCWD) holds multiple permitted and Pre-1914 water rights on the North Fork Stanislaus River. The Utica Power Authority and the Northern California Power Agency also hold water rights on the NF Stanislaus. In addition to the complex operations on the NF Stanislaus, CCWD diverts water at Lake Tulloch on the Lower Stanislaus, below New Melones Reservoir. The water diverted by CCWD comingles with water owned by Tri-dams and PG&E. Mr. Meyer directed the development of the hydrology and model to evaluate the system for water rights usage reporting. The modeling process developed by Mr. Meyer has been used to reach a memorandum of understanding amongst three operators within the Stanislaus watershed. Currently, Mr. Meyer is working on multiple water rights extensions for CCWD. The District holds both power rights and consumptive water rights on the Mokelumne River, the Calaveras River and the North Fork Stanislaus River.

Sugar Pine Reservoir, Foresthill Public Utilities District, Placer County. Mr. Meyer was the Project Manager assisting Foresthill Public Utilities District (FPUD) with a 2,000-acre-foot transfer of stored water in Sugar Pine Reservoir to Santa Clara Valley Water District, balancing the risk of future dry years with the ability to generate revenue for District improvements. Mr. Meyer obtained necessary approvals to transfer the water, which included negotiating water transfer losses between Sugar Pine Reservoir and Folsom Lake, and a reservoir refill agreement with the U.S. Bureau of Reclamation. In addition, Mr. Meyer is assisting FPUD with a water right extension that includes the Sugar Pine storage expansion project. Continued diversion is necessary to meet current and projected future water demand. Specifically, the document will address the 49-year extension of the FPUD's Sugar Pine Project Water Right Permit, completion of the Sugar Pine Dam Facilities (installation of radial gates), and the expansion of Sugar Pine Reservoir storage capacity from 7,000 acre-feet to 10,658 acre-feet to insure sufficient safe yield to meet existing and future M&I and consumptive uses within the District's current and future service area.

Project considerations include shoreline modifications needed to accommodate the expanded inundation pool including development and implementation of a Timber Harvest Plan and potential modifications to existing recreational infrastructure owned and operated by the U.S. Forest Service that would be affected by the 20-foot increase in the depth of the reservoir. ECORP will conduct extensive modeling to evaluate future reservoir operations with and without the radial gates. ECORP will also prepare a variety of technical studies to address project related impacts including biological and cultural resource studies to support EIR/EIS impact evaluations, utilizing LIDAR data acquired to map sensitive areas.

Middle Fork Project, Middle Fork American River, Placer County. Placer County Water Agency's hydroelectric system is located on the Middle Fork of the American River. The project was built for water supply and generation and includes two major reservoirs and five powerhouses. Currently, ECORP Consulting, is working with PCWA to relicense the hydroelectric facilities with the Federal Energy Regulatory Commission (FERC). Mr. Meyer directed the development of the hydrology, simulation model, and snowmelt runoff forecasting tools. In addition, ECORP has assisted the Agency with its power marketing efforts. During the relicensing process, ECORP coordinated the installation of several flow gages to collect data used in the development of the hydrology and operations. ECORP also led the model development team and was responsible for the construction, testing, and verification of the simulation model used in the negotiations. The model is a deterministic tool that runs on both a daily and hourly time step. The model is used to simulate minimum flow requirements, reservoir operations and power operations. Currently, ECORP is using the model to support PCWA's Middle Fork Project water rights extension.

El Dorado Irrigation District Project 184, El Dorado, Amador, Alpine Counties. El Dorado Irrigation District purchased the Project 184 hydroelectric system from PG&E to secure their water supply and to generate electricity. The Project recently was up for FERC relicensing which required modeling of the system using both monthly and daily time steps. Mr. Meyer created both versions of the model and used the model in a collaborative process. The model enabled the collaborative group to test various operating criteria during negotiations and ultimately reach settlement. The collaborative requested nearly 200 studies many of which were executed in the collaborative sessions. Mr. Meyer evaluated power revenue impacts during this process which was instrumental in the evaluation of the feasibility of some of the operating strategies.

Placer County Water Agency Yuba-Bear & Drum-Spaulding, Yuba River, Nevada and Placer Counties. Placer County Water Agency (PCWA) has contracts with PG&E for their Zone 3 and Zone 1 customers totaling 125,400 AF of water, annually. Because of the large supply they receive from the Yuba-Bear & Drum-Spaulding project operations, PCWA retained ECORP staff to review model results and to simulate alternatives in support of the settlement negotiations during the FERC relicensing process. ECORP's efforts resulted in improving the modeling tools and assisting PCWA and other negotiating parties to better understand the water supply and generation impacts to their respective projects.

Michael J. Preszler, P.E.

California Water Practice Leader, Strategic Water Advisor

Mr. Preszler serves as ECORP's California Water Practice Leader and is a Strategic Water Advisor with 30 years of consulting experience. Mr. Preszler is a registered civil engineer with extensive experience in water supply planning, water rights investigations, FERC Licensing, water use and quality, regulatory compliance and specializes in preparation of water project operational evaluation and CEQA/NEPA environmental documentation. He has led and participated in many comprehensive strategic water resources planning and analysis efforts covering a wide variety of water resource projects including surface and groundwater supply, water facilities, hydropower, and conjunctive use. Mr. Preszler is skilled in all phases of planning and management of multi-disciplinary projects including economic, natural resources, water rights, regulatory compliance, permitting, litigation technical support, settlement negotiations, water accounting, political, social, and administrative concerns relating to the use and conservation of water. He is also experienced in water project simulation modeling, watershed hydrology, water rights determination and accounting, water and hydropower project economics and operation, water supply determination, runoff forecasting, and engineering feasibility investigations.

Education

B.S., Civil Engineering, California State University, Chico

Registrations, Certifications, and Affiliations

- ☐ Registered Professional Engineer, No. C55133, expires June 30, 2018
- ☐ SAGE (Surveyors, Architects, Geologists and Engineers of El Dorado County) – 2014 President
- ☐ Mountain Counties Water Resources Association – Technical Advisory Committee
- ☐ American Society of Civil Engineers
- ☐ Association of California Water Agencies
- ☐ Western Snow Conference

Representative Professional Experience

Joint Benefit Investigation Plan Technical Analysis of Preliminary Alternatives. Project Manager of this multi-agency (El Dorado County Water Agency and Sacramento Municipal Utility District) effort to jointly explore potential ways to increase water supplies to El Dorado County's water purveyors and/or power generation to the Sacramento Municipal Utility District. Utilizing public input, nine original project alternatives were ultimately identified from an original range of over 30 possible water supply and hydropower project options. The alternatives were analyzed by compiling known information and developing new information, where needed, to evaluate technical feasibility, construction costs, available hydrology, water rights, and key environmental and recreational factors. The results of this study represent a comprehensive and contemporary array of potential water supply options available in El Dorado County; for the benefit of the El Dorado Irrigation District and Georgetown Divide Public Utility District.

Los Padres Dam and Reservoir Long-Term Strategic and Short-Term Tactical Plan. Technical Lead for the Monterey Peninsula Water Management District (District) strategic planning effort. The District is in the midst of a highly complex challenge as it works towards implementing short- and long-term water resource solutions to meet existing and future water demands. As part of the development of the strategic plan, numerous new supplemental water storage alternatives within the Carmel River watershed were identified and investigated. Locations were sighted for four potential new dams and reservoirs within the Carmel River Basin. A pre-engineering feasibility operational analysis was completed for each project

alternative including dam location and size, reservoir size, diversions, and tunnels. Operational simulation models of each dam and reservoir were developed including evaluations of hydrology, likely water right constraints, environmental flow requirements, hydropower opportunities, and project operational optimization evaluations used to maximize development of supplemental water within the existing water supply system.

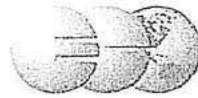
Interlake Tunnel and Spillway Modification. Technical lead with the Monterey County Water Resources Agency (MCWRA) on development of the proposed Interlake Tunnel which would convey water from Nacimiento Reservoir (San Luis Obispo County) to San Antonio Reservoir (Monterey County) located in the Salinas River watershed. The performance of proposed tunnel was evaluated under alternative configurations and operational strategies using a developed simulation computer model. A range of tunnel sizes and configurations were evaluated and compared in terms of developed supplemental water supply to meet downstream water demands and flooding effects. The analysis provided insight on the preferred tunnel formulation (size and invert elevation) and expected water supply project benefits. San Antonio Reservoir spillway modification to increase storage capacity was also evaluated. The San Antonio evaluations included development of watershed hydrology, alternative operational strategies to optimize Interlake Tunnel operation with an increase in storage at San Antonio Reservoir. Additionally, participated in project strategic discussions on many facets of the project including, white bass, recreation, flooding, potential for future project facilities to accept supplemental water developed by the project, met with the Salinas Valley Water Coalition and participated in presentations to public MCWRA Board of Directors meetings.

Upper Feather River Integrated Regional Water Management Plan. Provided technical support for the preparation of the Integrated Regional Water Management Plan (IRWMP) for the Upper Feather River (UFR). Specifically, effort included working in coordination with Michael Baker International to provide technical support for preparation of the Climate Change Chapter of the IRWMP including Vulnerability Assessment Checklist to identify the UFR's vulnerabilities to climate change development as delineated in the Climate Change Handbook for Regional Water Planning. This information is used to identify adaptive management strategies to address future conditions and associated vulnerabilities.

Water Rights Optimization Study. Project Manager for the El Dorado Irrigation District supporting its identification of potential options to increase water supply and power production and reduced operational costs such as pumping. Several project options were identified and analyzed to provide; 1) water supply benefits, 2) hydropower benefits, 3) reduction in pumping requirements, 4) or all three.

Hydroelectric Development Options Study. Considered potential hydroelectric opportunities in El Dorado County for the El Dorado Irrigation District. Options were identified, evaluated, narrowed, with recommendations of the most promising options for either: 1) immediate implementation, 2) detailed feasibility evaluation, or 3) future re-evaluation as the energy industry, market, and regulations continue to evolve. Approximately 100 hydroelectric development options were initially identified throughout El Dorado County. Of the 100 options evaluated, detailed economic and financial analyses were performed on the "top 10" hydro options. Detailed economic and financial analyses were used to identify economically viable projects.

Supplemental Water Investigations. Project Manager for El Dorado County Water Agency (EDCWA) providing strategic planning and technical support in developing a supplemental water supply project in El Dorado County. Responsibilities include historical water rights review, strategy project component development, and supporting hydrologic and operational analyses. Additional responsibilities have included engineering and project operational feasibility studies for several new major water supply project alternatives (e.g., White Rock, Rubicon, North Fork Pump Station, and Folsom Reservoir). This new water right will total 40,000 acre-feet per year and be allocated to the El Dorado Irrigation District and Georgetown Divide Public Utility District.



Jared Emery, P.E.

Water Resources Engineer

Mr. Emery has ten years professional experience as a water resources analyst for ECORP Consulting, Inc. that includes hydrology development, model application development, drought analysis, flood frequency analysis, water rights analysis, water quality assessments, and hydroelectric system evaluation.

Education

B.S., Physics; Humboldt State University, California

Registrations, Certifications, and Affiliations

☐ Registered Professional Engineer, California, License No. 81467

Representative Professional Experience

Water Supply Model for Calaveras County Water District, Calaveras County – Calaveras County Water District (2007 – 2011). Mr. Emery created a water supply model for Calaveras County Water District that included the North Fork Stanislaus Hydroelectric project, the Utica Project, and the Angels Project, a set of interconnected hydroelectric and water supply systems on the Stanislaus River. The model included the operation of New Melones, New Hogan, and New Spicer Meadows reservoirs, as well as several smaller reservoirs and diversion dams and five powerhouses. Development of operating rules at New Melones reservoir included analysis of Calsim II model rules and calibrating the water supply model to Calsim II model results. The model was used to conduct a water rights analysis, and compare alternate inter-basin transfer schemes and analyze their effect on Utica Power System's generation. Mr. Emery also developed hydrology for North Fork Stanislaus, Calaveras River, Angels Creek, and Mill Creek.

Water Supply Model for the Middle Fork American River Hydroelectric Project, Placer County – Placer County Water Agency (2006 – 2011). Mr. Emery participated in the development of a simulation model of the Middle Fork of the American River and Rubicon River using OASIS with OCL for Placer County Water Agency to be used as a long-term planning tool to provide water supply and power production analysis. The model included development of hydrology for the Middle Fork American and Rubicon Rivers, and was used as a tool in the Federal Energy Regulatory Commission (FERC) relicensing process, where Mr. Emery performed model simulations with the stakeholder group.

Water Supply Model for El Dorado Irrigation District, El Dorado County – El Dorado County Water Agency (2013 – 2014). Mr. Emery created a water supply model for the El Dorado County Water Agency to determine the Firm Yield and Safe Yield of the Integrated El Dorado Irrigation District's supply system, including modeling Project 184, Sly Park Reservoir, and the CVP entitlements at Folsom Reservoir. The study included modeling the District's treated distribution system. This study was done to determine the increase in system yield with new supplemental water rights.

Middle Fork Project Water Rights Permit Extension of Time, Placer County – Placer County Water Agency (2010-Present). Mr. Emery performed Middle Fork Project modeling studies in support of an application for an extension of time on Placer County Water Agency's water rights permit on the Middle Fork American River. This effort included detailed analysis of PCWA's water supply yields and the

integrated use of various water supply sources. Mr. Emery worked with the modeling team to design Calsim II studies of the effect of the water rights permit extension of time on the Lower American River and Folsom Reservoir. Mr. Emery reviewed all Calsim II studies developed for the project to ensure that they correctly portrayed Placer County Water Agency's diversions in the American River basin.

Reservoir Operations Model of North Fork Stanislaus Project, Calaveras County – Northern California Power Agency (2010 - 2011). Mr. Emery developed a simulation model of the North Fork Stanislaus Hydroelectric Project and Upper Utica Project for Northern California Power Agency. The model included the operation of New Spicer Meadows reservoir with three separate operating accounts, two of which dispatch generation based on electrical prices, and one which dispatches generation based on local electrical load. The model was used to analyze impacts to individual operating accounts due to anticipated flow requirements on the Stanislaus River.

Delta Flow Criteria Impact Studies, Calaveras County – Northern California Power Agency (2013). Mr. Emery developed a set of modeling studies to determine the range of impact that proposed Delta Flow Criteria would have on the flexibility of Northern California Power Agency's operations of the North Fork Stanislaus Hydroelectric Project on the Stanislaus River. This work involved pairing Calsim II with an upper Stanislaus River operations model to determine possible impacts that the flow criteria on the lower Stanislaus would have on upstream operations. Mr. Emery performed all Calsim II modeling studies and the analysis of results.

Water Supply Model for the Yuba Bear Drum Spaulding Hydroelectric Project, Placer County – Placer County Water Agency (2010 – 2013). Mr. Emery participated in the development of a simulation model of the Yuba Bear Drum Spaulding project using HEC-ResSim for Placer County Water Agency to provide water supply and power production analysis. During this process, Mr. Emery was selected to be on the modeling technical team, a group focusing on operations optimization and detailed analysis of model results. Mr. Emery also participated in the development of a modeling tool that tracked water rights usage and ownership throughout the projects, including the accounting for storage in shared facilities such as Rollins Reservoir and the Bear River Canal system.

MCWRA Interlake Tunnel Feasibility Studies, Monterey County – Monterey County Water Resources Agency (2014). Mr. Emery developed a reservoir operations model for Nacimiento and San Antonio Reservoirs, including releases for the Salinas Valley Water Project and the National Marine Fisheries Service 2007 Biological Opinion. This model included several interlake tunnel configurations and was used to develop yield estimates for the interlake tunnel and San Antonio Spillway Modification Project. This project included the development of inflow hydrology for the Nacimiento and San Antonio Reservoirs.



John C. (Jack) Scroggs, P.E., Principal Engineer, Project Manager

Mr. Scroggs has over 40 years of civil engineering, water resource and public works engineering experience. He has served as Principal-in-Charge, Project Manager and Lead Design Consultant for numerous water treatment plant wastewater treatment, reclamation, pipeline and booster station projects completed by KASL. His experience includes the design of surface water filtration and ground water filtration improvements.

Mr. Scroggs is a Registered Civil Engineer in California and Nevada and a Registered Traffic Engineer in California. He graduated from UC Davis with a B.S. Degree in Civil Engineering in 1973 and was advanced to his Master's Degree in Civil Engineering in 1981.



Relevant Project Experience

Mr. Scroggs served as the Principal-in Charge, Project Manager and Lead Design Consultant for each of the following projects:

- Jenny Lind Water Treatment Plant 1 to 2 MGD Expansion Project CCWD, Calaveras County
- Jenny Lind Water Treatment Plant 2 to 5 MGD Expansion Project, CCWD, Calaveras County
- Jenny Lind Water Storage Tank (Tank "A" and Tank "B") and Booster Pump Facilities, CCWD, Calaveras County
- Middle Fork Ditch Pipeline and Hydroelectric Power Feasibility Study, Calaveras Public Utility District, Calaveras County
- North Plumas Water Treatment Plant, Storage Tank and Booster Pump Project, Olivehurst Public Utility District, Yuba County
- Greenwood Water Treatment Plant, Storage Tank and Transmission Main, Georgetown Divide PUD, El Dorado County
- Copper Cove Raw Water Pump Station, Transmission Main and Water Treatment Plant and Booster Pump Station, CCWD, Calaveras County.
- Lindhurst Water Storage Tank and Booster Pump Station, Yuba County
- River Pines Public Utility District, Water System Rehabilitation Study, Amador County
- New Hogan / La Contenta Wastewater Treatment Plant, Calaveras County
- Wildflower Water Storage Tank and Booster Pump, Lone, Amador County
- City of Fort Bragg Willow Street Pump Station and City of Fort Bragg Phase 1 Water Distribution Study
- Uppaway Water Supply and Water Treatment Improvement, Douglas County, Nevada
- Camp FarWest Water Supply, Treatment and Distribution Improvements, Sutter County Water District
- Polo Grounds Water Supply and Water Treatment Plant, Soquel Creek Water District, Santa Cruz County
- Plymouth Water Pipeline, Amador County
- Georgetown Divide Public Utility District, Network Modeling and Capital Improvement Program, El Dorado County
- City of Plymouth Water Master Plan, Amador County
- Orange Vale Water Company, Network Modeling and GIS Development, Sacramento County
- New Hogan / La Contenta 604 Assessment District, Water and Sewer Improvement Project, CCWD Calaveras County



William (Bill) Ostroff, P.E., Project Engineer

Mr. Ostroff is a California Registered Civil Engineer (C 69221) with over 14 years of experience with KASL working on water and wastewater systems, hydraulics, treatment, pump station and piping improvements design. He has conducted extensive WaterCAD and SewerCAD network modeling, extended period simulation and surge analysis of water systems and sewer systems and completed hydraulic modeling and tank basin designs for water and wastewater projects.

He is well versed with computer modeling and design tools such as MicroStation, Bentley InRoads Suite, CivilStorm, SewerCAD, CulvertMaster, FlowMaster, Hammer, StormCAD and WaterCAD.



Bill Ostroff obtained his B.S. Degree in Civil Engineering from Cal Poly, San Luis Obispo.

Relevant Project Experience

Mr. Ostroff served as a Project Engineer responsible for engineering design and network modeling services for each of the following projects:

- Polo Grounds Water Supply and Treatment Plant, Santa Cruz County
 - Plymouth Pipeline Project, Amador County
 - North Plumas Water Treatment Plant and Booster Pumps, Yuba County
 - Lindhurst Storage Tank and Booster Pump System, Yuba County
 - Greenwood Water Treatment Plant and Transmission Main, El Dorado County
 - City of Fort Bragg Willow Street Pump Station Project and City of Fort Bragg Phase 1 Water Distribution Master Plan
 - Plymouth Water Master Plan, Amador County
 - Lakeview Hills HOA Water Master Plan, Placer County
 - River Pines Public Utility District Water Rehabilitation Study, Amador County
-



Octavio Perez, P.E. Project Engineer

Mr. Perez is a California Registered Civil Engineer (C 69969) with over 12 years of civil engineering design experience. Mr. Perez has conducted detailed design of potable water systems, pump stations, sewage collection, storm drain conveyance, retaining walls, roadway, ADA compliant paths of travel and grading improvements for public works and residential land development projects in California, Nevada, New Mexico, Arizona and Hawaii.

He has extensive background and design experience with grading, earthwork and Digital Terrain Modeling. His experience also includes serving as resident engineer on military housing projects in California and Hawaii. Mr. Perez is a graduate from California State University, Sacramento with a B.S. Degree in Civil Engineering.



Relevant Project Experience

Mr. Perez completed computer modeling and engineering design for water, sewer and storm drain utilities, roadways, walkways, retaining walls and other site amenities for:

- 570 units at Davis-Monthan AFB, Tucson, AZ
- 540 units at Holloman AFB, Alamogordo, NM
- 950 units at Aliamanu Military Reservation, Honolulu, HI
- Citrus Heights Water District, Skyview Well Project
- Lake Isabella DSMP Improvements, Kern County
- Tuolumne City Sanitary District Sewer Rehabilitation Project, Tuolumne County
- River Pines Public Utility District Water Rehabilitation Study, Amador County



**Jorge L. Beltran, P.E, QSD/QSP
Project Engineer**

Mr. Beltran is a California Registered Civil Engineer (C 75576) with over **12 years of experience** preparing drainage studies, designing storm drain systems and preparing plans for construction of roadways and public works improvements.

Jorge has extensive hydrological and hydraulic modeling experience of compliance storms, open channels, floodway encroachment analysis, closed conduit drainage systems, culverts and bridges for public works and residential land development projects in California, Nevada, New Mexico, Hawaii and Arizona.



Relevant Project Experience

Jorge served as a Project Engineer for the engineering design of the following Land Development and Utility Rehabilitation Projects:

- Davis-Monthan AFB. 900 Family Unit Military Housing Project Utility Design. Tucson, Arizona
- Holloman AFB 900 Family Unit Military Housing Project Utility Design. Alamo Gordo, New Mexico
- Auburn Blvd. Infill sidewalk, curb and gutter, and Drainage Improvement Project, City of Citrus Heights
- Hickam AFB 172 Family Unit Military Housing Project Utility Design. Honolulu, Hawaii
- Fort Shafter, Simpson-Wisser New Family Housing Utility Design. Honolulu, Hawaii.

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**ECORP / CCWD / CPUD PROPOSAL, COMBINED STUDY A & B, WEST POINT SUPPLY AND MOKELUMNE RIVER WATER NEEDS STUDY
LABOR EFFORT ESTIMATE & FEE SCHEDULE**

STUDY A	LABOR EFFORT ESTIMATE									
	Principal Eng./ Project (ES-3)	Senior Project Engineer (ES-4)	Project Engineer (ES-5)	Survey Mgr. (ES-5)	Survey Office Staff (ES-7)	Eng. / Survey Tech. (ES-7)	Admin. Assist. (AA-10)	2-person Survey Crew (2-CREW)	Subconsultant EETS/ENGE/ VERTICAL MAPPING	Estimate by Task
ESTIMATED LABOR HOURS										
1.0 - Review Current Information and Data	12	6	6				6			\$ 3,432
2.0 - Assessment of Current Infrastructure & Water Supplies	6	6		6			2			\$ 2,352
A. Assessment of Existing and Future Demand Factors and Supplies; Margins of Safety.										
B. Assess the General State of Water Supply, Water Quality and Water Infrastructure Assets:										
1. Mokelumne River Water Intake	4	12		4	4	8	2	8		\$ 5,252
2. Replace Existing Mokelumne River Pumps	4	20	12				2			\$ 4,456
3. Preliminary Design of Raw Water Pipeline	16	8	36			24	2			\$ 9,424
4. Mokelumne River Pump Station	8	24	12			8	2			\$ 6,240
5. Mokelumne River Pump Station Site	8	8		4	4	4	2	8		\$ 4,952
6. SCADA Improvements	4	4	4				2			\$ 1,608
7. Regulating Reservoir Improvements	12	24	12	12	16	16	2	32	\$2500 (EETS)* \$3500 (ENGE) MAP	\$ 20,020
8. Bear River Diversion Structure	6	8	8				2		\$2500 (EETS)*	\$ 2,816
C. Assess Adequacy of Various Sources and Water Supplies, Future Demands.	6	2	2				2			\$ 1,424
D. List / Prioritize CIP	8	4					2			\$ 1,736
3.0 Establish Desired Parameters for Full Evaluation of WPWS Water Supplies	6	2					2			\$ 1,208
4.0 Evaluation of Supplies and Project Prioritization	8	4	4				2			\$ 2,168
5.0 Draft Study	8	8	8				4			\$ 3,216
A. CIP Project List, Cost Estimates	12	12	12				12			\$ 5,184
B. Primary Engineering & Design	6	4	4				4			\$ 2,008
C. Prioritization, Phasing	6	4	4				4			\$ 2,008
D. Water Quality Issues	8	6	6				6			\$ 2,872
6.0 Final Study	12	6	6				6			\$ 3,432
7.0 Project Management and Meetings										
SUBTOTAL STUDY A	160	172	136	26	24	60	68	48	\$ 3,500 (NIC Optional Subconsultant Svcs.)	\$ 85,808

* Optional Subconsultant Tasks

**ECORP / CCWD / CPUD PROPOSAL, COMBINED STUDY A & B, WEST POINT SUPPLY AND MOKELUMNE RIVER WATER NEEDS STUDY
LABOR EFFORT ESTIMATE & FEE SCHEDULE**

STUDY B	LABOR EFFORT ESTIMATE										Subconsultant EETS/ENGEO/ VERTICAL MAPPING	2-person Survey Crew (2-CREW)	Admin. Assist (AA-10)	Eng. / Survey Tech. (ES-7)	Survey Office Staff (ES-7)	Project Engineer (ES-5)	Senior Project Engineer (ES-4)	Project Engineer (ES-5)	Survey Mgr. (ES-5)	LABOR CLASSIFICATION					Fee Estimate by Task
	Principal Eng./ Project Mgr. (ES-3)	Principal Eng./ Project Mgr. (ES-3)	Senior Project Engineer (ES-4)	Project Engineer (ES-5)	Survey Mgr. (ES-5)	Survey Office Staff (ES-7)	Eng. / Survey Tech. (ES-7)	Admin. Assist (AA-10)	2-person Survey Crew (2-CREW)	Subconsultant EETS/ENGEO/ VERTICAL MAPPING															
Task 1.0 - Project Management and Meetings Project Management and Meetings	12		6	6								6											\$ 3,432		
Task 2.0 - Review of Current Information and Data Review of Current Information and Data	6		4	4								4											\$ 2,008		
Task 3.0 - Establish Desired Parameters for Full Analysis of Wild and Scenic Designation: A. Projected Water Demands and Supplies (West Calaveras County, CPUD Service Area) B. Climate Change C. Supply and Demand Management Options D. Joint Workshop	16		16	48								12											\$ 11,220		
Task 4.0 - Draft Study	6		6																				\$ 1,704		
Task 5.0 - Final Study	6		6									2											\$ 1,704		
SUBTOTAL STUDY B	60		54	74	0	0	24	26	210	226	210	34	48	0	0	24	84	102	48	0	0	3,500	\$ 27,312		
TOTAL A & B	220		226	210	26	24	84	102	48	0	24	84	102	48	0	24	84	102	48	0	3,500	\$ 113,120			

LABOR CLASSIFICATION	RATE
Engineer, Surveyor 3 (ES-3)	\$140.00 per hour
Engineer, Surveyor 4 (ES-4)	\$124.00 per hour
Engineer, Surveyor 5 (ES-5)	\$108.00 per hour
Engineer, Surveyor 7 (ES-7)	\$91.00 per hour
Technician, Administration 10 (AA-10)	\$60.00 per hour
2-Man Survey Crew (2 Crew)	\$195.00 per hour

OTHER DIRECT EXPENDITURES on behalf of the client will be billed at cost plus 10% percent

NO ESCALATION OF RATES IS PROPOSED

Combined Study A and Study B Cost Estimate

Customer: Calaveras County Water District
 Proposal: WY05 Water Supply Reliability / Long Term Water Needs Study
 Number: P16-575

Labor	Staff Member	Project Role	Rate/hr	Grand Total (All Tasks)		Study A: Review Current Information and Data Task/Phase 1		Study A: Assessment of Current Infrastructure and Water Supplies Task/Phase 2		Study A: Establish Parameters for Evaluation of Supplies Task/Phase 3		Study A: Evaluation of Supplies and Project Fertilization Task/Phase 4		Study A: Draft Study Task/Phase 5		Study A: Final Study Task/Phase 6		Study A: Project Management and Meetings Task/Phase 7		Study B: Project Management & Meetings Task/Phase 8		Study B: Review Current Info and Data Task/Phase 9		Study B: Establish Parameters for Evaluation of Supplies Task/Phase 10		Study B: Draft Study Task/Phase 11		Study B: Final Study Task/Phase 12					
				Hours	Costs	Hours	Costs	Hours	Costs	Hours	Costs	Hours	Costs	Hours	Costs	Hours	Costs	Hours	Costs	Hours	Costs	Hours	Costs	Hours	Costs	Hours	Costs	Hours	Costs	Hours	Costs		
	Jeff Meyer	Project Manager	\$ 220.00	489	\$ 107,580.00	76	\$ 16,880.00	64	\$ 14,080.00	16	\$ 3,520.00	16	\$ 3,520.00	60	\$ 13,200.00	24	\$ 5,280.00	70	\$ 15,400.00	85	\$ 18,700.00	24	\$ 5,280.00	16	\$ 3,520.00	24	\$ 5,280.00	24	\$ 5,280.00	24	\$ 5,280.00		
	Michael Prestler	Senior Water Resources Engineer	\$ 220.00	114	\$ 25,080.00	8	\$ 1,760.00	24	\$ 5,280.00	8	\$ 1,760.00	8	\$ 1,760.00	24	\$ 5,280.00	4	\$ 880.00	4	\$ 880.00	0	\$ 0.00	0	\$ 0.00	4	\$ 880.00	28	\$ 6,160.00	16	\$ 3,520.00	16	\$ 3,520.00	16	\$ 3,520.00
	Jared Emery	Water Resources Engineer	\$ 170.00	244	\$ 41,480.00	0	\$ 0.00	16	\$ 2,720.00	0	\$ 0.00	60	\$ 10,200.00	20	\$ 3,400.00	8	\$ 1,360.00	10	\$ 1,700.00	10	\$ 1,700.00	0	\$ 0.00	20	\$ 3,400.00	28	\$ 4,760.00	60	\$ 10,200.00	4	\$ 680.00	4	\$ 680.00
	Toni Clark	Project Controller	\$ 135.00	4	\$ 540.00	0	\$ 0.00	0	\$ 0.00	0	\$ 0.00	0	\$ 0.00	0	\$ 0.00	0	\$ 0.00	2	\$ 270.00	2	\$ 270.00	0	\$ 0.00	0	\$ 0.00	0	\$ 0.00	0	\$ 0.00	0	\$ 0.00	0	\$ 0.00
	David Wagon	GIS/Mapping	\$ 115.00	44	\$ 5,060.00	0	\$ 0.00	8	\$ 920.00	0	\$ 0.00	8	\$ 920.00	8	\$ 920.00	2	\$ 230.00	2	\$ 230.00	2	\$ 230.00	0	\$ 0.00	0	\$ 0.00	4	\$ 460.00	8	\$ 920.00	2	\$ 230.00	2	\$ 230.00
	Brian Fedrow	Publications Manager	\$ 150.00	8	\$ 1,200.00	0	\$ 0.00	0	\$ 0.00	0	\$ 0.00	0	\$ 0.00	2	\$ 300.00	2	\$ 300.00	0	\$ 0.00	0	\$ 0.00	0	\$ 0.00	0	\$ 0.00	0	\$ 0.00	2	\$ 300.00	2	\$ 300.00	0	\$ 0.00
	Laura Hesse	Publications Specialist	\$ 90.00	28	\$ 2,520.00	0	\$ 0.00	0	\$ 0.00	0	\$ 0.00	0	\$ 0.00	2	\$ 180.00	4	\$ 360.00	0	\$ 0.00	0	\$ 0.00	0	\$ 0.00	0	\$ 0.00	4	\$ 360.00	8	\$ 720.00	4	\$ 360.00	4	\$ 360.00
	Total Labor			931	\$ 183,460.00	112	\$ 23,000.00	112	\$ 23,000.00	92	\$ 16,400.00	122	\$ 23,820.00	44	\$ 8,410.00	84	\$ 17,600.00	99	\$ 20,900.00	48	\$ 9,560.00	120	\$ 24,060.00	318	\$ 20,910.00	38	\$ 7,290.00	38	\$ 7,290.00	38	\$ 7,290.00		
	Other Costs																																
	Sub-Contractors																																
	KAST Consulting Engineers				\$ 3,432.00		\$ 60,280.00		\$ 60,280.00		\$ 1,208.00		\$ 2,168.00		\$ 12,415.00		\$ 3,432.00		\$ 3,432.00		\$ 3,432.00		\$ 2,008.00		\$ 18,664.00		\$ 1,704.00		\$ 1,704.00		\$ 1,704.00		
	Total Sub-Contractors				\$ 3,432.00		\$ 60,280.00		\$ 60,280.00		\$ 1,208.00		\$ 2,168.00		\$ 12,415.00		\$ 3,432.00		\$ 3,432.00		\$ 3,432.00		\$ 2,008.00		\$ 18,664.00		\$ 1,704.00		\$ 1,704.00		\$ 1,704.00		
	Mark-up on Sub-Contractors		0.0%																														
	Total for Sub-Contractors				\$ 3,432.00		\$ 60,280.00		\$ 60,280.00		\$ 1,208.00		\$ 2,168.00		\$ 12,415.00		\$ 3,432.00		\$ 3,432.00		\$ 3,432.00		\$ 2,008.00		\$ 18,664.00		\$ 1,704.00		\$ 1,704.00		\$ 1,704.00		
	Total Other Costs				\$ 113,120.00		\$ 60,280.00		\$ 60,280.00		\$ 1,208.00		\$ 2,168.00		\$ 12,415.00		\$ 3,432.00		\$ 3,432.00		\$ 3,432.00		\$ 2,008.00		\$ 18,664.00		\$ 1,704.00		\$ 1,704.00		\$ 1,704.00		
	Total Estimate				\$ 296,580.00		\$ 83,280.00		\$ 83,280.00		\$ 5,608.00		\$ 18,568.00		\$ 36,236.00		\$ 21,032.00		\$ 24,332.00		\$ 11,568.00		\$ 42,324.00		\$ 27,644.00		\$ 9,994.00		\$ 9,994.00		\$ 9,994.00		

The EORP Team has extensive knowledge of the existing system facilities and is aware of the condition of Wilson Dam and anticipates the studying an enlarged Schaad's Reservoir. These cost estimates do not include fees for geotechnical engineering support nor do they include fees for preliminary design for repair of Wilson Dam or raising Schaad's Dam. If either or both of these projects are added to the capital improvement list, the costs of this portion of the study will need to be determined. Preliminary estimates for the items will need to be determined.

RESOLUTION NO. 2017 -

**A RESOLUTION OF THE BOARD OF DIRECTORS
OF THE CALAVERAS COUNTY WATER DISTRICT**

**AUTHORIZING A PROFESSIONAL SERVICES AGREEMENT FOR THE WEST
POINT WATER SYSTEM WATER SUPPLY RELIABILITY STUDY AND
CALAVERAS COUNTY MOKELUMNE RIVER LONG-TERM WATER NEEDS STUDY**

WHEREAS, Calaveras County Water District (District) is responsible for ensuring the reliability of long-term water supplies in the West Point / Wilseyville / Bummerville Water System Planning Area and other areas of the County; and

WHEREAS, funding for the studies are included within the District's FY 2016-17 Water Resources Program and the West Point Water Fund 304; \$100,000 is budgeted in the Water Resources budget, and \$80,000 in the West Point Expansion Funds; and

WHEREAS, due to the timeline of the project, additional funding for the project will be incorporated into the FY 2017-18 and budgeted as follows: \$66,747 to come from the Water Resources budget, and \$5,808 from the West Point Expansion funds; and

WHEREAS, the Calaveras Public Utility District has tentatively agreed to contribute to a cost share of \$44,025 for a portion of the studies.

NOW, THEREFORE, BE IT RESOLVED, that the Calaveras County Water District hereby approves the proposal by ECORP Consulting, Inc., for professional services to complete the two studies, attached hereto and made a part hereof.

BE IT FURTHER RESOLVED, the Board of Directors hereby authorizes the General Manager to execute and Professional Services Agreement with ECORP Consulting, Inc., for the scope and fee not-to-exceed the amount of \$296,580.

PASSED AND ADOPTED this 25th day of January, 2017 by the following vote:

AYES:

NOES:

ABSTAIN:

ABSENT:



CALAVERAS COUNTY WATER DISTRICT

Jeff Davidson, President
Board of Directors

ATTEST:

Mona Walker, Clerk to the Board

Agenda Item

DATE: January 25, 2017
TO: Dave Eggerton, General Manager 
FROM: Jeffrey Meyer , Director of Administrative Services
SUBJECT: Review and Direction of the FY 2016-17 Second Quarter Investment Report

RECOMMENDED ACTION:

Discussion/direction regarding FY 2016-17 Second Quarter Investment Report.

SUMMARY:

Stated below are cash and investment balances for September 30, 2016 and December 31, 2016 and the change in respective balances:

	<u>09/30/16</u>	<u>12/31/16</u>	<u>Change</u>
Cash, Umpqua Bank (general account)	\$ 2,556,484	\$ 1,940,407	\$ (616,077)
Cash on Hand, Petty Cash & Cash Drawer	600	600	-
Local Agency Investment Fund (LAIF)	16,615,135	17,441,103	825,968
Money Market Accounts	2,945,329	3,172,909	227,580
Bond Investments*	107,588	81,938	(25,650)
CDARS Accounts	2,000,000	2,000,000	-
Certificates of Deposits*	2,932,919	2,900,433	(32,486)
Trustee Accounts	520,060	520,550	490
Total Cash and Investments	<u>\$ 27,678,115</u>	<u>\$ 28,057,940</u>	<u>\$ 379,825</u>

*Bonds based on Market Value

District Funds	\$ 27,155,206
Trustee Accounts	520,550
Assessment District Funds	<u>382,184</u>
Total Funds	<u>\$ 28,057,940</u>

This report is for the second quarter of FY 2016-17 and covers the months of September through December 2016. The District posted investment earnings of \$31,254 during this quarter with the LAIF interest rate closing at .74%, up .31% from December of 2015. The decrease in the general account cash balance is primarily due to the Ebbetts Pass Reach 3A project construction disbursements made during this quarter. In October, Sierra Vista Bank was purchased by the Central Valley Community Bank with headquarters located in Clovis. Excess District funds were transferred to LAIF and the Umpqua Bank Money Market account in December.

FINANCIAL CONSIDERATIONS:

The Federal Open Market Committee (FOMC) raised the target range for the federal funds rate from 0.50% to 0.75% at its December 14, 2016 meeting. The Fed's 0.25% increase was in response to solid job growth in recent months and economic activity that has continued to expand at a moderate rate. Although inflation is still currently below the Fed's long term objective of 2.0%, there are signs that inflation is expected to increase over the medium term. The Fed does not see near-term risks to the country's economic outlook, and as always, continues to closely monitor inflation indicators and global economic and financial conditions. It is also believed that there will be 2-3 more quarter point increases in 2017.

Prior to the presidential election, some economists were projecting yields on ten-year treasuries to remain below 200 basis points through 2017. However, that projection proved wrong shortly after the election as the securities and fixed income markets experienced dramatic swings. The Dow, NASDAQ and S&P markets all closed on historic highs. Conversely, treasuries lost ground and the yields on the ten-year notes rose to 260 basis points. Unfortunately, the higher yields on medium term notes have not translated into significant increases in short term rates. LAIF continues to offer competitive yields compared to CDARS and CD's, and offers liquidity that time deposits do not. Staff will continue to evaluate the markets as they adjust to the new presidency and will look for the best short term investment options until such time of higher short and medium term interest rates.

CALAVERAS COUNTY WATER DISTRICT

Quarterly Report on Investments

December 31, 2016

Investment Cost	Market Value	Coupon Rate	Date Invested	Date of Maturity	Days to Maturity	% of Portfolio	Invested with
\$ 17,441,103	\$ 17,441,103	0.740%	Open	Open	165	64.86%	Local Agency Investment Fund
29,470	29,470	0.010%	Open	Open	5	0.11%	Wells Fargo Money Market
3,143,439	3,143,439	0.420%	June 14, 2007	Open	1	11.69%	Umpqua Bank Money Market
302,885	302,885	0.900%	March 28, 2012	May 1, 2017	121	1.13%	Umpqua Bank Certificate of Deposit
311,860	311,860	0.900%	March 28, 2012	May 1, 2018	486	1.16%	Umpqua Bank Certificate of Deposit
320,828	320,828	0.900%	March 28, 2012	May 1, 2019	851	1.19%	Umpqua Bank Certificate of Deposit
2,000,000	2,000,000	0.995%	July 28, 2016	July 27, 2017	208	7.44%	Central Valley Community Bank
2,000,000	1,964,860	1.300%	July 22, 2016	July 22, 2021	1,664	7.44%	Wells Fargo Bank Certificate of Deposit
819,840	81,938	3.950%	May 5, 2008	November 10, 2009	DEF	3.05%	Lehman Bros Hldgs Med Term Note CUSIP 52517PXT3
520,551	520,551	(Trustee funds from page 2)				1.94%	
\$ 26,889,976	\$ 26,116,934					100.00%	

I certify that all of the investments reported herein are substantially in accordance with the District's Financial Management Policy 7, "Investment Policy Guidelines", the law and other contractual agreements. I further certify the investments reported herein provide for the ability of the District to meet cash flow needs as specified in Financial Management Policy 7.


 Jeffrey Meyer, Director of Administrative Services

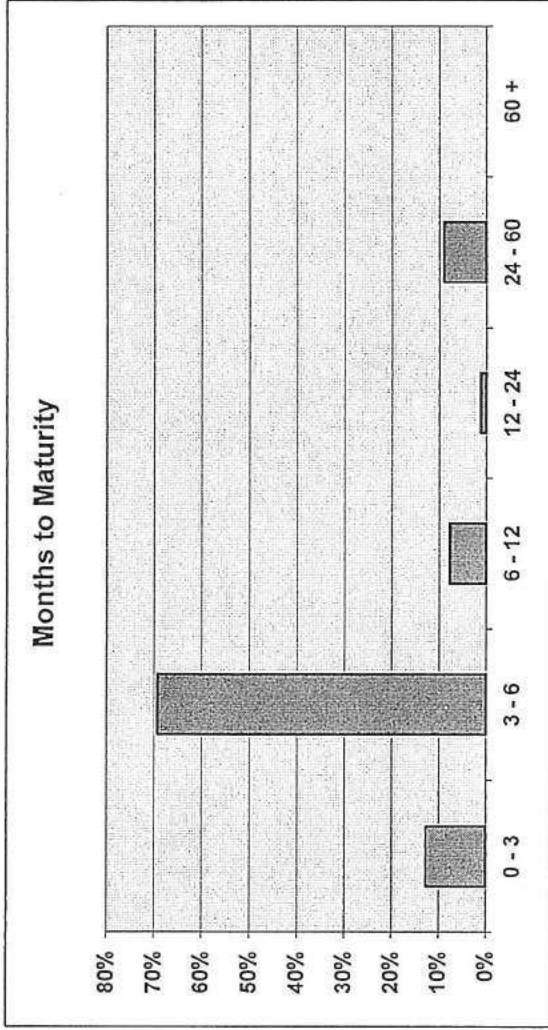
CALAVERAS COUNTY WATER DISTRICT
 Quarterly Report on Investments

December 31, 2016

Trusteed Funds:									
	Market Value	% Yield	Date Invested	Date of Maturity	Days to Maturity	% Portfolio	Trustee	INVESTED FOR	
\$	315,873	0.00%	Aug 16, 06	Open	1	60.68%	USBank	2006 Saddle Creek Ltd, Reserve	
	136,653	0.01%	Oct 15, 13	Open	1	26.25%	USBank	Fly In Acres Reserve Fund	
	68,025	0.01%	Sep 28, 01	Open	1	13.07%	USBank	DaLee/Cassidy Reserve Fund	
\$	<u>520,551</u>					<u>100.00%</u>			

Maturity Analysis	Maturity Time Frames	Weighted Average Maturity
\$ 20,614,012	LAIF/Money Market	(The average life in days following the last day of the month)
81,938	Maturity in Default	
2,302,885	Scheduled Maturities in 2017	Fund Class: No. of Days
311,860	Scheduled Maturities in 2018	
320,828	Scheduled Maturities in 2019	438
1,964,860	Scheduled Maturities in 2021	
\$ 25,596,383	Total	
\$ 520,551	Trustees Investments	In Years = 1.20
\$ 26,116,934	Total Investments	Trust 1
\$ 1,940,407	Checking Account Balance	
600	Petty Cash + Change Fund	
\$ 28,057,941	Total Cash & Investments	

Calaveras County Water District
Monthly Maturity Distribution (Market Value)
As of December 31, 2016



Months to Maturity	Maturity Distribution	Market Value
0 - 3	13%	\$ 3,254,847
3 - 6	69%	17,743,988
6 - 12	8%	2,000,000
12 - 24	1%	311,860
24 - 60	9%	2,285,688
60 +	0%	-
Total		\$ 25,596,383

Months to maturity chart includes Lehman Bros defaulted bond of \$81,938 as of 12/31/16.

Calaveras County Water District
Portfolio Summary
As of December 31, 2016

Investments	Par Value	Market Value	Book Value	% of Portfolio	Days to Maturity	Yield to Maturity
Local Agency Investment Fund (LAIF)	17,441,103	17,441,103	17,441,103	66.1%	165	0.74%
Money Market Funds (Wells Fargo)	29,470	29,470	29,470	0.1%	5	0.01%
Money Market Funds (Umpqua)	3,143,439	3,143,439	3,143,439	11.9%	1	0.42%
Non-Negotiable Certificates of Deposit (Umpqua Bank)	935,573	935,573	935,573	3.5%	493	0.90%
Non-Negotiable CDARS (Sierra Vista Bank)	2,000,000	2,000,000	2,000,000	7.6%	208	1.00%
Non-Negotiable Certificates of Deposit (Wells Fargo Bank)	2,000,000	1,964,860	2,000,000	7.6%	1,664	1.30%
Medium Term Notes	1,425,000	81,938	819,840	3.1%	DEF	DEF
Total Investments	26,974,585	25,596,383	26,369,425	100%		
Ending Accrued Interest		45,010	45,010			
Total Investments & Accrued Interest:	26,974,585	25,641,393	26,414,435			



**Calaveras County Water District
Investment Compliance Checklist
As of December 31, 2016**

California Government Code Section	Investment Category	Maximum Maturity	Authorized Investment Limits			Credit Rating	Compliance
			(Percent of Portfolio)	Percentage Held in Portfolio	Limits		
16429.1	Local Agency Investment Fund (LAIF)	None	*	66%	n/a	Yes	
53601(l)	Money Market Funds (Wells Fargo)	None	20%	0%	(1)	Yes	
53601(l)	Money Market Funds (Umpqua)	None	20%	12%	(1)	Yes	
53684	Non-Negotiable Certificate of Deposit (Umpqua Bank)	2 years	40%	4%	n/a	See Note	
53684	Non-Negotiable Certificate of Deposit (Sierra Vista Bank)	2 years	40%	8%	n/a	Yes	
53684	Non-Negotiable Certificate of Deposit (Wells Fargo Bank)	2 years	40%	8%	n/a	No	
53601(k)	Medium Term Notes	5 years	30%	3%	A or >	Yes	
				100%			

(1) Highest ranking by 2 of 3 of the nationally recognized rating agencies
*LAIF currently allows a maximum of \$50 million per account.

Note: These Certificates of Deposit are held for Loan Collateral

Agenda Item

DATE: January 25, 2017
TO: Dave Eggerton, General Manager 
FROM: Jeffrey Meyer  Director of Administrative Services
SUBJECT: FY 2016-17 Mid-Year Budget Review and Budget Adjustments

RECOMMENDED ACTION:

Motion _____ / _____ adopting Resolution No. 2017 - _____ amending the Fiscal Year 2016-17 Operating Budget.

SUMMARY:

The mid-year budget review is an analysis of the financial status of the District's operating funds covering the six month period of July 1, 2016 through December 31, 2016. This review provides an analysis of actual revenues and expenditures compared to the FY 2016-17 adopted budget, and provides year-end projections. The Mid-Year Budget Review also sets the stage for the next fiscal year by:

- Identifying variances to budget and the impact they may have on future budgets;
- Allowing the Board to provide staff direction on types of services or programs the Board would like to see emphasized or de-emphasized for future budget years.

REVENUES

As of December 31, 2016, with 50% of the FY 2016-17 elapsed, the District has recorded 43.05% of total projected operating revenues. Operating revenues include water and wastewater sales, other operating revenues, property tax and stand-by fee revenues. Non-operating revenues include revenues such as hydropower sales, investment income and other miscellaneous revenues such as grant reimbursements. Please note that the year-to-date revenues do not include either property tax or stand-by fee revenues as both are distributed by the County in February and May, with a supplemental disbursement in August. Some highlights are:

- Wastewater sales, which are based on flat rates (no consumption charges) are at 48.94% of original projections.
- Water sales are at 52.41% of budget. Water sales include both base rate and consumptive charges. With last year's increased rainfall the District's customers

have increased their water consumption. Although still well below the level of water consumption prior to the drought, the additional sales have helped the water revenues and the District is currently above projections. However it is too early to determine if this upward trend will continue

It is projected that total operating revenues by year-end will be slightly greater than the budgeted amount of \$15,550,433.

TRANSFERS

Per District policy, transfers were budgeted from expansion, Capital R&R and reserve funds to the operating budget to augment debt service payments for the 2013 BBVA Water and Sewer Refinancing Loans, the 2014 Umpqua Water and Sewer Loans, and an interest only payment on the internal Operation Headquarters building loan. Additionally, the budget includes transfers from the Interest Reserve Fund for operating expenditures and capital equipment/capital outlay projects, as well as a transfer from the Capital R&R water and sewer funds to cover Capital R&R salary and benefit costs.

Water Expansion Funds (BBVA Water Loan)	\$ 893,829
Sewer Expansion Funds (BBVA Sewer Loan)	50,443
Interest Reserve Fund (BBVA Water Loan)	273,947
Capital R&R Funds (Umpqua Loans)	409,033
Interest Reserve Fund (OP HQ Loan)	75,000
Interest Reserve Fund (Wallace Loan Payoff)	81,417
Interest Reserve Fund (New Hogan O&M Costs)	105,000
Interest Reserve Fund (Water Rights)	220,000
Interest Reserve Fund (Capital Equipment/Outlay)	320,632
Capital R&R Funds (Capital R&R Projects)	698,941
CIP Funds (CIP Projects)	245,153
<hr/>	
Total Transfers from Reserves:	\$ 3,373,395

EXPENDITURES

Operating expenditures (excluding debt service) for the first six months of FY 2016-17 are at 43.50% of adopted budget. This does not take into consideration encumbrances for purchases made during the period but not yet invoiced or paid, nor does it include costs for services or goods received during the first six months but not yet paid.

The largest segment of the District's operating budget, personnel services, is currently at 47.43% of budget. However this number can be misleading as the cost of the PERS Side Fund Loan (\$312,608), originally budgeted in benefits, is now recorded under debt service. This accounting change has resulted in lower than expected benefit costs. However this reduction will be offset as another accounting change will increase the benefits budget by moving the prefunding portion of the Retiree Health costs (\$612,008) from Services and Supplies to Salaries and Benefits. Overall, these two accounting changes will result in a net increase of \$299,400 in personnel costs. Overtime costs are also projected to exceed

the budget, primarily a result of a high number of after-hours repairs and training coverage in the Utilities Department.

Operating services and supplies are currently at 36.56% of budget, while the capital outlay budget for vehicle/equipment purchases and projects is at 67.95% of budget. This is largely reflective of the timing of purchases and projects, including capital outlay items budgeted in FY 2015-16 but not delivered or completed until FY 2016-17.

CAPITAL OUTLAY

The adopted FY 2016-17 Capital Outlay budget was \$500,632, which includes \$35,000 for the replacement of the telephone system backbone (Administrative Services) and \$465,632 in the Utilities department for five replacement trucks, two replacement jeeps, upgrades to PRV vaults and lift stations, District-wide SCADA upgrades, and funding for a manhole replacement program for the Arnold and Copper Cove collections system. In addition to these scheduled projects/purchases, Utilities had several capital equipment purchases and projects funded by carryover funds from the FY 2015-16 budget (\$164,745), including two trucks, a retrofit of the District's collections TV Van, District-wide SCADA upgrades, and the purchase of three bio-solid disposal bins. It is projected that all Capital Outlay budget funds will be expended by the end of the fiscal year.

DEBT SERVICE

The District has issued debt to pay for the purchase of capital equipment and assets, fund its Capital Replacement and Renovation (Capital R&R) Program, and refinance prior debt and its PERS Side Fund Obligation. All payments have been made as scheduled. The following is a summary of the District's debt position as of June 30, 2016:

Debt Service Detail

	Original Issue Amount	Balance June 30, 2016	Principal Retirement	Projected Balance June 30, 2017
Water Fund				
BBVA Series 2013 Refunding Sewer Revenue Loan	\$7,188,541	\$2,165,370	1,722,644	\$442,726
Umpqua Bank 2014 Capital R&R Water Loan	4,061,933	4,061,933	-	4,061,933
Wallace WestAmerica Loan	89,490	70,049	70,049	-
U.S. Bureau of Reclamation Note - Hogan	1,786,474	363,169	40,463	322,706
Umpqua Bank - PERS Side Fund Obligation	1,461,346	538,064	185,189	352,875
Internal Operations Headquarters Loan	2,220,000	2,220,000	-	2,220,000
Total Water Fund Loans and Notes	16,807,784	9,418,585	2,018,345	7,400,240
Sewer Fund				
BBVA Series 2013 Refunding Water Revenue Loan	310,459	93,518	74,398	19,120
Umpqua Bank 2014 Capital R&R Sewer Loan	2,337,528	1,779,728	284,936	1,494,792
Umpqua Bank VacCon Truck Loan	328,623	136,433	67,483	68,950
Wallace WestAmerica Loan	31,443	24,612	24,612	-
U.S. Bureau of Reclamation Note - Hogan	627,680	127,600	14,217	113,383
Umpqua Bank - PERS Side Fund Obligation	513,446	310,618	106,907	203,711
Internal Operations Headquarters Loan	780,000	780,000	-	780,000
Total Sewer Fund Loans and Notes	4,929,179	3,252,509	572,553	2,679,956
Total Water and Sewer Fund Loans and Notes	\$21,736,963	\$12,671,094	\$2,590,898	\$10,080,196

OPERATIONS SUMMARY

It is estimated that at year-end there will be a \$50,000 deficiency in the operating budget. Several factors can erase this shortfall. If water consumption and the resulting revenues continue to increase, the water revenues will exceed projections. Also, the delay in several CIP projects has reduced the staff time spent on Capital Improvement Program projects. As these projects move forward, the "transfers in" could also exceed year-end projections. Staff will be closely monitoring all revenues and expenditures, as well as the costs associated with the damage incurred during the recent rain storms in the Blagen Road pipeline area to determine if a budget adjustment is required.

As outlined previously, due to accounting changes and the need to reallocate the PERS Side Fund and Retiree Health prefunding costs, staff proposes the following two budget adjustments to the FY 2016-17 Operating Budget:

- Move the PERS Side Loan costs (\$312,008) budgeted in the individual departmental budgets in Salaries and Benefits to Debt Service in Department 50, Non Departmental.
- Move the prefunding portion of the Retiree Health costs (\$612,008) from Services and Supplies to Salaries and Benefits in the individual departmental budgets

The two budget adjustments have no effect on the FY 2016-17 Operating Budget as adopted.

CAPITAL IMPROVEMENT PROGRAM (CIP)

Water

The adopted Water CIP budget for FY 2016-17 is \$10,300,000. This includes three main projects, the \$4.0 million for the Ebbetts Pass Reach 3a Pipeline Replacement Project, \$1.1 million for the Redwood Tank Replacement Project (75% grant funded), and \$3.1 million for the Jenny Lind Water Treatment Plant Pretreatment Project (75% grant funded). Also included in the budget are various the tank R&R projects (\$615,000), the Vista Del Lago/State Route 26 Pipe Relocation Project (\$150,000), pipeline replacement (\$200,000), and two water master plan updates (\$160,000).

The Vista Del Lago/State Route 26 Pipe Relocation Project is finished, however the project required a budget increase of \$40,000. The Redwood Tank Replacement Project is nearly complete while the Ebbetts Pass Reach 3a Project is ongoing and expected to be completed in the summer of 2017. The White Pines/Blagen Mill Pond Project was re-scoped and renamed the San Antonio Creek Water Storage Restoration Project. All projects are summarized in the attached CIP schedule.

Wastewater

The Wastewater CIP budget for FY 2016-17 is \$2,148,500. Projects funded by the Wastewater Capital R&R program include the Copper Cove Lift Station 8, 12, 13 and Force Main Bypass (\$225,000), the Copper Cove Wastewater Treatment Plant Reclaim Permit Project (\$121,000), lift station renovations (\$350,000), Vallecito I&I/Equalization Project (\$125,000), and the regional Sludge Drying/Containment Facility (\$225,000). Other projects include the Vallecito Recycled Water Distribution Project (partial grant funding), Wallace Treatment Plant Renovations (partial assessment district funding), and capacity plan updates (expansion funds).

Work on the West Point/Wilseyville Consolidation Project is on hold until the District meets sewer rate revenue and debt service requirements set by the State Water Resources Control Board. A summary of the Wastewater CIP program is attached.

FINANCIAL CONSIDERATIONS:

Staff recommends the following budget adjustments to the FY 2016-17 Operating Budget. There will be no dollar increase in the budget.

- Move the PERS Side Loan costs (\$312,008) budgeted in the individual departments under Salaries and Benefits to Debt Service in Department 50, Non Departmental.
- Move the prefunding portion of the Retiree Health costs (\$612,008) from Services and Supplies to Salaries and Benefits in the individual departmental budgets

Calaveras County Water District
 FY 2016-17 Mid-Year Budget Review
 As of December 31, 2016

REVENUE FOR OPERATIONS					
Description	Original Budget	As of Dec 31, 2016	Percent Budget	Projected Year-End	Projected Variance
Operating Revenue					
Water Sales	7,539,466	3,951,394	52.41%	7,705,218	165,752
Wastewater Sales	4,318,596	2,113,447	48.94%	4,258,596	(60,000)
Other	513,000	258,132	50.32%	503,357	(9,643)
Total Operating Revenue	12,371,062	6,322,973	51.11%	12,467,171	96,109
Non-Operating Revenue					
Stand-By Fees	132,500	-	0.00%	132,500	-
Property Taxes	2,261,171	582	0.00%	2,261,171	-
Investment Income	32,000	11,464	35.83%	26,928	(5,072)
Other Revenue	753,700	359,236	47.66%	738,472	(15,228)
Total Non-Operating Revenue	3,179,371	371,282	11.68%	3,159,071	(20,300)
Total Revenues	15,550,433	6,694,255	43.05%	15,626,242	75,809

TRANSFERS					
Transfers in for Debt Service	1,783,669	1,229,229	68.92%	1,783,669	-
Transfer in for New Hogan O&M Costs	105,000	-	0.00%	105,000	-
Transfer in for Water Rights	220,000	-	0.00%	220,000	-
Transfers in for Capital Equip/Projects	320,632	-	0.00%	320,632	-
Transfers in for Capital R&R Projects	698,941	219,114	31.35%	547,785	(151,156)
Transfers in for CIP Projects	245,153	45,801	0.00%	114,503	(130,651)
Carry Over Funds (Capital Outlay)	-	164,745	0.00%	164,745	164,745
Total Transfers	3,373,395	1,658,889	49.18%	3,256,334	(117,062)

EXPENDITURES					
Description	Original Budget	As of Dec 31, 2015	Percent Budget	Projected Year-End	Projected Variance
Personnel Services	9,011,052	4,273,607	47.43%	9,197,033	185,981
Services and Supplies	6,857,102	2,506,911	36.56%	6,199,945	(657,157)
Capital Outlay	500,632	340,172	67.95%	664,778	164,146
Debt Service	2,551,455	2,313,799	90.69%	2,866,696	315,241
Total Expenditures	18,920,241	9,434,489	49.86%	18,928,452	8,211
Revenue & Transfers less Expenditures	3,587	(1,081,345)		(45,876)	(49,463)

Calaveras County Water District
FY 2016-17 Mid-Year Budget Review

	Expenditures by Department - Original Budget				
	Personnel	Svcs/Supplies	Capital Outlay	Debt Service	Total
Board of Directors	116,262	38,700	-	-	154,962
General Management	679,075	288,250	-	-	967,325
Administrative Services	1,224,678	435,775	35,000	-	1,695,453
Engineering/Tech Svcs	742,421	22,500	-	-	764,921
Utility Services	6,088,840	3,624,900	465,632	-	10,179,372
Water Resources	159,776	626,150	-	-	785,926
Non-Departmental	-	1,820,827	-	2,551,455	4,372,282
Total Budget	9,011,052	6,857,102	500,632	2,551,455	18,920,241

	Expenditures by Department - as of December 31, 2016				
	Personnel	Svcs/Supplies	Capital Outlay	Debt Service	Total
Board of Directors	42,583	5,269	-	-	47,852
General Management	318,077	110,344	-	-	428,421
Administrative Services	655,406	188,939	-	-	844,345
Engineering/Tech Svcs	342,631	9,157	-	-	351,788
Utility Services	2,842,168	1,491,552	326,778	-	4,660,498
Water Resources	72,742	219,549	-	-	292,291
Non-Departmental	-	482,101	13,394	2,313,799	2,809,294
Total Expenditures	4,273,607	2,506,911	340,172	2,313,799	9,434,489

	Expenditures by Department - Year End Projections				
	Personnel	Svcs/Supplies	Capital Outlay	Debt Service	Total
Board of Directors	103,982	24,044	-	-	128,026
General Management	674,317	277,138	-	-	951,455
Administrative Services	1,291,417	428,224	35,000	-	1,754,641
Engineering/Tech Svcs	735,339	25,044	-	-	760,383
Utility Services	6,236,479	3,612,999	629,778	-	10,479,256
Water Resources	155,499	637,343	-	-	792,842
Non-Departmental	-	1,195,153	-	2,866,696	4,061,849
Total Year End	9,197,033	6,199,945	664,778	2,866,696	18,928,452

Variance to Budget	185,981	(657,157)	164,146	315,241	8,211
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**Capital Improvement Program
Water and Wastewater Projects
FY 2016-17 Mid Year Review**

Water Projects Project Description	Total Project Cost	Cash Flow FY 16-17	Expenditures thru 12/31/16	Funding FY 16-17			
				Expansion Funds	Reserves	Capital R & R	Grants AD/Other
Redwood Tank Replacement	\$ 1,475,000	\$ 1,100,000	\$ 527,368	\$ -	\$ -	\$ 230,000	\$ 870,000
Ebbetts Pass Reach 3A Pipeline Replacement	5,300,000	4,000,000	2,233,664	-	-	2,622,000	1,378,000
Ebbetts Pass Techite Water Line Replacement	750,000	150,000	762	-	-	150,000	-
Ebbetts Pass Reach 1 Water Line Replacement	5,000,000	750,000	-	-	-	750,000	-
Jenny Lind Tank A-B Transmission Line	4,150,000	-	-	-	-	-	-
San Antonio Creek Water Storage Restoration	1,000,000	50,000	408	-	-	50,000	-
Jenny Lind WTP - Pretreatment Facility	3,800,000	3,100,000	112,384	-	-	931,500	2,168,500
Vista Del Lago/SR 26 Pipe Relocation	150,000	190,000	192,072	-	-	190,000	-
Clearwell #2 / Repair & Paint	75,000	50,000	5,215	-	-	50,000	-
Larkspur Tank / Repair & Paint	150,000	100,000	12,346	-	-	100,000	-
Wallace Tanks / Repair & Paint	250,000	175,000	5,222	-	-	175,000	-
Sawmill & Hunters Tanks / Repair & Paint	1,200,000	240,000	276	-	-	240,000	-
Clearwell & Tank B / Repair & Paint	1,000,000	50,000	276	-	-	50,000	-
Wilson Dam	500,000	25,000	-	-	-	25,000	-
Pipeline Replacement	1,000,000	200,000	9,438	-	-	200,000	-
Water Master Plan	100,000	80,000	17,641	80,000	-	-	-
West Point Water Master Plan	100,000	80,000	-	80,000	-	-	-
Total Water Projects	\$ 26,000,000	\$ 10,340,000	\$ 3,117,072	\$ 160,000	\$ -	\$ 5,763,500	\$ 4,416,500

Wastewater Projects Project Description	Total Project Cost	Cash Flow FY 16-17	Expenditures thru 12/31/16	Funding FY 16-17			
				Expansion Funds	Reserves	Capital R & R	Grants AD/Other
Copper Cove WWTP Reclaim Permit Project	\$ 250,000	\$ 121,000	\$ 213	\$ -	\$ -	\$ 121,000	\$ -
West Point/Wilseyville Consolidation Project	4,750,000	712,500	162	-	-	712,500	-
CC Lift Station 8,12,13 & Force Main Bypass	1,500,000	225,000	15,740	-	-	225,000	-
Lift Station Renovations	1,000,000	350,000	-	-	-	350,000	-
Vallecito Recycled Water Distribution Project	250,000	125,000	3,365	-	-	60,000	65,000
Wallace Treatment Plant Renovations	250,000	125,000	-	-	-	25,000	100,000
Vallecito I & I / Equalization Improvements	500,000	125,000	35,625	-	-	125,000	-
Regional Sludge Drying / Containment Facility	500,000	225,000	-	-	-	225,000	-
Pipeline Replacement	1,000,000	-	-	-	-	-	-
Copper Cove Capacity Plan Update	100,000	70,000	18,159	70,000	-	-	-
La Contenta Capacity Plan Update	100,000	70,000	14,875	70,000	-	-	-
Total Wastewater Projects	\$ 10,200,000	\$ 2,148,500	\$ 88,139	\$ 140,000	\$ -	\$ 1,843,500	\$ 165,000

RESOLUTION 2017 -

**A RESOLUTION OF THE BOARD OF DIRECTORS
OF THE CALAVERAS COUNTY WATER DISTRICT**

AMENDING THE FISCAL YEAR 2016-17 OPERATING BUDGET

WHEREAS, the Board of Directors of the CALAVERAS COUNTY WATER DISTRICT has reviewed the projected revenues and expenditures for the FY 2016-17 Mid-Year Budget Review; and

WHEREAS, the Board of Directors has, as a result of the review, identified those programs and expenditures that will be most beneficial to the needs of the Calaveras County Water District; and

WHEREAS, the Calaveras County Water District Operating Budget requires an adjustment to amend the proposed expenditures to reflect the District's priorities; and

WHEREAS, the Board of Directors of the CALAVERAS COUNTY WATER DISTRICT does hereby find that it would be in the best interest of the Calaveras County Water District to amend the adopted FY 2016-17 Operating Budget.

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the CALAVERAS COUNTY WATER DISTRICT the amendment to the Fiscal Year 2016-17 Operating Budget as set forth in Budget Adjustment 17-02, attached hereto and made a part hereof, is hereby approved and adopted.

BE IT FURTHER RESOLVED by the Board of Directors of the CALAVERAS COUNTY WATER DISTRICT authorizes the Director of Administrative Services to record the appropriate accounting entries.

PASSED AND ADOPTED this 25th day of January, 2017 by the following vote:

AYES:

NOES:

ABSTAIN:

ABSENT:

CALAVERAS COUNTY WATER DISTRICT

Jeff Davidson, President
Board of Directors

ATTEST:

Mona Walker
Clerk to the Board

Calaveras County Water District
 Fiscal Year 2016-17
 Budget Adjustment - Number 17-02

From			To		
Department	Account	Amount	Department	Account	Amount
1 All Departments	Benefits - PERS Side Fund	(312,608)	Department 50 Non-Departmental	Debt Service - Principal and Interest	312,608
2 Department 50 Non-Departmental	Services and Supplies Retiree Health Costs	(612,008)	All Departments	Benefits - Retiree Health	612,008
		(924,616)			924,616

Descriptions (for additional information please see staff report)

- 1 Decrease appropriations in the departmental budgets for the benefit costs associated with the PERS Side Fund loan obligation by \$312,608 and increase the Debt Service budget in Department 50, Non-Departmental by \$312,608 for the principal and interest payments for the PERS Side Fund Loan obligation.
- 2 Decrease appropriations in the Department 50 Non-Departmental budget for the prefunding portion of the Retiree Health costs by \$612,008 and increase the total benefits budget in the individual departmental budgets by \$612,008. The increase in each department will be based on the number of departmental employees in relation to the total number of employees.